APPENDIX A

Final EIS Distribution List

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FINAL EIS DISTRIBUTION LIST

Federal Government – Elected Officials

U.S. Representative Earl Blumenauer, OR

U.S. Representative Suzanne Bonamici, OR

U.S. Representative Peter Defazio, OR

U.S. Representative Kurt Schrader, OR

U.S. Representative Greg Walden, OR

U.S. Senator Jeff Merkley, OR

U.S. Senator Ron Wyden, OR

Federal Agencies

Advisory Council on Historic Preservation, Assistant Director for Federal Program Development, Charlene Vaughn, DC

Advisory Council on Historic Preservation, Director, Planning and Review, DC

APHIS PPD/EAD, Deputy Director, MD

Army Corps of Engineers, Planning and Policy Division, Senior Policy Advisor, John Furry, DC

Bureau of Land Management, DOI, Senior NEPA Specialist, Kerry Rogers, DC

Bureau of Ocean Energy Management, DOI, Chief, Division of Environmental Assessment, James F. Bennett, VA

Bureau of Oceans & International Environmental & Scientific Affairs, DOS, Foreign Affairs Officer, Alexander Yuan, DC

Bureau of Safety and Environmental Enforcement, DOI, Chief, Environmental Enforcement Division, Charles B. Barbee, VA

Conservation and Environmental Program Division, FSA, USDA, National Environmental Compliance Manager, Nell Fuller, DC

Council on Environmental Quality, Associate Director for NEPA Oversight, Horst Greczmiel, DC

Council on Environmental Quality, Deputy General Counsel, Manisha Patel, DC

Department of Interior, Office of Environmental Policy and Compliance, Director, DC

Dept. of Health & Human Services, Environmental Program Manager, Edward Pfister, DC

Energy and Environmental Readiness Division, Chief of Naval Operations (N45), DC

Environment & Natural Resources Division, DOJ, NEPA Coordinator, Beverly Li, DC

Environmental Protection Agency, Director, NEPA Compliance Division, Cliff Rader, DC

Environmental Protection Agency, Assistant Administrator, Office of Enforcement and Compliance Assurance, Cynthia Giles, DC

Environmental Protection Agency, Natural Gas STAR, Jerome Blackman, DC

Environmental Protection Agency, Director, Office of Federal Activities, Susan E Bromm, DC

National Agricultural Library, Acquisitions & Serials Branch, MD

National Center for Environmental Health, CDC, HHS, Director, Division of Emergency and Environmental Health Services, Sharunda Buchanan, GA

National Oceanic and Atmospheric Administration, Dept. of Commerce, NEPA Policy & Compliance, Steve Kokkinakis, MD

National Park Service, DOI, Chief, Environmental Planning and Compliance Branch, Patrick Walsh, CO

Natural Resources Conservation Service, National Environmental Coordinator, DC

Natural Resources Conservation Service, USDA, National Environmental Coordinator, Andree DuVarney, DC

NOAA National Marine Fisheries Service, Dept. of Commerce, National NEPA Coordinator, Steve Leathery MD

NOAA Office of Policy and Strategic Planning, NEPA Coordinator, DC

Office of Assistant Secretary for Transportation Policy, USDOT, Environmental Policy Team Coordinator, Camille Mittelholtz, DC

Office of Assistant Secretary for Transportation Policy, USDOT, Senior Environmental Attorney Advisor, Helen Serassio, DC

Office of Environment and Energy, HUD, Community Planner, Danielle Schopp, DC

Office of Environmental Management, DOE, Principal Deputy Assistant Secretary, Mark Whitney, DC

Office of Federal Programs, Advisory Council on Historic Preservation, Assistant Director for Federal Program Development, Charlene D Vaughn, DC

Office of NEPA Policy and Compliance, DOE, Director, OGC, Carol M. Borgstrom, DC

Office of Pipeline Safety USDOT PHMSA, Senior Attorney, Bryn Karaus, DC

Office of Pipeline Safety USDOT PHMSA, Director, Engineering and Research Division, Kenneth Y. Lee, DC

Pipeline & Hazardous Materials Safety Administration USDOT, Associate Administrator for Hazardous Materials Safety, Magdy El-Sibaie, DC

Pipeline & Hazardous Materials Safety Administration, Office of Pipeline Safety, USDOT, National CATS Coordinator, Karen Lynch, DC

Pipeline & Hazardous Materials Safety Administration, USDOT, Associate Administrator for Pipeline Safety, Jeffrey Wiese, DC

Pipeline & Hazardous Materials Safety Administration, USDOT, Senior Assistant Chief Counsel, Sherri Pappas, DC

Senate Energy and Natural Resources Committee, Chairman, Lisa Murkowski, DC

Surface Transportation Board, USDOT, Chief, Section of Environmental Analysis, Victoria Rutson, DC

US Geological Survey, Chief, Environmental Management Branch, Esther Eng, VA

US Customs & Border Protection Dept. of Homeland Security, Branch Chief, Christopher Oh, DC

US Department of Energy, Director, Division of Natural Gas Regulatory Activities, John Anderson, DC

US Department of the Interior, Environmental Policy & Compliance, Director, Willie Taylor, DC

USDA Forest Service-Ecosystem Management Coordination, Assistant Director, NEPA, Joe Carbone, DC

Bureau of Indian Affairs, Realty Officer, Greg Argel, OR

Bureau of Reclamation, Area Manager, Jason Phillips, OR

Bureau of Reclamation, Public Affairs Specialist, Kevin Moore, OR

Bureau of Reclamation, Mid-Pacific Region, Klamath Basin Area Office, Water and Lands Specialist, Elizabeth Gregory OR

Bureau of Reclamation, Mid-Pacific Region, Klamath Basin Area Office, Natural Resource Specialist, Kristen Hiatt, OR

Environmental Analysis Section, Bureau of Ocean Energy Management, Chief, Dave Panzer, CA

Federal Aviation Administration, Office of Air Traffic Organization, Regional Director, WA

Federal Aviation Administration, Seattle Airports District Office, Airspace & Environmental Specialist, Paul Holmquist, WA

Federal Highway Administration, Division Administrator, Daniel Mathis, WA

Klamath Basin National Wildlife Refuge, Refuge Manager, Ron Coleman, CA

National Marine Fisheries Service, Habitat Conservation Division, Assistant Regional Administrator, Michael Tehan, OR

National Marine Fisheries Service, NW Region, Regional Administrator, Will Stelle, WA

National Marine Fisheries Service, Oregon Coast Branch, Branch Chief, Ken Phippen, OR

National Marine Fisheries Service, Oregon State Habitat Conservation Division, Director, Dr. Kim Kratz, OR

National Marine Fisheries Service, Protected Resources Division, Fishery Management Officer, Donna Darm, WA

National Park Service, Michael Linde, WA

Natural Resources Conservation Service, Coquille Service Center, District Conservationist, Amy Wilson, OR

Natural Resources Conservation Service, Douglas County SWCD, District Manager, Walter Barton, OR

Natural Resources Conservation Service, Klamath Falls Service Center, District Conservationist, David Ferguson, OR

Natural Resources Conservation Service, Klamath Falls Service Center, Basin Team Leader, Kevin Conroy, OR

Natural Resources Conservation Service, Medford Service Center, District Conservationist, Erin Kurtz, OR

Natural Resources Conservation Service, Roseburg Service Center, Basin Team Leader, Evelyn Conrad, OR

Northwest Power & Conservation Council, Executive Director, Steve Crow, OR

US Coast Guard, Marine Safety Unit, Sector Portland, Russell Berg, OR\

US Army Corps of Engineers, Eugene Permits Section Chief, Teena Monical, OR

US Army Corps of Engineers, North Bend Field Office, Tyler Krug, OR

US Army Corps of Engineers, Portland Dist, Commander and District Engineer, Col. Richard Hobernicht, OR

US Bureau of Indian Affairs, Northwest Regional Office, Regional Director, Stanley Speaks OR

US Bureau of Land Management, Boise District, Natalie Cooper, ID

US Bureau of Land Management, Coos Bay District Office, District Manager, Mark Johnson, OR

US Bureau of Land Management, Coos Bay District Office, Planning and Environmental Coordinator, Steven Fowler, OR

US Bureau of Land Management, Klamath Falls Resource Area Office, Project Coordinator, Deborah Boudreau, OR

US Bureau of Land Management, Klamath Falls Resource Area Office, Supervisory Planner & Environmental Coordinator, Don Hoffheins, OR

US Bureau of Land Management, Klamath Falls Resource Area Office, Field Manager, Donald Holmstrom, OR

US Bureau of Land Management, Lakeview District Office, District Manager, E. Lynn Burkett, OR

US Bureau of Land Management, Medford District, Natural Resource Specialist, Anthony Kerwin, OR

US Bureau of Land Management, Medford District, Supervisory Realty Specialist, Carl Symons, OR

US Bureau of Land Management, Medford District, District Manager, Dayne Barron, OR

US Bureau of Land Management, Medford District, Field Manager, Jon Raby, OR

US Bureau of Land Management, Medford District, Associate District Manager, Mary Smelcer, OR

US Bureau of Land Management, Medford District, Project Manager, Miriam Liberatore, OR

US Bureau of Land Management, Medford Office, Field Manager, John Gerritsma, OR

US Bureau of Land Management, Oregon State Office, Dustin Wharton, OR

US Bureau of Land Management, Oregon State Office, Planning Coordinator, Leslie Frewing, OR

US Bureau of Land Management, Oregon State Office, Acting State Director, Michael Mottice, OR

US Bureau of Land Management, Oregon State Office, Deputy State Director, Resource Planning, Use & Protection, Mike Haske, OR

US Bureau of Land Management, Price Field Office, Senior National Project Manager, Mark Mackiewicz, UT

US Bureau of Land Management, Roseburg District, Realty Specialist, Charlene Rainville, OR

US Bureau of Land Management, Roseburg District, District Manager, Katrina Symons, OR

US Bureau of Land Management, Roseburg District, Planner and Environmental Coordinator, Paul Ausbeck, OR

US Bureau of Land Management, Roseburg District, Field Manager, Steve Lydick, OR

US Bureau of Reclamation, Mid-Pacific Regional Office, Regional Archaeologist, Laureen Perry CA

US Coast Guard MLCPAC Environmental Law Branch, Chief, Jack Hug, CA

US Coast Guard, 13th District, Commander, Admiral Keith Taylor, WA

US Coast Guard, Group Air Station North Bend, Surface Operations Chief, Clint Prindle, OR

US Coast Guard, MSU Portland, Commanding Officer, Captain Daniel LeBland, OR

US Coast Guard, Sector Columbia River, Captain, B.C. Jones, OR

US Department of Transportation, PHMSA Pipeline Safety Western Region Office, Regional Director, Chris Hoidal, CO

US Dept of the Interior, Office of Env Policy & Compliance, Regional Environmental Officer, Allison O'Brien, OR

US DOT, Federal Aviation Administration, Office of Air Traffic Organization, Manager, System Support, Clark Desing, WA

US DOT, PHMSA/CATS, Ross Reineke, CO

US DOT/PHMSA/CATS, Western Region Office, State Liaison, Tom Finch, CO

US Environmental Protection Agency, NEPA Review, Teresa Kubo, OR

US Environmental Protection Agency, Public Affairs Unit, Mark MacIntyre, WA

US Environmental Protection Agency, Oregon Operations Office, Director, Anthony Barber, OR

US EPA Region 10, Office of Ecosystems, Tribal, and Public Affairs, Director, Katherine Kelly, WA

US EPA, Office of Ecosystems, Tribal, and Public Affairs, Manager, NEPA Review, Christine Reichgott, WA

US Fish & Wildlife Service, Energy Projects Coordinator, Doug Young, OR

US Fish & Wildlife Service, Klamath Falls Field Supervisor, Laurie Sada, OR

US Fish & Wildlife Service, Pacific Region, State Supervisor, Paul Henson, OR

US Fish & Wildlife Service, Pacific Region, Regional Director, Robyn Thorson, OR

US Fish & Wildlife Service, Pacific Region, Assistant Regional Director, Terry Rabot, OR

US Fish & Wildlife Service, Roseburg Field Office, Field Supervisor, Jim Thrailkill, OR

US Fish and Wildlife Service, Division Supervisor - Energy, Infrastructure, and Ecosystems Services Division, Joe Zisa, OR

USDA Forest Service, Pacific Crest Trail Program Manager, Beth Boyst, CA

USDA Forest Service Fremont-Winema National Forest, Forest Supervisor, Connie Cummins OR

USDA Forest Service Rogue River-Siskiyou National Forest, Forest Supervisor, Rob MacWhorter, OR

USDA Forest Service, Freemont-Winema National Forests, Realty Specialist, Catherine Callaghan, OR

USDA Forest Service, High Cascades Ranger District, District Ranger, Mitch Wilkerson, OR

USDA Forest Service, Klamath Ranger Dist, District Ranger, Margaret Bailey, OR

USDA Forest Service, Pacific NW Region, Michael Hampton, OR

USDA Forest Service, Rogue River-Siskiyou National Forest, Acting District Ranger, Les Moscoso, OR

USDA Forest Service, Rogue River-Siskiyou National Forest, Environmental Coordinator, Sasha Fertig, OR

USDA Forest Service, Umpqua National Forest, Forest Supervisor, Alice Carlton, OR

USDA Forest Service, Umpqua National Forest, Wes Yamamoto, OR

USDA Forest Service, Umpqua National Forest, Roseburg Office, Jane Beaulieu, OR

USDA Forest Service, Umpqua National Forest, Roseburg Office, Pam Sichting, OR

USDA Forest Service, Umpqua National Forest, Tiller Ranger District, District Ranger, Donna Owens, OR

Waterways Management & Facilities Inspection, US Coast Guard Marine Safety Unit, Ken Lawrenson, OR

Oregon Agencies and Elected Officials

Governor Kate Brown

Office of the Governor, Energy Policy Advisor, Margi Hoffmann

The Honorable Alan Bates, Oregon State Legislature

The Honorable Arnie Roblan, Oregon State Legislature

The Honorable Bill Kennemer, Oregon State Legislature

The Honorable Caddy McKeown, Oregon State Legislature

The Honorable Chris Gorsek, Oregon State Legislature

The Honorable Dallas Heard, Oregon State Legislature

The Honorable Dennis Richardson, Oregon State Legislature

The Honorable Doug Whitsett, Oregon State Legislature

The Honorable Floyd Prozanski, Oregon State Legislature

The Honorable Harman Baertschiger, Jr., Oregon State Legislature

The Honorable Jeff Kruse, Oregon State Legislature

The Honorable Ted Ferrioli, Oregon State Legislature

The Honorable Wayne Krieger, Oregon State Legislature

The Honorable Peter Courtney, Oregon State Legislature

Oregon Building Codes Division, Mark Long

Oregon Building Codes Division, Director, Patrick Allen

Oregon Business Development Department, Business Development Officer, Coos and Douglas Counties, Chris Claflin

Oregon Business Development Department, Business Development Officer, Jackson and Klamath Counties, Larry Holzgang

Oregon Business Development Department, Director, Tim McCabe

Oregon Department of Agriculture, Director, Katy Coba

Oregon Department of Agriculture, Food Safety Division, Will Fargo

Oregon Department of Agriculture, Natural Resources Division, Land Use & Water Planning Coordinator, Jim Johnson

Oregon Department of Agriculture, Natural Resources Division, Administrator, Ray Jaindl

Oregon Department of Energy, Senior Policy Analyst, Bill Drumheller

Oregon Department of Energy, Energy Facility Analyst, Billie "Mo" Walker

Oregon Department of Energy, Director, Bob Repine

Oregon Department of Energy, LNG Emergency Manager, Deanna Henry

Oregon Department of Energy, Energy Facility Analyst, Duane Kilsdonk

Oregon Department of Energy, Energy Facility Analyst, John White

Oregon Department of Energy, Senior Policy Analyst, Matt Krumenauer

Oregon Department of Energy, Senior Policy Analyst, Rebecca O'Neil

Oregon Department of Energy, Operations Analyst, Shanda Shribbs

Oregon Department of Energy, Energy Facility Analyst, Sue Oliver

Oregon Department of Energy, Siting Manager, Tom Stoops

Oregon Department of Energy, Senior Policy Analyst, Vijay Satyal

Oregon Department of Environmental Quality, Dave Belyea

Oregon Department of Environmental Quality, Director, Dick Pedersen

Oregon Department of Environmental Quality, Water Quality Division Administrator, Greg Aldrich

Oregon Department of Environmental Quality, Regional Solutions Team Representative, Kate Jackson

Oregon Department of Environmental Quality, Office of Compliance and Enforcement Administrator, Leah Koss

Oregon Department of Environmental Quality, Coos Bay Branch, Manager, John Becker

Oregon Department of Environmental Quality, Coos Bay Branch, Permit Writer, Martin Abts

Oregon Department of Environmental Quality, Coos Bay Branch, Permitting/Compliance Specialist, Steve Nichols

Oregon Department of Environmental Quality, Western Region, Region Administrator, Keith Andersen

Oregon Department of Fish & Wildlife, Chair of the Oregon Fish and Wildlife Commission, Bobby Levy

Oregon Department of Fish & Wildlife, Habitat Conservation Biologist, Jason Brandt

Oregon Department of Fish & Wildlife, Fish Biologist, Mike Gray

Oregon Department of Fish & Wildlife, Charleston Field Office, Habitat Protection Biologist, Christopher Claire

Oregon Department of Fish & Wildlife, Wildlife Division, Habitat Resources Program Manager, Jon Germond

Oregon Department of Fish & Wildlife, Wildlife Division, Administrator, Ron Anglin

Oregon Department of Forestry, Oregon State Forester, Doug Decker

Oregon Department of Forestry, Stewardship Forester, Jack Tannehill

Oregon Department of Forestry, Deputy State Forester, Paul Bell

Oregon Department of Forestry, Division Chief, Administrative Services Division, Satish Upadhyay

Oregon Department of Geology & Mineral Industries, Engineering Geologist, Bill Burns

Oregon Department of Geology & Mineral Industries, State Geologist, Dr. Vicki McConnell

Oregon Department of Justice, Assistant Attorney General, Anika Marriott

Oregon Department of Justice, Senior Assistant Attorney General, Natural Resources Section, Don Pyle

Oregon Department of Land Conservation & Development, Acting Director, Jim Rue

Oregon Department of Land Conservation & Development, OCMP, State-Federal Relations Coordinator, Juna Hickner

Oregon Department of Land Conservation and Development, Senior Coastal Policy Analyst, Matt Spangler

Oregon Department of State Lands, Natural Resources Coordinator, Bob Lobdell

Oregon Department of State Lands, Southern Region Manager, Eric Metz

Oregon Department of State Lands, Communications Manager, Julie Curtis

Oregon Department of State Lands, Northern Region Manager, Lori Warner-Dickason

Oregon Department of State Lands, Director, Louise C. Solliday

Oregon Department of Transportation, Government Relations Manager, Betsy Imholt

Oregon Department of Transportation, Planning Manager, Erik Havig

Oregon Department of Transportation, Transportation Development Division Administrator, Jerri Bohard

Oregon Department of Transportation, Transportation Planner, Judith Callens

Oregon Department of Transportation, Director, Matthew Garrett

Oregon Department of Transportation, Transportation Development Division, Region 3 Planning Manager, Mike Baker

Oregon Energy Facility Siting Council, Chair, W. Bryan Wolfe

Oregon Office of the State Fire Marshall, Deputy State Fire Marshall, Central Point, Charles Chase

Oregon Office of the State Fire Marshall, State Fire Marshall, Mark Wallace

Oregon Office of the State Fire Marshall, Deputy State Fire Marshall, Central Point, Michelle Stevens

Oregon Office of the State Fire Marshall, Deputy State Fire Marshall, North Bend, Sean Condon

Oregon Parks & Recreation Department, Director, Tim Wood

Oregon Parks & Recreation Department, State Historic Preservation Office, State Archaeologist, Dr. Dennis Griffin

Oregon Parks & Recreation Department, State Historic Preservation Office, Assistant State Archaeologist, John Pouley

Oregon Parks & Recreation Department, State Historic Preservation Office, Matt Diederich

Oregon Parks and Recreation Department, Natural Resources, South Coast Coastal Coordinator (Douglas and Coos Counties), Calum Stevenson

Oregon Public Utility Commission, Natural Gas Safety, Al Lau

Oregon Public Utility Commission, Senior Analyst - Electric and Natural Gas Division, Kenneth Zimmerman, Ph.D.

Oregon Public Utility Commission, Natural Gas Safety, Kevin Hennesey

Oregon Public Utility Commission, Administrator, Electical and Natural Gas Division, Maury Galbraith

Oregon Public Utility Commission, Interim Executive Director, Michael Dougherty

Oregon Public Utility Commission, Natural Gas Safety, Michael Thompson

Oregon Public Utility Commission, Commissioner, The Honorable John Savage

Oregon Public Utility Commission, Commissioner, The Honorable Stephen Bloom

Oregon Public Utility Commission, Chair, The Honorable Susan Ackerman

Oregon State Marine Board, Director, Scott Brewen

Oregon Water Resources Department, Land Use Planning, Bill Fujii

Oregon Water Resources Department, Watermaster, District 15 (Douglas County), David Williams

Oregon Water Resources Department, Watermaster, District 13 (Jackson County), Larry Menteer

Oregon Water Resources Department, Watermaster, District 19, Mitch Lewis

Oregon Water Resources Department, Director, Phillip C. Ward

Oregon Water Resources Department, Watermaster, District 17 (Klamath County), Scott White

South Slough National Estuarine Research Reserve, Manager, Mike Graybill

Local Governments and Elected Officials

Ashland City Council, Council Member, Carol Voisin

Ashland City Council, Council Member, Greg Lemhouse

Ashland City Council, Council Member, Michael Morris

Ashland City Council, Council Member, Pam Marsh

Ashland City Council, Council Member, Rich Rosenthal

Ashland City Council, Council Member, Stefani Seffinger

Canyonville City Council, Council Member, Buddy Kovachy

Canyonville City Council, Council Member, Dawn Russ

Canyonville City Council, Council Member, Frank Braudt

Canyonville City Council, Council Member, Judy Coleman

Canyonville City Council, Council Member, Marilyn Loomis

Canyonville City Council, Council Member, Michael Boye

City of Ashland, Mayor John Stromberg

City of Ashland, Public Works Director, Mike Faught

City of Bonanza, City Recorder, Danice Brakeman

City of Bonanza, Mayor Betty Tyree

City of Butte Falls, Mayor

City of Butte Falls, City Recorder

City of Canyonville, City Administrator/Recorder, Janelle Evans

City of Canyonville, Mayor Jake Young

City of Canyonville Public Works Department, Public Works Supervisor, Tony Lakey

City of Coos Bay, Police Chief, Gary McCullough

City of Coos Bay, Mayor Crystal Shoji

City of Coos Bay, City Manager, Rodger Craddock

City of Coos Bay Public Works & Development Department, Director, Jim Hossley

City of Coquille, City Manager, Ben Marchant

City of Eagle Point, City Recorder, Cindy Hughes

City of Eagle Point, Council President, Jonathan Bilden

City of Eagle Point, Mayor Bob Russell

City of Elkton, Mayor Rebecca Swearingen

City of Glendale, City Recorder, Betty Stanfill

City of Glendale, Mayor Jim Standard

City of Grants Pass, City Manager, Aaron Cubic

City of Grants Pass, Mayor Darin Fowler

City of Jacksonville, City Recorder, Jan Garcia

City of Jacksonville, Mayor Paul Becker

City of Klamath Falls, Mayor Todd Kellstrom

City of Klamath Falls, City Manager, Nathan Cherpeski

City of Klamath Falls Community Development, Director, Sandra Fox

City of Klamath Falls, Public Works Department, Director, Mark Willrett

City of Lakeside, Mayor Dean Warner

City of Malin, City Recorder, Kay Neumeyer

City of Malin, Mayor Gary Zieg

City of Medford, City Manager, Eric Swanson

City of Medford, Mayor Gary Wheeler

City of Medford Planning Department, Director, Jim Huber

City of Merrill, Mayor Tim Sanders

City of Merrill, Manager, Merrill City Hall, Samantha Meadows

City of Myrtle Creek, Mayor Ken Brouillard

City of Myrtle Creek, Sean Negherbon

City of Myrtle Creek Public Works Department, Director, Jim Watson

City of Myrtle Point, City Manager, Darin Nicholson

City of Myrtle Point, Mayor Barbara Carter

City of North Bend, City Councilor, Bill Richardson

City of North Bend, City Planner, David Voss

City of North Bend, City Councilor, Howard Graham

City of North Bend, City Councilor, Larry Garboden

City of North Bend, Mayor Rick Wetherell

City of North Bend, City Councilor, Mike Eberle

City of North Bend, City Councilor, Pat Goll

City of North Bend, Fire Chief, Scott Graham

City of North Bend, Police Chief, Steve Scibelli

City of North Bend, City Administrator, Terence E. O'Connor

City of North Bend, City Councilor, Timm Slater

City of North Bend Public Works, Engineering Coordinator, Derek Windham

City of Powers, Mayor Edward Hamlett

City of Powers, City Manager

City of Riddle, Mayor William Duckett

City of Riddle Public Works Department, Director, Eric Quinn

City of Rogue River, Mayor Pam VanArsdale

City of Roseburg, City Manager, C. Lance Colley

City of Roseburg, Mayor Larry Rich

City of Roseburg - Public Works Dept, Public Works Director, Nikki Messenger

City of Shady Cove, City Administrator, Aaron Prunty

City of Shady Cove, Mayor Tom Anderson

City of Talent, Mayor Darby Stricker

City of Talent, City Manager, Tom Corrigan

Coos Bay City Council, Council Member, Fred Brick

Coos Bay City Council, Council Member, Jennifer Groth

Coos Bay City Council, Council Member, Mark Daily

Coos Bay City Council, Council Member, Mike Vaughan

Coos Bay City Council, Council Member, Stephanie Kramer

Coos Bay City Council, Council Member, Thomas Leahy

Coos Bay Fire and Rescue, Fire Chief, Stan Gibson

Coos County Commission, Commissioner, John Sweet

Coos County Commission, Commissioner, Melissa Cribbins

Coos County Commission, Commissioner, Robert (Bob) Main

Coos County Emergency Management, Program Manager, Glenda Hales

Coos County Planning Department, Planning Director, Patty Evernden

Coos County Sheriff's Office, Sheriff Craig Zanni

Douglas County Commissioners, Commissioners, Chris Boice

Douglas County Commissioners, Commissioners, Susan Morgan

Douglas County Commissioners, Commissioners, Tim Freeman

Douglas County Planning Department, Director, Keith Cubic

Douglas County Planning Department, Land Use Planner, John Lazur

Douglas County Public Works Department, Director, Robert Paul

Douglas County Sheriff's Department, Sheriff John Hanlin

Elkton City Council, Council Member, Daniel Burke

Elkton City Council, Council Member, Jerry Camp

Elkton City Council, Council Member, Pat Anderson

Elkton City Council, Council Member, Paula Swanson

Glendale City Council, Council Member, Audina Jephson

Glendale City Council, Council Member, Bill Boal

Glendale City Council, Council Member, Karen Mehl

Glendale City Council, Council Member, Polly Eells

Jackson County Commission, Commissioner, Colleen Roberts

Jackson County Commission, Commissioner, Doug Breidenthal

Jackson County Commission, Commissioner, Rick Dyer

Jackson County, County Administrator, Danny Jordan

Jackson County Development Services, Director, Kelly Madding

Jackson County Road Department, Director, John Vial

Jackson County Sheriffs Department, Sheriff Mike Winters

Josephine County Courthouse, Vice Chair, Board of County Commissioners, Cherryl Walker

Josephine County Courthouse, Chair, Board of County Commissioners, Keith Heck

Josephine County Courthouse, Board of County Commissioners, Simon Hare

Josephine County Planning Department, Planning Director, David Wechner

Josephine County Sheriff's Office, Sheriff Gil Gilbertson

Klamath County Commission, Commissioner, Jim Bellet

Klamath County Commission, Vice Chair, Klamath County Board of Commissioners, Kelley Minty Morris

Klamath County Commission, Chair, Klamath County Board of Commissioners, Tom Mallams

Klamath County Community Development Department, Community Development Director, Sid Mitchell

Klamath County Public Works Department, Director, Stan Strickland

Klamath County Sheriffs Department, Sheriff Tim Evinger

Klamath County, Planning Division, Bill Adams

Klamath County, Planning Division, Robert Moore

Klamath Falls City Council, Council Member, Bill Adams

Klamath Falls City Council, Council Member, Dan Tofell

Klamath Falls City Council, Council Member, Irving Hart

Klamath Falls City Council, Council Member, Matt Dodson

Klamath Falls City Council, Council Member, Trish Seiler

Malin Irrigation District, Luke Robinson

Medford City Council, Council Member, Chris Corcoran

Medford City Council, Council Member, Clay Bearnson

Medford City Council, Council Member, Daniel Bunn

Medford City Council, Council Member, Dick Gordon

Medford City Council, Council Member, Eli Matthews

Medford City Council, Council Member, Kevin Stine

Medford City Council, Council Member, Michael Zarosinski

Medford City Council, Council Member, Tim Jackle

Medford Water Commission, Geologist, Bob Jones

Milo Volunteer Fire District, Manager

Myrtle Creek City Council, Council Member, Allan Kusler

Myrtle Creek City Council, Council Member, Colette Granger

Myrtle Creek City Council, Council Member, Gail Blackwell

Myrtle Creek City Council, Council Member, Ken Brouillard

Myrtle Creek City Council, Council Member, Ken Schmidt

North Bay Rural Fire Protection District, Fire Chief, Jim Aldrich

Phoenix City Hall, Mayor Jeff Bellah

Phoenix City Hall, City Manager/Recorder, Steve Dahl

Riddle City Council, Council Member, Debbie Carnes

Riddle City Hall, City Recorder, Kathleen Wilson

Roseburg Area Chamber of Commerce, President & CEO, Debbie Fromdahl

Roseburg City Council, Council Member, Alison Eggers

Roseburg City Council, Council Member, Andrea Zielinski

Roseburg City Council, Council Member, John McDonald

Roseburg City Council, Council Member, Ken Fazio

Roseburg City Council, Council Member, Lew Marks

Roseburg City Council, Council Member, Steve Kaser

Roseburg City Council, Council Member, Tom Ryan

Roseburg City Council, Council Member, Victoria Hawks

Libraries

Butte Falls Branch Library

Canyonville Branch Library

Central Point Branch Library

City of North Bend Library

Coos Bay Public Library

Coquille Public Library

Eagle Point Branch Library

Flora M Laird Memorial Library

Glendale Branch Library

Grants Pass Main Library

Hannon Library, Southern Oregon University

Hazel M Lewis Memorial Library

Jackson County Central Library

JCLS Ashland Library Branch

Klamath Community College Library

Klamath County Main Library

Lane Community College Library, Center Building

Malin Branch Library

Merrill Library

Myrtle Creek Branch Library

Oregon Coast Community College Library

Oregon State Library

Oregon State University Harfield Marine Science Center Guin Library

Oregon Tech Library

Phoenix Branch Library

Riddle Branch Library

Rogue Community College Library, Redwood Campus Library

Rogue Community College Library, Riverside Campus Library

Rogue River Branch Library

Roseburg Library (Douglas County Central Library)

Shady Cove Branch Library

Southwestern Oregon Community College Library

Talent Branch Library

Umpqua Community College Library

University of Oregon Institute of Marine Biology Library

University of Oregon Libraries

White City Branch Library

Media

Ashland Daily Tidings

Daily Courier

Herald and News

KCBY/KVAL-TV

KDCQ 92.9 FM Radio

KOBI-TV

KOTI-TV

Mail Tribune

Rogue River Press

The Columbian

The Daily Astorian

The Eugene Register-Guard

The News-Review

The Oregonian

The Register-Guard

The World

Native Americans

Affiliated Tribes of Northwest Indians, Executive Director, Terri Parr, WA

Burns Paiute Tribe, Chair, Charisse Soucie, OR

Burns Paiute Tribe, Cultural Resources, Theresa Peck, OR

Chinook Nation, Chair, Ray Gardner, WA

Clatsop-Nehalem Confederated Tribes, Chair, Diane Collier, OR

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Tribal Council Chairman, Bob Garcia, OR

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Director, Department of Natural Resources, Howard Crombie, OR

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Tribal Planner, Jeffrey Stump, OR

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Director of Culture, Jesse Beers, OR

Confederated Tribes of Grand Ronde, Chair, Cheryle Kennedy, OR

Confederated Tribes of Grand Ronde, Cultural Protection Specialist, Khani Schultz, OR

Confederated Tribes of Siletz Indians, Chair, Delores Pigsley, OR

Confederated Tribes of Siletz Indians, Natural Resources Manager, Mike Kennedy, OR

Confederated Tribes of Siletz Indians, Robert Kentta, OR

Confedreated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Tribal Historic Preservation Officer, Agnes Castroneuvo, OR

Coquille Indian Tribe, Chair, Edward Metcalf, OR

Coquille Indian Tribe, Executive Director, George Smith, OR

Coquille Indian Tribe, Attorney, Melissa Cribbins, OR

Cow Creek Band of Umpqua Tribe of Indians, Chair, Dan Courtney, OR

Cow Creek Band of Umpqua Tribe of Indians, Tribal Archaeologist, Jessie Plueard, OR

Cow Creek Band of Umpqua Tribe of Indians, Attorney, Wayne Shammel, OR

Modoc Tribe of Oklahoma, Chief, Bill Follis, OK

Pit River Tribal Council, Chair, , CA

Pit River Tribe, Environmental Coordinator, , CA

Shasta Indian Nation, Chair, Janice Crowe, CA

Smith River Rancheria, Chair, Kara Miller, CA

The Klamath Tribes, Vice-Chair, Don Gentry, OR

The Klamath Tribes, Chair, Gary Frost, OR

The Klamath Tribes, Culture & Heritage, Director, Perry Chockpoot, OR

Intervenors

Blue Ridge Alternate Route 2013

C2 Cattle Company

Cable Huston Benedict Haagensen & Lloyd, LLP

Cascadia Wildlands

Center for Biological Diversity

Citizens Against LNG

Columbia Riverkeeper

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians

Crag Law Center [Oregon Shores Conservation Coalition]

Field Jerger LLP

Food & Water Watch

Friends of Living Oregon Waters (FLOW)

Fulbright & Jaworski LLP

Klamath Siskiyou Wildlands Center

National Marine Fisheries Service, Pacific Northwest Region

National Marine Fisheries Service, SW Oregon Habitat Branch

Natural Resources Section, Oregon Department of Justice

Northwest Industrial Gas Users

Oregon Coast Alliance

Oregon Department of Environmental Quality

Oregon Department of Fish and Wildlife

Oregon Department of Land Conservation & Development, OCMP

Oregon LNG

Oregon Wild

Oregon Women's Land Trust

Pacific Coast Federation of Fisherman's Associations (PCFFA) and the Institute for Fisheries Resources (IFR)

Rogue Riverkeeper

Sierra Club Environmental Law Program

Southwest Gas Corporation

TransCanada

Waterkeeper Alliance

Western Environmental Law Center

Bob Barker

Sherry Church

Dustin Clarke

John A. Clarke
Guy W. Cooksey
Bethany Cotton
Joan Darby
Jonathan Hanson
Richard Knablin
William Lackner
Sean Malone
William Moriarty
Joseph Patrick Quinn
Holly Hall Stamper

Affected Landowners on or Adjacent to Proposed Facilities and Routes

Jordan Cove Energy Project

Oregon Department of State Lands
Oregon Dunes National Recreation Area, Siuslaw National Forest
Oregon International Port of Coos Bay
Roseburg Forest Products Company
Southwest Oregon Regional Airport
US Bureau of Land Management, Coos Bay District

Pacific Connector Gas Pipeline Project

11th & F, LLC, CA
5-J Limited Partnership, OR
A. June & Joseph Bennie, OR
A.G. & L.M. Dahl Living Trust, OR
Aaron and Sandra Worman, OR
Alan A. & Marcella Laudani, OR
Albert L. & Nancy R. Mason, OR
Alister D. McAlister, II, OR
Allen & Arlene and Gardner, Nile & June Gardner, CA
Allen L. Adkins, OR
Allen Moates, OR
Allen W. & Ora J. Hoy, OR
Aloha Gagnon-Baldwin Inheritance Trust, OR
Alson L. & Nancy M. Wood, OR
Alvin & Lou Ann Rode, OR
Amanda Hickman, OR
American AGCredit FLCA, CA
Andrew Bradford Napell, CA
Anne T Tunzi, OR
Anneliese Thompson, OR
Antelope Acquisitions LLC, OR
AP Timber LLC, OR
APCO Coos Properties, LLC, OR
Arden Development Inc, OR
Arlen & Betty C Weaver, TRS, OR
Arthur G Jr., Cathy L Russell, OR
Arthur L & Karen L Allen, OR
Bannack Resources Inc, OR
Barbara A Rowe Living Trust, OR
Becklin Land & Cattle, LLC, OR
Beth-Haran Trust, OR
Betty York Survivor Trust, OR
Beulah E. Reddington Revocable Survivor Trust, OR
Bigley Loving Trust, OR
Bill C. & Sharon Marie Gow, OR
Bill D & Alma Hibdon, OR
BLM-O&C Revested Grant, OR
BLM-Public Domain, OR
BLM-USA, OR
BLS LLC, OR
Bradley F. & Theresa A. Sexton, OR
Brian & Darla J. Standley, OR
Brian W. & Kimberly A. Evans, OR
Bruce & Bernie Johnson, OR
Byron & Raquel Anne Beebe, OR
Byron L. & Patricia Auer, OR
C & D Lumber Co., OR
C Morrison Ranch Limited Partnership, CA
C.A. Morrison Trust, OR
C2 Cattle Co, LP, OR
California Giant, Inc, CA
Calvin L. & Charlotte M. McNary, OR
Calvin W & Kathey L Linn, OR
Capri Properties LLC, OR
Carl Dean & Deana Marie Grant, OR
Cary A. Norman Living Trust, OR
Cascade Investment Group LLC, OR
Catherine O Simmons, MN
Central Lincoln PUD, OR
Charla J. House, OR
Charles & Bonnie L Grant Alexander, OR
Charles & Johanna and Schlatter, Mary L. Yates, OR

Charles A and Jody K Anderson, OR
Charles Calley, OR
Christine Driscoll, OR
Christine Karas, OR
Christine Le Helfrich & Lee Bradshaw, OR
Christopher and Leah Anderson, OR
Christopher Mathas, OR
City of Coquille, OR
City of Klamath Falls, OR
City of Malin, OR
Clara Walch, OR
Clarence L. & Stephany D. Adams, OR
Clark C. Unruh Family Trust, OR
Clifton & Judy A Belknap, OR
Clifton, Thomas, Jerry Molatore, OR
CMS & G Inc., OR
Collins Timber Company, LLC, OR
Constance M Neale, OR
Coos Bay Oyster Co., OR
Coos County & Clausen Oysters, OR
Coos County Courthouse, OR
Coos County Sheep Co., OR
Coquille Indian Tribe Trust, OR
Cordy A. Johnson, OR
Cornelis J; Gerrit J. & Patricia A. Boshuizen, OR
Craig C. & Robbyn M. Randolph, OR
Craig L. & Stacey L. McLaughlin, OR
Curt, Thomas, Cynthia Mullis, OR
Curtis H. Jack, OR
Cynthia A. Garrett, OR
D. R. Johnson Lumber Co., OR
Dale L. and Hunter, Roxan D. Voegeli, CA
Dan & Teresa Schleigh, OR
Dana P & Roshanna Stone, OR
Danelle and Spurlock, Lorraine Murray, OR
Danial D & Carol Scoville & Mark K Scoville, WA
Daniel A. & Sarabeth R. Brown, OR
Daniel B. & Maria A. Wensel, OR
Daniel David & Diana R. Taylor, OR
Daniel J. & Carol M. Johnson, OR
Danny Lee; Kara Faye Johnston Johnston, OR
Darin T. & Chana R. May, OR
Dark Living Trust, CA
Darla R Gaylor, OR
Darren & Diana Lou Collins, KS
Daryl F and Sally B Ackley, OR
David & Linda Brouzes, OR
David D. & Judith A. Wilson, OR
David D.; Galyn; Kathleen Roth, OR
David Douglass, OR
David E Kinyon Revocable Trust, OR
David L. & Emily J. McGriff, OR
David L. Park, OR
David M. & Diana A. Mazzucchi, OR
David Schott, OR
Dawn M Odell, OR
Dean Allen Bright, OR
Deborah J. Steenbock, OR
Deborah Starbuck & Randall C. Law & Linda Stroup, OR
Debra A. Lugo Revocable Living Trust, OR
Dee Willis, OR
Deep Creek Ranch, OR
Deer Point, LLC, OR
Delbert Blanchard, OR
Deloitte & Touche LLP, TX
Delos & Laura J. Devine, OR
Dennis & Karen Henderson, NJ
Dennis D & Linda L De Amaral, OR
Dennis L. & Cynthia R. Oden, OR
Diaz Revocable Living Trust, OR
Dixie L Peterson, CA
DKM LLC, OR
Dominic J Jr & Edna M Decarlo, OR
Don L. & Shirley J. Fisher, OR
Donald & Linda A. Crawford, CA
Donald A & Ines E. Oyler, OR
Donald A. & Tammy L. Eichmann, OR
Donald A. Gresdel Sr., OR
Donald B. Hamann, OR
Donald C Standley, TRS, OR
Donald E. Fisher 2012 Delaware Trust, OR
Donald G. Andrews, OR
Donald J & Bonita L. Barnes, OR

Donald J. & Carol L. Thompson, OR
Donald J. & Karen K. Holmstrom, OR
Donald R. & Peggy S. Stokke, OR
Donald Russell Keck, OR
Donald Scott Johnston, OR
Dora Cemetery Association, OR
Doug Funderburg, CA
Douglas County, OR
Drew Hill, OR
Duane B. & Lea Ann Smith, OR
E. Gary and Robin L. Weathers, OR
E. Stephen and Pumphery, Ann K. Chavez, OR
Earl M. & Shirley F. Kerns, OR
Edmond Peile, OR
Edmund A. & Julie A. Groves, OR
Edward Arthur & Linda Diane Lynch Trust, OR
Edward G. & Sharon L. Colvin, OR
Edward J. & Karin Patricia France, WA
Edward L. & Rise K. Hargrove, CA
Edwin J. & Diana F. Stastny, OR
Elizabeth A. Patterson, OR
Ellingson Land Co, OR
Elmer C. & Linda J. Mills, OR
Eloisa N Doyle Survivor's Trust, OR
Eric N. & Carolyn R. Sturm, OR
Eric V. and Amanda Booth, OR
Ervin & Mitzi K Sulffridge, OR
Ethel K & Donna Jean Allen & Addis, OR
Eugene V & Evelyn Schuster, OR
Eva E. & Steven G. Shimotakahara, OR
Evans Schaaf Family, LLC, OR
Fan Yen & Chun-Mei Lin & Lo Cheng Fan & Kuei Chun Hong, OR
Farm of the Family Health and Recreation Association, OR
FIA Timber Partners II, LP, OR
Fleming Living Trust, OR
Floyd A Burg, OR
Floyd A. Cobb, OR
Floyd W & Julia A Grimes, OR
Fort Chicago Holdings II U., LLC, OR
Four H Organics LLC, OR
Frances Joan Adams Jensen, OR
Francisco & Antonia Brambila, OR
Frank & Ramona B. Kiser, OR
Frank A. & Maria L. Rojas, CA
Frank C. Adams, OR
Frank P. & Irene E. La Macchia, CA
Fred Messerle & Sons, Inc., OR
Gary D. Alford, OR
Gary E. Smith Trust, OR
Gary, Allen and Mary and Catherine Wight, OR
Gavin Rajnus, LLC, OR
Gayle L Cowan, OR
Gayle Sandra Staysa, OR
George and Sheryl Davis, OR
George E and Carol K Walling, OR
George G. Barber, OR
George J. Oliva, OR
George M. & Hazel B. Whitlock, OR
George W. & Georgia J. Dow, OR
Georgia-Pacific West, LLC, GA
Giles Family Trust, OR
Glen & Sharline Crouch Rev Trust, OR
Glen M. & Christine Howard, OR
Glockner Investments, OR
Goodell Loving Trust, OR
Gordon & Lori Reeves, OR
Gregory E. Liles, OR
Gunnell Family Trust, OR
H2 Development LLC, OR
Hailicka Living Trust, OR
Hal D. & Donna J. Blomquist, OR
Hamann Family Trust, OR
Harbor Northwest Holdings LLC, CA
Harold Mast, OR
Harry A. & Debra L. Caldwell, OR
Harvey and Laura Deen, OR
Hazel B. Kenyon, OR
Hazel J & Thomas, David Plank, OR
Helben Tree Farm, Inc, OR
Helen E. Northcraft Testamentary Trust, OR
Herbert L Morris, OR
Herndon Family Lands, LLC, OR

Hild Living Trust, OR
Hogan Family Partnership, OR
Holiday Rice Properties & Collins Timber Company, LLC, OR
Holly Doremus & Gordon Anthon, CA
Howard & Gretchen Woods, OR
Howard E & Cheryl B McKinney, OR
Howard L. & Rosena M. Babcock, OR
Huffman & Wright Logging Co., OR
Indian Hill, LLC, OR
Ireland Land LLC, OR
Isthmus Slough Industries, LLC, OR
J Double D Enterprises, OR
J&J Family Trust, OR
Jack & Frank J Stringer Russell, OR
Jack Steinhoefel, OR
Jackie L. & Belinda A. Shaw, OR
Jackie Sanderson, CA
Jacob Baley, OR
James & Judy A. Rose, OR
James E. & Joan D. Dahlman, OR
James Hawden, OR
James J and Charlotte M Herrell, OR
James M. & Treva L. Seaton, OR
James P. & Mary A. Woods, OR
James P. & Paula T. Reis, OR
James R. & Archina J. Davenport, OR
James Smejkal, OR
James V. & Elizabeth M. Hankins, OR
Jana Traskova Thompson, WA
Janina Klabunde-Kuritnyk, OR
Jason A. & Christine A. Snelgrove, OR
Jason L. & Adeena Klein, OR
Jean Fuller, TRS, OR
Jeanne Eddy, OR
Jeannette M. Brunell Trust, OR
Jeffrey D. Hughes, OR
Jeffrey J Killroy, OR
Jeffrey L. & Gidgette N. Hill, OR
Jennie M. Wood Sheldon, WA
Jennifer L Malter-Barrows & Richard A Barrows, OR
Jennifer R. & Brian J. Taylor, OR
Jerry S & Jacqueline M Palmer, OR
Jerry Sarratt, OR
Jim & Bonnie Hogue, OR
Jim Osborne, OR
Jimmie R. & Carolyn E. Ketchum, OR
Jimmy Benjamin & Kathleen Irene Rentz Rentz, OR
Joan J, John C and Priscilla Mcauliffe, OR
Joe G. & Mary L. Lindsay, OR
John & Charllot Stribling, OR
John & Edie M. Garbini, OR
John & Marie L Exner, OR
John A. & Becky J. Minor, OR
John A. & Robert O. Clarke, OR
John Allen, OR
John and Mary Muenchrath Trust, OR
John D. & Kara L. Breuer, OR
John D. & Marilyn L. Dougherty, OR
John E. & Marie A. Knowles, OR
John Edward Wallington Life Estate and Melody Star Michaelson, OR
John Endicott and Mark Wright, Trustees, OR
John J & Susan L Wolf, OR
John K & Karen L Lilly Revocable Living Trust, OR
John M Roberts, OR
John M. Cochran, OR
John N. & Jeanette R. Tansey, OR
John R & Lisa Cullett, TRS, OR
John R and Brenda L Walker, OR
John R. & Renie H. Dalton, OR
John Shoffner, OR
John V. & Stacey K. Mavilia, OR
John W. & Linda L. Parret, OR
Johnny & Maxinne O'Neil, OR
Johnny Calvin & Donell Sharpe, OR
John'S Auto Refinishing Inc, OR
Jones Plumbing & Heating, INC., OR
Joseph G & Carla J Thompson, OR
Joseph Tristany, OR
Joyce K. Matsumura, HI
Joyce L. Fimple, OR
JR Development, LLC, OR
Juanita Saul, OR

Judy Faye Whitson, OR
Julian & Deborah Manders Trust, OR
Julian Winston & Lou Ann Smith, TRS, OR
Juliana Van Sickle & Mitchell D Cain, OR
Juniper Properties LLC, OR
JWTR, LLC, OR
Karen N. and Kobl, Debbie K. McAlpine, OR
Katherine Clark Loving Trust, OR
Kathleen Ann Erickson, OR
Kathleen Williams, OR
Kay E. Ganieany Family Trust, OR
Keeton Yates I LLC, OR
Keith A & Diana L Kinnan, OR
Keith F. Hunter, OR
Keith M. & Josefina V. Anderson, OR
Kennerly Ranches LLC, OR
Kenneth E & Mary Shelton, OR
Kenneth E. & Kristine Cates, OR
Kenneth J. & Wendy Labrousse, OR
Kent Wechter Trust, OR
Kerns Family Trust, OR
Kevin D. & Kitti L. Dicke, OR
Kevin D. and Jordan, Michele A., and Gaston, Laura Rush, OR
Kevin Davis, OR
Keystone Forest Investments, LLC, OR
Kimberly Anderson, OR
Klamath Cascade Group LLC, OR
Klamath County, OR
Klamath Irrigation Dist., OR
Kleemann 2004 Family Revocable Trust, CA
Koch RP Holdings LLC, KS
Kolkow Family Trust, OR
Kuhler Dobson, LLC, CA
Laird Timberlands, LLC, OR
Lamarr L & Judith A Zuver, OR
Lancaster, Esther E., Trustee; ETAL, OR
Larry & Shirley Wheeker, OR
Larry J. Fry, OR
Lavina P. Gilmer, OR
Lavina Pearl Arrowood, OR
Lawrence Family Trust, OR
Lawrence W. Cannon, OR
LBA Contract Cutting, INC., OR
Leatherman Land & Timber Co, OR
Legacy Land & Timber, LLC, OR
Lehman & Cheryl J. Adams, OR
Lela Maxine, OR
Leland W Woods Trust, CA
Leonard and Cindy Smith, OR
Leslie Rager, OR
Lester & Jonna Emineth, OR
Linda D Craig, OR
Linda Handlos, OR
Linda L & Charles H Wheeler Jr. Powerst-Wheeler, OR
Linda Mc'Koen 2008 Revocable Trust, OR
Livvy Drahos, OR
Lloyd V. Howard, OR
Lone Rock Timber Investments, LLC, OR
Lookingglass Olalla Water, OR
Lori A. Lester, OR
Louis M & Betty J. & William H. McCarthy, OR
Lowland Farms, Inc, OR
LTM, Inc, OR
Lucille A Negherbon, OR
Lyle & Janey Cross, OR
Lynn H. and Hannah, Marsha Jo Quam, OR
Malin Irrigation Dist., OR
Marie D. Worthington, OR
Marion I Sitter, OR
Marjorie A. Brunschmid, OR
Mark & Melody Sheldon, OR
Mark & Shirleen Stoller, OR
Mark and Laura Barrows, OR
Mark C & Doreen M Hamlin, OR
Mark D. & Annette M. Ingersoll, OR
Mark E. & Susan L. Scrimsher, OR
Mark Eugene; Robinson, Debbie Kay Schuster, OR
Marla A. Rajnus, OR
Marlen E & Carolyn D Ferch, OR
Martin Wilson, OR
Mary C. Metcalf, OR
Mary Elizabeth Herrera, OR

Mary F Hodgson, TRS, OR
Mary K. McGettigan, OR
Matthew L. & Debra James, OR
McDonald'S Corporation, OR
McKay's Coquille, LLC, OR
McKinley Living Trust, CA
Melody M. & Edgar Maeyens Jr., OR
Melvin J Alconcher, CA
Menasha Forest Products Corp, OR
Merton Bradshaw CO, OR
Michael & Ann Dimeglio, OR
Michael & Karin and Sayles, Gerald & Margaret Noonan, OR
Michael & Karin M. Noonan, OR
Michael D. & Sharon L. Maguire, OR
Michael E & Jamie Ann Bashore, OR
Michael J. & Rachelle L. Smith, OR
Michael P & Sandra L Kelley, OR
Michael R Maurycy, CA
Michael Robbins, WA
Michael S & Wanda D Webb, OR
Michael T & Bonnie L Malepsy and Dorothy M Bordner, OR
Michelle Zink, OR
Mickel & Andrea Finley, OR
Mike Estep, CA
Mildred Fitzgerald Family Trust, OR
Miles W & Pamela Kay Davis, OR
Milo Academy Inc, OR
Milo Volunteer Fire District, OR
Milton Herbert, OR
Mirian G and Bud Liberatore, OR
Mitzi K. Sulffridge, OR
Mollie A Anderson, TRS, OR
Monte J. Seus, OR
Monte R. Rutherford, OR
Moore Mill & Lumber Co, OR
Morley Holdings LLC, OR
Murphy Company, OR
Nancy Haskins, OR
Nancy Parker Strong, William G. Parker & Sylvia S Voorhies, OR
Neal C. Brown Family, LLC, OR
Neil R & Leslie N Hogue, OR
Nicholas E. Garcia Living Trust, OR
Nichols Bros, Inc, OR
Noble F. Adamek, OR
North Pacific Union Conf Assn, OR
Northwest Storage Inc, OR
Nova D. & Ellen M. Lovell, OR
ODOT, OR
Oregon Women's Land Trust, OR
Oxbow Timber, LLC, OR
PacifiCorp, OR
Pape Properties, OR
Parr Lumber Company, OR
Patricia A Heilman, OR
Patricia Connelly, Stephen & Mary Herrera, OR
Patricia K Erickson, OR
Patricia M Dewitt, OR
Patrick G. & Marie A. Gregory, OR
Patrick J & Christine Juhl, OR
Paul & Julie Ann Fenter, OR
Paul B & Cindy A Standley, OR
Paul M. & Eura M. Hoot, WA
Paul M. & Eura M. Washburn, OR
Paula G Smith Liv Trust 6/6/12, OR
Paula G Smith, TRS, OR
Penelope J. Nash, OR
Perpetua Forest Co., OR
Philip J., Jr. Keizer, OR
Philip K Johnson, OR
Phillip Wayne Barton, Caleb C. Barton and Jacob W. Barton, OR
Phillips 66 Company, OK
Platt Living Trust, OR
Plum Creek Timberlands, LP, OR
Pope Ranch Properties LLC, OR
Q Holdings LLC, OR
Ram Sea Rogue, LLC, OR
Randy & Lynita Hopkins, OR
Randy & Randie Jean Wolfs, OR
Randy L. & Carol E. Egelhoff, OR
Randy Wing, OR

Raynor Clack, OR
Rebecca J. Edwards, OR
Rebecca N Andersen, OR
Reginald M. & Renee Carol Alvey, OR
Reyko Fry, CA
Richard & Marcia Sumner, OR
Richard A & Sandra L Graf, OR
Richard and Carol Rullamas, OR
Richard Barnes, OR
Richard D & Jeannie R Lyon, OR
Richard J. & Terry A. Murrell, OR
Richard L & Merry Lou Rust, OR
Richard L. & Joyce Mae Thompson, OR
Richard P. & Twyla J. Brown, OR
Richard Rogers, OR
Richard Sacchi, OR
Richard Wayne Hunt, OR
Richelle R. Bryant Living Trust, OR
Robbie L. Petty, OR
Robert & Kelly Gallup, OR
Robert A Sanclemente, OR
Robert C & Beverly J. Nichols, OR
Robert D. Ault, OR
Robert E & Paul W Crawford, OR
Robert Farris, OR
Robert G. & Wilma J. Ross, OR
Robert G. Scoville, OR
Robert H & Gail Barker, OR
Robert H & Judith A Ballard, OR
Robert L & Ruth L Pifher, OR
Robert L. & Hennig, Arnella C. Steele, OR
Robert Larry Haralson, OR
Robert M & Judith Gaye Brown, OR
Robert M. Gallup, OR
Robert W & Mary J Carney, OR
Robert W. Gerber, OR
Robin B Lee, OR
Robin King Family Trust, OR
Robin L and Jennine M Smith, OR
Robinette Shelton, OR
Roderick & Carol Harris, OR
Rodney & Pamela, Trustees Neill, OR
Rodney Lloyd & Connie J Galivan, OR
Rodney R. & Marie M. Lyon, OR
Roger & Mary Waechter, OR
Roland & Margaret; Lebengood, C.W. Theiss, OR
Rome Creek Timber III, LLC, OR
Ronald and Clack, Calvin and Baker, Wanda K. Raynor, OR
Ronald K. Hatcher, OR
Ronald L. & Molly A. Foord, OR
Ronald P. & Carol J. Munch, OR
Roseburg Forest Products, OR
Ross E & Trudy Coleman, OR
Roxanna D Lloyd, OR
Roy E. & June E. Myers, OR
Roy J & Gail M Howard, OR
Roy L & Samanthy A Eyman, OR
Running 3, LLC, OR
Russell & Deanna Bustos, OR
Russell G & Lisa Deen, OR
Russell R. & Sandra G. Lyon, OR
Ryan E. & Jennifer L. and Kody L. & Kristine J. Hartman, OR
Sandra and Stonestreet, James Hall, FL
Sandra G Marek, OR
Sarah E. Whitis, OR
SAT & Co., OR
Sause Bro Ocean Towing CO., Inc., OR
Schuyler Van Wart, OR
Scott A & O'Morris, Shannon M Morris, OR
Sean Gregory & Wanita Beth Negherbon, OR
Seneca Jones Timber Company, OR
Sharon L. Farrar Trust, CA
Sharon Pulley, OR
Shirtcliff Holdings LLC, OR
Sidney A Schuyler, OR
Silver Butte Timber Co, OR
Solomon Joint Living Trust, OR
Sonny Goodnature, OR
South Suburban Sanitary District, OR
Spencer C. & Truly R. Yates, OR
Squaw Creek Acres LLC, OR
Stalcup Living Trust Jean Stalcup Trustee, OR

State Hwy Commission, OR
State of Oregon, OR
State of Oregon Land Board, OR
State of Oregon, Fish & Wildlife, OR
Steel Creek - Laird Ranch & Tree Farm, LLC, WA
Stephan H. Kleemann, CA
Stephen A & Mary E Herrera, OR
Stephen Ward, OR
Steve J. & Barbara J. Sutch, OR
Steve J. & Deniese Kirkes, OR
Steven & Carole Stalcup, OR
Steven C. Auer, OR
Steven D. Woodward, CA
Steven Darl & Harvey Ray & Bobby Charles Pate, OR
Steven H. Sweet, OR
Steven M & Joanne Carson, OR
Stone Trust, OR
Stukel, LLC, OR
Sukhjit Kaur, CA
Sumner Rural Fire, OR
Susan & Eugene R Cresswell, CA
Suzanne Dickson, OR
Swanpor Corp, GA
System Global Timberlands LLC, WA
Tammy Bray & John F. Caughell, OR
Tansey Loving Trust, OR
Tat Enterprises, LLC, OR
Ted L. Fife Family Trust, OR
Teodoro & Sara Valencia and Elizondo & Olivia Ayala, CA
Terry G. & Maudeen F. Leischner, OR
Terry L & Wendy S Lewis, OR
The Elk Lake Corporation, OR
Theresa Ostrom, OR
Thomas A. Stinchfield, OR
Thomas E. & Carol D. Harlow, OR
Thomas Hoy, WA
Thomas L. & Patti J. Timothy, OR
Thomas M. & Elisa A. Shaw, OR
Thomas O & Glenda S Evans, OR
Thomas W. Terbeck, OR
Thomas, Jerry Molatore, OR
Three Cluff LLC, OR
Timothy D. Higuera, OR
Timothy McClendon, OR
Timothy T Tepper, OR
Todd R. & Luzmarie V. Montgomery, OR
Tom & Kathy E. Silbernagel, OR
Toni Woolsey, OR
Trail Community Church, OR
Treeland Resources, LLC, OR
Treerock LLC, OR
Tresa E Hager, OR
Tristar Southwest Oregon Timberlands LLC, OR
Tri-W Group, LP, OR
Tuesday S and Earl K Herring, OR
US BANK, TRUSTEE - STATEWIDE MORTAGE LOAN TRUST, OR
USA - Fremont Winema National Forest, OR
USA - Rogue River National Forest, OR
USA - Umpqua National Forest, OR
USA in Trust for Cow Creek Band of Umpqua Tribe of Indians, OR
USPS, OR
Vault Self Storage LLC, AZ
VCP Ranch, Ltd, OR
Venus O. McCrorey, OR
Victor & Arianne Elam, OR
Victor & Maria R. Gutierrez, OR
Victor A. & Penelope Terry, OR
Vincent and Paschke, Shannon and Rohrbacker, Charlotte Cheyne, OR
Virgil D. & Carol F. and Dalton, Rodney A. Williams, OR
Virgil D. & Carol F. Williams, OR
Virginia Mae & Lloyd Walker Reed Trust, OR
W. L. & Helen J. Garriott, OR
Walter E. & Wendy A. Hazen, OR
Walter Nelson, WA
Watson Ranch Development, LLC, OR
Wayman Schmidt, OR
Wayne & Susan Davis, CA
Wayne Cole, OR
Webb Briggs Land Co, OR
Wei Xiao & William R. Aronld, OR

Wendy Wong-Haigh, OR
Westfir Land and Timber LLC, OR
Weyerhaeuser Co, WA
Whittier Trust, CA
William & Beth Zuver, OR
William C. & Theresa N. Summerville, OR
William E & Betty Lou Schmidli Trusts, OR
William F & Shirley C Hill, OR
William H and Jeannie A Lucas, OR
William H Johnson, OR
William J. & Shirley Ingersoll, OR
William M & Claudia M Stevens, OR
William R. & Anona M. Ore, OR
William R. Edwards, OR
William Robert Bruce, OR
William W. & Jan M. Walker, OR
Windlinx Family Trust, OR
Winston-Dillard Rural Fire Protection District, OR
Wright Loving Trust, OR
WTCU Railway Company, OR

Affected Landowners on or Adjacent to Alternative Facilities and Routes

Pacific Connector Gas Pipeline Project

Brenda Lee & Carl Sierks, OR
Bruce E Davis, OR
Charles & Pamela Whitlatch, OR
Coos County, OR
Craig L. & Stacey L McLaughlin, OR
Daniel B. & Maria A. Wensel, OR
Darren P. & Karyn D. McNeil, OR
Dean Allen Bright, OR
Delos & Laura J. Devine, OR
Donald & Laura Fisher, OR
Donald Scott Johnston, OR
Douglas & Glenda Martin, OR
Eric J. Ronning, OR
Eugene R. Scott, OR
Eva E. & Steven G. Shimotakahara, OR
Fan Yen & Chun-Mei Lin Hong, OR
Francisco & Antonia Brambila, OR
George J. Oliva, OR
Gregory M. Demers, OR
Jacob W. Caleb C. Phillip Wayne Barton, OR
James P. & Nancy E. Lavin, OR
James V. & Elizabeth M. Hankins, OR
Jennie M. Wood Sheldon, WA
John A. & Becky J. Minor, OR
John B. & Gloria G. Coleman, OR
Kenneth E & Mary Shelton, OR
Kevin Davis, OR
Linda Handlos, OR
LTM Inc, OR
Marc A. & Dea A. McConnell, OR
Marjorie A & Yoshiko James Brunschmid, OR
Michael & Shirley Aeck, OR
Michael R. & Gayla R. Whitehead, OR
Norman L. & Martha J. Rose, OR
Oregon Dept of Forestry, OR
Paul & Marcy Rupf, CA
Philip J. Jr. Keizer, OR
Quintin M. & Melba L. Nerida, OR
Richard & Marcia Sumner, OR
Richard Sacchi, OR
Robbie L. Petty, OR
Robert Daly, OR
Rodney R. & Marie M. Lyon, OR
Ronald P & June A Poole, OR
Ruben & Laura A. Escalera, OR
Ryan E & Jennifer L & Hartman Kody L & Kristine J Hartman, OR
Sandra L. & Louis A. Dykstra, OR
Steve J. & Barbara J. Sutch, OR
Sukhjit Kaur, CA
Thomas M. Grimm, HI
Tracey A. & Jennifer M. Easton, OR
Walter M. & L. Margaret Douglas, OR
Weyerhaeuser Co, WA
Bureau Of Land Management - Coos Bay District, OR
Daniel J. Pohl & Karen I. Pohl Revocable Trust, OR
David & Robin King Family Trust, OR
J. Spear Ranch Co., OR
Johnson Timber LLC, OR
Juanita Willsey Living Trust, OR
Menasha Forest Products Corporation, OR

ODOT, OR

Pacific West Timber Company (Oregon), LLC & The Campbell Group, LLC, OR

State Of Oregon, OR

U.A. in Trust for Cow Creek Band of Umpqua Tribe of Indians, OR

Weyerhaeuser NR Company, WA

Other Interested Parties

1000 Friends of Oregon, Southern Oregon Advocate, Greg Holmes, OR

350Corvalliorg, Charles Miller, OR

701 Local, Robert Crane, OR

American Forest Resource Council, AFRC Field Forester, Jacob Groves, OR

American Gas Association, President, Dave Parker, DC

American Rivers, OR

Bay Area Chamber of Commerce, OR

Bay Clinic LLP, M.D., Joseph T. Morgan, OR

Bay Clinic, LLP, OR

C2 Cattle Company, Dave Picanso, OR

C2 Cattle Company Ltd Partnership, James R. Coonan, OR

Cape Arago Audubon Society, Chapter Contact, Eric Clough, OR

Carpenter's Local 2067, Griffith Davies, OR

Cascadia Wildlands, OR

Center for Biological Diversity, Staff Attorney, Jared M. Margolis, OR

Center for Sustainable Economy, OR

Chamber of Commons, Catie Faryl, OR

Chamber of Medford/Jackson County, President, Brad Hicks, OR

Charleston Merchants Association, OR

Charleston Visitors Center, OR

City of Winston, City Administrator, David Van Dermark, OR

Clarks Branch Water Assoc Inc, OR

Clausen Oysters, Max & Lilli Clausen, OR

Clean Air & Water, Chief Information Officer, Terrance Ness, OR

Clean Air & Water Inc, LeRoy Hippe, OR

Climate Crisis Working Group, Cary D Thompson, OR

Climate Crisis Working Group, OR

Coast Range Forest Watch, Max Beeken, OR

Coast Range Forest Watch, OR

Colorado Oil and Gas Association, CO

Columbia River Estuary Study Taskforce (CREST), Director, Micah Russell, OR

Columbia Riverkeeper, Executive Director, Brett VandenHeuvel, OR

Columbia Riverkeeper, OR

Coos Bay Pilots Association, President, Captain Charles Yates, OR

Coos Bay Visitors Center, OR

Coos Waterkeeper, Executive Director, David Petrie, OR

Coost Consulting LLC & Services, Ken Messerle, OR

David Evans and Associates, Dana Siegfried, OR

David Evans and Associates, Wildlife Biologist, Dave Kennedy, OR

Dickstein Shapiro LLP, Counsel, Joan M. Darby, DC

Douglas County Global Warming Coalition, OR

Douglas County Global Warming Coalition Board of Directors, Stuart Liebowitz, OR

Eagle Point Chamber of Commerce, OR

Earth Share of Oregon, Executive Director, Jan Wilson, OR

Ecotrust, Event Logistics Manager, Chad Derosier, OR

Edge Environmental, Archie Reeve, WY

Edge Environmental, Carolyn Last, CO

Edge Environmental, Dan Duce, CO

Evans Schaaf Family LLC, OR

Forestry Action Committee, FAC Weed Program Coordinator, Suzanne Vautier, OR

Good Works, Guthrie Wilson, OR

Great Basin Visitor Association, Executive Director, Dawn Brown, OR

Green America, DC

Herndon Family Lands, OR

IBEW (International Brotherhood of Electrical Workers), Russell Tschetter, OR

IBEW 932, Adam Foxworthy, OR

IBEW 932, Howard Ridge III, OR

IBEW 932, James Jolley, OR

IBEW 932, Business Manager, Robert Westerman, OR

IBEW 932, Roy Snook, OR

International Longshoremen's and Warehousemen's Union Local 12, President, Marvin Caldera, OR

International Union of Operating Engineers, DC

Iron Workers 29, President, Joe Bowers, OR

Ironworkers Local 29, Tim Foster, OR

IUOE 701 (Operating Engineers Local 701), Clifton Smith, OR

IUOE Local 701, Ricky Iboa, OR

IW Local 29, Trace Mills, OR

IWOE 701, Steve Larsen, OR

Jackson County Democrats, Ralph Browning, OR

Jacksonville Chamber of Commerce, OR

JCEP, Elliot Trepper, CO

Jordan Cove Energy LP, Bob Braddock, OR

Jordan Cove Energy Partners, Director of Public Affairs, Michael Hinrichs, OR

Jordan Cove Energy Project, Charles Deister, OR

K&K Sound Systems, President, D Kandel, OR

Kalmiopsis Audubon Society, OR

Kent Wechter Trust, OR

Klamath Riverkeeper, Executive Director, Konrad Fisher, CA

Klamath Siskiyou Wildlands Center, Staff Ecologist, Richard K. Nawa, OR

Klamath Siskiyou Wildlands Center, OR

Knife River, Al Pranghof, OR

Knife River, Warren Olson, OR

Laborer's International Union, Arden Prehn, OR

Laborers International Union, Pipeline Division, Laura Lee Hughes, OR

Laborer's Local #121, Roger Kaldahl, OR

Laborers Local 1400, Pot Potter, OR

League of Women Voters of Klamath County, Leslie Lowe, OR

Local 290, Director of Political and Legislative Affairs, Dennis Coplin, OR

Local 290, Dennis Mask, OR

Local 290, Rick & Helen Two Bears, OR

Local 296, Tracy Shepherd, OR

Lone Rock Timber Mgt Co, Jake Gibbs, OR

Medford D.A.'s Office, Maggie Montgomery, OR

Medford Visitors Information Center, OR

National Park Service, National Trails Intermountain Region Branch Office, Lee Kreutzer, UT

Native Fish Society, Executive Director, Mike Moody, OR

Native Plant Society of Oregon, OR

Nature Conservancy of Oregon, OR

Neal C Brown Family LLC, Barbara Brown, OR

North America's Building Trades Unions, DC

North State Resources, Inc., Mike Hupp, CA

North State Resources, Inc., Program Manager, Paul Uncapher, CA

Northwest Environmental Advocates, OR

Northwest Environmental Defense Center, Sara Blankenship, OR

Northwest Gas Association, Executive Director, Dan Kirschner, OR

Northwest Industrial Gas Users, Executive Director, Paula Pyron, OR

Northwest Oregon Regional Partnership, Chair, Shirley Kalkhoven, OR

Operating Engineers Local 701, Fred Cox, OR

Oregon Business Council, President, Duncan Wyse, OR

Oregon Department of Environmental Quality, Mike Hiatt, OR

Oregon Department of Fish and Wildlife, Habitat Special Projects Coordinator, Rose Ownes, OR

Oregon Dungeness Crab Commission, Interim Administrator, Hugh Link, OR

Oregon Environmental Council, Executive Director, Andrea Durbin, OR

Oregon Institute of Marine Biology, Director, Dr. Craig Young, OR

Oregon International Port of Coos Bay, Executive Director, Jeffrey Bishop, OR

Oregon International Port of Coos Bay, Kathy Wall, OR

Oregon International Port of Coos Bay, Director of Communications, Martin Callery, OR

Oregon International Port of Coos Bay, Deputy Executive Director, Michael Gaul, OR

Oregon International Port of Coos Bay, Board of Commissioners, President, David Kronsteiner, OR

Oregon League of Conservation Voters, Executive Director, Doug Moore, OR

Oregon Nordic Club - Southern Oregon Chapter, President, Stefanie Ferrara, OR

Oregon Shores Conservation Coalition, Executive Director, Phillip Johnson, OR

Oregon Shores Conservation Coalition, Executive Director, Phillip Johnson, OR

Oregon Sierra Club, Ted Gleichman, OR

Oregon State University, Department of Forest Science, Associate Program Director, Andrew Bluhm, OR

Oregon Toxics Alliance, David Monk, OR

Oregon Wild, Executive Director, Sean Stevens, OR

Oregon Women's Land Trust, Jenny Council, OR

Oregon Women's Land Trust, OR

Oregon Women's Land Trust, Board Member, Renee Côté, OR

Oregon Women's Land Trust and Owl Farm, Kristen Brandt, OR

OSPIRG, Executive Director, Dave Rosenfeld, OR

Our Children's Trust, OR

Pacific Crest Trail Association, Regional Representative, Ian Nelson, OR

Pacific Rainforest Wildlife Guardians, Marcia Denison, OR

Pacific Rivers Council, Executive Director, John Kober, OR

Pacific States Marine Fisheries Commission, Executive Director, Randy Fisher, OR

PC Trask & Associates, Eileen Stone, OR

PC Trask & Associates, Phil Trask, OR

PCGP, Engineer, Bethany Green, UT

PCGP, Bill Vanderlyn, OR

PCGP, Pam Barnes, UT

PCGP, Senior Environmental Scientist, Randy Miller, UT

Pendleton Building & Construction Trades Council, Chuck Little, OR

Pipeline Awareness Southern Oregon, Chair, Stacey McLaughlin, OR

Pipeline Contractor Association, J. Patrick Tielborg, TX

Pipeline Safety Trust, Glenn Archambault, OR

Potomac Riverkeeper, Robin Broder, VA

Rocky Mt. Pipeline Constractors Association, Executive Director, J.D. Lormand, LA

Rogue Climate, Director, Hannah Sohl, OR

Rogue Flyfishers, Conservation Chair, John G. Ward, OR

Rogue Flyfishers, John Ward, OR

Rogue Flyfishers, Inc., President, Steve Wall, OR

Rogue Riverkeeper, Program Director, Forrest English, OR

Roseburg Forest Products Co, Mack Brown, OR

Roseburg Forest Products North Bend Chip Facility, Bob Rogers, OR

Safety Directions, LLC, Paul A. West, OR

Salmon for All Inc, Hobe Kytr, OR

Save Our Rural Oregon, Paul Fuuch, OR

Save Our Rural Oregon, OR

SCDC, Executive Director, Sandy Messerle, OR

Seneca Jones Timber Company, OR

Sheet Metal Union, Ken Ellisor, OR

Sierra Club - Oregon Chapter, Chapter Director, Brian Pasko, OR

Silver Butte Timber Co, Lewis Howe, OR

South Coast Development Council Inc, OR

South Umpqua Rural Community Partnership, President, Stan Petrowski, OR

Southern Oregon Land Conservancy, Diane Garcia, OR

Southwest Oregon Regional Airport, Executive Director, Theresa Cook, MAS, AAE, OR

Tetra Tech, Amy Bensted, OR

Tetra Tech, Joe Iozzi, WA

Tetra Tech, John Crookston, WA

Tetra Tech, Project Manager, John Scott, MA

Tetra Tech, Lynn Sharp, OR

Tetra Tech, Rachael Katz, WA

Tetra Tech, Susan Hurley, OR

The Freshwater Trust, President, Joe Whitworth, OR

The Partnership for Economic Development in Douglas County, Executive Director, Alex Campbell, OR

The Wilderness Society, CO

TRC, Vice President, Brad Floyd, GA

U. Fish and Wildlife Service, Department of the Interior, OR

UA 290, Dan Bailey, OR

UA Local 290, Business Agent, Craig Spjut, CA

UA Local 290, Ron and Christine Henderson, OR

UA Local 669, Steven Pundy, OR

Umpqua Valley Homebrewers Guild, Gerard Van Assche, OR

Umpqua Watersheds, Board Member, Bob Allen, OR

Umpqua Watersheds, Executive Director, Randy Rasmussen, OR

Umpqua Watersheds, Secretary, Buzz Long, OR

Umpqua Watersheds Inc., Joseph Patrick Quinn, OR

Umpqua Watersheds, Inc., Forest Restoration Coordinator, Tim Ballard, OR

USN Ret, John Holden, OR

Waterwatch of Oregon, Executive Director, John DeVoe, OR

Western Energy Alliance, Kathleen M. Sgamma, CO

Weyerhaeuser Company, Corporate Energy Manager, Bruce Wittmann, WA

Weyerhaeuser Company Tax Department - CH1C28, OR

Williams Gas Pipeline, Gary Kotter, UT

Williams Gas Pipeline - NW, Toby Schwalbe, UT

A Michael Dianich, OR

A. Frank, IL

A. Gwaltney, NY

A. Todd, OR

A.L. Steiner, NY

Aaron Lehmer, CA

Abe & Pat Levy, FL

Abigail Bates, CA

Abigail Gindele, NH

Acacia Lacy, OR

Adam D'Onofrio, IL

Adam Elson, OR

Adam Elson, OR

Adam Roske, OR

Adrienne Ross, NM

Agnes Wachtel, NY

Agnes Woolsey, CA

Aimee Souza, WA

Ait Khalsa, CA

Aixa Fielder, CA

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Alan Journet, OR

Alan Miller, OR

Alan Willard, WI

Alandra York, OR

Albaro Gonzalez, OR

Albert DeVita, OR

Albert Valencia, CA

Albert Wilson, OR

Aleta Miller, OR

Alex Maksymowicz, OR

Alexandra Jeffers, VA

Alexis Pagoulatos, NJ

Alice & James Collier, OR

Alice Bowron, MN

Alice Dugar, OH

Alice Green, CO

Alice Matthews, NY

Alice McGough, MA

Alicia Batt, MN

Alicia Markus, OR

Alison Halderman, OR

Alison Helton, OR

Alison Laughlin, OR

Alissa French, WA

Alix Shedd, OR

Allen Ames, OR

Allen Crutcher, OR

Allie Pappano, ME

Allison Carson, OR

Allison Fradkin, IL

Allyn Stone, OR

Allyson Unzen, ID

Amanda Guinn, OR

Amber Tidwell, CA

Amelia Apfel, WA

Amy Danielson, OR

Amy Elepano, TX

Amy Mower, WA

Amy Patton, OR

Amy Perrin, NH

Amy Salthouse, OR

Amy Schlotterback, OR

Amy Schumacher, OH

Anahe Estigarribia, OR

Anders Rasmussen, OR

Andra Heide, FL

Andrea Hahn, OR

Andrea Kraus, CA

Andrea Paysinger, CA
Andrea Paysinger, CA
Andrew Kubik, OR
Andrew Simmons, OR
Andrew Steiger, CA
Andrew Wilson, OR
Andy Burt, OR
Angela Fazzari, OR
Angela Haskell, OR
Angela Leventis, PA
Angela VanPatten, OR
Angela Walter-Schemahorn, IN
Angelina McClean, OR
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Anna Christensen, OR
Anna Froehlich, OR
Anna Odegard, OR
Anna Shook, OR
AnnaRose Adams, OR
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Anne Behroozi, CA
Anne Harper, OH
Anne Henry, CA
Anne Stine, OR
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Annette Parsons and Jim Clover, OR
Annette Soucy, CO
Annina Stills, OR
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Anouschka Andresen, OR
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Anthony Momsen, OR
Anthony Montapert, CA
Anthony Tripp, CA
Anthony Wilson, MO
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Antonia Shouse, NM
Anu Magal, FL
Apple Lewman, OR
April Anson, OR
Araya Jensen, OR
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Arlene and Roger Mueller, OR
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Arlene Fromer, OR
Arlene Zimmer, CA
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Arnold Ruiz, AZ
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Aurelie Ward, NC
Autumn Grimm, GA
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Barb Watts, KY
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Barbara Kleemann, OR

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Barbara Davey, OR
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Barbara Goldfarb-Seles, OR
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Barbara Linnett, OR
Barbara Maynord, OR
Barbara Oleksa-Reiss, VA
Barbara Parchim, OR
Barbara Sopjes, AZ
Barbara Stevenson, OR
Barbara Taylor, OR
Barbara Zaha, IL
Barry R. Kaufman, CA
Barry Snitkin, OR
Barry Spielvogel, NY
Basey Klopp, OR
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Benita A. Smith, NJ
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Benjamin Mercer, TN
Benjamin Warfield, TX
Bernadette Sabatini, NJ
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Beth Peterson, OR
Beth Stewart, CA
Beth Wayne, CA
Bethany Dongiovanni, OR
Betty J. Van Wicklen, NY
Betty LaVelle, OR
Betty McRoberts, OR
Beverly Selthor, OR
Beverly Janowitz-Price, AZ
Beverly Mabry, CO
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Beverly Simone, NY
Bianca Sodfried, CA
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Bill Roberts, TX
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Bill Walsh, OR
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Bill York, OR
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Birgit Johannsen, OR
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Bob & Carol Fischer, OR
Bob & JoAnn Lyon, OR
Bob & Sally Shore, OR
Bob Fay, FL
Bob Hannigan, OR
Bob Heyerman, OR
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Bonnie Shaffer, OR
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Boyd Tippetts, UT
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Brad Nelson, CA
Brad Roupp, OR
Brad Summers, CA
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Brady Reister, OR
Brady Rubin, OR
Brady W. Keister, OR
Brenda Ann Stemac, OR
Brenda Jones, NE

Brenda Lee, CA
Brenda Siron, OR
Brian Comnes, OR
Brian & Kathryn Billeter, OR
Brian & Shelly Wager, OR
Brian Gingras, MA
Brian Inouye, FL
Brian Moore, OR
Brianne Foster, OR
Bridget Palecek, WI
Britt Pearson, OR
Britta Voss, WA
Bruce and Teresa Jenkins, CO
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Bruce Cooley, OR
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Bruce Hammons, OR
Bruce Moats, OR
Bryan Yarberry, IL
Bud Erland, OR
Burton Lazar, OR
Buzz Fromherz, OR
C. Wood, OR
C.R. Pierce, OR
Calvin Clack, OR
Camby Collier, TN
Cameron Coffman, CO
Cameron Zavattero, CT
Candace Anthony, NC
Candace Sinclair, OR
Candy Bowman, CA
Candy LeBlanc, CA
Caren Caldwell, OR
Carl Lorenz, OR
Carla Hervert, OR
Carla Myers, OR
Carly Steel, TX
Carlyle Stuart, OR
Carmen Algarra, ot
Carmen Fendelman, OR
Carol Ampel, OR
Carol & Clark Custodio, OR
Carol Carson, IA
Carol Geiger, TX
Carol Gold, OR
Carol Hanrahan, OR
Carol Hilderbrand, OR
Carol Horowitz, CA
Carol Jagiello, NJ
Carol Jurczewski, IL
Carol McCutcheon, OR
Carol Palmer, OR
Carol Patterson, AR
Carol Patton, CA
Carol Rheault, OR
Carol Sanders, OR
Carol Scope, CA
Carol Thompson, PA
Carole & David Plume, OR
Carolee Bol, NJ
Caroline Tinker, OR
Carolyn Gage, ME
Carolyn Mone, CA
Carolyn Slyter, OR
Carolyn Stone, OR
Carolyn Watkinson, CA
Carolyn Woolley, CA
Carrie Driskell, OR
Carrie Durham, OR
Casey Jo Remy, OR
Casey Schnaible, OR
Cassandra Browning, OR
Cat Gould, OR
Catherine & Jerome Shiraiwa, MN
Catherine Foster, OR
Catherine Lassesen, OR
Cathy Jo Cripps, OR
Cathy Lang, OR
Cathy Page, OR
Cecelia Howard, OR
Celeste Davis, OK
Celeste Hong, CA
Chante Dao, OR

Charlene Boydston, NV
Charlene Gates, OR
Charles and Diana Bain, VT
Charles Botsford, OR
Charles Day, OR
Charles Ebner, OR
Charles Gehr, OR
Charles Martz, OR
Charles McSweeney, OR
Charles Orth Pallavicini, NY
Charles Poole, PA
Charles Rhoades, OR
Charles Riddle, WA
Charles Straughan, OR
Charlie & Joyce Todd, OR
Charlotte Fredericks, OR
Charlotte Hennessy, OR
Charlotte Nuessle, OR
Charlotte Sines, CO
Chasidy Hobbs, FL
Cheri Keisner, CA
Cherie Connick, CA
Cheriel Jensen, CA
Cheryl Bruner, OR
Cheryl Deshaies, GA
Cheryl Lee, MD
Cheryl Reynolds, OR
Cheryl Rubenstein, OR
Chester E Atkins II, CA
Chris Claflin, OR
Chris Crane, MI
Chris Druight, TN
Chris Geankoplis, OR
Chris MacKrell, CA
Chris Mathews, OR
Chris Rusch, OR
Chris Rusch, OR
Chris Thomas, CO
Chris Washington, NY
Christie Childs, CA
Christina Lane, OR
Christina Maris, NM
Christina Shetterly, OR
Christina Teunissen, CA
Christine Boyle, CA
Christine Garlow, OR
Christine Money, NJ
Christine Pikala, MN
Christine Reising, OR
Christine Sepulveda, CA
Christine Williams, OR
Christoper & Eloise Tarrant, OR
Christopher and Kirsten Shockey, OR
Christopher Beatty, OR
Christopher Lish, CA
Christy Sinclair, OR
Chuck Donegan, NY
Chuck Flavin, OR
Chuck Hay, OR
Chuck Schnautz, OR
Cici P, OR
Cindy Camp, CA
Cindy Haws, OR
Cindy Moczarney, IL
Cindy Morgan-Jaffe, CA
Cindy Weeldreyer, OR
Ciry Null, OR
Clara Dresslar, OR
Clarence Hagmeier, CA
Claudia Beausoleil, OR
Claudia Martinez, OK
Claudia Ouachita, LA
Claudine Agai, FL
Cleo Lewis, OR
Clifton & Clarice Radcliff, OR
Colin Pope, OR
Collin Boyd, OR
Colonel Meyer, FL
Connie Drane, OR
Connie Harris, OR
Connie Hooper, OR
Connie Lynn, OR
Connie Raper, NC
Connie Royer, OR

Conny Lindley, OR
Constance Contreras, MD
Constance Huff, OR
Corrie Coston, OR
Courtney Childs, OR
Courtney Flathers, OR
Craig David, MN
Craig Ernst, OR
Craig Hutton, CA
Craig Parker, TX
Craig Rondell, AZ
Cris Staubach, VA
Crystal Cheis, OR
Cyndi Clough, KS
Cynthia & Shane Hines, OR
Cynthia Blue, OR
Cynthia Care, OR
Cynthia D. Lord, OR
Cynthia Eckhardt, NM
Cynthia Edwards, OR
Cynthia Grewe, OR
Cynthia Harper, OR
Cynthia Medlin, OR
D Shapiro, MA
D. Hunter, VA
Dakota Otto and Anna Cassilly, OR
Dale Goodin, CO
Dale Riehart, CA
Dan & Ray Rodriguez, OR
Dan Deans, VA
Dan Ellis, OR
Dan Pahman, MI
Dan Roper, OR
Dan Rowe, OR
Dan Stumpff, OR
Dan Young, OR
Dana Belt, CA
Dana Craig, MA
Dana Grab, OR
Dana Hall, OR
Dana MacDonald, OR
Dana P. Stone
Dana Rose, OR
Dana Sweatt, OR
Daneil Wirth, OR
Daniel & Cheryl Carson, OR
Daniel Baumann, OR
Daniel C. Robertson, OR
Daniel Carolan, UT
Daniel Collay, OR
Daniel Ferrra, CA
Daniel Frankfort, OR
Daniel Henninger, PA
Daniel Jefferson, OR
Daniel Kaufman, OR
Daniel S Gregg, OR
Daniel Weygand, OR
Danielle Piatt, IA
Dara Leibold, OR
Darla Rehmer, OR
Darlene Johns, OR
Darlene Seffani, OR
Darren Showers, NY
Dave Dunkak, OR
Dave Griffith, OR
Dave Maize, OR
Dave Prall, OR
Dave Willis, OR
David Arntson, WA
David Becker, OR
David Bekermeier, OR
David Berger, OR
David Bershire, TX
David Brunk, CA
David Bud Combe, OR
David Cascadden, OR
David Casey, OR
David Christman, OH
David Cornell, OR
David Fisse, OR
David Grant, OR
David Hermanns, NY
David Hill, CT
David Iacono, MD

David Kalinowski, OR
David Katz, CO
David L & Laura A Blair, OR
David Levine, OR
David Lohman, OR
David Lowe, CA
David McGriff, OR
David Osier, OR
David Poese, OR
David Pritchett, OR
David Roadman, OR
David Ross, CA
David Scheer, NY
David Schmidt, OR
David Schmidt and Kathi Windsor, OR
David Stout, NY
David Ulibarri, IL
David Wiley, PA
David Wilson, OR
Dawn Hendry, CO
Dean A. Wilson, LA
Deanna Ayers, OR
Deanna Mobley, OR
Deanne Bustos, OR
Deb Wallace, OR
Deb MacLean, OR
Deb Steinberg, WA
Debbie Kapper, OR
Debbie McKeever, OR
Debbie Netardus, NV
Debbie Thomas, NV
Debbie Thrall, OR
Debbie Williamson, AR
Deborah Boomhower, NY
Deborah Bransom, OR
Deborah Dahlgren, CT
Deborah K. Wallace, OR
Deborah Kornblau, OR
Deborah Leff, OR
Deborah Ludwig, WV
Deborah Mokma, OR
Deborah Murphy, NY
DEBORAH SMITH, OK
Debra & Dennis Waldon-Myers, OR
Debra Atlas, CA
Debra Baker, OR
Debra Bricker, OR
Debra McGee, OR
Debra Sheetz, OR
Debra Slater, OR
Debra Wilson, OR
Dee Perez, OR
Deirdre Brownell, CA
Delaney Green, OR
Delanie Anderson, OR
Denise Brennan, MI
Denise Lenardson, CA
Denise Martini, NV
Denise Sandhusen, NY
Denna Hackler-Sullivan, WA
Dennis & Cathie Loper, OR
Dennis Davie, CA
Dennis Dover, OR
Dennis Hipple, FL
Dennis Honkomp, MO
Dennis Kreiner, IL
Dennis Lewis, OR
Dennis Netter, OR
Derek Gendvil, NV
Derek Shetterly, OR
Derrick Hindery, OR
Devin Henry, NY
Dia Paxton, OR
Diana Rasmussen, OR
Diana Wales, OR
Diane and David Bilderback, OR
Diane and Jerry Tabbott, FL
Diane Coburn, OR
Diane Garcia, OR
Diane Newell Meyer, OR
Diane Phillips, OR
Diane Plume, OR
Diane Shockey, OR
Diane Taudvin, OR

Diane Voss, OR
Dianne Alpern, CO
Dianne Douglas, AZ
Dianora Niccolini, NY
Diarmuid McGuire, OR
Dick Artley, ID
Dick Reiss, VA
Dinorah Hall, GA
Djayne McPherson, WA
Dominic Libby, NH
Dominic Lovato, OR
Don & Darlene Deems, OR
Don & Edward McWhorter, OR
Don & Kelley Brandeau, OR
Don Barshis, IL
Don Berg, OR
Don Eaton, PA
Don Gurney, OR
Don Holmstrom, OR
Don Jacobson, OR
Don Rajnus, OR
Don Smith, OR
Don Tipping, OR
Dona McAdam, WA
Donal Dean, OR
Donald McMordie, OR
Donald and Gail Payne, AL
Donald Baumgartner, MT
Donald Figge, AZ
Donald Hobson, FL
Donald Hyatt, OH
Donald Johnson, OR
Donald Shaw, FL
Donald Smith, NM
Donald Vanouse, NE
Donald Wagner, OR
Donna & Mark Dorner, OR
Donna Belle, OR
Donna Benjamin, OR
Donna Bonetti, CO
Donna Newman, NC
Donna Opitz, OR
Donna Sharp, OR
Donna Su, LA
Donna Swanson, OR
Donna Tumey, OR
Dora Dubbelman, OR
Doreen Ferguson, OR
Dori Grasso, MD
Doro Reeves, OR
Dorothy & Adrian Bordner, OR
Dorothy & Richard Chamberlin, CO
Dorothy & Ronald Young, OR
Dorothy Benson, OR
Dorothy Tartaglia, MD
Doug Barrett, OR
Doug Hutton, OR
Doug Landau, FL
Doug Riel, IL
Doug Viner, OR
Douglas Gray, OR
Douglas & Rhonda Johnson, OR
Douglas Cooke, NY
Douglas Fir, CA
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Mary Margaret Muenchrath, OR
Mary Murphy, OR
Mary Murphy, OR
Mary Mutch, WI
Mary Rais, OR
Mary Scott, OR
Mary Williams, UT
Maryann Haller, CA
Maryann Rohrer, OR
Mary-Jo Janin, OR
Mason Hall, OR
Matilda Orzechowski, AZ
Matt Utal, OR
Matt Ison, OR
Matt Ison, OR
Matt Steele, OR
Matt Witt, OR
Matt Wold, CA
Matthew Briscoe, OR
Matthew Carlstroem, CA
Matthew Daynard, NY
Matthew Dean, FL
Matthew Harper, TX

Matthew Kaminker, OR
Matthew Lund, OR
Matthew Miller, OR
Matthew Miller, NC
Matthew Schaut, MN
Matthew Yancey, NY
Maura Hayes, OR
Maureen Jackson, KY
Maureen Knutsen, AK
Maureen O'Neal, OR
Maureen Roche, CA
Maxine Johnson, OR
Maya Kurtz, CO
Maya Reames, OR
Mechtilde Myers, CA
Megan Faber, CO
Megan Fehrman, OR
Megan Poole, OR
Megan Warren, IL
Megan Wolfe, PA
Meghan McCutcheon, WA
Mel Ginsberg, OR
Melanie Christman, OR
Melanie Mindlin, OR
Melba & Dan Dlugonski, OR
Melinda Claire, OR
Melinda W Sowder, IN
Melissa Bashore, FL
Melissa Bishop, NY
Melissa Moorleghen, OR
Melissa Rothenberger, CT
Melissa Schweisguth, CA
Melissa Stansberry, CA
Melissa Ta, CA
Melody Ashworth, OR
Melva Smith, OR
Meridee Webster, OR
Merna Blagg, WA
Merridy Cross, OR
Merton Numkena, CA
Meryl Pinque, ME
Mia Moss, GA
Micah Vandevere, CA
Michael Argento, MD
Michael Brock, PA
Michael Bruncheau, OR
Michael C. Ford and Richard B. Marks, CA
Michael Denham, OR
Michael DiGiorgio, OR
Michael Dotson
KS Wild, OR
Michael Erickson, OR
Michael Essex, CA
Michael Fisher, OR
Michael Foley, NY
Michael Gannon, OR
Michael Gorr, NY
Michael Gross, OR
Michael Hancock, OR
Michael J. Hosie, OR
Michael Kenyon, OR
Michael Klausing, WV
Michael Krumper, OR
Michael Litt, OR
Michael Lombardi, PA
Michael Lyman, WA
Michael McNutt, OR
Michael Olenjack, MO
Michael Partsch, CA
Michael Shakarjian, OH
Michael Smelser, OR
Michael Toobert, CA
Michele Horton, OR
Michele Martinez, CA
Michele Mercer, AZ
Michele Villeneuve, TN
Michelle Lamar, OR
Michelle Stockton, OR
Michelle Wenderlich, NY
Micki Summerhays, OR
Midge Raymond, OR
Miguel Ribeiro, CA
Mike Floyd, OR
Mike & Anita Mault, OR

Mike & Bonnie Malepsy, OR
Mike Albar, NJ
Mike and Christie Nelson, OR
Mike and Mary Rogan, OR
Mike Hittle, SD
Mike Kelley, OR
Mike LaPorte, OR
Mike Sands, OR
Mike Seyfried, NV
Mike Warner, CA
Mike Wooldridge, OR
Mikkel Gredvig, WA
Mildred Griffin, CO
Milton Loppnow, OR
Minerva Siegel, NM
Mira Wiegmann, OR
Mitch Cohen, NY
ML Moore, OR
Mlou Crimmins, MA
Monica Fioretti, OR
Monica Odgers, WI
Monte Brollier, OR
Morgan Lindsay, OR
Muhammad Abdul-Qadir, OR
Myra Crawford, AL
Nada Ballator, CA
Nan Stevenson, TX
Nancy & Morris Fruitman, OR
Nancy Archerd, OR
Nancy Chismar, NJ
Nancy Heintz, AZ
Nancy Howard, GA
Nancy L. Anderson, OR
Nancy Liela Wallace-Nelson, CA
Nancy Mayer, OR
Nancy Meadows, CA
Nancy Pfeiler, OR
Nancy Spencer, OR
Nancy Staley, NY
Nancy Strong, AZ
Nancy Terrill, CO
Nancy West, CA
Nanette Oggiono, MA
Naomi Johnson, OR
Natalia Newman, CA
Natalie Van Leekwijck, OR
Nathan Lou, CA
Nathan Wetzel, OR
Neal Peters, OR
Neal Steiner, CA
Neil O'Donnell, NY
Nelson Brooke, AL
Nicholas Mitchell, UT
Nicole Graham, OR
Nicole Gutrich, OR
Nicole Sylvester, NM
Nina Diamante, CA
Noah Treiger, OR
Nona Donahue, OR
Nora Coyle, CA
Nora Gaines, NY
Nora Kelly Barker, OR
Nori Zukerman, WA
Norman & Joanne Alexander, OR
Norman Dondrey, OR
Norman Pugliese, NJ
Norman Smedes, OR
Nova McCarthy, OR
O Lewis, CA
Oceanah D'amore, OR
Olga Abella, IL
Oliver Johnson, OR
Opie Heyerman, OR
P GARODIA, OR
P. Redag, OR
P. Wyckoff-Nordstrom, OR
Pam McCarthy, OR
Pam de Jong, OR
Pam Fischer RN, WI
Pam Ward, NH
Pam Wooddell, OR
Pamela & Timothy Reeves, OR
Pamela Check, CA
Pamela Fitzpatrick, OR

Pamela Fletcher, OR
Pamela Green, MT
Pamela Lucas, OR
Pamylle Greinke, NY
Parker Flickinger, OR
Patricia Watterson, OR
Patricia Baley, NV
Patricia Cox, NE
Patricia Grames, AZ
Patricia Halleran, OR
Patricia Hartigan Bloom, CA
Patricia Lotus and Trisha Lee, CA
Patricia Matejcek, CA
Patricia McDonald, FL
Patricia Nazzaro, KY
Patricia Orlinski, AZ
Patricia Toombs, OR
Patricia Vance, AZ
Patricia Wilson, CA
Patricia Winston, DC
Patrick Almonrode, NY
Patrick and Dana Thompson, CA
Patrick Julian, CA
Patrick Lowe, OR
Patrick Moore, HI
Patrick Scarry, NE
Patsy Falukes, OR
Patty Gault, OR
Paul Barker, OR
Paul Borcherding, OR
Paul Borcherding, OR
Paul Botsford, OR
Paul Brown, OR
Paul Brown, PA
Paul Burke, VA
Paul Busse, KY
Paul Densmore, MN
Paul Garber, OR
Paul Howard, OR
Paul Howard and Stacy Drake, OR
Paul Jerskey, WA
Paul Lima, TN
Paul Norup, OR
Paul Poresky, OR
Paul Sinacore, CA
Paul Staub, OR
Paul Washburn, OR
Paula Berry, CA
Paula Hoehn, OR
Paula Katz, VA
Paula Perdoni, MN
Paula Yablonski, OR
Paulette Landers, OR
Pauline Black, OR
Pearl Dumoff, SD
Peggy Cope, TX
Peggy Kramer, OR
Penny & Victor Terry, OR
Penny Murray, OR
Penny Olson, WA
Pete Carhart, OR
Pete Richardson, NH
Peter Alsop, CA
Peter Curia, AZ
Peter Galvin, CA
Peter Gandesbery, OR
Peter Hunt, OR
Peter Johnson, NV
Peter Little, MA
Peter R. Christensen, NM
Peter Ryan, OR
Peter Sergienko, OR
Peter Uglesich, OR
Phil Bertrand, OR
Phil Hanson, OR
Philip & Lori Evans, OR
Philip Cusack, OR
Philip Genarie, OR
Philip Johnston, CA
Philip LaGesse, OR
Phillip Mixon, GA
Phillip W. Barton, OR
Phoebe Quillian, OR
Pim Solof, OR

Princess Franks, OR
Pris Caffo, OR
Probyn Gregory, CA
R Clough, IL
Rachel Koning, OR
Rachel Soper, NY
Raeann Scott, WA
Rain Crowe, OR
Rain Crowe, OR
Ralph & Beverly McKechnie, OR
Ramie Streng, OR
Randal Pope, OR
Randall Nerwick, OR
Randall Smith, NE
Randy Harrison, OR
Randy Juras, IL
Randy Sailer, ND
Randy Turner, CA
Randy Turner and Sandra Medina, OR
Ray Arndt, OR
Ray & Dola Johnson, OR
Raymond Gettins, OH
Raymond Hatton, OR
Raymond Morris, OR
Reba & Glenn Nelson, OR
Rebecca Canright, NJ
Rebecca Casstevens, NY
Rebecca Helton, VA
Rebecca Kay, OR
Rebekah Sabol, CA
Reggie & Renee Alvey, OR
Rel Corbin, AR
Renee Cote and Marianne Moskowitz, OR
Reneé Frati, OR
Renee Locks, CA
Rev. Anne Ainsworth, OR
Rhea Shapiro, OR
Rhoda Seet, NY
Rhonda Anderson, PA
Rhonda Bradley, TN
Rhonda Lawford, IL
Rich Nawa, OR
Richard & Ammie Carson, OR
Richard & Judith Heaney, OR
Richard Booth, MI
Richard Brandes, CA
Richard Brown, OR
Richard Chambers, OR
Richard Chasm, OR
Richard Clinton, OR
Richard Creswell, CO
Richard Heinlein, WI
Richard Heus, CA
Richard Howard, OR
Richard Johnson, WA
Richard Katz, OR
Richard Mayer, CA
Richard McKinney, OR
Richard Mikula, OR
Richard Moen, OR
Richard Pross, OR
Richard Richard Rugen, OR
Richard Royer, OR
Richard Sylvester, CO
Richard Tetley, OR
Richard Turner, OR
Richard Yasana, OR
Rick & Helen Winters, OR
Rick Hernandez, OR
Rick Russell, OH
Rick Sparks, OR
Rick Tetzloff, OR
Rida-Lee Carnes, OR
Rita & Dennis Fiedler, OR
Rita Kiley, OR
Rita Lethert, OH
Rob Joseph, OR
Rob Seltzer, CA
Robelee & Susan Evans, OR
Robert & Daryl Hawkins, OR
Robert and Dolores Scheelen, OR
Robert and Jean Pollock, OR
Robert Bachman, SE, CA
Robert Bellah, OR

Robert Bezy, OR
Robert Burnett, CO
Robert Clarke, OR
Robert Collins, Ph.D., NC
Robert Crump, OR
Robert Helm, OR
Robert Hodge, OR
Robert Honish, CO
Robert Jansen, OR
Robert Johnson, NM
Robert Jones, NY
Robert L. Bezy, Ph.D., OR
Robert L. Crowe, OR
Robert L. Simpson, OR
Robert L. Smith, OR
Robert Linzmeier, IL
Robert Lippman, UT
Robert Miller, MT
Robert O. Clark, OR
Robert Ortiz, CA
Robert Parker, OR
Robert Paulson, OR
Robert Posch, FL
Robert Shippee, VA
Robert Stockton, OR
Robert Triggs, WA
Robert Wohlberg, MN
Robert, Tina & Quenten Kendell, OR
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Roberta Hill, TX
Roberto Quintana, NY
Robin Blanton, SC
Robin Engle, OR
Robin Mayerat, NY
Robin Patten, OK
Robin Vogler, MT
Robyn Reichert, FL
Rod Graham, OR
Roger Carnes, OR
Roger Miller, PA
Roger Nathe, OR
Roger Rocka, OR
Ron Coberly, OR
Ron Foord, OR
Ron Sadler, OR
Ron Silver, FL
Ronald & Donna Thompson, CA
Ronald Brown, CO
Ronald Carlson, MD
Ronald Little, OR
Ronald Ratner, SD
Ronald Weaver, OR
Ronald Woods, OR
Ronell Draper, OR
Roni Lester, WI
Ronnie Herne, OR
Rory Finney, OR
Rosalie Ra, OR
Rosalind Troupin, DE
Rosalind Whitaker, OR
Rosamond Brenner, NY
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Rose Hall, AZ
Rosemarie Jenkins, OR
Roshanna Stone, OR
Rovana Regennitter, OR
Roxann Prazniak, OR
Roxanne Ganley, FL
Roy Allen, WY
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Russ Berger, ID
Russ Cross, IN
Russell and Deborah Anthes, WA
Russell Cox, OR
Ruth Heyes RN, CO
Ruth Moynihan, CT
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Ryan G., WI
Ryan Hanson, LA
Ryan Navickas, OR
Ryan Wilcoxson, OR
Sagen Smith, OR
Sallie Rose Sandler, OR

Sally Purbrick-Illek, OR
Sally Sheck, WA
Sam Delaney, OR
Sam Smith-Rowe, OR
Sam Sprague, OR
Samantha Christensen, OR
Sandra and Richard Kremer, OR
Sandra Baker, OR
Sandra Couch, IL
Sandra Davis, WA
Sandra Dennis, OR
Sandra Dunlevy, PA
Sandra Joos, OR
Sandra Marek, OR
Sandra Materi, WY
Sandra Woodall, TX
Sandy Levine, CA
Saneel Radia, NY
Saner Gala, OR
Sara & Dean Byer, OR
Sara CA Rafter, OR
Sara Katz, OR
Sara Lauer, OR
Sara Lovelady, OR
Sara Lupson, NY
Sara McCarthy, CA
Sara Wilts, WV
Sarah & Jim Peterson, OR
Sarah Breckenridge, OR
Sarah Deumling, OR
Sarah Hamilton, NY
Sarah Manno, CO
Sarah Mayer, OR
Sarah Ross, KS
Sarah Shaw, OR
Sarah Stewart, MT
Sarah Vaile, OR
Saran Kirschbaum, CA
Sarita Lief, OR
Scot Ligane, CA
Scott Sonenshine, OR
Scott Waters, CO
Sean Agnew, OR
Sean Peterson, or
Serena Becker, OR
Serena Wittkopp, OR
Serge & Virginia Tate, OR
Serge Vrabec, OR
Seth Kaplan, OR
Seth Kyser, AL
Seymour Glassman, OR
Shandor Weiss, OR
Shane Daugherty, OR
Shannon O'Morris, OR
Shannon Sinderson, OR
Shannon Souza, OR
Shara Comstock, WA
Shari Jackson, OR
Sharla Keith, OR
Sharon & Frank Koska, OR
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Sharon Frank, TX
Sharon Lee, OR
Sharon Levin, OR
Sharon Nicodemus, CA
Sharon Nolting, NY
Sharon Rickman, WA
Sharon Sprouse, D.V.M., CA
Sharon Stockman, NM
Sharon Sturgis, OR
Sharon Sutton, OR
Sharon Wolf, WI
Shaun Franks, OR
Shawn O'Grady, OR
Shawn Sargent, MA
Shawna Hyatt, CA
Shawna Morrows, OR
Sheila Conry, PA
Sheila Gallagher, PA
Sheila Tran, IA
Sheila Ward, PR
Shelley Heon, OR
Shelly Coropa, OR

Sherie Ingram, TX
Sherman Waring, OR
Sherrill Rinehart, OR
Sheryll Punneo, MO
Shirley A. Cooper, WA
Shirley Weathers, PhD., OR
Sigrit Morghen, OR
Soleman Hashmi, IL
Sondra Boes, CA
Sonia ImMasche, CO
Sonya Myers, FL
Sophia Bogle, OR
Spencer Lennard, OR
Spencer Young, IL
Stacey Dawkins, OR
Stacey Farley, CO
Stacey Howard, OR
Stacey Rohrbaugh, CA
Stacie Flood, OR
Stacie Smith, OR
Stacie Smith, OR
Stacy McLaughlin, OR
Stanley Tenold, OR
Stefan Galen, OR
Stephanie Cooke, IL
Stephanie Huntington, CO
Stephanie Messerle, OR
Stephanie Tidwell, OR
Stephanie Tidwell, CA
Stephen Amy, OR
Stephen and Robin Newberg, CT
Stephen Canning, OR
Stephen Dickinson, OR
Stephen Gilbert, NM
Stephen Kutmann, OR
Stephen Scalmanini, CA
Stephen Slivinsky, NY
Stephen Wagster, LA
Stephen Zunes and Nanlouise Wolfe, CA
Steve & Barbara Sutch, OR
Steve & Mandy Prien, OR
Steve Borchard, OR
Steve Iverson, CA
Steve Lloyd, NY
Steve Lucas, TX
Steve Mariah, OR
Steve McKinley, OR
Steve Miller, OR
Steve Rouse, OR
Steve Schubert, CA
Steve Scott, OR
Steve Sheehy, OR
Steve Slalus, OR
Steve Tichenor, OR
Steve Todd, PA
Steve Vincent, OR
Steve Walls, SC
Steve Walsec, OR
Steve Walser, OR
Steve Western, OR
Steve Williamsen, OR
Steve Winberg, AZ
Steve Yaffee, CA
Steven Berkson, OR
Steven Goldstein, OR
Steven Mauvais, OR
Stewart Wiggers, HI
Stu and Kat O'Neill, OR
Stuart Liebowitz, OR
Stuart Shaw, NJ
Sue Smith, OR
Sue Waite, OR
Sueanna Wood, OR
Sugeet Sugeet, OR
Susan Yost, OR
Susan & Roger King, OR
Susan Alexander, OR
Susan Allen, NC
Susan Anderson, OR
Susan Applegate, OR
Susan Berryhill, OR
Susan Bizeau, OR
Susan Carey, NY
Susan Delles, OR

Susan Dewey, VA
Susan Dowell, OR
Susan Edson, OR
Susan Haines, FL
Susan J Jacobs, OR
Susan Joshua, OR
Susan Kelly Ambler, CO
Susan Longstreth, OR
Susan Marston, OR
Susan McMillan, NM
Susan Peirce, CO
Susan Pelakh, FL
Susan Porcaro, OR
Susan Purchon, MA
Susan Ray, CA
Susan Scorso, OR
Susan Selbin, NM
Susan Severin, OR
Susan Smith, OR
Susan Teitelman, OR
Susan Vanmeter, WV
Susanna DeFazio, OR
Susanna Noordhoff, OR
Susie Stevens-Briody, OR
Suzanne Hamer, WA
Suzanne Macy, OR
Suzanne Remien, CA
Suzanne Zook, OR
Suzette Zelenak, MI
Suzia Aufderheide, OR
Sydney Carothers, CA
T Bell, TX
Tabatha Sieracki, MI
Tad Goguen-Frantz, OH
Tamara Stuebing, OR
Tami Howard, OR
Tami Linder, NM
Tami Palacky, VA
Tammy Davis, CA
Tanya Field, NM
Tara Hanson, OR
Tatiana Torres, CA
Ted Fishman, CA
Tedford Rose, IL
Tenaya Gilman, OR
Teresa McQueen, WA
Teresa Tobey, OR
Teresa Wurts, KY
Teri Lee Roth, OR
Teri Olsson, CA
Terrie Williams, TX
Terry Brown, OR
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Terry Schulz, CA
Terry Tedesco-Kerrick, AZ
Tessa Flores, NY
Thad Gala, OR
Thaddeus Kozlowski, OR
Thalia Vaillancourt, OR
Thea Appleton, OR
Theodore Beringer, KS
Theresa & Robert Poller, OR
Theresa Bush, OR
Theresa Kelly, NY
Theresa M. Campbell, MI
Thomas Wilczek, OR
Thomas & Marian Treece, OR
Thomas Becker, NY
Thomas Brown, OR
Thomas Bunt, OR
Thomas Carsner, MO
Thomas Gibbs, CA
Thomas Gorman, NM
Thomas Hahn, OR
Thomas Krouse, CA
Thomas McGresar, OR
Thomas Nicholson, OH
Thomas Pintagro, NY
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Tierney Grinavic, MD
Tiffany Shaddock-Ramsey, CA
Tim & LeAnn Mobley, OR
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Tim Ryan, OR

Tim Wallace, MN
Tina Brown, WA
Tina Corbett, MT
Todd Ellis, OR
Todd Hoenfer, OR
Tom Beatini, NJ
Tom Bender, OR
Tom Collett, OR
Tom Harding, FL
Tom Harding, WA
Tom Harris, OR
Tom Harris, NJ
Tom Hoesly, OR
Tom Molatore, OR
Tom Tripp, CO
Tomas DiFiore, CA
Toni Thompson, IL
Tonia Moro, OR
Tony Greiner, NM
Tony Pate, OR
Tonya Graham, OR
Tracey Eno, MD
Traci Davis, OR
Tracy Bartlett, CA
Tracy Cohen, OR
Tracy Harding, OR
Tracy Hyland, OR
Tracy Schroepfer, WI
Tracy Young, AZ
Trevor Southlea, NY
Trey Senn, OR
Trish Haas, OR
Trish Lindaman, OR
Twyla Meyer, CA
Twyla Rowe, OR
Tye Block, NC
Tzaddi Heatherstone, OR
Ulle Koiv, NY
V.N. Syverson, OR
Val Keys, OR
Valente Ornelas, OR
Valerie Blackmore, OR
Valerie Hill, UT
Valerie Lovejoy, OR
Valerie Mesa, VT
Valerie Rabeler, NC
Valerie Sherrill, OH
Valeriya Efimova, NJ
Vance Adams, OR
Vernon Grieve, OR
Vic Corchero, OR
Vic Bostock, CA
Vicki Rambo, AZ
Vicki Sanders, OR
Vicky Brandt, NY
Vicky Gannon, WA
Victor Gutierrez, OR
Victoria G. Marshall, WA
Victoria Meier, OR
Victoria Richert, CA
Virgil & Carol Williams, OR
Virginia Arnold, CA
Virginia Feldman, OR
Virginia Gibbons, OR
Virginia Green, MA
Virginia Lewis, OR
Virginia Mendez, FL
VL Latta, PA
W H Wolverton, UT
Wade Bischoff, OR
Walker Everette, NY
Wally Sykes, OR
Walt Carr, AZ
Walt Mintkeski, OR
Walter Koch, CA
Wanda Baker, OR
Wanda Ballentine, MN
Wanda Nelsen, OR
Wayne Flick, CO
Wayne Goeken, IA
Wayne Goin, CO
Wayne Kelly, OR
Wayne Reilly, OR
Wendell Merck, OR

Wendell Wood, OR
Wendy Eppinger, OR
Wendy McGowan, ORWendy Oser, CA
Wesely McCraw, OR
Whitney Metz, WV
Wil Thompson, OR
Wilbert Griffith, TN
Wilfred Brown, OR
William & Cassandra Staton, OR
William & Janet Pierson- Kyle, OR
William & Marianne Sherman, AR
William & Marylou Hickey, OR
William & Twila Winkler, OR
William Bodden, OR
William Hofford, VA
William Jenkins, CO
William Koltun, CA
William Mitchell, CA
William OBrien, OR
William Parker, OR
William Schoene, CA
William Schultz, OR
William Sharfman, NY
William Simpson, OR
William Van Vliet, OR
William Ward, OR
William White, AZ
Wim de Vriend, OR
Winston Friedman, OR
Yara Tethys, WA
York Quillen, TN
Yvette Tapp, NM
Yvonne Irvin, MD
Yvonne Lowery, OR
Zabrina Leith, NJ
Zack Fansler, OR
Zandra Saez, WA
Zarod Rominski, OR
Zechariah Heck, OR
Zoe Taulbee, OR
Zona Young, OR

APPENDIX B

Jordan Cove's Letter of Intent, and the U.S. Coast Guard's Waterway Suitability Report for the Jordan Cove Energy Project

10 February 2012

Coast Guard Sector Columbia River
Attn: Capt Bruce Jones
2185 SE 12th Place
Warrenton, OR 97146

Subj: 2012 JCEP WSA update

Dear Captain Jones:

On behalf of the Jordan Cove Energy Project, I would like to confirm that for purposes of the WSA process, Jordan Cove is allowed to update the WSA as part of our annual update to include the export of LNG from the marine facility. We clearly understand that the WSA will need to be updated for any changes in the Port in addition to the change of exporting vice importing of LNG.

This issue had been raised before at our Emergency Planning Meeting and we are seeking confirmation.

Sincerely,

Frank Whipple

Copy: Capt Daniel LeBlanc, USCG; Russell Berg, USCG; Deanna Henry, OR DOE
problem

U.S. Department of Homeland Security
United States Coast Guard

Captain of the Port
U. S. Coast Guard
Sector Columbia River

2185 SE 12th Place
Warrenton, Oregon 97146
Phone: (503) 861-6206
FAX: (503) 861-6355

16711/JORDAN COVE
21 February 2012

Amergent Techs
Attn: Mr. Frank Whipple
3553 N. Atlantic Ave. Suite A-158
Long Beach, CA 90807

JORDAN COVE ENERGY PROJECT WATERWAY SUITABILITY ASSESSMENT (WSA) ANNUAL UPDATE

Dear Mr. Whipple:

I have received your letter of 10 February 2012 in which you seek confirmation that adding export operations to your proposed facility can be handled through the annual WSA update. I concur that your annual WSA update should amend the WSA to include your intention to export LNG from your proposed terminal. In addition to the WSA, your Letter of Intent and Emergency Response Plan should also be reviewed and amended as appropriate. Import and export operations should be incorporated in the development of your Operations Manual and Facility Security Plan.

The waterway impacts associated with export operations at the Jordan Cove terminal should not change or exceed those envisioned in the original Environmental Impact Statement and WSA. If you have questions, please contact Mr. Russ Berg of my staff at (503) 240-9374.

Sincerely,

B. C. JONES

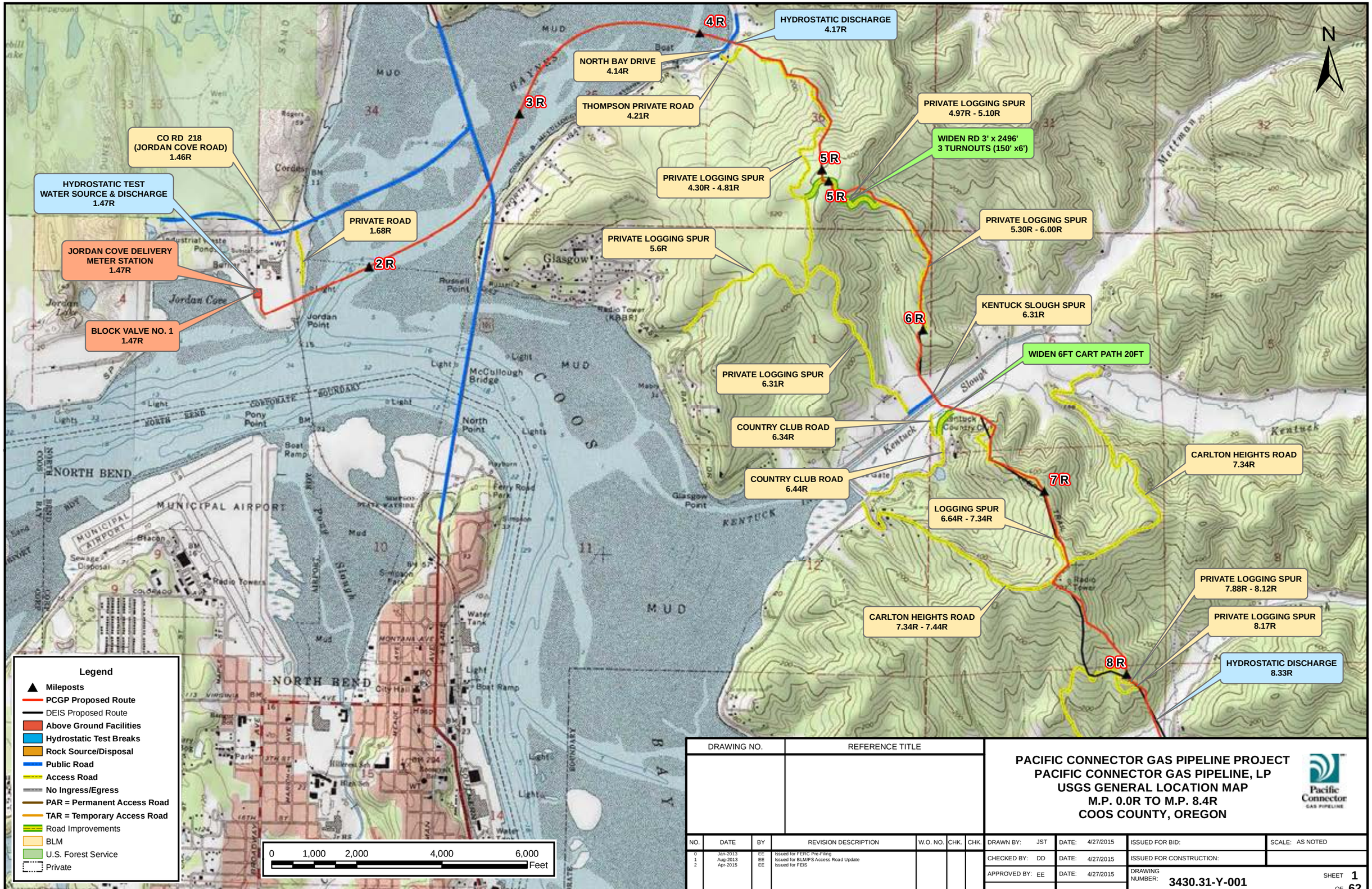
Copy: Jordan Cove Energy Project
Oregon Dept. of Energy
FERC

APPENDIX C

Pipeline Route and Work Area Maps

Pipeline Location Maps, Sheets 1-62
Pipe Storage Yards for the Pacific Connector Project, Sheets 1-22

Pipeline Location Maps
Sheets 1–62



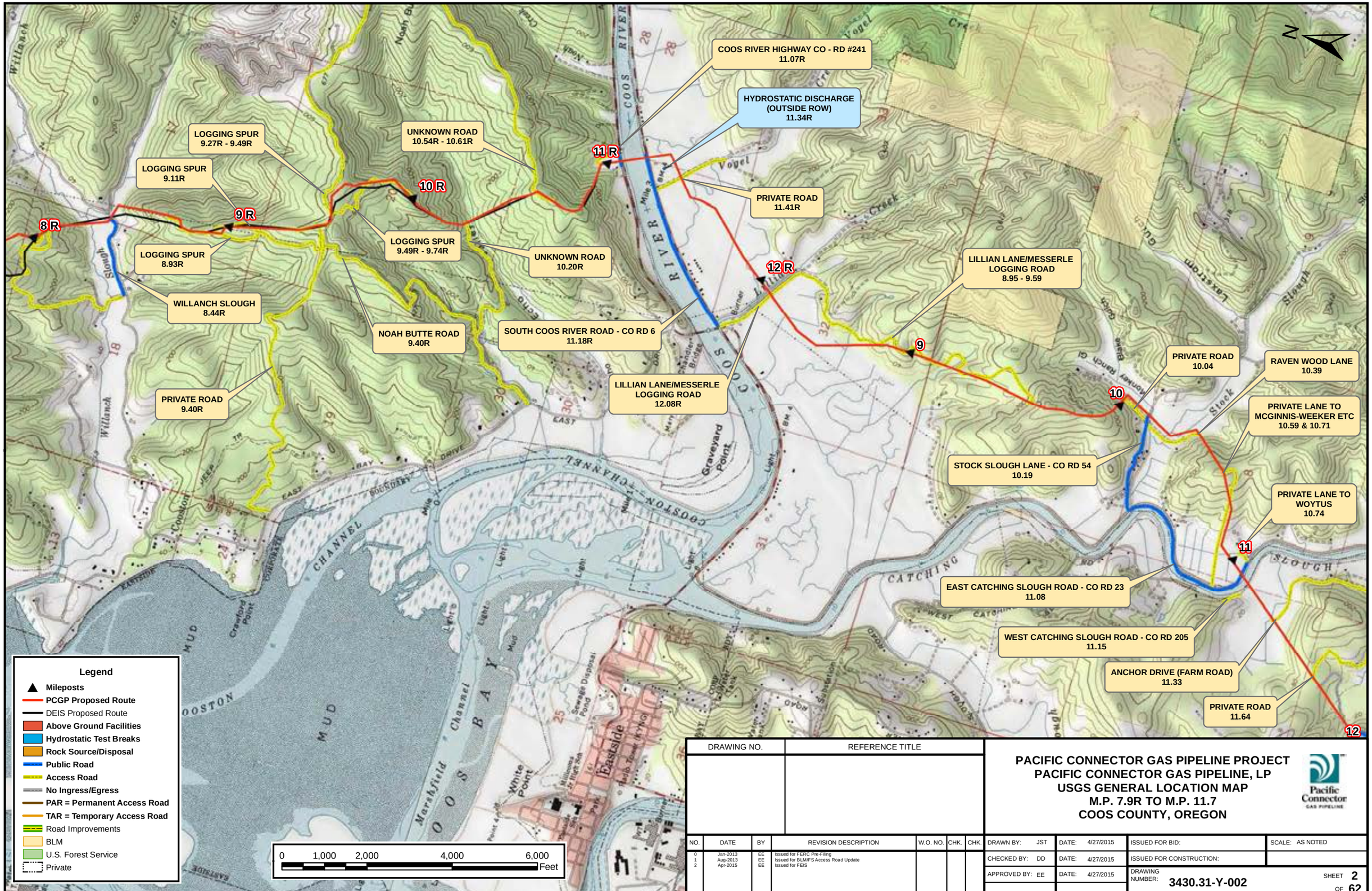
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 0.0R TO M.P. 8.4R
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-001	SHEET 1 OF 62	



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 7.9R TO M.P. 11.7
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
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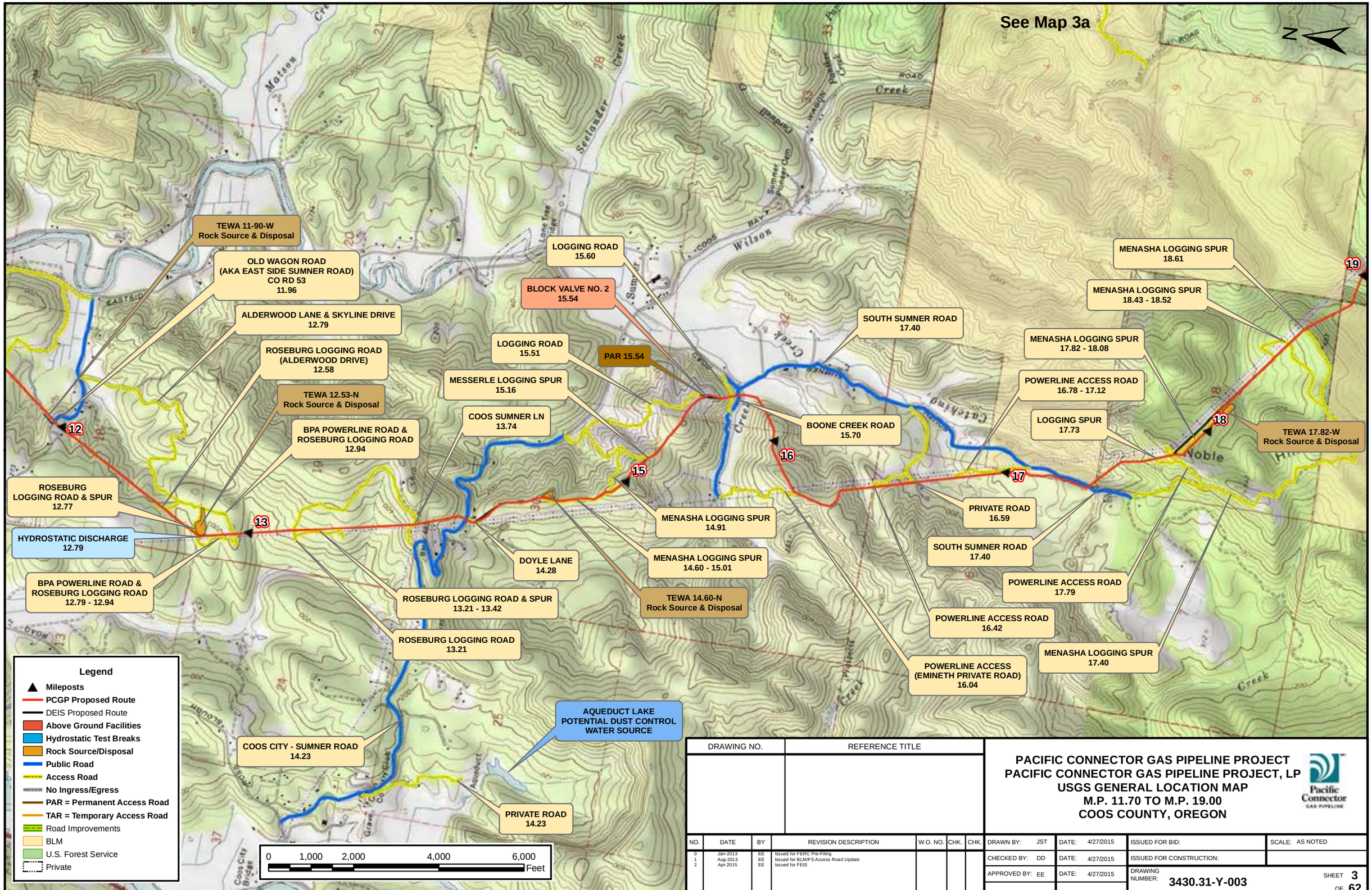
DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-002	SHEET 2 OF 62		



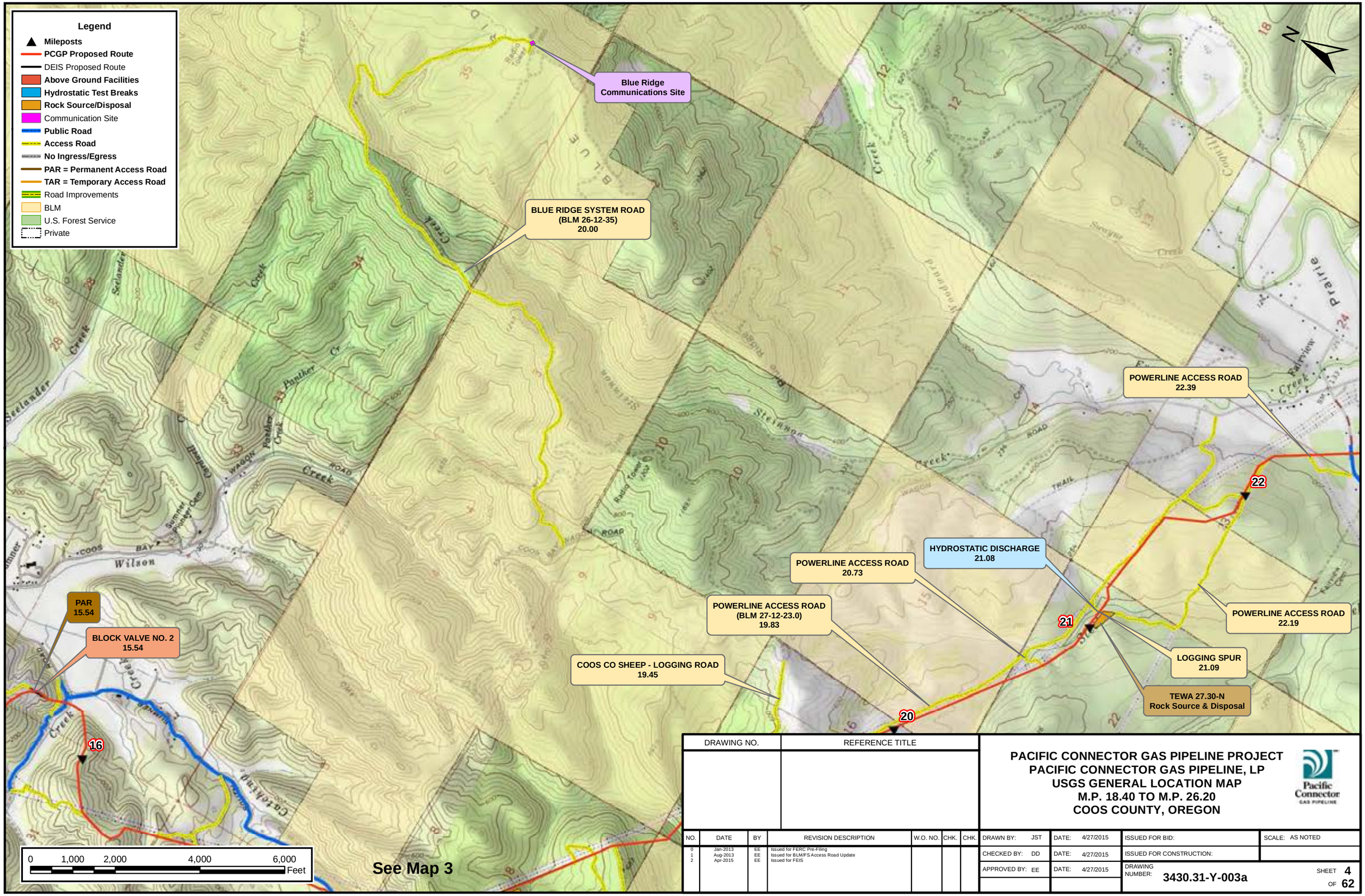
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE PROJECT, LP
USGS GENERAL LOCATION MAP
M.P. 11.70 TO M.P. 19.00
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-003	SHEET 3 OF 62		



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 18.40 TO M.P. 26.20
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
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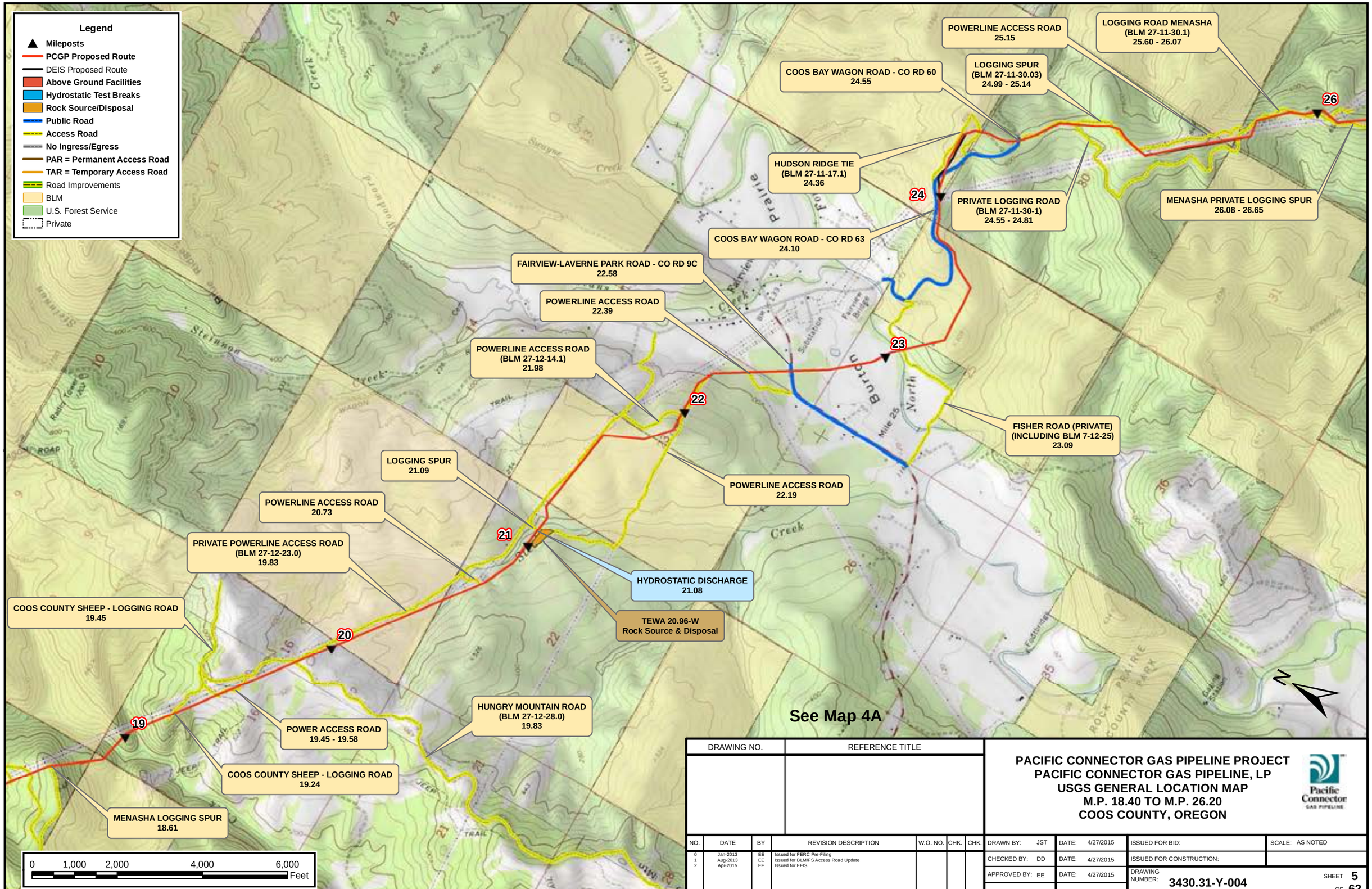
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-003a	SHEET 4 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 18.40 TO M.P. 26.20
COOS COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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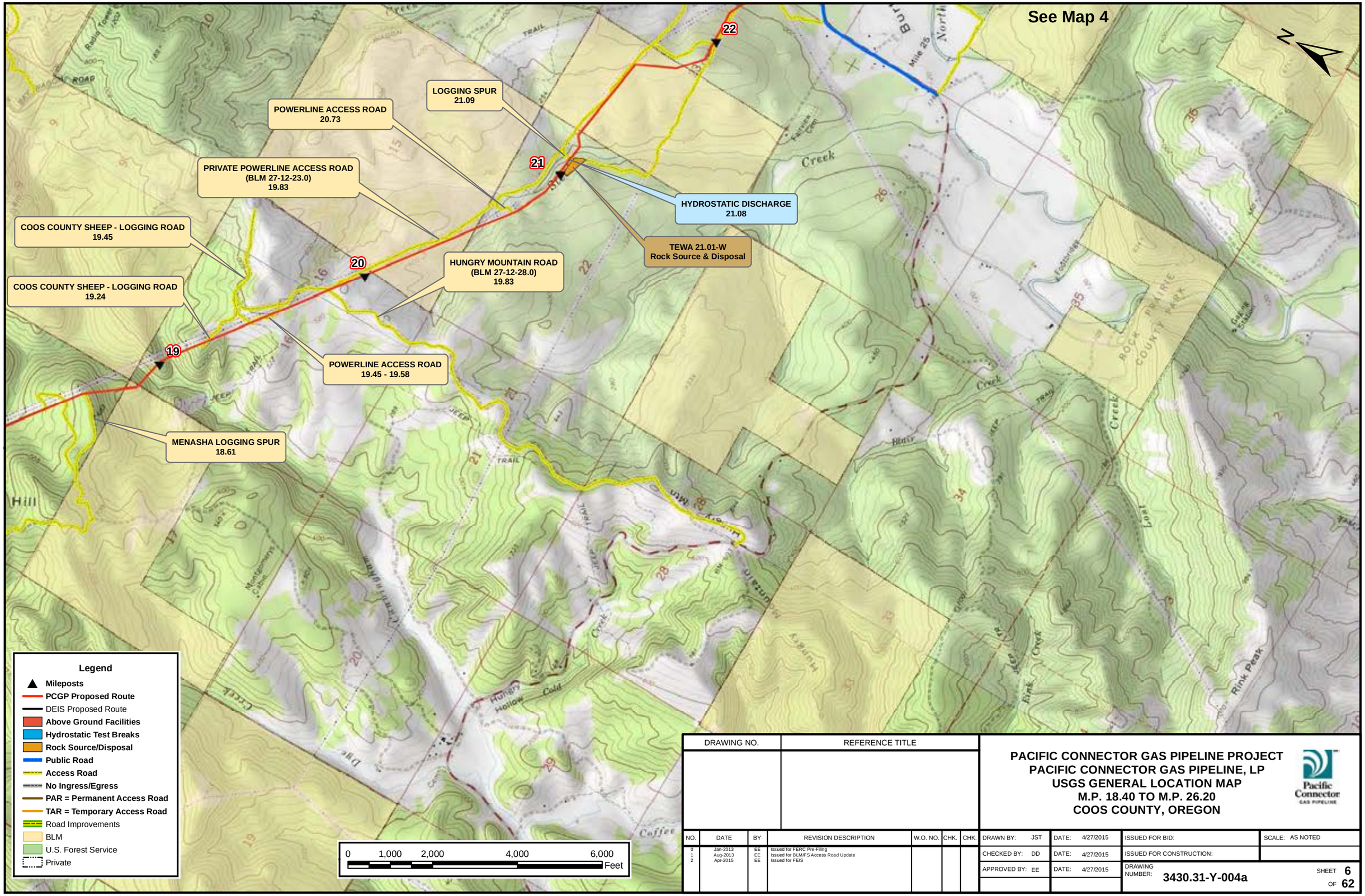
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-004	SHEET 5 OF 62	



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 18.40 TO M.P. 26.20
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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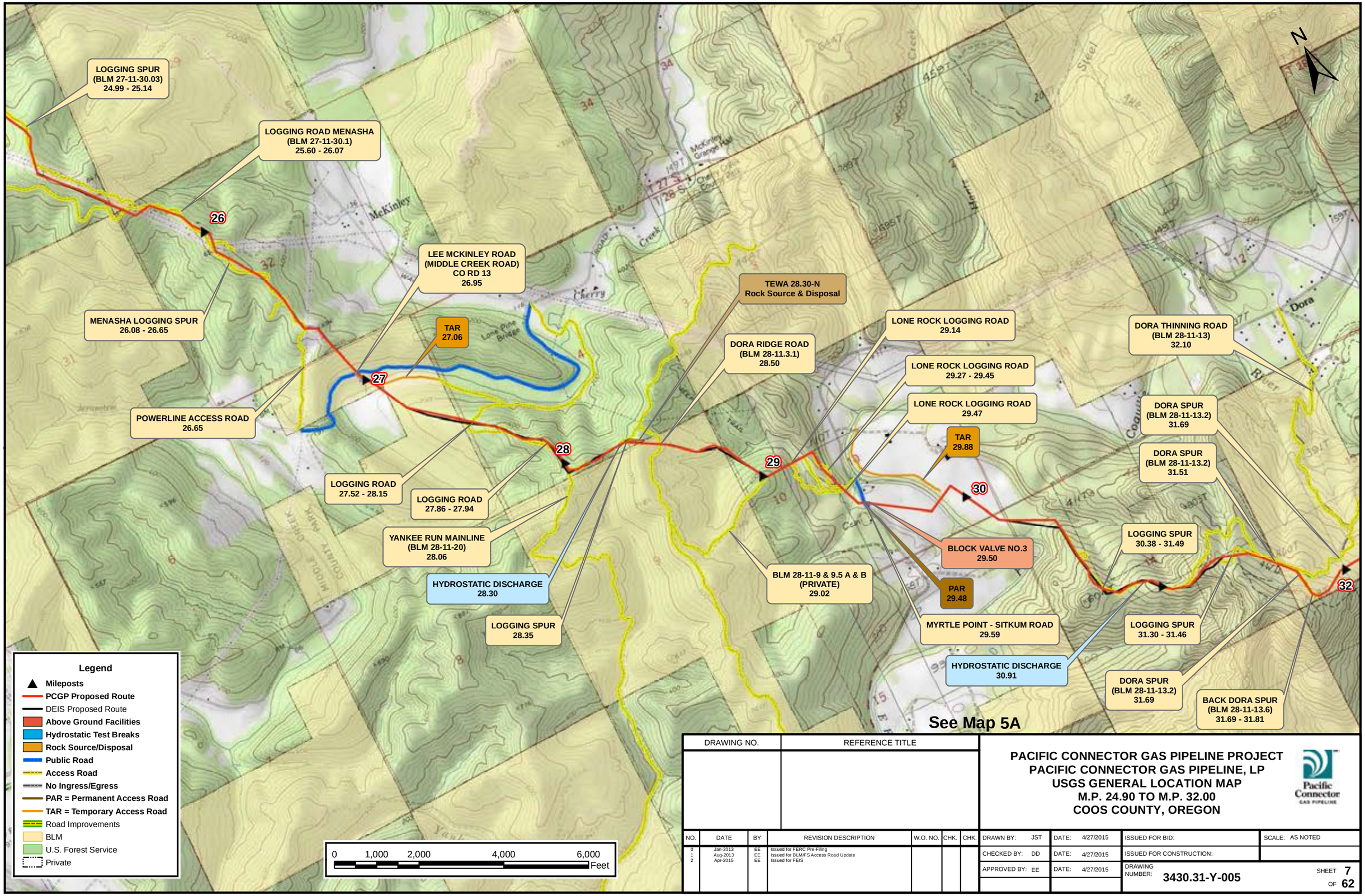
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-004a	SHEET 6 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 24.90 TO M.P. 32.00
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
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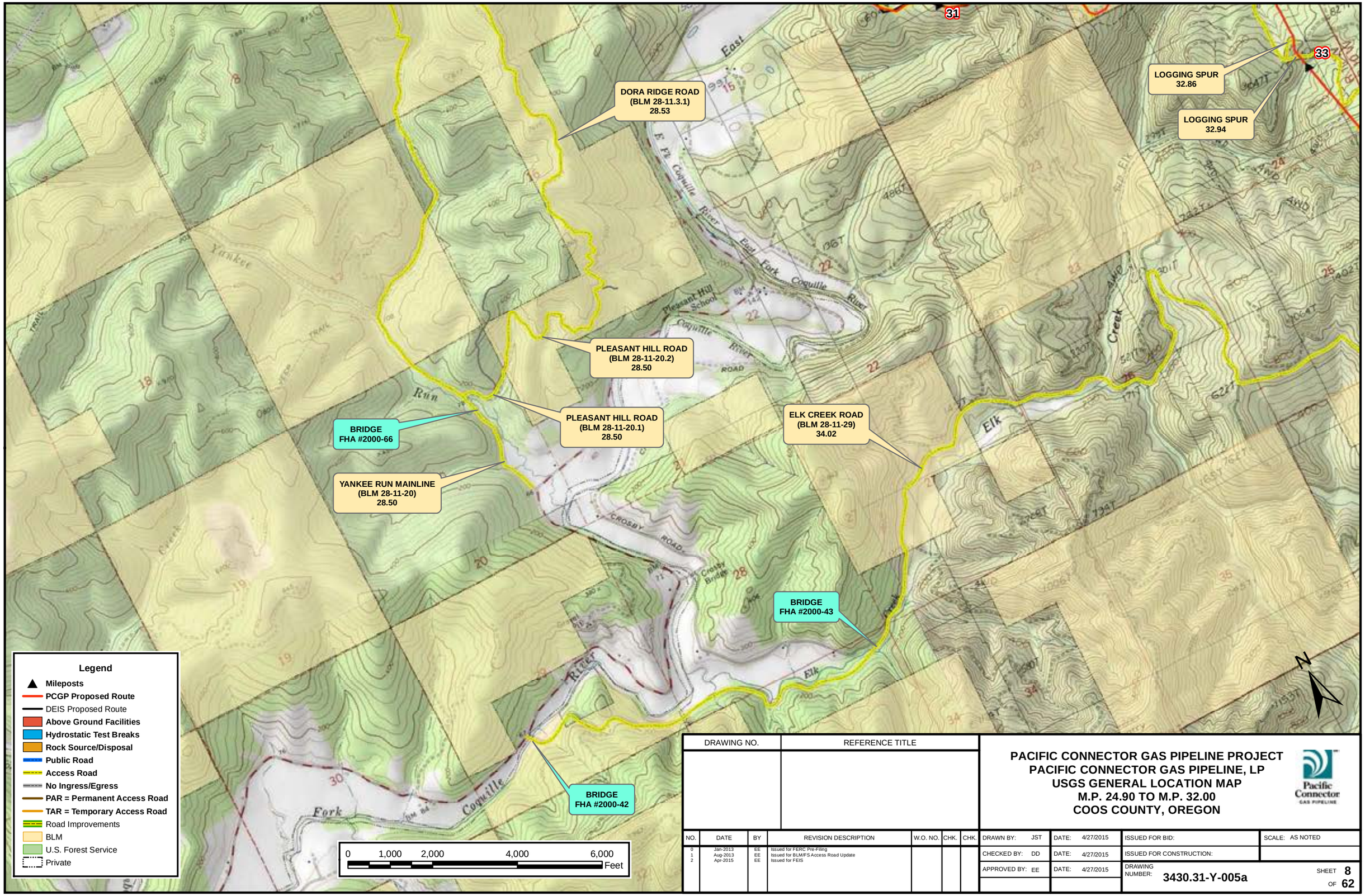
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-005	SHEET 7 OF 62		



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 24.90 TO M.P. 32.00
COOS COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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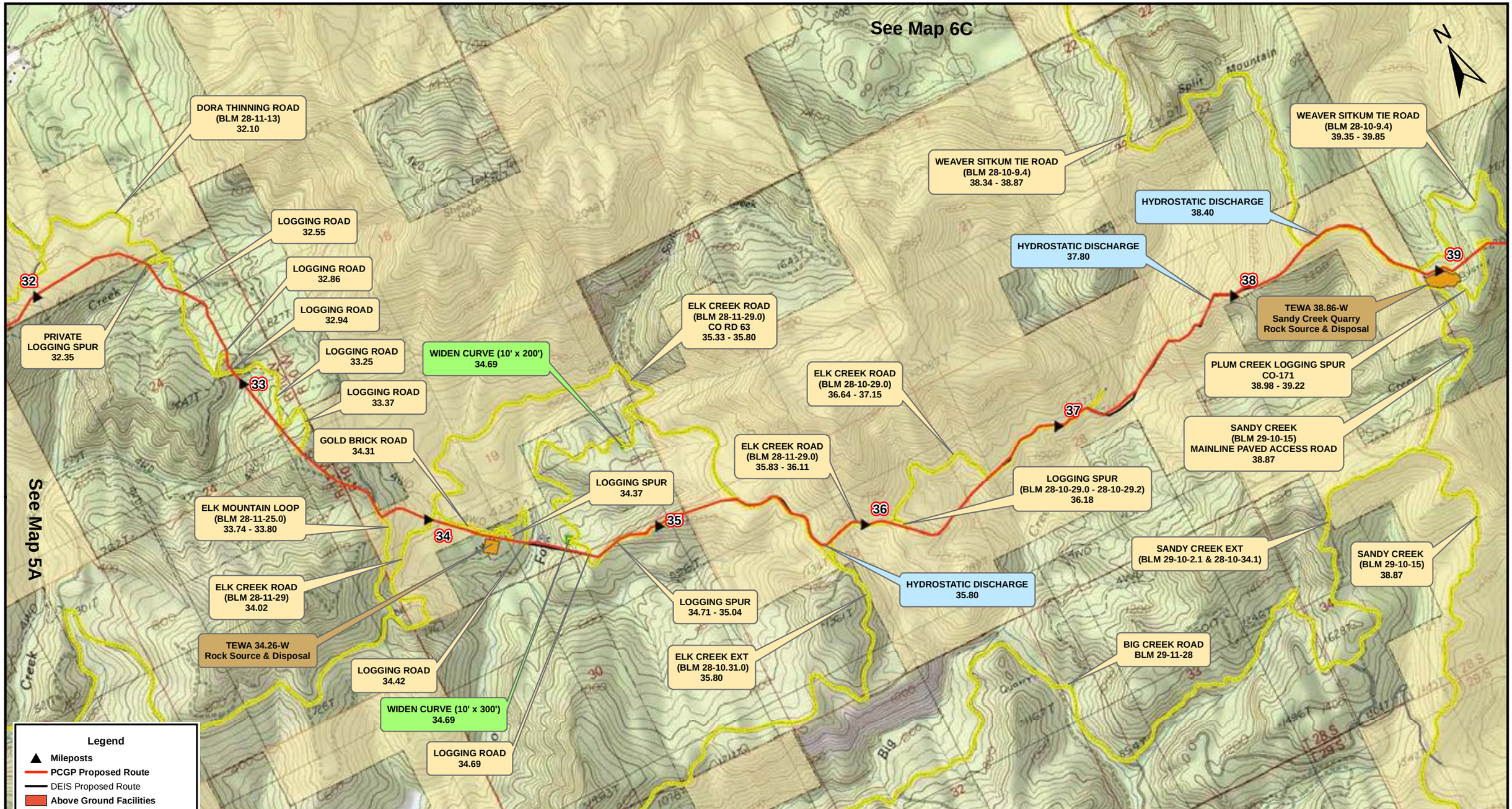
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-005a	SHEET 8 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 31.80 TO M.P. 39.30
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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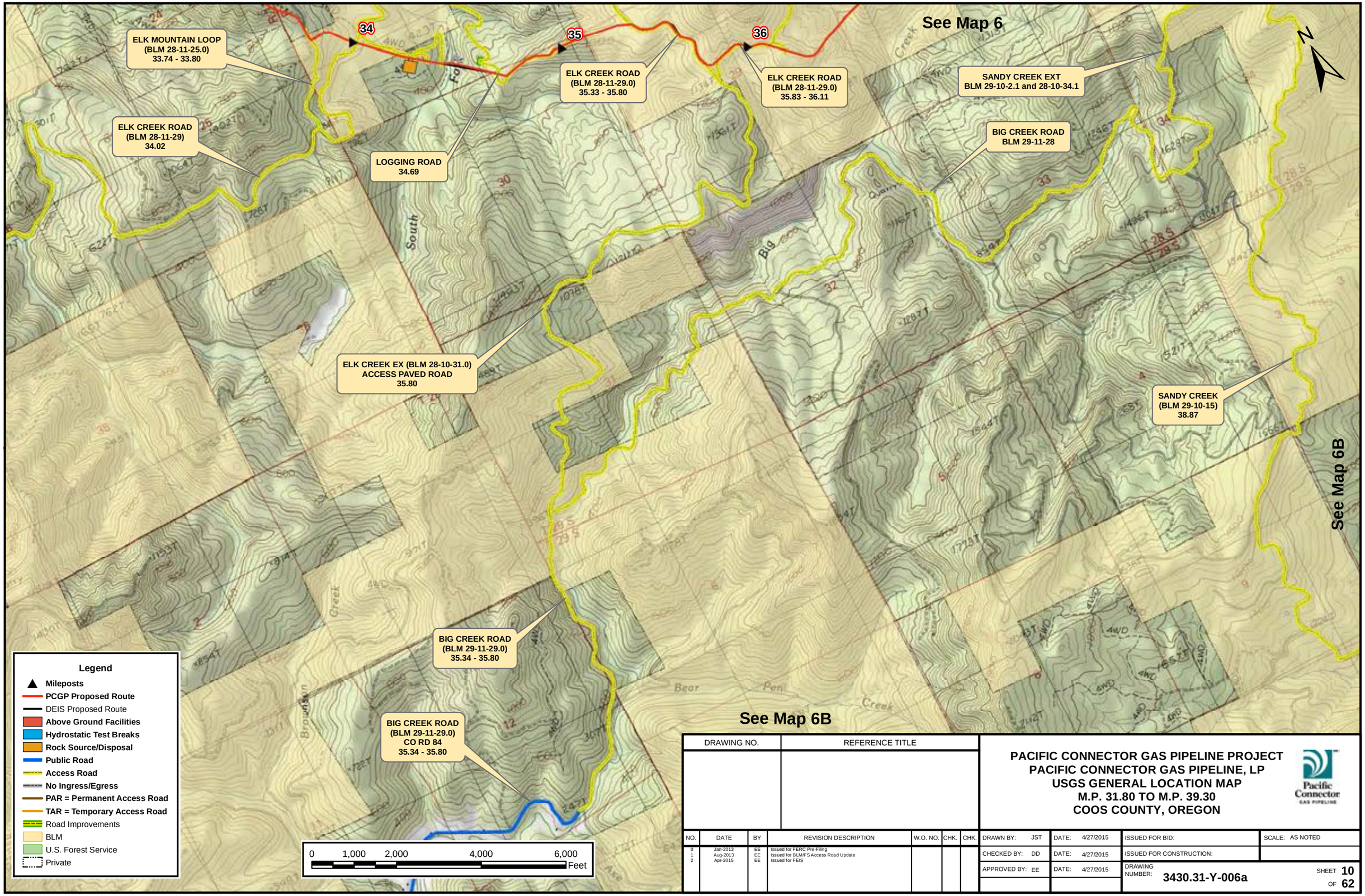
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-006	SHEET 9 OF 62	



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 31.80 TO M.P. 39.30
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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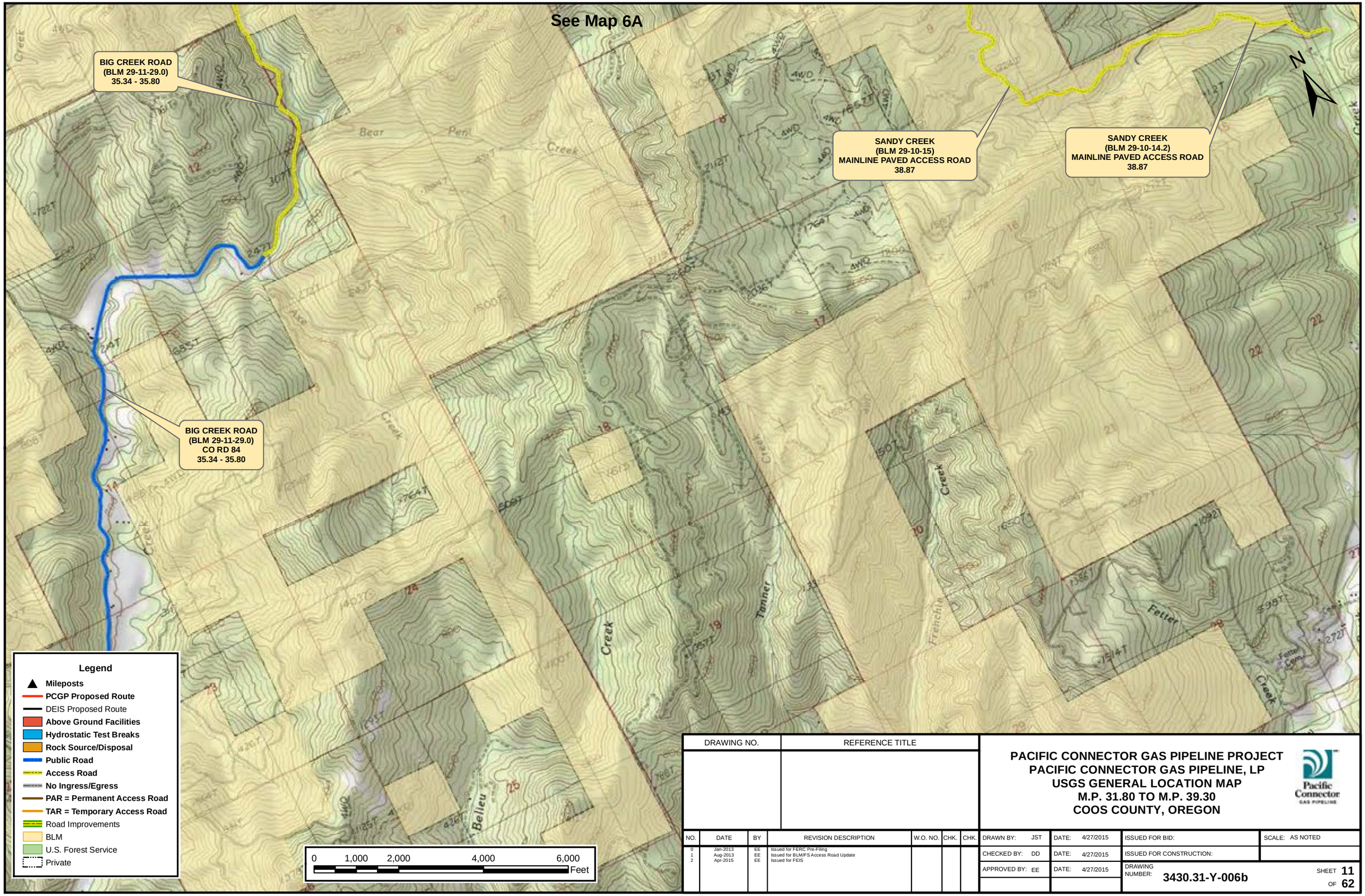
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-006a	SHEET 10 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 31.80 TO M.P. 39.30
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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BREWSTER LAKE
POTENTIAL DUST CONTROL
WATER SOURCE

PRIVATE ROAD
38.00

BRIDGE
FHA #2000-44

CHANEY ROAD
(BLM 28-10-9.0A)
38.34 - 38.87

CAMAS CREEK ROAD
(BLM 28-10-12)
42.74 - 42.86

WEAVER SITKUM TIE ROAD
(BLM 28-10-9.4)
38.34 - 38.87

TEWA 38.86-W
Sandy Creek Quarry
Rock Source & Disposal

WEAVER SITKUM TIE ROAD
(BLM 28-10-9.4)
39.35 - 39.85

TRI-W GROUP LOGGING SPUR
39.60 - 39.72

TRI-W GROUP LOGGING SPUR
39.94

TRI-W GROUP LOGGING SPUR
40.02

WEAVER SITKUM TIE ROAD
(BLM 28-10-9.4)
40.27 - 40.37

HYDROSTATIC DISCHARGE
38.40

HYDROSTATIC DISCHARGE
37.80

SANDY CREEK
(BLM 29-10-15)
MAINLINE PAVED ACCESS ROAD
38.87

PLUM CREEK LOGGING SPUR
CO-171
38.98 - 39.22

ELK CREEK ROAD
(BLM 28-11-29.0)
CO RD 63
35.33 - 35.80

ELK CREEK ROAD
(BLM 28-10-29.0)
36.64 - 37.15

HYDROSTATIC DISCHARGE
35.80

35 37 38 39 40 41

See Map 6

Legend

- Mileposts
- PCGP Proposed Route
- Above Ground Facilities
- Hydrostatic Test Breaks
- Rock Source/Disposal
- Public Road
- Access Road
- No Ingress/Egress
- PAR = Permanent Access Road
- TAR = Temporary Access Road
- Road Improvements
- BLM
- U.S. Forest Service
- Private

0 1,000 2,000 4,000 6,000 Feet

DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 31.80 TO M.P. 39.30
COOS COUNTY, OREGON

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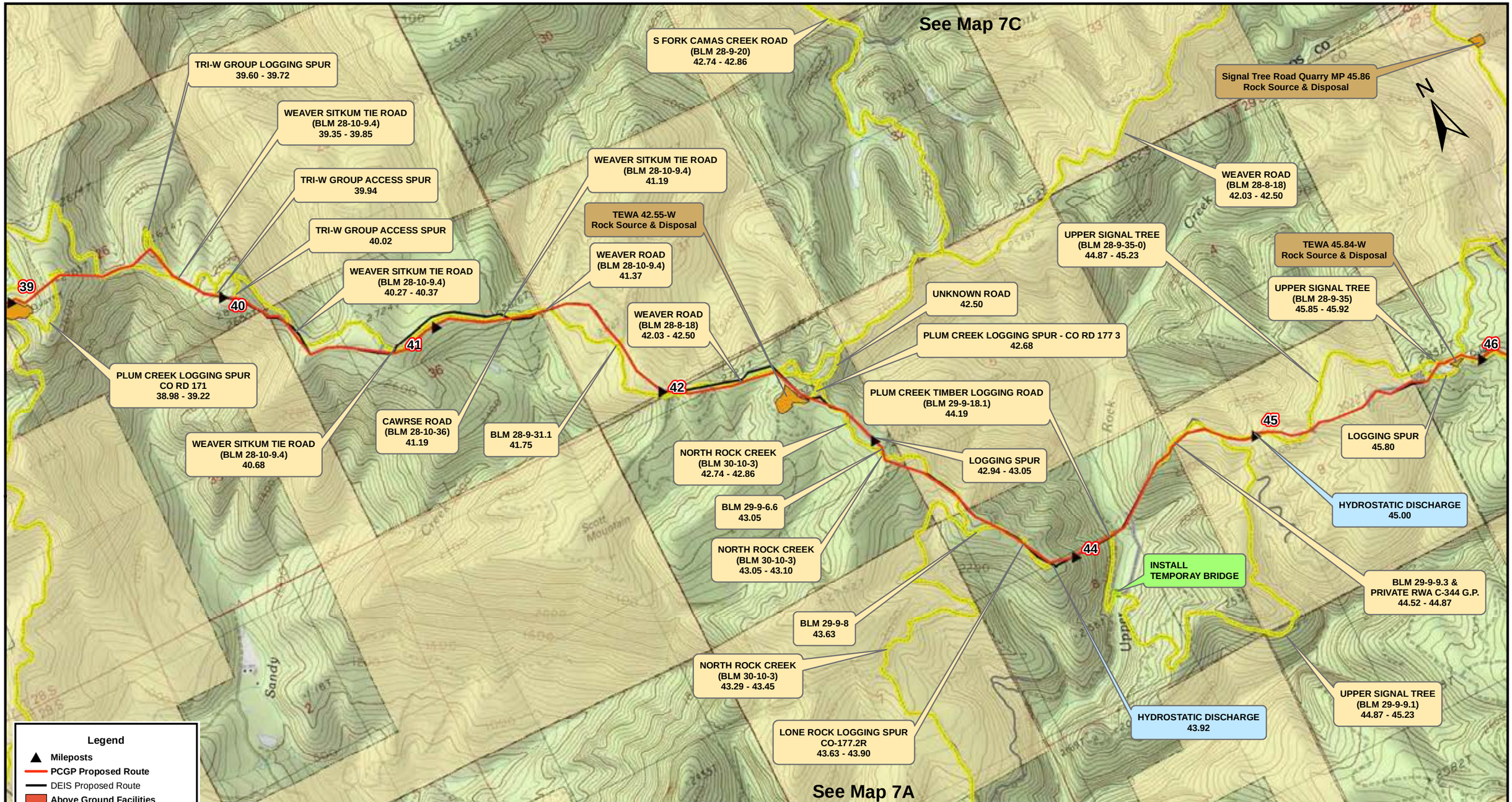
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-006c	SHEET 12 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 39.00 TO M.P. 46.10
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
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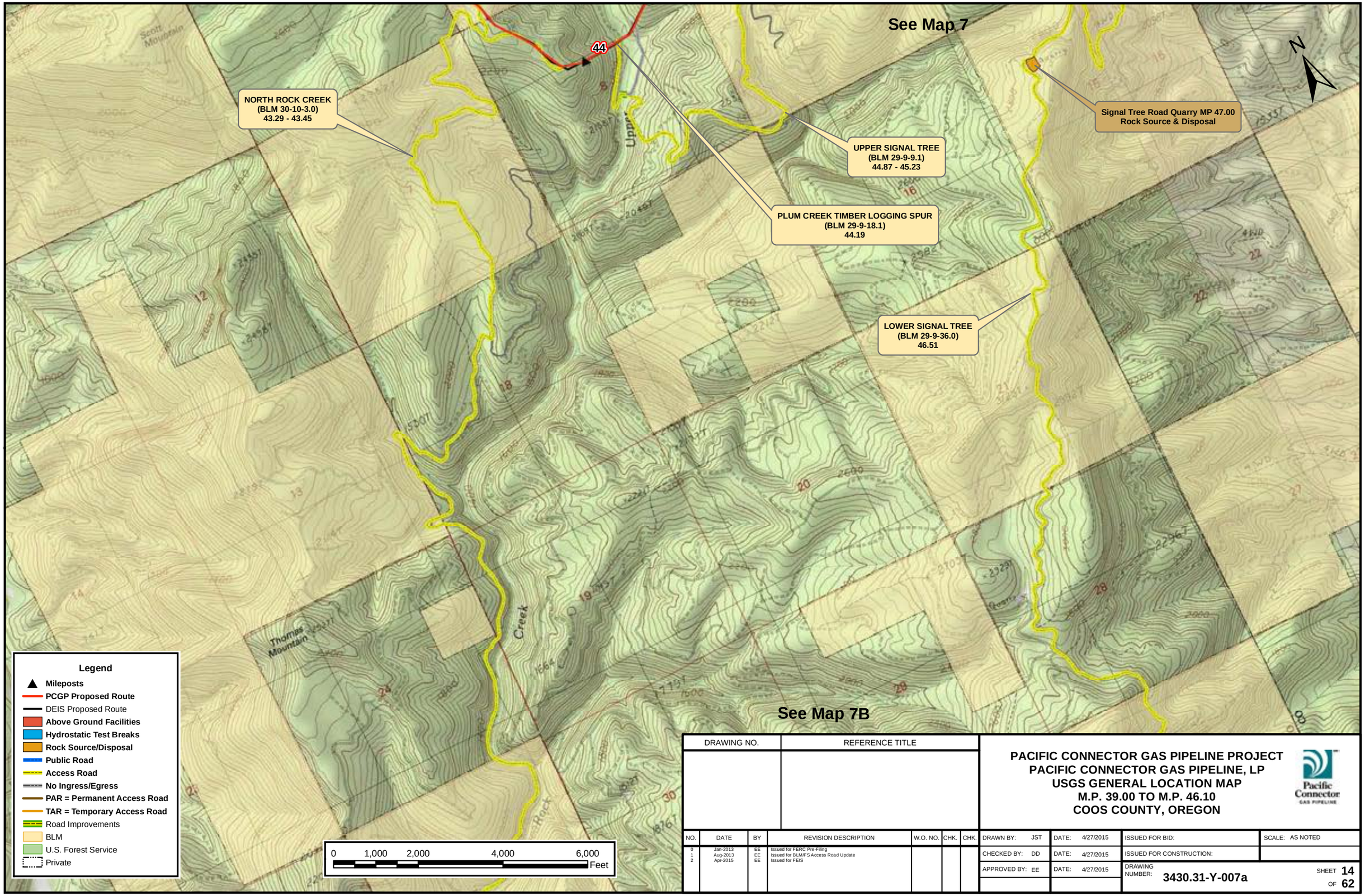
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-007	SHEET 13 OF 62		



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 39.00 TO M.P. 46.10
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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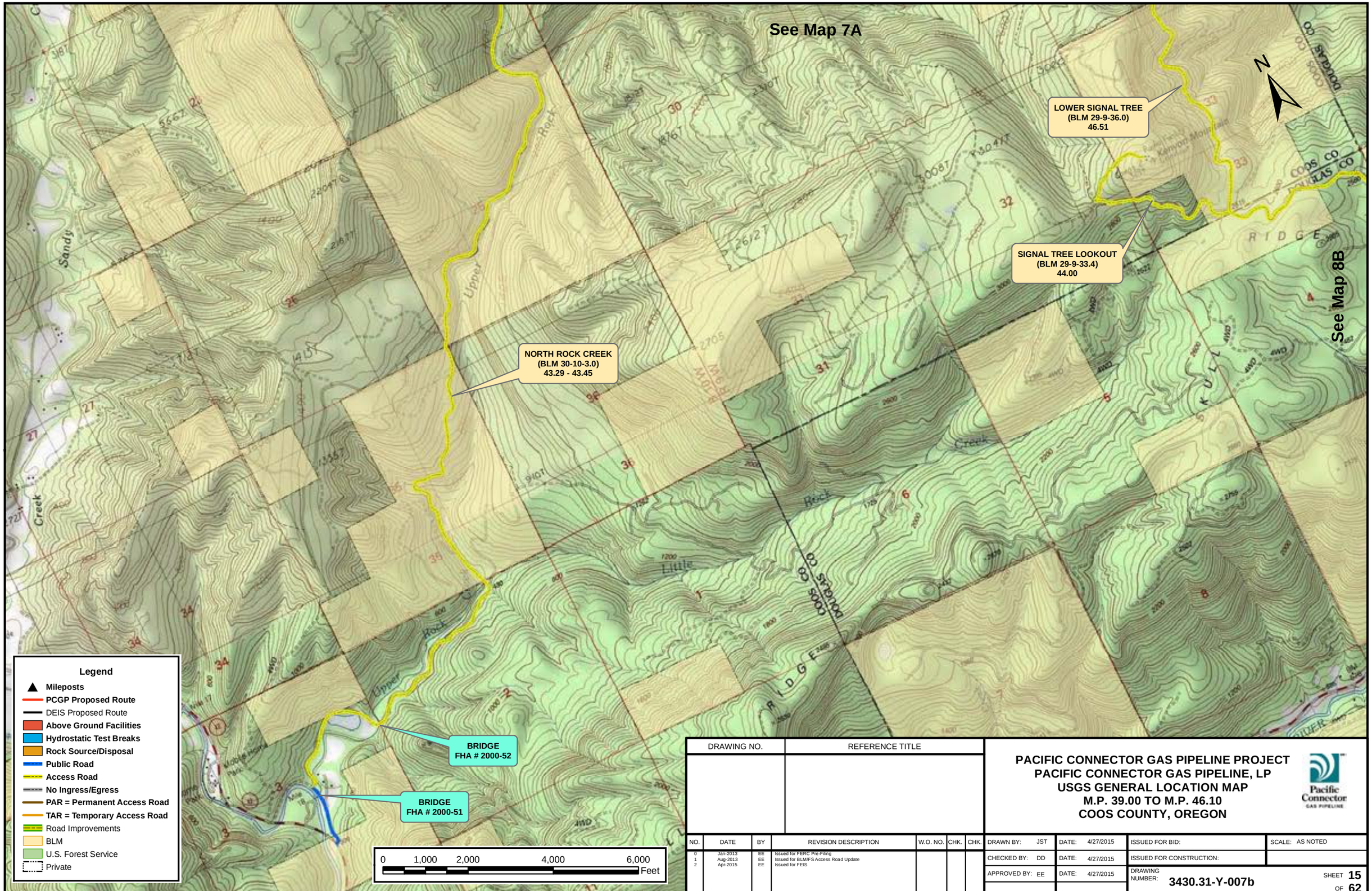
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-007a	SHEET 14 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 39.00 TO M.P. 46.10
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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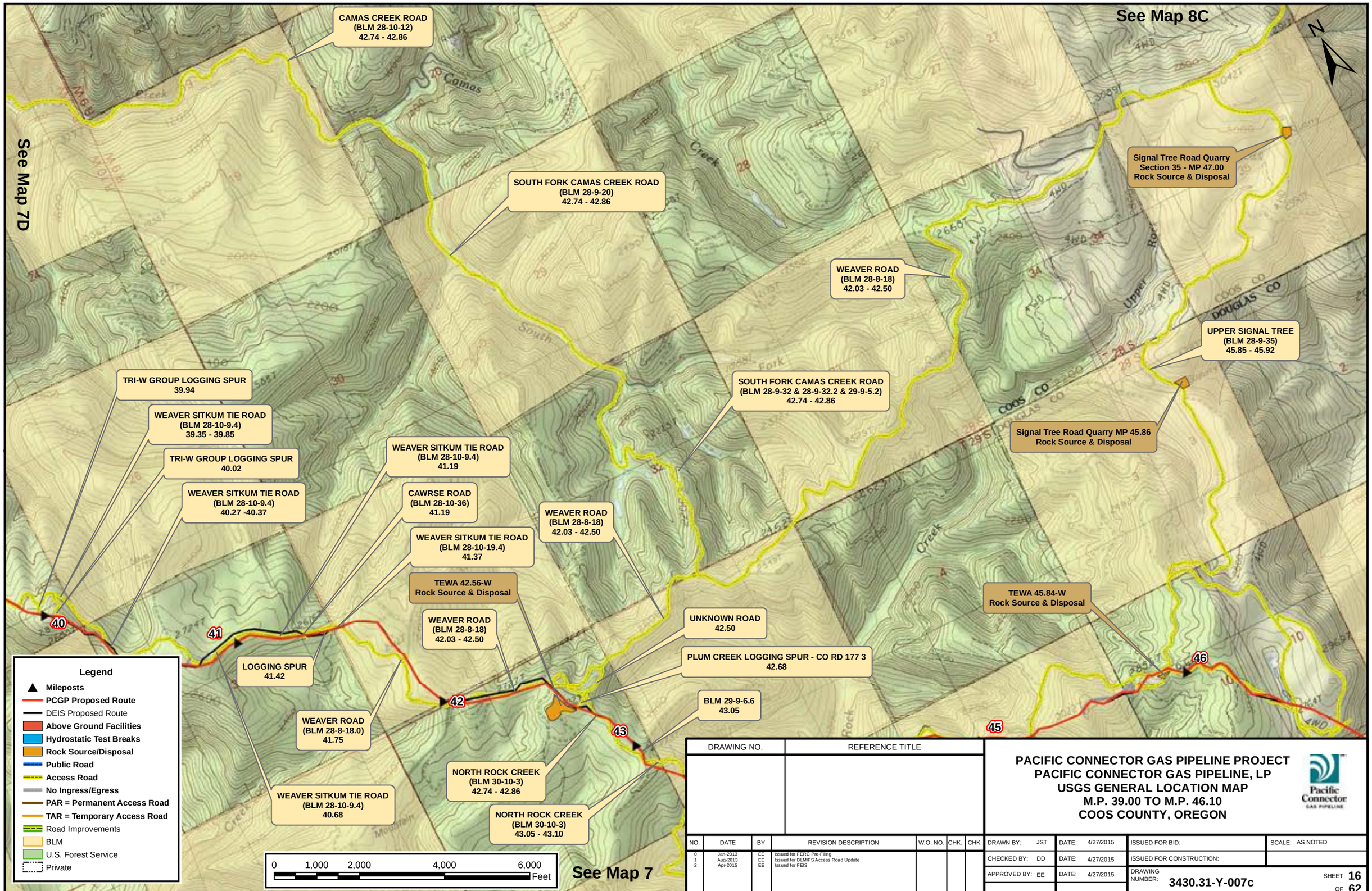
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-007b	SHEET 15 OF 62		



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PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 39.00 TO M.P. 46.10
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
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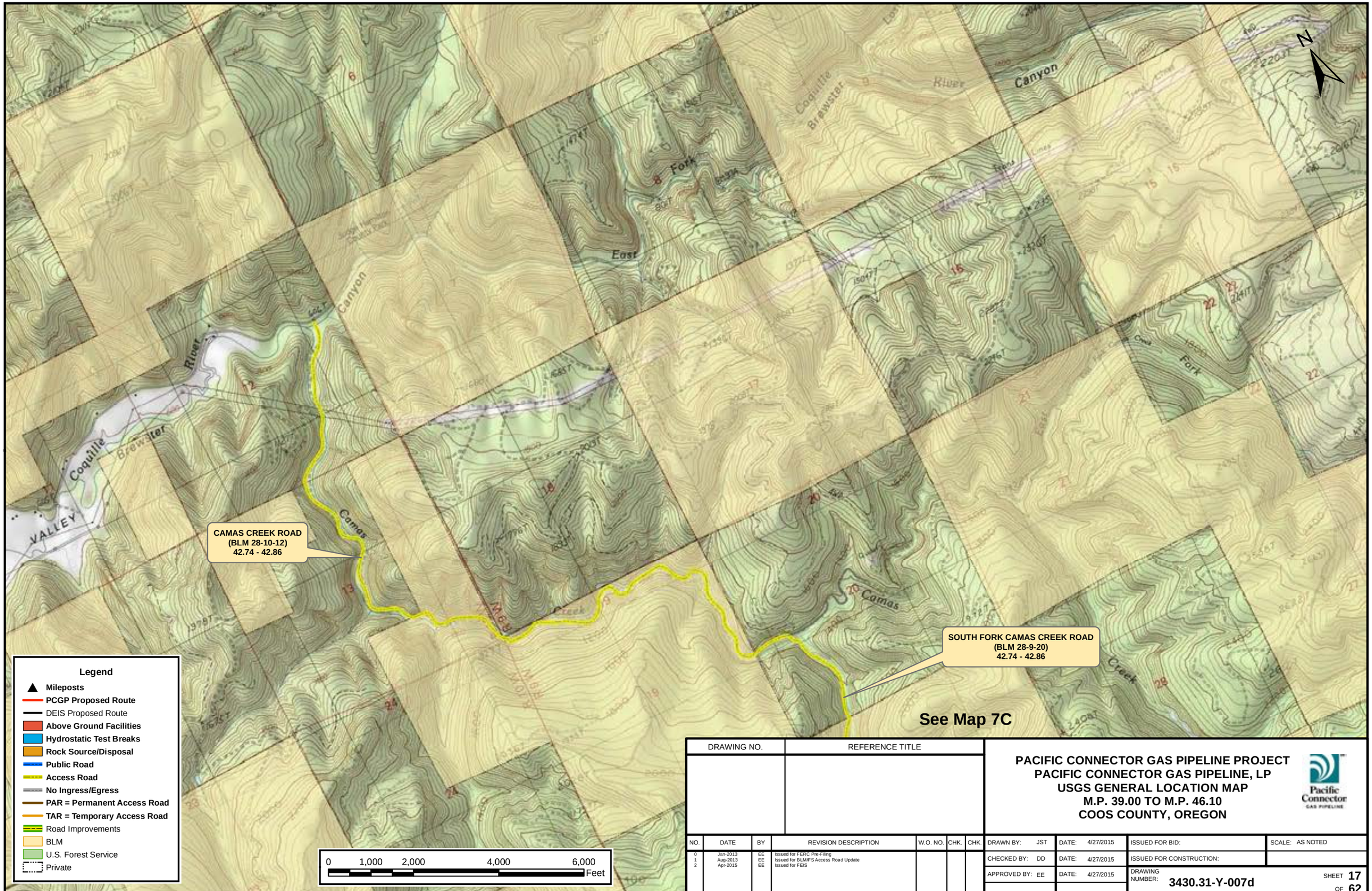
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-007c	SHEET 16 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 39.00 TO M.P. 46.10
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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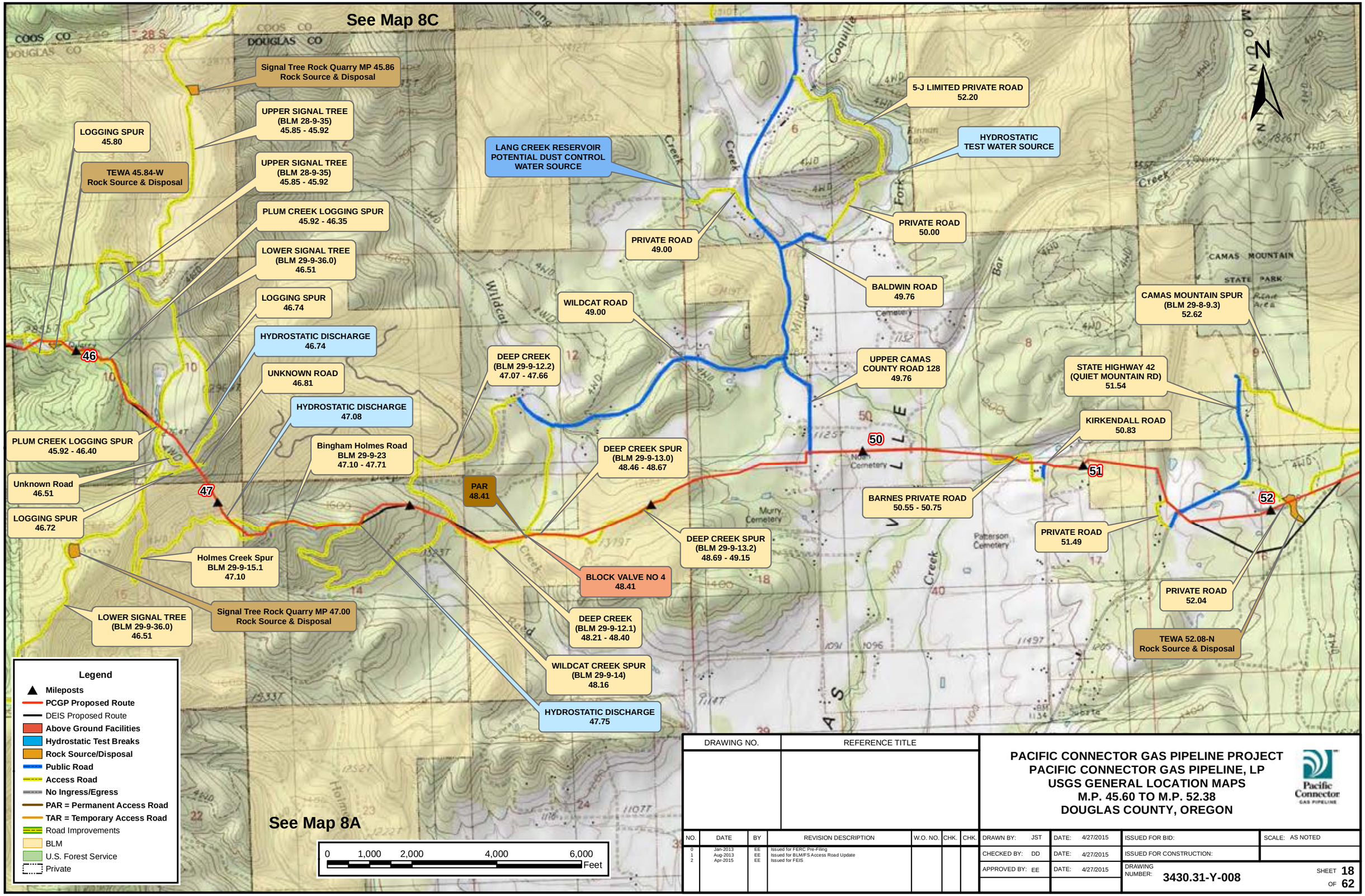
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-007d	SHEET 17 OF 62		



DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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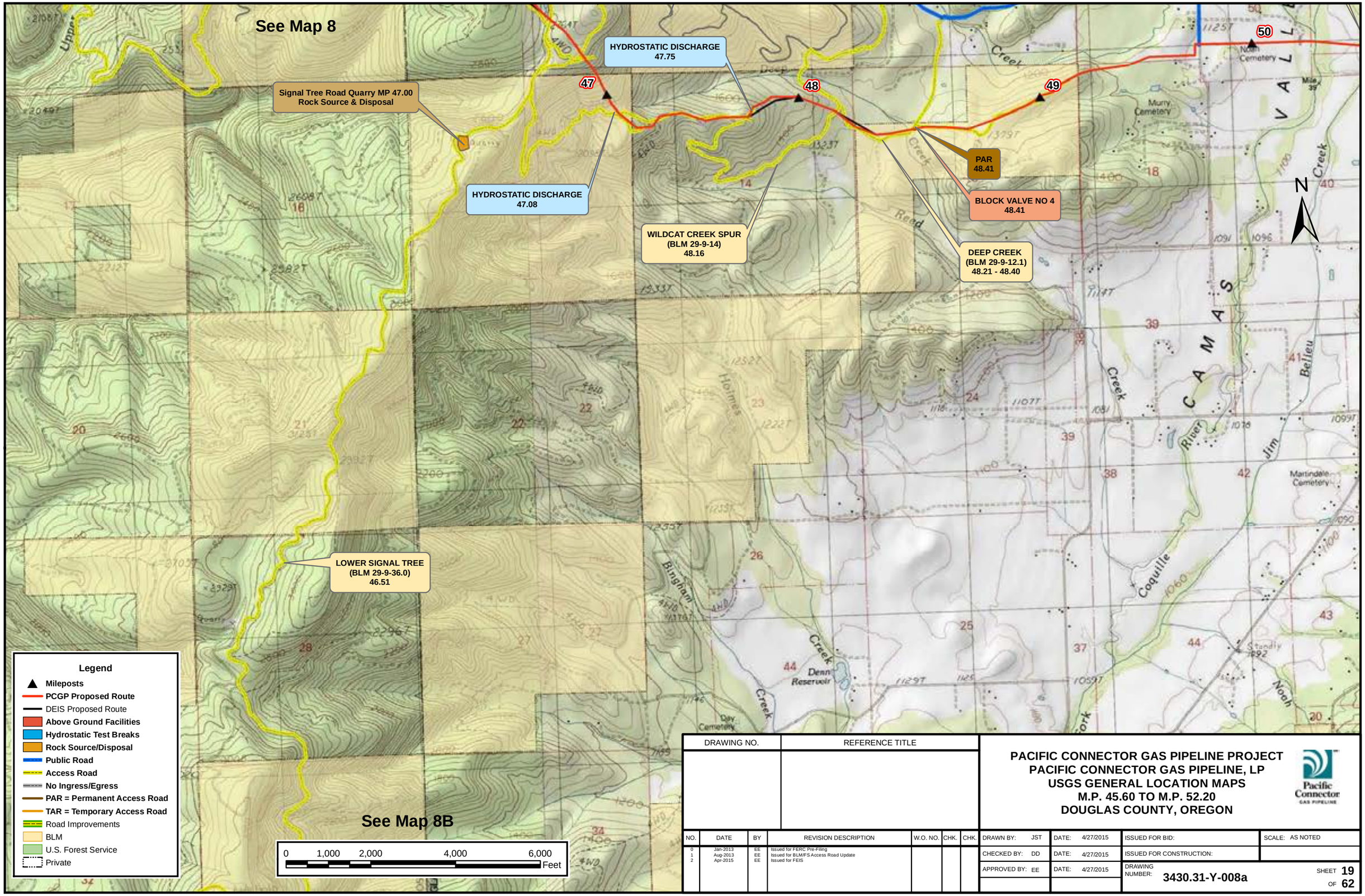
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAPS
M.P. 45.60 TO M.P. 52.38
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-008	SHEET 18 OF 62		



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAPS
M.P. 45.60 TO M.P. 52.20
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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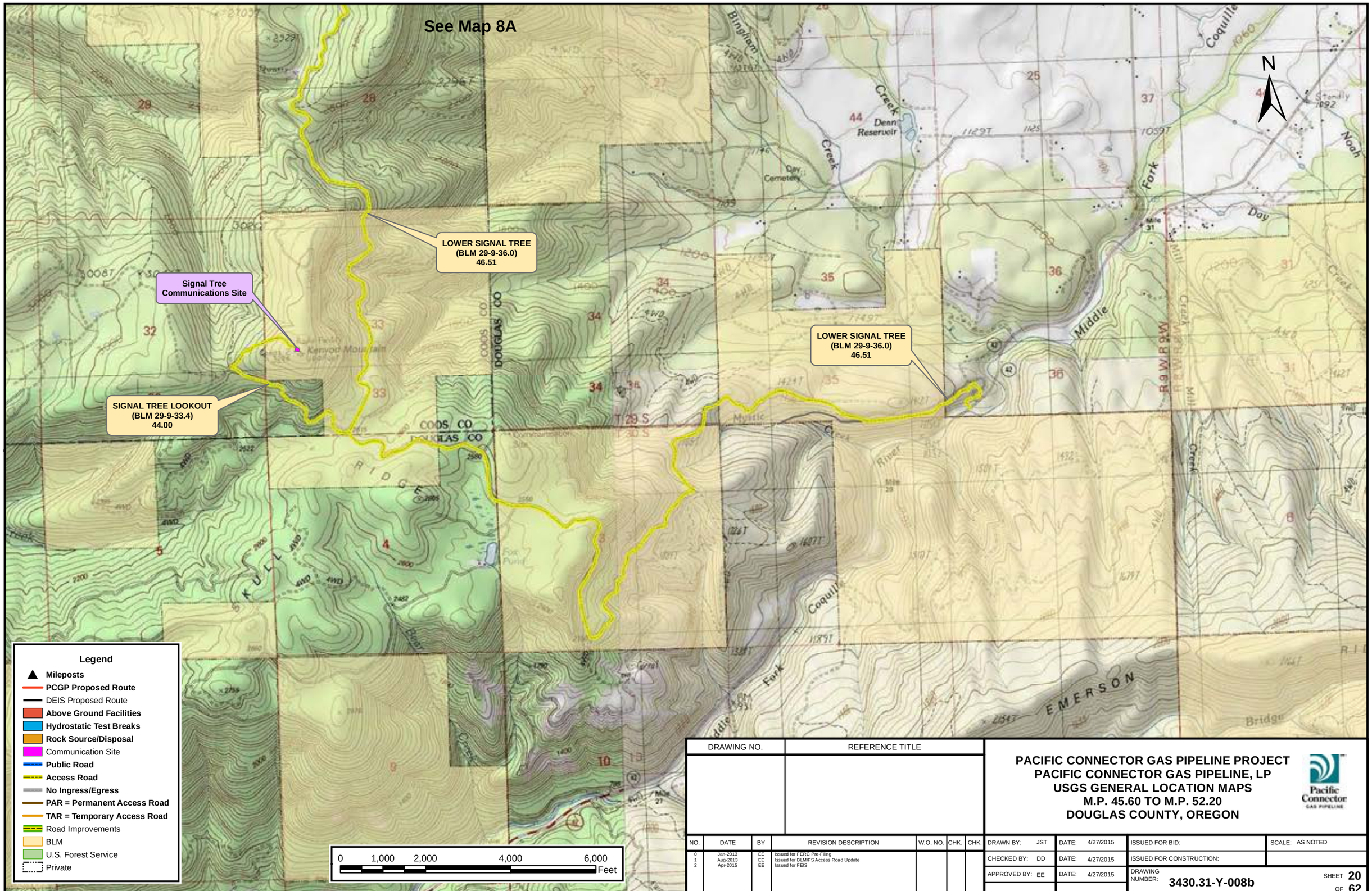
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-008a	SHEET 19 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAPS
M.P. 45.60 TO M.P. 52.20
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
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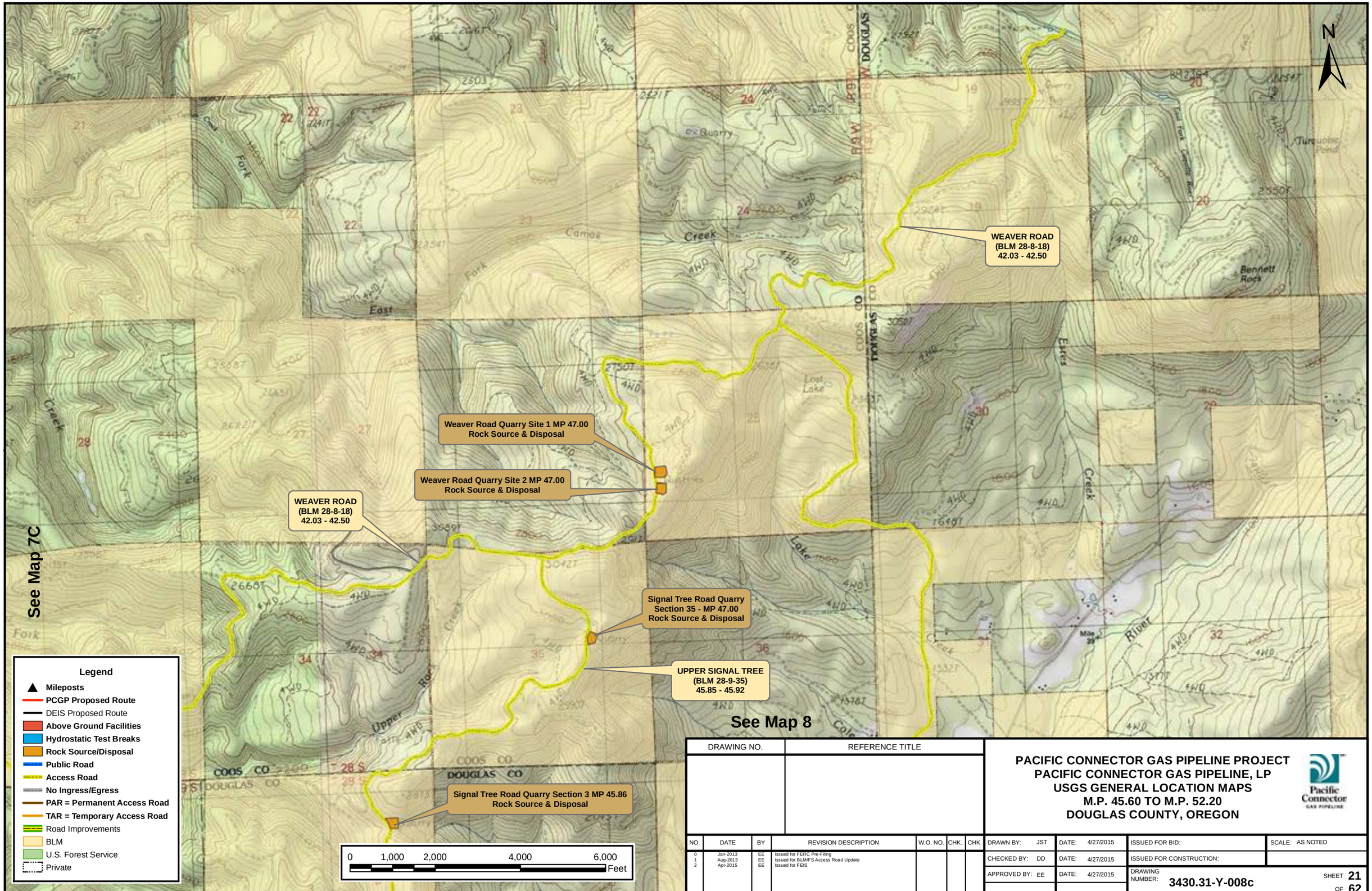
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-008b	SHEET 20 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAPS
M.P. 45.60 TO M.P. 52.20
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

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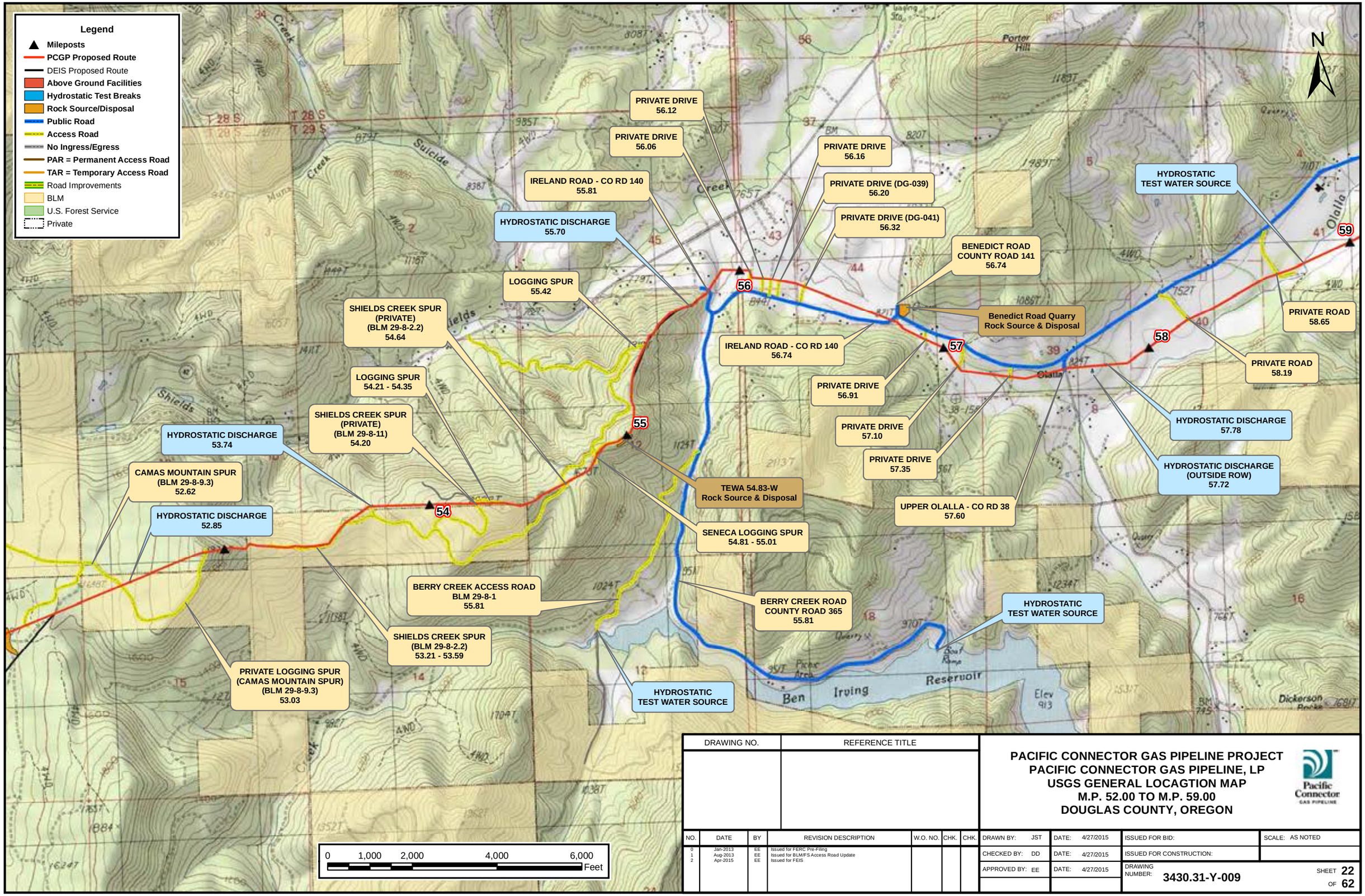
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-008c	SHEET 21 OF 62



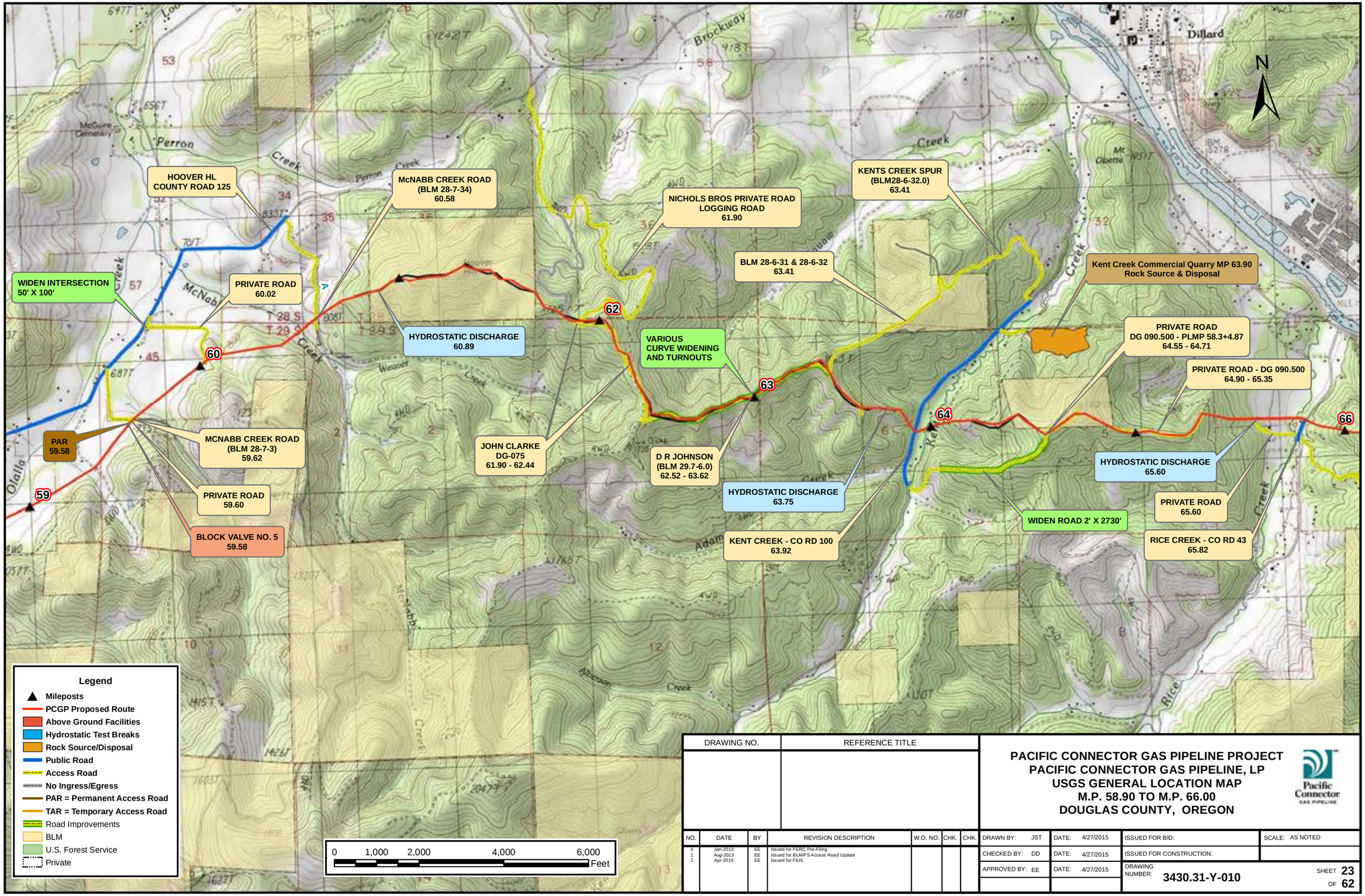
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCAGTION MAP
M.P. 52.00 TO M.P. 59.00
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-009	SHEET 22 OF 62



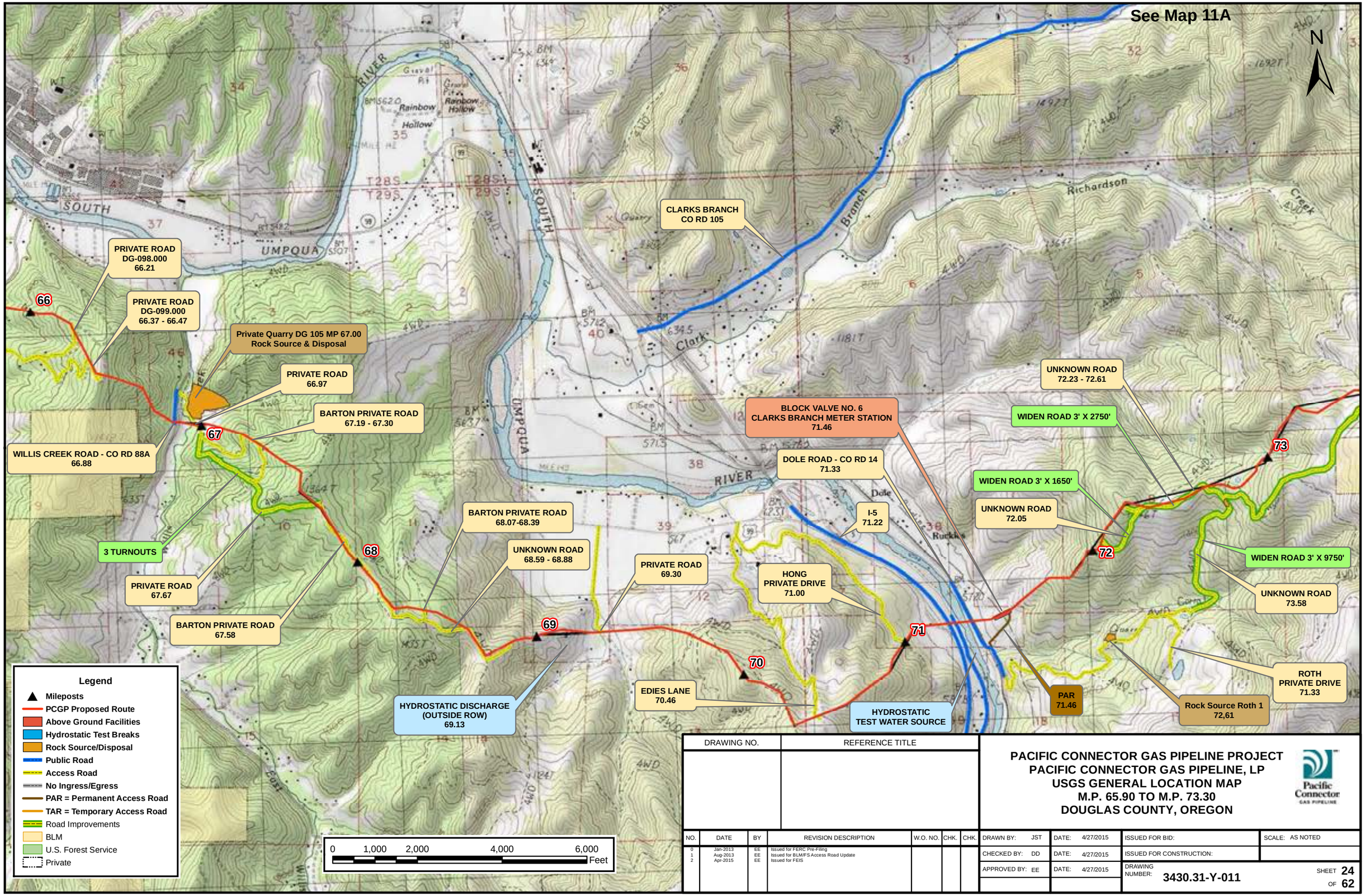
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 58.90 TO M.P. 66.00
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-010	SHEET 23 OF 62



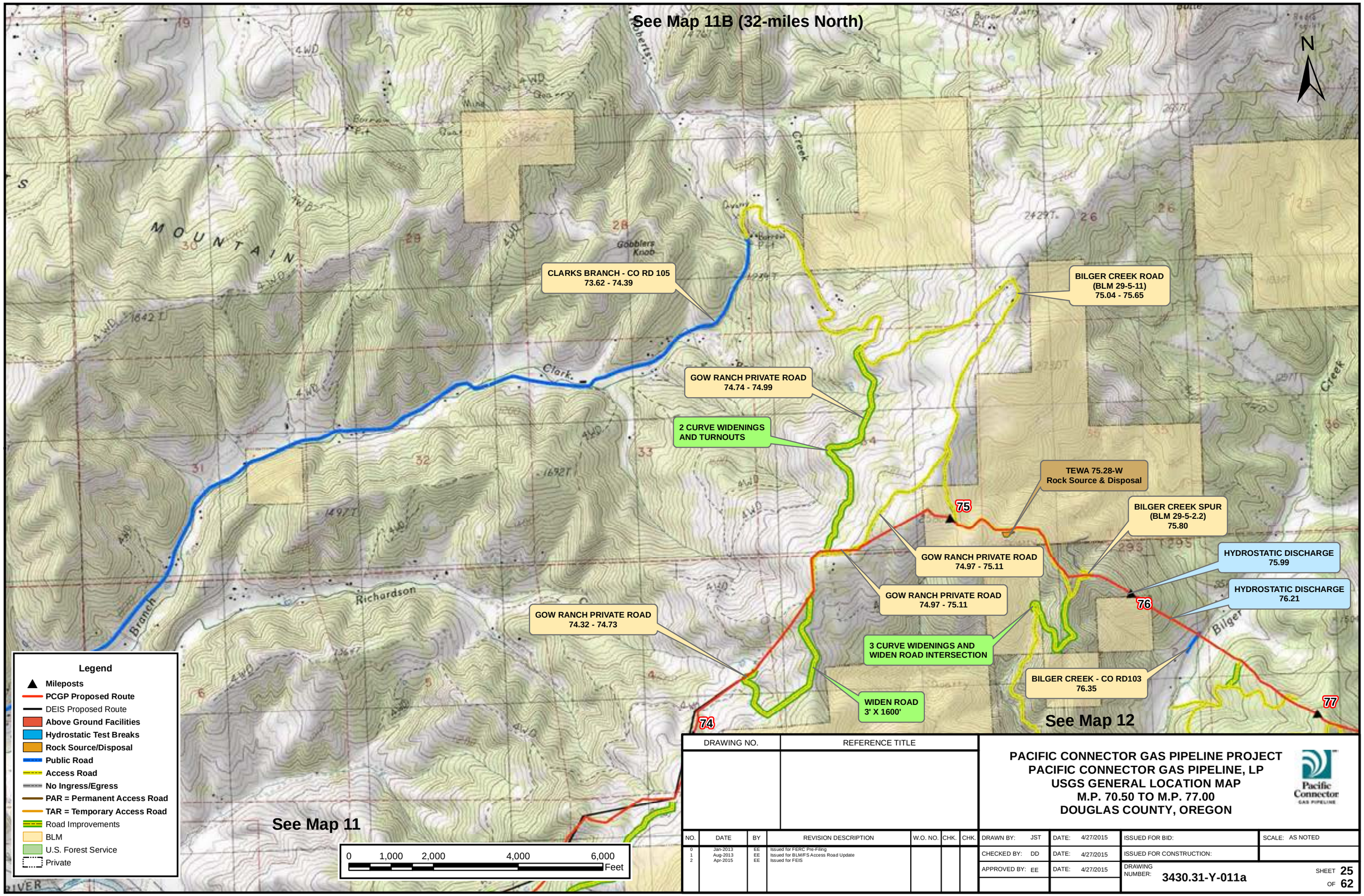
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 65.90 TO M.P. 73.30
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-011	SHEET 24 OF 62



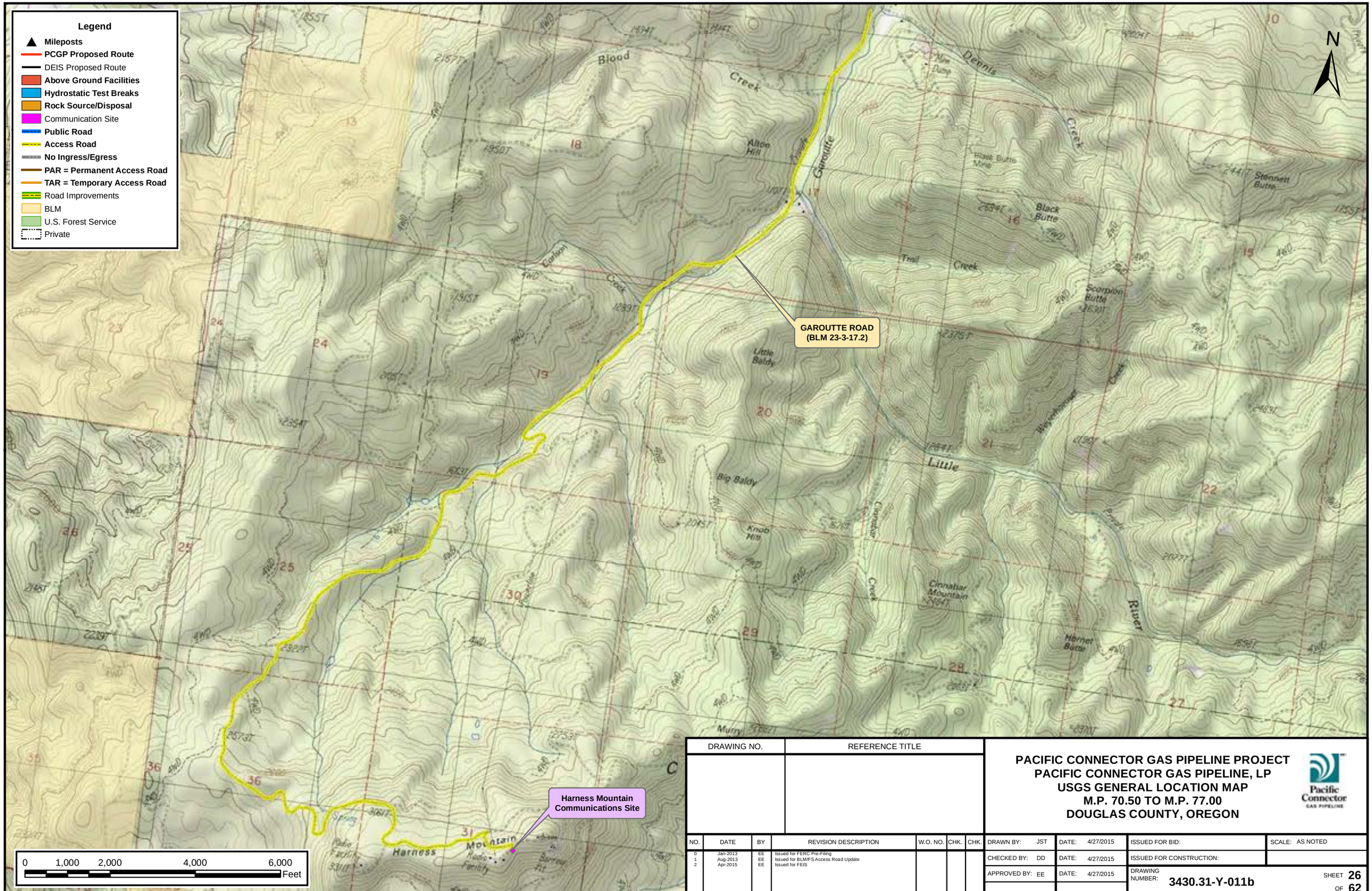
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 70.50 TO M.P. 77.00
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-011a	SHEET 25 OF 62



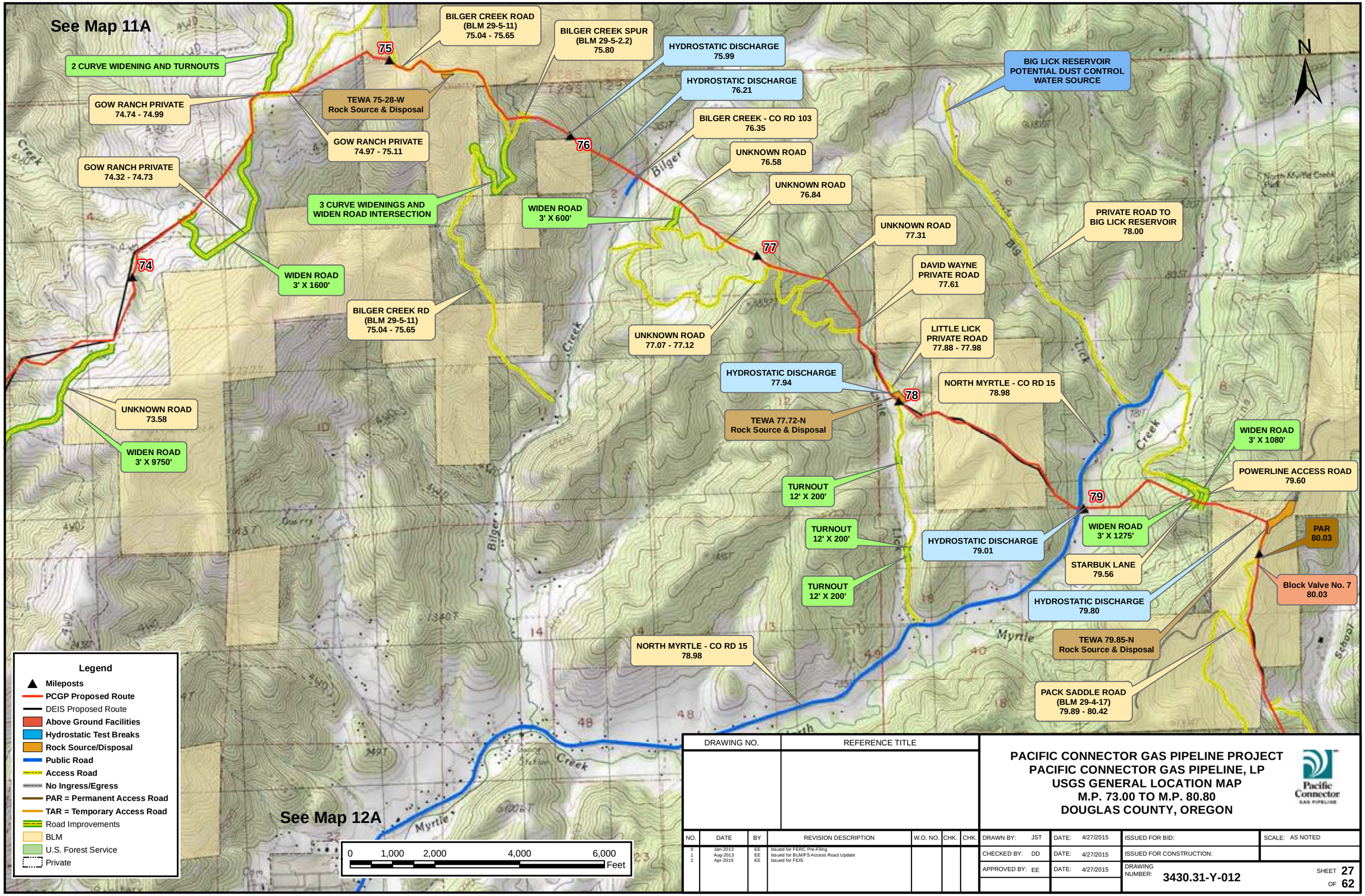
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 70.50 TO M.P. 77.00
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-011b	SHEET 26 OF 62



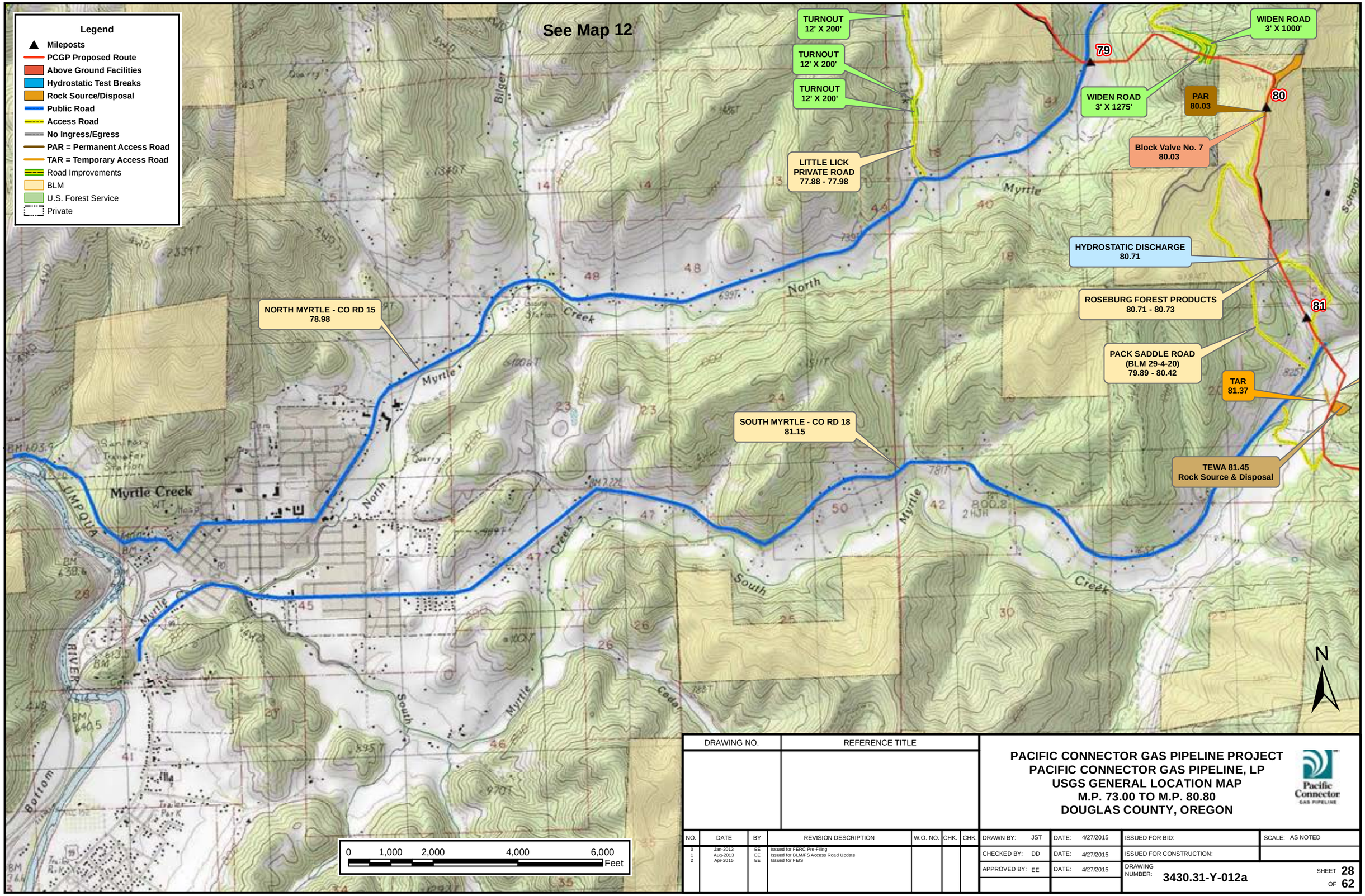
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 73.00 TO M.P. 80.80
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-012	SHEET 27 OF 62	



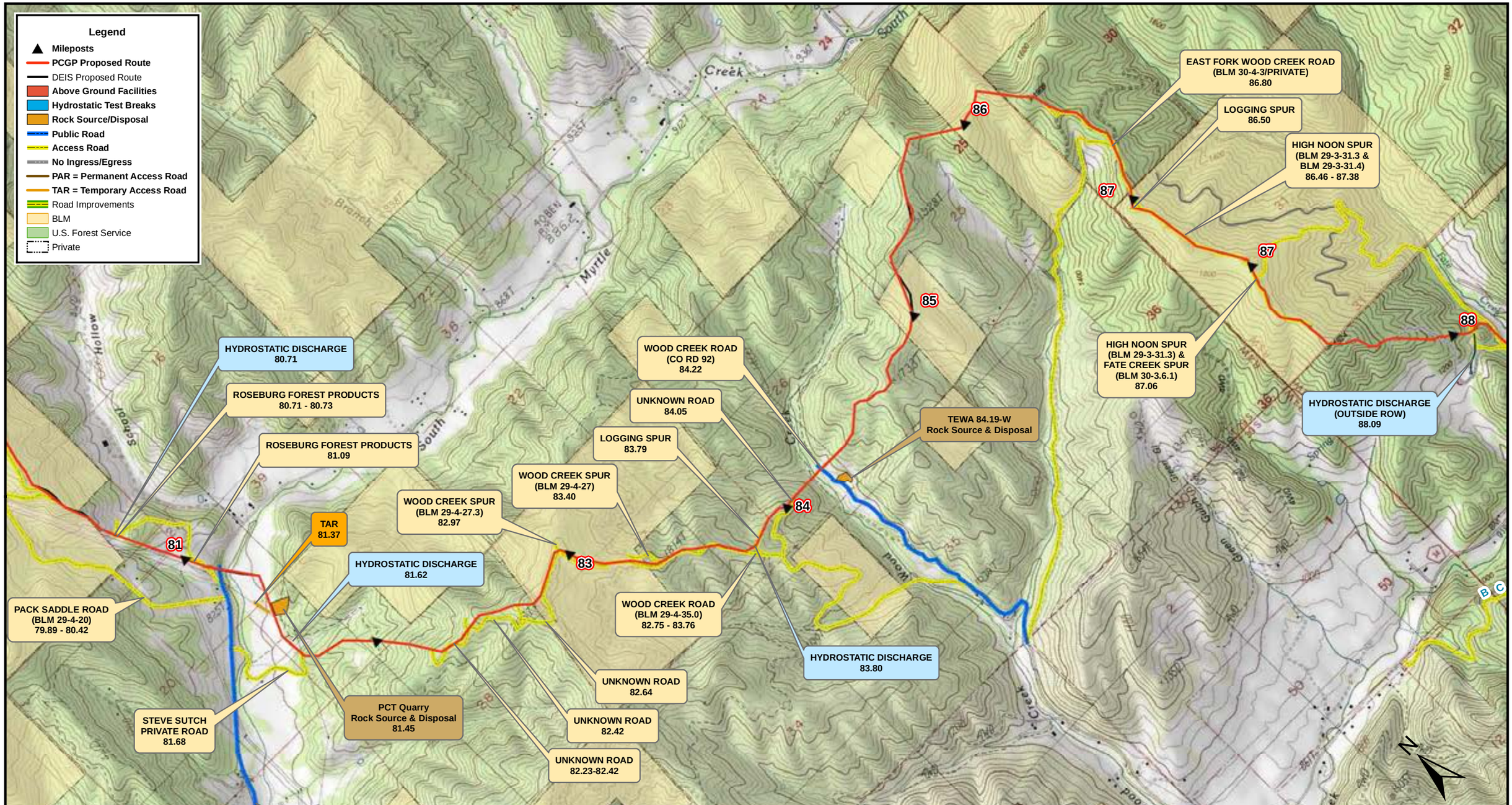
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 73.00 TO M.P. 80.80
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-012a	SHEET 28 OF 62		



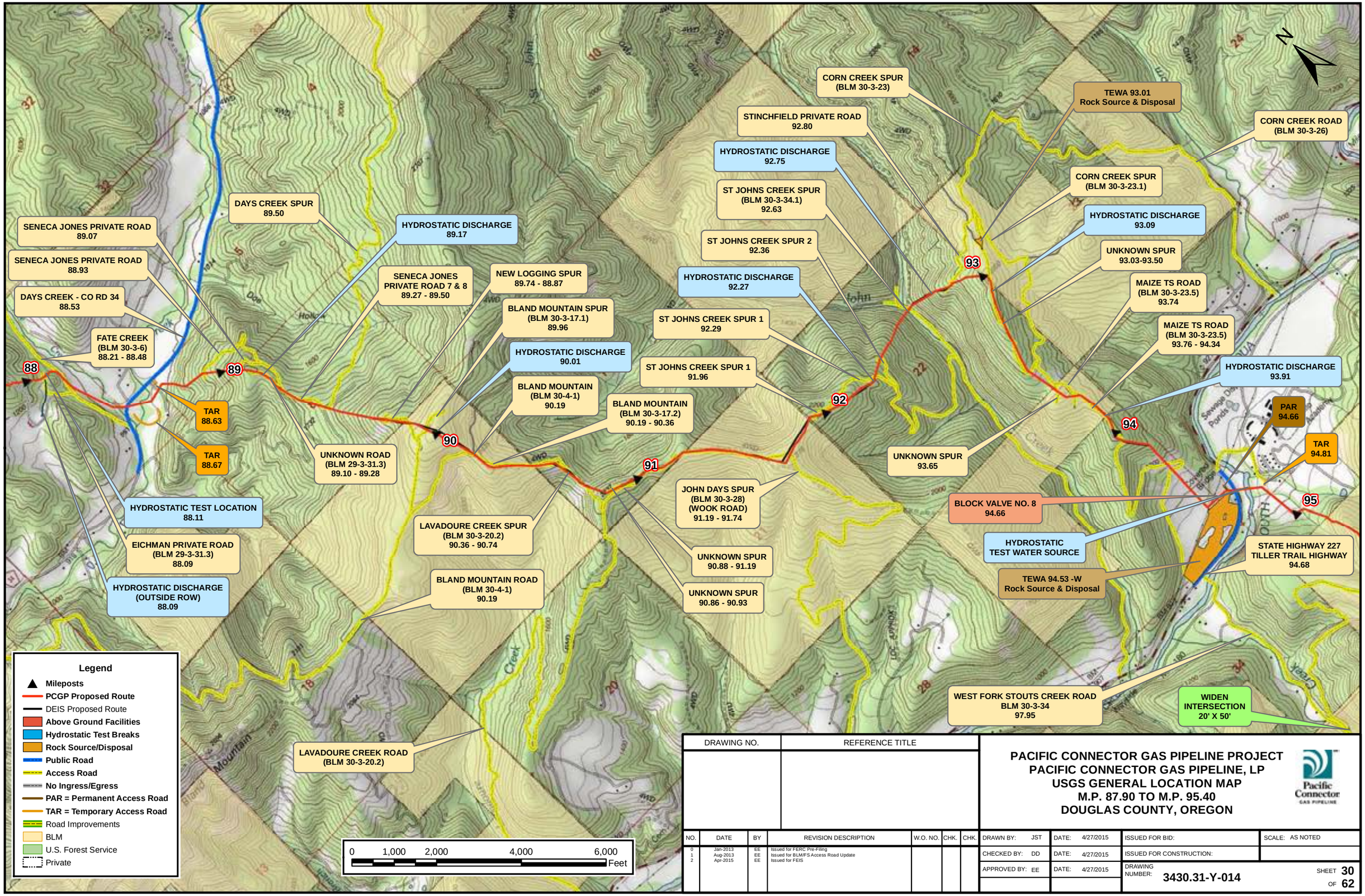
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 80.50 TO M.P. 88.40
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-013	SHEET 29 OF 62		



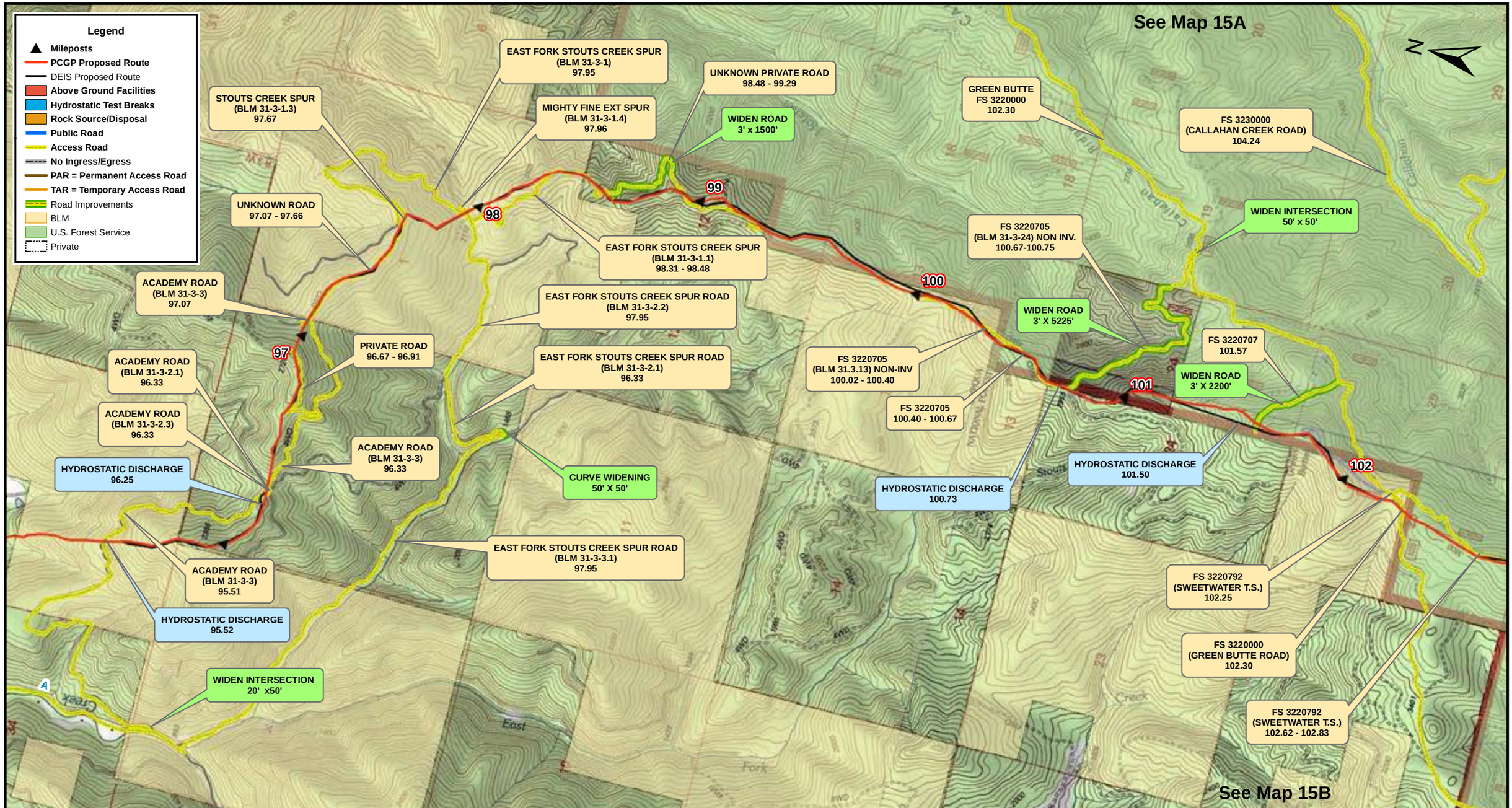
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 87.90 TO M.P. 95.40
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-014	SHEET 30 OF 62

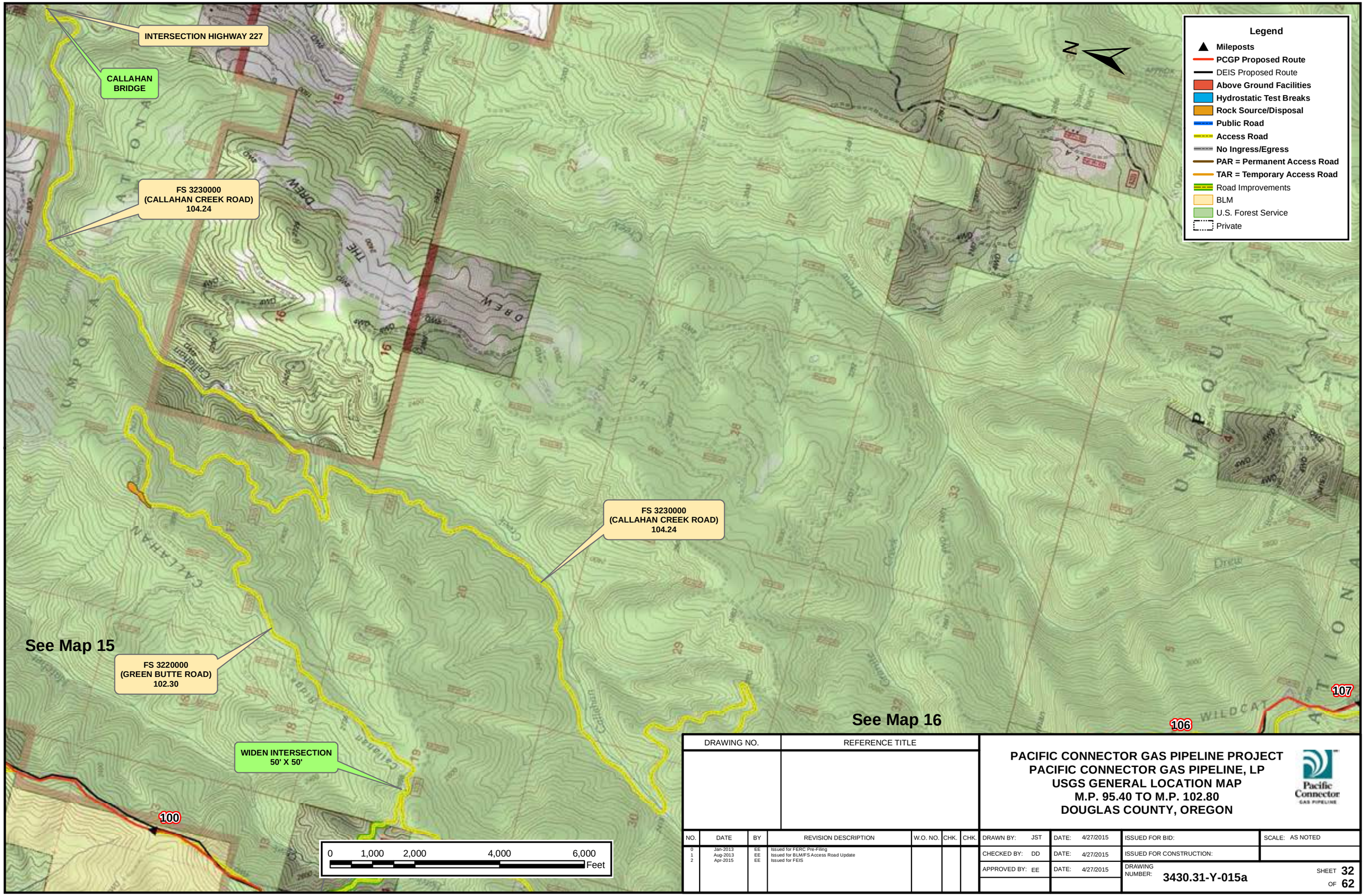


DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 95.40 TO M.P. 102.80
DOUGLAS COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-015	SHEET 31 OF 62

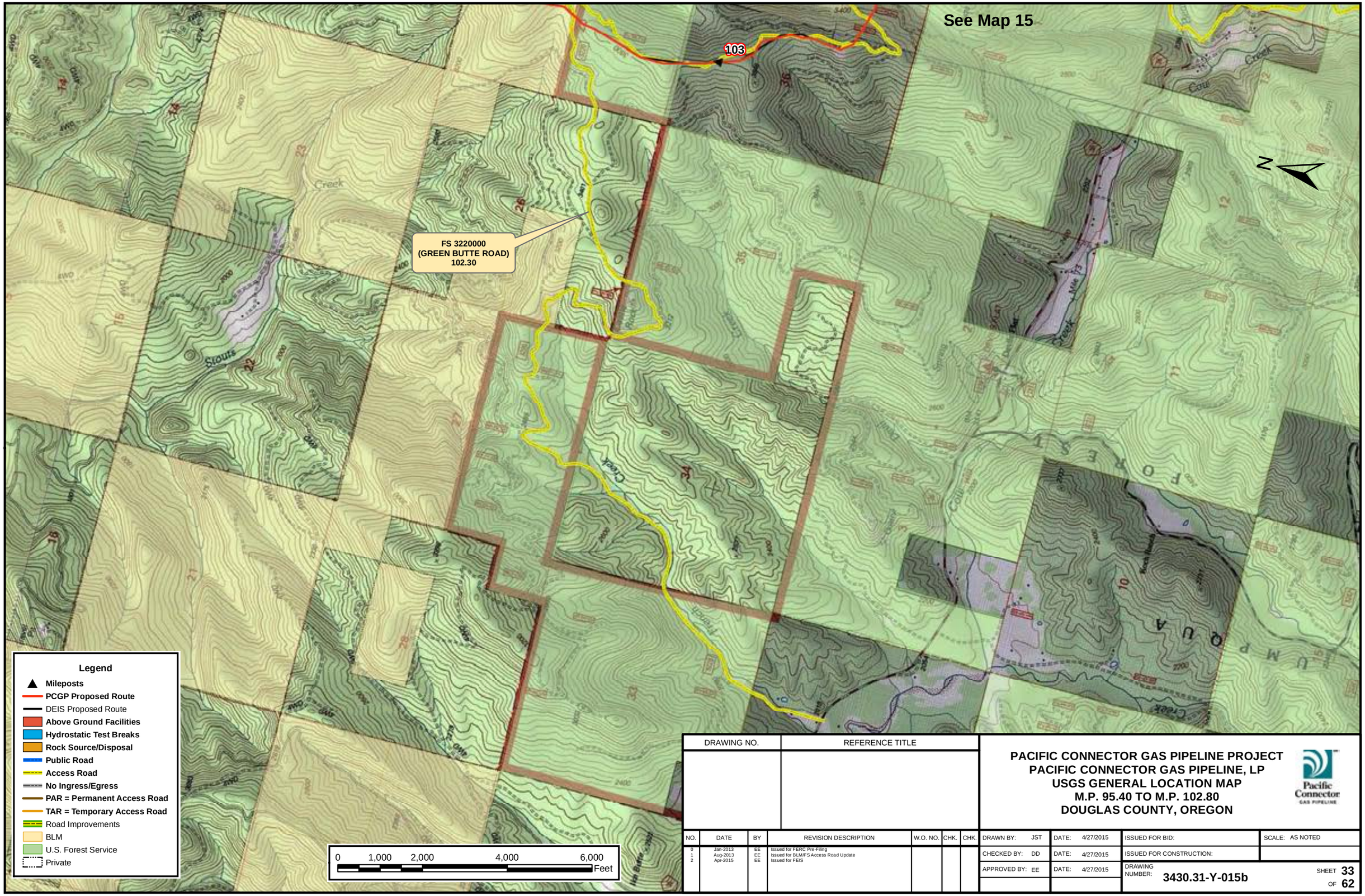


DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 95.40 TO M.P. 102.80
DOUGLAS COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-015a	SHEET 32 OF 62



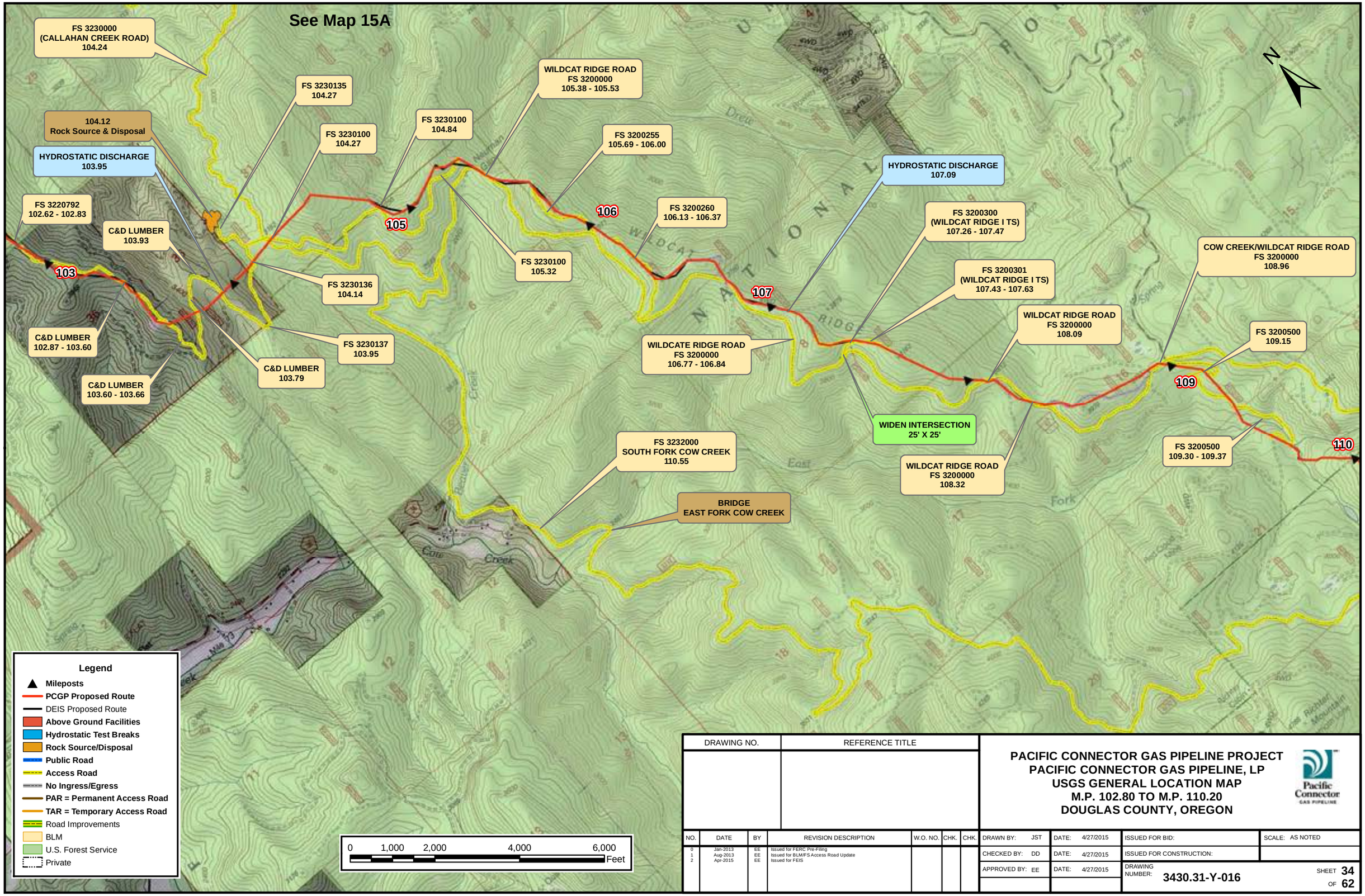
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 95.40 TO M.P. 102.80
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-015b	SHEET 33 OF 62



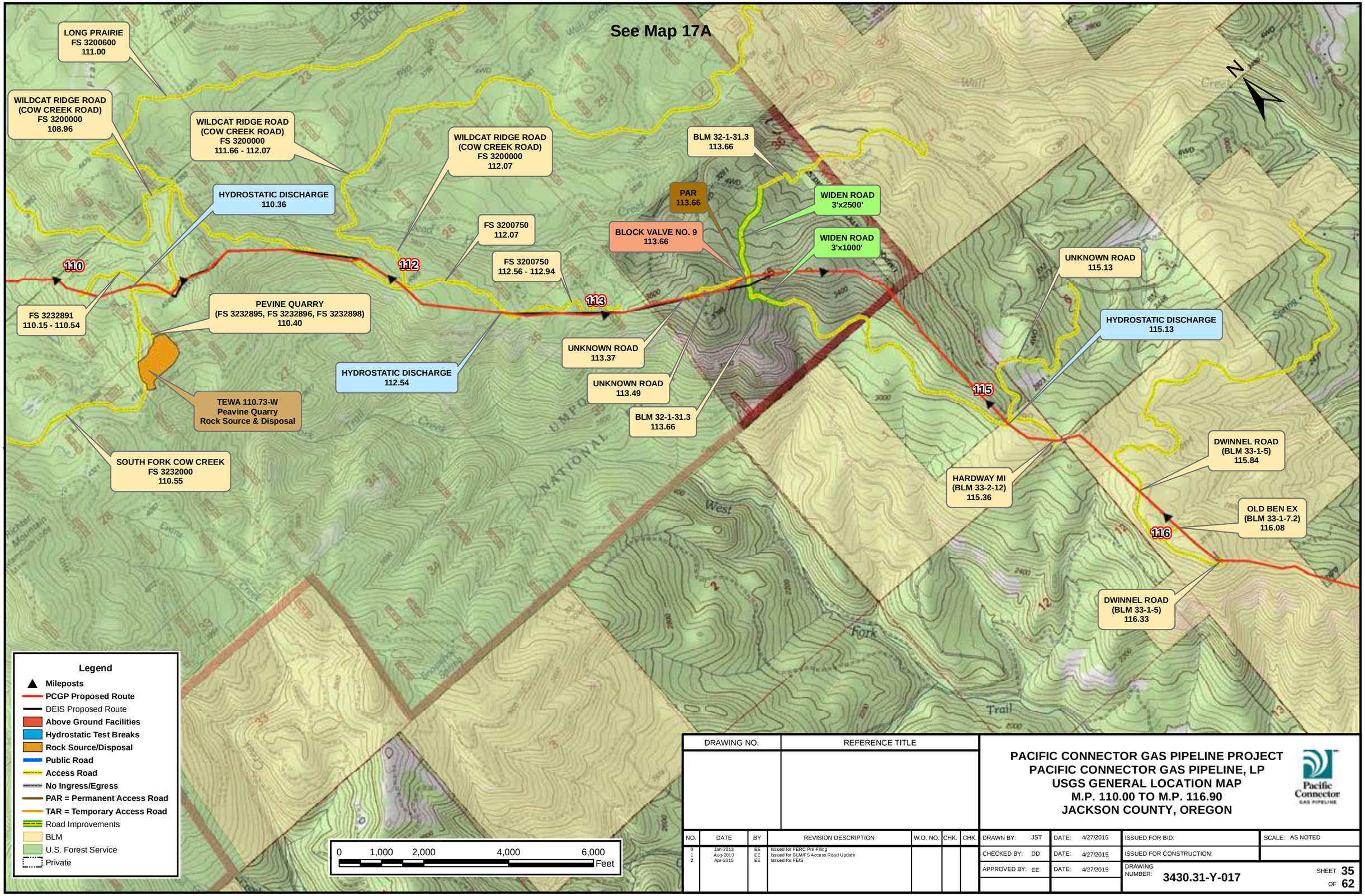
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 102.80 TO M.P. 110.20
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-016	SHEET 34 OF 62		

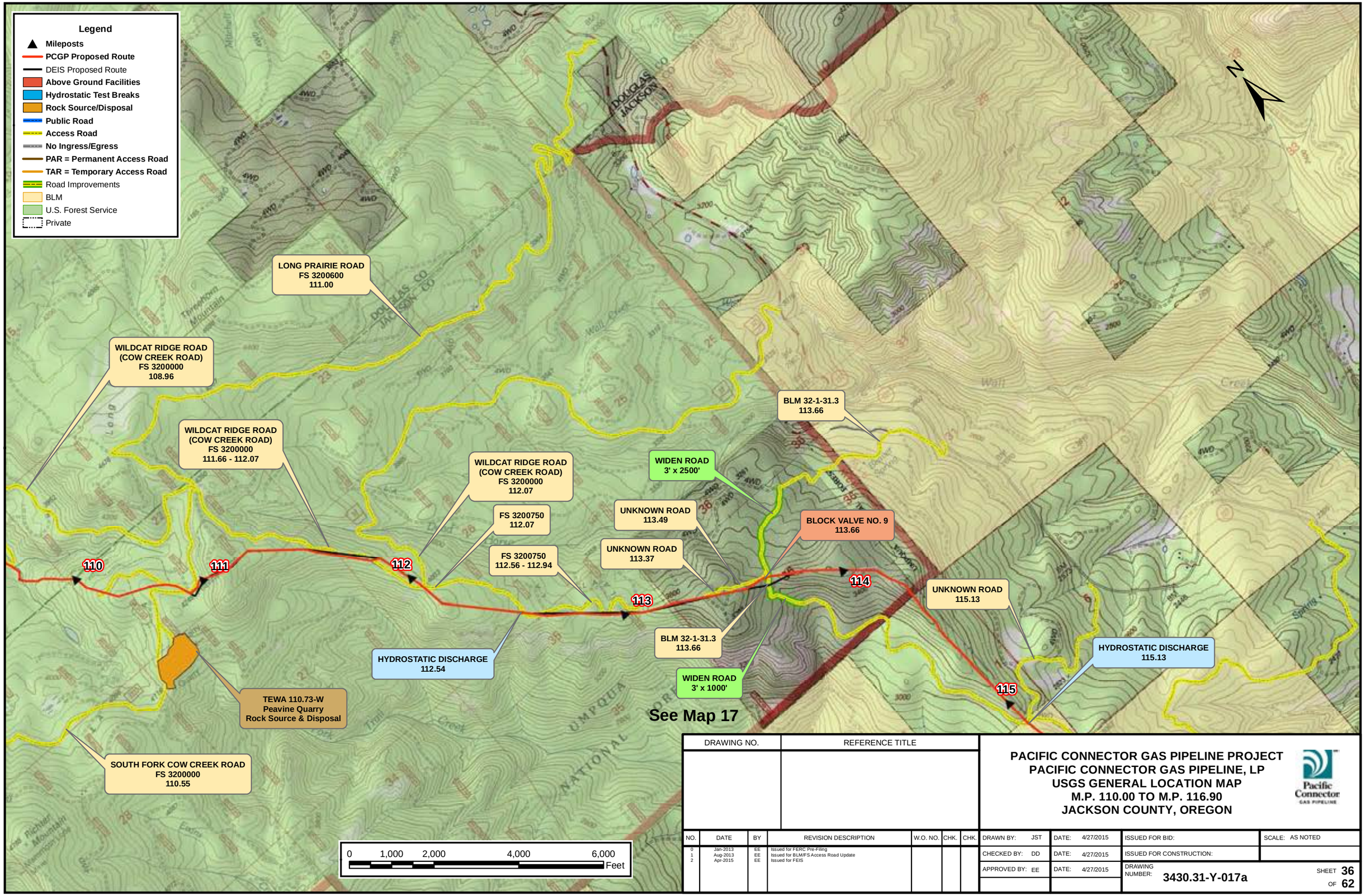


DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 110.00 TO M.P. 116.90
JACKSON COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-017	SHEET 35 OF 62		



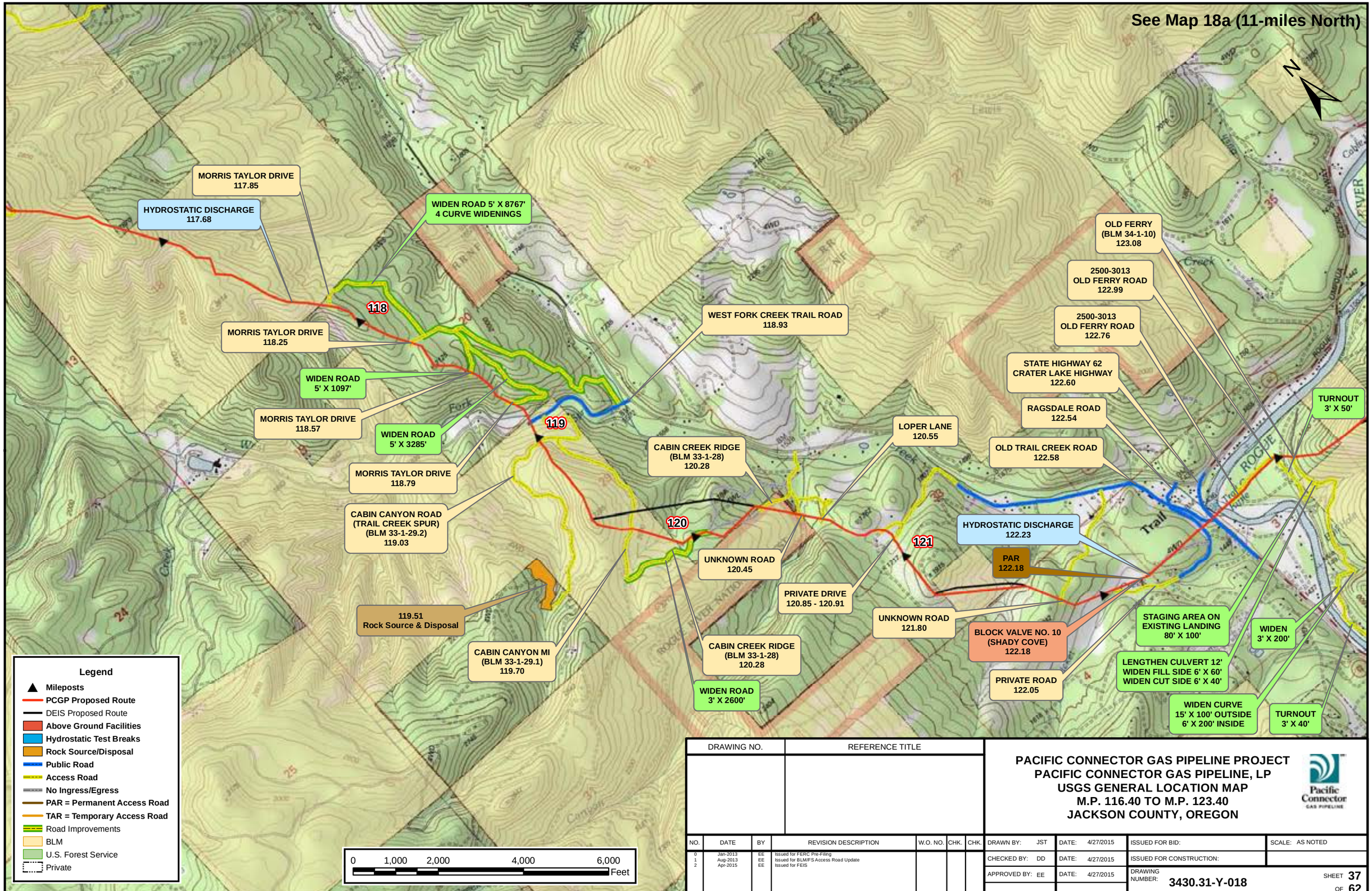
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 110.00 TO M.P. 116.90
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-017a	SHEET 36 OF 62		



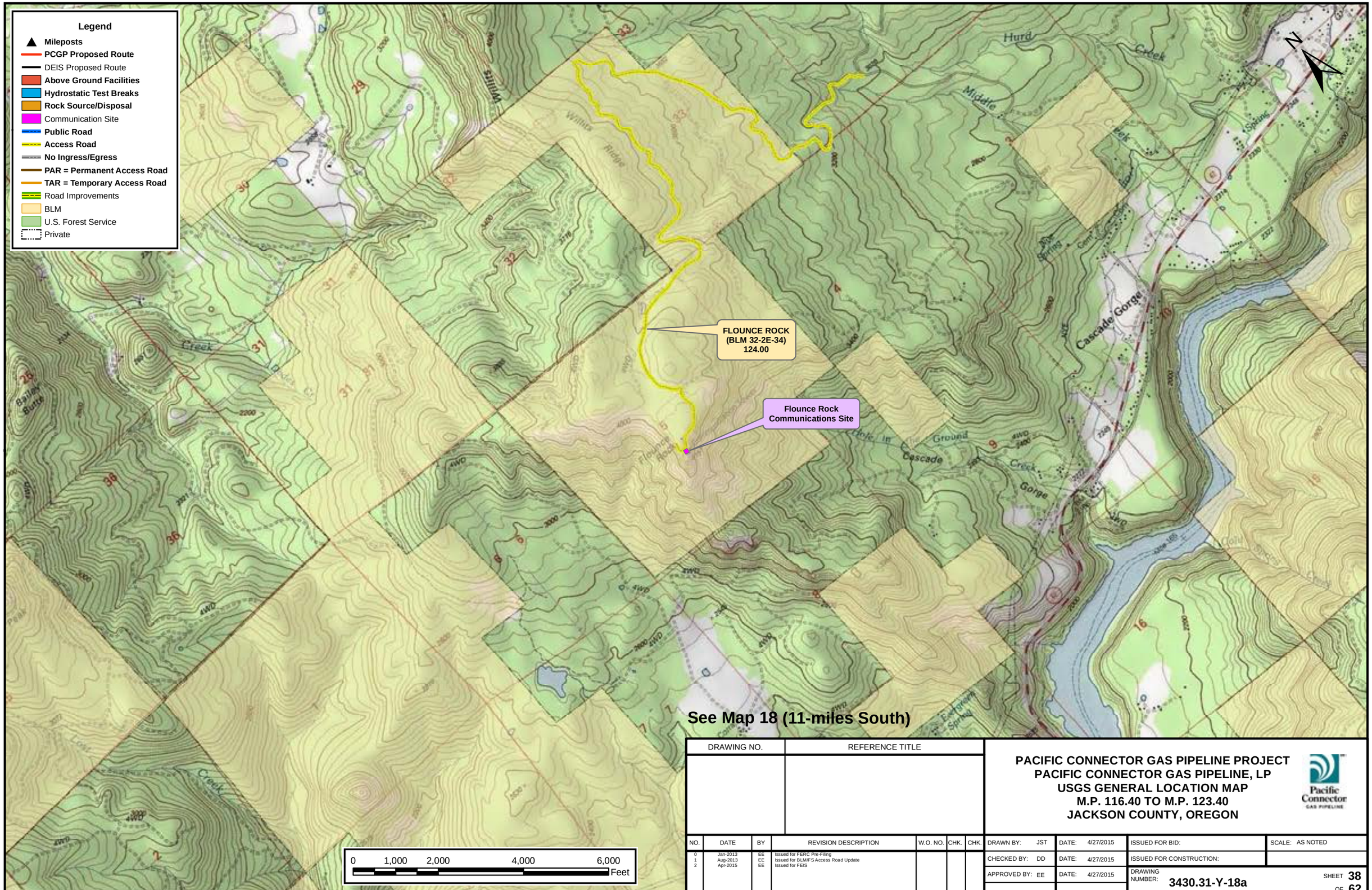
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 116.40 TO M.P. 123.40
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-018	SHEET 37 OF 62	



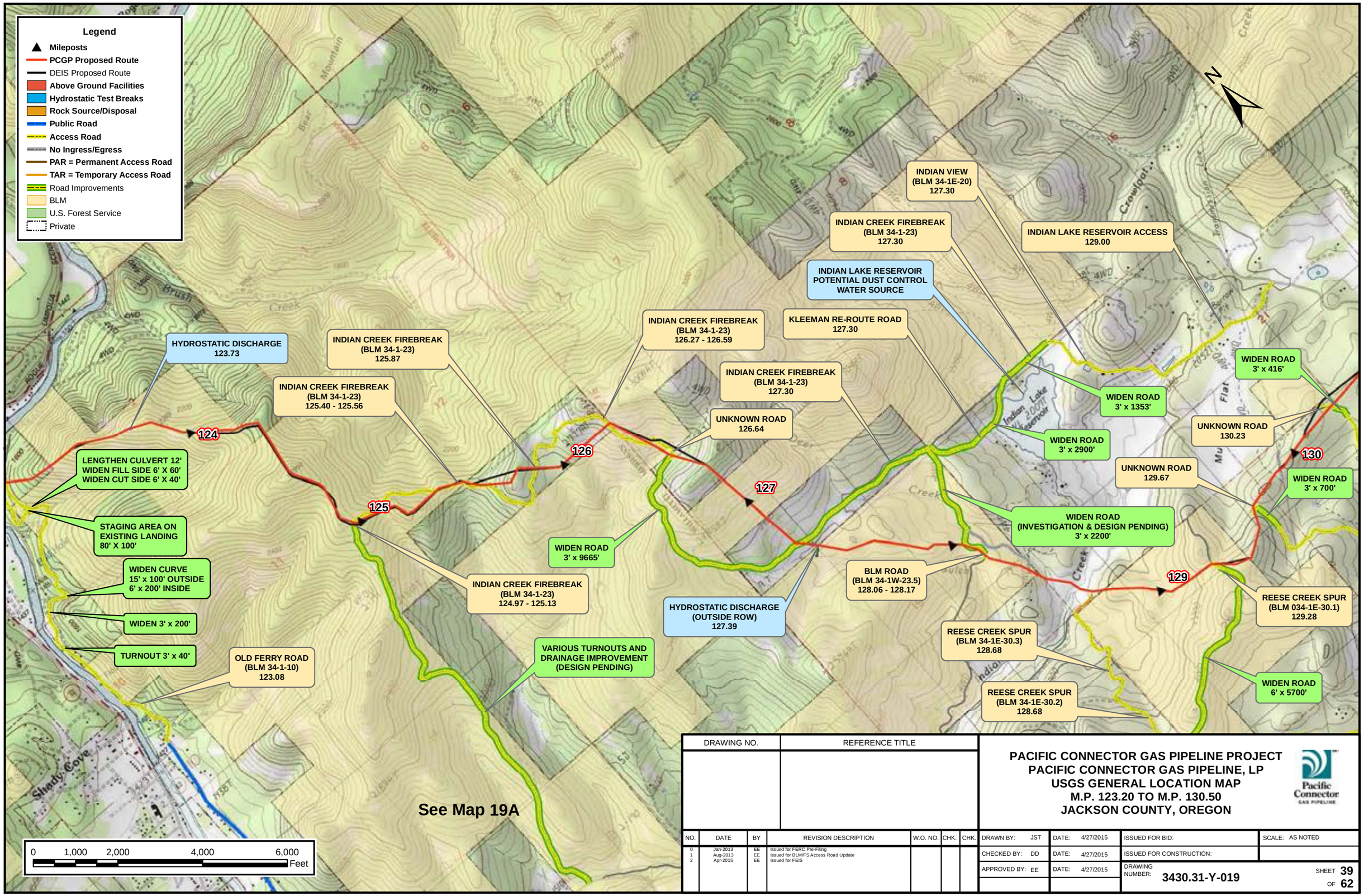
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 116.40 TO M.P. 123.40
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-18a	SHEET 38 OF 62



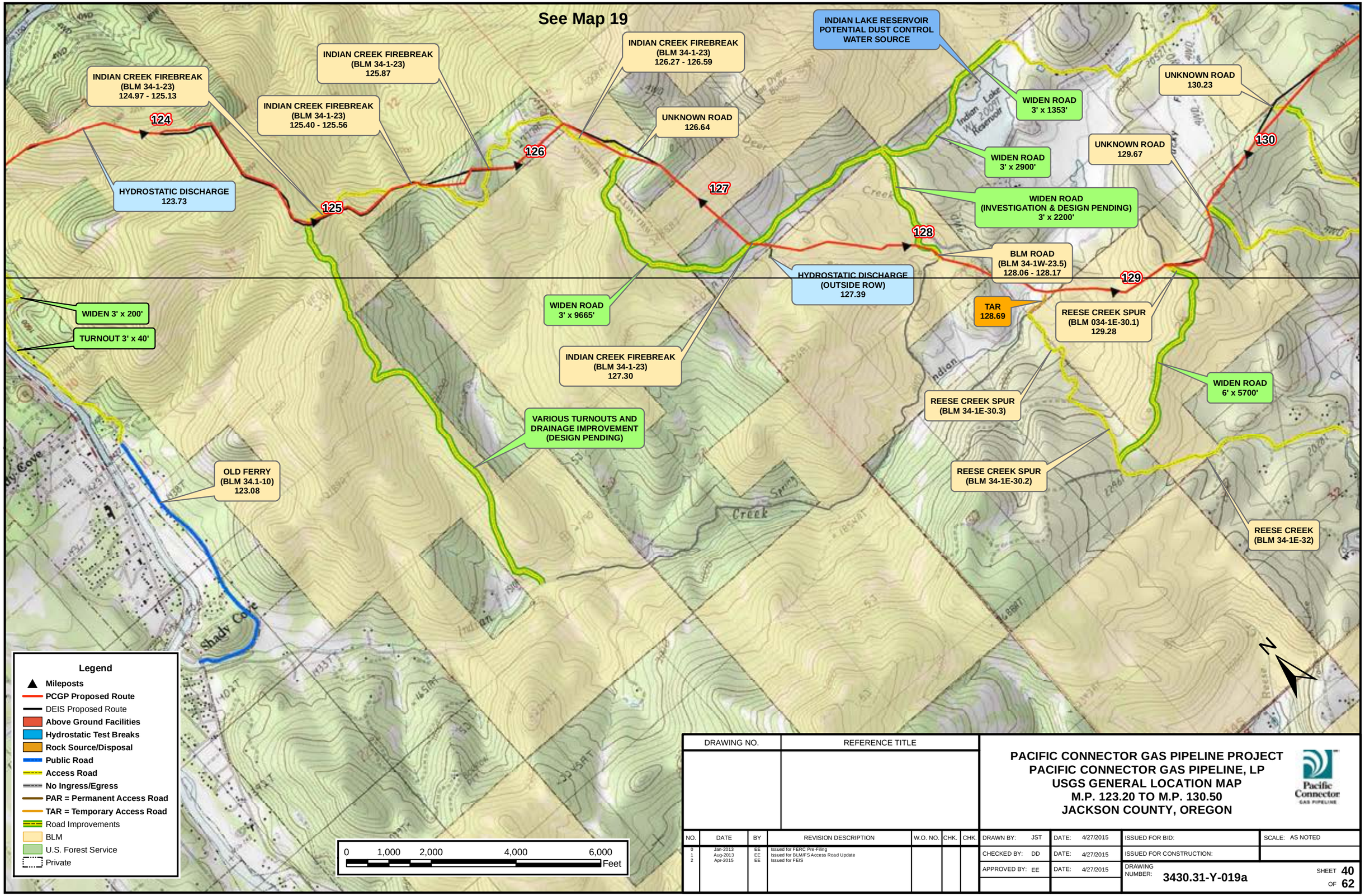
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 123.20 TO M.P. 130.50
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-019	SHEET 39 OF 62



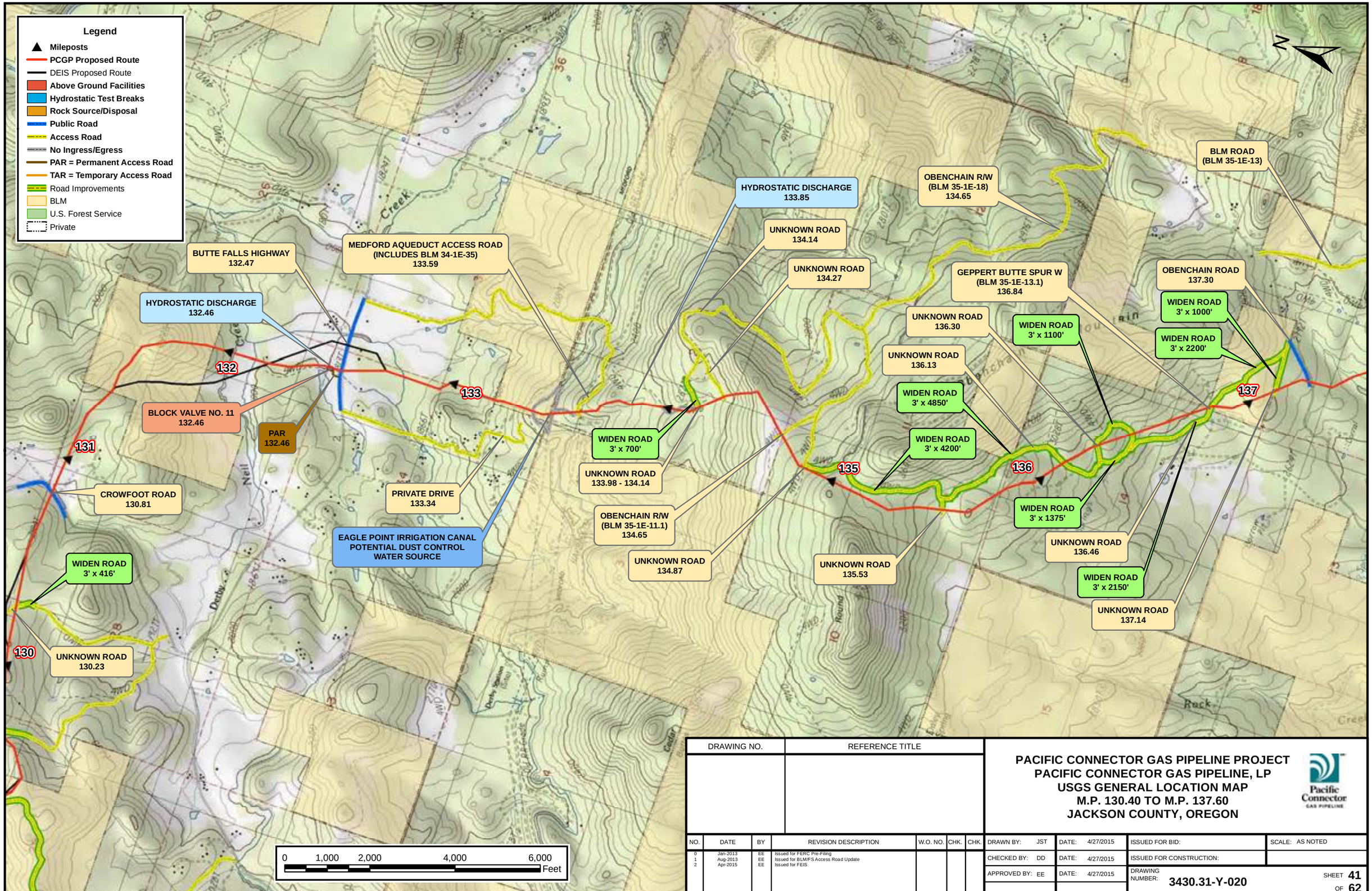
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 123.20 TO M.P. 130.50
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-019a	SHEET 40 OF 62	



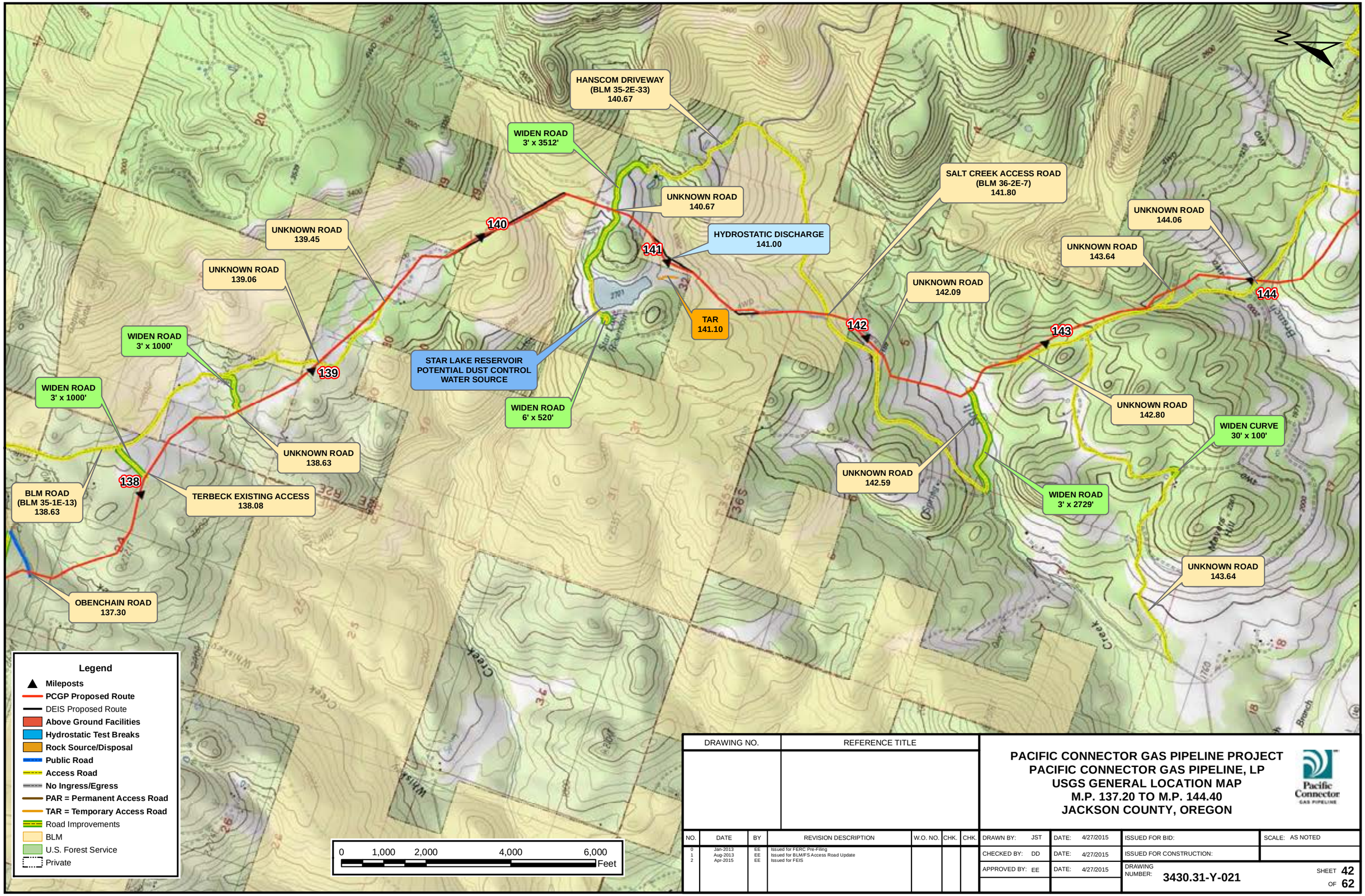
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 130.40 TO M.P. 137.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-020	SHEET 41 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 137.20 TO M.P. 144.40
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-021	SHEET 42 OF 62

UNNAMED RESERVOIR POTENTIAL DUST CONTROL WATER SOURCE

SALT CREEK ROAD (BLM 36-2E-19) 144.69

GARDENER RESERVOIR POTENTIAL DUST CONTROL WATER SOURCE

HEPPSIE MOUNTAIN MAINLINE (BLM 36-3E-31) 152.56

BRIDGE #5000-045

HYDROSTATIC TEST WATER SOURCE

PRIVATE ROAD 148.00

HYDROSTATIC TEST WATER SOURCE

PRIVATE ROAD 147.00

BLM 37-3E-6.10 152.06 - 152.14

HEPPSIE MOUNTAIN QUARRY SPUR (BLM 37-2E-1.3 & 37-2E-1.1) 150.25 - 150.64

UNKNOWN ROAD 151.77

PRIVATE ROAD 145.20

PRIVATE ROAD 145.38

UNKNOWN ROAD 145.98

HYDROSTATIC DISCHARGE 151.40

BLM 37-3E-6.10 151.56

HYDROSTATIC DISCHARGE 148.42

SALT CREEK ROAD (GARDNER ROAD) (BLM 36-2E-19) 145.15

TEWA 150.31-W Heppsie Mtn. Quarry Rock Source & Disposal

BLM 37-3E-6.10 150.98 - 151.57

UNKNOWN ROAD 146.20

UNKNOWN ROAD 147.76 & 148.00

UNKNOWN ROAD 151.68

UNKNOWN ROAD 147.68

Block Valve No. 12 150.70

LAKE OF THE WOODS STATE HIGHWAY 140 145.58

HYDROSTATIC TEST WATER SOURCE

PAR 150.70

HANLEY SOUTH CANAL ROAD 146.81

HYDROSTATIC DISCHARGE 147.74

TEWA 148.98-N Rock Source & Disposal

HEPPSIE MOUNTAIN QUARRY SPUR (BLM 37-2E-1.3) 150.25 - 150.64

145 146 147 148 149 150 151

Legend

- Mileposts
- PCGP Proposed Route
- DEIS Proposed Route
- Above Ground Facilities
- Hydrostatic Test Breaks
- Rock Source/Disposal
- Public Road
- Access Road
- No Ingress/Egress
- PAR = Permanent Access Road
- TAR = Temporary Access Road
- Road Improvements
- BLM
- U.S. Forest Service
- Private

0 1,000 2,000 4,000 6,000 Feet

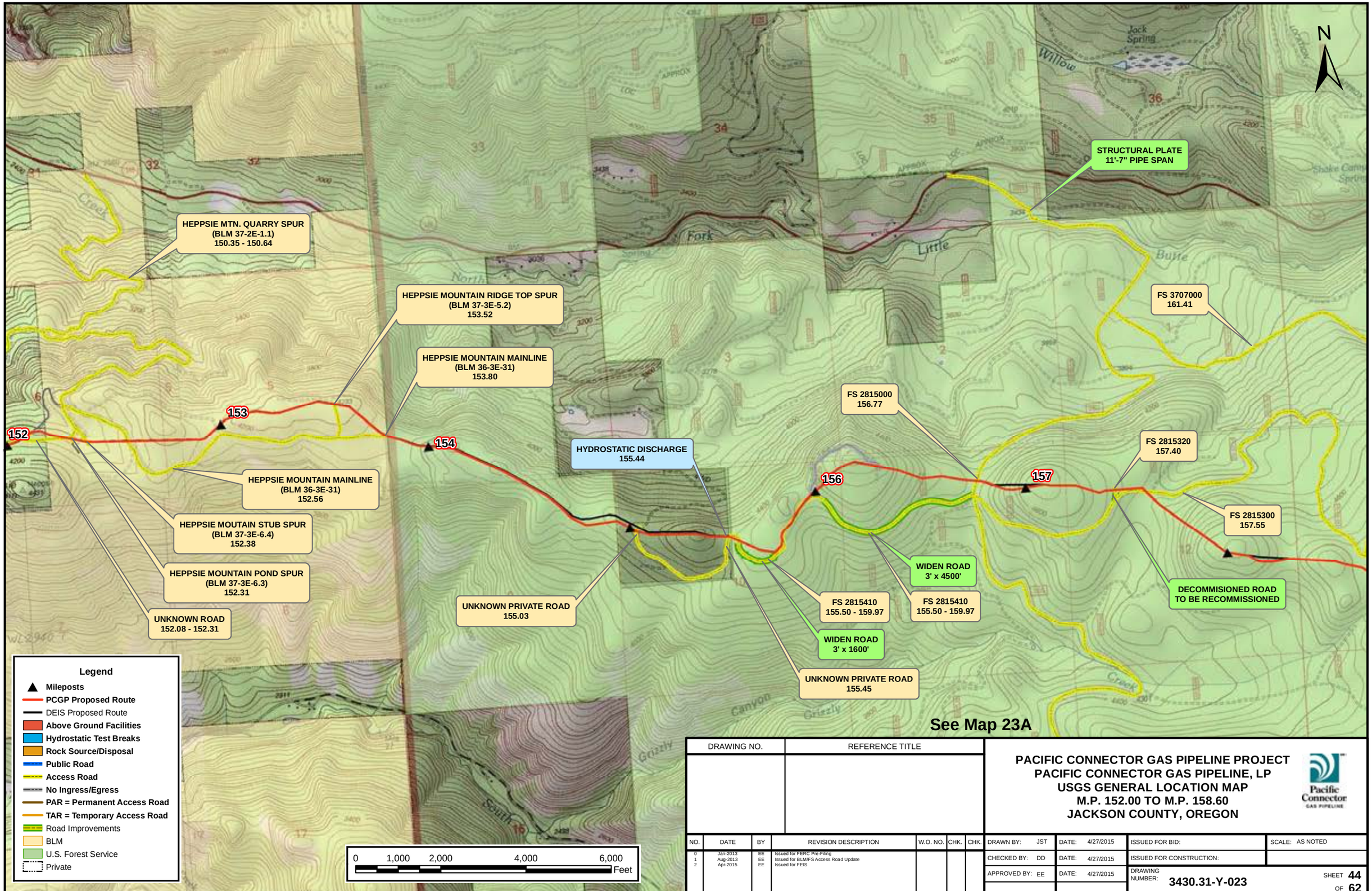
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 144.40 TO M.P. 152.00
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-022	SHEET 43 OF 62



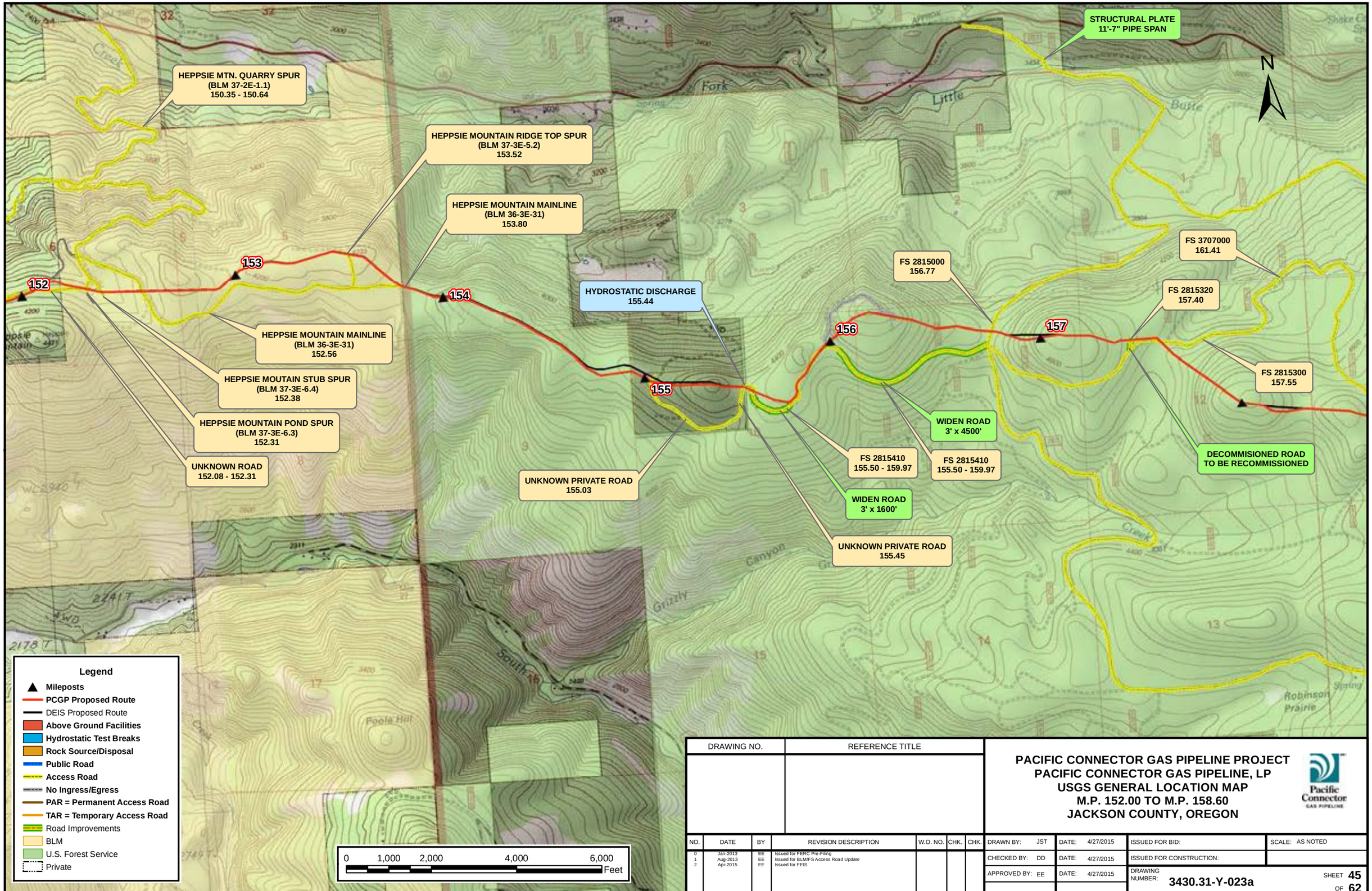
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 152.00 TO M.P. 158.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-023	SHEET 44 OF 62



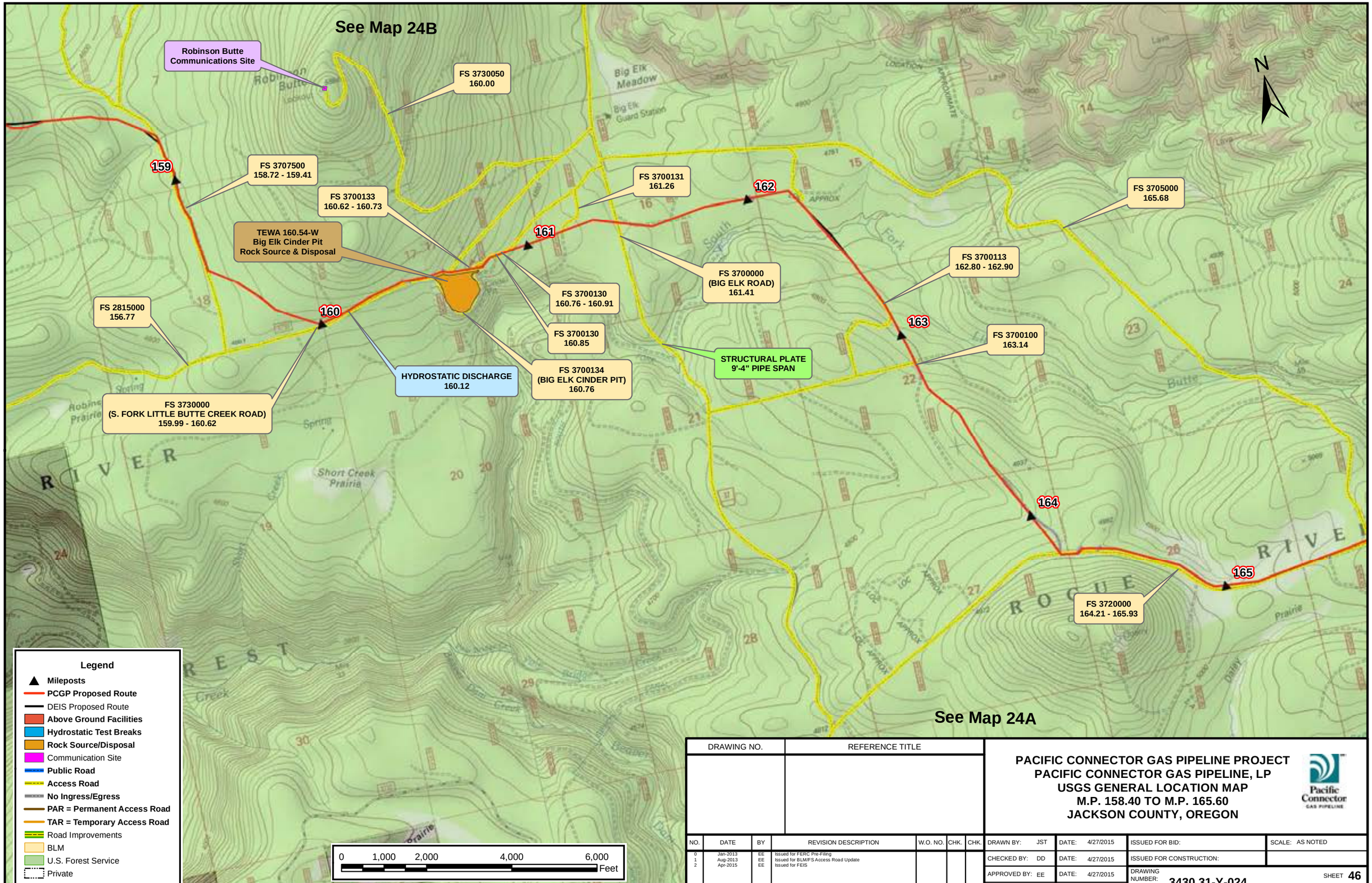
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 152.00 TO M.P. 158.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-023a	SHEET 45 OF 62		



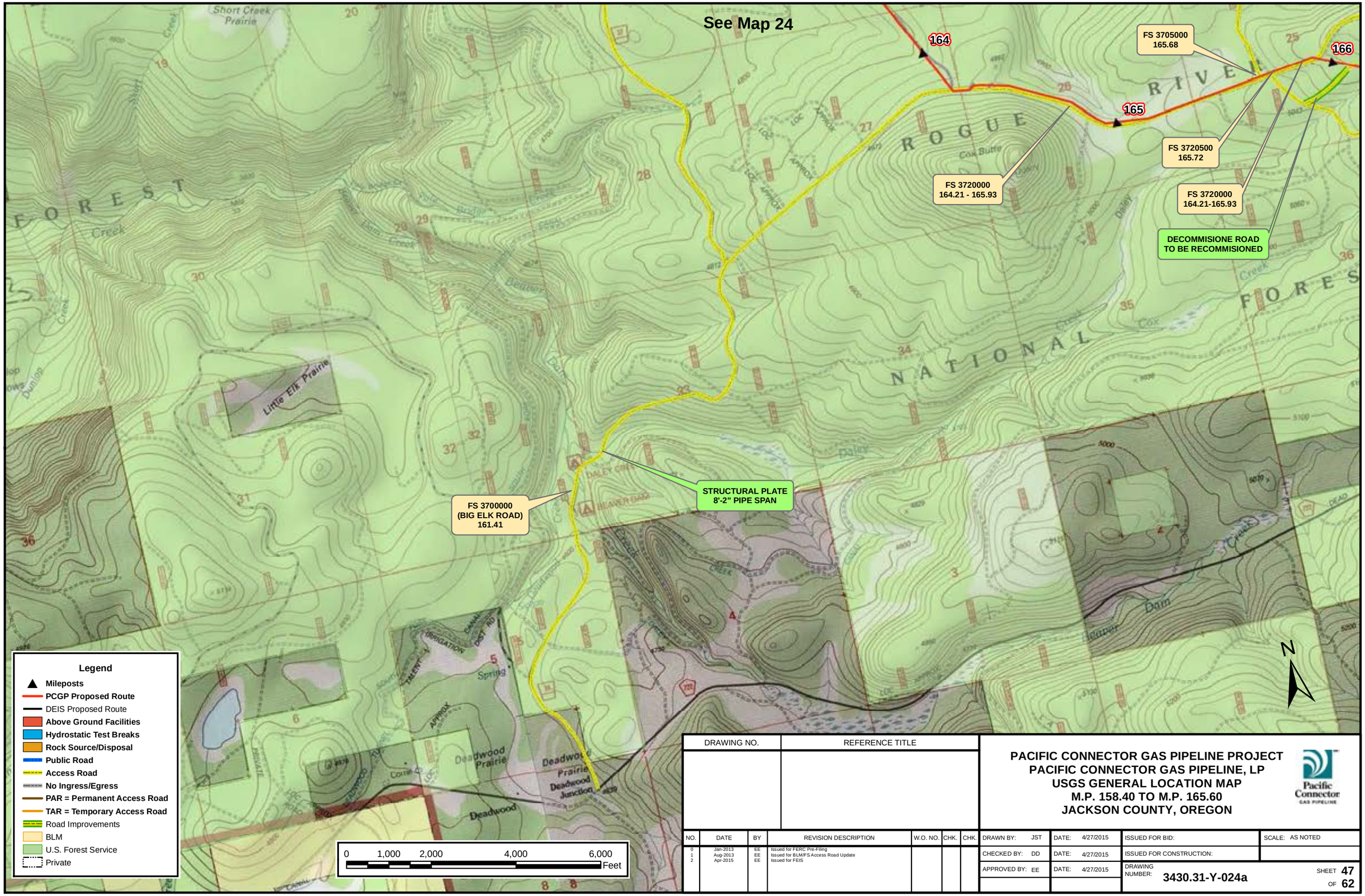
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 158.40 TO M.P. 165.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-024	SHEET 46 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 158.40 TO M.P. 165.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-024a	SHEET 47 OF 62		

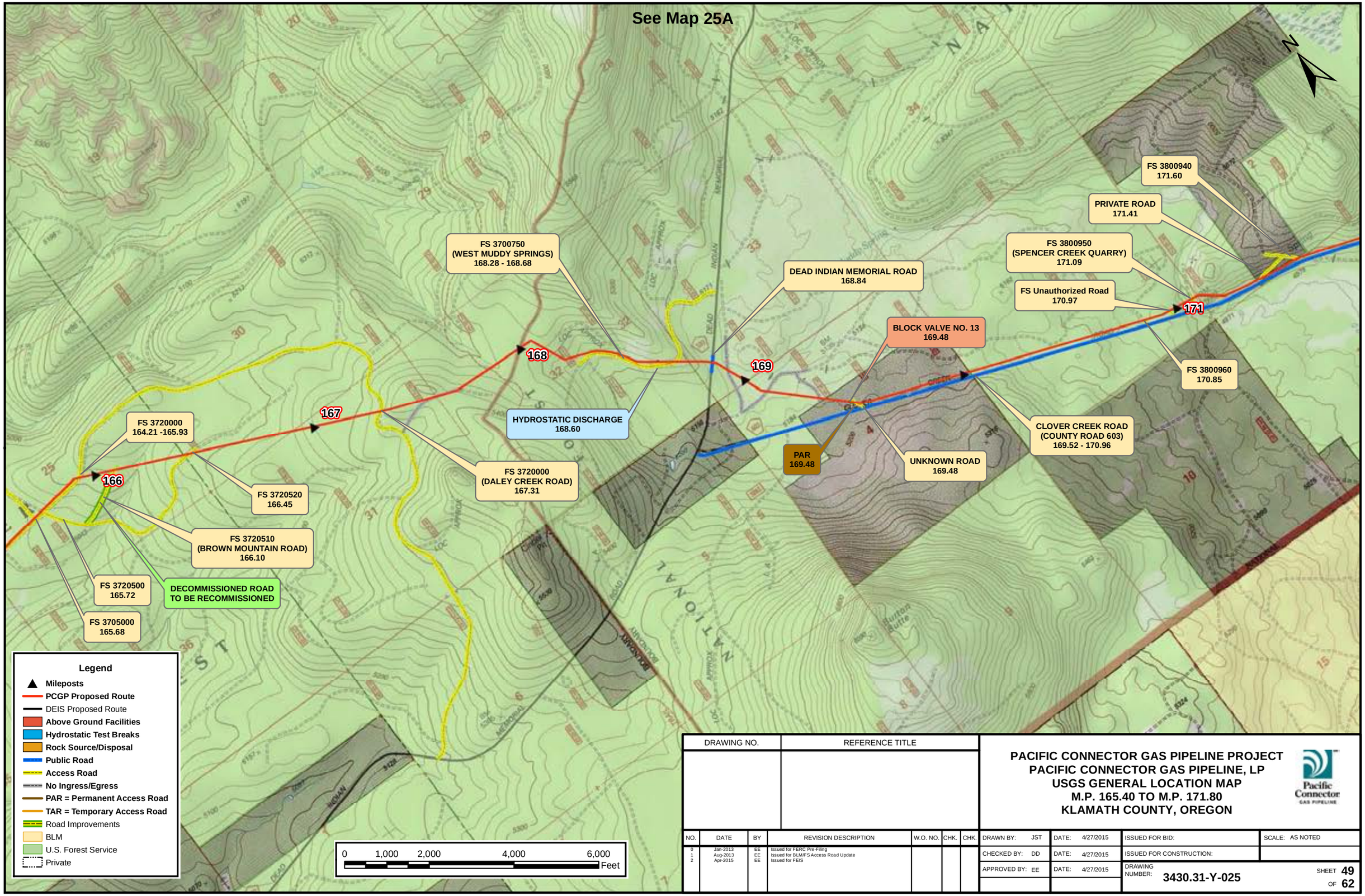
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 158.40 TO M.P. 165.60
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-024b	SHEET 48 OF 62	



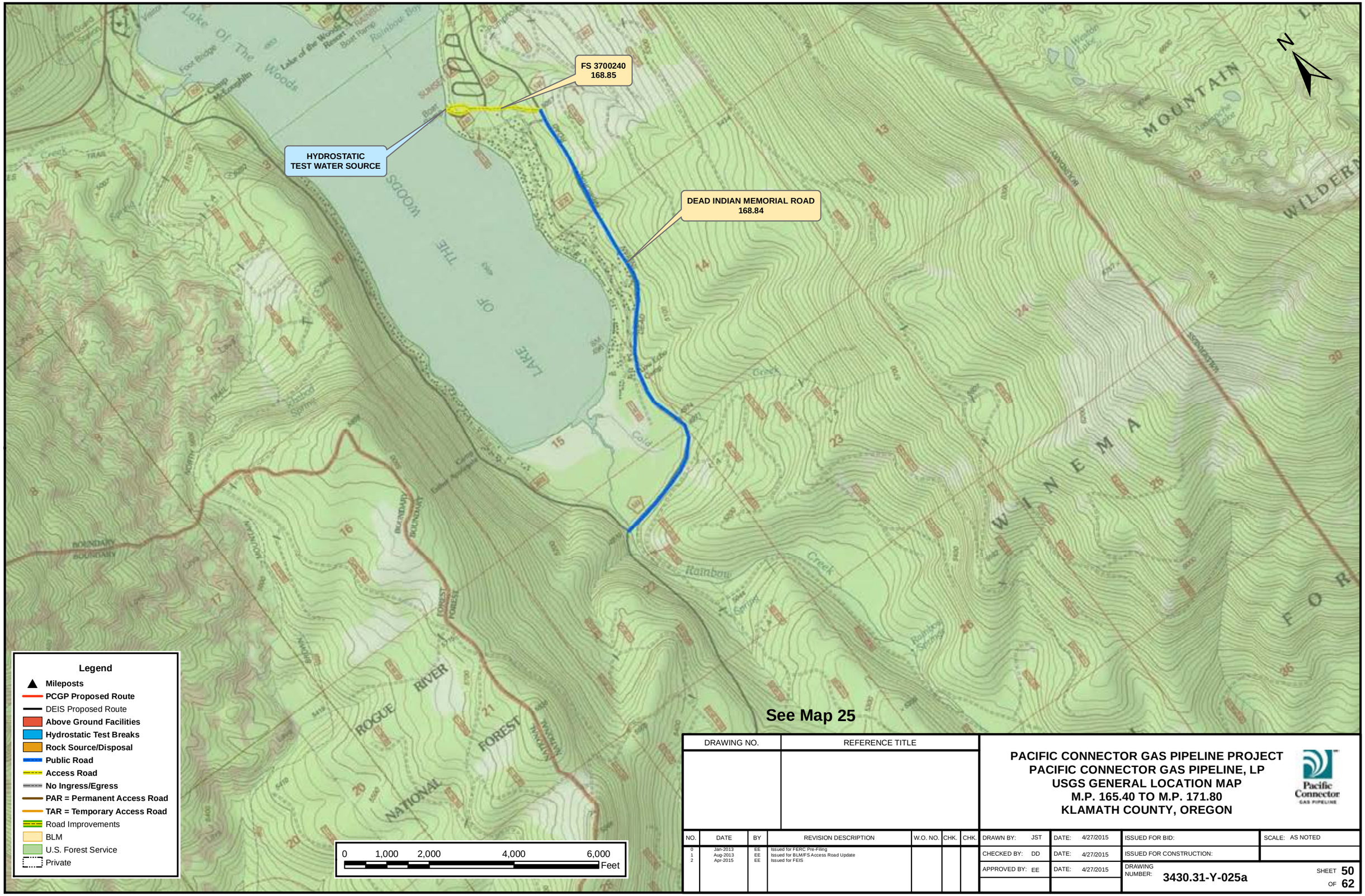
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 165.40 TO M.P. 171.80
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-025	SHEET 49 OF 62		

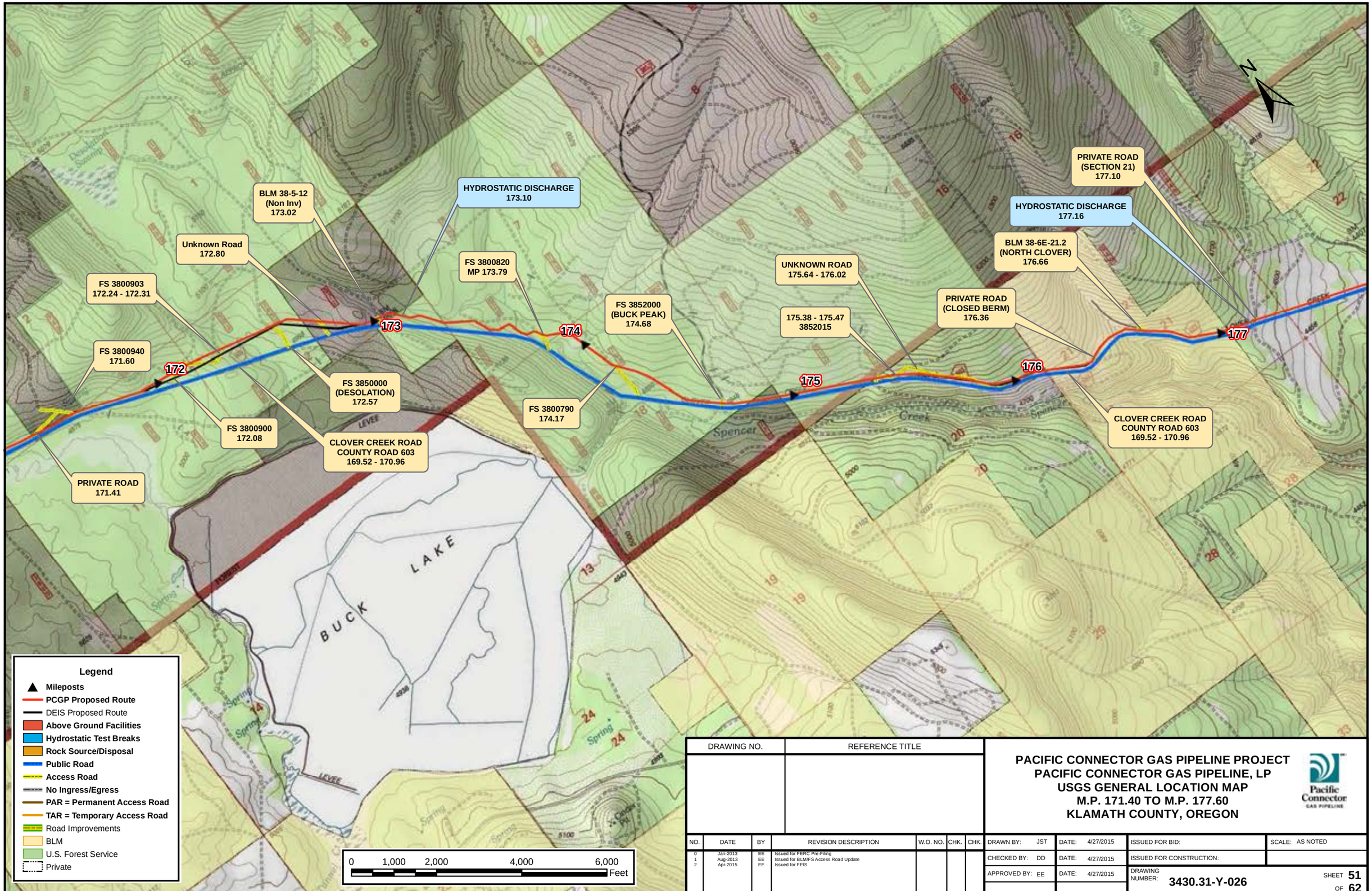


DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 165.40 TO M.P. 171.80
KLAMATH COUNTY, OREGON

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-025a	SHEET 50 OF 62		



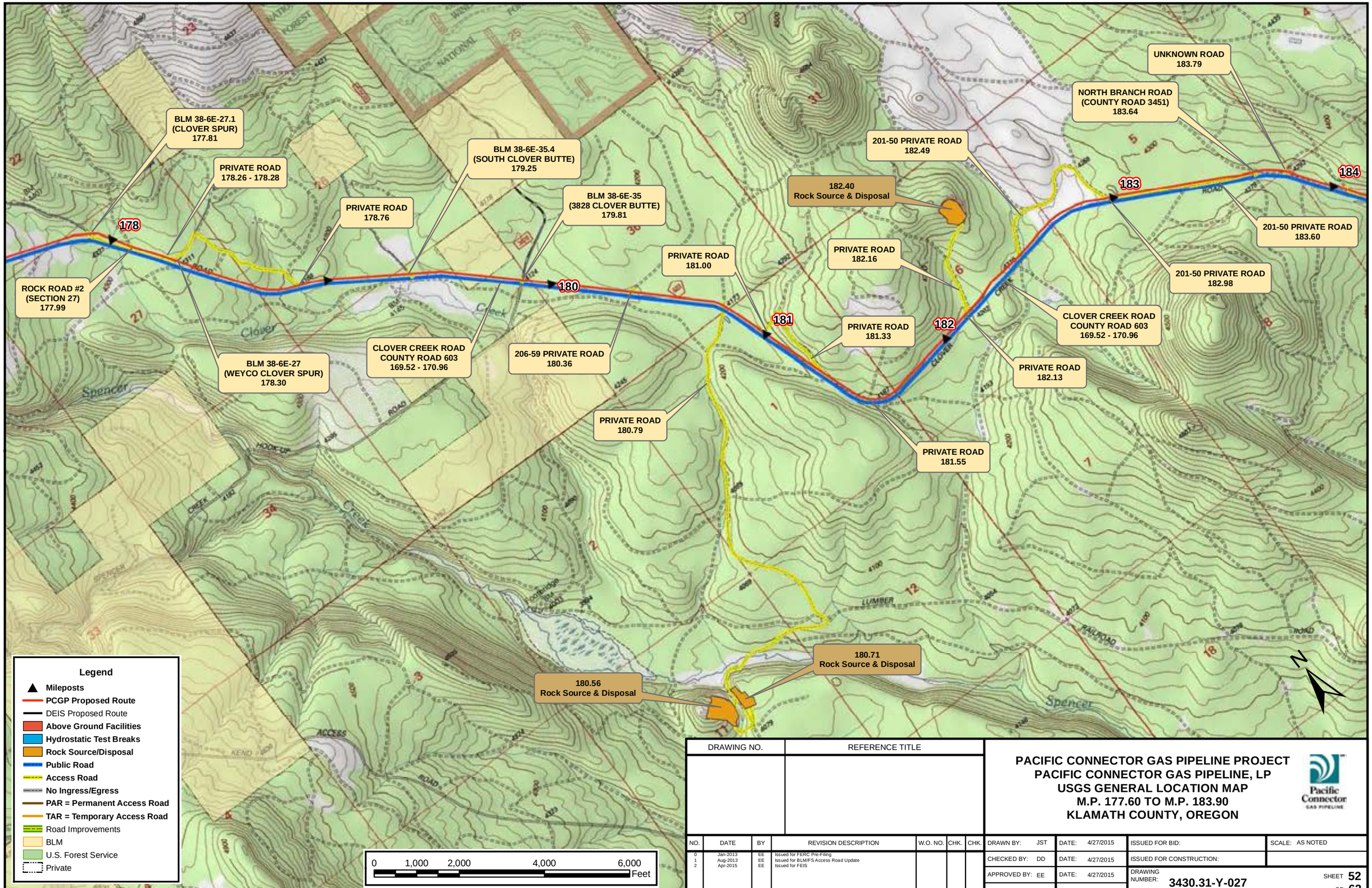
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 171.40 TO M.P. 177.60
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-026	SHEET 51 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 177.60 TO M.P. 183.90
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-027	SHEET 52 OF 62

183
184
185
186
187
188

UNKNOWN ROAD 183.79
201-50 - PRIVATE ROAD 183.60
UNKNOWN ROAD 184.07
NORTH BRANCH ROAD (CNTY RD 3451) 183.64
CLOVER CREEK ROAD COUNTY ROAD 603 169.52 - 170.96
PRIVATE ROAD 85105 184.81
PRIVATE ROAD 101-00 (BLM 39-9E-18) 184.81
UNKNOWN ROAD 185.26
UNKNOWN ROAD 185.53
UNKNOWN ROAD 185.68
UNKNOWN ROAD 185.94
UNKNOWN ROAD 186.20
UNKNOWN ROAD 186.75
DECOMMISSIONED ROAD TO BE RECOMMISSIONED (INCLUDING CULVERT)
BLOCK VALVE NO. 14 187.43
PAR 187.46
UNKNOWN ROAD 188.41
HYDROSTATIC DISCHARGE 188.89
UNKNOWN ROAD 188.86
UNKNOWN ROAD 188.17
UNKNOWN ROAD 188.09
UNKNOWN ROAD 187.84
POWERLINE ACCESS ROAD 187.76
CLOVER CREEK ROAD COUNTY ROAD 603 169.52 - 170.96
PRIVATE ROAD UST-100 184.81

Indian Spring Ridge
Indian Spring
Ostman Lake
KLAMATH RIVER
RESERVOIR

N

Legend

- Mileposts
- PCGP Proposed Route
- DEIS Proposed Route
- Above Ground Facilities
- Hydrostatic Test Breaks
- Rock Source/Disposal
- Public Road
- Access Road
- No Ingress/Egress
- PAR = Permanent Access Road
- TAR = Temporary Access Road
- Road Improvements
- BLM
- U.S. Forest Service
- Private

0 1,000 2,000 4,000 6,000 Feet

See Map 28A

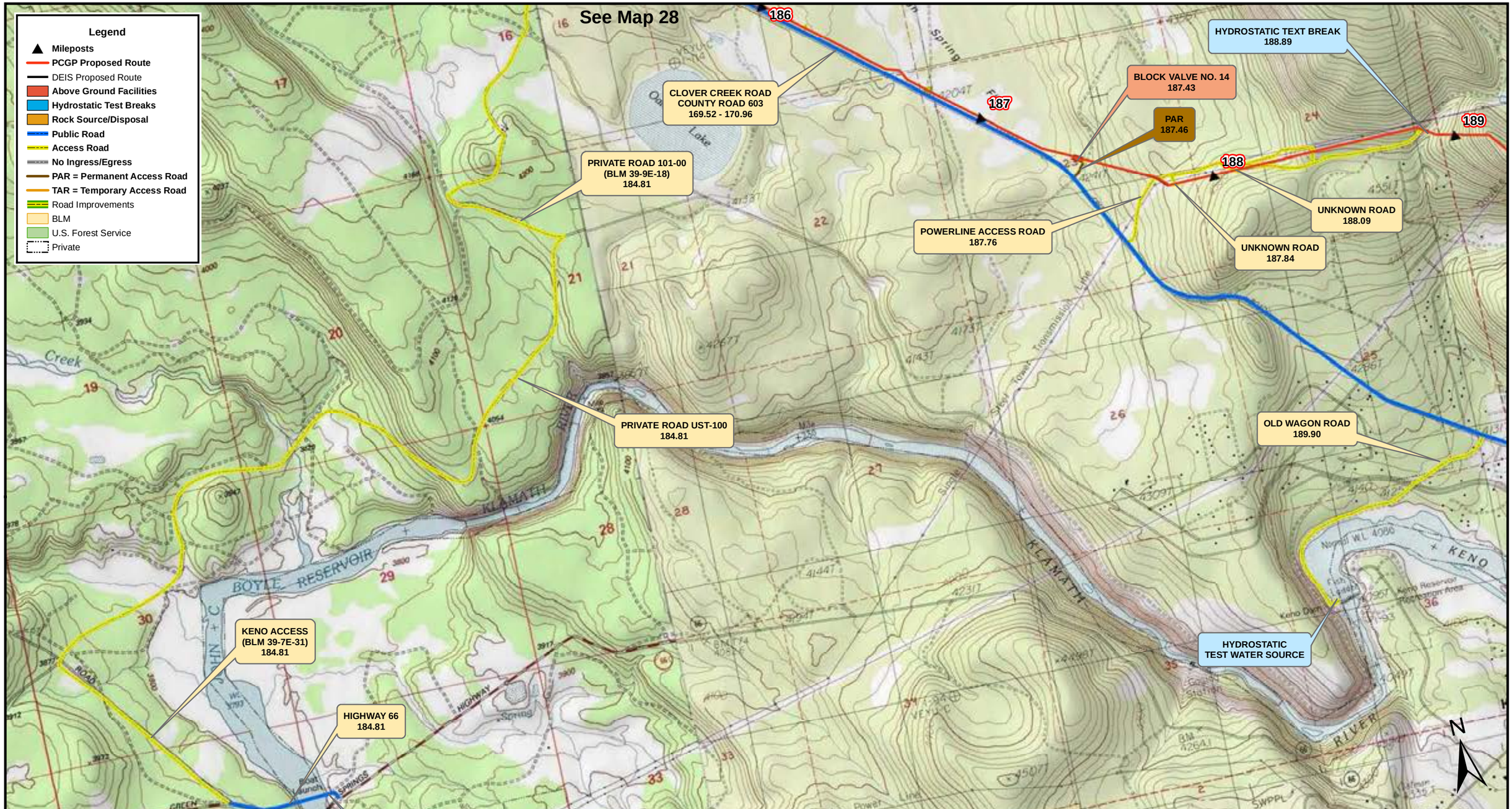
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 183.70 TO M.P. 190.40
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-028	SHEET 53 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 183.70 TO M.P. 190.40
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-028a	SHEET 54 OF 62	

190

HOMESTEAD LANE
190.75

HOMESTEAD LANE
190.80

191

STATE HIGHWAY 66
(ASHLAND-KLAMATH FALLS HIGHWAY)
192.03

KERNS SWAMP ROAD
194.52

192

194

195

196

197

198

WEYERHAEUSER CORP ROAD
197.61

WEYERHAEUSER CORP ROAD
197.61

HYDROSTATIC DISCHARGE
197.40

BLOCK VALVE NO. 15
196.53

PAR
196.53

WEYERHAEUSER CORP ROAD
197.57

WEYERHAEUSER TIMBER CO ROAD
192.57 - 197.61

HYDROSTATIC DISCHARGE
194.05

HYDROSTATIC DISCHARGE
194.50

UNKNOWN ROAD
195.14

WEYERHAEUSER TIMBER CO ROAD
192.57 - 197.61

N

Legend

- Mileposts
- PCGP Proposed Route
- DEIS Proposed Route
- Above Ground Facilities
- Hydrostatic Test Breaks
- Rock Source/Disposal
- Public Road
- Access Road
- No Ingress/Egress
- PAR = Permanent Access Road
- TAR = Temporary Access Road
- Road Improvements
- BLM
- U.S. Forest Service
- Private

0 1,000 2,000 4,000 6,000 Feet

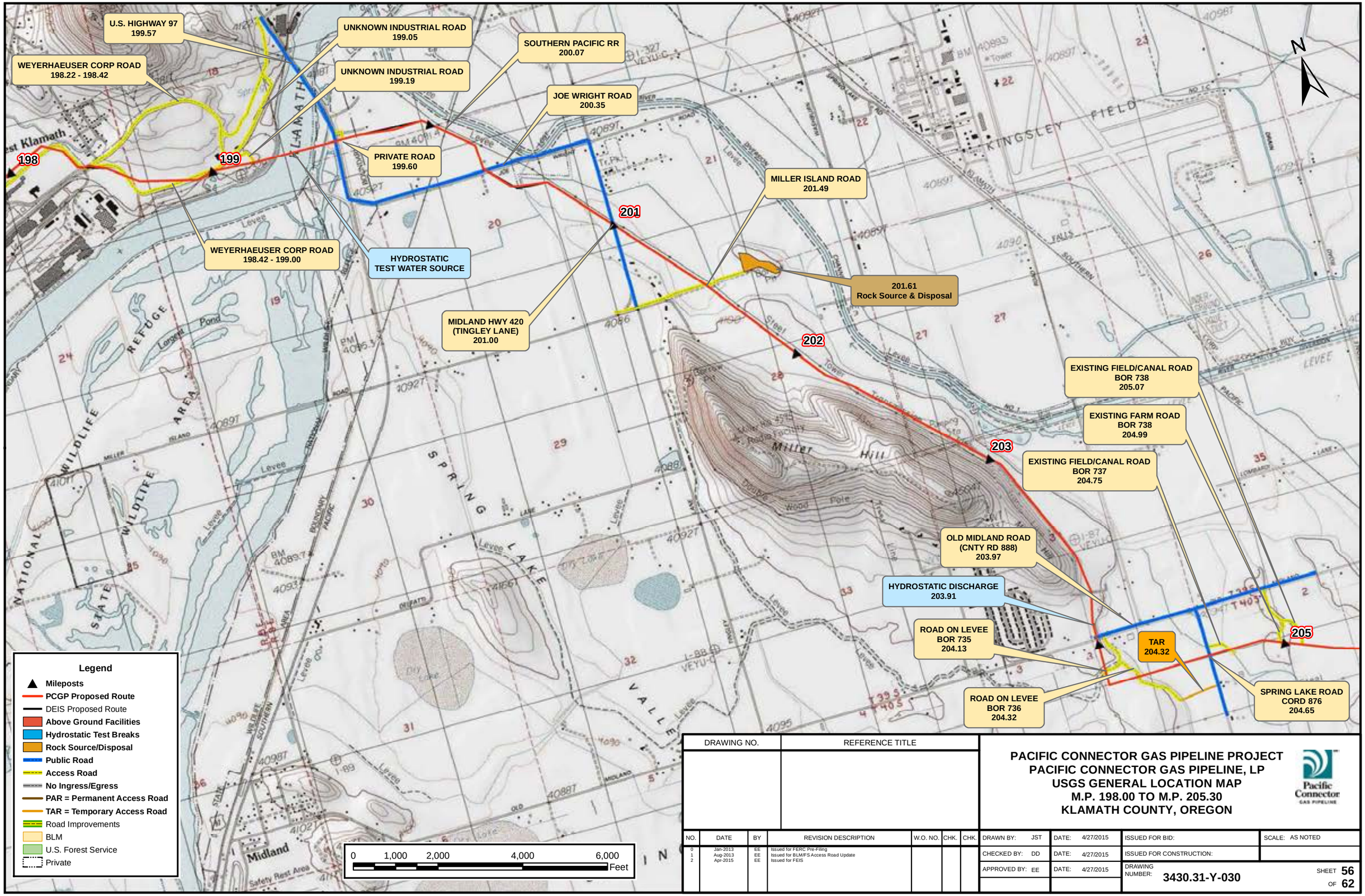
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 190.40 TO M.P. 198.10
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-029	SHEET 55 OF 62



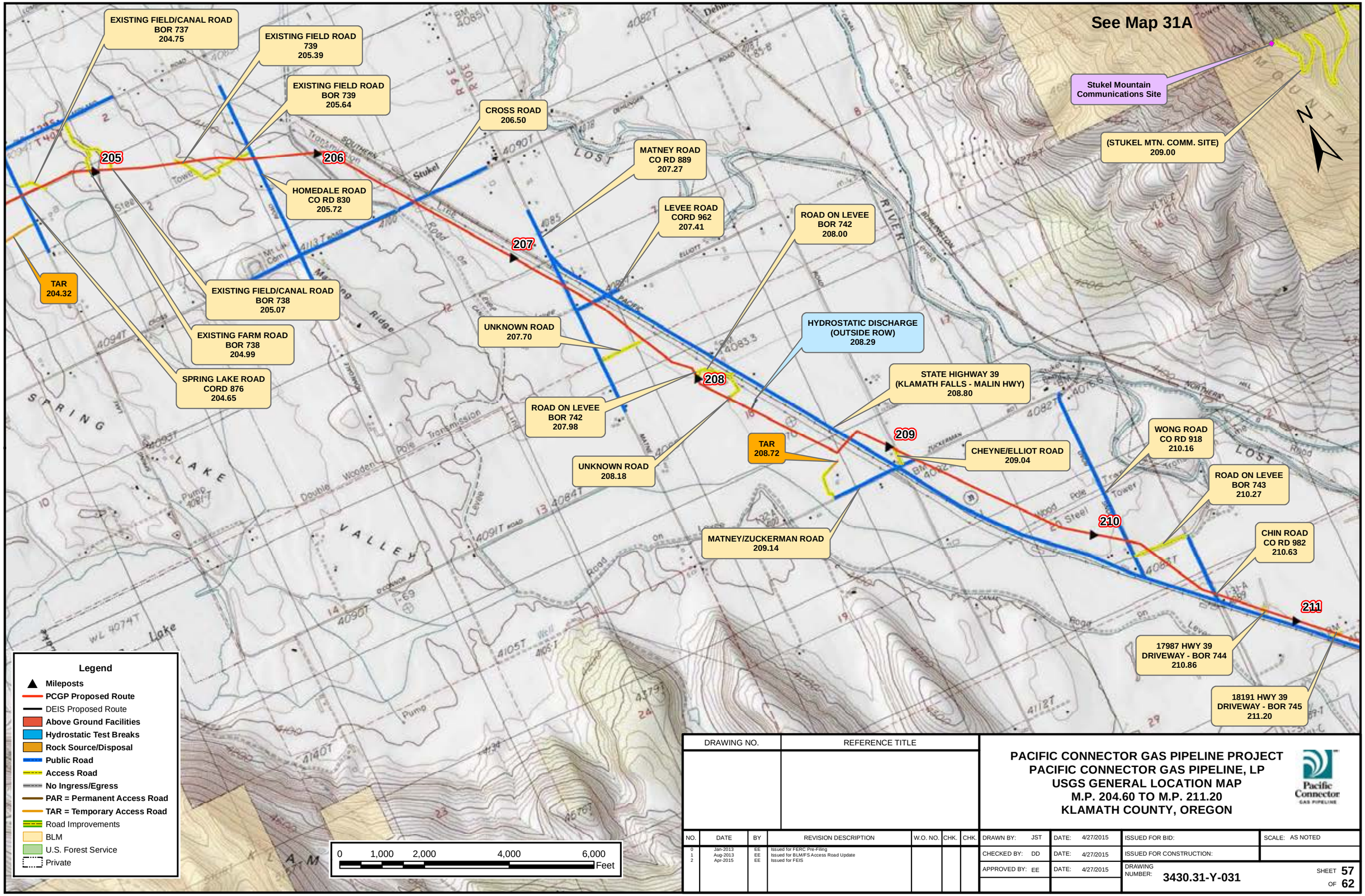
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 198.00 TO M.P. 205.30
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-030	SHEET 56 OF 62



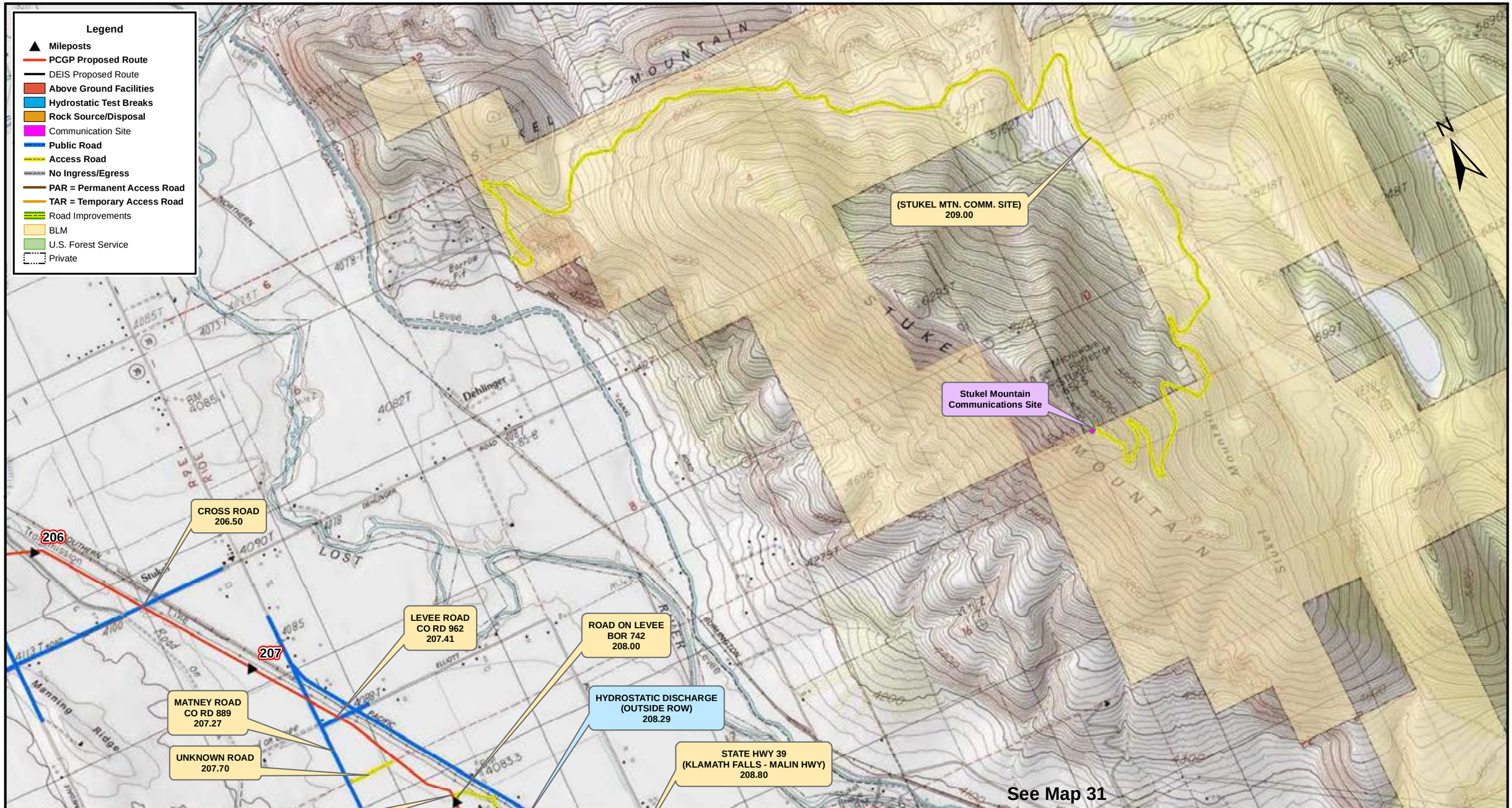
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 204.60 TO M.P. 211.20
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-031	SHEET 57 OF 62	



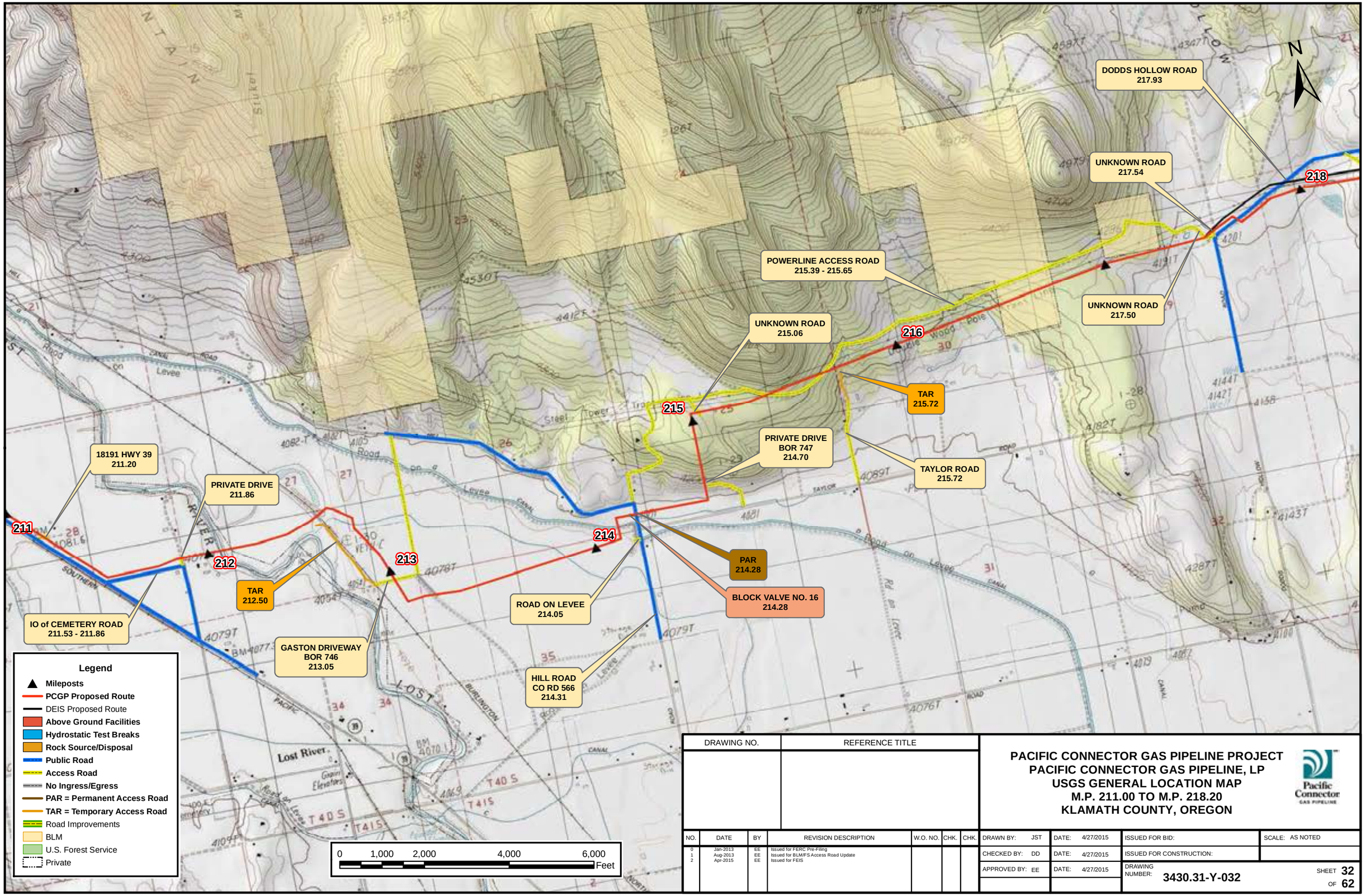
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 204.60 TO M.P. 211.20
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-031a	SHEET 58 OF 62



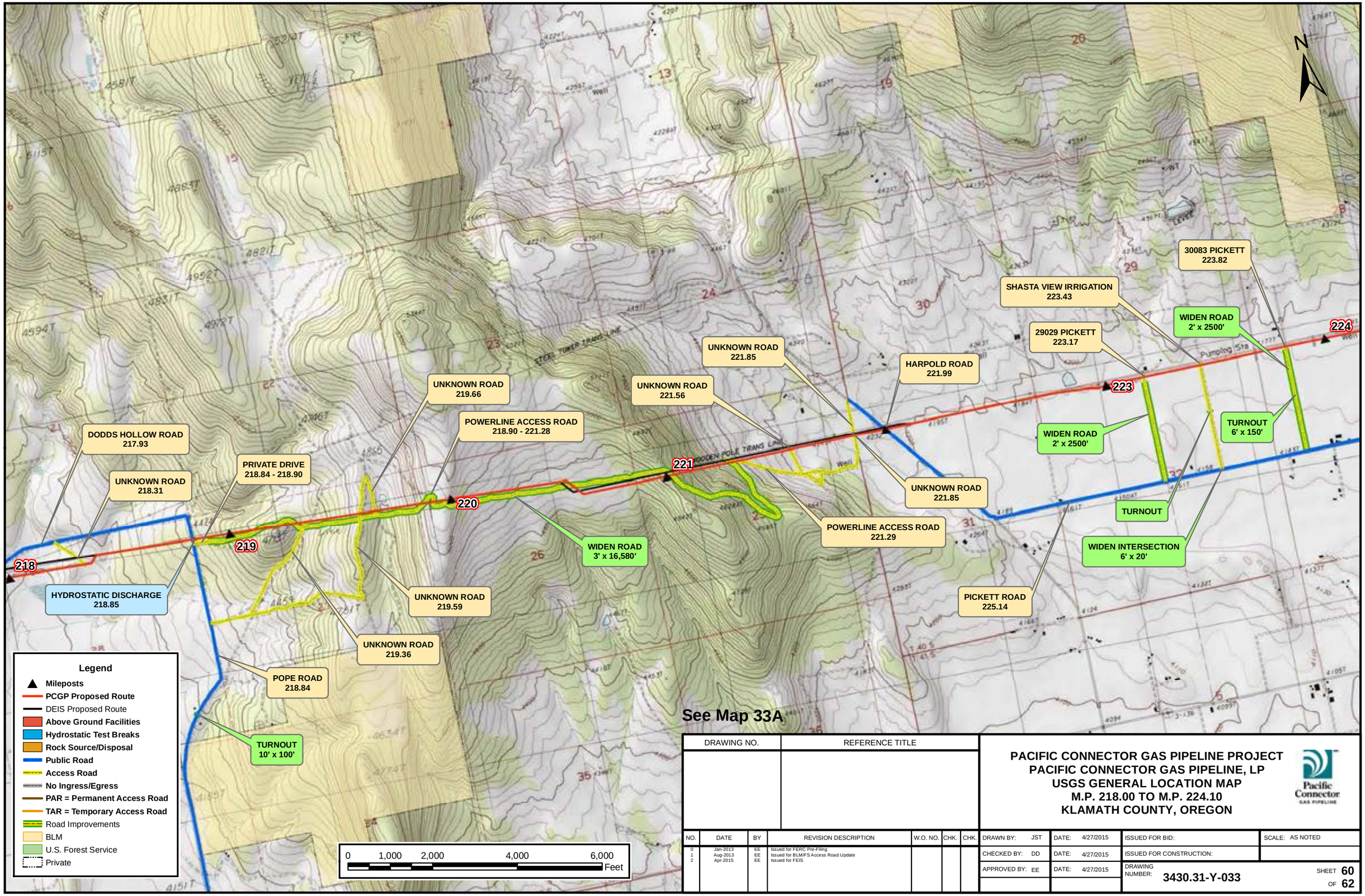
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 211.00 TO M.P. 218.20
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-032	SHEET 32 OF 62	



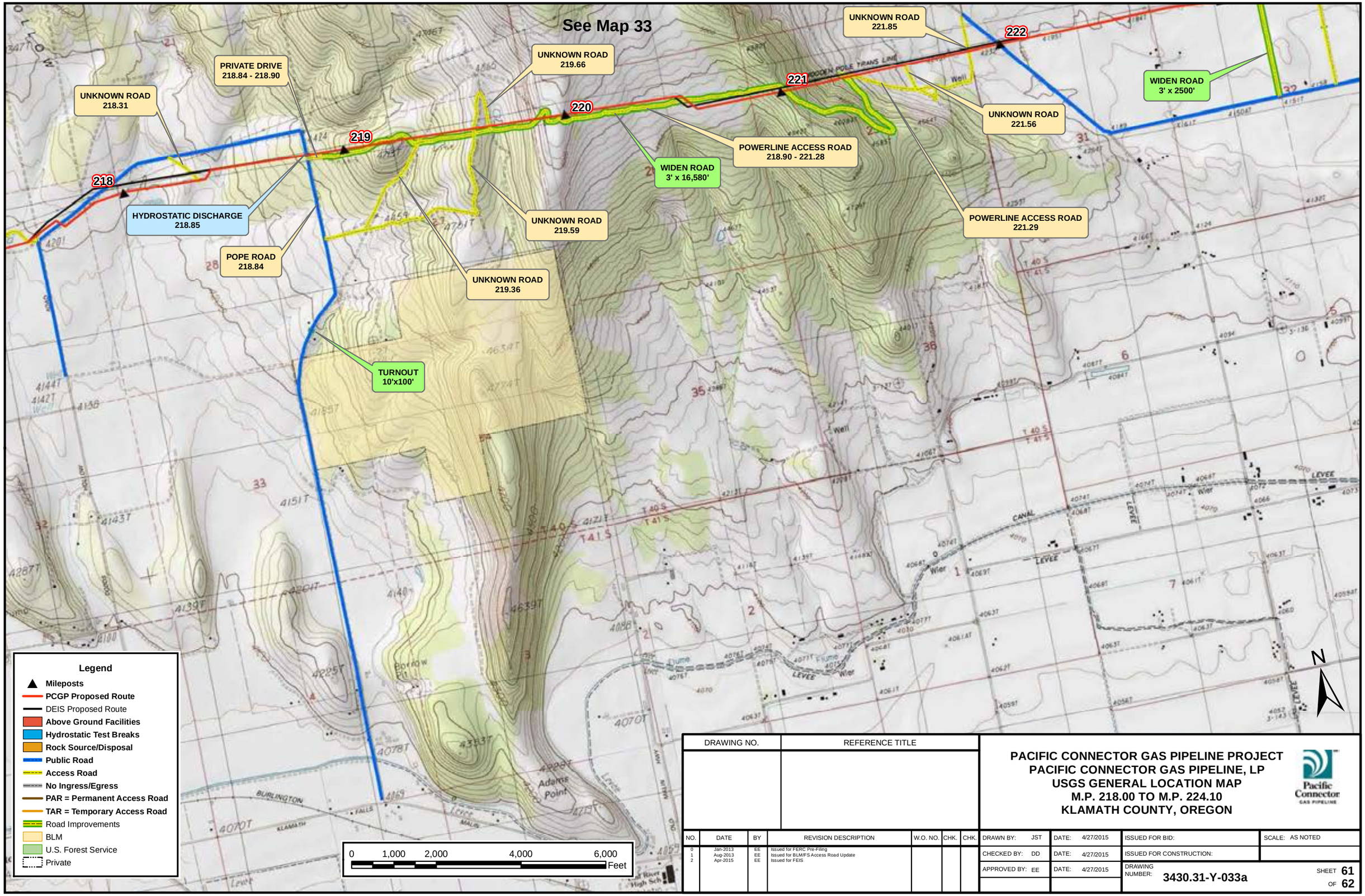
DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 218.00 TO M.P. 224.10
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:	
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-033	SHEET 60 OF 62



DRAWING NO.	REFERENCE TITLE

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 218.00 TO M.P. 224.10
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED		
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:			
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-033a	SHEET 61 OF 62		

UNKNOWN ROAD
225.92

TAR
225.46

224.95
Rock Source & Disposal

UNKNOWN ROAD
224.53

MAUPIN ROAD
225.14

WIDEN ROAD
2' x 2500'

TURNOUT
6' x 150'

30083 PICKETT
223.82

TURNOUT

SHASTA VIEW IRRIGATION
223.43

WIDEN INTERSECTION
6' x 20'

KLAMATH COMPRESSOR STATION
KLAMATH-BEAVER AND KLAMATH-EAGLE METER STATIONS
228.13

HYDROSTATIC DISCHARGE
228.13

BLOCK VALVE NO. 17
228.13

HYDROSTATIC
TEST WATER SOURCE
&
HIGHLINE CANAL/CAPEK RESERVOIR
POTENTIAL DUST CONTROL WATER SOURCE

MORE LOCK ROAD
227.88

MALIN LOOP ROAD
228.36

HYDROSTATIC
TEST WATER SOURCE

TRANSFORMER ROAD
227.03

225 226 227 228

Legend

- Mileposts
- PCGP Proposed Route
- DEIS Proposed Route
- Above Ground Facilities
- Hydrostatic Test Breaks
- Rock Source/Disposal
- Public Road
- Access Road
- No Ingress/Egress
- PAR = Permanent Access Road
- TAR = Temporary Access Road
- Road Improvements
- BLM
- U.S. Forest Service
- Private

0 1,000 2,000 4,000 6,000 Feet

DRAWING NO.	REFERENCE TITLE

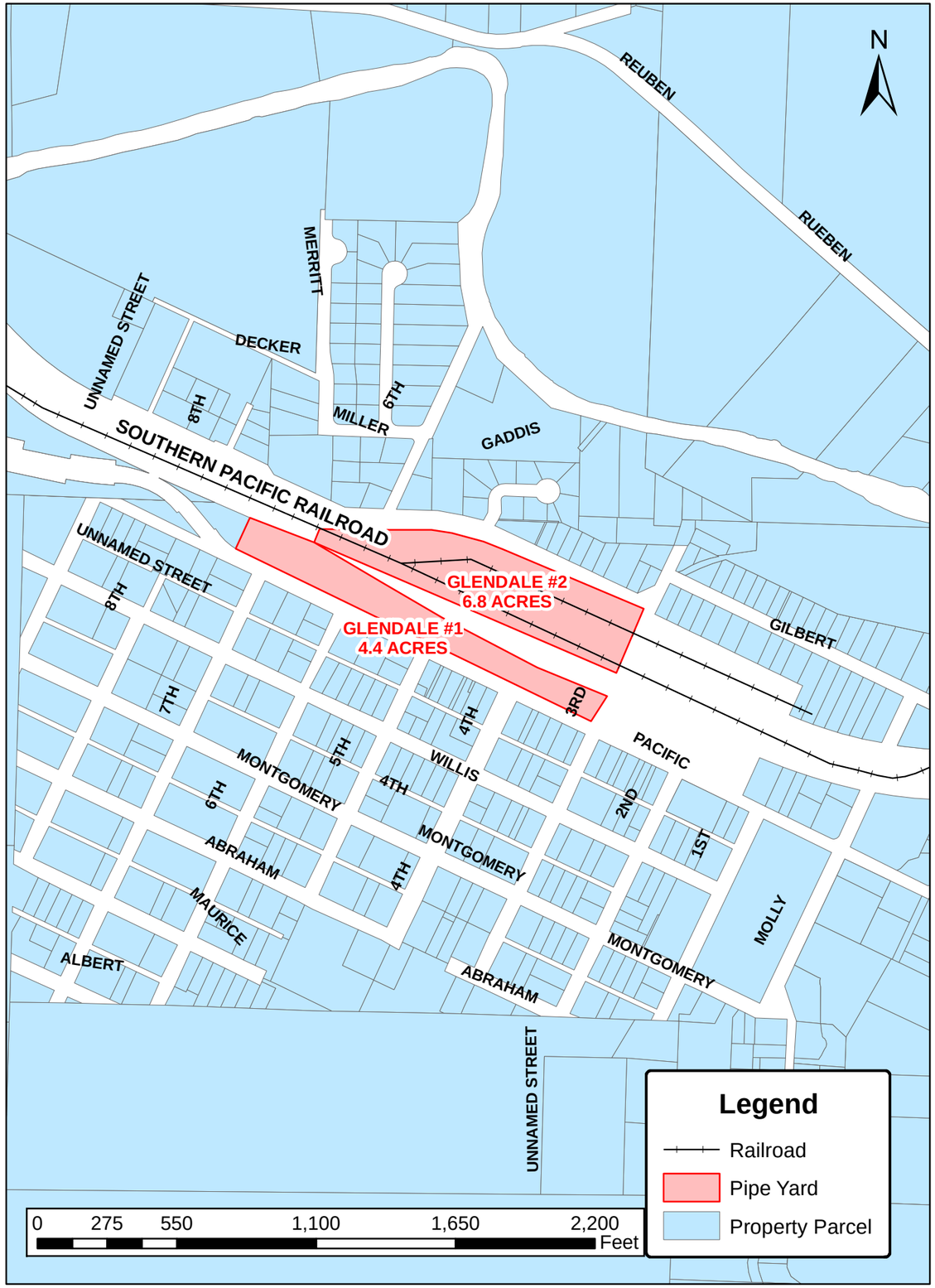
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
USGS GENERAL LOCATION MAP
M.P. 223.50 TO M.P. 230.90
KLAMATH COUNTY, OREGON

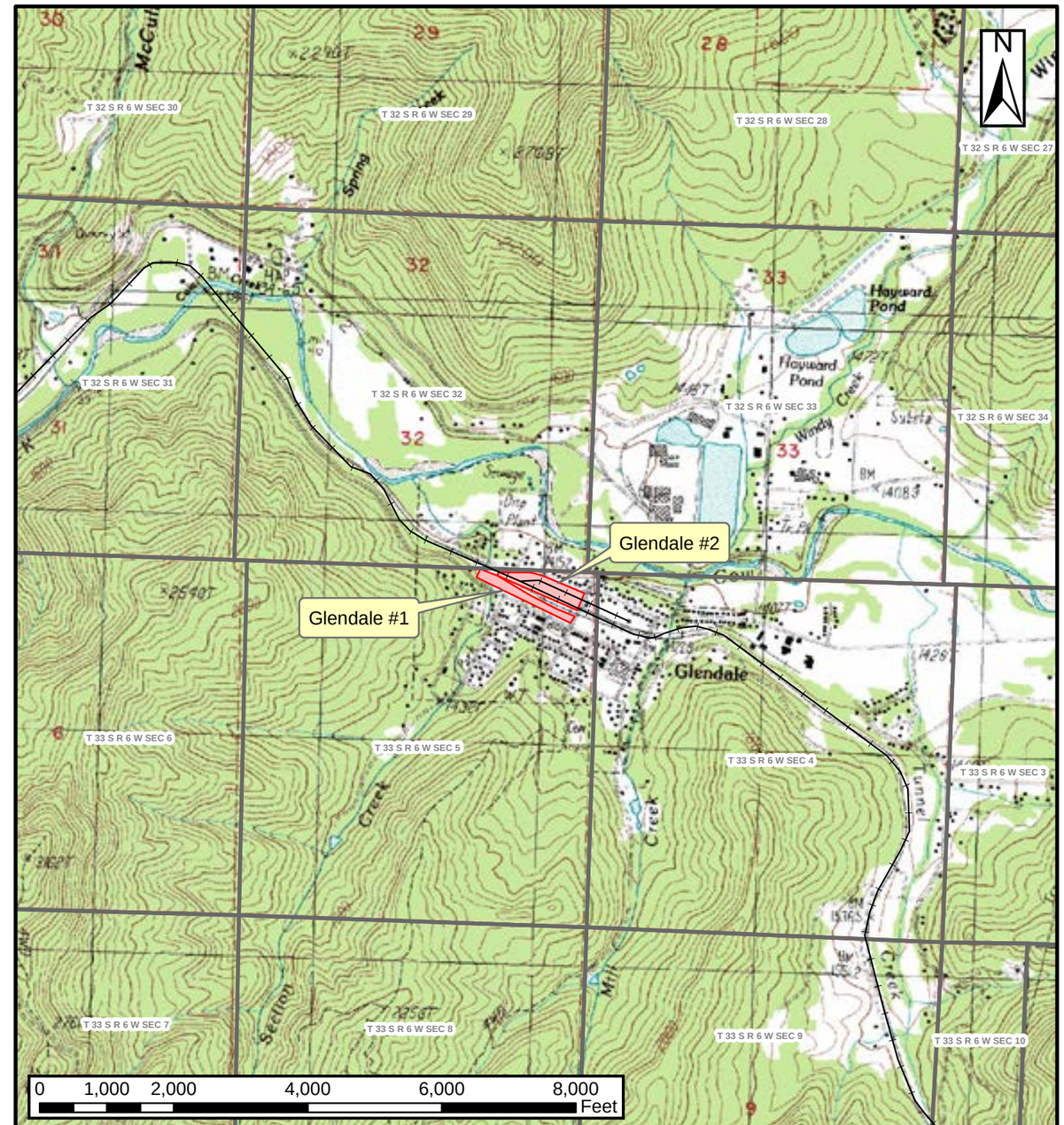
Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	CHK.
0	Jan-2013	EE	Issued for FERC Pre-Filing			
1	Aug-2013	EE	Issued for BLM/FS Access Road Update			
2	Apr-2015	EE	Issued for FEIS			

DRAWN BY: JST	DATE: 4/27/2015	ISSUED FOR BID:	SCALE: AS NOTED	
CHECKED BY: DD	DATE: 4/27/2015	ISSUED FOR CONSTRUCTION:		
APPROVED BY: EE	DATE: 4/27/2015	DRAWING NUMBER: 3430.31-Y-034	SHEET 62 OF 62	

Pipe Storage Yards for the Pacific Connector Project
Sheets 1–22





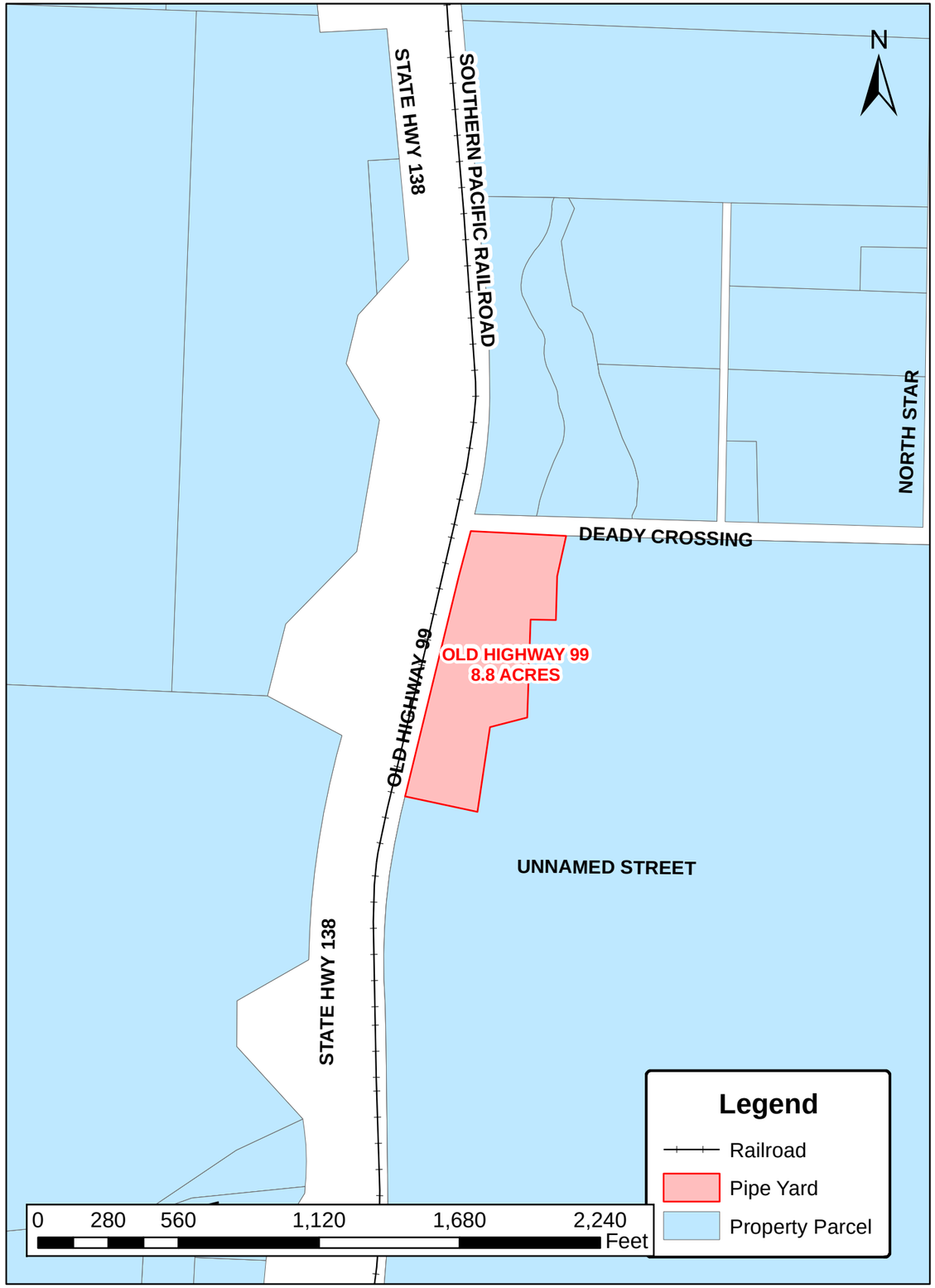
DRAWING NO.	REFERENCE TITLE
GLENDALE MCCULLOUGH CREEK	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

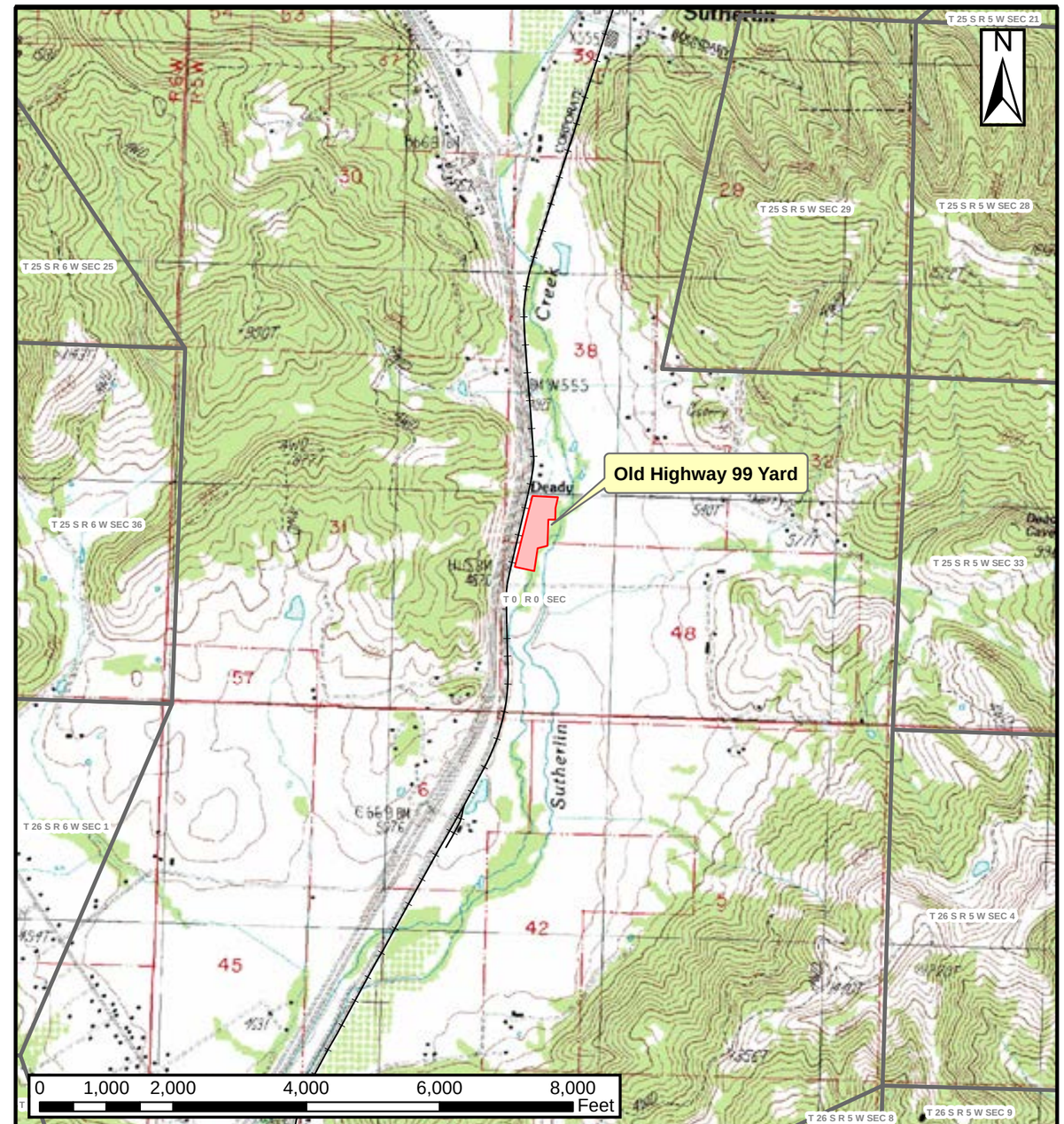
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GLENDALE 1 & 2
T-33-S, R-6-W, SECT-5
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0001	SHEET 1 OF 1





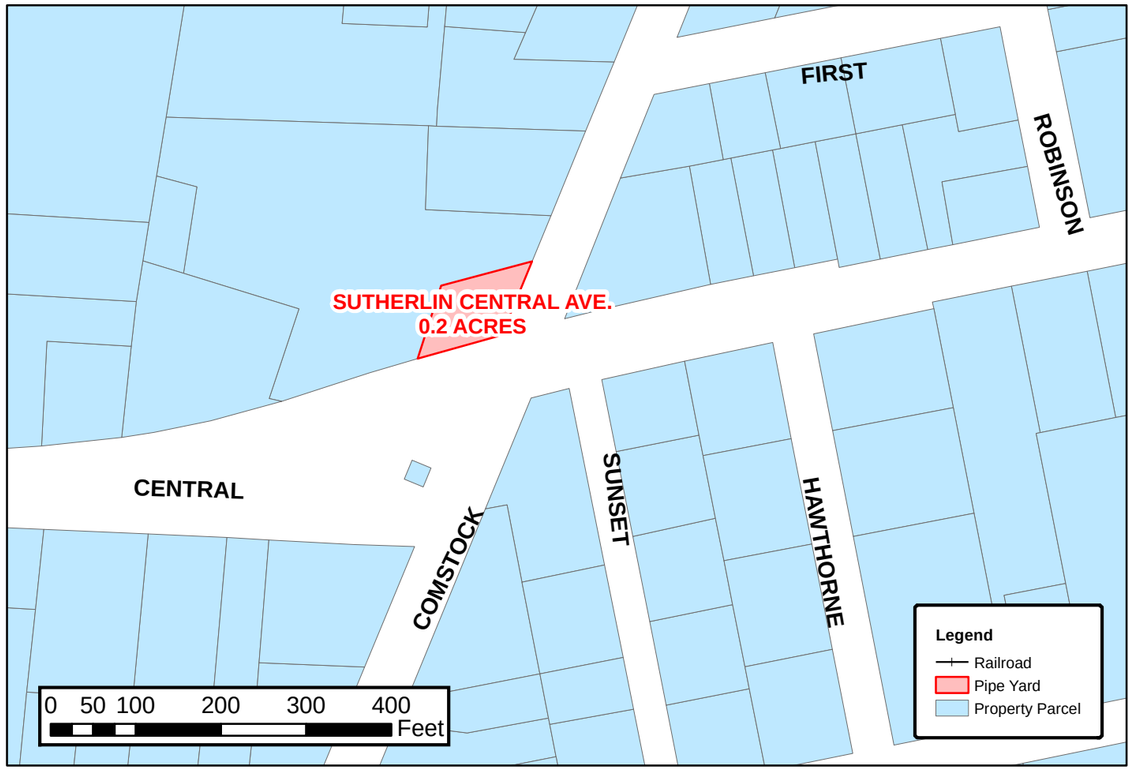
DRAWING NO.	REFERENCE TITLE
WINCHESTER	24 K/7.5 MIN TOPO QUAD

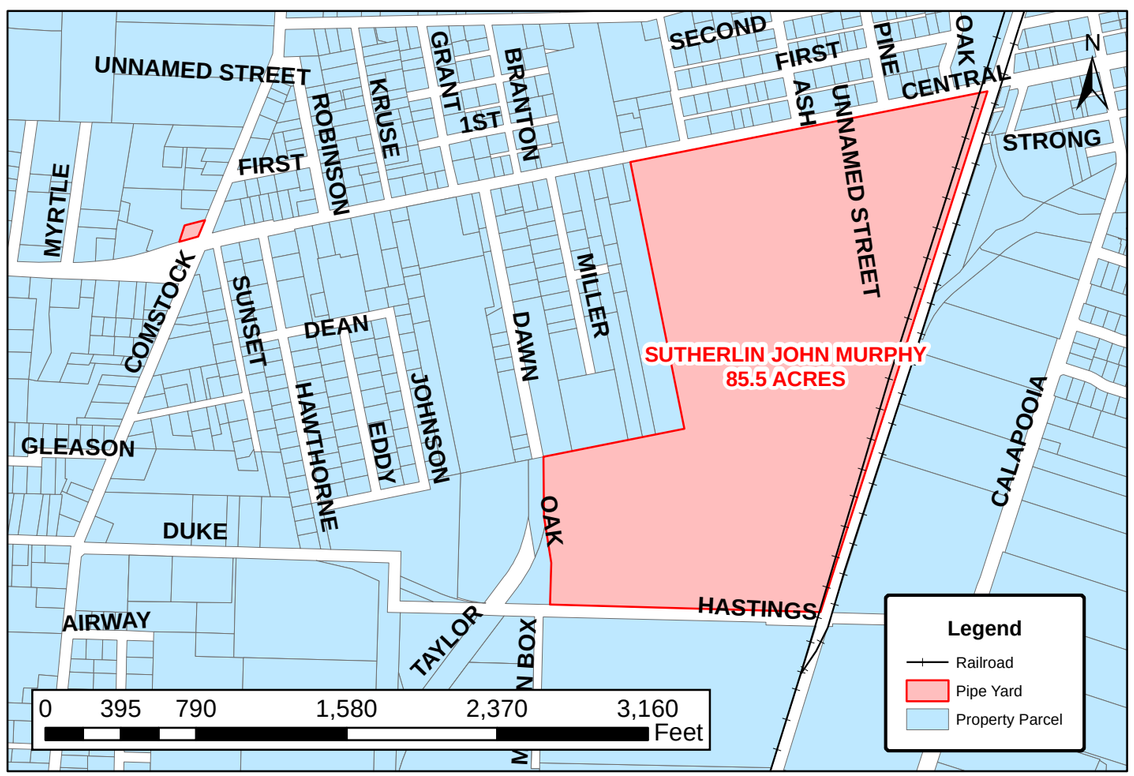
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
OLD HIGHWAY 99
T-25-S, R-5-W
DOUGLAS COUNTY, OREGON

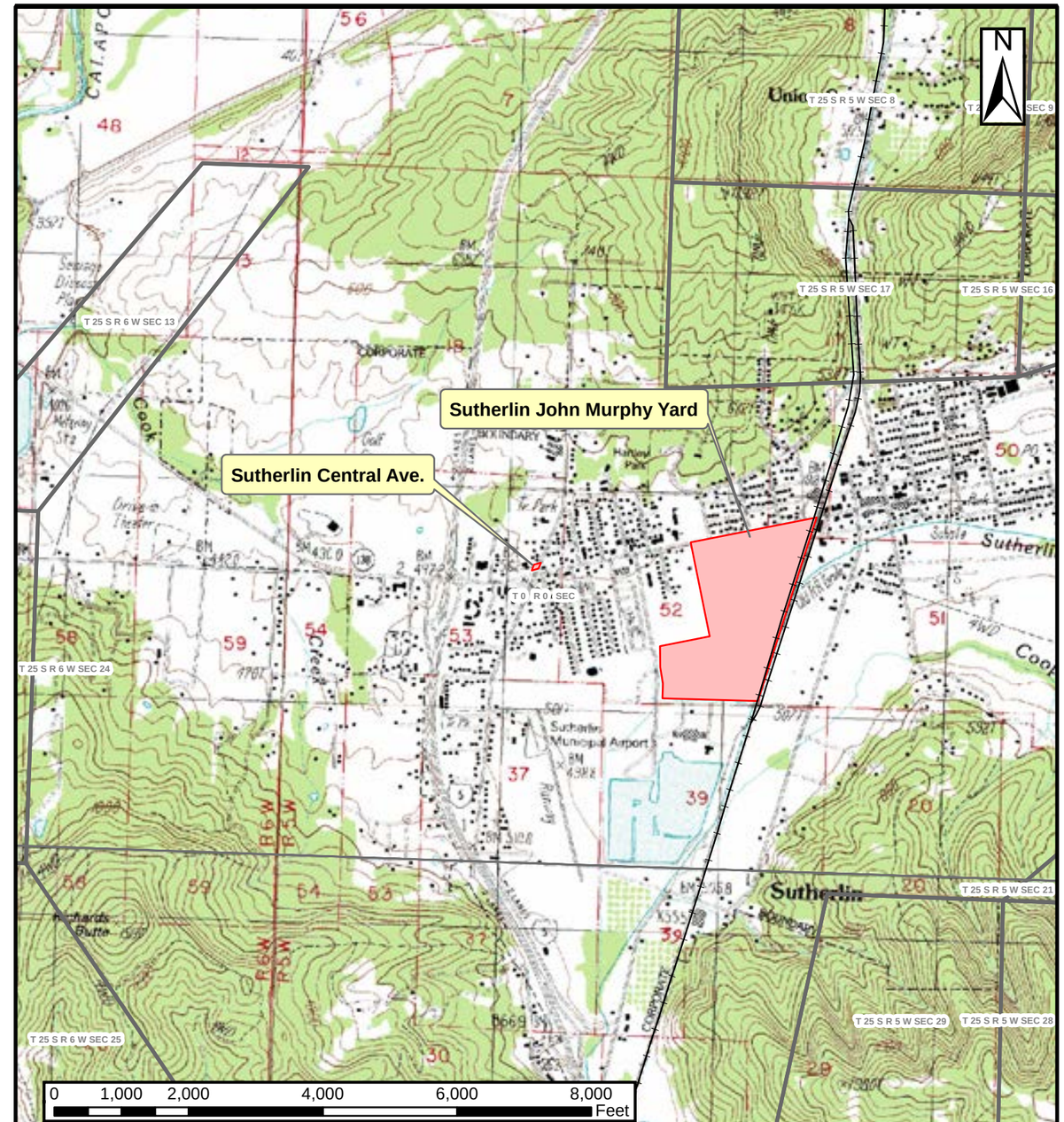
Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0002	SHEET 1 OF 1







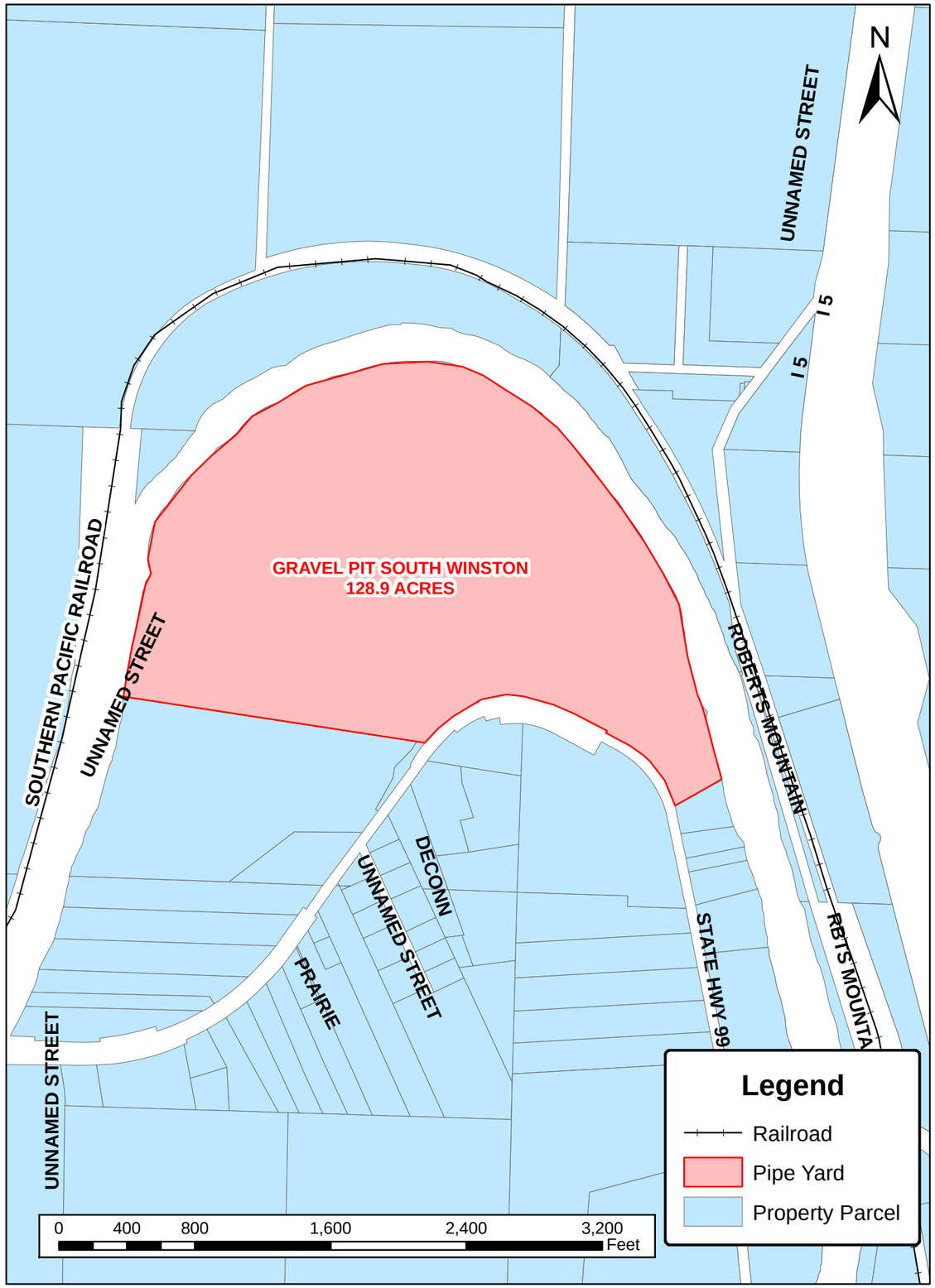
DRAWING NO.	REFERENCE TITLE
WINCHESTER	24 K/7.5 MIN TOPO QUAD
SUTHERLIN	24 K/7.5 MIN TOPO QUAD

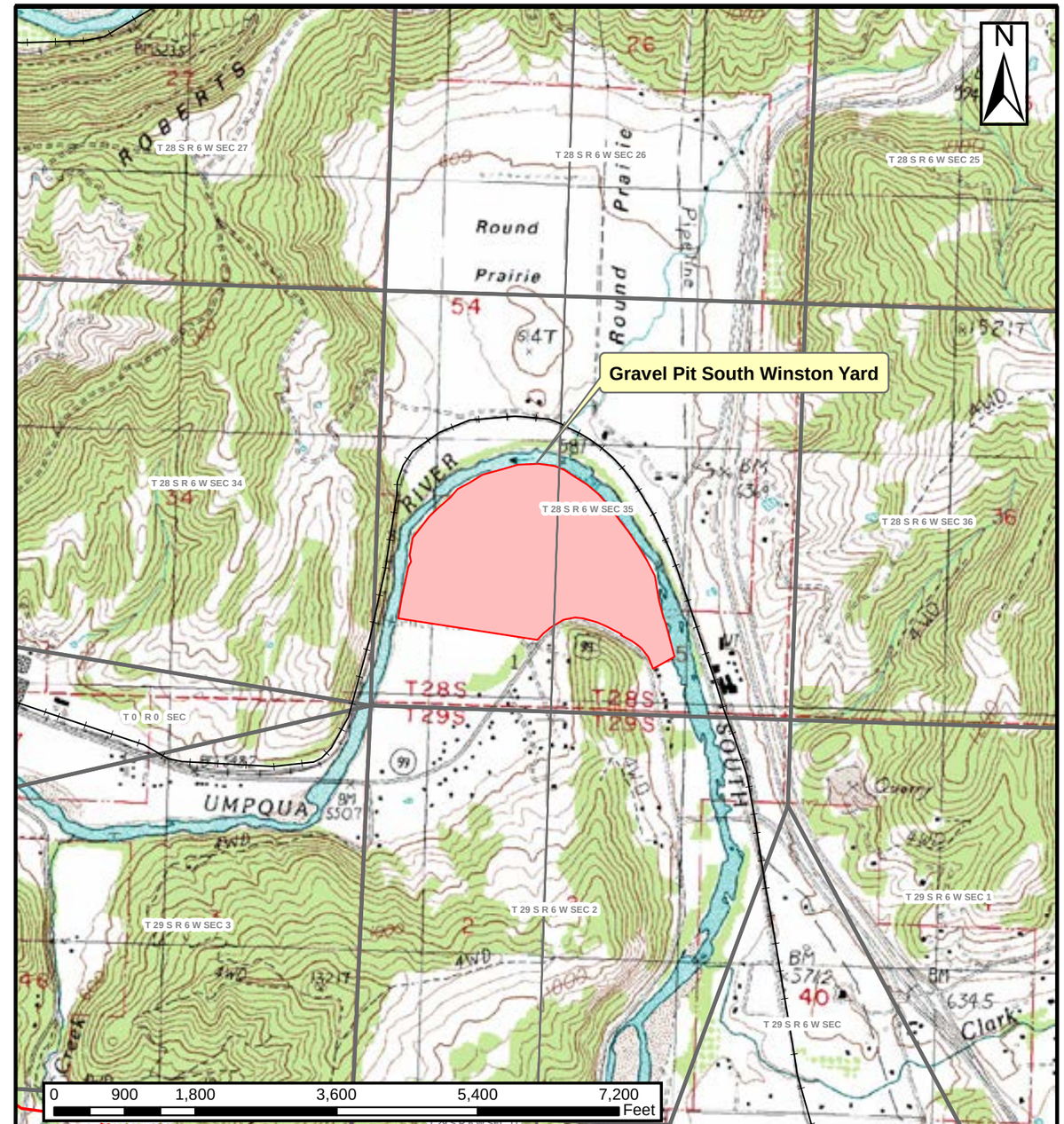
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
SUTHERLIN JOHN MURPHY & CENTRAL AVE
T-25-S, R-5-W, (130-02)
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0003	SHEET 1 OF 1





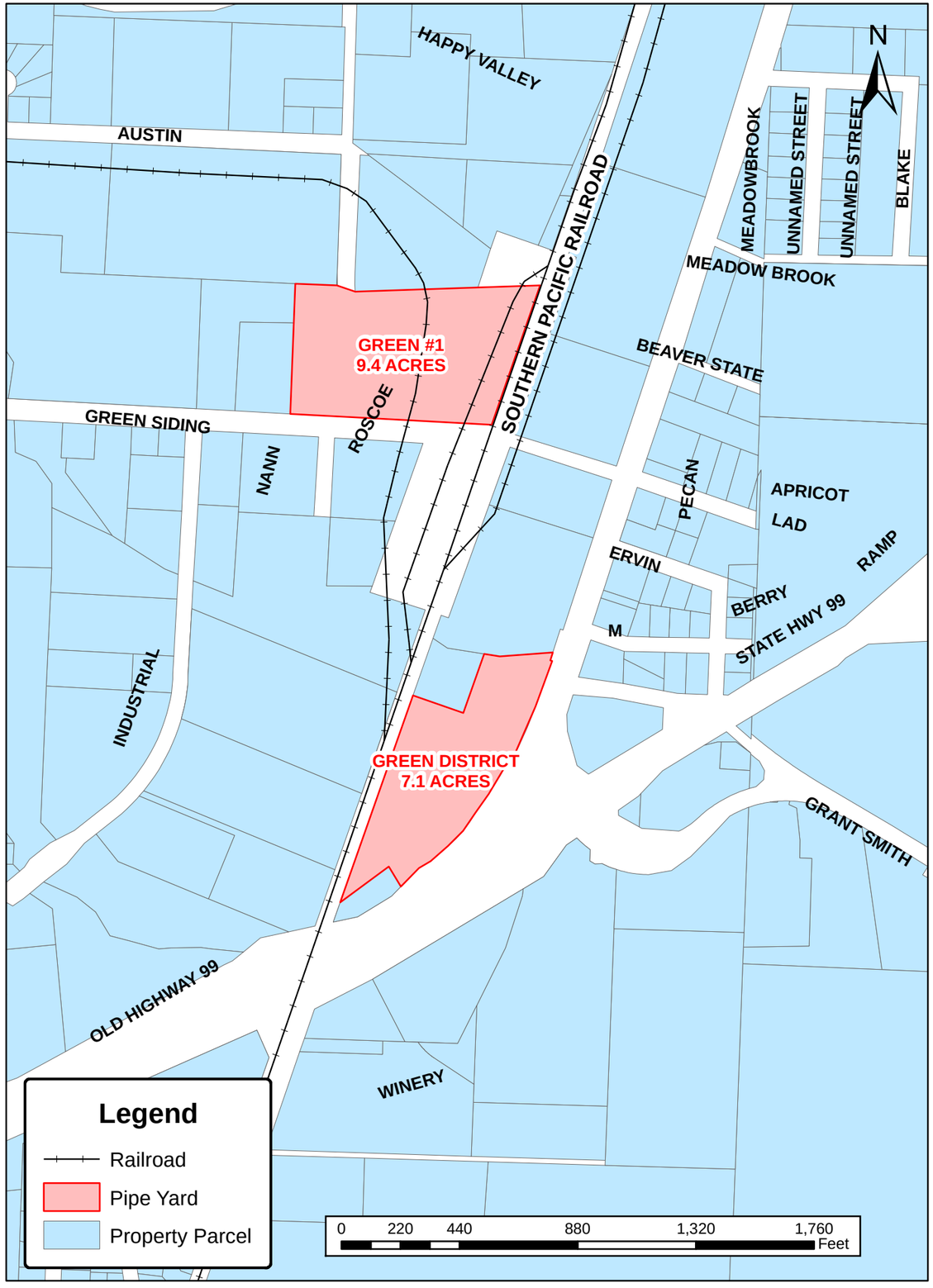
DRAWING NO.	REFERENCE TITLE
MYRTLE CREEK WINSTON	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

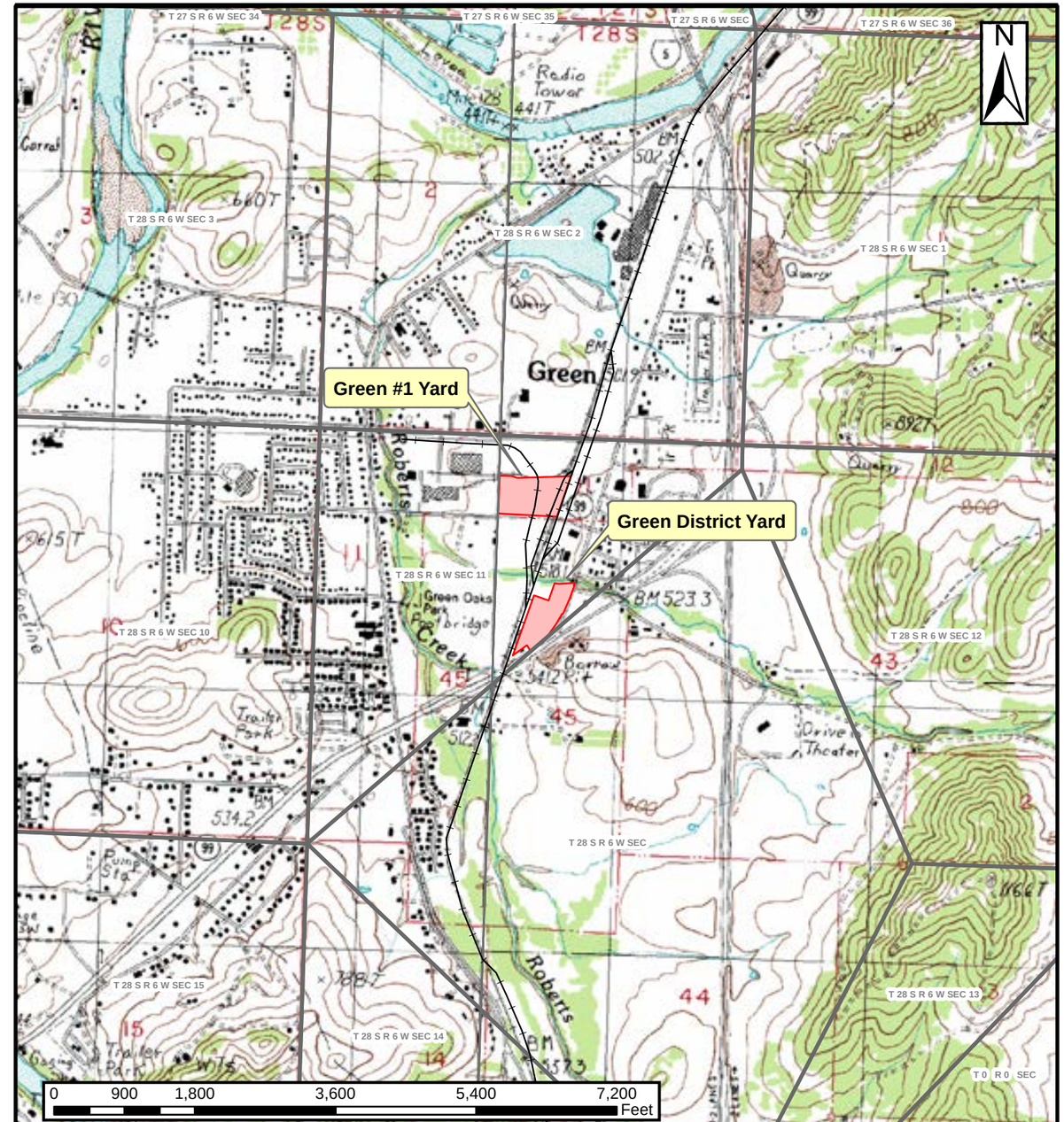
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GRAVEL PIT SOUTH WINSTON
T-28-S, R-6-W, SECT-35
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0005	SHEET 1 OF 1





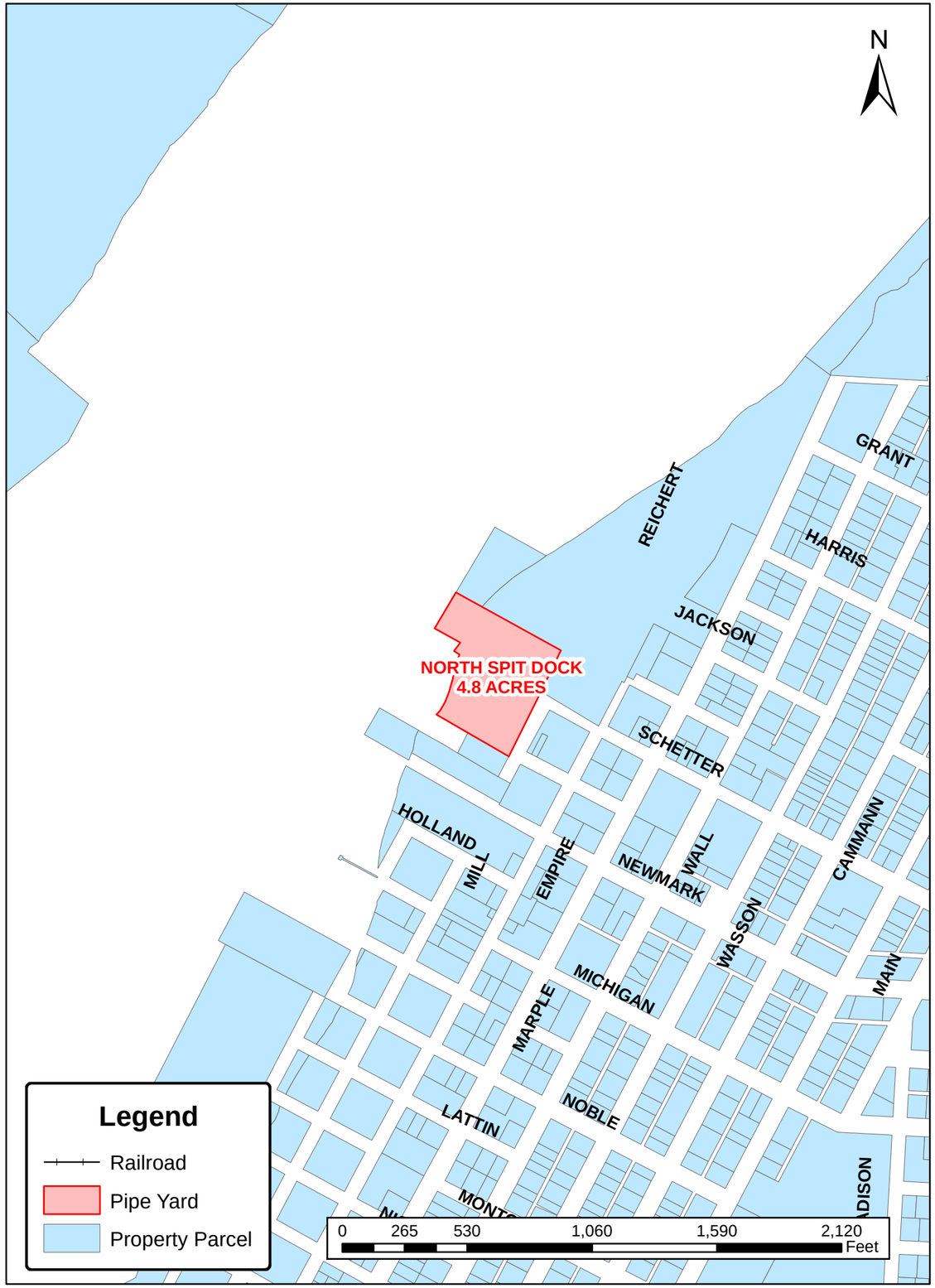
DRAWING NO.	REFERENCE TITLE
ROSEBURG WEST	24 K/7.5 MIN TOPO QUAD
ROSEBURG EAST	24 K/7.5 MIN TOPO QUAD

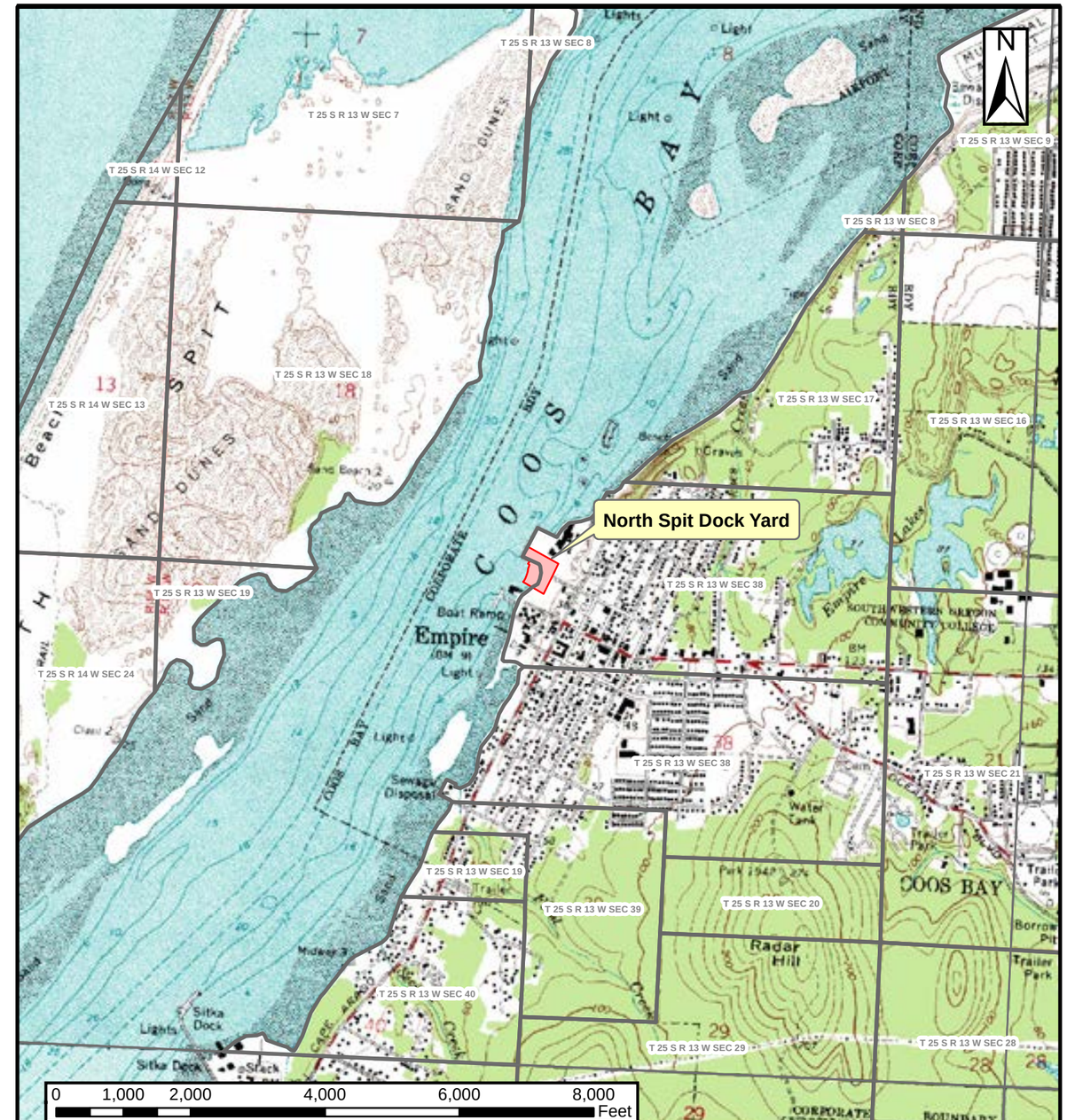
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GREEN #1 & GREEN DISTRICT
T-28-S, R-6-W, SECT-11
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0006	SHEET 1 OF 1





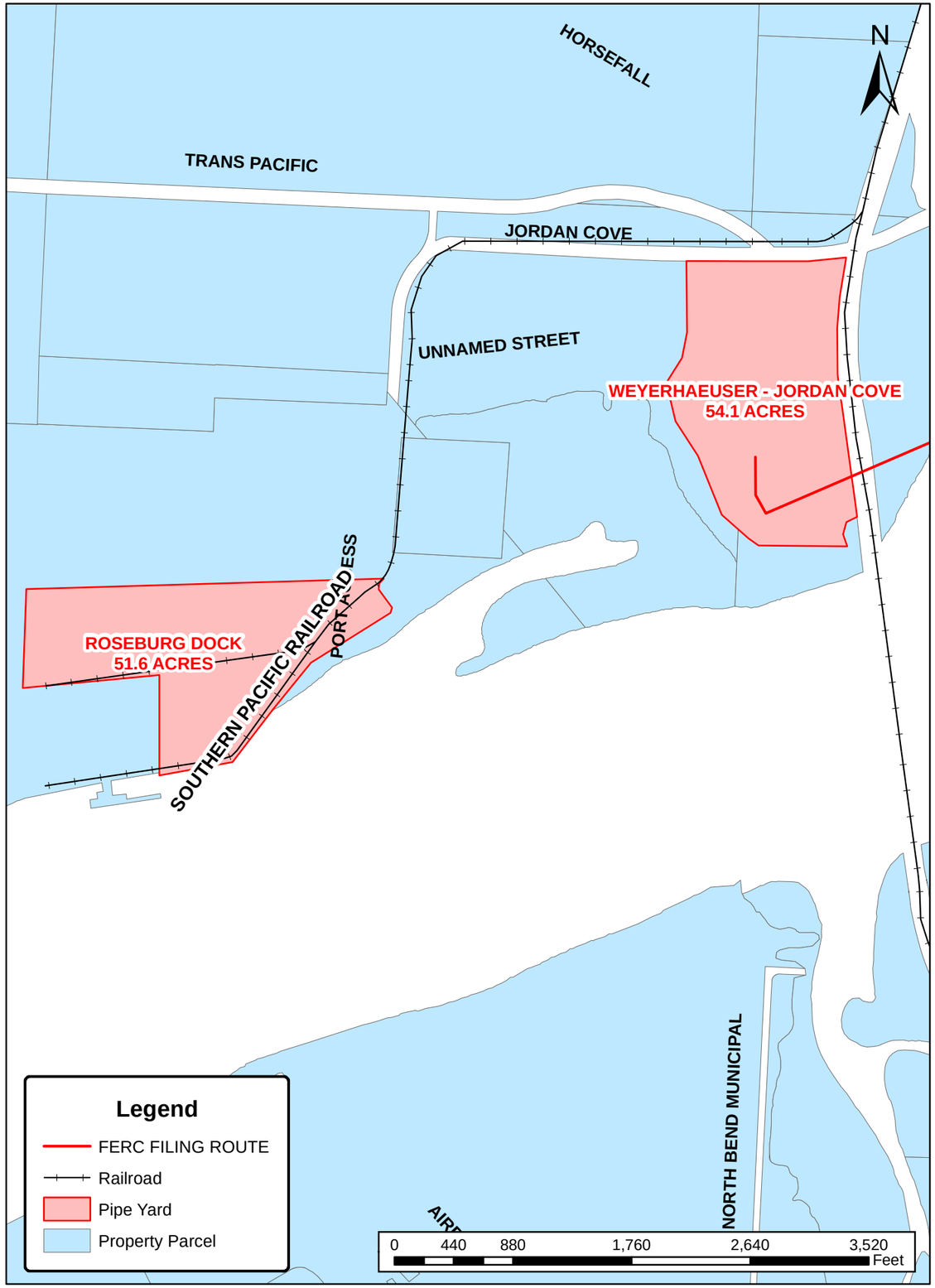
DRAWING NO.	REFERENCE TITLE
EMPIRE CHARLESTON NORTH BEND COOS BAY	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

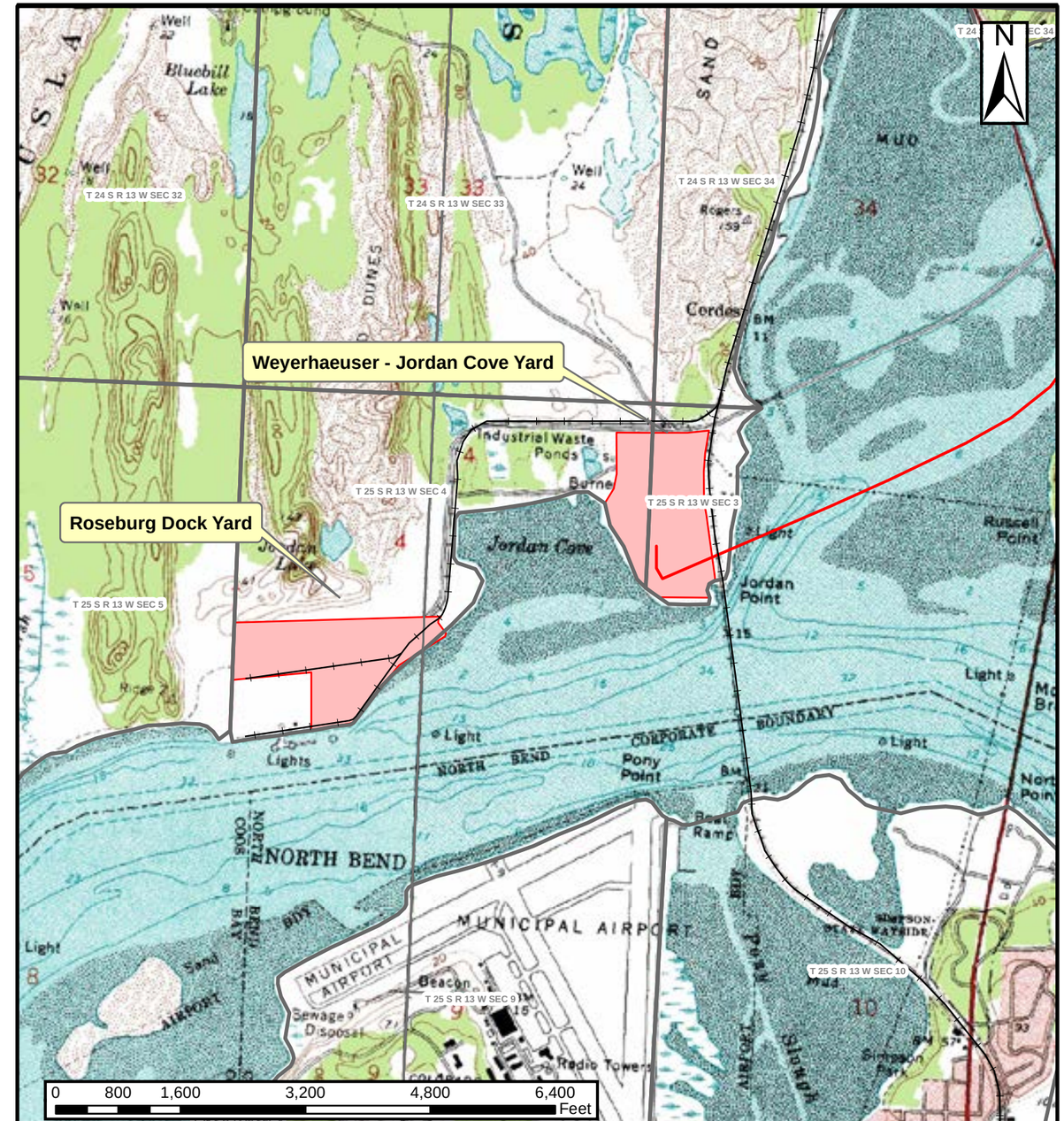
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
NORTH SPIT DOCK
T-25-S, R-13-W, SECT-38
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0007	SHEET 1 OF 1





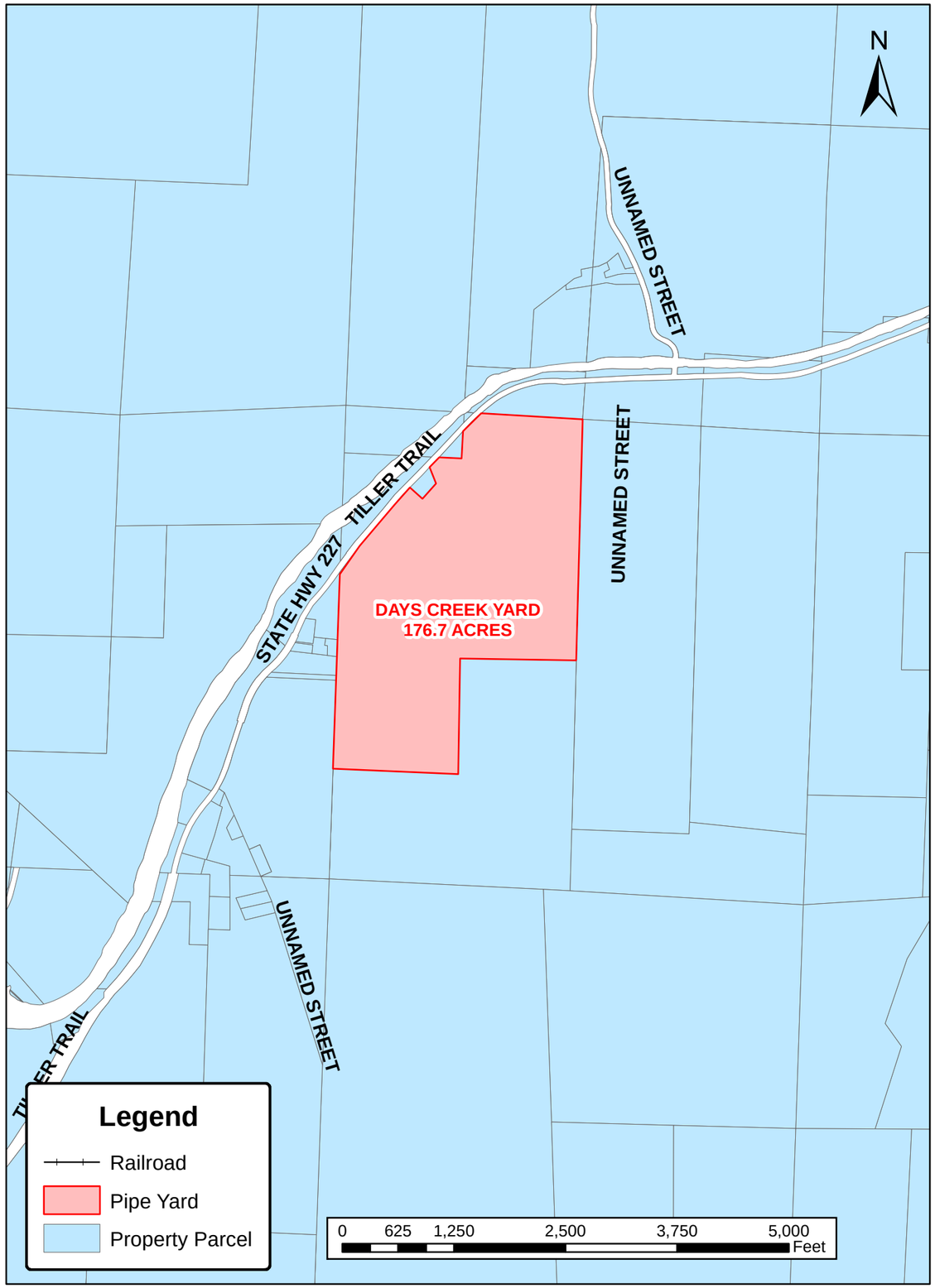
DRAWING NO.	REFERENCE TITLE
EMPIRE NORTH BEND	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

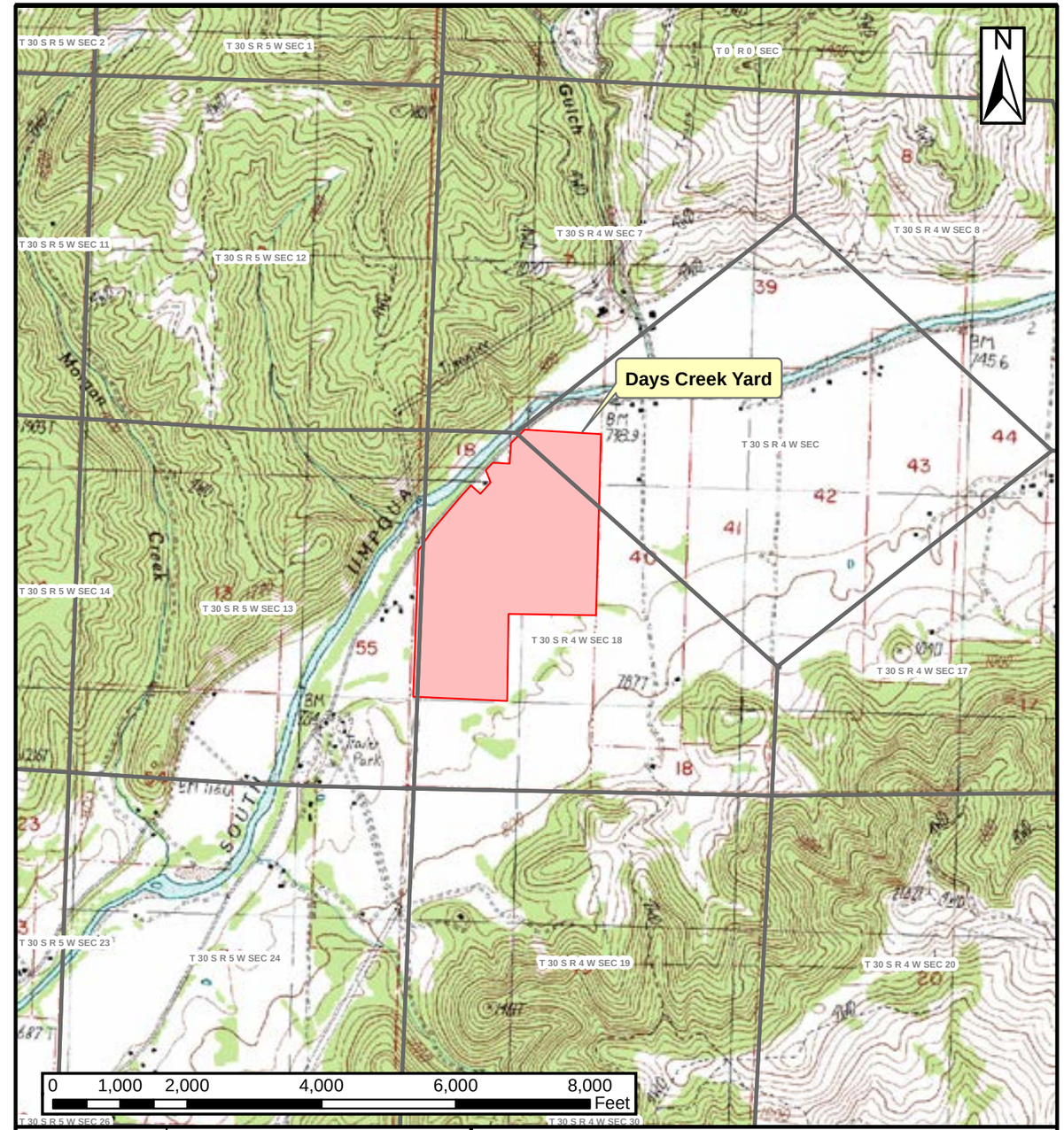
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
ROSEBURG DOCK & WEYERHAUSER-JORDAN COVE
T-25-S, R-13-W, SECT-3 & 4
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0008	SHEET 1 OF 1





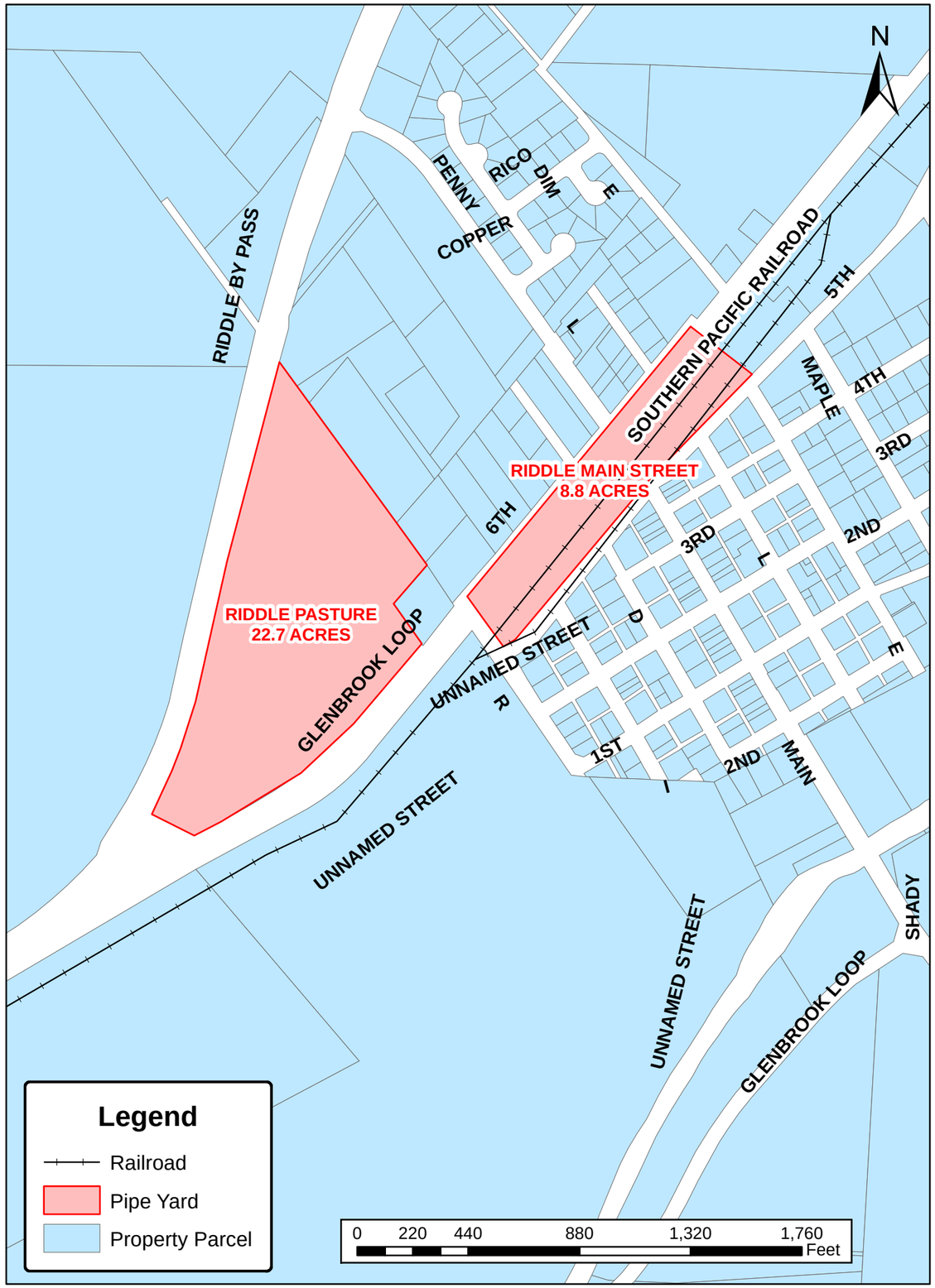
DRAWING NO.	REFERENCE TITLE
DAYS CREEK	24 K/7.5 MIN TOPO QUAD

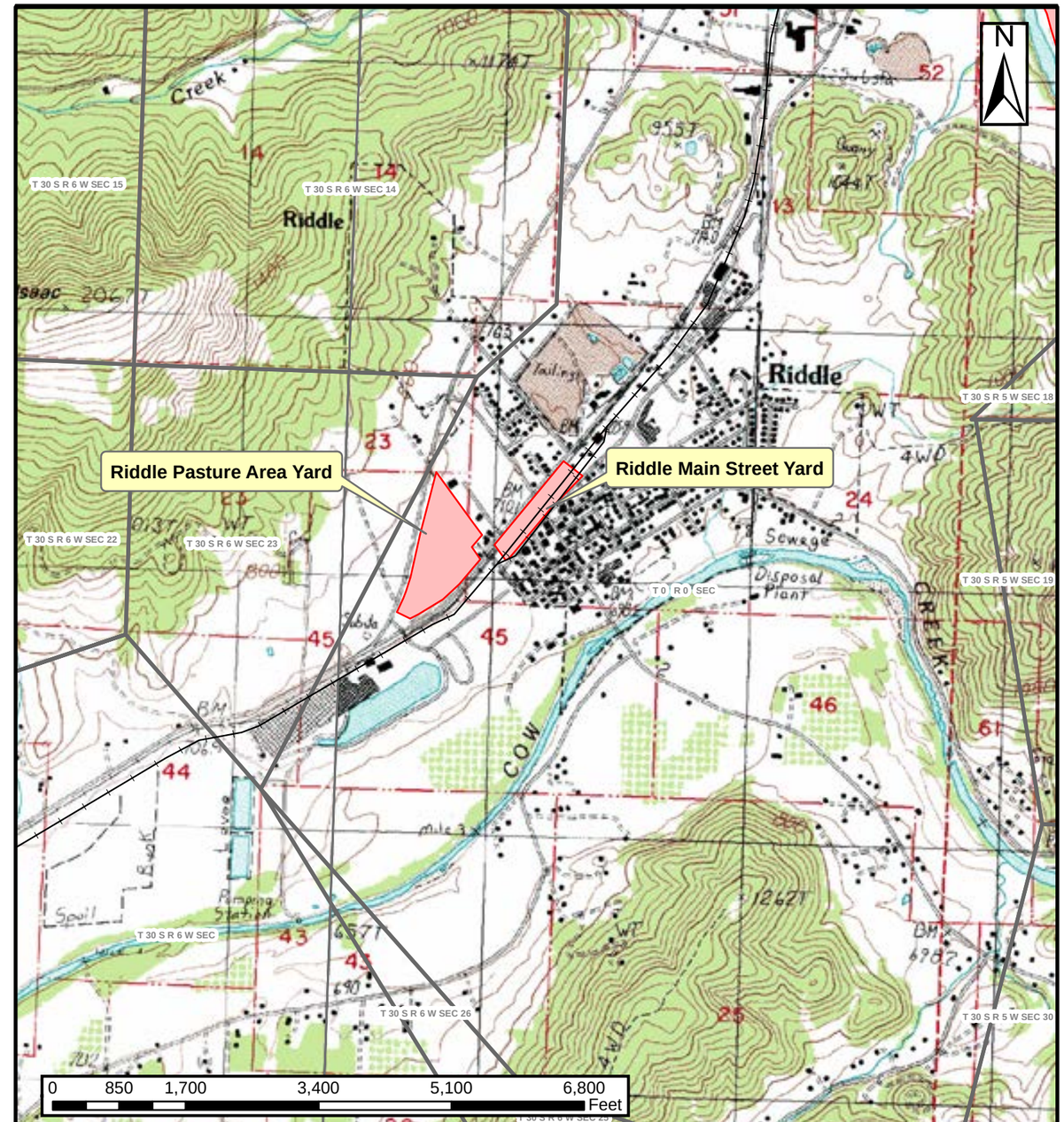
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
DAYS CREEK
T-30-S, R-4-W, SECT- 18
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0009	SHEET 1 OF 1





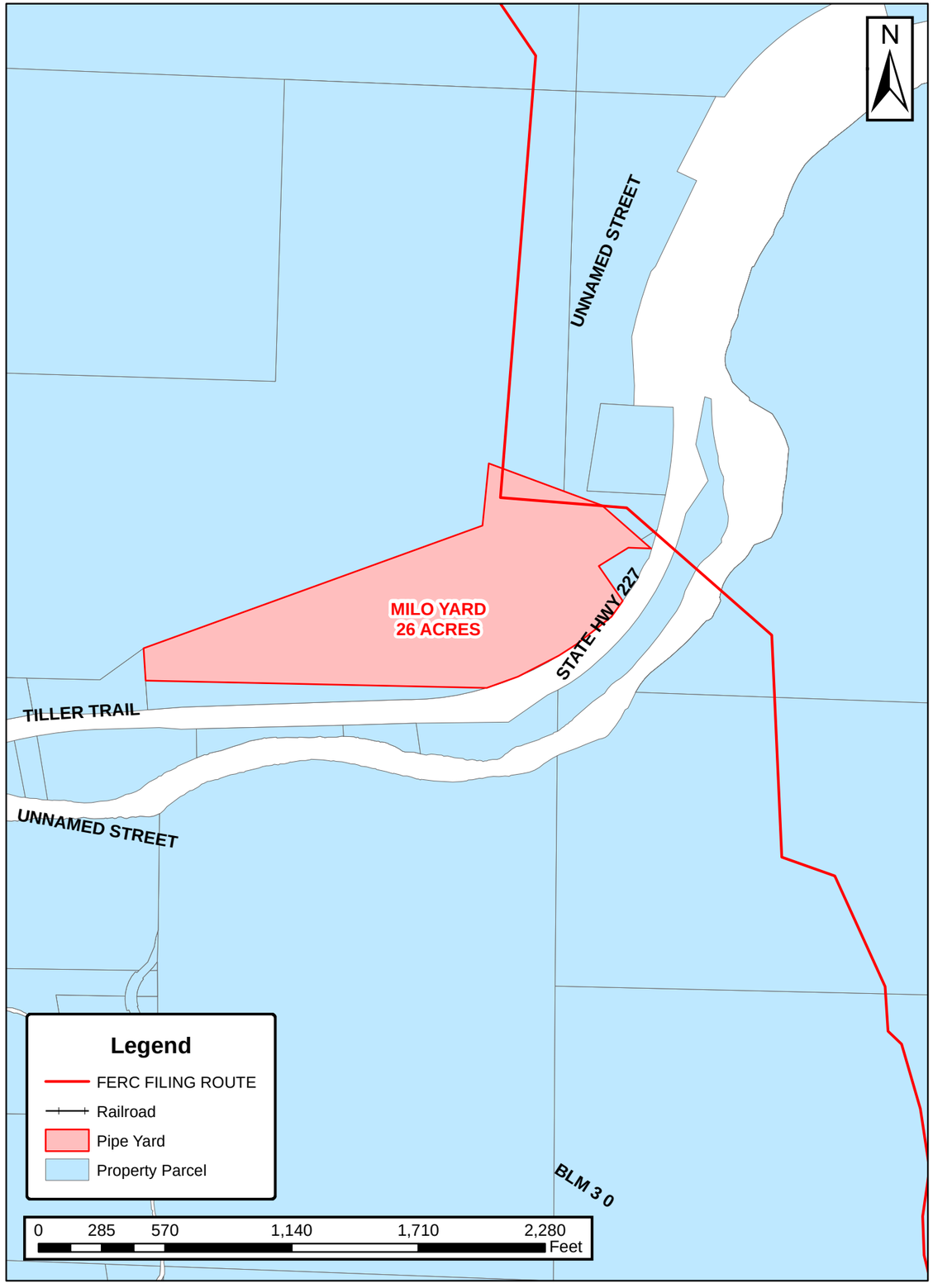
DRAWING NO.	REFERENCE TITLE
NICKLE MOUNTAIN CANYONVILLE	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

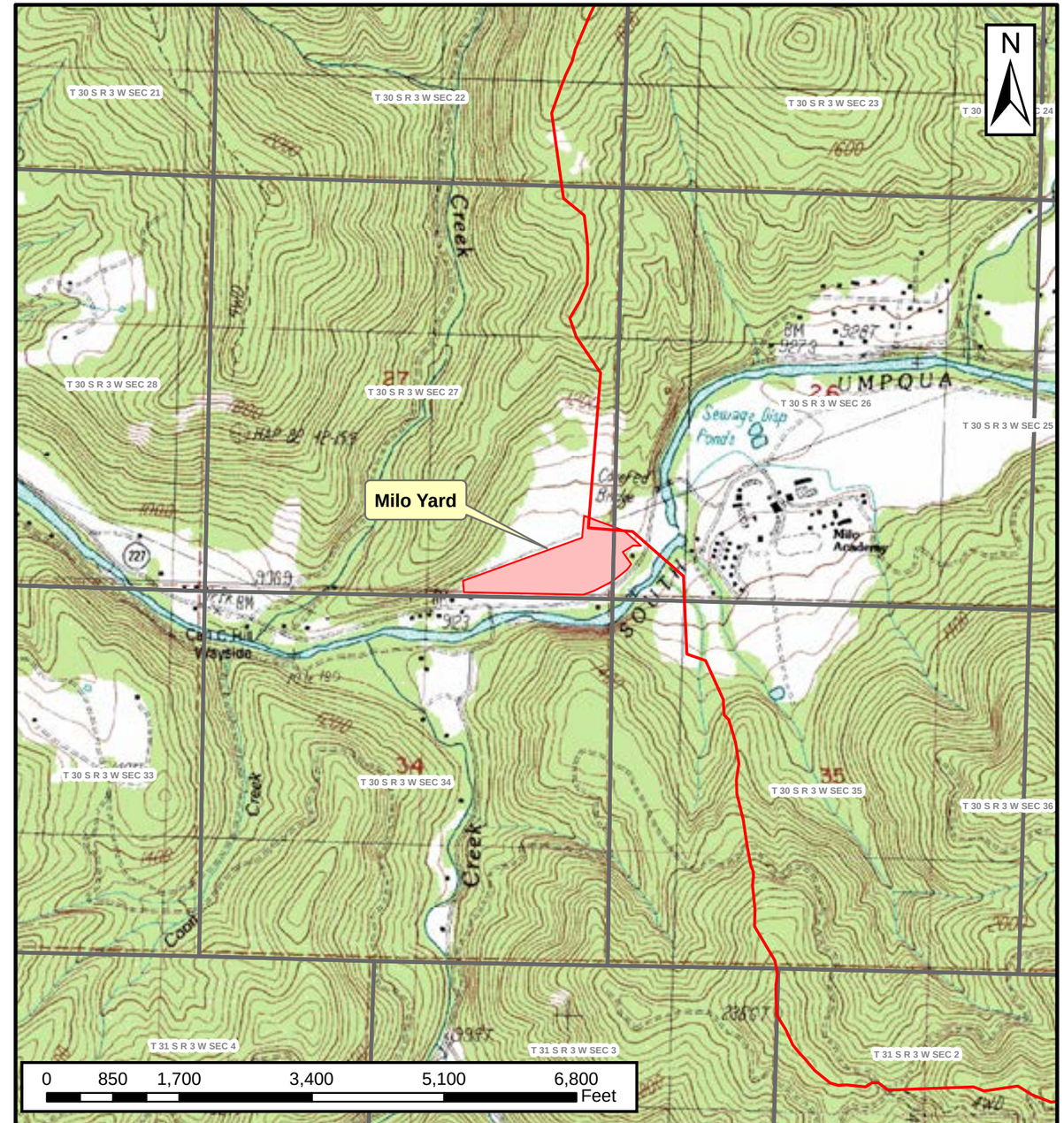
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
RIDDLE PASTURE AREA & RIDDLE MAIN STREET
T-30S, R-6-W (70-01, 70-02)
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0010	SHEET 1 OF 1





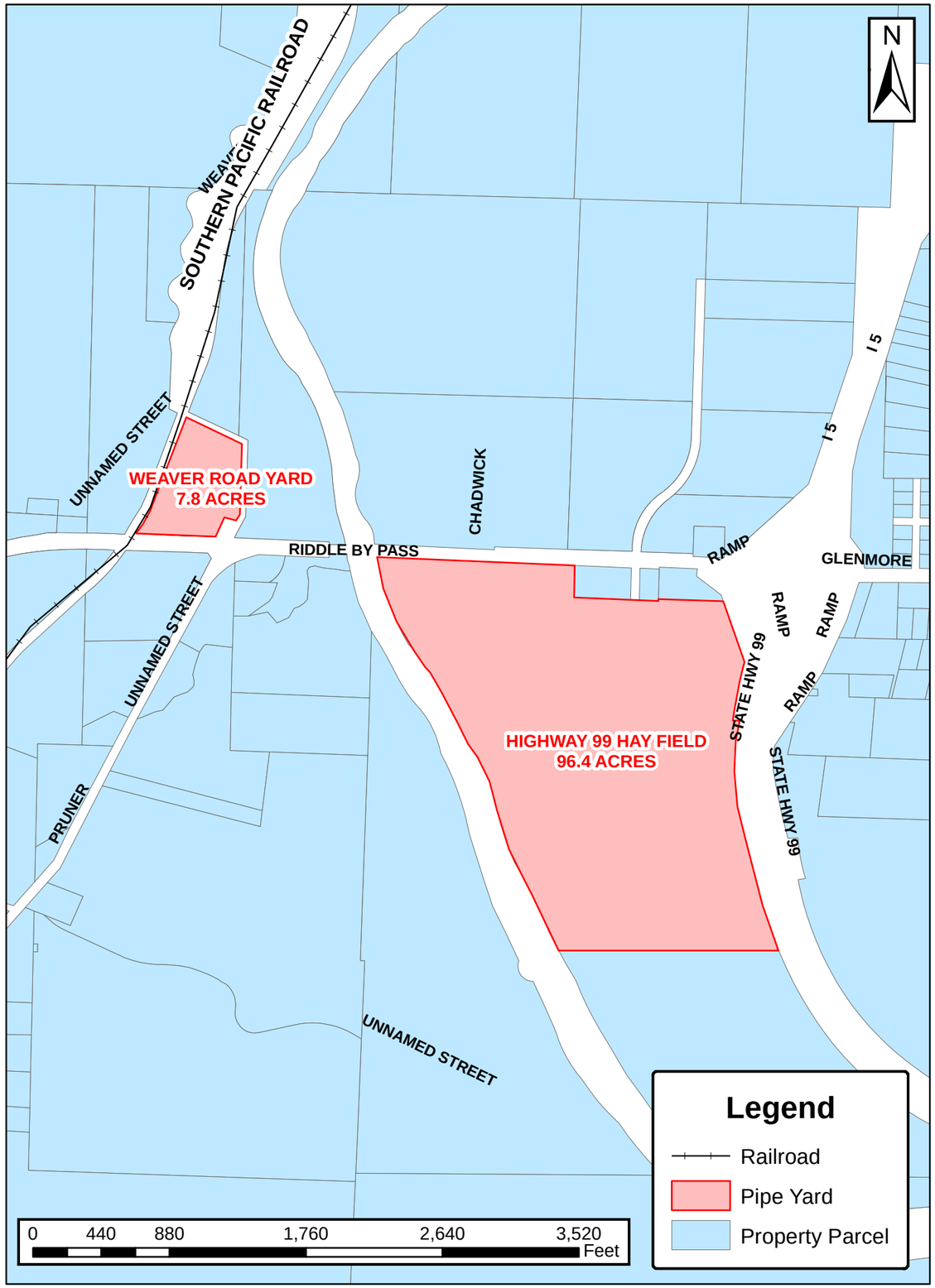
DRAWING NO.	REFERENCE TITLE
MILO	24 K/7.5 MIN TOPO QUAD

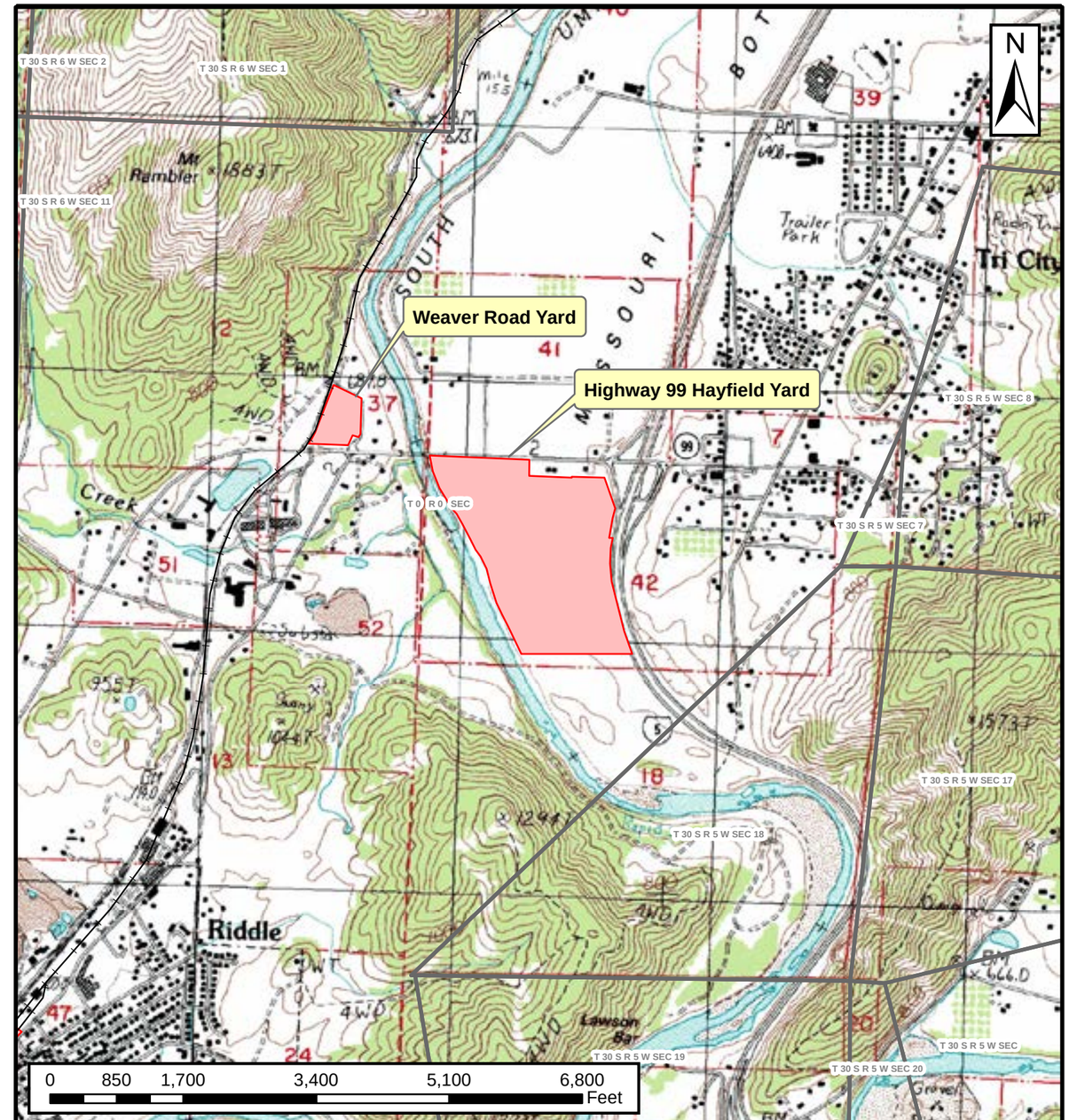
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MILO YARD
T-30-S, R-3-W, SECT-27
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0011	SHEET 1 OF 1





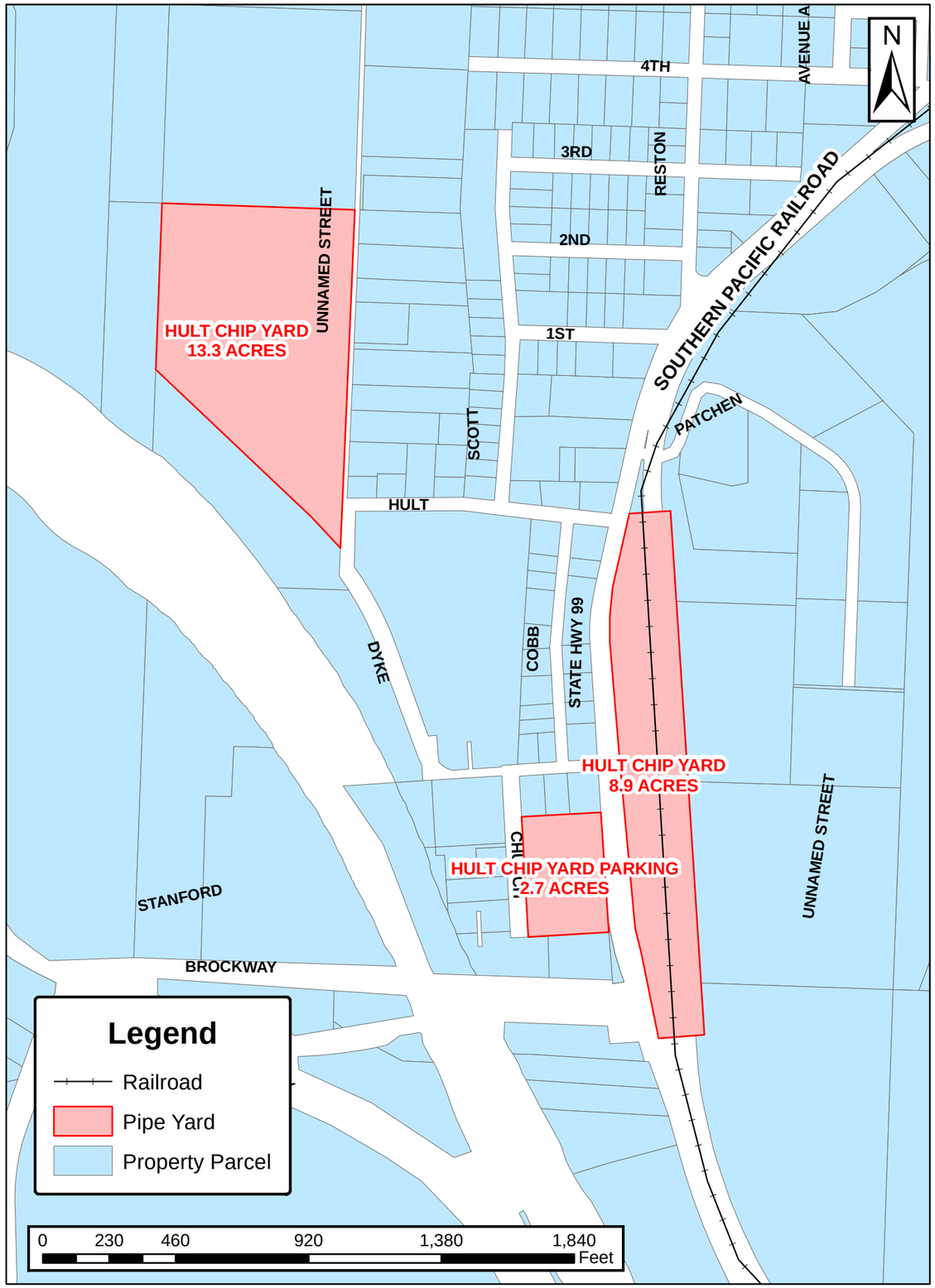
DRAWING NO.	REFERENCE TITLE
CANYONVILLE	24 K/7.5 MIN TOPO QUAD

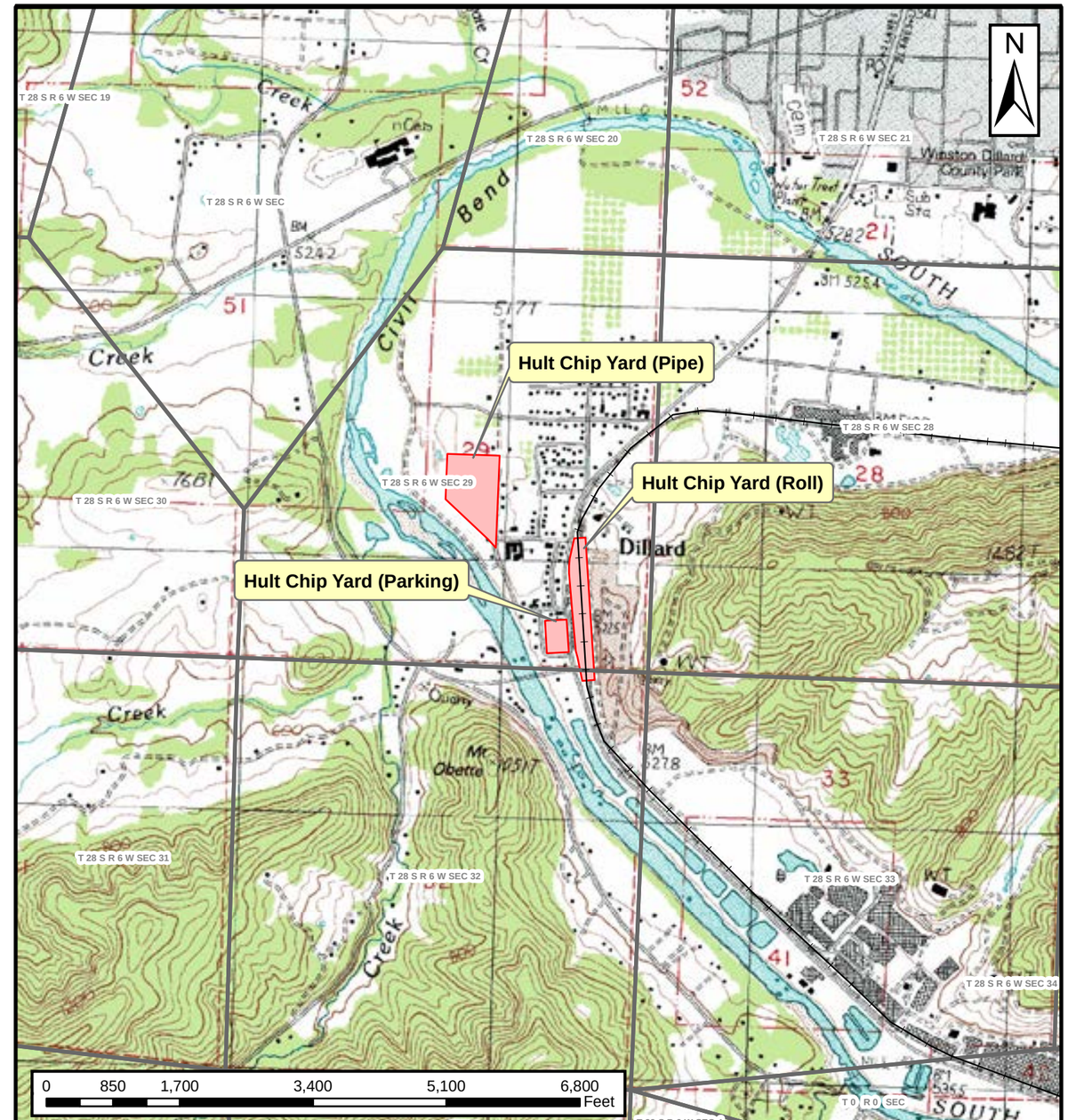
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
WEAVER ROAD & HIGHWAY 99 HAYFIELD
T-30-S, R-5-W, SECT-7C
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0012	SHEET 1 OF 1





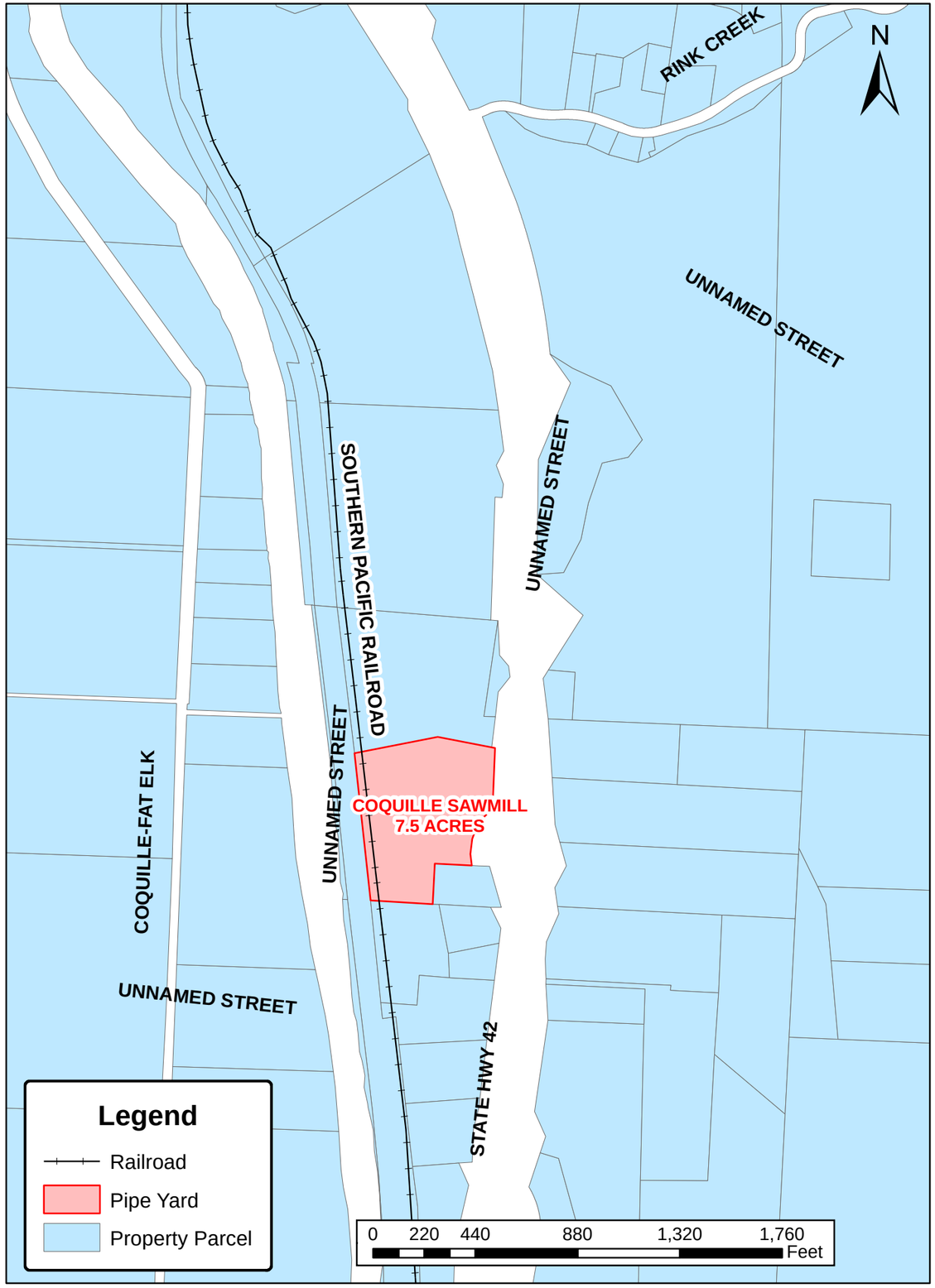
DRAWING NO.	REFERENCE TITLE
WINSTON	24 K/7.5 MIN TOPO QUAD

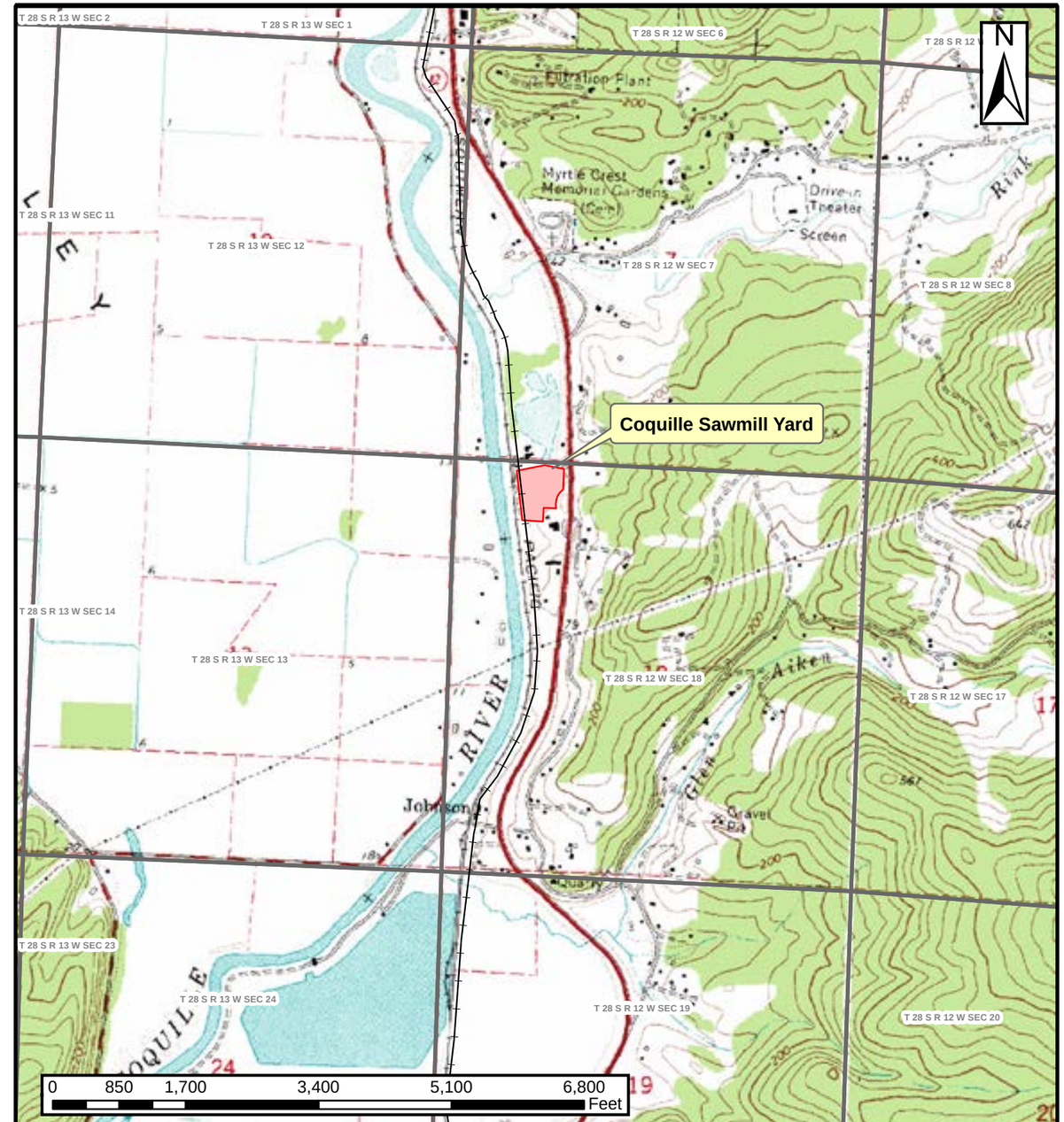
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
HULT CHIP YARDS
T-28-S, R-6-W, SECT-29
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0013	SHEET 1 OF 1





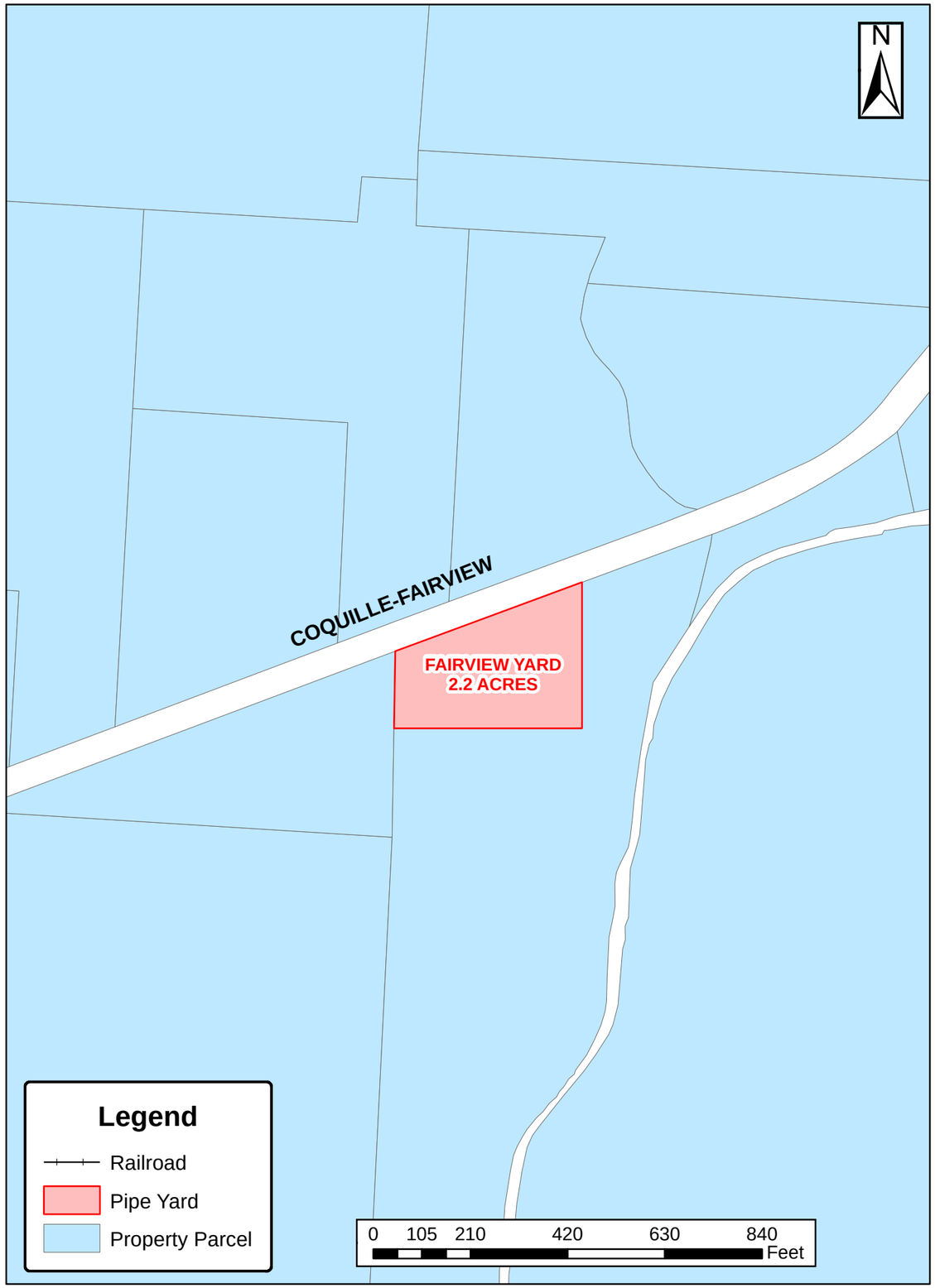
DRAWING NO.	REFERENCE TITLE
COQUILLE	24 K/7.5 MIN TOPO QUAD

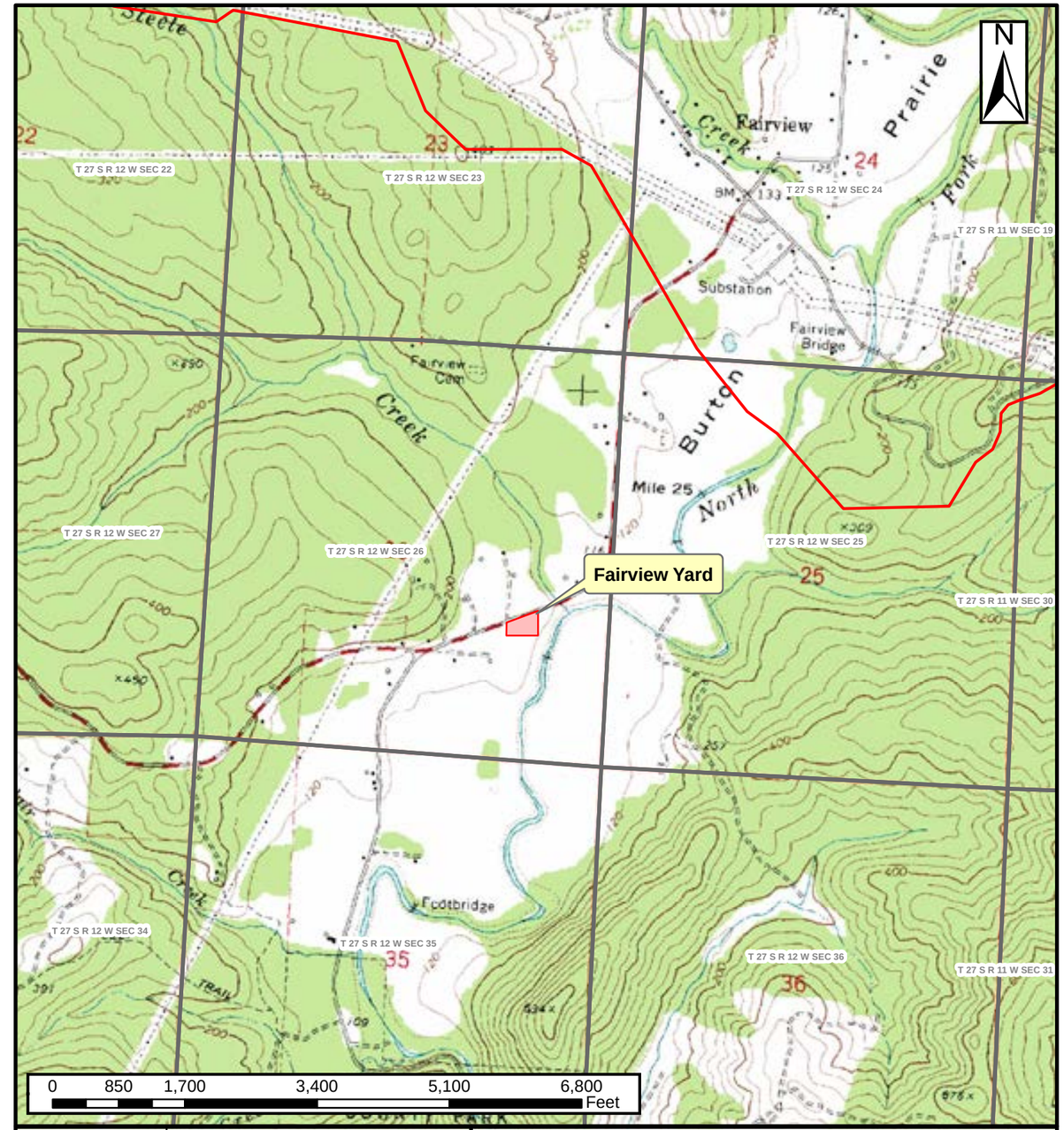
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
COQUILLE SAWMILL
T-28-S, R-12-W, SECT-18
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0014	SHEET 1 OF 1





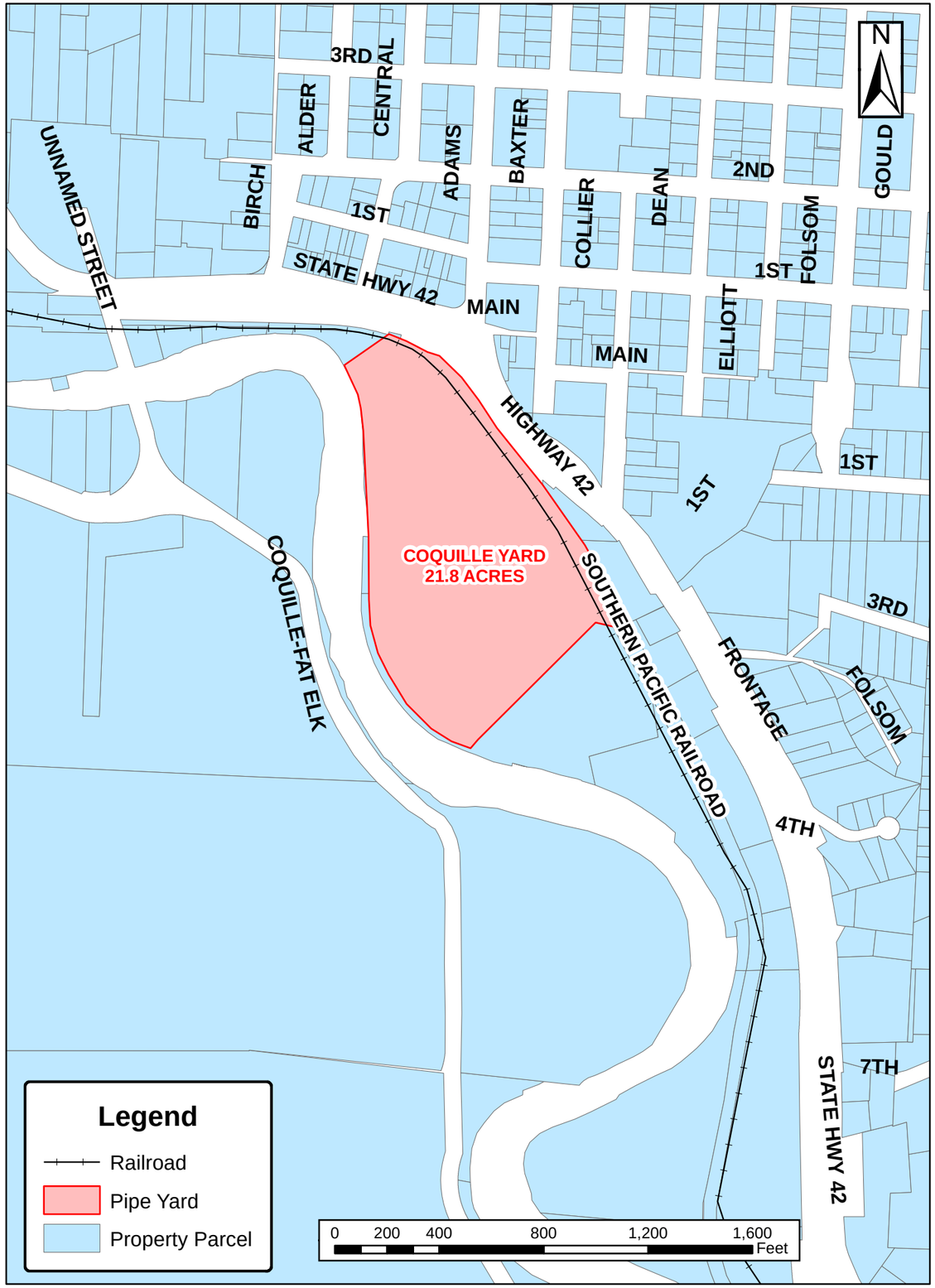
DRAWING NO.	REFERENCE TITLE
MCKINLEY	24 K/7.5 MIN TOPO QUAD

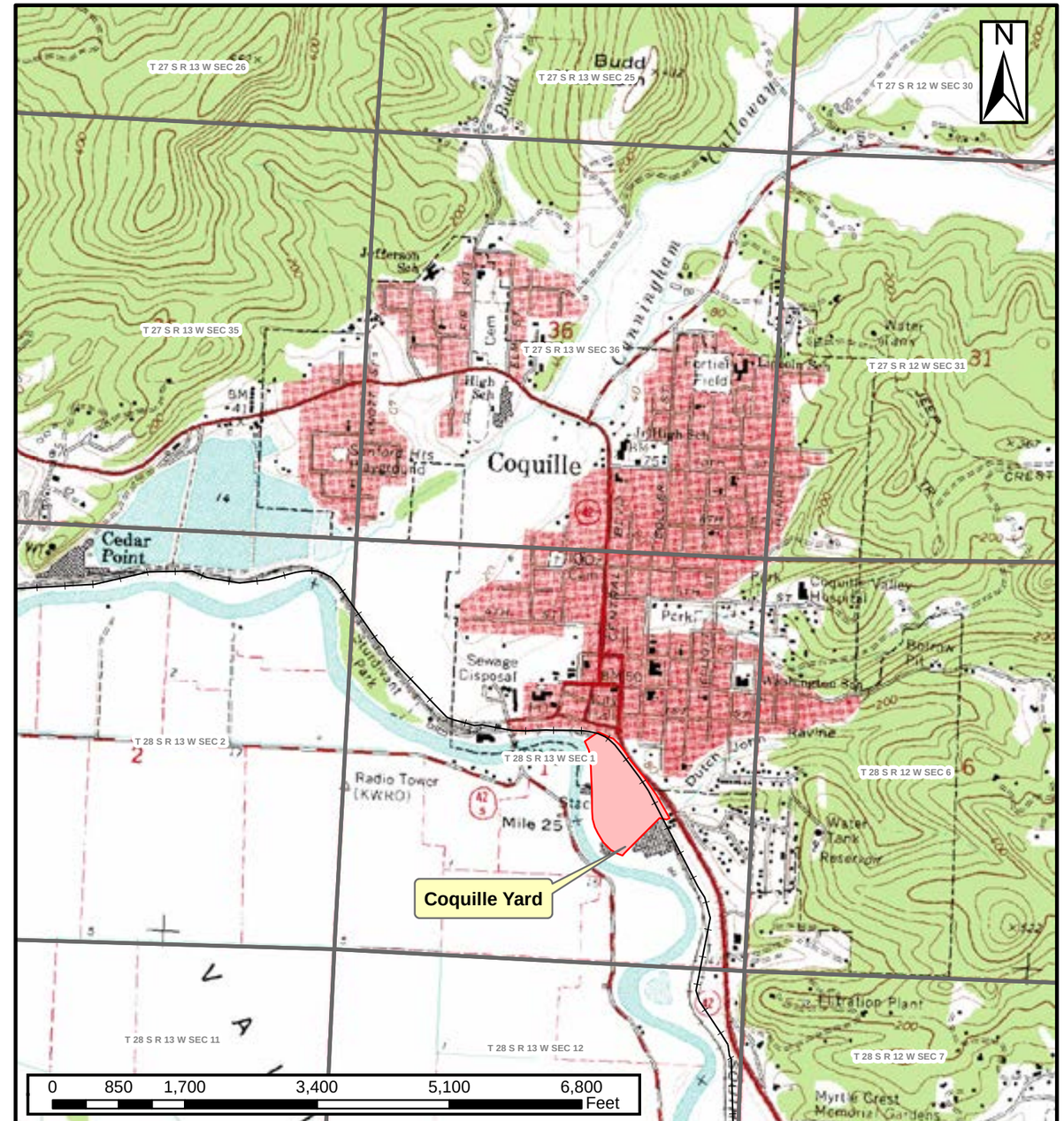
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
FAIRVIEW YARD
T-27-S, R-12-W, SECT-26
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0015	SHEET 1 OF 1





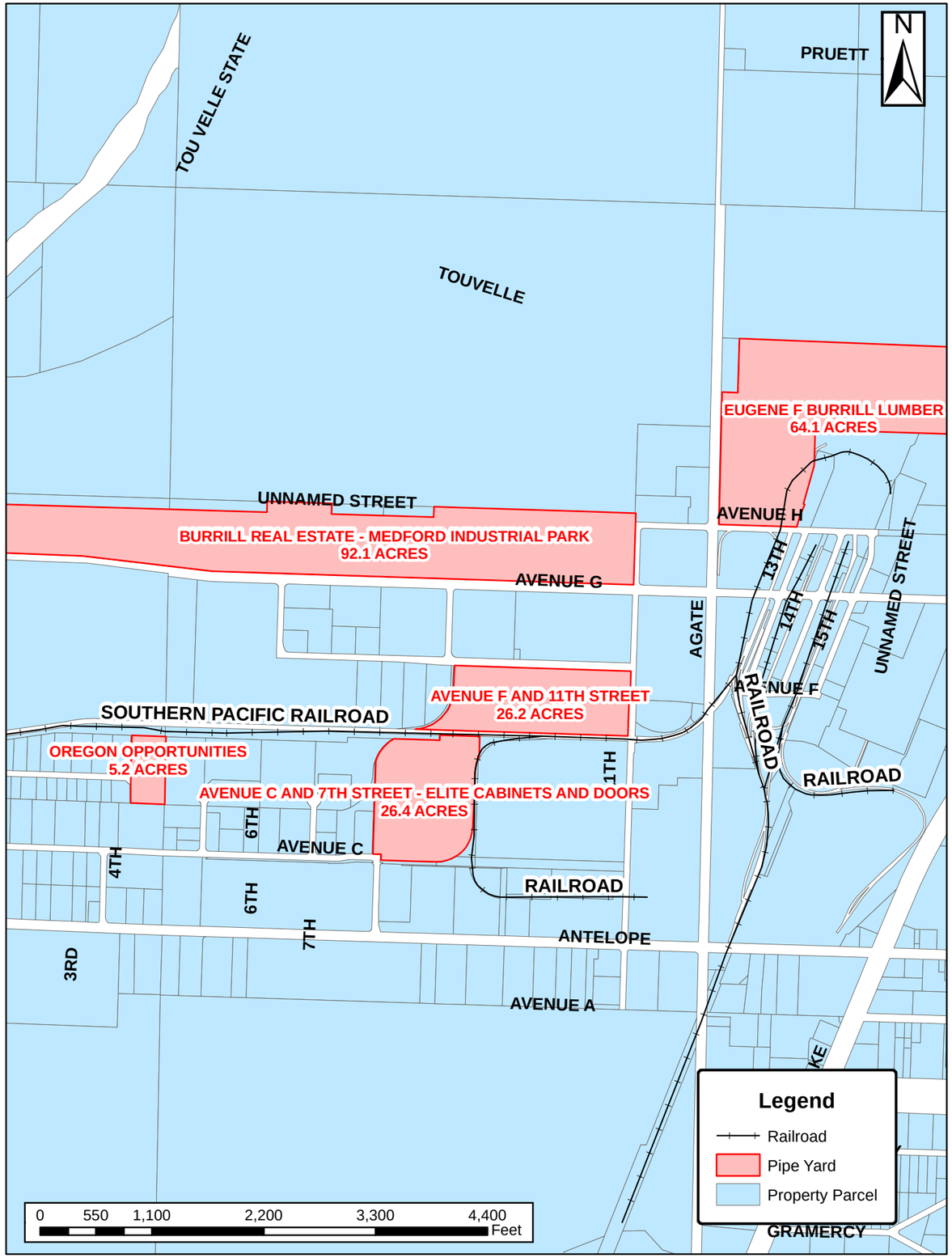
DRAWING NO.	REFERENCE TITLE
COQUILLE	24 K/7.5 MIN TOPO QUAD

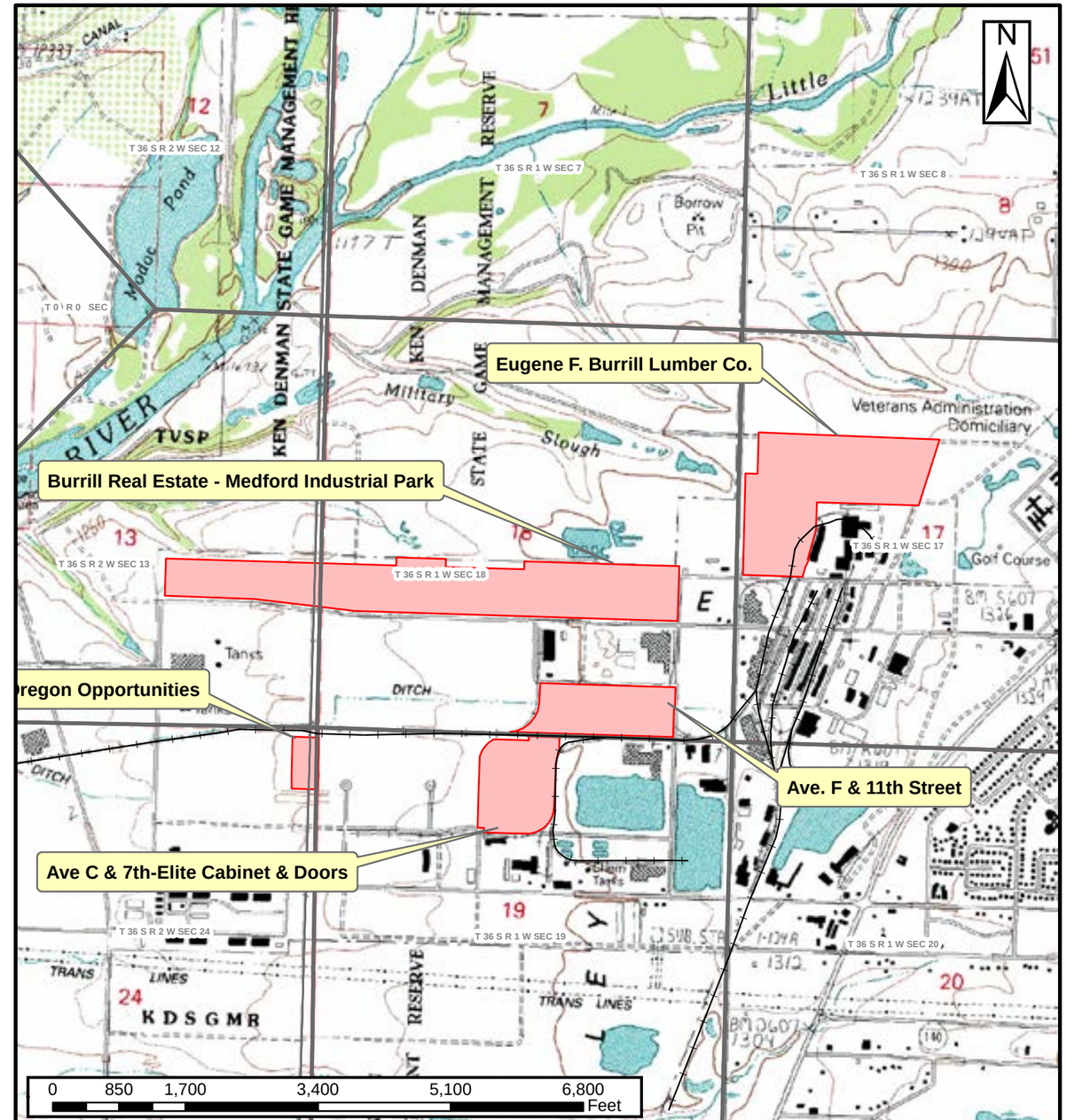
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
COQUILLE YARD
T-28-S, R-13-W, SECT-1
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0016	SHEET 1 OF 1





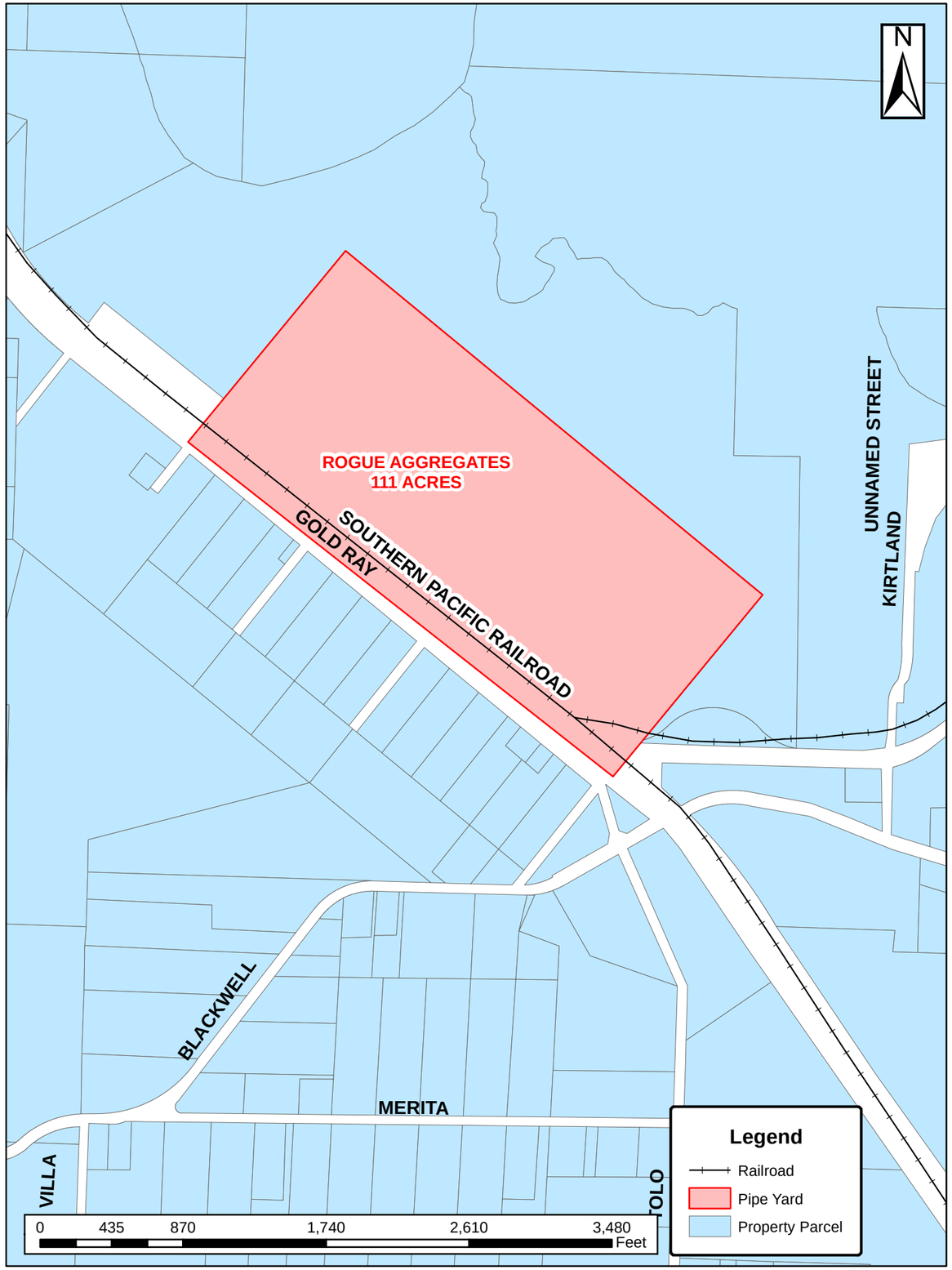
DRAWING NO.	REFERENCE TITLE
SAM'S VALLEY EAGLE POINT	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

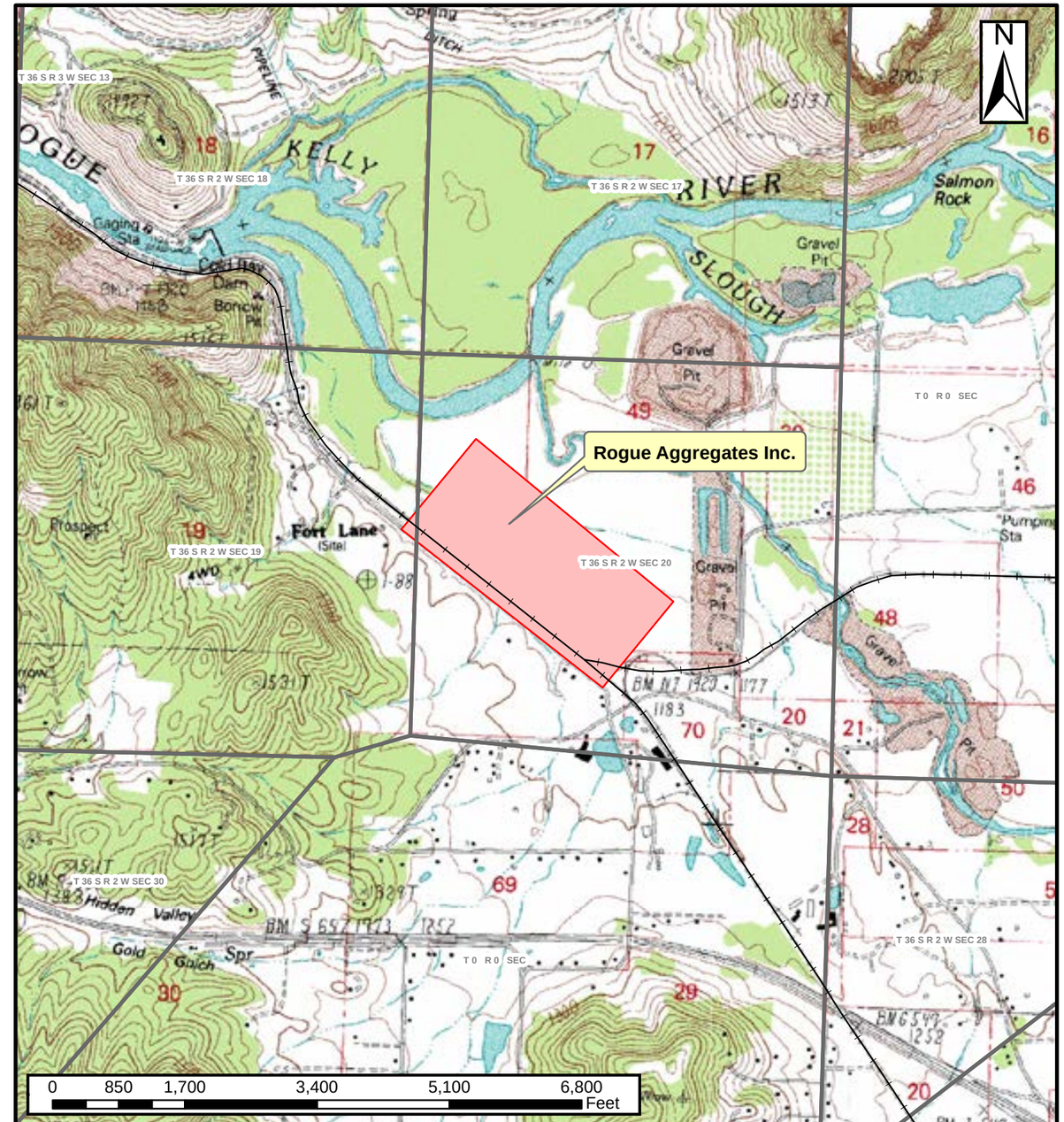
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
Buffill Real Estate, Burill Lumber Co., Oregon Opportunities, Ave. F & 11th, Bite Cabinet & Doors
T-36-S, R-1-W, SECT-18
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0017	SHEET 1 OF 1





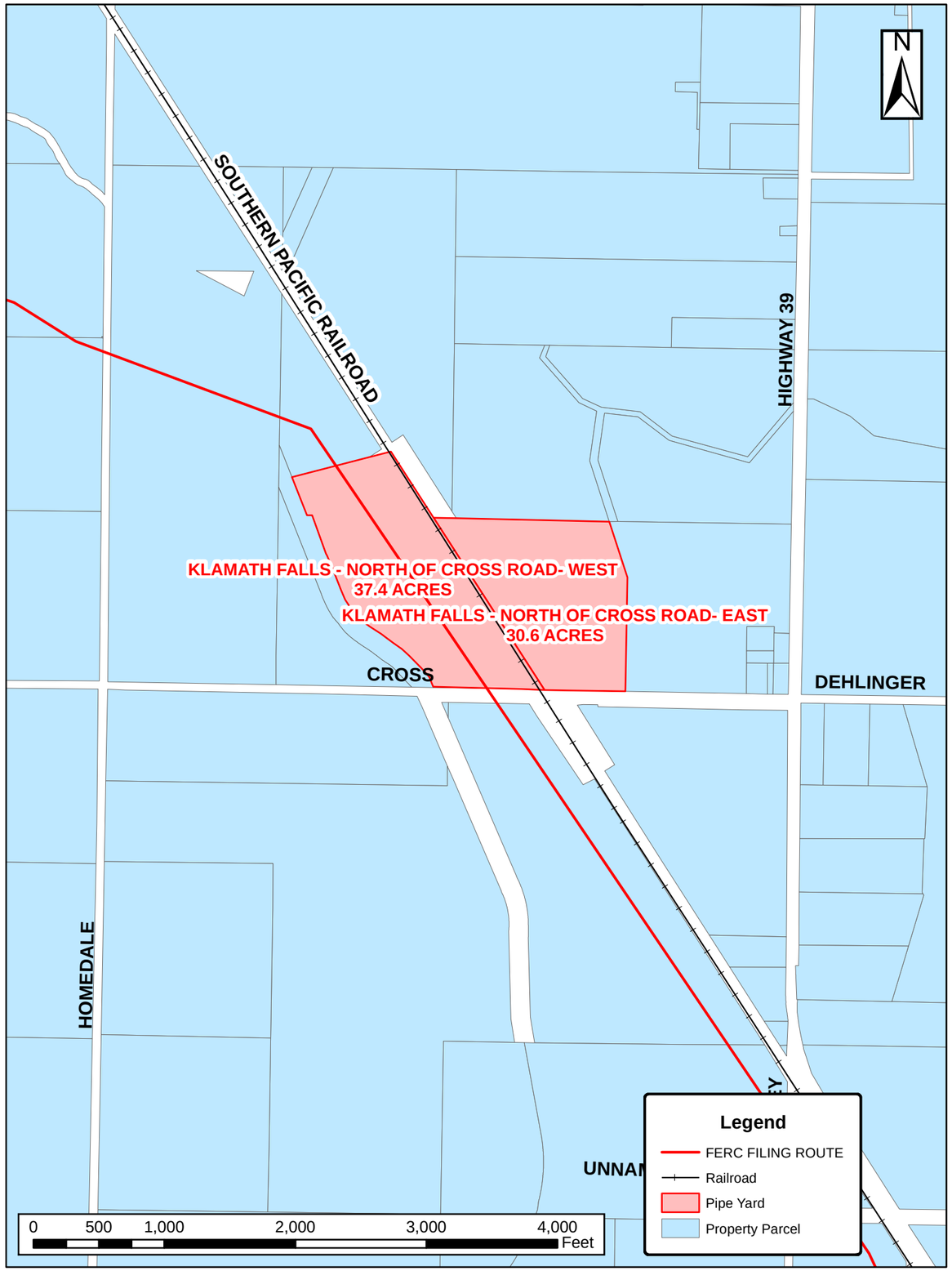
DRAWING NO.	REFERENCE TITLE
SAM'S VALLEY	24 K/7.5 MIN TOPO QUAD

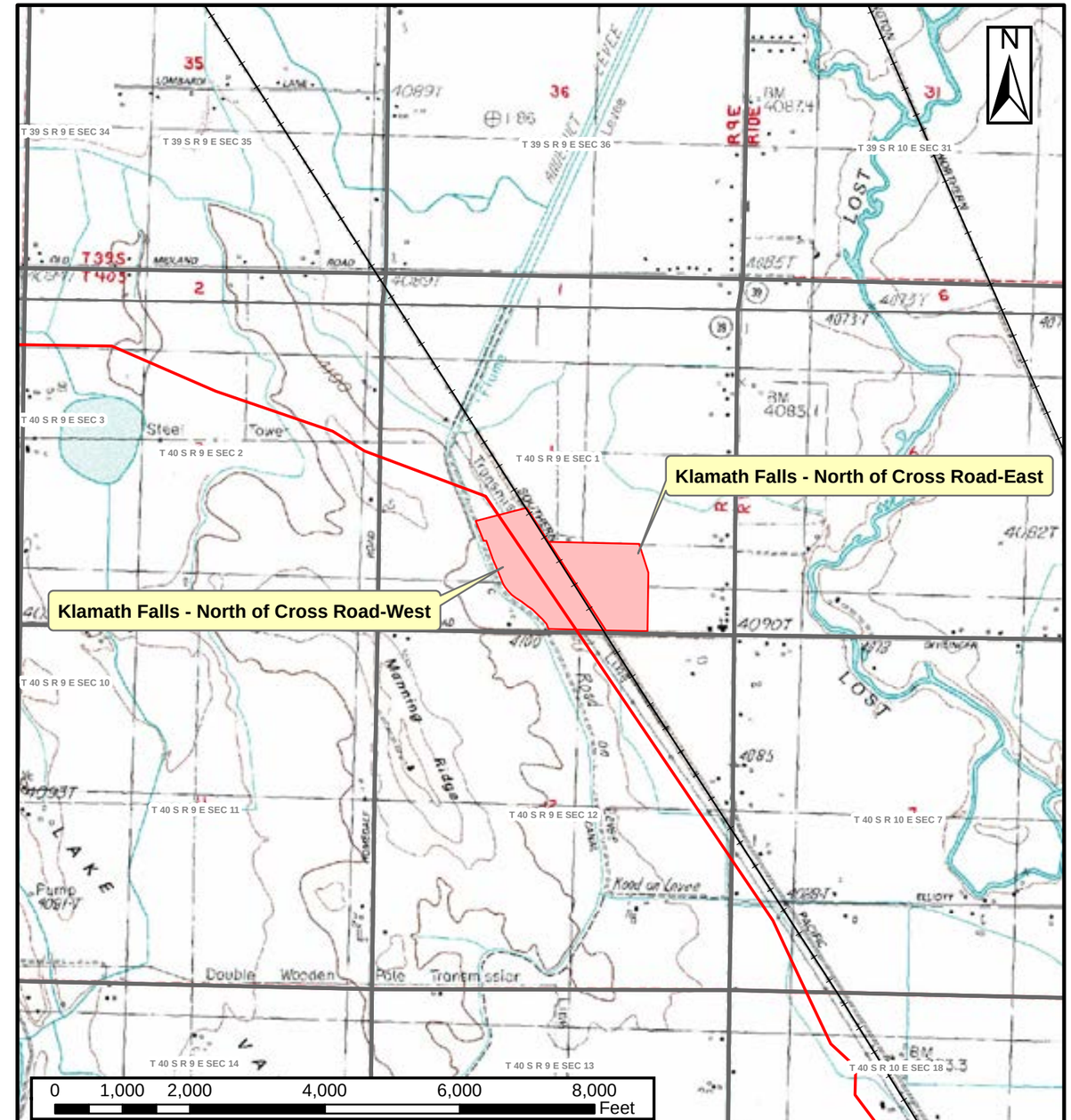
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
ROGUE AGGREGATES INC.
T-36-S, R-2-W, SECT-20
JACKSON COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0018	SHEET 1 OF 1





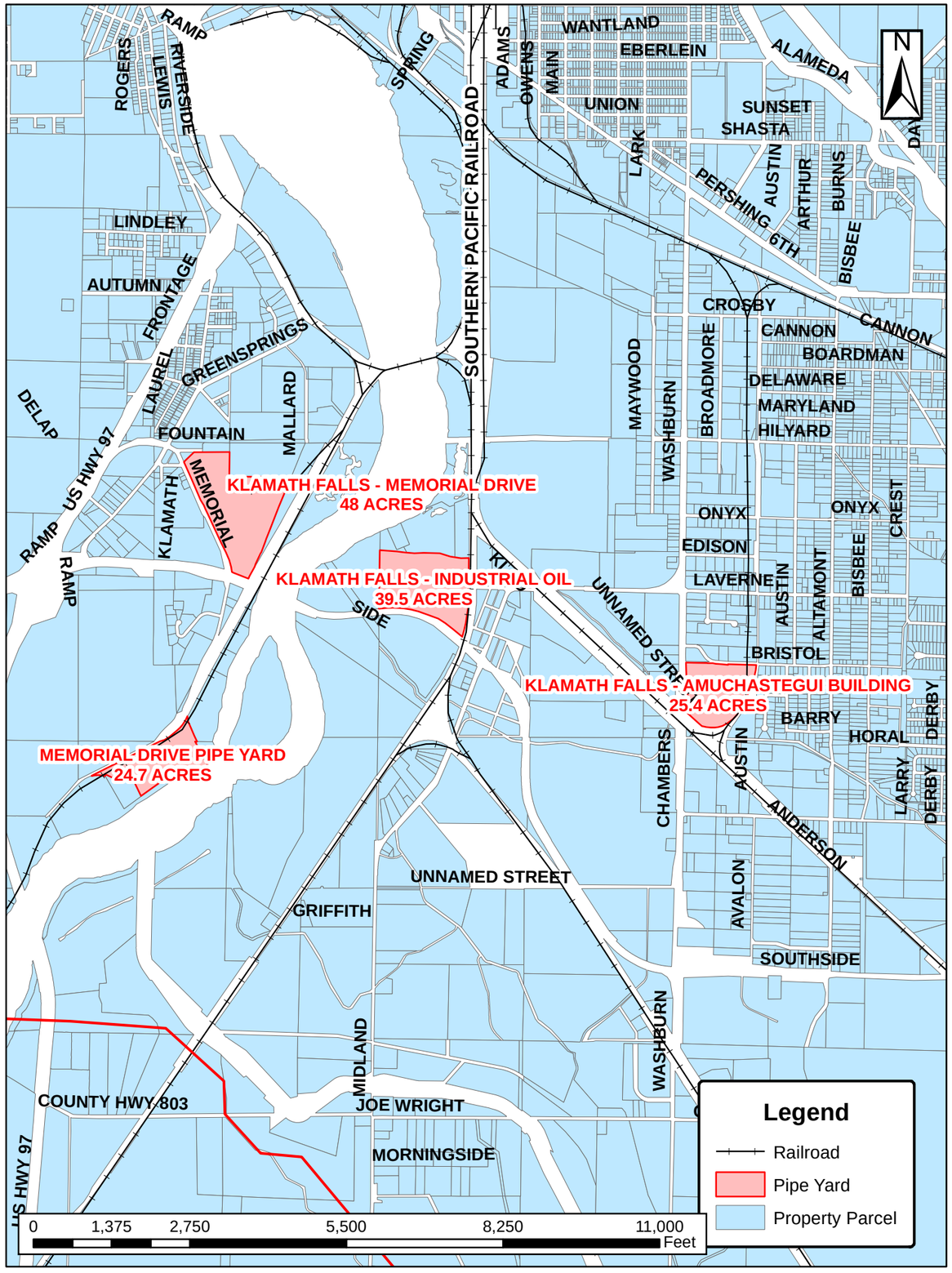
DRAWING NO.	REFERENCE TITLE
ALTAMONT LOST RIVER	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

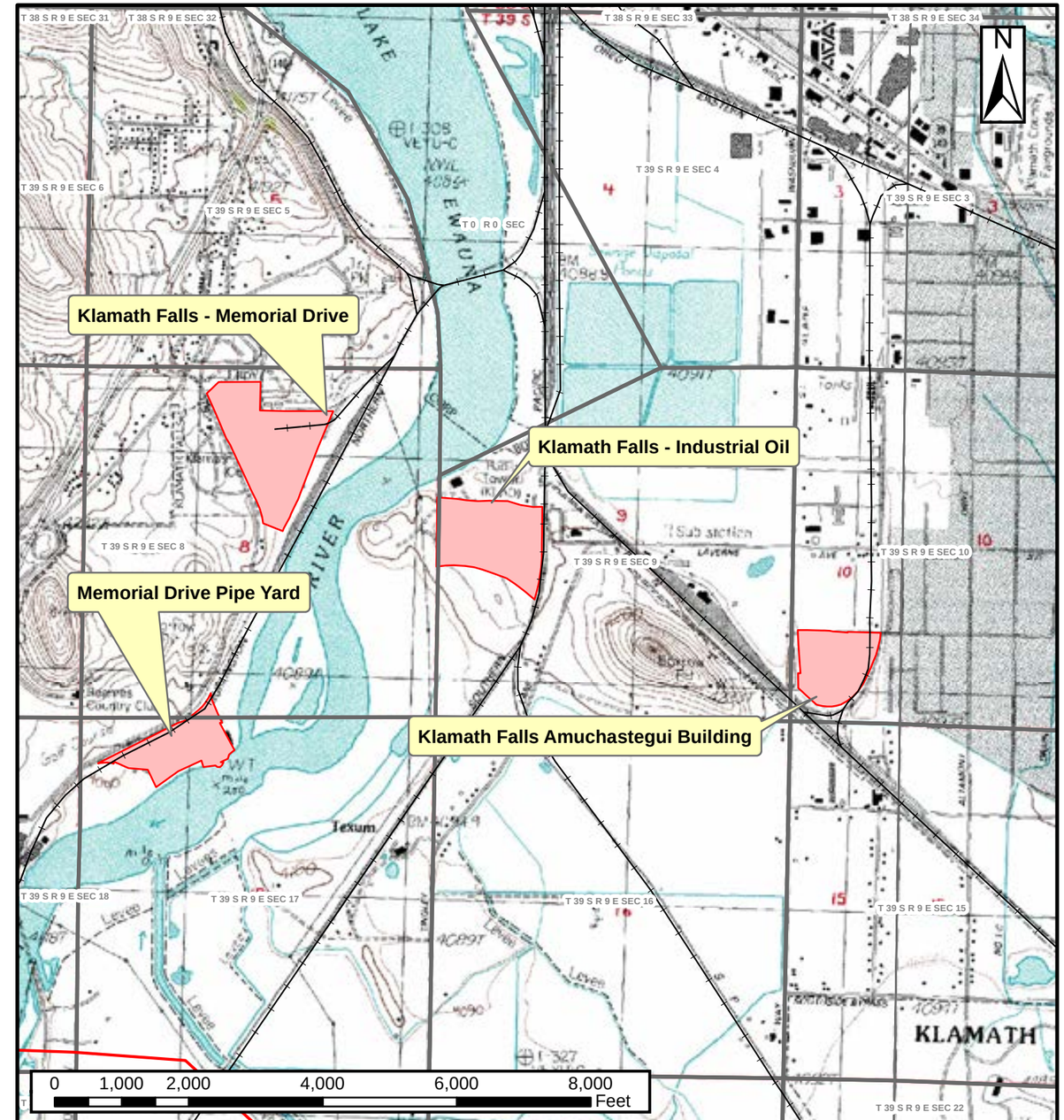
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
KLAMATH FALLS-NORTH OF
CROSS ROAD WEST & EAST
T-40-S, R-9-E, SECT-1
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 1408.36-Y-0019	SHEET 1 OF 1





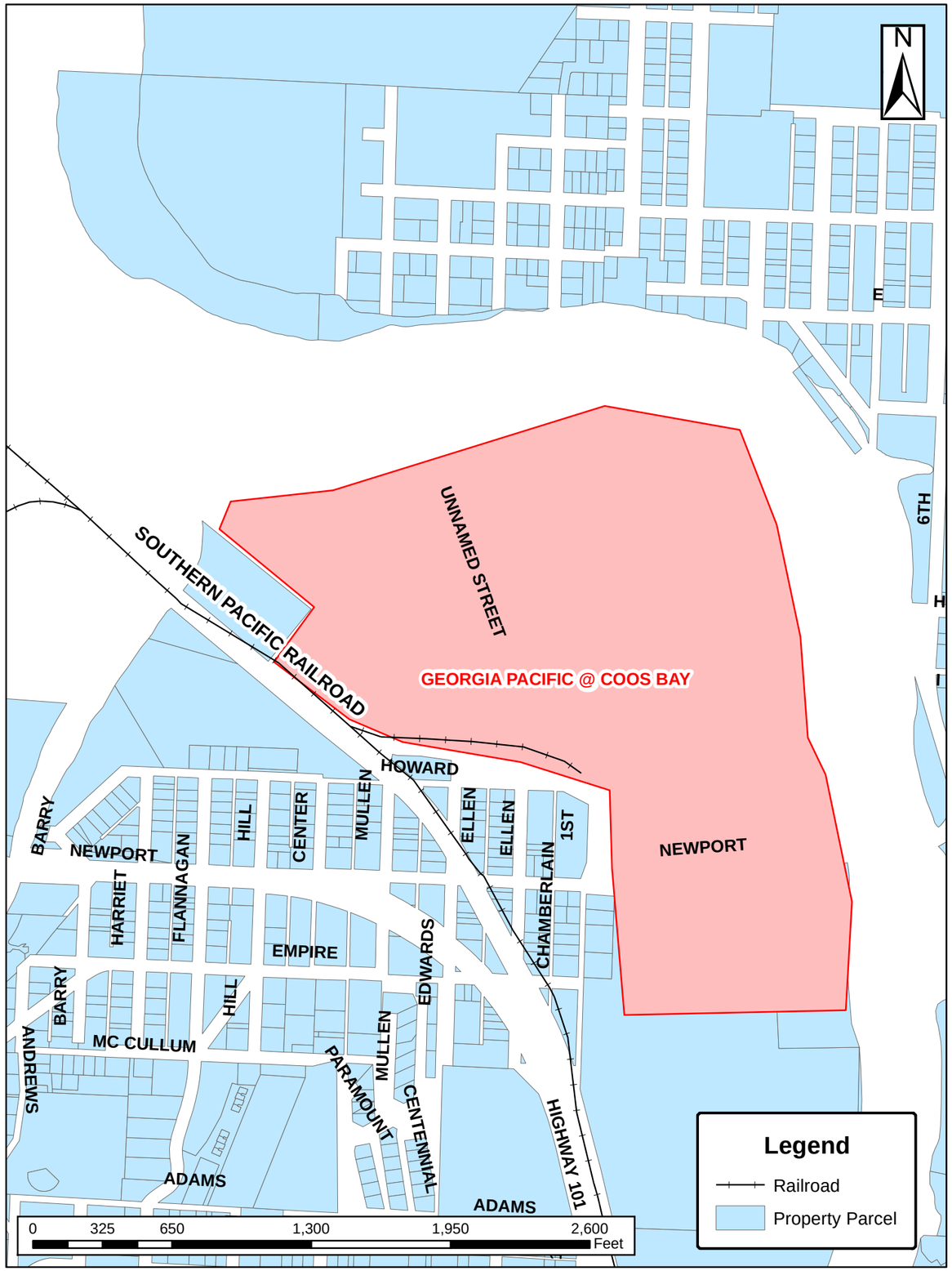
DRAWING NO.	REFERENCE TITLE
KLAMATH FALLS ALTAMONT	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

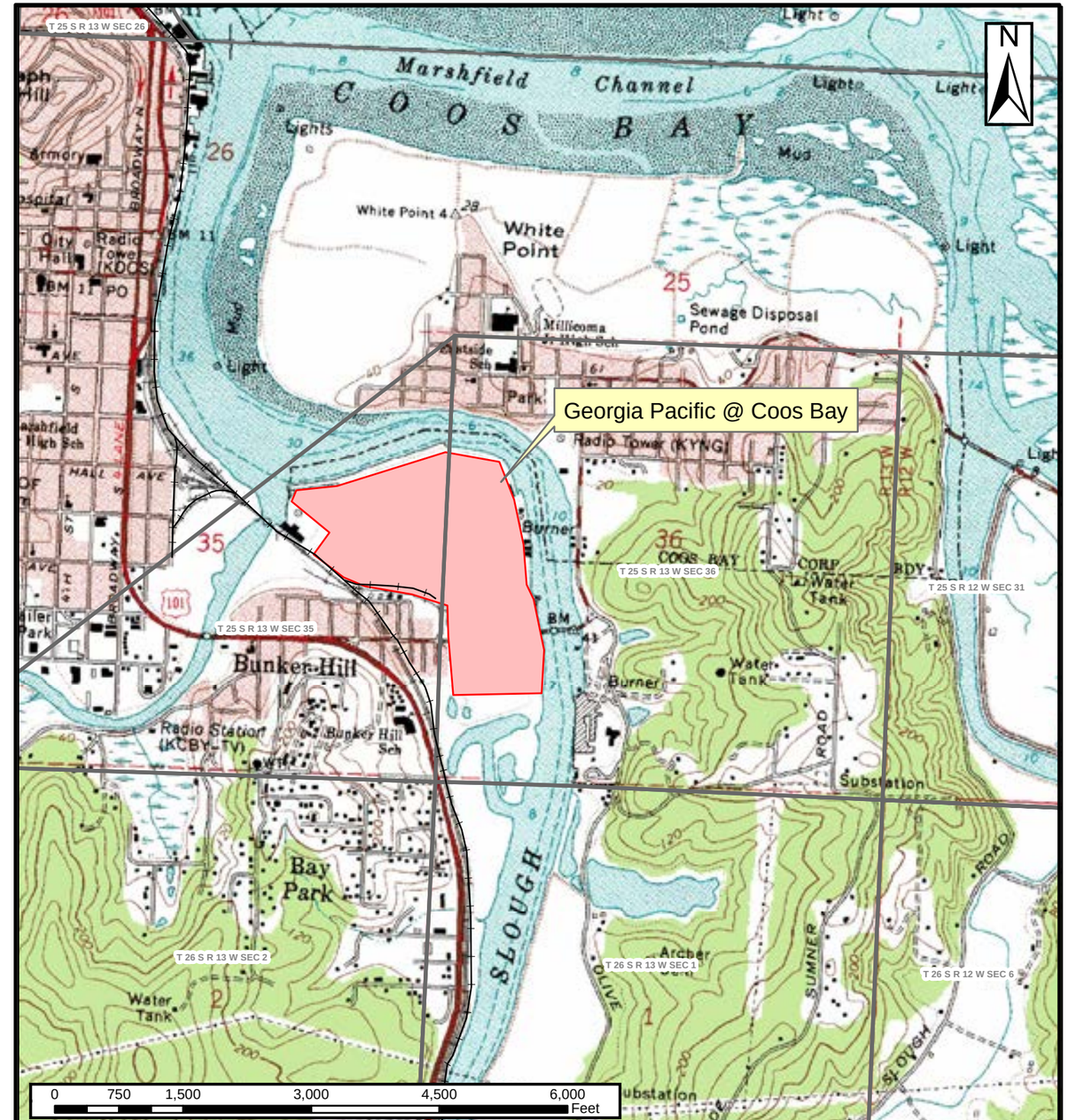
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
INDUSTRIAL OIL, MEMORIAL DRIVE,
AMUCHASTEGUI BUILDING &
KLAMATH FALL - MEMORIAL DRIVE
T-39-S, R-9-E, SECT- 8,9 &10
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0021	SHEET 1 OF 1





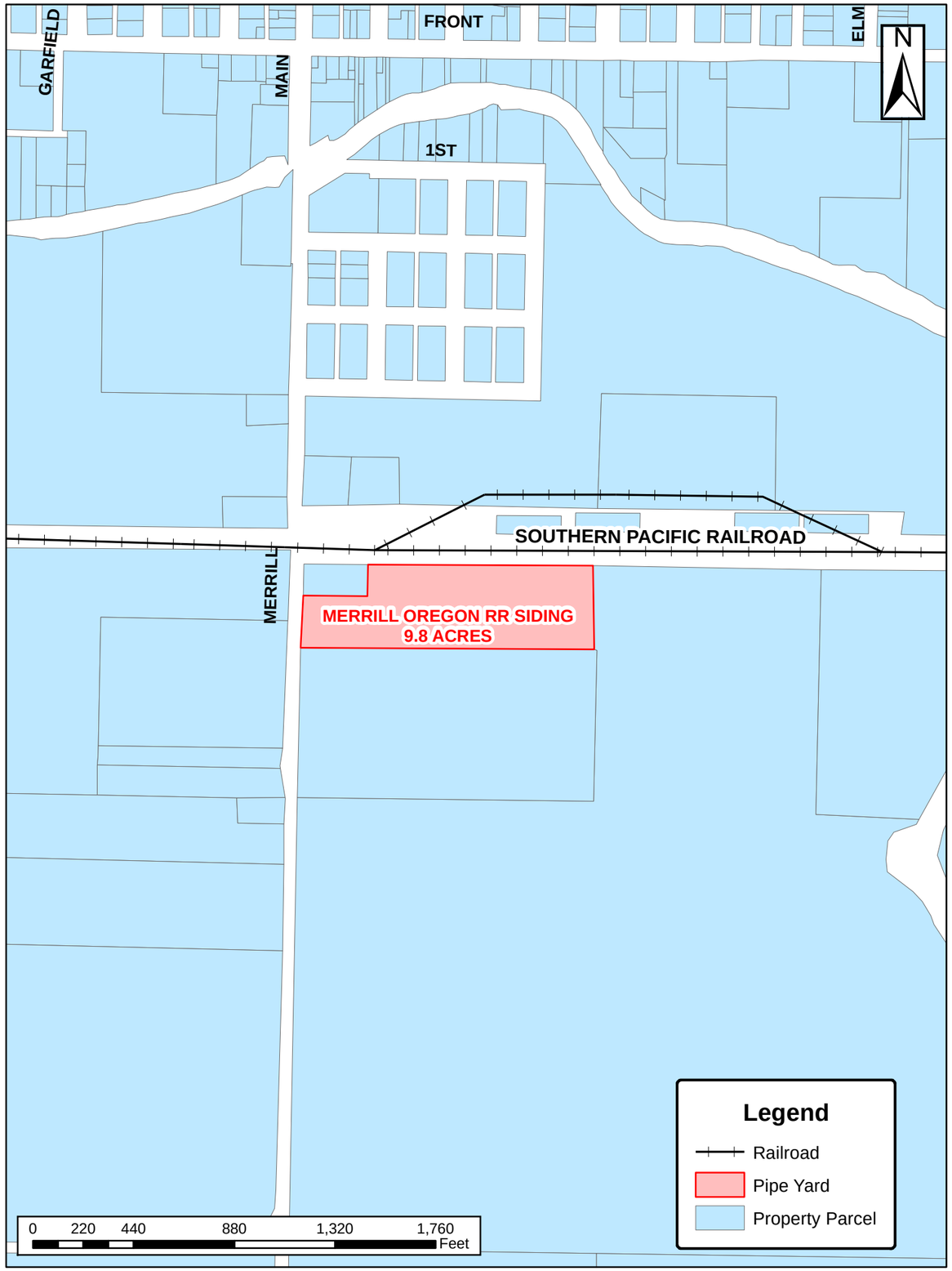
DRAWING NO.	REFERENCE TITLE
NORTH BEND COOS BAY	24 K/7.5 MIN TOPO QUAD 24 K/7.5 MIN TOPO QUAD

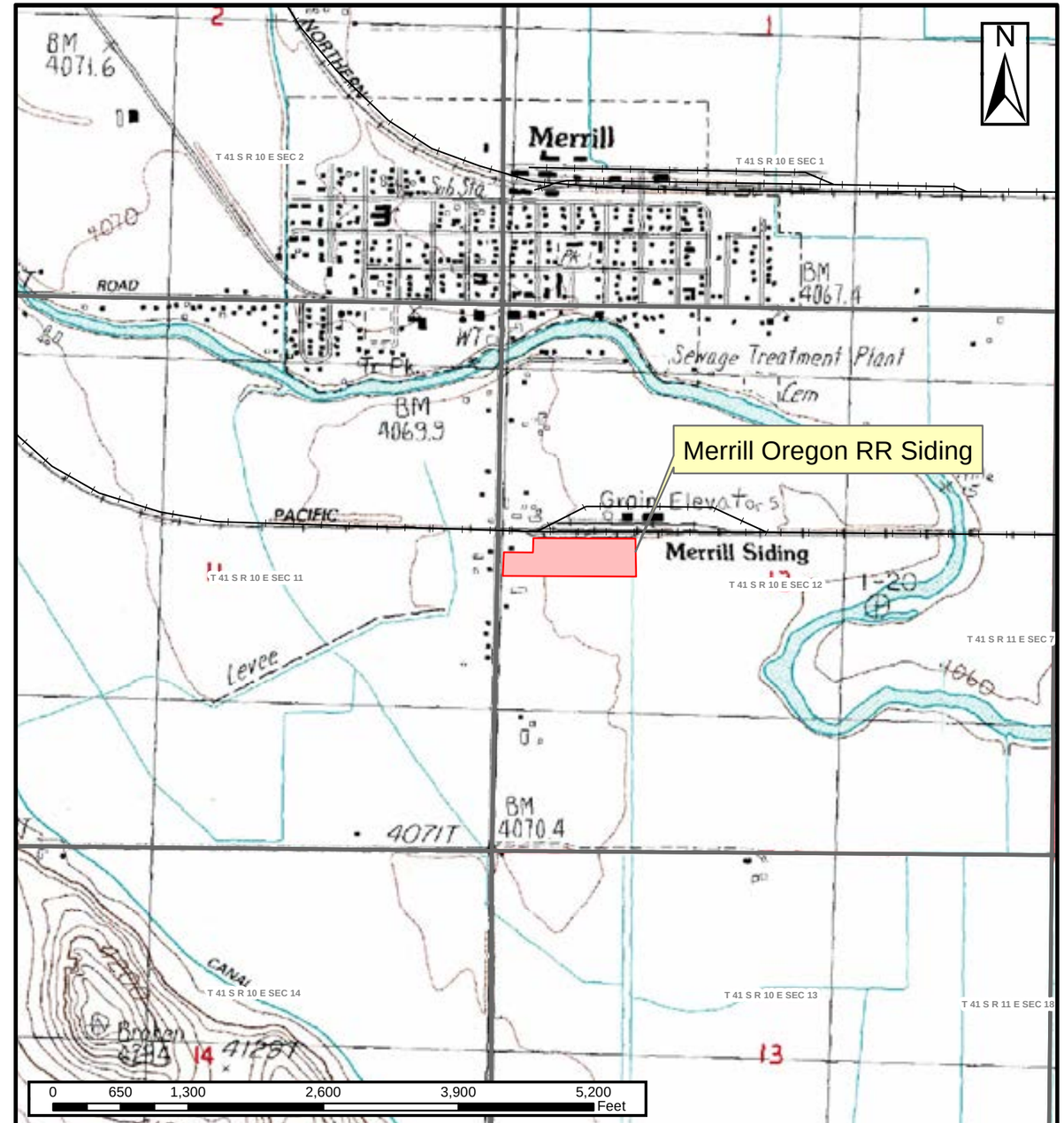
PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GEORGIA PACIFIC @ COOS BAY
T-25-S, R-13-W, SECT- 35 & 36
COOS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0023	SHEET 1 OF 1





DRAWING NO.	REFERENCE TITLE
MERRILL	24 K/7.5 MIN TOPO QUAD

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
MERRILL OREGON RR SIDING
T-41-S, R-10-E, SECT- 12
KLAMATH COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
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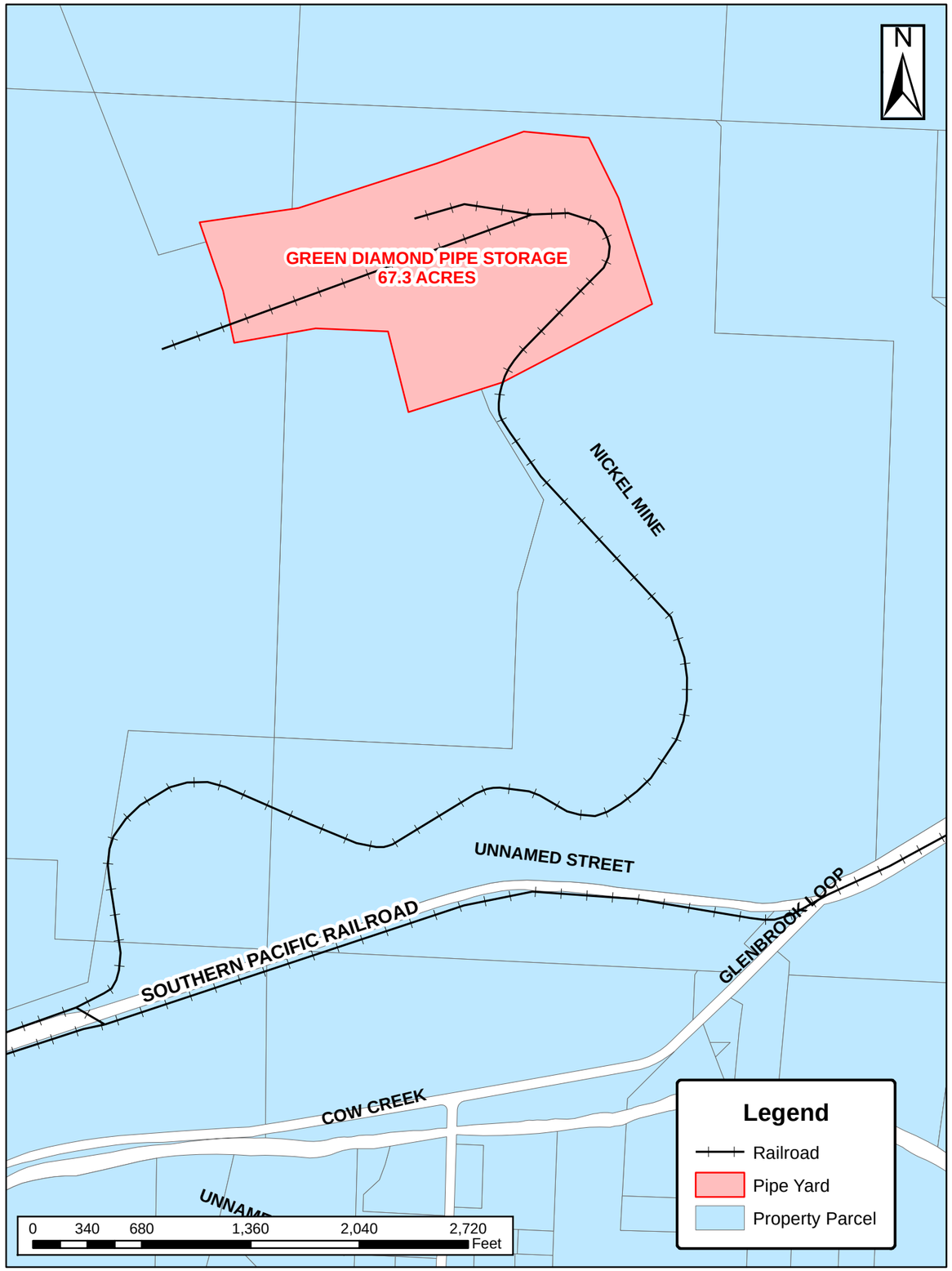
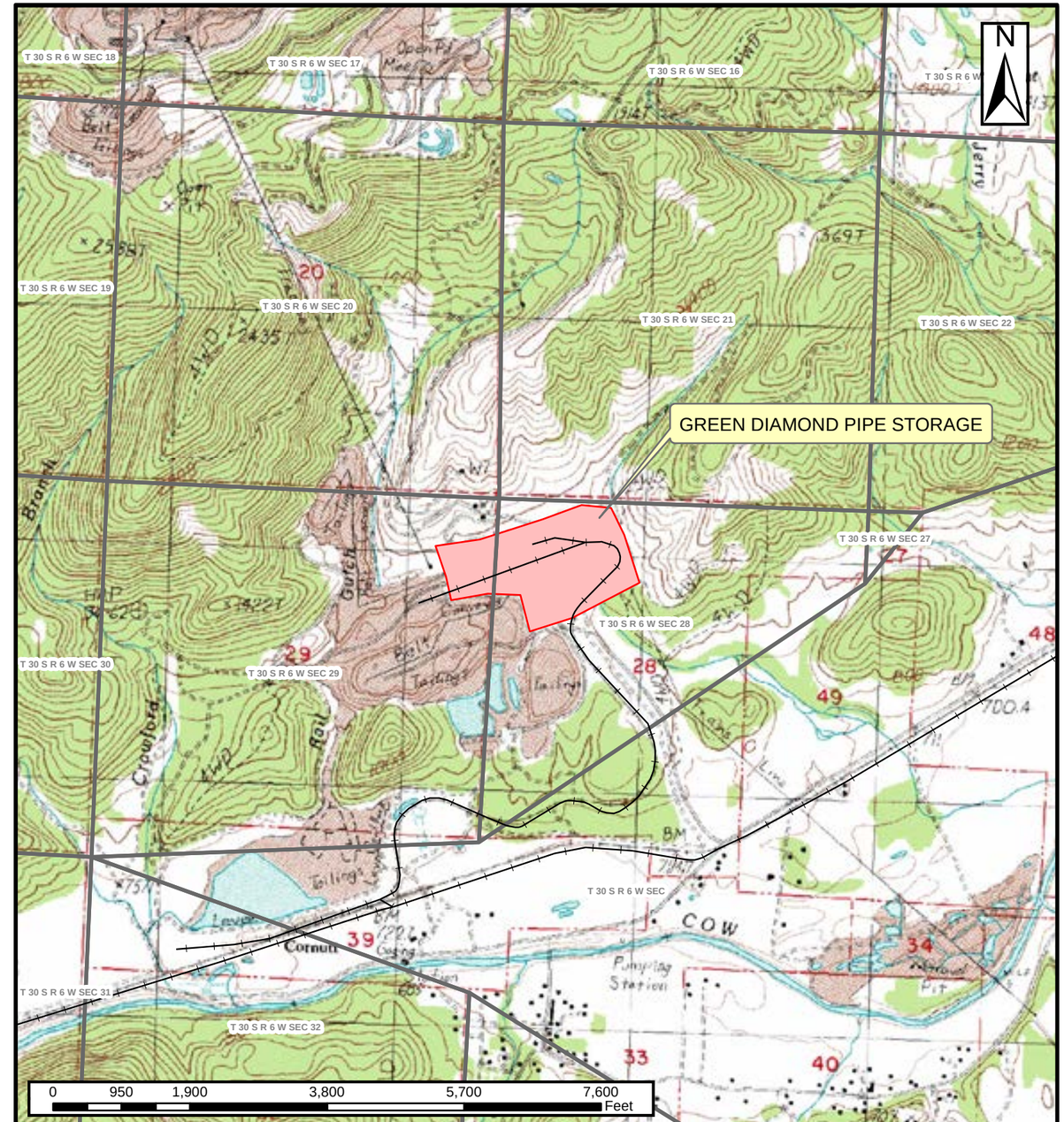
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0026	SHEET 1 OF 1





DRAWING NO.	REFERENCE TITLE
NICKEL MOUNTAIN	24 K/7.5 MIN TOPO QUAD

PACIFIC CONNECTOR GAS PIPELINE PROJECT
PACIFIC CONNECTOR GAS PIPELINE, LP
CONTRACTOR, PIPE, OR OFFLOAD SITES
GREEN DIAMOND PIPE STORAGE
T-30-S, R-6-W, SECT- 28 & 29
DOUGLAS COUNTY, OREGON

Pacific Connector GAS PIPELINE

NO.	DATE	BY	REVISION NUMBER	W.O. NO.	CHK.	APP.
A	MAY 2013	JCP	PRELIMINARY			

DWG. BY: JCP	DATE: MAY 2013	ISSUED FOR BID:	SCALE: AS NOTED
CHK BY:	DATE:	ISSUED FOR CONTS:	
APPR. BY:	DATE:	DRAWING NUMBER: 3430.36-Y-0027	SHEET 1 OF 1

APPENDIX D

Pipeline Facility Tables

D-1. **Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors**
D-2. **Access Roads to and Major Roads Crossed by the PCGP Project**
D-3. **Potential Hydrostatic Discharge (Test Header) Locations within the Construction Right-of-Way**
D-4. **Areas Where Topsoil will be Salvaged along the Pacific Connector Pipeline Project**
D-5. **Temporary Extra Work Areas Necessary for Construction of the PCGP Project**
D-6. **Uncleared Storage Areas Necessary for Construction of the PCGP Project**
D-7. **Rock Source and Permanent Disposal Sites Identified for Construction of the Pacific Connector Pipeline Project**
D-8. **Landownership/Jurisdiction by Milepost**
D-9. **Privately-Owned Contractor and Pipe Storage Yards that may be used during Construction of the PCGP Project**

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
Coos County						
4.30R	4.82R	0.52	Weyerhaeuser Logging Road	Private	0 -300	Coincides/Adjacent
4.97R	6.00R	1.03	Logging Road	Private	0 -125	Coincides/Adjacent
6.63R	7.45R	0.85	Logging Road	Private	0-175	Coincides/Adjacent
8.45R	9.15R	0.7	Powerline/Logging Road	BPA Transmission Line	0-80	Coincides/Adjacent
9.29R	9.50R	0.21	Logging Road	Private	0	Coincides
9.75R	10.02R	0.27	Logging Road	Private	0-35	Coincides/Adjacent
10.54R	10.73R	0.19	Logging Spur	Private	0-35	Coincides
8.76	9.39	0.63	Lillian Ln/Messerle Logging Rd	Private	0-335	Coincides/Adjacent
10.32	10.40	.08	Raven Wood Ln	Private	0-100	Coincides/Adjacent
12.78	14.30	1.52	Powerline/BPA Powerline Rd	BPA Transmission Line	10	55 feet
14.59	15.01	0.42	Menasha Logging Spur	Private	0	Coincides
16.26	17.12	0.86	Powerline/ Emineth Private Rd	BPA Transmission Line	10	20 feet
17.12	17.40	0.28	South Sumner Rd	County	35-75	Adjacent
17.57	18.61	1.04	Powerline/ Menasha Logging Spur	BPA Transmission Line	10-135	20 feet a/
19.02	20.76	1.74	Powerline, Coos Co Sheep - Logging Rd, Pvt Powerline Access Rd, BLM 27-12-28.0	BPA Transmission Line	10	20 feet a/
21.20	21.61	0.41	Powerline, Pvt Powerline Access Rd (BLM 27-12-23.0)	BPA Transmission Line	10	20 feet a/
21.90	22.23	0.33	Powerline/Powerline Access Road	BPA Transmission Line	10	55 feet
23.66	24.11	0.45	Coos Bay Wagon Road	County	50-75	Adjacent
24.12	24.31	0.19	Powerline/Hudson Ridge Tie - BLM 27-11-17.1	BLM	0-150	Coincides/Adjacent
24.55	25.14	0.59	Powerline/Logging Spur, BLM 27-11-30.1, BLM 27-11-30.5	BLM	0-90	Adjacent
25.19	25.93	0.74	Powerline/Menasha Logging Rd, BLM 27-11-30.1	BPA Transmission Line	0-60	Adjacent
25.93	26.14	0.21	Powerline/ Powerline Access Roads, Menasha Logging Rd, BLM 27-11-30.1	BPA Transmission Line	10	20 feet a/
26.08	26.75	0.67	Menasha Pvt Logging Spur	Private	0-125	Coincides
27.65	28.13	0.48	Logging Rd	Private	0-85	Coincides
29.27	29.48	0.21	Lone Rock Logging Rd	Private	0-60	Coincides
30.40	31.18	0.78	Logging Spur	Private	0-160	Coincides/Adjacent
31.44	31.69	0.25	Logging Spur/Dora Spur Rd, BLM 28-11-13.2B, 13.2A	Private	0-80	Coincides/Adjacent
31.69	31.81	0.12	Dora Spur Rd, BLM 28-11-13.2B, Back Dora, BLM 28-11-13.6	BLM	0-110	Adjacent
33.74	33.81	0.07	Elk Mountain Loop, BLM 28-11-25.0	BLM	0-65	Coincides
34.72	35.11	0.39	Logging Rd, Logging Spur	Private	0-65	Coincides
35.33	35.80	0.47	Elk Creek Rd, BLM 28-11-29.0	BLM	0-65	Coincides

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
35.83	36.18	0.35	Elk Creek Rd, BLM 28-11-29.0, BLM 28-10-29.2	BLM	0-65	Coincides
36.63	37.22	0.59	Elk Creek Rd, BLM 28-10-29.0, BLM Logging Spur	BLM	0-30	Coincides
38.36	38.92	0.56	Weaver Sitkum Tie Rd, BLM 28-10-9.4	BLM	0-90	Coincides
39.02	39.06	.04	Co Rd 171, Plum Creek Logging Spur	BLM	0	Coincides
39.20	39.25	0.05	Co Rd 171, Plum Creek Logging Spur	BLM	0-65	Coincides
39.40	39.56	0.16	Weaver Sitkum Tie Rd, BLM 28-10-9.4	BLM	0-90	Coincides
39.72	39.78	0.06	Tri-W Group Access Spur	Private	0-30	Coincides
39.78	39.88	0.10	Weaver Sitkum Tie Rd, BLM 28-10-9.4	Private	0	Coincides
40.30	40.43	0.13	Weaver Sitkum Tie Rd, BLM 28-10-9.4	Private	0-75	Coincides
40.79	41.48	0.69	Weaver Sitkum Tie Rd, BLM 28-10-9.4	Private	0-75	Coincides/Adjacent
42.03	42.11	0.08	Weaver Rd, BLM 28-8-18.0	BLM	0-120	Coincides
42.31	42.48	0.17	Weaver Rd, BLM 28-8-18.0	BLM	0-30	Coincides
42.73	42.86	0.13	North Rock Creek, BLM 30-10-3	BLM	0-65	Coincides
42.95	43.11	0.16	Logging Spur, BLM 30-10-3, North Rock Creek	BLM	0-65	Coincides/Adjacent
43.28	43.46	0.18	BLM 30-10-3, North Rock Creek	BLM	0-65	Coincides
43.61	43.91	0.30	BLM 29-9-8, Co Rd 177.2R, Lone Rock Logging Spur	BLM	0-370	Coincides/Adjacent
44.52	45.24	0.72	BLM 29-9-9.3, Pvt RWA C-344 G.P., Upper signal Tree, BLM 28-9-35, Logging Spur, BLM 29-9-9.2	BLM	0-165	Coincides/Adjacent
Douglas County						
45.49	45.71	0.22	Unknown Logging Road	BLM	0-50	Coincides/Adjacent
45.85	46.58	0.73	BLM 28-9-35, Plum Creek Logging Spur	BLM	0-125	Coincides
47.10	47.79	0.69	Bingham Holmes Road - BLM 29-9-23,Holmes Creek Spur, Deep Reed Divide Spur	BLM/Private	0-160	Coincides/Adjacent
48.20	49.15	0.95	Deep Creek, BLM 29-9-12.1, Deep Creek Spur, BLM 29-09-13.0, BLM Logging Road	BLM	0-135	Coincides/Adjacent
51.99	52.07	0.08	Private Dirt Road	Private	0-125	Coincides/Adjacent
53.22	53.74	0.52	Shields Creek Spur, BLM 29-8-2.2	BLM	0-230	Adjacent
54.20	54.34	0.14	Logging Spur	BLM	0-30	Adjacent
54.79	55.01	0.22	Seneca Logging Spur	Private	0-30	Coincides
61.89	62.51	0.62	Nichols Bros Pvt Rd, John Clarke, DG-075	Private	0-115	Coincides
62.52	63.64	1.12	DR Johnson Pvt Dr (BLM 29-7-6.0)	Private	0-165	Coincides
64.55	64.61	0.06	Private Rd, DG-090.500, PLMP 58.3+4.87	Private	0-65	Coincides
64.61	64.73	0.12	Private Rd, DG-090.500, PLMP 58.3+4.87	BLM	0-75	Coincides

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
64.90	65.35	0.45	Private Rd – DG-090.500	Private	0	Coincides
66.20	66.26	0.06	Private Rd, DG-098.000	Private	0-65	Coincides
66.37	66.47	0.10	Private Rd, DG-099.000	Private	0-65	Coincides
67.19	67.29	0.10	Barton Private Rd	Private	0-95	Coincides
67.71	68.26	0.55	Barton Private Rd	Private	0	Coincides
68.60	68.88	0.28	Unknown Rd	Private	0-60	Coincides
69.66	70.37	0.71	Unknown Private Dirt Rd	Private	0	Coincides
72.36	72.65	0.29	Private Dirt Road	Private	0-140	Coincides/Adjacent
74.36	74.43	0.07	Gow Ranch Rd	Private	0	Coincides
74.71	74.55	0.39	Gow Ranch Rd	Private	0	Coincides
75.03	75.05	0.02	Bilger Creek Rd, BLM 29-5-11	Public Domain	0-65	Coincides
75.04	75.16	0.12	Private Rd, BLM 29-5-11, Bilger Creek Rd	Public Domain	0-10	Coincides
75.16	75.52	0.36	BLM 29-5-11, Bilger Creek Rd	USA (O&C)	0-10	Coincides
75.52	75.70	0.18	BLM 29-5-11, Bilger Creek Rd	Private	0-65	Coincides
75.74	75.92	0.18	Bilger Creek Rd, BLM 29-5-2.2, Private Logging Spur	Private	0-65	Coincides
77.07	77.13	.06	Unknown Rd	Private	0	Coincides
77.83	78.00	0.17	Little Lick Private Rd	Private	0-120	Adjacent
79.89	80.42	0.53	School Hollow Spur, BLM 29-4-17	BLM	0-250	Adjacent
80.61	81.10	0.49	Powerline corridor/powerline private Rd	Private	0-30	Coincides
82.23	82.43	.20	Unknown Dirt Rd	Private	0-120	Coincides/Adjacent
82.75	83.75	1.00	Wood Creek Rd, BLM 29-4-35	BLM	0-165	Coincides
83.79	83.85	0.06	Logging Spur	BLM	0	Coincides
86.25	86.44	0.19	Unknown Dirt Rd	Private	0	Coincides
86.44	87.38	0.94	High Noon Spur, BLM 29-3-31.3, BLM 29-3-31.4	USA (O&C)	0-65	Coincides
88.15	88.48	0.33	Fate Creek Rd, BLM 30-3-6	Private	0-200	Adjacent
89.11	89.51	0.40	Unknown Access Rd Seneca Jones Private Rd 7 & 8 (poorly-placed Seneca?)	Private	0-80	Coincides
89.76	89.88	1.2	New Logging Spur	Private	0-55	Coincides
90.15	90.36	0.21	Bland Mtn, BLM 30-4-1	USA (O&C)	0-160	Adjacent
90.36	90.51	0.15	Lavadoure Creek Spur, BLM 30-3-20.2	USA (O&C)	0-160	Adjacent
90.51	91.75	1.24	BLM 30-3-20.2, Unknown Spur, John Days Spur, BLM 30-3-28, Wook Rd	Private	0-130	Coincides
91.98	92.15	0.17	New Logging Spur	Private	0	Coincides
93.04	93.50	0.46	Unknown Rd	BLM	0-30	Coincides/Adjacent
93.77	94.07	0.30	Maize Ts Rd, BLM 30-3-23.5, Unknown Rd	Private	0-65	Coincides
96.28	96.38	0.10	Academy Rd, BLM 31-3-3	Private	0-65	Coincides
96.67	96.93	0.26	Private Rd	Private	0-100	Coincides

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
97.07	97.67	0.60	BLM 31-3-3, Academy Rd, Unknown Rd	BLM	0-140	Coincides
98.29	98.48	0.19	East Fork Stouts Creek Spur, BLM 31-3-1.1	BLM	0-90	Coincides
98.48	98.60	0.12	East Fork Stouts Creek Spur, BLM 31-3-1.1	Private	0-130	Adjacent
98.93	99.30	0.37	Private Rd	Private	0-100	Adjacent
100.02	100.38	0.36	FS3220705	BLM	0-75	Coincides
100.38	100.6877	0.30	FS3220705	Umpqua National Forest	0-75	Coincides
100.68	100.80	0.12	BLM 31-3-24 Non-Inv.	Private	0-50	Coincides
101.75	101.90	0.15	FS 3220790	Umpqua National Forest	0-50	Coincides/Adjacent
102.64	102.83	0.19	Sweetheart T.S., FS 3220792	Umpqua National Forest	0-100	Coincides
102.86	103.66	0.80	C&D Lumber	Private	0-120	Coincides/Adjacent
104.84	104.88	0.04	Granite T.S., FS 3230120	Umpqua National Forest	0-65	Coincides
105.39	105.51	0.12	Wildcat Ridge Rd, FS 32	Umpqua National Forest	0-140	Coincides
105.89	106.03	0.14	Neu Thin T.S., FS 3200255	Umpqua National Forest	0-100	Adjacent
106.13	106.40	0.27	East Fork T.S., FS 3200260	Umpqua National Forest	0-70	Coincides
106.55	107.12	0.57	Wildcat Ridge Rd, Cow Creek , FS 3200301	Umpqua National Forest	0-200	Coincides/Adjacent
107.26	107.63	0.37	Wildcat Ridge Rd, Cow Creek, FS 3200301	Umpqua National Forest	0-75	Coincides/Adjacent
108.12	108.41	0.29	Wildcat Ridge Rd, Cow Creek, FS 32, 3200330	Umpqua National Forest	0-65	Coincides/Adjacent
108.40	108.54	.14	FS 3200359	Umpqua National Forest	0-80	Coincides/Adjacent
108.90	108.96	0.06	Cow Creek/Wildcat Ridge Rd (FS 3200000)	Umpqua National Forest	10-150	Adjacent
109.30	109.37	0.07	FS 3200500	Umpqua National Forest	0	Coincides
109.59	109.68	0.09	FS 3200500	Umpqua National Forest	0-140	Coincides/Adjacent
110.42	110.55	0.13	FS 3232891, South Fork Cow Creek, USFS 3232	Umpqua National Forest	0-75	Coincides/Adjacent
Jackson County						
111.53	112.07	0.54	Wildcat Ridge Rd, FS 32, Ol Blue, FS 3200750	Umpqua National Forest	0-162	Adjacent
112.55	112.63	0.08	Wildcat Ridge Rd, FS 32	Umpqua National Forest	0-65	Coincides
113.37	113.65	0.28	Unknown Rd	Private	0-150	Coincides
119.96	120.08	0.12	Canyon Creek Ridge Rd	Private	0	Coincides
122.76	122.99	0.23	Old Ferry Rd	Private	0-100	Coincides/Adjacent
124.97	125.12	0.15	Indian Creek Firebreak, BLM 34-1-23	BLM - USA (O&C)	0-65	Adjacent
125.39	125.66	0.27	Indian Creek Firebreak, BLM 34-1-23	BLM	0-115	Coincides
126.27	126.36	0.09	Indian Creek Firebreak, BLM 34-1-23	Private	0-190	Adjacent
126.36	126.60	0.24	Indian Creek Firebreak, BLM 34-1-23	BLM - USA (O&C)	0-190	Adjacent
127.28	127.38	0.10	Indian Creek Firebreak, BLM 34-1-23	Private	0-190	Adjacent
128.06	128.18	0.12	BLM 34-1W-23.5	BLM	0-80	Coincides/Adjacent

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
133.97	134.15	0.18	Unknown Rd	Private	0-100	Coincides/Adjacent
139.41	139.48	0.07	Unknown Rd	Private	0	Coincides
141.50	141.80	0.30	BLM Road	BLM - USA	0-70	Coincides
142.02	142.14	0.12	Salt Creek Access Rd, BLM 36-2E-7	Private	115-150	Coincides/Adjacent
142.78	142.86	0.08	Unknown Access Rd	Private	0-150	Coincides
144.69	144.77	0.08	Salt Creek Access Rd, BLM 36-2E-19	Private	0-40	Coincides
145.50	145.17	0.06	Gardener Rd, (Salt Creek Rd)	Private	0-50	Coincides
150.42	150.65	0.23	Heppsie Mtn. D Spur, BLM 37-2E-1.1	BLM	0	Coincides/Adjacent
150.95	151.57	0.62	BLM 37-3E-6.10	BLM	0-60	Coincides
151.77	152.13	0.36	BLM 37-3E-6.10, Unknown Rd	Private	0-90	Adjacent
152.24	152.31	0.07	Unknown Rd	BLM	0-225	Adjacent
155.31	155.45	0.14	Private Rd	Private	0-65	Coincides
155.45	155.50	0.05	FS 2815-410	Rogue River-Siskiyou National Forest	0-95	Adjacent
155.66	155.98	0.32	FS 2815-410	Rogue River-Siskiyou National Forest	0-100	Coincides
157.44	157.56	0.12	FS 2815-300	Rogue River National Forest	0-95	Coincides
158.78	159.44	0.66	FS 3707500	Rogue River-Siskiyou National Forest	0-170	Coincides/Adjacent
159.98	160.91	0.93	South Fork Little Butte Creek Rd, FS 3730, 3700133, 3700130	Rogue River-Siskiyou National Forest	0-95	Coincides
162.80	162.93	0.13	FS 3700113	Rogue River-Siskiyou National Forest	0-65	Coincides
163.14	163.22	0.08	FS 3700115	Rogue River-Siskiyou National Forest	0	Coincides
164.21	165.93	1.72	FS 3720000	Rogue River-Siskiyou National Forest	0-80	Adjacent
Klamath County						
167.51	167.69	0.18	Unknown Rd	Rogue River-Siskiyou National Forest	0	Coincides
168.26	168.68	0.42	West Muddy Springs, FS 3700750	Fremont-Winema National Forest	0-95	Adjacent/Coincides
169.52	184.20	14.68	Clover Creek Rd (Co Rd 603)	County ROW	50-350	Adjacent
175.38	176.02	0.64	3852015	Private	0-155	Coincides/Adjacent
178.24	178.29	0.05	Private Rd	Private	0	Coincides
181.29	181.37	0.08	Private Rd	Private	0	Coincides
182.97	183.65	0.68	Private Rd	Private	0-70	Adjacent
184.06	184.15	0.09	Unknown Rd	Private	0	Coincides
184.85	187.28	2.43	Clover Creek Rd (Co Rd 603)	County ROW	50-150	Adjacent
187.76	188.83	1.07	Powerline	PP&L	0-50	Adjacent
188.15	188.22	0.07	Unknown Rd	Private	0	Coincides
190.69	191.46	0.77	Homestead Ln	Private	0-100	Coincides/Adjacent

TABLE D-1

Areas Where the PCGP Project is Co-Located with Existing Rights-of-Way and Corridors

Begin Milepost	End Milepost	Total Length (miles)	Right-of-Way/Corridor Type	Ownership	Pipeline Distance from Right-of-Way (feet)	Off-set
191.41	195.45	4.04	Weyerhaeuser Timber Company Rd, Existing Pipeline	Private	100	Adjacent
197.62	199.18	1.56	Weyerhaeuser Corp Rd	Private	0-270	Adjacent/ Coincides
199.96	200.22	0.26	Powerline	PP&L, Private	30	0 feet
200.65	202.16	1.51	Powerline	PP&L, Private	30	0 feet
202.16	202.34	0.18	Powerline	PP&L, Private	0-55	0-65 feet
202.34	203.59	1.25	Powerline	PP&L	55	10 feet
202.89	203.61	0.72	Unknown Rd	Private	0-65	Coincides
203.90	204.19	0.29	Powerline	PP&L	45-65	0-20 feet
206.03	207.48	1.45	Powerline	PP&L, Private	30	0 feet
210.57	211.54	0.97	State Hwy 39 (Klamath Falls - Malin Highway), Railroad	State	130-200	Adjacent
211.54	211.87	0.33	IOOF Cemetery Rd	Private	80-110	Adjacent
215.34	217.00	1.66	Powerline	PP&L	10	20 feet 1
215.38	215.67	0.29	Powerline Access Rd	Private	0-180	Adjacent
218.84	218.90	0.06	Private Dr	Private	90	Adjacent
218.90	220.56	1.66	Powerline Access Rd	Private	0-135	Adjacent
220.98	222.06	1.08	Powerline	PP&L	10	20 feet 1
221.28	221.35	0.07	Powerline Access Rd	Private	0-280	Adjacent
222.06	225.46	3.40	Powerline	PP&L	10-50	Adjacent
225.80	225.89	0.09	Unknown Rd	Private	70	Adjacent
226.85	227.00	0.15	Unknown Access Rd	Private or Not Known	30-35	Adjacent
227.72	227.84	0.12	More Lock Road	County	30-50	Adjacent
Total		**95.29**				

a/ Standard right-of-way overlap – see Resource Report 1 Figure 1.5-1.

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
Coos County (MP 1.46R - 45.76)							
Spread: Haynes Inlet - MP 1.46R - 4.15R							
1.46R	Cnty Rd 218 (Jordan Cove Rd)	Paved	All-Public	Not Crossed	1.54	0	16
1.64R	Southern Pacific Service Rd	Gravel	None	Bore	0.34	0	10
1.68R	Private Rd	Gravel	All	Open Cut	0.26	0	10
1.69	Southern Pacific Railroad	Rails	RR	Bore	1.85	0	
2.67	US Hwy 101	Paved	All-Public	Under Bay Bridge	2.27	0	
4.14R	North Bay Dr	Paved	All-WTC-Public	Open Cut	0.25	0	10
Spread: 1 (MP 4.15R - 51.60)							
4.21R	Thompson Private Rd	Dirt b/,c/	All	Not Crossed	0.14	0	10
4.30R - 4.81R	Private Logging Spur	Dirt	All	In ROW	1.04	0	10
4.97R - 5.10R	Private Logging Spur	Gravel d/	All	In ROW	0.47	0.23	10
5.30R - 6.00R	Private Logging Spur	Gravel	All	In ROW	0.33	0	10
5.30R - 6.00R	Private Logging Spur	Dirt	All	In ROW	0.40	0	10
5.54R	Private Logging Spur	Dirt	None	Open Cut	0.02	0	
5.64R	Private Logging Spur	Dirt	None	Open Cut	0.03	0	
5.60R	Private Logging Road	Paved/Gravel	All	Not Crossed	0.80	0	10
5.60R	Private Logging Road	Gravel	All	Not Crossed	0.37	0	10
6.31R	Private Logging Road	Gravel	Light	Not Crossed	0.93	0	10
6.31R	Kentuck Slough Rd (Kentuck Way Ln)	Paved	All-Public	Bore	0.15	0	10
6.34R	Country Club Rd	Paved	Light	Not Crossed	0.12	0	
6.44R	Country Club Rd	Paved	All	Not Crossed	0.54	0	12
6.44R	Country Club Rd	Paved d/	All	Not Crossed	0.13	0.22	12
6.64R - 7.34R	Logging Spur	Gravel	All	In ROW	0.88	0	10
6.68R	Logging Spur	Gravel	All	In ROW	0.05	0	
7.34R	Carlton Heights Rd	Gravel	All	Not Crossed	1.64	0	10
7.34R - 7.44R	Carlton Heights Rd	Paved/Gravel	Light	In ROW	1.24	0	10
7.77R	Logging Spur	Dirt	All	Open Cut	0.64	0	10
7.88R - 8.12R	Logging Spur	Dirt	All	Open Cut	0.35	0	10
8.17R	Logging Spur	Dirt	All	Open Cut	0.18	0	10
8.44R	Willanch Slough	Paved	All-Public	Open Cut	0.38	0	10
8.93R	Logging Spur	Dirt	All	Open Cut	0.61	0	10
8.93R	Logging Spur	Dirt	All	Open Cut	0.26	0	10
8.95 - 9.59	Lillian Ln/Messerle Logging Rd	Dirt b/,c/	All	Open Cut	1.59	0	16
9.11R	Logging Spur	Dirt	All	Open Cut	0.26	0	10
9.27R - 9.49R	Unknown Rd	Gravel/Dirt a/,b/,c/	All	In ROW	1.82	0	
9.40R	Noah Butte Rd	Gravel	All	Open Cut	1.61	0	10
9.40R	Unknown Rd	Gravel	All	Not Crossed	1.57	0	10
9.49R - 9.74R	Unknown Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	0.33	0	
9.94R	Unknown Rd	Dirt a/,b/,c/	All	Not Crossed	0.20	0	
10.04	Private Rd	Gravel	All	Open Cut	0.14	0	16
10.19	Cnty Rd 54 (Stock Slough Ln)	Paved	All-WTC-Public	Open Cut	0.46	0	16
10.20R	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.68	0	

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
10.39	Raven Wood Ln	Gravel a/,b/	All-WTC	Open Cut	0.29	0	16
10.54R - 10.61R	Unknown Rd	Gravel/Dirt a/,b/,c/	All	In ROW	1.19	0	
10.59	Private Rd to McGinnis-Weeker etc	Gravel a/,b/	All	Open Cut	0.08	0	16
10.71	Private Rd to McGinnis-Weeker	Paved	All	Open Cut	0.53	0	16
10.74	Private Rd to Woytus	Paved	All	Open Cut	0.07	0	16
10.96	Private Road	Gravel	All	Not Crossed	0.12	0	
11.07R	State 241 (Coos River Hwy)	Paved	All-Public	HDD	0.07	0	
11.08	Cnty Rd 23 (East Catching Slough Rd)	Paved	All-WTC-Public	Bore	0.83	0	16
11.15	Cnty Rd 205 (West Catching Slough Rd)	Dirt b/	All-WTC	Not Crossed	0.10	0	16
11.18R	Cnty Rd 6 (South Coos River Rd)	Paved	All-Public	HDD	0.85	0	
11.33	Anchor Dr (Farm Rd)	Dirt b/	All-WTC	Open Cut	0.65	0	16
11.41R	Private Rd	Gravel	All	Open Cut	0.35	0	
11.64	Private Rd	Gravel b/,c/	Light	Open Cut	0.80	0	16
11.69	Private Rd	Gravel	None	Open Cut	0.14	0	16
11.88	Private Rd	Gravel	None	Open Cut	0.22	0	16
11.96	Cnty Rd 53 (Old Wagon Rd) (aka East Side Sumner Rd)	Paved	All-WTC-Public	Open Cut	0.67	0	16
12.08R	Lillian Ln/Messerle Logging Rd	Dirt b/,c/	All	Open Cut	0.42	0	16
12.58	Roseburg Logging Rd (Alderwood Dr)	Paved/Dirt b/	All	Open Cut	0.11	0	16
12.77	Roseburg Logging Rd & Spur	Dirt b/	All	Open Cut	0.17	0	16
12.79	Alder Wood Ln & Skyline Dr	Gravel b/	All	Not Crossed	1.18	0	16
12.79 - 12.94	BPA Powerline Rd & Roseburg Logging Rd	Gravel b/	All	Not Crossed	0.20	0	16
12.94	BPA Powerline Rd & Roseburg Logging Rd	Gravel b/	All	Open Cut	0.37	0	16
13.21	Roseburg Logging Spur	Dirt b/	All	Not Crossed	0.05	0	16
13.21 - 13.42	Roseburg Logging Rd & Spur	Dirt b/	All	Open Cut	0.98	0	16
13.74	Coos Sumner Ln	Gravel b/,c/	All-WTC	Open Cut	0.29	0	16
14.23	Private Rd	Unknown	All	Not Crossed	0.50	0	10
14.23	Coos City - Sumner Rd	Paved	All-WTC-Public	Open Cut	3.03	0	16
14.28	Doyle Ln	Gravel b/	All	Open Cut	0.07	0	16
14.60 - 15.01	Menasha Logging Spur	Dirt b/,c/	All	In ROW	0.45	0	16
14.91	Menasha Logging Spur	Dirt b/,c/	All	Open Cut	0.22	0	16
15.16	Messerle Logging Spur	Dirt a/,b/,c/	All	Open Cut	0.51	0	16
15.51	Logging Road	Dirt	All	Not Crossed	0.68	0	
15.60	Logging Road	Dirt a/,b/,c/	All	Open Cut	0.18	0	
15.70	Boone Creek Rd	Gravel b/,c/	All-Public	Open Cut	0.53	0	16
16.04	Powerline Access (Emineth Pvt Rd)	Gravel b/,c/	All	Open Cut	0.44	0	16
16.42	Powerline Access Rd	Dirt b/,c/	All	Not Crossed	0.18	0	16
16.59	Private Rd	Dirt b/,c/	All	Open Cut	0.43	0	16
16.78 - 17.12	Powerline Access Rd	Dirt b/,c/	Light	Not Crossed	0.36	0	16
17.40	Menasha Logging Spur	Gravel b/,c/	All	Not Crossed	0.65	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
17.40	Cnty 58 (South Sumner Rd)	Bituminous/Gravel b/,c/	All-Public	Open Cut	1.91	0	16
17.40	Cnty 58 (South Sumner Rd)	Gravel b/,c/	All-Public	Not Crossed	0.19	0	16
17.73	Logging Spur	Dirt	Light	Not Crossed	0.12	0	
17.79	Powerline Access Rd	Gravel b/,c/	All	Open Cut	0.23	0	16
17.82 - 18.08	Menasha Logging Spur	Gravel	All	Open Cut	0.38	0	16
18.43 - 18.52	Menasha Logging Spur	Gravel a/,b/,c/	All	Open Cut	0.59	0	10
18.61	Menasha Logging Spur	Gravel b/,c/	All	Open Cut	0.90	0	16
18.61	Menasha Logging Spur	Gravel b/,c/	Light	Open Cut	0.40	0	16
19.24	Coos Co Sheep Logging Rd	Dirt a/,b/,c/	All	Open Cut	0.25	0	10
19.45	Coos Co Sheep Logging Rd	Gravel/Dirt b/,c/	All	Open Cut	0.59	0	16
19.45 - 19.58	Powerline Access Rd	Gravel/Dirt b/,c/	All	Open Cut	0.18	0	16
19.83	Powerline Access Rd (BLM 27-12-23.0)	Gravel b/	All	Not Crossed	2.26	0	16
19.83	Hungry Mtn Rd (BLM 27-12-28.0)	Gravel b/	All	Open Cut	2.65	0	14
19.83	Powerline Access Rd (BLM 27-12-23.0)	Gravel b/	All	Not Crossed	0.58	0	16
20.73	Powerline Access Rd	Dirt b/,c/	All	Not Crossed	0.11	0	16
21.09	Logging Spur	Gravel b/,c/	All	Open Cut	0.14	0	16
21.98	Powerline Access (BLM 27-12-14.1)	Dirt b/,c/	All	Open Cut	0.32	0	14
22.19	Powerline Access	Gravel/Dirt b/,c//	All	Open Cut	1.18	0	16
22.39	Powerline Access Rd	Gravel	All	Open Cut	0.26	0	16
22.57	Private Rd	Gravel	None	Open Cut	0.04	0	
22.58	Cnty Rd 9C (Fairview-Laverne Park Rd)	Paved	All-WTC-Public	Open Cut	0.74	0	16
23.09	Fisher Rd (Private) (Including BLM 7-12-25)	Gravel b/,c/	All	Open Cut	1.02	0	16
23.22	Unknown Rd	Dirt	None	Open Cut	0.02	0	16
23.90	Unknown Rd	Dirt	None	Open Cut	0.03	0	
23.99	Cnty Rd 60 (Powerline Access Rd)	Gravel	None	Open Cut	0.03	0	16
24.10	Cnty Rd 60 (Coos Bay Wagon Rd)	Paved	All-WTC-Public	Open Cut	1.06	0	16
24.36	Hudson Ridge Tie (BLM Rd 27-11-17.1	Gravel	All	Not Crossed	0.36	0	16
24.36	Hudson Ridge Tie (BLM 27-11-17.1)	Gravel	All	Open Cut	0.26	0	16
24.55	Cnty Rd 63 (Coos Bay Wagon Rd)	Paved	All-Public	Open Cut	0.31	0	16
24.55 - 24.81	Private logging Rd (BLM 27-11-30.1)	Gravel	All	Open Cut	0.74	0	14
24.99 - 25.14	Logging Spur (BLM 27-11-30.03)	Gravel	All	In ROW	0.34	0	16
25.15	Powerline Access Rds	Dirt	All	Open Cut	0.52	0	10
25.60 - 26.07	Logging Rd Menasha (BLM 27-11-30.1)	Gravel a/,b/,c/	All	Open Cut	1.35	0	14
26.08 - 26.65	Menasha Pvt. Logging spur	Dirt/Gravel	All	In ROW	0.78	0	10
26.65	Powerline Access Rd	Dirt b/,c/	Light	Open Cut	0.49	0	16
26.65 - 26.75	Logging Spur	Dirt	None	In ROW	0.11	0	10

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
26.65 - 26.75	Logging Spur	Dirt	None	In ROW	0.03	0	10
26.95	Cnty Rd 13 (Lee McKinley Rd) (Middle Creek Rd)	Gravel b/	All-Public	Open Cut	1.93	0	16
26.95-26.99	BLM 28-11-5.2	Aggregate	None	In ROW	0.07	0	
27.07	Dirt Two-Track	Pasture/Dirt b/,c/	All	Not Crossed	0.34	0	10
27.52 - 28.15	Logging Rd	Dirt a/,b/,c/	All	In ROW	0.44	0	16
27.52 - 28.15	Logging Rd	Dirt a/,b/,c/	All	In ROW	0.03	0	16
27.52 - 28.15	Logging Rd	Dirt a/,b/,c/	All	In ROW	1.42	0	16
27.86 - 27.94	Logging Rd	Dirt	All	In ROW	0.09	0	
28.06	BLM 28-11-9.6	Aggregate	All	Not Crossed	0.10	0	
28.06	Yankee Run Mainline (BLM 28-11-20)	Aggregate	All	Not Crossed	2.99	0	
28.06	BLM 28-11-9.6	Aggregate	All	Open Cut	0.06	0	
28.35	Logging Spur	Aggregate	All	Crossed	0.15	0	16
28.50	Dora Ridge Rd (BLM 28-11.3.1)	Gravel b/,c/	All	Open Cut	3.72	0	20
28.50	Pleasant Hill Rd (BLM 28-11-20.2 and BLM 28-11-20.1)	Aggregate	All	Open Cut	1.30	0	20
28.50	Yankee Run Mainline (BLM 28-11-20)	Aggregate	All	Open Cut	0.55	0	20
28.53	Dora Ridge Rd (BLM 28-11.3.1)	Gravel b/,c/	All	Not Crossed	0.03	0	20
29.02	BLM 28-11-9 & 9.5 A (BLM) & B (Private)	Gravel b/,c/	All	Open Cut	0.70	0	16
29.14	Lone Rock Logging Rd	Gravel b/,c/	All	Open Cut	0.26	0	16
29.27 - 29.45	Lone Rock Logging Rd	Gravel b/,c/	All	Open Cut	0.26	0	16
29.47	Lone Rock Logging Rd	Gravel b/,c/	All	Open Cut	0.34	0	16
29.59	Cnty Rd 1C (Myrtle Point - Sitkum Rd)	Paved	All-WTC-Public	Open Cut	0.15	0	16
30.38 - 31.49	Logging Spur	Gravel/Dirt a/,b/,c/	All	In ROW	1.28	0	16
31.30 - 31.46	Logging Spur	Gravel	All	Open Cut	0.27	0	10
31.51	Dora Spur Rd (BLM 28-11-13.2 A&B)	Gravel/Dirt a/,b/,c/	All	Not Crossed	0.38	0	14
31.69	Dora Thinning Rd (BLM 28-11-13.2)	Gravel	All	Not Crossed	0.43	0	16
31.69 - 31.81	Back Dora (BLM 28-11-13.6)	Gravel	All	In ROW	0.14	0	12
32.10	Dora Thinning Rd (BLM 28-11-13)	Gravel	All	Not Crossed	1.52	0	14
32.35	Private Logging Spur	Gravel a/,b/,c/	All	Open Cut	0.10	0	16
32.55	Golden Brick Rd	Gravel/Dirt a/,b/	All	Not Crossed	0.31	0	16
32.55	Logging Rd	Dirt/Gravel b/,c/	All	Open Cut	0.57	0	16
32.86	Logging Spur	Dirt	All	Not Crossed	0.12	0	
32.94	Logging Spur	Gravel/Dirt a/,b/,c/	All	Open Cut	0.33	0	10
33.25	Unknown Rd	Dirt	All	Open Cut	0.44	0	10
33.37	Unknown Rd	Dirt	All	Open Cut	0.31	0	10
33.74 - 33.80	Elk Mountain Loop (BLM 28-11-25.0)	Paved	All-WTC	In ROW	0.51	0	20
34.02	Elk Creek Rd (BLM 28-11-29)	Paved	All-WTC	Open Cut	7.35	0	20
34.31	Gold Brick Rd	Gravel/Dirt a/,b/,c/	All	Open Cut	0.37	0	16
34.37	Logging Spur	Gravel a/,b/,c/	All	Open Cut	0.10	0	10
34.42	Logging Rd	Dirt b/,c/	All	Open Cut	0.30	0	16
34.42	Logging Rd	Dirt b/,c/	All	Open Cut	0.04	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
34.44 - 34.52	Logging Spur	Dirt	None	Open Cut	0.19	0	16
34.69	Logging Rd	Gravel a/,c/	All	Open Cut	1.49	0.12	16
34.71 - 35.04	Logging Spur	Gravel	All	In ROW	0.42	0	10
35.33 - 35.80	Cnty Rd 63 (Elk Creek Rd) (BLM 28-11-29.0) (Access Rd 10 Miles from Sitkum Gravelford)	Paved	All-WTC	In ROW	2.79	0	20
35.34 - 35.80	Cnty Rd 84 (Big Creek Rd) (BLM 28-11-29.0)	Paved	All-WTC-Public	Not Crossed	3.13	0	16
35.34 - 35.80	Elk Creek Rd (BLM 28-11-29.0)	Paved	All-WTC	Not Crossed	1.52	0	16
35.80	Elk Creek Ext. (BLM 28-10-31.0)	Paved	All-WTC	Not Crossed	3.28	0	14
35.83 - 36.11	Elk Creek Rd (BLM 28-11-29.0)	Paved	All-WTC	In ROW	0.37	0	20
36.18	Logging Spur (BLM 28-10-29.0 - 28-10-29.2)	Gravel	All-WTC	Open Cut	0.08	0	20
36.64 - 37.15	Elk Creek Rd (BLM 28-10-29.0)	Paved	All-WTC	In ROW	1.25	0	20
37.15 - 37.22	Unknown Rd BLM Logging Spur	Gravel	None	In ROW	0.08	0	20
38.00	Private Rd	Gravel b/,c/	All	Not Crossed	0.21	0	10
38.06	BLM 28-10-27.2	Gravel	None	Open Cut	0.03	0	20
38.34 - 38.87	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All-WTC	In ROW	4.84	0	20
38.34 - 38.87	Chaney Rd (BLM 28-10-9.0A)	Paved	All-WTC	Not Crossed	0.46	0	20
38.34 - 38.87	Cnty Rd 1C (Weaver Sitkum Tie Rd)	Paved	All-WTC-Public	Not Crossed	0.06	0	16
38.58	BLM 28-10-27.2	Gravel	None	Open Cut	0.02	0	20
38.87	Sandy Creek (BLM 29-10-15) Mainline Paved Access Rd 10.3 Miles from Hwy 42	Paved	All-WTC	Not Crossed	1.01	0	20
38.87	Sandy Creek Rd (BLM 29-10-15)	Paved	All-WTC	Not Crossed	4.85	0	14
38.87	Sandy Creek Ext. (BLM 29-10-2.1 and BLM 28-10-34.1)	Paved	All-WTC	Not Crossed	1.91	0	16
38.87	Big Creek Rd (BLM 29-11-28)	Paved	All-WTC	Not Crossed	4.51	0	14
38.87	Sandy Creek Rd (BLM 29-10-14.2)	Paved	All-WTC	Not Crossed	0.86	0	14
38.98 - 39.22	Cnty Rd 171 (Plum Creek Logging Spur)	Dirt/Gravel	All	In ROW	0.67	0	16
39.35 - 39.85	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All-WTC	In ROW	1.40	0	20
39.60 - 39.72	Tri-W Group Logging Spur	Gravel/Dirt	All	In ROW	0.30	0	16
39.94	Tri-W Group Logging Spur	Gravel b/	All	Not Crossed	0.04	0	16
40.02	Tri-W Group Access Spur	Dirt a/,b/,c/	All	Not Crossed	0.11	0	16
40.27 - 40.37	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All	In ROW	0.60	0	20
40.61	Tri-W Group Access Spur	Gravel	None	Open Cut	0.05	0	16
40.68	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All	Open Cut	0.55	0	20
41.19	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All	Open Cut	0.22	0	20

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
41.19	Cawrse Rd (BLM 28-10-36)	Gravel	All	Open Cut	0.04	0	16
41.37	Weaver Sitkum Tie Rd (BLM 28-10-9.4)	Paved	All	Open Cut	0.43	0	20
41.39	BLM 28-9-31	Gravel	None	Open Cut	0.02	0	16
41.42	Logging Spur	Gravel	All	Open Cut	0.06	0	16
41.75	BLM 28-9-31.1	Gravel a/,b/,c/	All	Open Cut	0.04	0	16
42.03 - 42.50	Weaver Rd (BLM 28-8-18)	Paved	All	In ROW	1.16	0	14
42.03 - 42.50	Weaver Rd (BLM 28-8-18)	Paved	All	Not Crossed	9.51	0	14
42.10	Camas Creek (BLM 29-9-6.3)	Gravel	None	Open Cut	0.02	0	16
42.50	Unknown Rd	Gravel	All	Not Crossed	0.32	0	16
42.68	Cnty Rd 177 3 (Plum Creek Logging Spur)	Gravel	All	Open Cut	0.19	0	16
42.74 - 42.86	North Rock Creek (BLM 30-10-3)	Paved	All	In ROW	0.41	0	16
42.74 - 42.86	Camas Creek Rd (BLM 28-10-12)	Paved	All	Not Crossed	3.94	0	20
42.74 - 42.86	S Fork Camas Crk (BLM 28-9-20)	Aggregate	All	Not Crossed	1.76	0	20
42.74 - 42.86	S Fk Camas Creek Rd (BLM 28-9-32, BLM 28-9-32.2 and BLM 29-9-5.2)	Paved	All	Not Crossed	1.36	0	16
42.94 - 43.05	Logging Spur	Gravel	None	Open Cut	0.10	0	16
43.05	BLM 29-9-6.6	Gravel	All	Open Cut	0.02	0	16
43.05 - 43.10	North Rock Creek (BLM 30-10-3)	Paved	All	In ROW	0.05	0	16
43.29 - 43.45	North Rock Creek (BLM 30-10-3)	Paved	All-WTC	In ROW	2.94	0	16
43.29 - 43.45	North Rock Creek (BLM 30-10-3.0)	Paved	All-WTC	Not Crossed	7.25	0	16
43.29 - 43.45	Cnty Rd 21	Paved	All-WTC-Public	Not Crossed	0.29	0	
43.63	BLM 29-9-8	Gravel b/	All	Open Cut	0.15	0	14
43.63 - 43.90	CO-177.2R Lone Rock Logging Spur	Gravel b/,c/	All	In ROW	0.31	0	10
44.19	Plum Creek Timber Logging Rd (BLM 29-9-18.1)	Dirt a/,b/,c/	All	Open Cut	0.32	0 g/	16
44.29	Plum Crk Logging Spur Upper Rock	Dirt	None	Open Cut	0.37	0	16
44.29	Plum Crk Logging Spur Upper Rock	Dirt	All	Not Crossed	0.11	0	16
44.52 - 44.87	BLM 29-9-9.3 & Pvt. RWA C-344 G.P.	Gravel b/	All	In ROW	0.38	0	16
44.87 - 45.23	Upper Signal Tree (BLM 28-9-9.1)	Gravel b/	All	Not Crossed	2.05	0	20
44.87 - 45.23	Upper Signal Tree (BLM 28-9-35.0)	Gravel b/	All	In ROW	1.33	0	20
44.87 - 45.23	Upper Signal Tree (BLM 28-9-35.0)	Gravel b/	All	In ROW	0.05	0	20
45.24	BLM 29-9-9.2	Gravel	None	Open Cut	0.03	0	16
45.50 - 45.70	Unknown Logging Rd	Dirt	None	In ROW	0.29	0	16
45.75	Plum Creek Logging Rd	Dirt	None	Open Cut	0.07	0	16
Douglas County (MP 45.76 - 110.03)							
45.80	Logging Spur	Gravel b/,c/	All	Open Cut	0.23	0	16
45.85 - 45.92	Upper Signal Tree (BLM 28-9-35)	Dirt	All	Not Crossed	3.40	0	20
45.85 - 45.92	Upper Signal Tree (BLM 28-9-35)	Paved	All	In ROW	0.61	0	16
45.92 - 46.35	Plum Creek Logging Spur	Dirt/Gravel b/,c/	All	In ROW	0.62	0	16
45.92 - 46.40	Plum Creek Logging Spur	Dirt/Gravel b/,c/	All	Not Crossed	0.07	0	16
46.51	Unknown Rd	Dirt	All	Not Crossed	0.19	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
46.51	Lower Signal Tree (BLM 29-9-36.0)	Paved a/	All	Open Cut	11.72	0	14
46.72	Logging Spur	Gravel a/,b/	All	Not Crossed	0.19	0	16
46.74	Logging Spur	Gravel a/,b/	All	Open Cut	0.69	0	16
46.81	Unknown Rd	Gravel	All	Open Cut	0.10	0	
47.07 - 47.66	Deep Creek (BLM 29-9-12.2)	Gravel b/,c/	All-WTC	In ROW	0.67	0	16
47.10	Holms Creek Spur (BLM 29-9-15.1)	Gravel	All	Not Crossed	1.04	0	
47.10 - 47.71	Bingham Holmes Road (BLM 29-9-23)	Gravel	All	In ROW	1.24	0	
47.23	Holmes Crk Sp	Aggregate	All	Open-Cut	0.16	0	
47.5	Logging Spur	Aggregate	None	Not Crossed	0.07	0	14
47.72	Logging Spur	Natural	All	In ROW	0.03	0	
47.73	Logging Spur	Aggregate	All	In ROW	0.07	0	
48.16	Wildcat Creek Spur (BLM 29-9-14)	Dirt	All	Open Cut	0.69	0	
48.21 - 48.40	Deep Creek (BLM 29-9-12.1)	Gravel b/	All-WTC	In ROW	0.81	0	16
48.39 - 48.69	Deep Creek Spur (BLM 29-9-13.0)	Gravel b/	All	Not Crossed	0.53	0	16
48.44 - 48.67	Deep Creek Spur (BLM 29-9-13.0)	Gravel b/	All	In ROW	0.30	0	16
48.69 - 49.15	Deep Creek Spur (BLM 29-9-13.2)	Gravel b/	All	In ROW	0.50	0	16
49.00	Wildcat Rd	Paved	All-Public	Not Crossed	1.38	0	10
49.00	Private Rd	Gravel	All	Not Crossed	0.38	0	10
49.76	Cnty Rd 128 (Upper Camas County Rd)	Paved	All-Public	Open Cut	2.14	0	10
49.76	Baldwin Rd	Paved	All-Public	Not Crossed	0.23	0	10
49.80	Weaver Tie Rd	Paved	All	Not Crossed	2.77	0	
49.80	Lang Creek Road	Paved	All-Public	Not Crossed	0.36	0	
50.00	Private Rd	Gravel	All	Not Crossed	0.44	0	10
50.20	Private Farm Rd	Dirt	None	Open Cut	0.04	0	16
50.55 - 50.75	Barnes Private Rd	Dirt/Gravel a/,b/,c/	All	In ROW	0.38	0	16
50.83	Kirkendall Rd	Paved	All-Public	Open Cut	0.08	0	10
51.31-51.37	Private Rd	Dirt	None	Open Cut	0.08	0	16
51.49	Private Rd	Gravel/Dirt b/,c/	All	Open Cut	0.19	0	16
51.54	State Hwy 42	Paved	All-WTC-Public	Not Crossed	0.43	0	14
51.54	State Hwy 42	Paved	All-WTC-Public	Bore	0.08	0	14
51.54	Quiet Mountain Rd	Paved	All-WTC-Public	Bore	0.40	0	14
Spread: 2 (MP 51.60 - 94.67)							
51.96	Private Rd	Gravel	None	Open Cut	0.08	0	16
52.01	Private Rd	Dirt	None	Open Cut	0.35	0	
52.04	Private Rd	Gravel	All	Open Cut	0.35	0	10
52.16	Private Rd	Gravel	All	Open Cut	0.45	0	10
52.20	5-J Limited Private Rd	Gravel a/,b/,c/	All	Not Crossed	0.72	0	
52.62	Camas Mountain SP (BLM 29-8-9.3)	Gravel b/,c/	All	Open Cut	1.03	0	16
53.03	Private logging road (Camas Mountain SP) (BLM 29-8-9.3)	Gravel b/,c/	All	Open Cut	0.53	0	16
53.21 - 53.59	Shields Creek Spur (BLM 29-8-2.2)	Gravel b/	All	In ROW	0.87	0	16
53.74	Logging Spur	Gravel	All	Open Cut	0.06	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
54.20	Shields Creek Spur (BLM 29-8-11 / Private)	Gravel b/	All	Open Cut	1.22	0	19
54.21 - 54.35	Logging Spur	Gravel	All	In ROW	0.14	0	14
54.64	Shields Creek Spur (BLM 29-8-2.2 / Private)	Gravel b/	All	Not Crossed	1.51	0	16
54.64	Shields Creek Spur (BLM 29-8-2.2 / Private)	Gravel b/	All	Open Cut	0.33	0	16
54.81 - 55.01	Seneca Logging Spur	Dirt/Gravel	All	In ROW	0.26	0	16
55.42	Logging Spur	Dirt	All	Open Cut	0.11	0	
55.81	Cnty Rd 365 (Berry Creek Rd)	Paved	All-WTC-Public	Not Crossed	2.85	0	16
55.81	Berry Creek Access Rd (BLM 29-8-1)	Paved	All-WTC	Not Crossed	1.04	0	20
55.81	Cnty Rd 140 (Ireland)	Paved	All-WTC-Public	Bore	0.16	0	16
56.06	Private Rd	Gravel	All	Open Cut	0.10	0	16
56.12	Private Rd	Gravel	All	Open Cut	0.08	0	16
56.16	Private Rd	Gravel	All	Open Cut	0.08	0	16
56.20	Private Rd (DG-039)	Gravel	All	Open Cut	0.09	0	16
56.32	Private Rd (DG-041)	Gravel	All	Open Cut	0.09	0	16
56.74	Cnty Rd 140 (Ireland)	Paved	All-WTC-Public	Open Cut	1.74	0	16
56.74	Cnty Rd 141 (Benedict Rd)	Paved	All-WTC-Public	Not Crossed	0.05	0	16
56.91	Private Rd	Gravel b/	All	Open Cut	0.06	0	16
57.10	Private Rd	Gravel b/	All	Open Cut	0.12	0	14
57.35	Private Rd	Gravel b/	All	Open Cut	0.06	0	14
57.60	Cnty Rd 38 (Olalla Rd)	Paved	All-Public	Not Crossed	2.61	0	16
57.60	Cnty Rd 38 (Upper Olalla)	Paved	All-WTC-Public	Open Cut	0.09	0	16
58.19	Private Rd	Dirt a/,b/	All	Open Cut	0.20	0	16
58.65	Private Rd	Dirt a/,b/,c/	All	Open Cut	0.31	0	16
59.34	Private Rd	Dirt	None	Open Cut	0.03	0	16
59.60	Private Rd	Gravel b/	All	Open Cut	0.04	0	16
59.62	McNabb Creek Rd (BLM 28-7-3)	Gravel a/,b/,c/	All	Open Cut	0.35	0	16
60.02	Private Rd	Dirt a/,b/,c/,d/	All-WTC	Open Cut	0.50	0.11	16
60.58	McNabb Creek Rd (BLM 28-7-34) (Private)	Gravel b/	All	Open Cut	0.58	0	16
60.58	Hoover Hill Rd	Paved	All-Public	Not Crossed	0.54	0	16
61.90	Nichols Bros Private Logging Rd	Dirt	None	Open-Cut	0.42	0	16
61.90	Nichols Bros Private Logging Rd	Dirt b/,c/	All	Open-Cut	0.61	0	16
61.90	Nichols Rd	Dirt b/,c/	All	Open-Cut	1.44	0	
61.90	Nichols Bros Private Logging Rd	Dirt b/,c/	None	Open-Cut	0.46	0	16
61.90	Nichols Bros Private Logging Rd	Dirt	All	Open-Cut	0.02	0	16
61.90 - 62.44	John Clarke DG-075	Dirt ab/,c/	All	In ROW	0.63	0	16
62.52 - 63.62	D R Johnson (BLM 29-7-6.0)	Dirt/Gravel b/,c/,d/	All	In ROW	1.18	1	16
63.41	Kents Creek Spur (BLM 28-6-32.0)	Dirt/Gravel b/,c/	All	Not Crossed	0.88	0	16
63.41	BLM 28-6-31 & BLM 28-6-32	Dirt/Gravel a/,b/,c/	All	Not Crossed	0.72	0	16
63.90	Private Rd	Gravel	All	Not Crossed	0.13	0	20

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
63.92	Cnty Rd 100 (Kent Creek)	Paved	All-WTC-Public	Open Cut	1.06	0	14
64.17	Unknown Rd	Dirt	None	Open Cut	0.05	0	16
64.55 - 64.71	Private Rd DG-090.500 - PLMP 58.3+4.87	Dirt b/,c/,d/	All	In ROW	0.94	0.13	16
64.90 - 65.35	Private Rd DG-090.500	Dirt/Gravel b/,c/	All	In ROW	0.46	0	16
65.60	Private Rd	Gravel	All	Not Crossed	0.22	0	16
65.82	Cnty Rd 43 (Rice Creek)	Paved	All-WTC-Public	Open Cut	0.11	0	16
66.21	Private Rd DG-098.000	Gravel b/,c/	All	Open Cut	0.34	0	16
66.37 - 66.47	Private Rd DG-099.000	Gravel b/,c/	All	Open Cut	0.95	0	16
66.88	Cnty Rd 88A (Willis Creek Rd)	Paved	All-WTC-Public	Open Cut	0.16	0	14
66.90	Private Rd (Track 106)	Dirt	None	Open Cut	0.14	0	16
66.97	Private Rd	Dirt d/	All	Open Cut	0.62	0.06	16
67.19 - 67.30	Barton Private Rd	Dirt b/,c/	All	In ROW	0.59	0	16
67.58	Barton Private Rd	Dirt/Gravel b/,c/	All-WTC	Not Crossed	0.32	0	16
67.67	Private Rd	Dirt b/,c/,d/	All	Open Cut	0.44	0	16
68-59 - 68.88	Unknown Rd	Dirt b/,c/	All	In ROW	0.52	0	
68.07 – 68.39	Barton Private Rd	Dirt a/,b/,c/	All	In ROW	0.46	0	
68.07 – 68.39	Barton Private Rd	Dirt a/,b/,c/	All	In ROW	0.05	0	
69.30	Private Rd	Gravel a/,b/	All	Open Cut	0.49	0	
70.46	Edies Ln	Gravel a/,b/,c/	All	Open Cut	1.21	0	
71.00	Hong Private Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	1.11	0	
71.22	I-5	Paved	All-WTC-Public	Direct Pipe	2.53	0	
71.22	I-5	Paved	All-WTC-Public	Not Crossed	0.69	0	
71.26	Booth Ranch Rd	Paved	All-Public	Direct Pipe	1.15	0	
71.33	Cnty Rd 14 (Dole Rd)	Paved	All-WTC-Public	Direct Pipe	0.50	0	14
71.33	Roth Private Rd	Dirt a/,b/,c/	All	Not Crossed	0.28	0	14
71.34	Southern Pacific Railroad	Rails	RR	Direct Pipe	1.56	0	
72.05	Unknown Rd	Dirt a/,b/,c/,d/	All	Open Cut	0.33	0.11	
72.23 - 72.61	Unknown Rd	Dirt a/,b/,c/,d/	All	Open Cut	0.52	0.18	
73.58	Unknown Rd	Dirt/Gravel a/,b/,c/,d/	All	Not Crossed	3.14	0.67	
73.62 - 74.39	Cnty Rd 105 (Clarks Branch)	Bituminous	All-Public	Not Crossed	4.69	0	16
74.32 - 74.73	Gow Ranch Private	Gravel b/,c/,d/	All	Open Cut	0.98	0.11	16
74.74 - 74.99	Gow Ranch Private	Gravel b/,c/,d/	All	In ROW	2.80	0.24	10
74.97 - 75.11	Gow Ranch Private	Dirt a/,b/,c/	All	Open Cut	0.82	0	16
75.04 - 75.65	Bilger Creek Rd (BLM 29-5-11)	Rock a/,b/,c/,d/	All	In ROW	4.84	0.17	16
75.80	Bilger Creek Spur (BLM 29-5-2.2)	Dirt / Rock a/,b/,c/	All-WTC	Open Cut	0.21	0	16
75.80 - 75.93	Private Rd - Logging Spur	Gravel	None	In ROW	0.14	0	16
76.35	Cnty Rd 103 (Bilger Creek)	Gravel	All-WTC-Public	Open Cut	0.12	0	16
76.58	Unknown Rd	Dirt/Gravel a/,b/,c/,d/	All	Open Cut	0.15	0.04	
76.84	Unknown Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	0.78	0	
77.07 - 77.12	Unknown Rd	Dirt/Gravel a/,b/,c/	All	In ROW	1.37	0	

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
77.31	Unknown Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	0.12	0	
77.61	Private Road (Davis, Wayne)	Dirt/Gravel a/,b/,c/	All	Open Cut	0.49	0	
77.88 - 77.98	Little Lick Private Rd	Dirt a/,b/,c/,d/	All	Open Cut	1.22	0.17	16
78.00	Private Rd to Big Lick Reservoir	Gravel	All	Not Crossed	1.73	0	10
78.00	Cnty Rd 15 (North Myrtle)	Paved	All-Public	Not Crossed	5.12	0	
78.98	Cnty Rd 15 (North Myrtle)	Paved	All-WTC-Public	Open Cut	1.76	0	14
79.56	Starbuk Lane	Dirt/Gravel a/,b/,c/,d/	Light	Open Cut	0.51	0.09	16
79.56	Starbuk Lane	Gravel a/,b/,c/	Light	Open Cut	0.46	0	16
79.60	Powerline Access Rd	Dirt a/,b/,c/	Light	Open Cut	0.20	0.07	
79.89 - 80.42	Pack Saddle Rd (BLM 29-4-17)	Gravel a/,b/,c/	All	In ROW	0.99	0	14
79.89 - 80.42	Pack Saddle Rd (BLM 29-4-20)	Gravel a/,b/,c/	All	Not Crossed	1.12	0	20
80.71 - 80.73	Roseburg Forest Products	Dirt/Gravel	All	Open Cut	0.14	0	10
80.92	Powerline Private Rd	Gravel	None	Open Cut	0.16	0	10
81.09	Roseburg Forest Products	Gravel	All	Open Cut	0.56	0	16
81.15	Cnty Rd 18 (South Myrtle)	Paved	All-WTC-Public	Open Cut	6.47	0	24
81.68	Private Road (Sutch, Steve)	Dirt/Gravel a/,b/	All	Open Cut	0.51	0	
82.23 - 82.42	Unknown Rd	Dirt	All	In ROW	0.29	0	
82.42	Unknown Rd	Dirt	All	Open Cut	0.37	0	
82.64	Unknown Rd	Dirt	All	Not Crossed	0.21	0	
82.75 - 83.76	Wood Creek Rd (BLM 29-4-35.0)	Gravel a/,b/,c/	All	In ROW	2.61	0	16
82.97	Wood Creek Spur (BLM 29-4-27.3)	Gravel a/,b/,c/	All	Open Cut	0.04	0	16
83.40	Wood Creek Spur (BLM 29-4-27)	Gravel	All	Open Cut	0.17	0	16
83.79	Logging Spur	Dirt	All	Open-Cut	0.12	0	
84.05	Unknown Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	0.32	0	10
84.16	Roseburg Resources (BLM 29-4-35)	Dirt	None	Open Cut	0.05	0	16
84.22	Cnty Rd 92 (Wood Creek)	Gravel	All-Public	Open Cut	1.29	0	16
86.46 - 87.38	High Noon Spur (BLM 29-3-31.3 & BLM 29-3-31.4)	Gravel b/,c/	All	In ROW	1.52	0	16
86.50	Logging Spur	Dirt	All	In ROW	0.05	0	
86.80	East Fork Wood Creek Rd (BLM 30-4-3 / Private)	Dirt b/,c/	All	Open Cut	2.31	0	10
87.06	High Noon Spur (BLM 29-3-31.3, & Fate Creek Spur 30-3.6.1)	Gravel b/,c/	All	Open Cut	1.21	0	14
87.95	Eichmann Logging Spur (BLM 29-3-31.3)	Dirt	None	Open Cut	0.63	0	16
88.09	Eichmann (BLM 29-3-31.3)	Dirt a/,b/,c/	All	Open Cut	0.06	0	16
88.09	Private Rd	Gravel/Dirt b/,c/	All	Not Crossed	0.18	0	
88.21 - 88.48	Fate Creek (BLM 30-3-6)	Gravel b/,c/	All	Open Cut	0.82	0	16
88.53	Cnty Rd 34 (Days Creek)	Paved	All-Public	Open Cut	2.83	0	14
88.69	Private Rd	Gravel	None	Open Cut	0.04	0	16
88.77	Calley Logging Spur (BLM 29-3-31.3)	Dirt	None	Open Cut	0.05	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
88.93	Seneca Jones Private Rd	Dirt	All	Open Cut	0.48	0	16
89.07	Seneca Jones Private Rd	Dirt	All	Open Cut	0.18	0	16
89.10 - 89.28	Unknown Rd (BLM 29-3-31.3)	Dirt	All	In ROW	0.18	0	16
89.27 - 89.50	Seneca Jones Private Rd 7 & 8	Dirt, Gravel b/,c/	All	In ROW	0.37	0	16
89.50	Days Crk Sp	Natural	All	Open-Cut	0.02	0	
89.50	Days Crk Sp	Aggregate	All	Not Crossed	1.64	0	
89.50	Days Crk Sp (BLM 30-3-4.1)	Aggregate	All	Not Crossed	0.18	0	
89.50	Days Crk Sp (BLM 29-3-33.4)	Aggregate	All	Not Crossed	2.02	0	
89.74 - 88.87	New Logging Spur	Dirt b/,c/	All	In ROW	0.27	0	16
89.96	Bland Mtn Spur (BLM 30-3-17.1)	Gravel b/,c/	All	Open Cut	0.53	0	16
90.19	Bland Mtn (BLM 30-4-1)	Gravel b/,c/	All	Open Cut	3.79	0	16
90.19 - 90.36	Bland Mtn Spur (BLM 30-3-17.2)	Gravel	All	In ROW	0.16	0	16
90.36 - 90.74	Lavadoure Crk Spur (BLM 30-3-20.2)	Dirt	All	In ROW	0.77	0	14
90.85	Lavadoure Creek (BLM 30-3-2-.2)	Gravel	All	Not Crossed	4.03	0	16
90.86 - 90.93	Unknown Spur	Dirt	All	In ROW	0.08	0	12
90.88 - 91.19	Unknown Spur	Dirt	All	In ROW	0.44	0	12
91.19 - 91.74	John Days Spur (BLM 30-3-28) (Wook Rd)	Dirt/Gravel b/,c/	All	In ROW	3.15	0	16
91.96	St Johns Creek Spur 1	Dirt b/,c/	All	Open Cut	0.25	0	16
92.29	St Johns Creek Spur 1	Dirt b/,c/	All	Open Cut	1.10	0	16
92.36	St Johns Creek Spur 2	Gravel b/,c/	All	Open Cut	0.20	0	16
92.63	St Johns Creek Spur (BLM 30-3-34.1)	Gravel b/,c/	All	Not Crossed	0.07	0	16
92.63	St Johns Creek Spur (BLM 30-3-34.1)	Gravel b/,c/	All	Open Cut	2.19	0	16
92.8	Stinchfield Private Rd	Dirt	All	Open Cut	0.46	0	
93.03 - 93.50	Unknown Rd	Dirt	All	In ROW	0.72	0	12
93.58 - 93.62	Corn Creek Spur (BLM 30-3-23)	Gravel b/,c/	All	Not Crossed	1.73	0	14
93.58 - 93.62	Corn Creek Rd (BLM 30-3-26)	Gravel b/,c/	All	Not Crossed	0.84	0	16
93.58 - 93.62	Corn Creek Spur (BLM 30-3-23.1)	Gravel b/,c/	All	Not Crossed	0.37	0	14
93.65	Unknown Spur	Dirt	All	Open Cut	0.10	0	12
93.74	Maize Ts Rd (BLM 30-3-23.5)	Gravel b/,c/	All	Open Cut	0.87	0	15
93.76 - 94.34	Maize Ts Rd (BLM 30-3-23.5)	Gravel b/,c/	All	In ROW	1.70	0	15
Spread: 3 (MP 94.67 - 132.47)							
94.68	State Hwy 227 (Tiller Trail Hwy)	Paved	All-Public	Open Cut	0.61	0	14
94.81	Milo & Academy Dr	Paved	All	Not Crossed	0.38	0	16
95.51	Academy Rd (BLM 31-3-3)	Gravel a/,b/,c/,d/	All	Open Cut	1.93	0.02	16
96.33	Academy Rd (BLM 31-3-3)	Dirt/Gravel a/,b/,c/	All	Open Cut	0.89	0	10
96.33	Academy Rd (BLM 31-3-2.1)	Dirt/Gravel a/,b/,c/	All	Open Cut	0.02	0	10
96.67 - 96.91	Private Rd	Gravel b/,c/	All	In ROW	0.46	0	16
97.07	Academy Rd (BLM 31-3-3)	Dirt b/,c/	All	Open Cut	0.59	0	10
97.07 - 97.66	Unknown Rd	Dirt	All	In ROW	0.70	0	14
97.67	Stouts Creek Spur (BLM 31-3-1.3)	Gravel b/	All	Not Crossed	0.44	0	16
97.95	E Fk Stouts Creek Spur (BLM 31-3-3.1)	Gravel d/	All	Not Crossed	1.93	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
97.95	E Fk Stouts Creek Spur (BLM 31-3-1)	Gravel b/	All	Open Cut	1.01	0	16
97.95	E Fk Stouts Creek Spur (BLM 31-3-2.2)	Gravel b/	All	Not Crossed	0.40	0	16
97.95	E Fk Stouts Creek Spur (BLM 31-3-2.1)	Gravel b/,d/	All	Not Crossed	0.58	0.06	16
97.95	W Fk Stouts Creek Rd (BLM 30-3-34)	Gravel b/	All	Not Crossed	1.19	0	16
97.96	Mighty Fine Ext Spur (BLM 31-3-1.4	Gravel	All	Open Cut	0.07	0	10
98.31 - 98.48	E. FK Stouts Creek Spur (BLM 31-3-1.1)	Dirt b/,c/	All	In ROW	0.52	0	16
98.48 - 99.29	Unknown Rd	Dirt b/,c/,d/	All	In ROW	1.23	0.1	16
100.02 - 100.40	FS 3220705 (BLM 31-3-13; NonInv)	Gravel a/,b/,c/	All	In ROW	0.37	0	16
100.40 - 100.67	FS 3220705	Gravel a/,b/,c/	All	In ROW	0.30	0	16
100.40 - 100.67	FS 3220705	Gravel a/,b/,c/,d/	All	Not Crossed	0.21	0.06	16
100.67 - 100.75	FS 3220705 (BLM 31-3-24; NonInv)	Gravel a/,b/,c/,d/	All	In ROW	1.09	0.36	16
100.76	FS 3220705	Dirt	None	Open Cut	0.06	0	16
101.57	FS 3220707	Dirt b/,c/,d/	All	Open Cut	0.44	0.15	14
101.77 - 101.92	FS 3220790	Dirt	None	Open Cut	0.50	0	14
102.25	FS 3220792 (Sweetheart T.S.)	Dirt b/,c/	All	In ROW	0.11	0	14
102.30	Green Butte (FS 3220000)	Gravel b/,c/	All	Not Crossed	4.01	0	16
102.30	Green Butte (FS 3220000)	Gravel b/,c/	All	Open cut	6.77	0	16
102.62 - 102.83	FS 3220792 (Sweetheart T.S.)	Dirt b/,c/	All	In ROW	0.56	0	14
102.87 - 103.60	C&D Lumber	Dirt/Gravel b/,c/	All	In ROW	0.82	0	
103.60 - 103.66	C&D Lumber	Dirt/Gravel b/,c/	All	In ROW	0.31	0	16
103.79	C&D Lumber	Gravel b/,c/	All	Open Cut	0.37	0	16
103.93	C&D Lumber	Gravel b/,c/	All	Open Cut	0.22	0	16
103.95	FS 3230137	Gravel b/,c/	All	Not Crossed	0.27	0	16
104.14	FS 3230136	Gravel a/,b/,c/	All	Open Cut	0.39	0	14
104.24	Callahan Creek (FS 3230000)	Gravel b/,c/	All	Open Cut	9.58	0	16
104.27	FS 3230100	Gravel a/,b/,c/	All	Open Cut	0.68	0	14
104.27	FS 3230135	Gravel a/,b/,c/	All	Not Crossed	0.27	0	14
104.83	FS 3230120	Dirt	None	Open Cut	0.06	0	14
104.84	FS 3230100	Gravel a/,b/,c/	All	Open Cut	0.35	0	14
104.85	FS 3230121	Dirt	None	Open Cut	0.01	0	14
105.32	FS 3230100	Gravel a/,b/,c/	All	Open Cut	0.40	0	14
105.38 - 105.53	Wildcat Ridge Rd (FS 3200000)	Gravel b/,c/	All-WTC	In ROW	3.80	0	14
105.69 - 106.00	FS 3200255	Dirt b/,c/	All	In ROW	0.38	0	14
106.13 - 106.37	FS 3200260	Gravel b/,c/	All	In ROW	0.48	0	14
106.50 - 106.77	FS 3200269	Dirt	None	In ROW	0.29	0	14
106.77	FS 3200280	Gravel	None	In ROW	0.02	0	14
106.77 - 106.84	Wildcat Ridge Rd (FS 3200000)	Gravel b/	All-WTC	Not Crossed	0.91	0	14
106.77 - 107.10	Wildcat Ridge I TS (FS 3200270)	Dirt	None	In ROW	0.36	0	14
107.26 - 107.47	Wildcat Ridge I TS (FS 3200300)	Dirt	All	In ROW	0.23	0	14
107.43 - 107.63	Wildcat Ridge I TS (FS 3200301)	Dirt b/,c/,d/	All	In ROW	0.27	0.01	14

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
108.09	Wildcat Ridge Rd (FS 3200000)	Gravel b/	All-WTC	Open Cut	0.86	0	14
108.20	FS 3200330	Gravel	None	In ROW	0.10	0	14
108.32	Wildcat Ridge Rd (FS 3200000)	Gravel b/	All-WTC	Open Cut	0.90	0	14
108.40 - 108.66	FS 3200359	Dirt	None	In ROW	0.53	0	
108.88	E Fk T.S. (FS 3200380)	Gravel	None	Open Cut	0.02	0	10
108.96	Cow Creek/Wildcat Ridge Rd (FS 3200000)	Gravel b/	All-WTC	Open Cut	1.86	0	14
109.15	FS 3200500	Gravel b/	All	Open Cut	0.56	0	10
109.30 - 109.37	FS 3200500	Gravel b/	All	In ROW	0.41	0	10
109.59 - 109.68	FS 3200500	Gravel b/	All	In ROW	0.20	0	10
Jackson County (MP 110.03 - 166.41)							
110.15 - 110.54	FS 3232891	Dirt b/,c/	All	In ROW	0.47	0	10
110.40	Pevine Quarry (FS 3232895, FS 3232896 and FS 3232898)	Gravel	All	Not Crossed	0.60	0	10
110.55	South Fork Cow Creek (FS 32320000)	Gravel b/,c/	All	Open Cut	8.64	0	16
111.00	Long Prairie Rd (FS 3200600)	Gravel b/,c/	All-WTC	Not Crossed	4.47	0	14
111.66 - 112.07	Wildcat Ridge Rd (Cow Creek Rd) (FS 3200000)	Gravel b/,c/	All-WTC	In ROW	4.68	0	14
112.07	FS 3200750	Gravel b/,c/	All	In ROW	0.45	0	14
112.56 - 112.94	FS 3200750	Gravel b/,c/	All	In ROW	0.71	0	14
113.37	Unknown Rd	Dirt b/,c/	All	Not Crossed	0.13	0	16
113.49	Unknown Rd	Dirt b/,c/	All	Not Crossed	0.20	0	16
113.66	BLM 32-1-31.3	Dirt b/,c/,d/	All	Open Cut	3.13	0.24	16
114.08	Unknown Rd	Dirt	None	Open Cut	0.11	0	16
115.13	Unknown Rd	Gravel b/,c/	All	Open Cut	1.08	0	16
115.36	Hardway MI (BLM 33-2-12	Gravel b/,c/	All	Open Cut	0.27	0	17
115.84	Dwinnel Rd (BLM 33-1-5)	Gravel b/,c/	All	Open Cut	2.71	0	16
116.08	Old Ben Ex (BLM 33-1-7.2)	Gravel b/,c/	All	Open Cut	0.17	0	16
116.33	Dwinnel Rd (BLM 33-1-5)	Gravel b/,c/	All	Open Cut	0.43	0	16
117.85	Morris Taylor Dr	Dirt b/,c/,d/	All	Open Cut	1.71	1.27	16
118.25	Morris Taylor Dr	Dirt b/,c/,d/	All	Open Cut	0.09	0	16
118.57	Morris Taylor Dr	Dirt b/,c/,d/	All	Open Cut	0.23	0.13	16
118.79	Morris Taylor Dr	Dirt b/,c/,d/	All	Open Cut	0.66	0.38	16
118.93	West Fork Creek Trail Rd (BLM 33-1-29)	Paved	All-Public	Open Cut	0.55	0	30
119.03	Cabin Canyon Rd (Trail Creek Spur) (BLM 33-1-29.2)	Dirt b/	All	Open Cut	1.14	0	14
119.70	Cabin Canyon MI (BLM 33-1-29.1)	Dirt b/	All	Open Cut	1.17	0	16
120.05	Unknown Rd	Dirt	None	Open Cut	0.60	0	14
120.28	Cabin Creek Ridge (BLM 33-1-28)	Dirt b/	All	Open Cut	0.37	0	14
120.28	Cabin Creek Ridge (BLM 33-1-28)	Dirt b/,d/	All	Open Cut	0.49	0.18	14
120.28	Cabin Creek Ridge (BLM 33-1-28)	Dirt	None	Open Cut	0.24	0	14
120.45	Unknown Rd	Dirt	All	Open Cut	0.10	0	14

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
120.55	Loper Ln	Dirt/Gravel b/,c/	All	Not Crossed	0.05	0	16
120.55	Loper Ln	Dirt/Gravel b/,c/	All	Open Cut	0.31	0	16
120.85 - 120.91	Private Rd	Dirt/Gravel b/,c/	All	Open Cut	0.62	0	16
121.80	Unknown Rd	Dirt/Gravel a/,b/,c/	All	Open Cut	0.59	0	10
122.05	Private Rd	Gravel	All	Not Crossed	0.30	0	16
122.36	Private Rd	Dirt	None	HDD	0.31	0	16
122.54	Ragsdale Rd	Paved	All-Public	HDD	0.59	0	16
122.58	Old Trail Creek Rd.	Gravel, Paved	All-Public	HDD	1.23	0	16
122.60	State Hwy 62 (Crater Lake Highway)	Paved, Concrete	All-WTC-Public	HDD	0.50	0	10
122.76	2500-3013 Old Ferry Rd	Gravel b/,c/	All-WTC	HDD	0.08	0	16
122.99	2500-3013 Old Ferry Rd	Gravel b/,c/,d/	All-WTC	Open Cut	0.58	0.03	16
123.08	Old Ferry (BLM 34-1-10)	Gravel b/,c/,d/	All-WTC	Open Cut	1.71	0.23	14
123.08	Old Ferry (BLM 34-1-10)	Gravel b/,c/	All-WTC-Public	Open Cut	1.38	0	14
124.97 - 125.13	Indian Creek Firebreak (BLM 34-1-23)	Gravel b/,c/,d/	All	Open Cut	2.17	0.68	10
124.97 - 125.13	Indian Creek Firebreak (BLM 34-1-23)	Gravel b/,c/	Light	Open Cut	0.23	0	10
125.40 - 125.56	Indian Creek Firebreak (BLM 34-1-23)	Dirt, Rock b/,c/	Light	Open Cut	0.79	0	10
125.87	Indian Creek Firebreak (BLM 34-1-23)	Dirt, Rock b/,c/	Light	Open Cut	0.40	0	10
126.27 - 126.59	Indian Creek Firebreak (BLM 34-1-23)	Dirt, Rock b/,c/	Light	Open Cut	0.56	0	10
126.64	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.05	0	10
127.30	Indian Creek Firebreak (BLM 34-1-23)	Dirt, Rock b/,c/,d/	All	Open Cut	2.09	0.76	10
127.30	Indian View (BLM 34-1E-20)	Dirt, Rock b/,c/	All	Not Crossed	0.49	0	10
127.30	Kleeman Re-Route Road	Dirt b/,c/,d/	All	Not Crossed	0.55	0.2	
128.06 - 128.17	BLM 34-1W-23.5	Dirt b/,c/,d/	All	In ROW	0.62	0.15	16
128.38	Unknown Rd	Dirt	None	Open Cut	0.39	0	16
128.68	Reese Creek Spur (BLM 034-1E-30.3)	Dirt b/,c/	All	Not Crossed	0.55	0	14
128.68	Reese Creek Spur (BLM 034-1E-30.2)	Dirt b/,c/	All	Not Crossed	0.38	0	14
129.00	Indian Lake Reservoir Access	Gravel	All	Not Crossed	0.79	0	10
129.28	Reese Creek Spur (BLM 034-1E-30.1)	Dirt b/,c/,d/	All	Open Cut	1.12	0.79	14
129.28	Reese Creek Spur (BLM 034-1E-32)	Dirt b/,c/	All	Not Crossed	1.17	0	14
129.67	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	1.11	0.05	16
129.90	Powerline Rd	Dirt	None	Open Cut	0.13	0	16
130.23	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.75	0.03	16
130.81	Crowfoot Rd	Paved	All-WTC-Public	Open Cut	0.31	0	16
132.47	Butte Falls Hwy	Paved	All-WTC-Public	Open Cut	0.52	0	16
Spread: 4 (MP 132.47 - 169.50)							
133.34	Private Rd	Gravel b/	All	Open Cut	1.05	0	16
133.38	Unknown Rd	Dirt	None	Bore	0.30	0	16
133.47	Medford Aqueduct	Dirt	None	Open Cut	0.21	0	16
133.55	Unknown Rd	Dirt	None	Open Cut	0.10	0	16
133.59	Medford Aqueduct Access Rd (BLM 34-1E-35)	Dirt b/,c/	All	Open Cut	1.79	0	16
133.98 - 134.14	Unknown Rd	Dirt	None	In ROW	0.21	0.05	16
134.14	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	1.80	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
134.27	Unknown Rd	Dirt b/,c/	All	Open Cut	0.24	0	16
134.65	OBENCHAIN R/W (BLM 35-1E-18)	Dirt b/,c/	All	Not Crossed	2.07	0	16
134.65	Obenchain R/W (BLM 35-1E-11.1)	Dirt b/,c/	All	Open Cut	0.75	0	16
134.87	Unknown Rd	Dirt b/,c/	All	Open Cut	0.25	0	16
135.53	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.81	0.29	16
136.13	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.92	0.33	16
136.30	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.22	0.08	16
136.46	Unknown Rd	Dirt b/,c/,d/	All	Not Crossed	0.41	0.15	16
136.46	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.26	0.09	16
136.84	Geppert Butte Spur W (BLM 35-1E-13.1)	Dirt b/,c/,d/	All	Open Cut	0.51	0.15	15
137.14	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.21	0.07	16
137.30	Obenchain Rd	Gravel, Paved b/	All-Public	Open Cut	0.23	0	16
138.08	Terbeck Existing Access	Dirt b/,c/,d/	All	Open Cut	0.20	0.07	16
138.63	BLM 35-1E-13	Dirt b/,c/	All	Not Crossed	0.64	0	16
138.63	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.83	0.07	16
139.06	Unknown Rd	Dirt b/,c/	All	Open Cut	0.64	0	16
139.45	Unknown Rd	Dirt b/,c/	All	Open Cut	0.33	0	16
140.31	Unknown Rd	Dirt	None	Open Cut	0.04	0	
140.63	Salt Over Rd (BLM 36-2E-7.1)	Dirt	None	Open Cut	0.03	0	
140.67	Hanscom Drway (BLM 35-2E-33)	Dirt b/,c/	All	Not Crossed	0.65	0	20
140.67	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.94	0.31	20
141.45 - 141.80	Unknown BLM Rd	Gravel	None	In ROW	0.36	0	
141.80	Salt Creek Access Rd (BLM 36-2E-7)	Paved	All	Open Cut	2.15	0	20
142.09	Unknown Rd	Dirt b/,c/	All	Open Cut	0.07	0	16
142.59	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.52	0.19	16
142.80	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.42	0	
143.64	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	2.48	0.07	16
144.06	Unknown Rd	Dirt a/,b/,c/,	All	Open Cut	1.32	0	16
144.69	Salt Creek Rd (BLM 36-2E-19)	Dirt	All	Open Cut	1.62	0	14
145.15	Salt Creek Rd (Gardner Road) (BLM 36-2E-19)	Gravel	All	Not Crossed	1.13	0	14
145.20	Private Rd	Gravel	All	Open Cut	0.69	0	16
145.38	Private Rd	Gravel	All	Open Cut	0.52	0	16
145.58	State Hwy 140 (Lake of the Woods)	Paved	All-Public	Bore	0.14	0	16
145.98	Unknown Rd	Dirt b/,c/	All	Open Cut	0.06	0	16
146.20	Unknown Rd	Dirt b/,c/	All	Open Cut	0.32	0	16
146.81	Hanley South Canal Rd	Dirt b/,c/	All	Open Cut	2.63	0	14
147.00	Private Rd	Gravel	All	Not Crossed	0.07	0	10
147.68	Unknown Rd	Gravel b/,c/	All	Open Cut	1.12	0	16
147.76 - 148.00	Unknown Rd	Dirt b/,c/	All	Open Cut	0.50	0	10
148.00	Private Rd	Gravel	All	Not Crossed	0.15	0	10
150.15	Heppsie Mtn B Spur (BLM 37-2E-1)	Gravel	None	Open Cut	0.04	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
150.25 - 150.64	Heppsie Mtn Quarry Spur (BLM 37-2E-1.3) (includes BLM 37-2E-1.1)	Gravel	All	Open Cut	2.05	0	16
150.25 - 150.64	Heppsie Mtn Quarry Spur (BLM 37-2E-1.3) (includes BLM 37-2E-1.1)	Gravel	None	Open Cut	0.20	0	16
150.35 - 150.64	Heppsie Mtn Quarry Spur (BLM 37-2E-1.3) (includes BLM 37-2E-1.1)	Gravel	All	Not Crossed	1.64	0	18
150.98 - 151.57	BLM 37-3E-6.10	Dirt b/,c/	All	In ROW	0.55	0	16
151.56	BLM 37-3E-6.10	Dirt b/,c/	All	Open Cut	0.19	0	14
151.68	Unknown Rd	Dirt b/,c/	All	Open Cut	0.08	0	16
151.77	Unknown Rd	Dirt b/,c/	All	Open Cut	0.13	0	16
152.06 - 152.14	BLM 37-3E-6.10	Dirt b/,c/	All	In ROW	0.42	0	14
152.08 - 152.31	Unknown Rd	Dirt	All	Open Cut	0.22	0	10
152.31	Heppsie Mtn Pond Spur (BLM 37-3E-6.3)	Dirt	All	Open Cut	0.07	0	14
152.38	Heppsie Mtn Stub Spur (BLM 37-3E-6.4)	Dirt	All	Open Cut	1.71	0	14
152.56	Heppsie Mtn Mainline (BLM 37-3E-31)	Gravel b/,c/	All	Open Cut	1.44	0	18
153.52	Heppsie Mtn Ridge Top Spur (BLM 37-3E-5.2)	Dirt b/,c/	All	Open Cut	0.17	0	12
153.80	Heppsie Mtn Mainline (BLM 36-3E-31)	Gravel b/,c/	All	Open Cut	0.22	0	18
155.03	Unknown Rd	Dirt b/,c/	All	Open Cut	0.37	0	14
155.45	Unknown Rd	Dirt b/,c/	All	Open Cut	0.32	0	14
155.50 - 155.97	FS 2815410	Dirt, Gravel b/,c/,d/	All	In ROW	0.81	0.31	14
155.50 - 155.97	FS 2815410	Dirt, Gravel b/,c/,d/	All	In ROW	0.62	0.11	14
155.98	FS 2815415	Dirt	None	Open Cut	0.33	0	14
156.32	FS 2815415	Dirt	None	Open Cut	0.21	0	14
156.77	FS 2815000	Gravel b/,c/	All	Open Cut	6.81	0	16
157.40	FS-2815320	Decommissioned b/,c/,d/	All	Open Cut	0.06	0.07	14
157.55	FS-2815300	Gravel b/,c/	All	Open Cut	2.80	0	14
158.72 - 159.41	FS 3707500	Gravel b/,c/	All	In ROW	2.71	0	16
159.99 - 160.62	S. Fk Little Butte Creek Rd (FS 3730000)	Dirt/Gravel b/,c/	All	In ROW	1.97	0	20
160.09	FS 3730180	Dirt	None	Open Cut	0.02	0	
160.41	FS 3730090	Decommissioned	None	Open Cut	0.05	0	
160.59	FS 3730070	Decommissioned	None	Open Cut	0.02	0	
160.62 - 160.73	FS 3700133	Rock b/,c/	All	In ROW	0.15	0	14
160.76	Big Elk Cinder Pit (FS 3700134)	Rock b/,c/	All	Open Cut	0.48	0	14
160.76 - 160.91	FS 3700130	Gravel b/,c/	All	Open Cut	0.70	0	18
160.85	FS 3700130	Gravel b/,c/	All	Open Cut	0.02	0	18
161.00	FS 2800700	Gravel	All	Not Crossed	1.00	0	14

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
161.26	FS 3700131	Dirt b/,c/	All	Open Cut	0.23	0	12
161.41	Big Elk Rd (FS 3700000)	Paved	All	Open Cut	5.10	0	16
161.41	FS 3707000	Gravel (cinder)	All	Not Crossed	3.31	0	16
161.41	Big Elk Rd (FS 3700000)	Gravel b/	All	Not Crossed	3.05	0	16
161.41	Rum Rye Rd (FS 3740000)	Aggregate	All	Not Crossed	1.19	0	
161.41	Scotch Rd (FS 100)	Aggregate	All	Not Crossed	0.63	0	
162.00	FS 2800800	Gravel	All	Not Crossed	0.70	0	18
162.02	FS 3705080 (Decommissioned)	Dirt	None	Open Cut	0.03	0	
162.26	Unknown FS Rd	Dirt a/,b/,c/	All	Not Crossed	0.28	0	
162.80 - 162.90	FS 3700113	Dirt b/,c/	All	In ROW	0.55	0	14
163.14	FS 3700100	Gravel b/,c/	All	Open Cut	0.96	0	16
163.14 - 163.21	FS 3700115	Unknown	None	In ROW	0.09	0	
163.79 - 164.21	FS 3720180	Decommissioned	None	Open Cut	0.44	0	
163.95	FS 3720185	Decommissioned	None	Open Cut	0.01	0	
164.21 - 165.93	FS 3720000	Gravel b/	All	Open Cut	3.53	0	16
164.30	FS 3720190	Decommissioned	None	Open Cut	0.04	0	
164.40	FS 3720200	Decommissioned	None	Open Cut	0.03	0	
165.47	FS 3720480	Decommissioned	None	Not Crossed	0.01	0	
165.68	FS 3705000	Dirt	All	Open Cut	4.52	0	20
165.72	FS 3720500	Gravel b/	All	Not Crossed	0.20	0	16
166.10	Brown Mtn Rd (FS 3720510)	Decommissioned b/,c/,d/	All	Open Cut	0.30	0.42	14
Klamath County (MP 166.41 - 228.18)							
166.45	FS 3720520	Gravel b/,c/	All	Open Cut	0.76	0	16
167.31	Daley Creek Rd (FS 3720000)	Gravel b/,c/	All	Open Cut	3.24	0	16
167.51 - 167.69	FS 3720820	Dirt	None	Open Cut	0.35	0	
168.28 - 168.68	West Muddy Springs (FS 3700750)	Gravel b/	All	In ROW	0.96	0	14
168.42	FS 3700754	Dirt	None	Open Cut	0.02	0	
168.84	Dead Indian Memorial Rd	Paved	All-WTC-Public	Open Cut	2.19	0	10
168.84	Dead Indian Memorial Rd	Paved	All-WTC-Public	Open Cut	0.08	0	10
168.85	FS 3700240	Paved	All	Not Crossed	0.54	0	10
168.92	FS 3800991	Dirt	None	Open Cut	0.36	0	
169.10	FS 3800990	Dirt	None	Open Cut	0.38	0	
169.34	FS 3800996	Dirt	None	Open Cut	0.18	0	
169.48	Unknown Rd	Dirt/Gravel	All	Open Cut	0.07	0	10
Spread: 5 (MP 169.50 - 228.18)							
169.52 - 170.96	Cnty Rd 603 (Clover Creek Rd)	Paved	All-Public	Not Crossed	21.37	0	10
169.75	Unknown Rd	Dirt/Gravel	None	Open Cut	0.04	0	10
170.85	FS 3800960	Dirt b/,c/	All	Open Cut	0.03	0	14
170.97	FS Unauthorized Rd	Dirt b/,c/	All	Open Cut	0.03	0	10
171.09	Spencer Creek Quarry (FS 3800950)	Dirt b/,c/	All	Open Cut	0.07	0	14
171.41	Private Rd.	Dirt b/,c/	All	Open Cut	0.16	0	16
171.60	FS 3800940	Dirt b/,c/	All	Open Cut	0.18	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
172.08	FS 3800900	Dirt b/,c/	All	Open Cut	0.11	0	14
172.24 - 172.31	FS 3800903	Dirt a/,b/,c/	All	Open Cut	0.21	0	14
172.57	Desolation (FS 3850000)	Gravel b/,c/	All	Open Cut	0.14	0	16
172.80	Unknown Rd	Dirt	All	Open Cut	0.09	0	
173.02	BLM 38-5-12 (NonInv)	Dirt b/,c/	All	Open Cut	0.04	0	16
173.79	FS 3800820	Dirt	All	Open Cut	0.11	0	14
174.17	FS 3800790	Gravel b/,c/	All	Open Cut	0.19	0	14
174.68	Buck Peak (FS 3852000)	Gravel b/,c/	All	Open Cut	0.04	0	16
175.38 - 175.47	3852015	Dirt b/,c/	All	Open Cut	0.18	0	16
175.64 - 176.02	Unknown Rd	Dirt	All	In ROW	0.52	0	16
176.36	Private Rd (Closed Berm)	Dirt b/,c/	All	Open Cut	0.03	0	16
176.66	N. Clover (BLM 38-6E-21.2)	Rock b/,c/	All	Open Cut	0.05	0	14
177.10	Private Rd (Section 21)	Rock b/,c/	All	Open Cut	0.03	0	16
177.81	Clover Spur (BLM 38-6E-27.1)	Rock b/,c/	All	Open Cut	0.05	0	14
177.99	Rock Rd2 (Section 27)	Rock b/,c/	All	Open Cut	0.03	0	16
178.26 - 178.28	Private Rd	Gravel b/,c/	All	In ROW	0.38	0	16
178.30	Weyco Clover Spur (BLM 38-6E-27)	Gravel b/,c/	All	Open Cut	0.18	0	14
178.76	Private Rd	Rock b/,c/	All	Open Cut	0.56	0	16
179.25	S Clover Butte (BLM 38-6E-35.4)	Rock b/,c/	All	Open Cut	0.04	0	14
179.81	3828 Clover Butte (BLM 38-6E-35)	Rock b/,c/	All	Open Cut	0.03	0	14
180.36	206-59 (Private Rd)	Gravel b/,c/	All	Open Cut	0.04	0	16
180.79	Private Rd	Rock b/,c/	All	Open Cut	2.88	0	16
181.00	Private Rd	Dirt b/,c/	All	Open Cut	0.14	0	16
181.33	Private Rd	Dirt b/,c/	All	Open Cut	0.41	0	16
181.55	Private Rd	Dirt b/,c/	All	Open Cut	0.03	0	16
182.13	Private Rd	Gravel (cinder) b/,c/	All	Open Cut	0.07	0	16
182.16	Private Rd	Gravel (cinder) b/,c/	All	Open Cut	0.45	0	16
182.49	201-50 - Private Rd	Rock b/,c/	All	Open Cut	0.60	0	16
182.98	201-50 - Private Rd	Rock b/,c/	All	Open Cut	0.58	0	16
183.60	201-50 - Private Rd	Rock b/,c/	All	Open Cut	0.30	0	16
183.64	Cnty Rd 3451 (North Branch Rd)	Rock b/,c/	All	Open Cut	0.02	0	16
183.79	Unknown Rd	Dirt b/,c/	All	Open Cut	0.03	0	16
184.07	Unknown Rd	Dirt / Cinder b/,c/	All	Open Cut	0.10	0	16
184.81	Private Rd 101-100 (BLM 39-9E-18)	Gravel b/,c/	All	Not Crossed	2.04	0	16
184.81	Private Rd 85105	Gravel b/,c/	All	Open Cut	0.05	0	16
184.81	Private Rd UST-100	Gravel b/,c/	All	Not Crossed	3.46	0	16
184.81	Hwy 66	Paved	All-Public	Not Crossed	0.47	0	
184.81	Keno Access (BLM 39-7E-31)	Paved	All	Not Crossed	0.88	0	22
185.26	Unknown Rd	Gravel (cinder) b/,c/	All	Open Cut	0.03	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
185.53	Unknown Rd	Gravel (cinder) b/,c/	All	Open Cut	0.02	0	10
185.68	Unknown Rd	Gravel (cinder) b/,c/	All	Open Cut	0.04	0	16
185.94	Unknown Rd	Dirt b/,c/	All	Open Cut	0.03	0	16
186.2	Unknown Rd	Dirt b/,c/	All	Open Cut	0.03	0	10
186.75	Unknown Rd	Dirt b/,c/,d/	All	Open Cut	0.03	0.06	16
187.46	Unknown Rd - PAR 187.46 (BVA 13)	Gravel	All	Open Cut	0.02	0	16
187.76	Power Line Access Road	Dirt	All	Open Cut	0.83	0	16
187.84	Unknown Rd	Dirt	All	Open Cut	0.05	0	
188.09	Unknown Rd	Dirt	All	Open Cut	0.09	0	
188.17	Unknown Rd	Dirt	All	Open Cut	0.35	0	
188.41	Unknown Rd	Dirt	All	Open Cut	0.19	0	
188.86	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.40	0	
189.90	Old Wagon Rd	Dirt	All	Not Crossed	1.19	0	10
190.75	Homestead Ln	Dirt b/	All	Open Cut	0.11	0	16
190.80	Homestead Ln	Dirt b/	All	Open Cut	0.68	0	16
192.03	State Hwy 66 (Ashland-Klamath Falls Highway)	Paved	All-Public	Not Crossed	4.03	0	10
192.03	State Hwy 66 (Ashland-Klamath Falls Highway)	Paved	All-Public	Bore	2.29	0	10
192.57 - 197.61	Weyerhaeuser Timber Company Rd	Paved a/	All	Not Crossed	5.46	0	16
192.57	Weyerhaeuser Timber Company Rd	Paved a/	All	Not Crossed	0.23	0	16
194.52	Kerns Swamp Rd	Gravel b/	All	Open Cut	0.18	0	16
195.14	Unknown Rd	Dirt	All	Open Cut	0.04	0	10
197.61	Weyerhaeuser Corp Rd	Paved	All	Open Cut	0.20	0	16
198.22 - 198.42	Weyerhaeuser Corp Rd	Paved	All	Open Cut	1.33	0	16
198.42 - 199.00	Weyerhaeuser Corp Rd	Gravel	All	In ROW	0.71	0	16
198.63	Weyerhaeuser Corp Rd	Paved	All	Open Cut	0.23	0	16
199.05	Unknown Industrial Rd	Dirt	All	Not Crossed	0.47	0	
199.19	Unknown Industrial Rd	Gravel	All	Not Crossed	0.94	0	16
199.28	BN & SF Railroad	Rails	None	HDD	0.26	0	
199.57	US 97	Paved	All-Public	HDD	0.92	0	10
199.60	Private Rd	Gravel	All	Not Crossed	0.07	0	16
200.07	Southern Pacific Railroad	Rails	RR	Bore	0.79	0	
200.35	Joe Wright Rd	Paved	All-Public	Open Cut	1.12	0	16
201.00	Midland Hwy 420 (Tingley Ln)	Paved	All-Public	Bore	0.78	0	10
201.49	Cnty Rd 888 (Miller Island Rd)	Gravel b/	All	Open Cut	0.64	0	16
202.92-203.61	Unknown Rd	Dirt	None	In ROW	0.95	0	
203.76	Unknown Rd	Dirt	None	Open Cut	0.19	0	
203.97	Old Midland Rd (Driveway)	Paved	All-Public	Open Cut	1.03	0	10
204.13	Rd on Levee (BOR 735)	Dirt b/	All	Open Cut	0.25	0	16
204.32	Road on Levee (BOR 736)	Dirt b/	All	Open Cut	0.34	0	16

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Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
204.65	Cnty Rd 876 (Spring Lake Rd)	Paved	All-Public	Open Cut	0.51	0	10
204.75	Existing Field/Canal Rd (BOR 737)	Dirt b/	All	Open Cut	0.14	0	16
204.99	Existing Farm Rd (BOR 738)	Dirt b/	All	Open Cut	0.12	0	16
205.07	Existing Field/Canal Rd (BOR 738)	Dirt b/	All	Not Crossed	0.33	0	16
205.39	Existing Field Rd (BOR 739)	Dirt b/	All	Open Cut	0.25	0	16
205.64	Existing Field Rd (BOR 739)	Dirt b/	All	Open Cut	0.16	0	16
205.72	Cnty Rd 830 (Homedale Rd)	Paved	All-Public	Open Cut	1.10	0	10
205.97	Rd on Levee	Dirt	None	Open Cut	0.64	0	
206.50	Cross Rd	Paved	All-Public	Open Cut	1.17	0	10
207.27	Cnty Rd 889 (Matney Rd)	Paved	All-Public	Open Cut	1.01	0	10
207.41	Cnty Rd 962 (Levee Rd)	Gravel b/	All-Public	Open Cut	0.22	0	16
207.70	Unknown Rd	Gravel b/	All	Not Crossed	0.21	0	16
207.98	Rd on Levee (BOR 742)	Dirt b/	All	Not Crossed	0.16	0	16
208.00	Rd on Levee (BOR 742)	Dirt b/	All	Not Crossed	0.03	0	16
208.17	Unknown Rd	Dirt	None	Open Cut	0.03	0	
208.18	Unknown Rd	Dirt/Gravel b/	All	Open Cut	0.18	0	16
208.72	TAR-208.72 to TEWA 208.67-W	Dirt b/	All	Not Crossed	0.16	0	16
208.78	Southern Pacific Railroad	Rails	RR	Bore	6.63	0	
208.80	State Hwy 39 (Klamath Falls - Malin Highway)	Paved	All-Public	Bore	5.10	0	10
209.04	Cheyne / Elliot Rd	Paved	All	Open Cut	0.09	0	
209.14	Matney Rd (Zuckerman Rd)	Paved	All-Public	Open Cut	0.41	0	
210.16	Cnty Rd 918 (Wong Rd)	Paved	All-Public	Open Cut	0.91	0	16
210.27	Rd on Levee (BOR 743)	Dirt b/	All	Open Cut	0.26	0	16
210.63	Cnty Rd 982 (Chin Rd)	Gravel b/	All-Public	Open Cut	0.31	0	16
210.86	17987 Hwy 39 - Driveway (BOR 744)	Gravel b/	All	Open Cut	0.04	0	16
211.2	18191 Hwy 39 - Driveway (BOR 745)	Gravel b/	All	Open Cut	0.06	0	16
211.53 - 211.86	Cnty Rd 988 (IO of Cemetery Rd)	Gravel b/	All-Public	Not Crossed	0.69	0	16
211.86	Private Rd	Dirt b/	All	Open Cut	0.04	0	16
212.52	Burlington Northern & Santa Fe RR	Rails	None	Bore	0.05	0	
213.05	Gaston Driveway (off Hill Rd) (BOR 746)	Gravel b/	All	Open Cut	0.83	0	16
213.25	Rd on Levee	Dirt	None	Open Cut	0.14	0	
214.05	Road on Levee	Dirt	All	Open Cut	0.03	0	
214.17	Road on Levee	Dirt	None	Open Cut	0.15	0	
214.31	Cnty Rd 566 (Hill Rd)	Paved	All-Public	Open Cut	1.86	0	10
214.70	Private Rd (BOR 747)	Gravel b/	All	Not Crossed	0.23	0	16
215.06	Unknown Rd	Dirt b/	All	Open Cut	0.10	0	16
215.13	Unknown Rd	Dirt	None	Open Cut	0.03	0	
215.39 - 215.65	Powerline Access Rd	Dirt	All	Open Cut	3.00	0	16
215.72	Taylor Rd	Dirt	All	Not Crossed	0.37	0	10
217.50	Unknown Rd	Dirt b/	All	Open Cut	0.43	0	16
217.54	Unknown Rd	Dirt b/	All	Open Cut	0.04	0	16

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
217.93	Dodds Hollow Rd	Gravel b/	All-Public	Open Cut	1.93	0	16
218.31	Unknown Rd	Gravel b/	All	Open Cut	0.18	0	16
218.84	Pope Rd	Dirt, Paved, Gravel b/,d/	All-Public	Open Cut	3.09	0.02	16
218.84 - 218.90	Private Rd	Gravel b/	All	Not Crossed	0.07	0	16
218.90 - 221.28	Powerline Access Rd	Dirt b/,d/	All	Open Cut	3.14	1.09	16
219.36	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.50	0	16
219.59	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	1.28	0	16
219.66	Unknown Rd	Dirt a/,b/,c/	All	Open Cut	0.18	0	16
221.29	Powerline Access Rd	Dirt b/	All	Open Cut	0.51	0	16
221.56	Unknown Rd	Dirt b/	All	Open Cut	0.23	0	16
221.85	Unknown Rd	Dirt b/	All	Open Cut	0.46	0	16
221.99	Harpold Rd	Paved	All-Public	Open Cut	0.85	0	10
223.17	29029 Pickett	Gravel b/,d/	All	Open Cut	0.49	0.12	16
223.43	Shasta View Irrigation	Dirt b/,d/	All	Open Cut	0.49	0.03	16
223.68	Unknown Rd	Dirt	None	Open Cut	0.05	0	
223.82	30083 Pickett	Dirt, Gravel b/,d/	All	Open Cut	0.48	0.14	16
223.95	30403 Pickett	Dirt	None	Open Cut	0.05	0	
224.19	Unknown Rd	Dirt	None	Open Cut	0.05	0	
224.53	Unknown Rd	Dirt b/	All	Open Cut	0.80	0	16
225.14	Maupin Rd	Paved	All-Public	Open Cut	2.40	0	16
225.14	Pickett Rd	Paved	All-Public	Not Crossed	2.79	0	16
225.31	Unknown Rd	Dirt	None	Open Cut	0.45	0	
225.81	Unknown Rd	Dirt	None	Open Cut	1.05	0	16
225.92	Unknown Rd	Dirt b/	All	Open Cut	0.35	0	16
226.40	Unknown Rd	Dirt	None	Open Cut	0.75	0	16
226.40	Unknown Rd	Dirt	None	Not Crossed	0.50	0	16
227.03	Transformer Rd	Paved	All-Public	Open Cut	0.75	0	16
227.03	Transformer Rd	Paved	None	Open Cut	0.25	0	16
227.70	More Lock Rd	Gravel	None	Open Cut	0.54	0	16
227.74	More Lock Rd	Gravel	None	Open Cut	0.14	0	16
227.88	More Lock Rd	Gravel b/	All-Public	Open Cut	0.25	0	16
228.36	Malin Loop Rd	Paved	All-Public	Not Crossed	0.44	0	16
Communication Sites							
Blue Ridge	BLM 26-12-35	Gravel	All	Not Crossed	3.74	0	16
Flounce Rock	BLM 32-2E-34	Gravel	All	Not Crossed	4.58	0	14
Harness Mountain	Garoutte Road (BLM 23-3-17.2)	Gravel	All	Not Crossed	7.00	0	10
Robinson Butte	FS 3730050	Gravel	All	Not Crossed	1.92	0	16
Signal Tree	Signal Tree Lookout (BLM 29-9-33.4)	Gravel	All	Not Crossed	1.08	0	16
Starveout	Cnty Rd 95 (Starveout Creek Rd)	Bituminous	All-Public	Not Crossed	2.16	0	
Starveout	N King Mtn (BLM 32-4-33)	Gravel	All	Not Crossed	3.33	0	
Starveout	Ppl #3 (BLM 32-4-33.6)	Natural	All	Not Crossed	0.08	0	
Starveout	Starveout Creek Rdk (BLM 32-4-20)	Aggregate	All	Not Crossed	4.05	0	

TABLE D-2

Access Roads to and Roads Crossed by the PCGP Project

Milepost	Name	Surface	Ingress/Egress e/	Crossing Method	Length	Acres of Improvement	Average Width
Starveout	Upper Cow Creek Rd	Bituminous	All-Public	Not Crossed	0.85	0	
Stukel Mountain	Stukel Mtn. Comm Site	Gravel	All	Not Crossed	6.66	0	14
Winston	Cnty Rd 14 (Dole Rd)	Bituminous	All-Public	Not Crossed	1.01	0	
Winston	Unknown Rd	Dirt/Gravel	All	Not Crossed	1.28	0	

a/ Requires pothole filing.
b/ Requires blading/grading.
c/ Requires brush limbing.
d/ Requires widening and/or turnouts.
e/ The type of equipment which will use the access roads is represented in the Ingress/Egress column with “All” meaning both heavy and light equipment; “All-WTC” meaning heavy and light with traffic control; and “Light” meaning light duty trucks and low profile equipment.
f/ Roads on either side of spread breaks may be used for access on either spread.
g/ Reinstall temporary bridge at previous crossing.

TABLE D-3

Potential Hydrostatic Discharge (Test Header) Locations within the Construction Right-of-Way

Test Section a/	HUC (Begin MP)	HUC (Ending MP)	Begin MP b/	End MP	Section Length c/ (feet)	Volume d/, e/ (gallons/acre feet)	Jurisdiction f/
1	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	1.47R	4.17R	14,045	694,074 (2.13)	Private
1a	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	4.17R	8.33R	23,443	1,158,530 (3.56)	Private
1b	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	8.33R	11.34R	14,626	722,776 (2.22)	Private
1c	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	11.34R	12.79	15,840	782,790 (2.40)	Private
3	Coos Bay Frontal Pacific Ocean 1710030403	N. F. Coquille River 1710030504	12.79	21.08	43,771.20	2,133,712 (6.55)	Private
4	N. F. Coquille River 1710030504	E. F. Coquille River 1710030503	21.08	28.31	38,174.40	1,896,299 (5.82)	Private
5	E. F. Coquille River 1710030503	E. F. Coquille River 1710030503	28.31	30.91	13,728.00	718,249 (2.20)	Private
6	E. F. Coquille River 1710030503	M. F. Coquille River 1710030501	30.91	35.81	25,872.00	1,252,178 (3.84)	Private
7	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	35.81	37.80	10,507.20	535,932 (1.64)	BLM-Coos
8	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	37.80	38.40	3,168.00	130,878 (0.40)	BLM-Coos
9	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	38.40	43.92	29,145.60	1,502,964 (4.61)	BLM-Coos
10	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	43.92	45.00	5,702.40	294,512 (0.90)	Private
11	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	45.00	46.74	9,240.00	444,774 (1.36)	BLM-Coos
12	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	46.74	47.08	1,584.00	81,141 (0.25)	Private
13	M. F. Coquille River 1710030501	M. F. Coquille River 1710030501	47.08	47.75	2,956.80	160,279 (0.49)	BLM-Roseburg
14	M. F. Coquille River 1710030501	Olalla / Lookingglass Creek 1710030212	47.75	52.67	26,611	1,315,088 (4.04)	BLM-Roseburg
15	Olalla / Lookingglass Creek 1710030212	Olalla / Lookingglass Creek 1710030212	52.67	53.74R	5,755	284,414 (0.87)	BLM-Roseburg
16	Olalla / Lookingglass Creek 1710030212	Olalla / Lookingglass Creek 1710030212	53.74R	55.70	10,348.80	472,622 (1.45)	Private
17	Olalla / Lookingglass Creek 1710030212	Olalla / Lookingglass Creek 1710030212	55.70	57.78R	10,982	542,735 (1.67)	Private

TABLE D-3

Potential Hydrostatic Discharge (Test Header) Locations within the Construction Right-of-Way

Test Section a/	HUC (Begin MP)	HUC (Ending MP)	Begin MP b/	End MP	Section Length c/ (feet)	Volume d/, e/ (gallons/acre feet)	Jurisdiction f/
18	Olalla / Lookingglass Creek 1710030212	Olalla / Lookingglass Creek 1710030212	57.78R	60.89	16,421	811,493 (2.49)	Private
19	Olalla/ Lookingglass Creek 1710030212	Clark Branch – South Umpqua 1710030211	60.89	63.75	15,100.80	779,356 (2.39)	BLM-Roseburg
20	Clark Branch – South Umpqua 1710030211	Clark Branch – South Umpqua 1710030211	63.75	65.60	9,768.00	467,814 (1.44)	Private
21	Clark Branch – South Umpqua 1710030211	Clark Branch – South Umpqua 1710030211	65.60	69.12	19,536.00	851,481 (2.61)	Private
22	Clark Branch – South Umpqua 1710030211	Clark Branch – South Umpqua 1710030211	69.12	70.80	7,920.00	493,006 (1.51)	Private
23	Clark Branch – South Umpqua 1710030211	Myrtle Creek 1710030210	70.80	73.41	13,780.80	731,272 (2.24)	Private
24	Myrtle Creek 1710030210	Myrtle Creek 1710030210	73.41	73.54	686.40	33,921 (0.10)	Private
25	Myrtle Creek 1710030210	Myrtle Creek 1710030210	73.54	75.99	12,936.00	395,688 (1.21)	Private
26	Myrtle Creek 1710030210	Myrtle Creek 1710030210	75.99	76.21	1,161.60	93,162 (0.29)	Private
27	Myrtle Creek 1710030210	Myrtle Creek 1710030210	76.21	77.94	9,134.40	447,779 (1.37)	Private
28	Myrtle Creek 1710030210	Myrtle Creek 1710030210	77.94	79.01	5,649.60	290,505 (0.89)	Private
29	Myrtle Creek 1710030210	Myrtle Creek 1710030210	79.01	79.80	4,171.20	206,135 (0.63)	Private
30	Myrtle Creek 1710030210	Myrtle Creek 1710030210	79.80	80.71	4,804.80	275,479 (0.85)	BLM-Roseburg
31	Myrtle Creek 1710030210	Myrtle Creek 1710030210	80.71	81.62	7,867.20	420,732 (1.29)	Private
32	Myrtle Creek 1710030210	Days Creek-South Umpqua River 1710030205	81.62	83.80	8,448.00	433,755 (1.33)	BLM-Roseburg
33	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	83.80	88.11	22,756.80	1,108,929 (3.40)	Private
34	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	88.11	89.17	5,596.80	320,558 (0.98)	Private
35	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	89.17	90.01	4,435.20	219,181 (0.67)	Private
36	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	90.01	92.27	11,932.80	620,079 (1.90)	BLM-Roseburg
37	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	92.27	92.75	2,534.40	125,246 (0.38)	Private
38	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	92.75	93.09	1,795.20	120,209 (0.37)	Private

TABLE D-3

Potential Hydrostatic Discharge (Test Header) Locations within the Construction Right-of-Way

Test Section a/	HUC (Begin MP)	HUC (Ending MP)	Begin MP b/	End MP	Section Length c/ (feet)	Volume d/, e/ (gallons/acre feet)	Jurisdiction f/
39	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	93.09	93.91	4,329.60	279,486 (0.86)	Private
40	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	93.91	95.52R	8,659	427,925 (1.31)	BLM-Roseburg
41	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	95.52R	96.27	4,066	200,916 (0.62)	BLM-Roseburg
42	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	96.27	100.71	23,443.20	1,169,034 (3.59)	Private
43	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	100.71	101.50	4,171.20	206,135 (0.63)	Private
44	Days Creek-South Umpqua River 1710030205	Upper Cow Creek 1710030206	101.50	103.95	12,936.00	716,246 (2.20)	USFS-Umpqua
45	Upper Cow Creek 1710030206	Elk Creek / S. Umpqua 1710030204	103.95	107.09	16,579.20	836,455 (2.57)	Private
46	Elk Creek / S. Umpqua 1710030204	Upper Cow Creek 1710030206	107.09	110.36R	17,266	853,241 (2.62)	USFS-Umpqua
47	Upper Cow Creek 1710030206	Trail Creek 1710030706	110.36R	112.54	11,510	568,828 (1.75)	USFS-Umpqua
48	Trail Creek 1710030706	Trail Creek 1710030706	112.54	115.13	13,675.20	716,246 (2.20)	USFS-Umpqua
49	Trail Creek 1710030706	Trail Creek 1710030706	115.13	117.68	13,464.00	639,112 (1.96)	BLM-Medford
50	Trail Creek 1710030706	Shady Cove - Rogue River 1710030707	117.68	122.23	24,024.00	1,231,142 (3.80)	BLM-Medford
51	Shady Cove - Rogue River 1710030707	Shady Cove - Rogue River 1710030707	122.23	123.73	7,920.00	343,598 (1.05)	Private
52	Shady Cove - Rogue River 1710030707	Shady Cove - Rogue River 1710030707	123.73	127.36	19,166.40	996,734 (3.06)	BLM-Medford
53	Shady Cove - Rogue River 1710030707	Big Butte Creek 1710030704	127.36	132.05	24,763.20	1,223,762 (3.76)	Private
54	Big Butte Creek 1710030704	Big Butte Creek 1710030704	132.05	133.85	9,504.00	480,836 (1.48)	Private
55	Big Butte Creek 1710030704	Little Butte Creek 1710030708	133.85	141.00	37,752.00	1,898,302 (5.83)	Private
56	Little Butte Creek 1710030708	Little Butte Creek 1710030708	141.00	147.74	38,385.60	1,896,962 (5.82)	BLM-Medford
57	Little Butte Creek 1710030708	Little Butte Creek 1710030708	147.74	148.93	3,484.80	172,214 (0.53)	Private
58	Little Butte Creek 1710030708	Little Butte Creek 1710030708	148.93	151.40	13,041.60	644,497 (1.98)	BLM-Medford
59	Little Butte Creek 1710030708	Little Butte Creek 1710030708	151.40	155.44	21,331.20	1,054,158 (3.24)	BLM-Medford
60	Little Butte Creek 1710030708	Little Butte Creek 1710030708	155.44	160.12	24,710.40	1,071,865 (3.29)	Private

TABLE D-3

Potential Hydrostatic Discharge (Test Header) Locations within the Construction Right-of-Way

Test Section a/	HUC (Begin MP)	HUC (Ending MP)	Begin MP b/	End MP	Section Length c/ (feet)	Volume d/, e/ (gallons/acre feet)	Jurisdiction f/
61	Little Butte Creek 1710030708	Spencer Creek 1801020601	160.12	168.60	44,774.40	2,212,687 (6.79)	USFS-Rogue River
62	Spencer Creek 1801020601	Spencer Creek 1801020601	168.60	173.10R	23,760	1,174,185 (3.60)	USFS-Winema
63	Spencer Creek 1801020601	Spencer Creek 1801020601	173.10R	177.09	21,067	1,041,111 (3.20)	USFS-Winema/ Private
64	Spencer Creek 1801020601	Lake Ewauna / Upper Klamath River 1801020412	177.16R	188.89	68,218	3,371,217 (10.35)	Private
65	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	188.89	194.05	20,961.60	1,035,892 (3.18)	Private
66	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	194.05	194.50	2,376.00	1,099,913 (3.38)	Private
67	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	194.50	197.40	15,312.00	756,697 (2.32)	Private
68	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	197.40	199.70	12,144.00	766,333 (2.35)	Private
69	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	199.70	203.91	22,228.80	1,098,516 (3.37)	Private
70	Lake Ewauna / Upper Klamath River 1801020412	Mills Creek - Lower Lost River 1801020409	203.91	208.25	22,915	1,132,437 (3.48)	Private
71	Mills Creek - Lower Lost River 1801020409	Mills Creek - Lower Lost River 1801020409	208.25	218.31	53,117	2,624,957 (8.06)	Private
72	Mills Creek - Lower Lost River 1801020409	Mills Creek - Lower Lost River 1801020409	218.31	228.13	51,850	2,562,333 (7.86)	Private Private 5
					Total f/	**62,111,304 (190.61)**	

a/ Test section locations will be finalized after final engineering design and the construction contractors have been selected for the project.
b/ Beginning and end mileposts were extrapolated from environmental alignment sheets. Mileposts were not calculated from engineering stationing and may not provide a direct correlation between milepost and engineering stationing. "R" represents a revised milepost location based on the incorporation of reroutes into the proposed route.
c/ Section length reflects actual footage calculated directly from engineering stationing.
d/ Section volumes were calculated using section length directly from engineering stationing.
e/ Estimated discharge volume – based on previous test section volume. Water will be cascaded between test sections, where practical, to fill each section to minimize test water requirements.
f/ Jurisdiction corresponds with each test section's beginning MP except Test Section 72 where jurisdiction is provided for both the beginning and ending MPs.

TABLE D-4

Areas Where Topsoil will be Salvaged along the PCGP Project

Area	Beginning MP	Ending MP
Coos County		
Wetlands/Pasture	6.22R	6.31R
Wetlands/Pasture	6.34R	6.46R
Pasture	8.24R	8.46R
Pasture	10.96R	11.06R
Wetland/Pasture	11.19R	12.39R
Wetland/Pasture	8.58	8.67
Wetland/Pasture	10.05	10.40
Wetland/Pasture	10.81	11.08
Wetland/Pasture	11.14	11.39
Residential	14.24	14.29
Wetland/Pasture	15.70	15.78
Pasture/Hayfield	22.59	23.04
Pasture/Hayfield	29.49	29.83
Pasture/Hayfield	29.87	30.14
Douglas County		
Croplands/Pasture	49.50	50.25
Croplands/Pasture	50.30	50.55
Pasture/Residential	50.72	50.82
Pasture	51.31	51.55
Pasture	51.58	51.78
Pasture	51.85	51.88
Pasture/Wetlands/Residential	55.83	56.56
Pasture/Wetlands/Residential	56.77	57.10
Pasture/Wetlands/Residential	57.12	57.59
Wetlands/Pasture/Hayfield	57.61	57.79
Wetlands/Pasture/Hayfield	57.81	58.20
Wetlands/Pasture/Hayfield	58.21	58.53
Wetlands/Pasture/Hayfield	58.65	58.73
Wetlands/Pasture/Hayfield	58.79	59.60
Wetlands/Pasture/Hayfield	59.66	60.08
Pasture	60.15	60.24
Pasture/Hayfield	60.45	60.57
Pasture/Hayfield	60.58	60.66
Pasture/Hayfield	65.58	65.73
Pasture	66.88	66.94
Pasture	66.97	67.08
Pasture	69.22	69.49
Pasture	71.36	71.54
Pasture	76.41	76.47
Pasture	77.82	78.05
Pasture	79.00	79.03
Hayfield/Pasture	81.20	81.65
Pasture	88.29	88.50
Pasture	88.53	88.57
Pasture	88.61	88.70
Pasture/Wetlands	94.35	94.56
Pasture/Wetlands	94.87	95.07
Jackson County		
Pasture	118.84	118.91
Pasture	120.70	120.82
Pasture/Residential	120.84	120.90
Pasture/Hayfield	121.90	122.20
Pasture/Wetlands	128.47	128.69
Pasture	132.03	132.12
Pasture/Wetlands	132.32	132.41
Pasture/Wetlands	132.43	132.51
Pasture/Wetlands	132.52	132.57
Pasture/Wetlands	142.26	142.56
Pasture/Wetlands	142.58	142.66
Pasture	144.31	144.78
Pasture/Wetlands	145.05	145.95

TABLE D-4

Areas Where Topsoil will be Salvaged along the PCGP Project

Area	Beginning MP	Ending MP
Pasture	146.12	146.87
Klamath County		
Pasture/Hayfield/Wetlands	190.85	197.61
Pasture/Hayfield/Wetlands	197.74	198.21
Pasture/Croplands/Wetlands	199.60	214.67
Croplands	217.30	217.54
Pasture/Croplands	217.55	217.92
Pasture/Croplands	221.31	221.99
Pasture/Croplands	222.01	223.17
Pasture/Croplands	223.21	224.54
Pasture/Croplands	225.15	227.00
Pasture/Croplands/Residential	227.01	227.84
Wetlands a/	See Table 2.3-1 in Resource Report 2	

a/ Up to the top 12 inches of topsoil will be segregated from the area disturbed by trenching in wetlands, except in areas where standing water or saturated soils are present.

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 1.46	25.06	Weyerhaeuser Cove Pipe Yard	1,685 x 2,204 (Irregular)	Bays and Estuaries Beaches Industrial Evergreen Forest Land Forested Wetland Nonforested Wetlands Trans, Comm, Utilities Corridors	Bays and Estuaries Beaches Industrial Forested Dunes Palustrine Forest (PFO) Palustrine Emergent (PEM) Roads, Corridors	Private, State
TEWA 4.13-N	2.7	Ingress/egress, road crossing, steep slope	900 x 420 (Irregular)	Bays and Estuaries Beaches Mixed Forest Land Trans, Comm, Utilities Corridors	Bays and Estuaries Beaches Mixed Conifer/Mixed Dec Roads, Corridors	Private, State
TEWA 4.13-W	1.99	Ingress/egress, road crossing, steep slope	700 x 175 (Irregular)	Bays and Estuaries Mixed Forest Land Residential Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Bays and Estuaries Mixed Conifer/Mixed Dec Urban Roads, Corridors	Private, State
TEWA 4.29-W	1.29	PI, side cut	50 x 1145	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 4.56-N	0.34	PI, road crossing, side cut	30 x 510	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 4.63-W	2.14	PIs, road crossings, side cut	30 x 4,100	Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 5.01-N	0.35	PIs, road crossing, side cut	20 x 645	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 5.32-N	0.3	PI, road crossing, parking	50 x 530 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 5.39-W	0.18	PI, road crossing, side cut	30 x 300	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 5.55-N	0.22	PI, road crossings, side cut	15 x 680	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 5.56-W	0.45	PI, road crossings, side cut	35 x 700	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 5.87-W	0.19	PI, road crossings, side cut	30 x 300	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 5.95-N	0.3	PI, road crossing, parking, side cut	60 x 425 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 6.02-W	0.53	PIs, side cut, steep slope	15-20 x 1,420 (Irregular)	Cropland and Pasture Streams and Canals Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Rivers and Streams Agriculture Mixed Conifer/Mixed Dec	Private, State
TEWA 6.05-N	0.04	Powerline crossing, PI, spoil storage	15 x 122	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 6.22-N	0.76	Ingress/egress, road crossing, bore pit, topsoil storage, Kentuck Slough	10-150 x 505 (Irregular)	Cropland and Pasture Ditch Streams and Canals Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Ditch Rivers and Streams Roads, Corridors	State
TEWA 6.25-W	0.32	De-Watering, wetland & bored slough crossing	100 x 100 (15ft Access)	Cropland and Pasture Streams and Canals	Palustrine Emergent (PEM) Rivers and Streams	State

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 6.28-W	0.69	Ingress/egress, road crossing, bore pit, topsoil storage, Kentuck Slough	150 x 200	Cropland and Pasture Ditch Streams and Canals Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Ditch Rivers and Streams Roads, Corridors	State
TEWA 6.34-N	0.79	Ingress/egress, road crossing, bore pit, topsoil storage, Kentuck Slough	10-150 x 668 (Irregular)	Cropland and Pasture Streams and Canals Mixed Forest Land	Agriculture Palustrine Emergent (PEM) Rivers and Streams Mixed Conifer/Mixed Dec	Private, State
TEWA 6.34-W	1.23	Ingress/egress, road crossing, bore pit, topsoil storage, Kentuck Slough	150-400 x 200 (Irregular)	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	State
TEWA 6.49-W	0.92	PIs, road crossings, side cut, steep slope	30-55 x 1,198 (Irregular)	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 6.55-N	0.13	PI, side cut	15 x 375	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 6.67-N	0.34	PI, road crossing, side cut	50 x 385	Clearcut Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 6.70-W	0.1	PI, road crossing, side cut	30 x 155	Clearcut Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 6.77-W	0.9	PIs, road crossings, side cut	15-30 x 2,277	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 7.21-N	2.09	PIs, road crossings, parking, side cut	15-300 x 773 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 7.31-W	0.07	PI, road crossing	30 x 160	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 7.40-W	0.09	PI, road crossing	30 x 152	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 7.44-W	1.75	Ingress/egress, PI, road crossing, side cut	15 - 557 x 1014 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 7.68-W	0.07	PI, spoil storage	15 x 210	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 7.76-W	0.07	PI, spoil storage	15 x 211	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 7.91-W	0.12	PI, spoil storage	30 x 210	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 8.00-W	0.33	PI, spoil storage, road crossings	15 x 970	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 8.27-N	0.12	Topsoil Salvage	10 x 520	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 8.35-W	0.2	Ingress/egress, staging, road crossing	50 x 185	Cropland and Pasture	Agriculture	Private
TEWA 8.38-N	0.07	Topsoil Salvage	10 x 308	Cropland and Pasture	Agriculture	Private
TEWA 8.44-W	0.18	PI, waterbody crossing, spoil storage	40 x 162	Cropland and Pasture	Agriculture	Private
TEWA 8.46-N	0.52	Spoil storage/sideslope, waterbody crossing, ingress/egress	20 x 1,142	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 8.72-W	0.26	Powerline crossing, PI, log/spoil storage	50 x 190	Clearcut Forest Land Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 8.76-N	0.93	Staging for wetland crossing, spoil storage	125 x 462 (Irregular)	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 8.76-W	0.69	Staging for wetland crossing, spoil storage	30 x 1,037	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 8.78-W	0.26	Powerline crossing, PI, log/spoil storage	50 x 200	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 8.94-W	0.25	Powerline crossing, PI, log/spoil storage	50 x 190	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 8.95-N	0.23	Road crossings, side cut	50 x 200	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 8.98-N	0.33	Powerline crossing, PI,staging/spoil storage	30-173 x 190	Clearcut Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 8.99-W	0.07	Road crossing, waterbody crossing, side cut	15 x 208	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.03-W	1.31	PIs, road crossings, side cut	30 x 1,914	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 9.05-W	0.29	Staging for waterbody crossing	15-50 x 592	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.20-W	0.06	Wetland/waterbody crossing, side cut	50 x 50	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.25-N	0.14	Road crossing, waterbody crossing, side cut	15 x 416	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 9.25-W	0.13	Road crossing, waterbody crossing, side cut	15 x 376	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.34-W	0.11	Waterbody crossing, side cut	15 x 315	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.35-N	0.1	Waterbody crossing, side cut	15 x 280	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 9.39-W	4.68	Ingress/egress, staging, log/spoil storage, road crossings, sideslopes	30-50-155 x 4668	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 9.51-W	1.14	PIs, road crossings, side cut	15-50 x 2,521	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 10.03-N	0.09	PI, road crossing, top soil storage	50 x 75	Cropland and Pasture	Agriculture	Private
TEWA 10.08-W	0.29	PI, ingress/egress, road crossing, topsoil storage	15-50 x 586	Cropland and Pasture Streams and Canals	Agriculture Palustrine Emergent (PEM) Rivers and Streams	Private
TEWA 10.21-W	0.35	Ingress/egress, road crossing, waterbody crossing, topsoil storage	15-50 x 520 (Irregular)	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 10.25-W	0.15	Road crossing, side cut	30-50 x 175 (Irregular)	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 10.33-N	0.5	PI, fitting installation, spoil and topsoil, road crossing	10-50 x 825	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 10.33-W	0.51	Ingress/egress, Stock Slough/road crossing, topsoil storage	150 x 211 (Irregular)	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 10.35-W	0.09	Road crossing, side cut	50 x 75	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 10.37-W	0.99	PI, road crossing, side cut, steep slope	50 x 882	Cropland and Pasture Mixed Forest Land Residential Trans, Comm, Utilities Corridors	Agriculture Mixed Conifer/Mixed Dec Urban Roads, Corridors	Private
TEWA 10.41-W	0.08	Road crossing, side cut	25 x 150	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 10.52-W	0.13	PI, road crossing, log landing/steep slope, log/spoil storage	30 x 200	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 10.59-N	0.06	Ingress/egress, staging, spoil storage, steep slope	25 x 100	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 10.59-W	0.06	Ingress/egress, staging, spoil storage, steep slope	25 x 100	Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 10.71-W	1.26	PIs, road crossing, side cut, steep slope	30 x 1,834	Cropland and Pasture Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 10.75-N	0.05	PI, spoil storage	20 x 130	Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 10.80-N	1.61	Bored slough crossing, ditch crossing, PI. topsoil	10-150 x 1,393 (Irregular)	Cropland and Pasture Ditch Mixed Forest Land Residential	Agriculture Palustrine Emergent (PEM) Ditch Mixed Conifer/Mixed Dec Urban	Private
TEWA 10.96-W	0.59	Coos River HDD	75 x 314 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 11.04-W	0.51	Catching Slough Crossing, Bore Pit installation, spoil/topsoil	150 x 200	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	Private
TEWA 11.14-N	0.82	Catching Slough Crossing, Bore Pit installation, spoil/topsoil	10-150 x 779	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.14-W	0.94	Catching Slough Crossing, Bore Pit installation, spoil/topsoil	215 x 200	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.27-N	0.98	Coos River HDD	230 x 295 (Irregular)	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	Private
TEWA 11.27-W	0.12	Coos River HDD	60 x 76	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 11.30-N	2.7	Coos River HDD Pullback,waterbody crossing, top soil storage	10 x 389	Cropland and Pasture Nonforested Wetlands Residential Streams and Canals Trans, Comm, Utilities Corridors	Agriculture, Palustrine Emergent (PEM) Urban Rivers and Streams Roads, Corridors	Private
TEWA 11.31-W	0.36	Ingress/egress, road crossing crossing, top soil storage	30-50 x 481	Cropland and Pasture	Agriculture	Private
TEWA 11.32-N	0.66	PI, ingress/egress, road crossing, waterbody crossing	30 x 981	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 11.39-N	0.08	Side cut	10 x 380	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 11.41-W	0.5	PI, ingress/egress, road crossing, waterbody crossing	30-50 x 592	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 11.48-N	0.17	Road crossing, side cut	10 x 770	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 11.53-N	0.86	PI, ingress/egress, waterbody crossing	30 x 1,238	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.53-W	0.85	PI, ingress/egress, waterbody crossing	30-50 x 1,184	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.70-W	0.07	Road crossing, waterbody crossing, side cut	10 x 300	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 11.77-N	0.47	PI, ingress/egress, waterbody crossing	30 x 694	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.77-W	0.55	PI, ingress/egress, waterbody crossing	30-50 x 743	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.80-W	0.04	Waterbody crossing, side cut	10 x 180	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 11.90	0.52	Ingress/egress, parking, staging	100 x 227	Cropland and Pasture Herbaceous Rangeland Residential Trans, Comm, Utilities Corridors	Agriculture Grasslands (W. Cascades) Urban Roads, Corridors	Private
TEWA 11.90-W	0.1	Ingress/egress, staging, spoil storage	15 x 291	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 11.91-N	0.21	Canal crossing, top soil storage	30 x 313	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 11.92-W	0.13	Canal crossing, top soil storage	30-50 x 257 (Irregular)	Cropland and Pasture Streams and Canals	Palustrine Emergent (PEM) Rivers and Streams	Private
TEWA 11.97-N	0.45	Canal crossing, top soil storage PI, road crossing, side cut	25 x 312	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 11.97-W	0.72	Canal crossing, top soil storage Ingress/egress, staging, spoil storage	30-75 x 369	Cropland and Pasture Mixed Forest Land Residential Trans, Comm, Utilities Corridors Mixed Forest Land	Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Urban Roads, Corridors Palustrine Emergent (PEM), Mixed Conifer/Mixed Dec	Private
TEWA 12.06-N	0.67	Waterbody crossing, side cut	25 x 1,131	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.08-N	0.53	HDD Coos River, Wetland and Topsoil Salvage	30 x 748	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 12.08-W	0.98	PI, spoil storage, Waterbody crossing, side cut	25 x 951	Cropland and Pasture Trans, Comm, Utilities Corridors Mixed Forest Land Regenerating Evergreen Forest Land	Palustrine Emergent (PEM) Roads, Corridors Mixed Conifer/Mixed Dec	Private
TEWA 12.21-W	0.77	PI, spoil storage	30 x 1,087	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 12.24-N	0.78	HDD Coos River, Wetland and Topsoil Salvage	30 x 1,188	Cropland and Pasture	Palustrine Emergent (PEM)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 12.27-W	0.11	Waterbody crossing, side cut	25 x 190	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.28-N	0.06	Waterbody crossing, side cut	25 x 117	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.31-N	0.23	Waterbody crossing, side cut	25 x 405	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.31-W	0.22	Waterbody crossing, side cut	25 x 404	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.39-N	0.12	Waterbody crossing, side cut	25 x 245	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.40-W	0.17	Waterbody crossing, side cut	25 x 298	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.45-N	0.23	Waterbody crossing, side cut	25 x 384	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.47-W	0.12	Waterbody crossing, side cut	25 x 270	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 12.53-N	4.49	Disposal, Staging, hydrostatic discharge	25-710 x 1508 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 12.53-W	0.37	Road crossings, waterbody crossing, side cut	25 x 640	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 12.77-W	0.08	PI, road crossing, spoil storage	30 x 137	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 12.87-N	0.04	waterbody crossing, side cut	15 x 115	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 12.91-N	0.13	Road crossing, side cut, top of hill	15-30 x 277	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 12.99-N	0.05	Waterbody crossing staging	30 x 90	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 13.02-N	0.05	Waterbody crossing staging	30 x 100	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 13.02-W	0.13	Waterbody crossings, side cut	15 x 367	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 13.11-W	0.18	Road crossing, waterbody crossing, side cut	15 x 533	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.20-N	0.21	Side cut	15 x 620	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 13.21	0.34	Staging, parking	100 x 150	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.34-W	0.17	Road crossing, side cut	15 x 483	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.43	0.34	Staging, parking	100 x 150	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.44-N	0.25	Waterbody crossing staging	15-50 x 536	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 13.44-W	0.17	Waterbody crossing, side cut	15 x 483	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 13.57-N	0.17	Waterbody crossing staging	50 x 195	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 13.62-W	0.07	Waterbody crossing, side cut	15 x 195	Streams and Canals Trans, Comm, Utilities Corridors	Rivers and Streams Mixed Conifer/Mixed Dec	Private
TEWA 13.68-W	0.12	Road crossing, waterbody crossing, side cut	15 x 340	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.6-N	0.11	Waterbody crossing staging	50 x 150	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 13.74	0.16	Ingress/egress, parking, staging	75 x 100	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.75-N	0.49	Ingress/egress, road crossing, staging	15-75 x 952	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 13.93-W	0.2	Ingress/egress, road crossing, staging	50 x 215	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 14.23-W	0.59	Ingress/egress, road crossing, PI, residential avoidance	50 x 507	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 14.38-W	0.1	PIs, side cut	15 x 294	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 14.53-W	0.46	Staging, spoil storage	30 x 787	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 14.60-N	0.79	Staging, spoil storage	220 x 386 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 14.78-W	0.87	PIs, road crossings, side cut	30 x 1,287	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 15.13-W	0.13	PI, road crossing, side cut, staging	50 x 155	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 15.15-N	0.08	PI, road crossing, side cut, staging	35 x 119	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 15.45-W	1.13	PIs, road crossings, top soil storage	15-100 x 1,453	Clearcut Forest Land Cropland and Pasture Mixed Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Agriculture Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 15.52-N	0.21	PI & Block Valve BVA #3	30 x 302	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 15.70-N	0.28	Ingress/egress, top soil storage	95 x 160	Cropland and Pasture Mixed Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 15.90-N	1.54	PIs, road crossings, side cut, top of hill	15-30 x 2,541	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 16.17-W	0.09	PIs/spoil storage	30 x 150	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.22-W	0.42	PIs/spoil storage, Slope & waterbody crossing staging	30-50 x 592	Clearcut Forest Land Streams and Canals	Mixed Conifer/Mixed Dec Rivers and Streams	Private
TEWA 16.24-W	0.09	PI, road crossing, side cut	30 x 150	Clearcut Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 16.41-W	0.52	Waterbody crossing, road crossing, side cut	30-50 x 710	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.56-W	0.08	Waterbody crossing, road crossing, side cut	30 x 130	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.57-N	0.66	Ingress/egress, parking, staging, spoil storage, water body crossing	141 x 170 (Irregular)	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 16.71-W	0.02	Waterbody crossing, side cut	15 x 58	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.74-W	0.07	Waterbody crossing, side cut	15 x 193	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.80-W	0.02	waterbody crossing, side cut	15 x 68	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 16.83-W	0.05	Waterbody crossing, side cut	15 x 143	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 16.87-W	0.15	Waterbody crossing, side cut	15 x 426	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 17.05-W	1.12	PI, substation avoidance, spoil storage, staging	15-50 x 1,946	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 17.08-N	0.56	Ingress/engress, substation avoidance, PI, spoil storage	145 x 303 (Irregular)	Industrial Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Industrial Mixed Conifer/Mixed Dec	BLM
TEWA 17.32-N	0.18	Ingress/egress, road crossing, PI, spoil storage	15 x 539	Mixed Forest Land Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 17.43-W	0.17	Waterbody crossing staging	50 x 200	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 17.48-W	0.17	Waterbody crossing staging	50 x 200	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 17.53-W	0.38	PI, spoil storage, staging	55 x 400	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 17.57-N	0.7	PIs, side cut, steep slope	30 x 1,050	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 17.79-N	0.48	Timber clearing/landing, heliport, PI, road crossings, side cut, staging	100 x 218	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 17.82-W	1.78	Timber clearing/landing, heliport, PI, steep slope staging	15-135 x 1,926	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 18.11-N	0.39	Waterbody crossing, road crossing, staging	30 x 590	Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 18.23-N	0.09	Waterbody crossing staging	20 x 215	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 18.23-W	0.11	Waterbody crossing staging	20 x 267	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 18.30-W	0.09	Waterbody crossings, side cut	15 x 267	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 18.37-W	0.22	Waterbody crossings, road crossing, side cut	15 x 631	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 18.51-W	2.39	PIs, road crossing, waterbody crossing, side cut	15-50-100 x 2,275 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 18.61-N	0.11	PI, staging	50 x 150	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 18.96-N	0.34	Steep slope/waterbody crossing staging, spoil storage	30 x 516	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 18.96-W	0.46	Steep slope/waterbody crossing staging, spoil storage	50 x 466	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 19.06-N	0.12	Waterbody crossing staging	30 x 200	Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 19.06-W	1.15	Timber clearing/landing, heliport, waterbody crossing staging	50 x 1, 053	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 19.25-N	0.62	Road crossings, side cut	15-20 x 1,400	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 19.59-N	0.42	Road crossings, side cut	15 x 1,229	Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 19.84-W	0.3	Road crossing, side cut	30 x 460	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 20.02-N	1.09	Waterbody crossings, side cut	15-30 x 2,945	Streams and Canals Trans, Comm, Utilities Corridors	Rivers and Streams Mixed Conifer/Mixed Dec	BLM, Private
TEWA 20.02-W	0.85	Side cut	30 x 1,260	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 20.40-W	0.43	Side cut, spoil storage	30 x 650	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 20.60-W	0.39	Road crossing, waterbody crossings, side cut	30 x 587	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 20.73-W	0.23	PI, spoil storage, staging	30 x 330	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 20.81-W	0.4	PI, waterbody crossings, side cut	30 x 589	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 20.88-N	0.16	PI, side cut	30 x 267	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 20.96-W	2.23	Disposal, staging, hydrostatic discharge	30-230 x 759 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 21.15-W	0.45	PIs, waterbody crossing, side cut	50 x 464	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 21.41-W	0.1	Road crossings, side cut	15 x 300	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 21.57-W	0.37	PI, spoil storage	50 x 401	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 21.76-W	0.09	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 21.88-N	0.19	PI, side cut	60 x 310 (Irregular)	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 21.90-W	0.09	PI, side cut	30 x 150	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec	Private
TEWA 21.99-W	0.03	Road crossings, side cut	30 x 50	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec	Private
TEWA 22.11-W	0.27	PI, road crossing, side cut, staging	50 x 300	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec	Private
TEWA 22.12-N	0.42	PI, road crossing, side cut, staging	50 x 400	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec	Private
TEWA 22.55-N	0.53	Ingress/egress, road crossing, parking, staging	150 x 158	Regenerating Evergreen Forest Land Residential	Douglas Fir-W. Hemlock-W.Red Cedar Urban	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 22.55-W	0.27	Ingress/egress, road crossing, parking, staging	80 x 147	Regenerating Evergreen Forest Land Residential	Douglas Fir-W. Hemlock-W.Red Cedar Urban	Private
TEWA 22.59-N	0.77	Ingress/egress, road/wetland crossing, topsoil	10-50 x 2,417	Cropland and Pasture Ditch Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Grasslands (W. Cascades) Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 22.59-W	0.54	Ingress/egress, road crossing, parking, staging	150 x 161	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 23.02-W	0.29	North Fork Coquille River crossing	80 x 157	Cropland and Pasture Mixed Forest Land	Agriculture Mixed Conifer/Mixed Dec	Private
TEWA 23.09-W	0.93	North Fork Coquille River crossing, PI	15-100 x 1,488	Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 23.24-N	0.38	PI, spoil storage, steep slope staging	50 x 400	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 23.40-W	1.49	PI, side cut	15-50 x 2,513	Clearcut Forest Land Evergreen Forest Land	Mixed Conifer/Mixed Dec Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 23.90-W	0.08	PI, side cut	30 x 150	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 23.96-N	0.57	Ingress/egress, staging, parking	100 x 248	Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 24.08-W	0.14	Ingress/egress, road crossing, staging, parking	50 x 120	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 24.11-N	0.17	Ingress/egress, staging, road crossing, spoil storage	75 x 192 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 24.13-W	1.22	PI, spoil storage	15-50 x 2,084	Evergreen Forest Land Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 24.30-N	0.28	Ingress/egress, PI, road crossing, spoil storage	15-30 x 579	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 24.52-N	0.14	ingress/ergress, road crossing	50 x 150	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 24.55-N	0.1	ingress/ergress, road crossing	30 x 157	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 24.55-W	0.11	ingress/ergress, road crossing	50 x 94	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 24.63-W	0.53	Logging landing, steep slope staging, spoil storage	15-50 x 1,002	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 24.77-N	0.15	Logging landing, steep slope staging, spoil storage	30 x 250	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 24.97-W	0.39	Timber clearing landing, PI, steep slope staging	75 x 467 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 25.14-N	0.22	PI, spoil storage	50 x 201	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 25.17-W	1.9	PIs, road crossing, side cut	30 x 2,750	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 25.60-N	1.78	Log landing, PI, powerline/pipeline crossing, staging	253 x 276	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 25.74-N	0.97	PIs, road crossings, side cut, parking, staging	65 x 776	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 25.74-W	0.89	PI, powerline/pipeline crossing, staging, spoil storage	55 x 791	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 25.96-W	2.53	PI, powerline/pipeline crossing, staging, spoil storge	15-120 x 2,022 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors Mixed Conifer/Mixed Dec	Private
TEWA 26.04-N	6.67	PI, spoil storage	100 x 1,777 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors Mixed Conifer/Mixed Dec	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 26.56-W	0.51	Ingress/egress, staging, parking	50 x 457	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 26.62-N	0.13	PI, spoil storage, road crossing, staging	50 x 125	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 26.64-W	0.42	Ingress/egress, staging, parking	50 x 393	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec	Private
TEWA 26.76-N	0.67	Ingress/egress, road crossing/steep slope staging	20-75 x 978	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	BLM, Private
TEWA 26.91-W	0.36	Ingress/egress, road crossing/steep slope staging	100 x 175	Mixed Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	BLM
TEWA 26.96-W	0.36	Middle Creek crossing	75 x 200	Mixed Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	BLM
TEWA 27.05-W	0.41	Middle Creek crossing	100 x 150	Cropland and Pasture Mixed Forest Land Orchards, Groves, Vinyards, Nurseries, Horticultural	Agriculture Mixed Conifer/Mixed Dec	BLM, Private
TEWA 27.22-W	0.09	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 27.30-N	0.64	Ingress/egress, PI, road crossing, log/spoil storage	50 x 605	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 27.48-N	0.32	Log landing, ingress/egress, steep slope staging	50 x 273	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 27.49-W	0.23	Log landing, ingress/egress, steep slope staging	50 x 250	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 27.63-N	0.23	PIs, road crossing, side cut	30 x 325	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 27.85-N	0.09	PI, log/spoil storage	30 x 122	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 28.04-W	0.1	PI, road crossing, side cut	30 x 150	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 28.11-N	0.06	PI, log/spoil storage, staging	34 x 122	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 28.28-W	0.63	Log landing, PI/spoil storage, hydrostatic discharge	50 x 615	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 28.47-N	0.07	Ingress/egress, road crossing, parking, staging	30 x 116	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 28.47-W	0.06	Ingress/egress, road crossing, parking, staging	30 x 98	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 28.50-N	0.07	Ingress/egress, road crossing, parking, staging	30 x 119	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 28.50-W	1.35	Ingress/egress, road crossing, parking, staging	15-50 x 1,887	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 28.83-N	0.19	Waterbody crossing staging	50 x 170	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 28.88-N	0.86	Waterbody crossing and steep slope staging	25 x 1,534	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 28.88-W	0.95	Waterbody crossing and steep slope staging	25 x 1,655	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 29.20-W	1.67	PI, road crossings, waterbody crossing	233 x 698 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 29.30	0.23	Parking, staging	99 x 102	Cropland and Pasture	Agriculture	Private
TEWA 29.45-W	0.13	Road crossing, waterbody crossing, side cut	35 x 157	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 29.46-N	0.09	Road crossing, waterbody crossing, side cut	35 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 29.48-N	1.24	Road crossing, topsoil, E Fork Coquille River crossing	10-100 x 1,866	Cropland and Pasture Mixed Forest Land	Agriculture Mixed Conifer/Mixed Dec	Private
TEWA 29.54-N	0.34	Waterbody and road crossing staging, ingress/egress	100 x 176 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 29.56-W	0.63	Waterbody and road crossing staging, ingress/egress	100 x 316 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 29.78-W	0.78	PI, waterbody crossing, top soil storage	100 x 367	Cropland and Pasture Mixed Forest Land	Agriculture Mixed Conifer/Mixed Dec	Private
TEWA 29.87-N	0.64	PI, waterbody crossing, top soil storage	100 x 282	Cropland and Pasture	Agriculture	Private
TEWA 29.87-W	0.81	PI, waterbody crossing, top soil storage	15-100 x 1,252	Cropland and Pasture Regenerating Evergreen Forest Land	Agriculture Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 30.17-W	0.09	PI, side cut	30 x 150	Cropland and Pasture Regenerating Evergreen Forest Land	Agriculture Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 30.29-W	0.74	PI, spoil storage	30-50 x 914	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 30.68-W	0.12	PI, side cut	30 x 210	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 30.72-N	0.36	Log landing, PI/spoil storage, steep slope staging	50 x 358	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 30.78-W	0.2	PI, road crossing, side cut	30 x 296	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 30.87-N	0.38	Logging landing, PI, spoil storage, staging, hydrostatic test discharge	30 x 553	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 30.87-W	0.56	Logging landing, PI, spoil storage, staging, hydrostatic test discharge	50 x 509	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 31.01-W	5.22	Logging landing, steep slope staging	15-75 x 5,484	Evergreen Forest Land Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	BLM, Private
TEWA 31.06-N	0.45	Logging landing, steep slope staging	50 x 400	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Mixed Conifer/Mixed Dec Roads, Corridors	Private
TEWA 31.49-N	0.61	Road crossing, waterbody crossing, side cut	80 x 778 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Clearcut Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 31.65-N	0.5	PI, road crossings, side cut, staging	200 x 226 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 31.77-N	0.32	PIs, road crossing, side cut	30 x 514	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 32.41-N	0.11	Waterbody crossing staging	50 x 91	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 32.41-W	0.09	Waterbody crossing staging	50 x 82	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 32.46-W	0.47	Ingress/egress, road crossing, staging Waterbody crossing staging, PI/spoil storage	50 x 400	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors Mixed Conifer/Mixed Dec	Private
TEWA 32.48-N	0.36	Ingress/egress, parking, staging, spoil storage	100 x 185	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 32.62-N	0.2	PI, side cut	65 x 300 (Irregular)	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
TEWA 32.82-W	0.39	PI, spoil storage	50 x 400	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 32.87-N	0.25	PI, spoil storage	30 x 400	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Mixed Conifer/Mixed Dec Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 32.97-N	0.11	Waterbody crossing	50 x 100	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 32.97-W	0.11	Waterbody crossing	50 x 100	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 33.01-N	0.11	Waterbody crossing	50 x 100	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 33.02-W	0.07	Waterbody crossing	30 x 100	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 33.20-W	1.21	Steep slope staging	30 x 1,750	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 33.34-N	0.25	Logging landing, steep slope staging	30 x 400	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 33.56-N	0.22	Logging landing, steep slope staging, spoil storage	50 x 250	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 33.77-N	0.29	PI, spoil storage, ingress/egress, parking, staging	50 x 305	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 33.78-W	0.99	PI, spoil storage, road crossinig	50 x 875	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 34.00-N	0.06	Ingress/egress, road crossing, parking, staging	30 x 111	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 34.00-W	0.06	Ingress/egress, road crossing, parking , staging	30 x 109	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 34.03-N	0.06	Ingress/egress, road crossing, parking , staging	30 x 100	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 34.03-W	0.06	Ingress/egress, road crossing, parking , staging	30 x 102	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 34.26-W	2.07	Staging, parking, truck turnaround, Disposal	300 x 300	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 34.41-W	0.18	Waterbody crossing and steep slope staging	50 x 197	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 34.47-W	0.17	Waterbody crossing and steep slope staging	50 x 200	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 34.53-N	1.78	Log landing, ingress/egress, road crossing, steep slope	30-50 x 2,417	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 34.53-W	2.58	Log landing, ingress/egress, road crossing, steep slope	30-165 x 2,516 (Irregular)	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 35.25-W	2.12	Ingress/egress, road crossing, staging	100 x 660 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 35.27-N	0.38	Log landing, Ingress/egress, road crossing , staging	50 x 361	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 35.76-W	0.28	Staging, parking	156 x 120 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 35.79-N	0.69	Ingress/egress, PI, spoil storage, staging, parking	75 x 519	Regenerating Evergreen Forest Land Streams and Canals	Douglas Fir-W. Hemlock-W.Red Cedar Rivers and Streams	BLM
TEWA 35.80-W	0.58	Ingress/egress, PI, spoil storage, staging, parking	100 x 289	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 36.11-N	0.51	Ingress/egress, road crossing, spoil storage, staging	80 x 425 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 36.11-W	1	Ingress/egress, road crossing, spoil storage, staging	15-50 x 1,925	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 36.63-W	1	Log landing, heliport, steep slope and inroad work staging	15-225 x 1,093 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 36.85-W	0.05	PIs, waterbody crossing, side cut	15 x 148	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 36.97-W	0.9	Timber clearing/landing, heliport, PIs, side cut	15-30 x 1,678	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 37.14-N	0.8	Timber clearing/landing, heliport, staging for in-road work, parking, spoil storage	50 x 766	Evergreen Forest Land Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Rivers and Streams Roads, Corridors	BLM
TEWA 37.29	0.13	Staging, parking, turn around	78 x 78	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 37.74-N	0.13	PI, log landing, steep slope staging, spoil storage	15 x 373	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 37.74-W	0.27	PI, log landing, steep slope staging, spoil storage	30 x 393	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 38.32-N	0.41	Log landing, heliport, steep slope staging, spoil storage, parking	105 x 443 (Irregular)	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 38.32-W	1.21	Log landing, heliport, steep slope staging, PI, spoil storage	15-30 x 2,557	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 38.90-W	5.56	Log landing, heliport, Ingress/egress, rock source, staging, & spoil storage	361 x 988 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Strip Mines, Quarries, and Gravel Pits Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Industrial Roads, Corridors	BLM, Private
TEWA 39.18-N	10.73	Log decking and storage, heliport, staging	1283 x 449 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 39.21-W	0.45	PI, spoils storage, steep slope staging	50 x 300 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 39.34-N	2.35	Steep slope and in-road work staging, ingress/egress	340 x 466 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 39.49-W	2.23	In-road work staging, spoil storage	30-228 x 2,144 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 39.76-N	0.82	In-road work staging, spoil storage	50-100 x 603	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 39.89-N	0.33	In-road work staging, spoil storage	100 x 145	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 39.95-W	0.5	In-road work staging, spoil storage	30 x 758	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 39.96-N	1.43	Steep slope staging, spoil storage	30-50 x 1,635	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 40.14-W	0.19	Log landing/steep slope staging	50 x 216	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 40.30-W	0.28	In road work staging, spoil storage	50 x 317	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 40.37-N	6.38	In road work staging, PI, spoil storage	30-100 x 5,936	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 40.44-W	1.52	Log landing, staging & parking	15-50 x 2,574 (Irregular)	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 41.61-W	0.28	PI, spoil storage	50 x 312	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 41.82-W	0.36	PIs, side cut	15 x 1,051	Evergreen Forest Land Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 41.83-N	0.12	Ingress/egress, road crossing, parking, staging	50 x 100	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 41.98-N	0.28	PI, spoil storage	50 x 315	Clearcut Forest Land Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 42.04-W	0.42	PI, ingress/egress, road crossing, spoil storage	30 x 573	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 42.48-W	0.12	PI, log/spoil storage	50 x 92	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 42.55-W	4.71	Disposal, log decking/storage/loading, road crossing	30-502 x 1489 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 42.86-W	0.41	Road crossings, side cut	30 x 630	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 43.04-W	0.98	PI, road crossing, staging and spoil storage, parking	30-100 x 740	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 43.05-N	0.56	PI, road crossing, staging and spoil storage, parking	50 x 531	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 43.18-N	0.36	PI, road crossing, side cut	30 x 547	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM, Private
TEWA 43.50-W	0.52	Log landing/decking/storage/loading, staging	30-80 x 652	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 43.72-N	0.08	Road crosing spoil storage, staging	30 x 146	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 43.82-W	1.41	Log landing/decking/storage/loading, steep slope staging	15-50 x 1,967	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 44.13-N	0.68	Steep slope/waterbody crossing staging	127 x 144	Clearcut Forest Land Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 44.23-N	4.03	Log landing, decking and storage, steep slope staging	50-100 x 2,975	Evergreen Forest Land Trans, Comm, Utilities Corridors Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 44.23-W	0.28	Steep slope/waterbody crossing staging	50 x 268	Clearcut Forest Land Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 44.49-W	1.18	Log landing, decking and storage, steep slope staging	100 x 536	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 44.69-W	2.79	PI, spoil storage, road crossing	30-50 x 3,405	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 44.83-N	0.26	Ingress/egreess, road crossing, log decking/storage	50 x 275	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 45.13-N	0.43	Ingress/egress, road crossing staging	30 x 659	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 45.52-W	0.19	PI, side cut	50 x 250	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM
TEWA 45.58-N	0.71	PI, side cut	30 x 1,072	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	BLM, Private
TEWA 45.60-W	0.09	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 45.69-W	0.08	PI, side cut	30 x 150	Clearcut Forest Land Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
TEWA 45.77-W	0.09	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 45.84-W	1.41	Disposal, Parking & Staging - Existing Quarry Site	15-30 x 2,057 (Irregular)	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 45.96-N	0.31	PI, spoil storage	50 x 340	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir-W. Hemlock-W.Red Cedar Roads, Corridors	Private
TEWA 46.10-N	0.26	PI, spoil storage	50 x 300	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
TEWA 46.27-N	0.24	Staging, parking	25-100 x 218 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 46.35-N	0.13	PI, spoil storage	15 x 388	Clearcut Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 46.43-W	0.16	PI, Road crossing,	20 x 366	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 46.44-N	0.07	PI, Road crossing,	15 x 202	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 46.51-N	0.04	Wetland Crossing	15 x 141	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 46.58-N	0.15	Wetland Crossing	50 x 118	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 46.64-N	0.12	PI, spoil storage	30 x 200	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 46.76-N	0.07	Road Crossing	30 x 100	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 46.79-N	0.38	Road Crossing, steep slope	10-30 x 1,421	Clearcut Forest Land Trans, Comm, Utilities Corridors Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 46.81	0.27	Staging, parking, turn around	107 x 118	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 47.09-N	0.03	Road Crossing	30 x 50	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 47.11-N	0.03	Road Crossing	30 x 50	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 47.18-N	0.11	PI, log/spoil storage	30 x 201	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.19-W	0.13	PI, road crossing, log/spoil storage	30 x 200	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.25-N	0.11	PI, spoil storage	30 x 200	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.32-N	0.13	PI, road crossing, spoil storage	30 x 200	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 47.42-N	0.12	PI, inroad lay, spoil storage, staging	30 x 200	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.52-W	0.37	Log landing, heliport, PI, road crossing, spoil storage, sidehill	30 x 561	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.53-N	0.26	Log landing, heliport, PI, road crossing, spoil storage, staging	30 x 374	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 47.71-N	0.29	PIs, road crossings, log landing, log/spoil storage	30 x 439	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 47.73-W	0.13	PI, road crossings, log landing, log/spoil storage	30 x 202	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 47.87-N	0.68	PI, spoil storage	30-50 x 898	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 47.94-W	0.55	PI, side cut	30 x 841	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 48.08-W	0.86	Ingress/ergress, road and waterbody crossing	30-80 x 1,021	Clearcut Forest Land Trans, Comm, Utilities Corridors Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 48.30-N	0.79	Staging/storage, log decking, hauling, pipe storage	30-100 x 874	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 48.45-W	0.08	PI, road crossing, side cut	30 x 150	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 48.64-W	0.69	Staging/storage, log decking/hauling, road crossing	30-80 x 633	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 49.00-W	0.46	PIs, road crossings, side cut	30 x 707	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 49.17-W	0.65	PI, side cut	30 x 981	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, Private
TEWA 49.48-N	0.77	Ingress/egress, staging, parking, road crossing	10-120 x 1,701	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 49.74-W	0.11	Ingress/egress, staging, parking, road crossing	20 x 250	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 49.77-N	1.85	Ingress/egress, staging, parking, road crossing	10-150 x 2,579	Cropland and Pasture Ditch Mixed Forest Land Residential	Agriculture Ditch Douglas-Fir-Mixed Deciduous Forest Urban	Private
TEWA 49.77-W	0.59	Ingress/egress, staging, parking, road crossing	15-110 x 536	Cropland and Pasture	Agriculture	Private
TEWA 50.20	0.24	Water Source - Dust (Lang Creek Reservoir) Water Source - Hydro (Kinnan Lake)	30 x 55 (Irregular) 75 x 155 (Irregular)	Beaches Herbaceous Rangeland Trans, Comm, Utilities Corridors	Beaches Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 50.21-W	0.18	Middle Fork Coquille River crossng staging	30 x 268	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 50.31-W	0.54	Middle Fork Coquille River crossng staging	135 x 175	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 50.35-N	0.11	Middle Fork Coquille River crossng staging, topsoil	10 x 489	Cropland and Pasture	Agriculture	Private
TEWA 50.45-N	0.11	Topsoil	10 x 489	Cropland and Pasture	Agriculture	Private
TEWA 50.62-W	0.17	Ingress/egress, PI, road crossing, spoil storage	50 x 204	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 50.68-W	0.08	PI, road crossing, waterbody crossing	50 x 67	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 50.71-W	0.09	Stream Crossing	50 x 96	Cropland and Pasture	Agriculture	Private
TEWA 50.78-N	0.44	PI, road crossing, top soil storage	80 x 210	Cropland and Pasture	Agriculture	Private
TEWA 51.30-W	4.17	PIs, ingress/egress, road crossing, staging	15-50 x 2,238 (Irregular)	Cropland and Pasture Evergreen Forest Land Mixed Rangeland Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 51.48-N	0.36	PI, ingress/egress, road crossing	50 x 339	Cropland and Pasture Regenerating Evergreen Forest Land	Agriculture Douglas Fir Dominant - Mixed Conifer	Private
TEWA 51.55-N	0.36	PI, ingress/egress, road crossing, staging	10-50 x 1,085	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 51.93-W	0.14	PI, Spoil Storage	30 x 200	Evergreen Forest Land Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades)	Private
TEWA 52.08-N	2.62	Parking, staging	175 x 755 (Irregular)	Evergreen Forest Land Herbaceous Rangeland Industrial Nonforested Wetlands Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades) Industrial Palustrine Unconsolidated Bottom (PUB) Roads, Corridors	Private
TEWA 52.77-W	0.36	Road crossing, side cut, staging	100 x 159	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 52.81-W	0.24	Road crossing, side cut, staging	100 x 97	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 53.00-W	0.1	PI, side cut	15 x 280	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 53.03-N	0.41	PI, road crossing, side cut, top of hill	30-80 x 447	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 53.07-N	0.19	PI, steep slope staging, spoil storage	30 x 294	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, Private
TEWA 53.08-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 53.12-W	1.06	PI, road crossing, side cut, top of hill	30-150 x 475	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 53.21-N	0.11	Staging, parking	50 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 53.44-N	0.37	PI, spoil storage	50 x 395	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 53.62-W	0.83	PI, staging, parking, steep slope staging	50-80 x 704	Evergreen Forest Land Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 54.39-N	0.07	PI, side cut	15 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, Private
TEWA 54.46-N	0.15	PIs, side cut	15 x 426	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 54.46-W	0.15	PIs, side cut	15 x 431	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 54.70-W	0.3	PI, side cut	30 x 450	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 54.83-N	0.48	PIs, road crossings, side cut	30 x 718	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 54.83-W	3.75	Disposal, steep slope staging, spoil storage	30-50 x 5,108	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 55.01-N	2.22	PIs, side cut	20-30 x 3,487	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 55.76-N	0.75	Ingress/egress, parking, road crossing, steep slope	150 x 251 (Irregular)	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 55.82-N	0.25	Topsoil	30 x 380	Cropland and Pasture Evergreen Forest Land Mixed Forest Land Residential	Agriculture Douglas Fir Dominant - Mixed Conifer Douglas-Fir-Mixed Deciduous Forest Urban	Private
TEWA 55.89-W	0.33	PI, spoil storage, waterbody crossing	80 x 224	Cropland and Pasture	Agriculture	Private
TEWA 55.90	0.13	Water Source - Hydro (Ben Irving Reservoir-1) Water Source - Hydro (Ben Irving Reservoir-2)	58 x 86 50 x 50	Trans, Comm, Utilities Corridors Beaches	Roads, Corridors Beaches	Private
TEWA 55.92-N	0.02	Topsoil, waterbody staging	10 x 80	Cropland and Pasture	Agriculture	Private
TEWA 55.95-N	0.4	Topsoil, waterbody staging	10 x 1,736	Cropland and Pasture Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 56.08-W	0.1	Road crossing	15-30 x 256	Cropland and Pasture Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 56.13-W	0.06	Road crossing	15 x 175	Cropland and Pasture	Agriculture	Private
TEWA 56.17-W	0.05	Road crossing	15 x 135	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 56.20-W	1.41	ingress/egress, road crossing, topsoil	15-290 x 1,146 (Irregular)	Cropland and Pasture Mixed Forest Land Mixed Rangeland Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private
TEWA 56.29-N	0.23	Ingress/egress, road crossing staging, spoil storage	50 x 201	Cropland and Pasture Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 56.35-N	0.35	Ingress/egress, road crossing staging, spoil storage	10 x 1,503	Mixed Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 56.69-W	0.19	Ingress/egress, road crossing, topsoil	50 x 206	Forested Wetland Mixed Forest Land	Palustrine Forest (PFO) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 56.72-N	0.11	Ingess/egress, road crossing	50 x 84	Forested Wetland Mixed Forest Land	Palustrine Forest (PFO) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 56.74-W	0.29	Ingess/egress, road crossing	30-50 x 344	Cropland and Pasture Forested Wetland Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Forest (PFO) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 56.75-N	0.12	Road crossing,	50 x 108	Cropland and Pasture Forested Wetland Trans, Comm, Utilities Corridors	Agriculture Palustrine Forest (PFO) Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 56.79-N	0.65	Wetland spoil /topsoil	10 x 1,706	Cropland and Pasture Forested Wetland Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Palustrine Forest (PFO) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 57.10-W	0.03	Road crossing, waterbody crossing	30 x 50	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 57.11-N	0.3	PI, spoil storage, topsoil	10-50 x 720	Cropland and Pasture Herbaceous Rangeland Mixed Forest Land Streams and Canals	Agriculture Palustrine Emergent (PEM) Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 57.12-W	0.09	PI, waterbody crossings	30 x 150	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 57.25-W	0.06	Topsoil	10 x 262	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 57.31-N	0.49	Topsoil, ingress/egress, road crossing	10-50 x 1,536	Cropland and Pasture Mixed Forest Land Residential Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Urban Roads, Corridors	Private
TEWA 57.57-W	0.17	Ingress/egress, road crossing	50 x 150	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 57.60-N	1.02	Ingress/egress, road crossing, topsoil, waterbody	30-100 x 1,032	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 57.81-N	0.09	Waterbody crossing	50 x 88	Cropland and Pasture	Agriculture	Private
TEWA 57.81-W	0.13	Waterbody crossing	50 x 112	Cropland and Pasture	Agriculture	Private
TEWA 57.86-N	0.33	PI, waterbody crossing	100 x 166	Cropland and Pasture	Agriculture	Private
TEWA 57.86-W	0.11	PI, waterbody crossing	50 x 95	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 57.89-W	0.02	PI, spoil storage	15 x 70	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 57.91-N	0.37	Topsoil	10 x 1,609	Cropland and Pasture Ditch	Agriculture Palustrine Emergent (PEM) Ditch	Private
TEWA 58.21-N	0.82	Waterbody crossing, topsoil	10-135 x 1,714	Cropland and Pasture Ditch	Agriculture Palustrine Emergent (PEM) Ditch	Private
TEWA 58.56-N	1.23	Waterbody crossing, topsoil	10-135 x 931	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 58.65-W	0.44	Staging	50 x 391	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 58.79-N	1.49	Ollala Creek crossing, wetland/ag topsoil	10-107 x 2,604	Cropland and Pasture Ditch Mixed Forest Land	Agriculture Palustrine Emergent (PEM) Ditch Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 58.79-W	0.62	Ollala Creek crossing	100 x 290	Cropland and Pasture	Agriculture	Private
TEWA 59.30-N	1.45	Waterbody crossing, topsoil, ingress/egress road crossing	10-170 x 1,653	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 59.31-W	0.03	Waterbody crossing	30 x 50	Cropland and Pasture	Agriculture	Private
TEWA 59.33-W	0.09	PI, road crossing, spoil storage	30 x 150	Cropland and Pasture	Agriculture	Private
TEWA 59.62-W	0.06	PI, road crossing, spoil storage	30 x 69	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 59.66-N	0.42	Hydro Discharge/topsoil	10 x 1,817	Cropland and Pasture Mixed Forest Land	Agriculture Palustrine Emergent (PEM) Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 60.01-N	0.35	Trib to McNabb Creek spoil/topsoil	10-50 x 576	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.05-W	0.29	Trib to McNabb Creek spoil	10-50 x 298	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.14-N	0.29	Trib to McNabb Creek spoil	25-50 x 395	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.14-W	0.14	Trib to McNabb Creek spoil	50 x 123	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.25-W	0.08	PI, side cut	30 x 150	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.35-W	0.62	PI, spoil storage.	30-50 x 744	Cropland and Pasture Herbaceous Rangeland Mixed Forest Land	Agriculture Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.44-N	0.04	Topsoil	10 x 195	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.52-N	0.74	Log landing, heliport, Staging/topsoil, ingress/egress	10-150 x 359	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 60.54-W	0.78	Log landing, heliport, Ingress/egress, road crossing staging	50-150 x 360	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 60.59-N	0.35	Log landing, heliport, Ingress/egress, road crossing staging	30-50 x 429	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.71-W	0.08	PI, side cut	30 x 147	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 60.82-W	0.08	PI, side cut	30 x 146	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 60.87-W	0.42	Log landing, steep slope staging, spoil storage, hydrostatic discharge	50 x 399	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 60.88-N	0.53	PI, spoils storage, log landing, hydrostatic discharge	115 x 211	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 60.98-W	0.03	PI, side cut	15 x 119	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.02-W	0.03	PI, side cut	15 x 105	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.07-W	0.03	PI, side cut	15 x 105	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.15-W	0.17	Log landing, steep slope staging	50 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.27-N	0.21	Log landing, steep slope staging	50 x 236	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.29-W	0.1	PI, side cut	30 x 153	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.35-W	0.37	Log landing, PI, steep slope staging, spoil storage	15-30 x 719	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.43-N	1.04	Log landing, steep slope staging, spoil storage	135 x 532 (Irregular)	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 61.72-N	0.11	Log landing, steep slope staging, PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 61.72-W	0.13	Log landing, steep slope staging, PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 61.92-W	0.12	Log landing, steep slope staging, PI, spoil storage	30 x 210	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 61.99-N	0.29	Staging, PI, log/spoil storage	60 x 210	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.02-N	0.28	Log landing, steep slope staging, PI, spoil storage	30 x 429	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.03-W	0.12	Log landing, steep slope staging, PI, spoil storage	15 x 334	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.16-W	0.09	PI, side cut	30 x 150	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 62.20-W	0.07	PI, road crossing, side cut	30 x 150	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.24-W	0.19	Log landing, steep slope staging, spoil storage	40 x 250	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.44-W	0.52	Log landing, steep slope staging, PI, spoil storage	15-50 x 525	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 62.56-W	0.14	PI, Spoil Storage	30 x 248	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.69-W	0.16	PI, log/Spoil Storage	30 x 201	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 62.92-W	0.41	PIs, road crossings, side cut	15-30 x 840	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.19-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.31-N	0.46	Log landing, steep slope staging, PI, spoil storage	50 x 363	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.31-W	0.12	Log landing, steep slope staging, PI, spoil storage	103 x 148 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 63.61-N	0.11	PI, log/Spoil Storage	30 x 175	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.62-W	0.09	PI, log/Spoil Storage	20 x 180	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 63.77-N	0.22	Log landing, steep slope staging, PI, spoil storage	20 x 478	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.77-W	0.2	Log landing, steep slope staging, PI, spoil storage	20 x 447	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.88-N	0.2	Ingress/egress, road crossing	50 x 195	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.90-W	0.21	Ingress/egress, road crossing	50 x 149	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 63.93-N	0.12	PI, ingress/egress, road crossing, waterbody crossing, side cut	50 x 126	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 63.93-W	0.31	Ingress/egress, parking, road and waterbody crossing	95 x 186	Herbaceous Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 63.99-N	0.24	Log landing, waterbody crossing/steep slope staging	25-50 x 303	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 63.99-W	0.24	Log landing, waterbody crossing/steep slope staging	50 x 268	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 64.13-N	0.27	Log land, steep slope staging, spoil storage	50 x 283	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 64.15-W	0.17	Log land, steep slope staging, spoil storage	50 x 202	Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 64.34-N	0.23	Log land, PI, spoil storage, steep slope staging	30 x 342	Regenerating Evergreen Forest Land Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 64.38-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 64.55-W	0.48	Log landing, PI, spoil storage, steep slope staging	15-50 x 450	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 64.69-W	0.29	Log landing, PI, spoil storage, steep slope staging	15-50 x 409	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 64.71-N	0.31	Log landing, PI, spoil storage, steep slope staging	50 x 260	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 64.80-W	0.1	side cut	15 x 301	Regenerating Evergreen Forest Land Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 64.88-N	0.19	Pis, side cut	15 x 544	Mixed Forest Land Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	BLM, Private
TEWA 64.92-W	0.12	PI, side cut	15 x 336	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 65.06-W	0.03	Pi, side cut	15 x 100	Shrub and Brush Rangeland	Shrublands	Private
TEWA 65.11-W	0.03	PI, side cut	15 x 100	Shrub and Brush Rangeland	Shrublands	Private
TEWA 65.21-W	0.26	steep slope staging, PI, spoil storage	15-50 x 297	Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 65.27-W	0.04	PI, side cut	15 x 100	Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 65.33-W	0.03	PI, side cut	20 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 65.47-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 65.58-N	0.82	Log landing, steep slope staging, Rice Creek crossing	10-150 x 868	Cropland and Pasture Mixed Forest Land Regenerating Evergreen Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 65.58-W	0.17	Log landing, steep slope staging, hydrostatic discharge	50 x 200	Cropland and Pasture Regenerating Evergreen Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 65.76-W	0.28	Ingress/egress, Rice Creek and Road crossing staging	50 x 228	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 65.82-W	0.22	Ingress/egress, parking	15-50 x 393	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 66.03-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 66.06-W	0.75	Log landing, steep slope staging, PI, spoil storage	30 x 1,139	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 66.19-N	0.21	PI, road crossing, side cut	15 x 600	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 66.34-W	0.05	Road crossing, side cut	30 x 75	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 66.36-W	0.04	Road crossing, side cut	30 x 32 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 66.37-W	0.04	Road crossing, side cut	30 x 75	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 66.40-N	0.21	PI, spoil storage, side slope	30 x 350	Mixed Forest Land Residential Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Urban Shrublands Roads, Corridors	Private
TEWA 66.43-W	0.07	PI, road crossing, side cut	30 x 97	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 66.62-W	0.38	Log landing, steep slope staging, PI, spoil storage	50 x 400	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 66.68-N	0.62	Log landing, steep slope staging, PI, spoil storage	15-50 x 1,010	Deciduous Forest Land Mixed Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 66.76-W	0.12	PI, side cut	30 x 200	Shrub and Brush Rangeland	Shrublands	Private
TEWA 66.85-W	0.18	Ingress/egress, road crossing	50 x 143	Deciduous Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Oregon White Oak Forest Rivers and Streams Roads, Corridors	Private
TEWA 66.89-N	0.45	Ingress/egress, Road and waterbody (Willis Creek)	73 x 307	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 66.89-W	0.64	Ingress/egress, Road and waterbody (Willis Creek)	160 x 176	Herbaceous Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private
TEWA 66.97-W	0.32	Waterbody crossing (Willis Creek) staging	50 x 257	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 66.98-N	0.84	Staging, parking	80 x 479	Herbaceous Rangeland Strip Mines, Quarries, and Gravel Pits Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Industrial Roads, Corridors	Private
TEWA 67.03-W	0.15	PI, waterbody crossing, side cut	50 x 169	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 67.17-W	0.47	Log landing, steep slope staging, road crossing	30 x 718	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 67.26-N	0.12	Log landing, steep slope staging, road crossing	30 x 202	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 67.46-W	1.56	Log landing, steep slope staging, spoil stograge	30-178 x 1,089 (Irregular)	Deciduous Forest Land Herbaceous Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 67.49-N	0.13	Log landing, steep slope staging, PI, spoil storage	30 x 197	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private
TEWA 68.25-W	0.26	PI, road crossing log/spoil storage, staging	50 x 200	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 68.43-W	0.11	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 68.58-W	0.11	PI, road crossing, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 68.73-N	0.23	PI, road crossing, log/spoil storage, staging	100 x 100	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 68.73-W	0.49	PI, road crossing, log/spoil storage, staging	50 x 377	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 68.93-W	0.19	PIs, spoil storage	30 x 306	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 69.54-W	0.11	PI, spoil storage	30 x 200	Herbaceous Rangeland Mixed Forest Land Streams and Canals	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 69.85-W	0.11	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 70.02-W	0.13	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 70.08-W	0.11	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 70.17-W	0.11	PI, spoil storage	30 x 200	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 70.33-N	0.23	PI, log/spoil storage, staging	100 x 100	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 70.33-W	0.45	PI, log/spoil storage, staging	50 x 347	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 70.45-N	0.05	Road Crossing, Ingress / Egress	20 x 100	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 70.72-W	0.6	PI, Side Hill	20-50 x 839	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 71.04-W	2.22	Staging, PI, Direct Pipe	50 x 412	Herbaceous Rangeland Nonforested Wetlands Streams and Canals	Grasslands (W. Cascades) Palustrine Emergent (PEM) Rivers and Streams	Private
TEWA 71.06-N	4.59	Direct Pipe Pull-Back and Staging	150-438 x 367 (Irregular)	Herbaceous Rangeland Mixed Forest Land Nonforested Wetlands Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Palustrine Emergent (PEM) Mixed Conifer/Mixed Dec Rivers and Streams Roads, Corridors	Private
TEWA 71.25	0.53	Water Source - Hydro (South Umpqua River-1) Water Source - Hydro (South Umpqua River-2)	82 x 105 (Irregular)	Beaches Streams and Canals Trans, Comm, Utilities Corridors Nonforested Wetlands	Beaches Rivers and Streams Roads, Corridors Palustrine Emergent (PEM)	Private
TEWA 71.36-W	4.17	Direct Pipe Laydown	625 x 834 (Irregular)	Cropland and Pasture Ditch Herbaceous Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Ditch Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private
TEWA 71.43-N	0.5	Meter Station	50 x 443	Cropland and Pasture Herbaceous Rangeland	Agriculture Grasslands (W. Cascades)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 71.71-W	0.11	PI, spoil storage	30 x 200	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 71.82-W	0.12	PI, spoil storage	30 x 193	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 72.25-W	0.1	PI, road crossing, log/spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 72.95-W	0.13	PI, spoil storage, sidehill	30 x 209	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 73.23-W	0.1	PI, spoil storage	30 x 200	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 73.68-W	0.13	PI, spoil storage, sidehill ingress/egress	30 x 200	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 73.69-W	0.06	Road Crossing	30 x 100	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 74.09-W	0.11	PI, spoil storage, sidehill	30 x 200	Mixed Forest Land Streams and Canals	Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 74.28-W	0.29	PI, spoil stoage, staging	30 x 476	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 74.52-W	0.17	PIs, side cut	30 x 272	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 74.55-N	0.76	Staging, steep slope staging, PI, spoil storage	150 x 269 (Irregular)	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 74.70-N	0.27	PI, spoil storage, staging	30 x 428	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 74.72-W	0.24	PI, road crossing, spoil storage	30 x 347	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 74.84-W	0.46	PI staging/spoil storage	30-50 x 500	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 74.97-W	0.63	PIs, road crossings, side cut	50 x 522	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 75.16-N	0.07	PIs, side cut	37 x 133 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 75.28-W	3.07	Rock Source & Staging	15-110 x 3,714	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Mixed Forest Land Strip Mines, Quarries, and Gravel Pits	Douglas-Fir-Mixed Deciduous Forest Mixed Conifer/Mixed Dec Roads, Corridors Industrial	BLM, Private
TEWA 75.33-N	0.47	Side slope spoil storage	30-68 x 517 (Irregular)	Herbaceous Rangeland Mixed Forest Land Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 75.45-W	0.26	Road Crossing	50 x 233	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 75.66-N	0.36	PI, spoil storage, steep slope staging	60 x 397	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 75.91-N	0.16	Side slope slope storage, steep slope staging	30 x 260	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.05-N	0.1	PI, side cut, top of hill	50 x 90	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 76.05-W	0.15	PI, side cut, top of hill	50 x 130	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest Mixed Conifer/Mixed Dec	BLM
TEWA 76.18-N	1.43	Steep slope staging, hydro discharge location	250 x 250	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.31-N	0.29	Ingress/egress, road crossing, staging, parking	50 x 248	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 76.31-W	0.74	Ingress/egress, road crossing, staging, parking	150 x 230	Mixed Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 76.36-N	0.06	Road and waterbody crossing staging	42 x 60	Cropland and Pasture	Agriculture	Private
TEWA 76.36-W	1.09	Road and waterbody crossing staging	355 x 57 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 76.41-N	0.42	Waterbody crossing/steep slope staging, log landing	60 x 303	Cropland and Pasture	Agriculture	Private
TEWA 76.41-W	1.03	Waterbody crossing/steep slope staging, log landing	150 x 300	Cropland and Pasture	Agriculture	Private
TEWA 76.54-W	0.38	Log landing, steep slope staging, spoil storage	15-50 x 374	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 76.66-N	0.27	Log landing, steep slope staging, PI spoil storage	30 x 427	Mixed Forest Land Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest Palustrine Emergent (PEM)	Private
TEWA 76.66-W	0.1	PI, top soil storage, top of hill	50 x 98	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.70-W	0.03	PI, top soil storage, top of hill	15 x 77	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.75-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.81-W	0.07	PI, road crossing, side cut	15-30 x 155	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 76.85-W	0.03	PI, road crossing, side cut	30 x 50	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 76.99-W	1.17	Log landing, steep slope staging, spoil storage	15-50 x 1,298	Cropland and Pasture Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 77.05-N	0.32	Log landing, steep slope staging, spoil storage	50 x 324	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.28-W	0.39	Ingress/egress, staging	30-50 x 520	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 77.31-N	0.11	Ingress/egress, staging	50 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 77.37-N	0.28	PI, side cut, top of hill	15 x 810	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.42-W	0.19	Side cut	15 x 550	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.56-W	0.08	PI, road crossing, side cut, top soil storage	15-30 x 165	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.65-W	0.04	PI, side cut, top soil storage	15 x 100	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.68-N	0.11	Waterbody crossing, side cut	50 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 77.72-N	2.86	Staging, pipe storage, log landing, heliport,	25-183 x 1,593 (Irregular)	Mixed Forest Land Mixed Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 77.95-W	3.52	Staging, spoil storage, pipe storage, log landing, heliport, hydrostatic test discharge	480 x 512 (Irregular)	Mixed Forest Land Mixed Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private
TEWA 78.12-W	0.73	Log landing, steep slope staging, PI, spoil storage	30 x 1,097	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 78.45-N	0.38	Log landing, steep slope	150 x 589 (Irregular)	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.47-W	0.09	PI, side cut	30 x 160	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.61-N	0.33	PIs, side cut	15 x 973	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 78.65-W	0.18	PI, side cut	15-30 x 461	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 78.87-W	0.09	PI, side cut	30 x 150	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 78.94-W	0.25	Ingress/egress, road crossing	50 x 214	Mixed Forest Land Residential Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Urban Roads, Corridors	Private
TEWA 78.99-W	1.19	Ingress/egress, road and waterbody (Myrtle Creek), log landing, heliport,	50-100 x 638 (Irregular)	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 79.00	0.13	Water Source - Dust (Big Lick Reservior)	50 x 117	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	Private
TEWA 79.00-N	0.48	Staging, hydrostatic discharge	230 x 112 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 79.13-N	0.09	Waterbody (Myrtle Creek) crossing, steep slope staging	30 x 145	Mixed Forest Land Streams and Canals	Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 79.14-W	0.19	Waterbody (Myrtle Creek) crossing, steep slope staging	30-50 x 199	Mixed Forest Land Streams and Canals	Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private

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Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 79.18-W	0.03	Road crossing, side cut	30 x 50	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 79.24-N	0.21	PIs, side cut	15 x 593	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 79.24-W	1.32	PI, road crossing, side cut	15-50 x 1,830	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 79.63-W	0.21	PIs, side cut	15-50 x 409	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 79.65-N	0.35	PIs, side cut	30 x 505	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 79.75-W	0.36	PIs, road crossing, side cut	15 x 1,063	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 79.85-N	3.61	Disposal, PI, spoil storage, log landing, heliport, steep slope	820 x 331 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 80.04-W	0.05	Road crossing, side cut	30 x 84	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 80.09-N	0.8	PIs, side cut	30 x 1,147	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 80.18-W	0.08	PI, road crossing, side cut	30 x 150	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 80.23-W	0.08	PI, side cut	30 x 150	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 80.30-W	0.09	PI, road crossing, side cut	30 x 150	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 80.33-W	1.12	PIs, road crossings, side cut	15-30 x 1,746	Regenerating Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 80.65-N	2.85	Ingress/egress, staging, parking, hydrostatic dischcarge	30-300 x 1,434	Herbaceous Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 81.06-W	1.45	Ingress/egress, road crossing, staging, parking	200 x 489 (Irregular)	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 81.16-N	0.26	Ingress/ergress, road and waterbody (South Myrtle Creek)	75 x 139	Deciduous Forest Land Herbaceous Rangeland	Alder-Cottonwood Grasslands (W. Cascades)	Private
TEWA 81.16-W	0.15	Ingress/ergress, road and waterbody (South Myrtle Creek)	80 x 103	Deciduous Forest Land Herbaceous Rangeland	Alder-Cottonwood Grasslands (W. Cascades)	Private
TEWA 81.21-W	5.03	Waterbody (South Fork Myrtle Creek), steep slope staging	400 x 789 (Irregular)	Cropland and Pasture Deciduous Forest Land Mixed Forest Land	Agriculture Alder-Cottonwood Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 81.56-W	0.12	PI, spoil storage	30 x 200	Cropland and Pasture	Agriculture	Private
TEWA 81.68-W	0.12	Ingress/egress, road crossing, PI spoil storage	30 x 200	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 81.73-W	0.12	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 81.85-W	0.11	PI, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 82.26-W	0.13	Road crossing, PI, spoil storage	30 x 200	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 82.30-N	0.17	Staging, log landing	50 x 150	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 82.40-N	0.48	Staging, log landing	50-193 x 75 (Irregular)	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 82.46-W	0.11	Ingress/egress, PI, log/spoil storage, staging	30 x 200	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 82.54-W	0.99	PIs, road crossing, side cut, staging	15-100 x 1,236 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 82.63-N	0.17	Staging, log landing	50 x 150	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 82.88-W	0.29	Pis, road crossings, side cut	15 x 869	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 82.92-N	1.28	Log land, steep slope staging, PI, spoil storage	199 x 425 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 83.25-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 83.27-N	1.02	Log land, steep slope staging, PI, spoil storage	75 x 531	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 83.34-W	0.11	PIs, road crossings, side cut	15 x 321	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 83.47-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 83.54-N	0.39	PI, road crossing, side cut	30 x 565	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 83.62-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 83.75-W	1.71	Log land, steep slope staging, PI, spoil storage	15-250 x 413 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 83.90-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 83.96-W	0.08	PIs, side cut	15 x 237	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 83.97-N	0.08	PIs, side cut	15 x 235	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.02-W	0.48	Waterbody crossing (Woods Creek)	30-50 x 633	Herbaceous Rangeland Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 84.13-N	0.11	Waterbody crossing (Woods Creek)	50 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.18-N	0.81	Waterbody crossing (Woods Creek), steep slope staging	100 x 350	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 84.18-W	11.08	Staging, spoil storage, waterbody crossing	1,474 x 385 (Irregular)	Clearcut Forest Land Herbaceous Rangeland Mixed Forest Land Nonforested Wetlands Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Palustrine Emergent (PEM) Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 84.33-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.40-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.50-N	0.11	PI, side cut staging	50 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.50-W	0.73	Log landing, steep slope staging, PI, spoil storage	15-50 x 1,064	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.61-N	0.5	Log landing, steep slope staging, PI, spoil storage	50 x 453	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.74-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.80-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.87-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 84.98-N	0.26	Log landing, steep slope staging, spoil storage	50 x 293	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 84.98-W	0.32	Log landing, steep slope staging, spoil storage	50 x 315	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 85.19-N	0.14	PI, side cut	30 x 222	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.21-W	0.81	Log landing, steep slope staging, PI, spoil storage	20-30 x 1,542	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.27-N	0.36	PIs, side cut	30 x 558	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.62-W	0.06	Pi, side cut	15 x 180	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.66-N	0.14	Side cut	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.69-W	0.32	PI, road crossing, side cut, staging	15-50 x 485	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 85.87-W	0.44	PI, side cut	15-50 x 773	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 86.11-W	0.17	PI, side cut	30 x 300	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 86.15-N	0.27	PI, side cut	30 x 387	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 86.37-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 86.45-W	0.24	PIs, road crossing, side cut	30 x 367	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 86.49-W	1.49	PI, road crossing, side cut	30-50 x 1,703	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 86.56-N	0.04	PI, road crossing, side cut	15 x 100	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 86.64-W	0.04	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 86.69-W	0.15	PI, road crossing, side cut	50 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 86.76-N	0.7	PIs, road crossing, side cut	30 x 1,021	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 86.85-W	5.91	Log landing, staging pipe storage, spoil storage	205 x 1,618 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 86.98-N	0.67	Log landing, staging pipe storage	117 x 250	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 87.01-N	0.09	PI, road crossing, side cut	15 x 294	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 87.02-W	0.2	PIs, road crossing, side cut	30 x 300	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 87.15-N	0.8	In-road construction, PI, spoil storage	30 x 1,187	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 87.32-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 87.45-W	0.38	PI, side cut	50 x 361	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 87.47-N	0.69	Log landing, steep slope staging, PI, spoil storage	30 x 1,055	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 87.53-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 87.56-W	0.09	PIs, side cut	15 x 254	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 87.64-W	0.13	PIs, side cut	15 x 378	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 87.71-W	0.1	PIs, side cut	15 x 305	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 87.82-N	0.11	Side cut	15 x 315	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 87.89-W	0.54	PIs, road crossing, side cut	15-30 x 1,075	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.01-N	0.09	PIs, side cut	15 x 263	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.07-N	1.63	Ingress/egress, road crossing construction staging	70-100 x 747	Cropland and Pasture Mixed Forest Land Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Rivers and Streams Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 88.26-W	1.45	Ingress/egress, road crossing, waterbody crossing	70-100 x 1,179	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 88.29-N	0.2	Topsoil	10 x 882	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.49-N	0.89	Ingress/egress, road/waterbody (Fate Creek) crossing	150 x 160 (Irregular)	Cropland and Pasture Residential Trans, Comm, Utilities Corridors	Agriculture Urban Roads, Corridors	Private
TEWA 88.49-W	0.07	Ingress/egress, road/waterbody (Fate Creek) crossing	80 x 45 (Irregular)	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.52-W	0.93	Ingress/egress, road/waterbody (Days Creek) crossing	150 x 275	Cropland and Pasture Deciduous Forest Land	Agriculture Alder-Cottonwood	Private
TEWA 88.53-N	0.41	Ingress/egress, road/waterbody (Days Creek) crossing	170 x 214	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 88.61-W	1.6	Waterbody (Days Creek) crossing/steep slope staging	15-150 x 1,188 (Irregular)	Clearcut Forest Land Cropland and Pasture Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest Agriculture	Private
TEWA 88.62-N	0.33	Waterbody (Days Creek)crossing/steep slope staging	67 x 474 (Irregular)	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.80-N	0.11	PI, side cut	30 x 210	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 88.91-W	0.03	PI, road crossing, side cut	15 x 100	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 89.05-W	0.35	Log landing, steep slope staging	100 x 151	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 89.11-N	0.65	Ingress/egress, log landing/hauling, steep slope staging	50 x 560	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 89.11-W	0.68	Log landing, steep slope staging, PI, spoil storage	15-50 x 775	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 89.26-N	0.58	PI, road crossings, side cut	30 x 840	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 89.49-W	0.11	Road crossing, side cut	50 x 100	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 89.82-W	0.03	PI, side cut	15 x 100	Clearcut Forest Land Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 89.85-W	0.08	Road crossing, side cut	15-30 x 168	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 89.88-W	0.06	PI, road crossing, side cut	15-30 x 136	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 89.95-W	0.03	Road crossing, side cut	30 x 45	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 89.96-W	0.04	Road crossing, side cut	30 x 55	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 89.98-W	0.76	Log landing, steep slope staging, ingress/egress	30 x 1,113	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 90.20-N	1.39	Steep slope staging, PI/in-road work spoil storage	25-75 x 1,059 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 90.25-W	0.43	Steep slope staging, PI/in-road work spoil storage	50 x 384	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 90.39-W	0.03	PI, road crossings, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 90.48-N	1.66	Ingress/egress, PI, spoil storage	25-157 x 1,005 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 90.50-W	0.03	PI, road crossings, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 90.53-W	0.4	PI, spoil storage	55 x 400	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 90.74-W	0.05	PI, road crossings, side cut	15 x 150	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 90.79-W	0.88	Ingress/engress, PI, spoil storage	50 x 794	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 90.80-N	0.69	PI, spoil storage	50 x 678	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 90.96-W	2.4	Steep slope staging, in-road work, spoil storage	30 x 3,509	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 91.02-N	5.19	Steep slope staging, in-road work, spoil storage	50-285 x 3,653 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 91.66-W	2.52	Steep slope staging, spoil storage	15-275 x 1,881 (Irregular)	Clearcut Forest Land Regenerating Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 91.93-N	0.63	PI, steep slope staging, spoil storage	100 x 38 (Irregular)	Clearcut Forest Land Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.07-N	0.22	Log landing, steep slope staging, spoil storage	30 x 347	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.07-W	0.29	Log landing, steep slope staging, spoil storage	30 x 451	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.22-N	0.58	Ingress/egress, log landing/hauling, steep slope staging	75 x 398	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.23-W	0.42	Ingress/egress, log landing/hauling, steep slope staging	50 x 399	Clearcut Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 92.33-N	0.41	Ingress/egress, log landing/hauling, steep slope staging	50 x 400	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.33-W	0.39	Ingress/egress, log landing/hauling, steep slope staging	50 x 400	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.51-N	0.18	Log landing, steep slope staging, spoil storage	50 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.51-W	0.17	Log landing, steep slope staging, spoil storage	50 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.57-N	0.32	Steep slope/waterbody crossing (St. Johns Creek) staging	50-100 x 250	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.57-W	0.32	Steep slope/waterbody crossing (St. Johns Creek) staging	50-100 x 250	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.62	0.62	Parking, staging, log landing, heliport, turn-around	50 x 761 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.62-N	0.52	Ingress/egress, steep slope/waterbody crossing (St Johns Creek), log landing, heliport	106 x 224 (Irregular)	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.63-W	0.52	Ingress/egress, steep slope/waterbody crossing (St Johns Creek), log landing, heliport	283 x 76	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.69-N	0.12	Steep slope staging	30 x 202	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.69-W	0.17	Steep slope staging	50 x 197	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 92.76-W	1.25	Log landing, steep slope staging, spoil storage	30-150 x 966	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 92.78-N	0.12	Log landing, steep slope staging, spoil storage	30 x 200	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 92.90-N	0.09	Log landing, steep slope staging, spoil storage	30 x 145	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 93.00-W	0.17	PIs, side cut	15 x 498	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 93.01	0.55	Disposal, log landing, heliport	Irregular	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 93.01-N	1.37	Log landing, heliport, steep slope staging, PI, spoil storage	167 x 386 (Irregular)	Trans, Comm, Utilities Corridors Mixed Forest Land	Roads, Corridors Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 93.31-W	0.09	PIs, side cut	15 x 260	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 93.44-N	1.09	Ingress/egress, PI, steep slope staging, spoil storge	30 x 1,648	Mixed Forest Land Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM, Private
TEWA 93.48-W	0.04	PI, side cut	15 x 100	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 93.65-W	1.05	Parking, staging, spoil storage	270 x 145 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 93.69-W	0.04	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 93.73-W	0.85	Parking, staging, PI, spoil storage	50-248 x 313 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	BLM
TEWA 93.80-N	0.13	Log landing, steep slope staging, spoil storage	30 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 93.90-W	0.27	Log landing, steep slope staging, spoil storage, hydrostatic test discharge	30 x 400	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 94.00-N	0.81	Log landing, steep slope staging, PI, spoil storage	30 x 1,215	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 94.02-W	0.54	PIs, side cut	15-30 x 1,116	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 94.35-W	0.23	Top soil storage	15 x 659	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 94.52-N	0.46	PI, spoil storage	199 x 201 (Irregular)	Mixed Forest Land Mixed Rangeland Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Palustrine Emergent (PEM)	Private
TEWA 94.56-W	23.42	Milo Pipe Yard (pipe/contractor yard), stage, disposal, log landing, heliport	1,645 x 796 (Irregular)	Herbaceous Rangeland Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 94.64-N	1.1	Ingress/egress, staging, parking, Hwy 227 crossing	237 x 368 (Irregular)	Herbaceous Rangeland Mixed Rangeland Residential	Grasslands (W. Cascades) Urban	Private
TEWA 94.69-N	1.93	Hwy 227 and S. Umpqua River crossing staging, spoil storage	10-225 x 824 (Irregular)	Beaches Herbaceous Rangeland Mixed Forest Land Mixed Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Beaches Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Rivers and Streams Roads, Corridors	Private
TEWA 94.69-W	0.59	Hwy 227 and S. Umpqua River crossing staging, spoil storage	220 x 120	Beaches Mixed Forest Land Trans, Comm, Utilities Corridors	Beaches Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 94.77-W	0.22	S. Umpqua River crossing staging	50 x 168	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 94.85-W	0.1	Waterbody crossing	50 x 75	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 94.86-N	0.18	Topsoil	10 x 821	Mixed Forest Land Mixed Rangeland Nonforested Wetlands	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Palustrine Emergent (PEM)	Private
TEWA 94.99-W	0.04	PI, spoil storage	15 x 100	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 95.04-N	0.07	Topsoil	10 x 300	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 95.39	1.25	Staging, log decking/hauling, heliport	150 x 300	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 95.49-N	0.26	Log landing, Ingress/egress, steep slope staging	75 x 150	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 95.92-N	0.82	Log landing, steep slope staging, spoil storage	30-75 x 1,004	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 95.94-W	0.57	Log landing, steep slope staging, spoil storage	15-30 x 1,080	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 95.95	1.03	Turn-around, parking, staging	248 x 290 (Irregular)	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 96.16-N	0.21	PI, spoil storage, staging	50 x 346	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 96.22-N	0.82	Log landing, heliport, Ingress/egress, road crossing, PI, spoil storage	10-50 x 1,495	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 96.23-W	0.94	Log landing, heliport, Ingress/egress, road crossing, PI, spoil storage	30 x 1,376	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 96.3-W53	0.12	Log landing, Ingress/egress, road crossing, PI, spoil storage	30 x 186	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 96.67-W	0.24	Log landing, steep slope staging, spoil storage	25 x 438	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 96.78-N	0.09	PI spoil storage	25 x 183	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 96.90-N	0.47	Log landing, steep slope staging, spoil storage	30-75 x 480	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 96.91-W	0.08	Log landing, PI, spoil storage	25 x 178	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 97.02-N	0.36	Log landing, heliport, staging spoil storage	75 x 247	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 97.04-W	0.22	Log landing, heliport, staging spoil storage	75 x 150	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 97.18-W	0.25	PI, spoil storage	25 x 460	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.38-N	0.22	PI, spoil storage	30 x 361	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.41-W	0.03	PI, road crossing, side cut	15 x 94	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.61-W	0.33	PI spoil storage	15-30 x 825	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 97.63-N	0.87	Log landing/hauling, heliport, ingress/egress, staging, spoil storage	150 x 327 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 97.79-N	0.59	Log landing, heliport, PI, spoil storage	25 x 853	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 97.82-W	0.03	PI, side cut	15 x 92	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 97.91-W	0.57	Log landing, heliport, Ingress/egress, road crossing, staging	15-260 x 482 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 98.04-W	1.19	Spoil storage	15-50 x 1,911	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 98.07-N	0.28	spoil storage	10 x 1,243	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 98.55-W	0.13	PIs, road crossings, side cut	15 x 390	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 98.57-N	0.13	Log landing, steep slope staging, PI, spoil storage	15 x 396	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 98.67-N	0.14	Log landing, steep slope staging, PI, spoil storage	15 x 408	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 98.69-W	0.06	Pis, side cut	15 x 183	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 98.73-W	1.2	PI, spoil stoage	15-30 x 2,376	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 98.86-N	1.38	Log landing, steep slope staging, PI, spoil storage	276 x 417 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 98.93-N	0.97	PI, spoil stoage	30 x 1,180	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 99.20-W	0.03	PI, road crossing, side cut	15 x 95	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 99.28-W	0.58	PIs, road crossing, side cut	15-30 x 1,220	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS, Private
TEWA 99.57-W	0.04	PI, road crossing, side cut	15 x 127	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 100.16-W	0.11	PI, road crossing, side cut	15-30 x 277	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 100.55-W	0.03	PI, road crossing, side cut	15 x 102	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 100.66-W	0.04	PI, road crossing, side cut	15 x 99	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, USFS
TEWA 100.75-N	0.1	Ingress/egress, staging, log storage, road crossing	54 x 82 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 100.88-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 100.96-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 101.02-W	0.3	PI, spoil storage	40 x 386	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 101.09-W	0.32	Log landing, staging, spoil storage	15-75 x 370	Clearcut Forest Land Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 101.19-N	1.15	Side cut	30 x 1,663	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private, USFS
TEWA 101.62-N	0.17	Log landing, steep slope staging, spoil storage	40 x 227	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 101.63-W	0.48	Log landing, steep slope staging, PI, spoil storage	15-30 x 975	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 101.75-N	0.37	Log landing, steep slope staging, spoil storage	30-50 x 426	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 101.98-W	0.69	Log landing, steep slope staging, PI, spoil storage	30 x 1,011	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 102.19-N	2.72	Ingress/egress, log landing/hauling, heliport, road crossing	269 x 597 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 102.32-W	0.02	Ingress/egress, road crossing	15 x 80	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, USFS
TEWA 102.35-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 102.40-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 102.62-W	0.09	PI, side cut	15 x 250	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 102.63-N	0.24	Ingress/egress, PI, spoil storage, staging, parking	30-45 x 307 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 102.69-N	0.22	Spoil storage	15 x 664	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 102.72-W	0.28	PI, road crossing, side cut	15 x 823	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private, USFS
TEWA 102.93-W	0.12	PI, side cut	15 x 340	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 103.09-W	0.17	PI, spoil storage	15 x 485	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 103.20-W	0.96	PI, spoil storage	30 x 1,429	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 103.58-N	0.26	PI, spoil storage, steep slope staging	50 x 275	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 103.66-W	0.12	PI, spoil storage, steep slope staging	30 x 183	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 103.76-N	0.68	Road/wetland crossing staging, spoil storage	50 x 651	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 103.77-W	0.17	Road crossing spoil storage	50 x 150	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 103.84-W	0.04	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 103.92-N	0.81	Staging, log decking/hauling, parking, hydrostatic test discharge	150 x 234	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 103.92-W	0.8	Ingress/egress, staging, log decking/hauling, parking	150 x 233	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 104.03-W	0.37	Ingress/egress, road crossing	30 x 546	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private, USFS
TEWA 104.17	0.62	Parking	170 x 193 (Irregular)	Trans, Comm, Utilities Corridors	Roads, Corridors	USFS
TEWA 104.23-N	0.1	Ingress/egress, road crossing	25 x 193	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 104.23-W	0.13	Ingress/egress, road crossing	25 x 247	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 104.42-W	0.27	Log landing, steep slope staging, PI, spoil storage	50 x 292	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 104.49-N	0.17	Log landing, steep slope staging, PI, spoil storage	30 x 263	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 104.71-W	0.85	Ingress/egress, road crossing, staging, parking	30-50 x 957	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 104.79-N	0.21	Ingress/egress, road crossing, staging, parking	30 x 300	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 104.95-N	0.07	PI, spoil storage	25 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 104.95-W	0.1	PI, side cut	25 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.04-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.20-N	0.15	PI, spoil storage	30 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.20-W	0.23	PI, spoil storage	25 x 347	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.31-N	0.21	Ingress/egress, road crossing, PI, log/spoils storage staging	20-75 x 231	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 105.32-W	0.09	Ingress/egress, road crossing, PI, log/spoils storage	25 x 177	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 105.52-N	0.21	PI, spoil storage	30 x 300	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.54-W	0.3	Ingress/egress, staging, parking	15 x 876	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 105.65-N	0.05	Steep slope staging, PI, spoil storage	15 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 105.80-N	0.31	Side cut, spoil storage PI	30 x 490	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 105.80-W	0.34	Ingress/egress, side cut, spoil storage PI	30 x 518	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 105.92-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.03-W	0.22	Ingress/egress, road crossing, spoil storage	75 x 165	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 106.12-W	0.26	PIs, road crossing, side cut	30 x 417	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.13-N	0.17	Spoil storage	50 x 184	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 106.31-N	0.1	Ingress/egress, staging, spoil storage	15 x 316	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.33-W	0.14	Ingress/egress, road crossing, PI, spoils storage, sidehill	15 x 412	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 106.38	0.62	Staging/parking	171 x 188	Trans, Comm, Utilities Corridors	Roads, Corridors	USFS
TEWA 106.43-W	0.04	PI, Spoil Storage	15 x 98	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.55-W	0.04	PI, Spoil Storage	15 x 116	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.63-W	0.08	PIs, side cut	15 x 249	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 106.77-W	0.41	PIs, road crossings, side cut	30 x 634	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 106.88-N	0.09	Ingress/egress, in-road construction, staging, parking	20 x 206	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 107.05-N	1.02	Hydro Test Discharge, PI, spoil storage	30 x 1,493	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 107.09-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.13-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.20-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.29-W	0.31	Log landing, Steep slope staging, spoil storage	15-50 x 422	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.45-W	0.05	PI, spoil storage	15 x 160	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.56-W	0.05	PI, spoil storage	15 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 107.90-N	0.05	PI, spoil storage	15 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 108.07-N	0.95	Ingress/egress, road crossing, PI, spoil storage	30-50 x 1,267	Ditch Evergreen Forest Land Trans, Comm, Utilities Corridors	Ditch Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 108.07-W	0.36	Ingress/egress, road crossing, PI, spoil storage	30-50 x 427	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 108.32-N	0.45	Ingress/egress, road crossing, PI, spoil storage	30-50 x 527	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 108.38-W	0.18	PI, road crossing, side cut	15-50 x 187	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 108.42-W	0.35	Ingress/egress, road crossing, PI, spoil storage	15-50 x 497	Ditch Evergreen Forest Land Trans, Comm, Utilities Corridors	Ditch Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 108.47-N	0.41	PI, spoil stoarage	50 x 425	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 108.56-W	0.09	PI, side cut, top of hill	30 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 108.84-W	0.11	PI, road crossing, side cut	15 x 325	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 108.91-W	0.16	Ingress/egress, PI, road crossing, log/spoil storage, staging	25 x 306	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 109.10-W	0.43	PI, road crossing, log landing, side cut	50 x 448	Ditch Evergreen Forest Land Forested Wetland Nonforested Wetlands Streams and Canals Trans, Comm, Utilities Corridors	Ditch Douglas Fir Dominant - Mixed Conifer Palustrine Forest (PFO) Palustrine Shrub (PSS) Rivers and Streams Roads, Corridors	USFS
TEWA 109.12-N	0.06	Waterbody crossing	30 x 89	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.19-N	0.47	waterbody crossing, side cut	30 x 682	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.34-N	0.3	PI, road crossings, log landing, side cut, spoil storage	30 x 438	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 109.58-W	0.17	Road crossing, log landing, side cut, spoil storage	50 x 138	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 109.59-N	0.22	Road crossings, parking, staging, spoil storage	20 x 443 (Irregular)	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 109.68-N	0.09	Road crossing, waterbody crossing, spoil storage	130 x 59 (Irregular)	Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Rivers and Streams Roads, Corridors	USFS
TEWA 109.71-W	0.04	PI, waterbody crossing, side cut	30 x 131 (Irregular)	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.73-N	0.08	PI, waterbody crossing, side cut	60 x 106 (Irregular)	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.83-W	0.23	PIs, side cut	50 x 255	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.90-W	0.09	PIs, side cut	15 x 248	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 109.99-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.01-N	0.24	PIs, side cut	30 x 315	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.06-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.12-W	0.23	Ingress/egress, road crossing, side cut, log landing	50 x 250	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 110.19-N	0.1	PI, side cut	25 x 215	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.21-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.27-W	0.34	Staging, parking, truck turnaround	75 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 110.34-W	0.66	PIs, road crossings, side cut, log landing, heliport	30-50 x 787	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 110.55-W	0.1	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 110.73	15.87	Peavine Quarry. Staging, parking, disposal, log decking/hauling, heliport. Log (mitigation) storage	Irregular	Evergreen Forest Land Nonforested Wetlands Streams and Canals Strip Mines, Quarries, and Gravel Pits Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Palustrine Unconsolidated Bottom (PUB) Rivers and Streams Industrial Roads, Corridors	USFS
TEWA 110.96-N	0.15	Ingress/egress, staging, PI, spoil storage, waterbody crossing,	30 x 174	Evergreen Forest Land Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Rivers and Streams Roads, Corridors	USFS
TEWA 111.10-W	0.67	Staging, parking, truck turn around, top of hill	15-100 x 321	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 111.21-W	0.11	Log landing, steep slope staging, PI, spoil storage	15 x 341	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 111.22-N	0.26	Log landing, steep slope staging, PI, spoil storage	50 x 259	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 111.80-W	0.09	Road crossing, side cut	30 x 123	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 111.83-W	0.07	PI, road crossing, side cut	30 x 124	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 111.93-W	1.56	Log landing/hauling, ingress/egress, road crossing	100 x 744	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 112.01-N	0.17	Log landing/hauling, ingress/egress, road crossing	15-50 x 264	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 112.07-N	0.34	Log landing/hauling, ingress/egress, road crossing	15-50 x 776	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 112.17-W	0.09	PI, side cut	30 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 112.53-N	0.34	Log landing/hauling, ingress/egress, road crossing	100 x 150	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 112.54-W	0.59	Log landing/hauling, ingress/egress, road crossing	50 x 561	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 113.05-N	3.55	Log landing/hauling, ingress/egress, staging, parking	15-150 x 4,691	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private, USFS
TEWA 113.08-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 113.62-W	0.26	PI, road crossing, side cut	15 x 415	Clearcut Forest Land Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 114.11-W	0.39	PI, spoil storage	50 x 400	Clearcut Forest Land Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.12-N	0.42	PI, spoil storage	50 x 400	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.26-W	0.13	PI, steep slope staging, spoil storage	15 x 401	Clearcut Forest Land Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.28-N	0.27	PI, side cut, top of hill	50 x 249	Clearcut Forest Land Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.43-W	0.17	PIs, side cut	15 x 502	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.55-N	0.14	PI, side cut	30 x 200	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.55-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 114.68-W	0.27	Side cut	15 x 770	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 114.99-N	0.77	Log landing/hauling, ingess/egress, road crossing,	30-50 x 865	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 115.11-W	0.43	Log landing/hauling, ingess/egress, road crossing	100 x 181	Clearcut Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 115.23-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 115.32-N	0.47	Log landing/hauling, ingess/egress, road crossing	50 x 441	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 115.33-W	1.04	Log landing/hauling, ingess/egress, road crossing	50 x 946	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 115.81-N	0.56	Log landing/hauling, Ingress/egress, road crossing	100 x 295	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 115.83-W	0.5	Log landing/hauling, Ingress/egress, road crossing	100 x 246	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 115.95-W	0.93	Log landing/hauling, Ingress/egress, road crossing	30-50 x 1,249	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 116.06-N	0.13	Log landing/hauling, Ingress/egress, road crossing	50 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 116.08-N	0.1	Log landing/hauling, Ingress/egress, road crossing	50 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 116.30-W	0.2	PI, road crossing, side cut	30 x 305	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 116.43-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 116.56-N	0.14	PI, spoil storage	15 x 416	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 116.59-W	4.17	PI, spoil storage, log landing, heliport	15-100 x 7,410	Evergreen Forest Land Shrub and Brush Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Shrublands Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM, Private
TEWA 117.13-N	0.14	PI, side slopes, spoil storage	15 x 431	Evergreen Forest Land Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Shrublands	BLM
TEWA 117.26-N	0.15	PI, side slopes, spoil storage	15 x 465	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 117.67-N	2.07	Ingress/egress, road crossing, PI, spoil storage, log landing, heliport	15-30 x 1,872	Evergreen Forest Land Shrub and Brush Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Shrublands Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM, Private
TEWA 118.14-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 118.23-N	0.23	Ingress/egress, road crossing, spoil storage, parking	50 x 250	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	Private
TEWA 118.26-W	0.42	PI, spoil storage	50 x 439	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 118.38-W	0.2	PI, spoil storage	35 x 300	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 118.45-N	0.29	PIs, side cut	30 x 440	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 118.70-W	0.34	PIs, road crossing, waterbody crossing, side cut	15 x 986	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	Private
TEWA 118.83-W	0.25	PI, waterbody crossing	50 x 251	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 118.89-W	0.22	Ingress/egress, road crossing, waterbody crossing	50 x 186	Mixed Forest Land Herbaceous Rangeland	Douglas Fir -White Fir//Tanoak-Madrone Mixed Grasslands (W. Cascades)	BLM, Private
TEWA 118.93-N	0.13	Ingress/egress, road crossing	50 x 107	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM
TEWA 118.94-W	0.11	Ingress/egress, road crossing	50 x 97	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM
TEWA 119.01-W	0.05	Road crossing	30 x 75	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM
TEWA 119.03-N	0.57	PIs, road crossing, side cut, steep slope, top of hill	50 x 541	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM
TEWA 119.03-W	0.67	PIs, road crossing, side cut, steep slope, top of hill	50 x 615	Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM
TEWA 119.26-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
TEWA 119.38-W	0.13	PI, spoil storage	25 x 250	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
TEWA 119.47-N	0.13	PI, steep slope staging, spoils storage	15 x 390	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 119.50-W	0.29	PI, steep slope staging, spoils storage	30 x 439	Deciduous Forest Land Mixed Forest Land	Oregon White Oak Forest Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
TEWA 119.64-W	0.12	PI, Spoil Storage	30 x 200	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 119.69-N	0.11	Ingress/egress, PI/road crossing, spoil storage	25 x 218	Deciduous Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Roads, Corridors	BLM
TEWA 119.69-W	0.11	Ingress/egress, PI/road crossing, spoil storage	30 x 200	Deciduous Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Roads, Corridors	BLM
TEWA 119.92-W	0.2	PI, Road crossing, spoil storage	30 x 300	Mixed Forest Land Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM, Private
TEWA 119.97-W	0.08	Ingress/egress, road crossing, spoil storage	20 x 200	Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 120.03-W	0.08	PI, road crossing, spoil storage	20 x 200	Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 120.12-W	0.13	PI, spoil storage	20 x 295	Deciduous Forest Land Regenerating Evergreen Forest Land	Oregon White Oak Forest Douglas Fir -White Fir//Tanoak-Madrone Mixed	Medford District Private
TEWA 120.26-N	0.29	Ingress/egress, road crossing, spoil storage, parking	50 x 300	Deciduous Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Roads, Corridors	BLM, Private
TEWA 120.30-W	1	Ingress/egress, road crossing, spoil storage, parking	30-50 x 1,241	Deciduous Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Douglas Fir -White Fir//Tanoak-Madrone Mixed Roads, Corridors	BLM, Private
TEWA 120.48-W	0.1	Waterbody crossing	50 x 100	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 120.53-N	0.13	Ingress/egress, road crossing, spoil storage, parking	25 x 250	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Grasslands (W. Cascades) Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 120.53-W	0.5	Ingress/egress, road crossing, spoil storage, parking	50 x 500	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas Fir -White Fir//Tanoak-Madrone Mixed Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 120.67-W	0.03	PI, side cut	15 x 100	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 120.72-W	0.12	PIs, side cut	15 x 338	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
TEWA 120.73-N	0.17	PI, wetland crossing, staging	15 x 505	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 120.84-W	0.15	PIs, road crossing, side cut, top soil storage	15-30 x 321	Mixed Forest Land Residential Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Urban Roads, Corridors	Private
TEWA 120.85-N	0.15	Wetland crossing staging, ingress/egress	85 x 96 (Irregular)	Residential Trans, Comm, Utilities Corridors	Urban Roads, Corridors	Private
TEWA 120.93-N	0.07	PI, waterbody crossing	15-30 x 157	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 121.03-N	0.52	PI, side slopes, spoil storage	15 x 1,498	Mixed Rangeland Shrub and Brush Rangeland Deciduous Forest Land Mixed Forest Land	Grasslands (W. Cascades) Shrublands Oregon White Oak Forest Douglas-Fir-Mixed Deciduous Forest	BLM, Private
TEWA 121.19-W	0.36	PI, side slopes, spoil storage	50 x 335	Deciduous Forest Land Mixed Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private
TEWA 121.82-N	0.66	PI, spoil storage	10-40 x 2,151	Deciduous Forest Land Mixed Forest Land Mixed Rangeland	Oregon White Oak Forest Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 121.86-W	0.04	PI, side cut	15 x 100	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 121.95-W	11.83	HDD (Rogue River) staging/pull-back	385 x 3,355 (Irregular)	Deciduous Forest Land Mixed Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Oregon White Oak Forest Grasslands (W. Cascades) Rivers and Streams Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 122.50	0.58	Water Source - Dust (Indian Lake Reservior -1)	67 x 274 (Irregular)	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 122.62-W	1.02	Rogue River HDD	204 x 624 (Irregular)	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	State, Private
TEWA 122.78-N	0.19	HDD (Rogue River) staging	45 x 250 (200 x 250)	Mixed Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 122.78-W	0.4	HDD (Rogue River) staging	60 x 250 (200 x 250)	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 122.96-W	0.34	Ingress/egress, PI, road crossing, spoil storage	50 x 365	Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 123.02-N	0.29	PI, road crossing, side cut	50 x 300	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 123.07-W	0.03	Road crossing	30 x 50	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 123.08-W	0.03	Road crossing	30 x 50	Deciduous Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Roads, Corridors	Private
TEWA 123.09-N	0.52	PI, side cut, top of hill	25 x 698	Deciduous Forest Land Evergreen Forest Land	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer	Private
TEWA 123.17-W	1.09	PIs, side cut, top of hill	30 x 1,606	Deciduous Forest Land Evergreen Forest Land Mixed Rangeland	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades)	BLM, Private
TEWA 123.50-N	0.1	PI, side cut	30 x 178	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 123.53-W	2.85	PIs, side cut staging, parking, truck turn around, top of hill	30-100 x 3,223	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 123.60-N	0.26	Steep slope staging	30 x 413	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM
TEWA 123.71-N	0.26	Hydrostatic Test Water Discharge	75 x 150	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM
TEWA 123.93-N	0.26	PI, spoil storage	30 x 412	Deciduous Forest Land	Oregon White Oak Forest	BLM
TEWA 124.06-N	0.66	Log landing, steep slope staging, spoil storage	30 x 1,005	Deciduous Forest Land Evergreen Forest Land Mixed Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Shrublands	BLM, State
TEWA 124.19-W	0.59	Log landing, steep slope staging, spoil storage	30 x 899	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM, State
TEWA 124.30-N	0.46	Log landing, steep slope staging, spoil storage	80 x 200	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	State
TEWA 124.54-W	1.01	Log landing, steep slope staging, spoil storage	100 x 501	Deciduous Forest Land Evergreen Forest Land	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 124.56-N	0.21	Log landing, steep slope staging, spoil storage	30 x 340	Deciduous Forest Land Evergreen Forest Land	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 124.71-W	1.9	Log landing, heliport, steep slope staging, spoil storage	15-30 x 3,225	Deciduous Forest Land Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	BLM
TEWA 124.96-N	1.92	Log landing, heliport, ingress/egress, road crossing, steep slope	50 x 1,738	Deciduous Forest Land Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 125.34-W	2.49	Log landing, ingress/egress, steep slope staging	30-50 x 3,41	Mixed Forest Land Evergreen Forest Land Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	BLM, Private
TEWA 125.36-N	1.45	Log landing, ingress/egress, steep slope staging	25 x 2,543	Evergreen Forest Land Mixed Forest Land Trans, Comm, Utilities Corridors Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors Douglas Fir Dominant - Mixed Conifer	BLM, Private
TEWA 125.87-N	0.15	Ingress/egress, road crossing, spoil storage	30 x 272	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 125.94-N	0.1	Waterbody crossing staging	25 x 201	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 125.95-W	0.14	Waterbody crossing staging	25 x 263	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 125.99-N	0.1	Waterbody crossing staging	25 x 200	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 125.99-W	1.91	Ingress/egress, steep slope staging, PI, spoil storage	25-75 x 2,509	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors Mixed Forest Land	Shrublands Roads, Corridors Ponderosa Pine/White Oak	BLM, Private
TEWA 126.09-N	0.16	Staging waterbody crossing	25 x 300	Shrub and Brush Rangeland	Shrublands	Private
TEWA 126.26-N	0.74	Ingress/egress, steep slope staging, PI, spoil storage	75 x 413	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	BLM, Private
TEWA 126.49-W	0.12	Waterbody crossing, staging/spoil storage	30 x 209	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 126.57-W	0.11	Ingress/egress, road/waterbody crossing staging/spoil storage	30 x 193	Mixed Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	BLM, Private
TEWA 126.72-W	0.27	Steep slope staging, spoil storage	50 x 294	Mixed Forest Land Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 126.73-N	0.27	Steep slope staging, spoil storage	50 x 283	Mixed Forest Land Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 127.24-N	0.92	Ingress/egress, road crossing, staging, PI, spoil storage	30-100 x 772	Ditch Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ditch Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 127.25-W	0.25	PI, ingress/egress, road crossing, spoil storage	30 x 327 (Irregular)	Ditch Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ditch Shrublands Roads, Corridors	Private
TEWA 127.30	0.06	Road intersection widening	35 x 122 (Irregular)	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 127.33-W	0.04	Waterbody crossing	30 x 75	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private
TEWA 127.49-N	0.16	PI, side cut	15 x 477	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM
TEWA 127.62-W	1.17	PIs, side cut	30 x 1,726	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 127.65-N	0.66	PIs, side cut	30 x 977	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 127.86-N	0.14	PI, side cut	30 x 250	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 128.01-N	0.28	PI, road crossing, side cut	30 x 427	Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Roads, Corridors	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 128.01-W	0.77	PIs, road crossing, side cut	30 x 1,158	Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Roads, Corridors	BLM
TEWA 128.15-N	0.25	PI, road crossing, side cut	30 x 400	Mixed Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	BLM
TEWA 128.31-W	0.07	PI, side cut	15 x 200	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 128.44-W	0.06	PI, waterbody crossing, side cut	15 x 200	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 128.55-N	0.3	Wetland crossing staging	10-50 x 676	Cropland and Pasture	Agriculture, Palustrine Emergent (PEM)	Private
TEWA 128.55-W	0.15	Wetland crossing staging	50 x 175	Cropland and Pasture	Agriculture	Private
TEWA 128.63-W	0.29	Wetland crossing staging	50 x 275	Cropland and Pasture	Agriculture	Private
TEWA 128.68-W	0.06	waterbody crossing	30 x 100	Cropland and Pasture Mixed Forest Land Streams and Canals	Agriculture Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 128.79-N	0.46	Steep slope staging	100 x 200	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 128.83-W	0.15	Wetland crossing staging	50 x 160	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	BLM
TEWA 128.89-W	0.2	Wetland crossing staging	15-50 x 261	Evergreen Forest Land Mixed Forest Land	Douglas Fir Dominant - Mixed Conifer Douglas-Fir-Mixed Deciduous Forest	BLM
TEWA 128.92-N	0.3	Steep slope staging, spoil storage	15 x 891	Deciduous Forest Land Evergreen Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Shrublands	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 128.96-W	0.96	PIs, road crossing, side cut	15 x 2,783	Deciduous Forest Land Evergreen Forest Land Mixed Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Douglas Fir Dominant - Mixed Conifer Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Shrublands	BLM, Private
TEWA 129.57-W	0.17	PI, side cut	30 x 270	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 129.65-W	0.24	PI, spoil storage	30 x 400	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 129.84-W	0.13	Ingess/egress, PI, spoil storage	30 x 218	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 129.92-W	0.2	Powerline/road crossing, PI, spoil storage	30 x 319	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 130.06-W	0.34	PI, spoil storage	30 x 530	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 130.48-W	0.2	PIs, side cut	30 x 329	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 130.75-W	0.34	Ingress/egress, road crossing, spoil storage	75 x 259	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 130.78-N	0.14	Ingress/egress, road crossing, spoil storage	50 x 126	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades)	Private
TEWA 130.81-W	0.29	Ingress/egress, road crossing, spoil storage	75 x 191	Mixed Rangeland Nonforested Wetlands Shrub and Brush Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Palustrine Shrub (PSS) Shrublands Rivers and Streams Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 130.86-W	0.07	waterbody crossing	30 x 100	Mixed Rangeland	Grasslands (W. Cascades)	Private
TEWA 131.03-N	0.41	Wetland crossing staging	15-25 x 1,174	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 131.18-W	0.45	PI, spoil storage	25-50 x 500	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 131.34-W	2.42	PI, spoil storage	30 x 3,551	Evergreen Forest Land Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Streams and Canals Cropland and Pasture	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Rivers and Streams Agriculture	BLM
TEWA 131.36-N	0.06	PI, spoil storage	15 x 200	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	BLM
TEWA 131.45-N	0.15	PI, spoil storage, sidehill	15 x 457	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 131.60-N	0.07	PI, spoil storage	15 x 207	Evergreen Forest Land Mixed Forest Land Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Shrublands	BLM
TEWA 131.73-N	0.06	PI, spoil storage	15 x 200	Evergreen Forest Land Mixed Forest Land Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Shrublands	BLM
TEWA 131.88-N	0.42	Sidehill spoil storage, topsoil salvage, waterbody crossing/staging	15 x 1,231	Shrub and Brush Rangeland Cropland and Pasture Ditch Mixed Forest Land	Shrublands Agriculture Palustrine Emergent (PEM) Ditch Ponderosa Pine/White Oak	BLM, Private
TEWA 132.18-W	0.18	PI, top soil storage	15-30 x 417	Mixed Forest Land Residential	Ponderosa Pine/White Oak Urban	Private
TEWA 132.26-W	0.36	PI, top soil storage	15-30 x 840	Cropland and Pasture Mixed Forest Land Mixed Rangeland	Agriculture Ponderosa Pine/White Oak Grasslands (W. Cascades)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 132.45-W	3.6	Ingress/egress, Butte Falls Hwy crossing	582 x 341 (Irregular)	Cropland and Pasture Mixed Rangeland Nonforested Wetlands Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Grasslands (W. Cascades) Palustrine Unconsolidated Bottom (PUB) Roads, Corridors	Private
TEWA 132.46-N	0.29	Ingress/egress, Butte Falls Hwy crossing	50 x 257	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 132.52-N	0.22	Ingress/egress, Butte Falls Hwy crossing	50 x 194	Cropland and Pasture Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 132.52-W	0.17	Ingress/egress, Butte Falls Hwy crossing	16-70 x 193	Cropland and Pasture Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 132.68-N	0.06	Wetland crossing/staging and PI	30 x 150	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 132.69-W	0.05	Wetland/PI,spoil storage	30 x 100	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 132.72-W	0.08	Waterbody crossing (Quartz Creek) staging	30 x 154	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 132.79-W	0.15	Waterbody crossing (Quartz Creek) staging	30 x 250	Evergreen Forest Land Herbaceous Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades)	Private
TEWA 132.89-W	0.53	PI, spoil storage	30 x 794	Deciduous Forest Land Mixed Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Ponderosa Pine/White Oak Shrublands	Private
TEWA 133.14-W	0.06	PI, side cut	30 x 100	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 133.24-N	0.54	Medford Aqueduct (bore pit)	50 x 524	Evergreen Forest Land Mixed Forest Land Streams and Canals	Douglas Fir Dominant - Mixed Conifer Douglas Fir -White Fir//Tanoak-Madrone Mixed Ponderosa Pine/White Oak Rivers and Streams	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 133.28-W	1.03	Medford Aqueduct (bored pit), ingress/egress, staging	50-308 x 386 (Irregular)	Evergreen Forest Land Mixed Forest Land Residential Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Urban Roads, Corridors	BLM
TEWA 133.39-N	0.26	Medford Aqueduct (bore pit)	75 x 150	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 133.41-W	0.45	Medford Aqueduct (bore pit)	30-50 x 466	Mixed Forest Land Shrub and Brush Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 133.44-N	0.43	Staging, spoil storage	50 x 351 (Irregular)	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Shrublands Roads, Corridors	BLM, Private
TEWA 133.56-N	0.46	PI, ingress/egress, road crossing, spoil storage	30 x 721	Evergreen Forest Land Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 133.56-W	1.29	Ingress/egress, road crossing, spoil storage, staging	30 x 1,913	Evergreen Forest Land Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 133.72-N	0.8	Staging, spoil storage	30-50 x 864	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 133.98-N	0.13	Road crossings, side cut, top of hill	15 x 400	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 133.98-W	0.25	Road crossings, side cut, top of hill	30 x 400	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 134.08-W	0.18	PI, spoil storage	30 x 276	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 134.26-N	0.28	PIs, road crossing, side cut, top of hill	15 x 824	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 134.26-W	0.11	PI, road crossing, side cut	30 x 200	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 134.39-W	0.34	PI, spoil storage	105 x 366 (Irregular)	Mixed Forest Land Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private
TEWA 134.58-W	1.38	Log landing/hauling, ingress/egress, road crossing	150 x 400	Mixed Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 134.78-W	0.12	PI, road crossing, spoil storage	30 x 200	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 134.88-W	0.4	Road crossing, side cut	15 x 1,168	Clearcut Forest Land Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 135.27-W	0.12	PI, spoil storage	30 x 200	Clearcut Forest Land Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 135.38-W	0.25	PI, spoil storage	30 x 400	Clearcut Forest Land Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 135.52-N	0.23	Log landing/hauling, Ingress/egress, road crossing	100 x 100	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Shrublands Roads, Corridors	Private
TEWA 135.52-W	0.11	Log landing/hauling, Ingress/egress, road crossing	50 x 100	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 135.63-W	0.13	PI, side cut	30 x 200	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 135.79-W	1.26	PI, staging, spoil storage	30-213 x 1,066 (Irregular)	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 135.81-N	0.14	PI, side cut	15 x 413	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 135.94-N	0.13	PI, spoil storage	15 x 400	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 136.11-N	0.39	Log landing/hauling, ingress/egress, road crossing	15-50 x 585	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 136.11-W	0.28	Log landing/hauling, ingress/egress, road crossing	50 x 300	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 136.28-N	0.17	Ingress/egress, staging	50 x 200	Evergreen Forest Land Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Shrublands	Private
TEWA 136.28-W	0.17	Ingress/egress, staging	50 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
TEWA 136.44-N	0.17	Ingress/egress, staging	50 x 200	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 136.44-W	0.17	Ingress/egress, staging	50 x 200	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 136.80-N	0.65	Log landing/hauling, ingress/egress, road crossing	175 x 141	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM, Private
TEWA 136.80-W	0.39	Log landing/hauling, ingress/egress, road crossing	50 x 400	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM, Private
TEWA 136.89-N	0.39	Log landing/hauling, ingress/egress, road crossing	50 x 400	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.03-N	0.07	spoil storage	25 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.03-W	0.07	spoil storage	25 x 150	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 137.13-N	0.17	Ingress/egress, road crossing, spoil storage	50 x 200	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine/White Oak	BLM, Private
TEWA 137.26-N	0.26	Log landing/hauling, Ingress/egress, road crossing	120 x 156 (Irregular)	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private
TEWA 137.30-N	0.12	Ingress/egress, road crossing, spoil storage	50 x 100	Herbaceous Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 137.31-W	0.13	Ingress/egress, road crossing, spoil storage	50 x 100	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private
TEWA 137.39-W	0.31	Waterbody crossing (Whiskey Creek)	30 x 465	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private
TEWA 137.50-N	0.06	Waterbody crossing (Whiskey Creek)	15 x 172	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 137.50-W	0.18	Waterbody crossing (Whiskey Creek)	50 x 186	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private
TEWA 137.70-W	0.12	PI, spoil storage	30 x 200	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	Private
TEWA 137.80-W	0.41	PI, spoil storage	50 x 400	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 137.98-W	0.42	Log landing/hauling, Ingress/egress, road crossing	30 x 640	Mixed Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 138.03-N	0.41	Log landing/hauling, Ingress/egress, road crossing	50 x 400	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 138.24-W	0.08	PI, spoil storage	50 x 85	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
TEWA 138.26-W	0.27	PI, spoil storage	50 x 283	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private
TEWA 138.39-W	0.29	PI, spoil storage	50 x 258	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private
TEWA 138.40-N	0.22	PI, spoil storage	50 x 226	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 138.47-W	0.15	Waterbody crossing staging	50 x 128	Shrub and Brush Rangeland	Shrublands	Private
TEWA 138.52-W	0.15	Waterbody crossing staging	50 x 128	Mixed Forest Land Mixed Rangeland	Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Grasslands (W. Cascades)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 138.56-N	0.68	PI, spoil storage	50-100 x 440	Mixed Forest Land Mixed Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 138.56-W	0.68	Log landing/hauling, Ingress/egress, road crossing	50 x 250	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 138.91-W	0.04	PI, side cut	15 x 100	Mixed Forest Land	Ponderosa Pine/White Oak	Private
TEWA 139.01-N	0.32	Ingress/egress, road crossing, spoil storage	50 x 300	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 139.01-W	0.32	Ingress/egress, road crossing, spoil storage	50 x 300	Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 139.08-N	0.29	Wetland and waterbody crossing, side cut	50 x 300	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 139.08-W	2.06	Ingress/engress, staging	262 x 371 (Irregular)	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 139.38-W	0.05	PI, road crossing, side cut	30 x 100	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 139.41-W	0.05	PI, road crossing, side cut	30 x 37	Herbaceous Rangeland	Grasslands (E. Cascades)	Private
TEWA 139.55-W	0.07	Wetland staging	25 x 118	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 139.57-N	0.06	Wetland staging	25 x 114	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 139.69-N	0.35	PI, spoil storage	50 x 273	Herbaceous Rangeland Streams and Canals	Grasslands (W. Cascades) Rivers and Streams	Private
TEWA 139.82-W	1.05	PI, waterbody crossing, side cut, top of hill	15-50 x 2,294	Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Streams and Canals	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Rivers and Streams	BLM, Private
TEWA 140.27-N	0.11	Waterbody crossing staging, ingress/egress	25 x 196	Mixed Forest Land	Ponderosa Pine/White Oak	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 140.28-W	0.27	Waterbody crossing staging, ingress/egress	50 x 228	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 140.32-N	0.57	Spoil storage side slopes/PI	15-25 x 1,316	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	BLM
TEWA 140.33-W	0.65	Spoil storage side slopes/PI	50 x 635	Herbaceous Rangeland Mixed Forest Land	Grasslands (W. Cascades) Ponderosa Pine/White Oak	BLM
TEWA 140.66-W	0.04	Road crossing	30 x 50	Herbaceous Rangeland Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Shrublands Roads, Corridors	Private
TEWA 140.68-W	0.45	PI, spoil storage	30-50 x 483	Mixed Rangeland Shrub and Brush Rangeland	Grasslands (W. Cascades) Shrublands	Private
TEWA 140.80	0.1	Water Withdrawl	50 x 101	Beaches Regenerating Evergreen Forest Land	Beaches Ponderosa Pine/White Oak	Private
TEWA 140.85-W	1.36	Staging, hydrostatic discharge	15-243 x 1,523 (Irregular)	Ditch Mixed Rangeland Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ditch Grasslands (W. Cascades) Shrublands Roads, Corridors	BLM, Private
TEWA 140.98	2.06	Water source	295 x 382 (Irregular)	Lakes Mixed Forest Land Mixed Rangeland Nonforested Wetlands	Open Water Douglas-Fir-Mixed Deciduous Forest Grasslands (W. Cascades) Palustrine Emergent (PEM)	Private
TEWA 141.27-W	0.03	PI, spoil storage, side slope	15 x 100	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 141.33-W	0.12	PI, spoil storage	30 x 200	Shrub and Brush Rangeland	Shrublands	BLM
TEWA 141.44-W	0.08	PI, side cut	15 x 237	Shrub and Brush Rangeland	Shrublands	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 141.52-W	0.29	PI, side cut	15 x 829	Deciduous Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Shrublands Roads, Corridors	BLM
TEWA 141.67-W	0.06	PI, side cut	15 x 193	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM
TEWA 141.77-N	0.31	Ingress/egress, road crossing, staging	50 x 313	Deciduous Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Shrublands Roads, Corridors	BLM
TEWA 141.78-W	0.27	Ingress/egress, road crossing, staging	50 x 293	Deciduous Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Shrublands Roads, Corridors	BLM
TEWA 141.88-W	0.03	PI, side cut	15 x 100	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	BLM
TEWA 141.97-W	3.94	Ingress/egress, staging, parking	15-360 x 1,393 (Irregular)	Deciduous Forest Land Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 142.07-N	0.68	Ingress/egress, road crossing, spoil storage, staging	215 x 316 (Irregular)	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 142.17-N	0.63	Waterbody (Salt Creek) crossing, PI, spoil storage	10-50 x 1,982	Cropland and Pasture Deciduous Forest Land Ditch Shrub and Brush Rangeland Streams and Canals	Agriculture Palustrine Emergent (PEM) Oregon White Oak Forest Ditch Shrublands Rivers and Streams	Private
TEWA 142.51-W	0.38	Waterbody (Salt Creek) crossing staging, PI, spoil storage	50 x 357	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 142.58-N	0.22	Waterbody (Salt Creek) crossing staging, topsoil storage	10-50 x 417	Cropland and Pasture Ditch Mixed Forest Land	Agriculture Palustrine Emergent (PEM) Ditch Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 142.58-W	0.13	Waterbody (Salt Creek) crossing staging, spoil storage	50 x 163	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 142.68-N	0.15	PIs, side cut	30 x 260	Mixed Forest Land Shrub and Brush Rangeland	Douglas-Fir-Mixed Deciduous Forest Shrublands	Private
TEWA 142.80-N	0.41	PI, side cut	30 x 619	Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 142.83-N	0.98	PIs, side cut	30 x 1,452	Deciduous Forest Land Mixed Forest Land	Oregon White Oak Forest Ponderosa Pine/White Oak	Private
TEWA 143.05-W	0.25	PI, spoil storage	50 x 269	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 143.11-W	0.09	PI, spoil storage	50 x 102	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 143.31-W	0.64	Log landing/staging	15-75 x 1,067	Deciduous Forest Land Herbaceous Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 143.52-W	0.3	PI, spoil storage	50 x 315	Deciduous Forest Land	Oregon White Oak Forest	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 143.69-W	0.59	PI, spoil storage	15-50 x 616	Deciduous Forest Land Lakes Nonforested Wetlands Shrub and Brush Rangeland Streams and Canals	Oregon White Oak Forest Open Water Palustrine Unconsolidated Bottom (PUB) Shrublands Rivers and Streams	Private
TEWA 143.78-N	0.5	PI, road crossing, side cut	15 x 1,461	Deciduous Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Oregon White Oak Forest Shrublands Roads, Corridors	Private
TEWA 144.00	1.46	Water Source - Dust (Unnamed Reservior)	240 x 333 (Irregular)	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	Private
TEWA 144.12-W	0.09	PI, waterbody crossing, side cut	30 x 150	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 144.16-N	0.14	PI, side cut	15 x 409	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (E. Cascades)	Private
TEWA 144.17-W	0.23	PI, side cut	30 x 350	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (E. Cascades)	Private
TEWA 144.34-W	0.46	PIs, waterbody crossing, side cut	10-30 x 1,775	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (E. Cascades)	Private
TEWA 144.59-N	0.45	PIs, road crossing, waterbody crossing, side cut	10-59 x 994 (Irregular)	Deciduous Forest Land Herbaceous Rangeland Shrub and Brush Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Oregon White Oak Forest Grasslands (E. Cascades) Shrublands Rivers and Streams Roads, Corridors	Private
TEWA 144.70-W	0.79	PIs, road crossing, waterbody crossing, side cut	15-50 x 858	Deciduous Forest Land Shrub and Brush Rangeland	Oregon White Oak Forest Shrublands	Private
TEWA 145.05	0.18	Water Source - Dust (Gardener Reservior-1)	130 x 67 (Irregular)	Beaches Deciduous Forest Land Trans, Comm, Utilities Corridors	Beaches Oregon White Oak Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 145.07-W	0.03	PI, side cut	15 x 100	Cropland and Pasture Deciduous Forest Land Trans, Comm, Utilities Corridors	Agriculture Oregon White Oak Forest Roads, Corridors	Private
TEWA 145.15	0.19	Water Source - Dust (Gardener Reservior-1)	135 x 91 (Irregular)	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	Private
TEWA 145.18-W	0.39	Road crossing, side cut	50 x 377	Cropland and Pasture Deciduous Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Oregon White Oak Forest Shrublands Roads, Corridors	Private
TEWA 145.38-N	0.94	PIs, road crossings, waterbody crossings	10-55 x 3,014	Cropland and Pasture Ditch Mixed Forest Land Nonforested Wetlands Streams and Canals Trans, Comm, Utilities Corridors	Agriculture Ditch Douglas-Fir-Mixed Deciduous Forest Palustrine Shrub (PSS) Rivers and Streams Roads, Corridors	Private
TEWA 145.39-W	0.05	Road crossing	25 x 100	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 145.49-W	0.65	PIs, road crossings	50 x 618	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 145.53-W	0.2	Ingress/egress, road crossing, waterbody crossing	50 x 183	Cropland and Pasture Ditch Mixed Forest Land Streams and Canals	Agriculture Ditch Douglas-Fir-Mixed Deciduous Forest Rivers and Streams	Private
TEWA 145.58-N	0.48	PI, ingress/egress, road crossing, waterbody crossing, topsoil	50 x 443	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 145.58-W	0.55	PI, ingress/egress, road crossing, waterbody crossing, topsoil	50 x 468	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Douglas-Fir-Mixed Deciduous Forest Roads, Corridors	Private
TEWA 145.70-N	0.51	PIs, waterbody crossing, side cut	10-30 x 1,373	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 145.70-W	0.57	PI, waterbody crossing	30-150 x 225	Cropland and Pasture Mixed Forest Land	Agriculture Douglas-Fir-Mixed Deciduous Forest	Private
TEWA 145.80-N	1.04	PIs, side cut	10-30 x 1,818	Cropland and Pasture Deciduous Forest Land Trans, Comm, Utilities Corridors	Agriculture Oregon White Oak Forest Roads, Corridors	Private
TEWA 145.91-W	0.48	PI, road crossing, waterbody crosing, side cut	30 x 695	Cropland and Pasture Mixed Forest Land Trans, Comm, Utilities Corridors	Agriculture Ponderosa Pine/White Oak Roads, Corridors	Private
TEWA 146.07-W	0.39	PI, waterbody crossing	30-50 x 483	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	Private
TEWA 146.14-N	0.9	Topsoil	10-50 x 3,356	Mixed Forest Land Shrub and Brush Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Rivers and Streams Roads, Corridors	Private
TEWA 146.40	0.26	Water Source - Hydro (N. Fork Little Bitte Creek-2)	67 x 246 (Irregular)	Mixed Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 146.70	0.1	Water Source - Hydro (N. Fork Little Bitte Creek-2)	43 x 158 (Irregular)	Mixed Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	Private
TEWA 146.81-N	0.22	PI, waterbody crossing	50 x 150	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 146.82-W	0.1	PI, waterbody crossing	50 x 101	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private
TEWA 146.92-W	0.03	PI, side cut	15 x 100	Deciduous Forest Land	Oregon White Oak Forest	Private
TEWA 147.01-W	0.04	PI, side cut	15 x 100	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private
TEWA 147.08-N	0.98	Log landing/decking/hauling, steep slope staging	15-50 x 1,542	Deciduous Forest Land Herbaceous Rangeland	Oregon White Oak Forest Grasslands (W. Cascades)	Private
TEWA 147.35-W	0.04	PI, spoil storage	15 x 100	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 147.47-W	0.03	PI, side cut	15 x 100	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
TEWA 147.68-N	0.68	Ingress, ergress, PI, spoil storage, staging, park	50-130 x 413 (Irregular)	Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 147.72-W	0.18	PI, road crossing, side cut	30 x 258	Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands	Private
TEWA 147.75-W	0.04	Road crossing, side cut	30 x 75	Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 147.93-W	2.26	PI, spoil storage	30-50 x 2,804	Mixed Forest Land Shrub and Brush Rangeland Deciduous Forest Land	Ponderosa Pine/White Oak Shrublands Oregon White Oak Forest	BLM, Private
TEWA 148.42-N	0.48	PI, side cut, top of hill	50 x 398	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM
TEWA 148.53-W	0.47	Log landing, spoil storage	75 x 350	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 148.67-N	0.59	PI, spoil storage	50 x 544	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM
TEWA 148.72-W	1.89	Log landing, PI, staging, spoil storage	15-95 x 1,684	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM
TEWA 148.95-N	0.16	PI, spoil storage	20 x 354	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
TEWA 149.64-W	3.64	Log landing, steep slope staging, PI, spoil storage	30-105 x 3,054	Mixed Forest Land Shrub and Brush Rangeland Herbaceous Rangeland Mixed Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine/White Oak Shrublands Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Roads, Corridors	BLM, Private
TEWA 149.72-N	0.74	Spoil storage - side slopes	35 x 943	Mixed Forest Land Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Douglas Fir Dominant - Mixed Conifer Shrublands	BLM
TEWA 149.98-N	0.32	Ingress/egress, rock source & disposal, staging	10-50 x 1,003	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 150.20-N	0.89	Ingress/egress, staging, spoil storage, parking	50 x 827	Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Douglas-Fir-Mixed Deciduous Forest Ponderosa Pine/White Oak Shrublands Roads, Corridors	Private
TEWA 150.31-W	6.16	Staging, spoil storage, parking	30-285 x 2,221 (Irregular)	Herbaceous Rangeland Mixed Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Roads, Corridors	BLM, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 150.40-N	0.15	PI, road crossing, side cut	25 x 292	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 150.66-N	0.15	Road crossing, side cut	25 x 280	Mixed Forest Land Shrub and Brush Rangeland	Ponderosa Pine/White Oak Shrublands	BLM
TEWA 150.72-W	2.52	Log landing, staging, spoil storage	25-75 x 2,100	Herbaceous Rangeland Mixed Forest Land Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Roads, Corridors	BLM
TEWA 150.82-N	0.07	Log landing, staging spoil storage	25 x 150	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 150.88-N	0.07	Log landing, staging spoil storage	25 x 150	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	BLM
TEWA 150.94-N	0.5	Log landing, staging spoil storage	15-25 x 1,329	Herbaceous Rangeland Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Ponderosa Pine/White Oak Shrublands Roads, Corridors	BLM
TEWA 151.15-W	0.39	PI, spoil storage	50 x 400	Herbaceous Rangeland	Grasslands (W. Cascades)	BLM
TEWA 151.35-N	0.18	Ingress/egress, PI, spoil storage	25 x 339	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (W. Cascades) Roads, Corridors	BLM

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Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 151.38-W	4.37	Ingress/egress, PI, spoil storage, side cut, hydrostatic discharge	25-100 x 5,459	Evergreen Forest Land Herbaceous Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades) Ponderosa Pine Forest and Woodland Roads, Corridors Shrublands	BLM, Private
TEWA 152.29-N	0.8	Ingress/egress, road crossing, staging, water source	50-75 x 649	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	BLM
TEWA 152.54-N	0.43	Ingress/egress, road crossing, staging, parking	75 x 250	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	BLM
TEWA 152.54-W	0.43	Ingress/egress, road crossing, staging, parking	75 x 250	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine Forest and Woodland Roads, Corridors	BLM
TEWA 152.86-W	2	PI, spoil storage	50-125 x 1,280	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	BLM
TEWA 153.24-W	0.34	PIs, spoil storage	50 x 337	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Ponderosa Pine Forest and Woodland	BLM
TEWA 153.41-W	1.21	Ingress/egress, PI, spoil storage	50 x 1,126	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	BLM
TEWA 153.76-N	0.14	PI, spoil storage	30 x 221	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 153.76-W	1.79	Log landing/decking/hauling, staging, spoil storage	314 x 510 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	BLM
TEWA 154.09-W	0.51	Log landing/decking/hauling, staging, spoil storage	133 x 199	Herbaceous Rangeland Shrub and Brush Rangeland	Grasslands (W. Cascades) Shrublands	USFS
TEWA 154.10-N	0.43	Log landing/decking/hauling, staging, spoil storage	75 x 256	Evergreen Forest Land Mixed Rangeland Shrub and Brush Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades) Shrublands	USFS
TEWA 154.71-W	0.78	Log landing/decking/hauling, staging, spoil storage	30-50 x 633 (Irregular)	Evergreen Forest Land Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades)	USFS
TEWA 154.91-W	0.11	PI, spoil storage	30 x 200	Clearcut Forest Land Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS, Private
TEWA 154.94-N	0.85	Log landing, staging, spoil storage	50 x 678	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 155.02-W	0.16	PI, spoil storage	30-50 x 203	Clearcut Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 155.07-W	2.9	Log landing/decking/hauling, ingress/egress, road crossing	30-172 x 2,169 (Irregular)	Clearcut Forest Land Trans, Comm, Utilities Corridors Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS, Private
TEWA 155.40-N	0.87	Log landing/decking/hauling, ingress/egress, road crossing	50-87 x 562 (Irregular)	Clearcut Forest Land Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 155.62-N	0.82	Ingress/egress, road crossig, PI, spoil storage	50 x 772	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 155.71-W	0.06	PI, side cut	30 x 82	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 155.78-W	0.76	Log landing, decking/hauling, Ingress/egress, road crossing	15-212 x 1,110 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 155.97-N	0.17	Log landing, decking/hauling, Ingress/egress, road crossing	50 x 193	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 156.14-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 156.15-N	0.2	PI, spoil storage	15 x 578	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 156.18-W	0.39	PI, spoil storage	50 x 400	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 156.76-W	0.05	Road crossing, side cut	30 x 71	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 156.78-N	0.21	Ingress/egress, road crossing, staging	50 x 200	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 156.78-W	0.93	Ingress/egress, road crossing, staging	18-65 x 1,119 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 157.32-W	0.19	PIs, side cut	30 x 303	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 157.39-W	0.05	Road crossing, side cut	30 x 75	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 157.44-N	0.4	Log landing, decking/hauling, ingress/egress, road crossing	50 x 400	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 157.45-W	1.17	Log landing, decking/hauling, ingress/egress, road crossing	75 x 885	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 157.96-N	0.21	PI, spoil storage	25 x 401	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 157.96-W	0.22	PI, side cut	25 x 401	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 158.08-W	0.08	PI, spoil storage	20 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 158.13-W	0.09	PI, spoil storage	20 x 201	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 158.19-W	0.08	PI, spoil storage	20 x 201	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 158.27-W	0.08	PI, spoil storage	20 x 200	Evergreen Forest Land Mixed Rangeland	Douglas Fir Dominant - Mixed Conifer Grasslands (W. Cascades)	USFS
TEWA 158.47-W	0.89	PI, spoil storage	15 x 2,609	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 158.73-N	0.64	Ingress/ergress, spoil storage, staging, parking	160 x 160 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 159.41-W	0.14	Ingress/ergress, staging, spoil storage, parking	30 x 197	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 159.44-W	0.06	Ingress/ergress, staging, spoil storage, parking	30 x 97	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 159.55-W	0.08	PI, side cut	30 x 150	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 159.69-W	0.08	PI, side cut	30 x 150	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 159.74-N	0.13	PIs/spoil storage	15 x 400	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 159.77-W	0.09	PI, side cut	30 x 150	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 159.85-N	0.65	Ingress/egress, PI, spoil storage	30-50 x 878	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 159.98-W	0.09	PI, road crossing, side cut	30 x 150	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 160.11-N	2.75	Staging -in-road work, parking, spoil storage, hydo discharge	30-75 x 3,267 (Irregular)	Evergreen Forest Land Mixed Rangeland Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Grasslands (E. Cascades) Douglas Fir Dominant - Mixed Conifer Shrublands Roads, Corridors	USFS
TEWA 160.11-W	0.59	Staging -in-road work, parking, spoil storage, hydro discharge	75 x 355	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 160.54-W	15.27	Log landing/decking/hauling, ingress/egress, staging	920 x 1,096 (Irregular)	Evergreen Forest Land Mixed Rangeland Shrub and Brush Rangeland Strip Mines, Quarries, and Gravel Pits Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Grasslands (E. Cascades) Shrublands Industrial Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 161.24-N	1.91	Staging, truck turn around	200 x 537 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 161.40	1.59	Water Source - Hydro (Fish Lake-1) Water Source - Hydro (Fish Lake-2)	88 x 843 (Irregular) 88 x 150 (Irregular)	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	USFS
TEWA 161.53-W	0.41	PI, side cut	50 x 382	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 161.95-W	0.29	Log landing, staging spoil storage	50 x 300	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 162.16-W	0.08	PI, spoil storage	25 x 177	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 162.37-N	0.24	S. Fork Little Butte Creek crossing staging	50 x 265	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 162.37-W	0.25	S. Fork Little Butte Creek crossing staging	50 x 266	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 162.47-N	0.26	S. Fork Little Butte Creek crossing staging	50 x 275	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 162.48-W	0.26	S. Fork Little Butte Creek crossing staging	50 x 269	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 163.11-N	0.08	Ingress/egress, road crossing, staging, spoil storage	15 x 244	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 163.11-W	0.09	Ingress/egress, road crossing, staging, spoil storage	15 x 262	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 163.26-W	0.09	PIs/spoil storage	30 x 150	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 163.43-W	0.22	PIs/spoil storage	50 x 256	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 163.68-W	0.2	Log landing, staging, spoil storage	15-50 x 260	Evergreen Forest Land Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 164.14-W	0.94	Log landing/decking/hauling, ingress/egress, road crossing	30-100 x 570	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 164.15-N	0.47	Log landing/decking/hauling, ingress/egress, road crossing	50 x 392	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 164.29-W	1.29	PIs, road crossing, side cut	15-30 x 3,534	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 164.31-N	0.09	PI, road crossing, side cut	30 x 150	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 164.99-W	9.52	Log landing/decking/hauling, in-road construciton	674 x 831 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 165.13-W	0.09	PI, road crossing, side cut	30 x 150	Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 165.88-W	0.38	Ingress/egress, road crossing, spoil storage, parking	50 x 399	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 166.06-W	0.29	Ingress/egress, road crossing, spoil storage, parking	50 x 299	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 166.08-N	0.29	Ingress/egress, road crossing, spoil storage, parking	50 x 299	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 166.39-W	0.29	Ingress/egress, road crossing, spoil storage, parking	50 x 300	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 166.44-N	0.29	Ingress/egress, road crossing, spoil storage, parking	50 x 299	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 167.28-W	0.11	Ingress/egress, road crossing, spoil storage, parking	50 x 100	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 167.30-N	0.12	Ingress/egress, road crossing, spoil storage, parking	50 x 100	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 167.31-W	0.11	Ingress/egress, road crossing, spoil storage, parking	50 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 167.32-N	0.11	Ingress/egress, road crossing, spoil storage, parking	50 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 168.05-N	0.33	PI, side cut	50 x 270	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 168.23-W	0.43	Log landing/decking, hauling, Ingress/egress, staging, parking	30-50 x 348 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 168.26-W	0.4	Log landing/decking, hauling, Ingress/egress, staging, parking	105 x 250 (Irregular)	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 168.55-W	2.33	Ingress/egress, road crossing, spoil storage, parking	44-210 x 800 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 168.66-N	0.18	ingress/egress, Log landing/decking, hauling,road crossing	50 x 135	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 168.69-N	0.07	Ingress/egress, road crossing, spoil storage, parking	50 x 86	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 168.79-N	0.16	Dead Indian Memorial Highway crossing, staging	50 x 163	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 168.79-W	0.13	Dead Indian Memorial Highway crossing, staging	50 x 145	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 168.85	0.49	Water withdrawl/staging, parking	185 x 230 (Irregular)	Trans, Comm, Utilities Corridors	Roads, Corridors	USFS
TEWA 168.85-N	0.16	Dead Indian Memorial Highway crossing, staging	50 x 142	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 168.85-W	0.08	Dead Indian Memorial Highway crossing, staging	50 x 95 (Irregular)	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
TEWA 169.49-N	0.44	Log landing/decking/hauling, Ingress/ergress, bloc	50 x 448	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	Private
TEWA 169.51-W	0.43	Log landing/decking/hauling, Ingress/egress	40 x 390	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	Private
TEWA 169.63-W	0.53	Ingress/egress, road crossing, spoil storage, parking	30 x 796	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	Private
TEWA 169.73-N	0.74	Ingress/egress, road crossing, spoil storage, parking	50 x 695	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	Private
TEWA 170.26-N	0.17	Ingress/egress, staging, spoil storage, parking	50 x 200	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 170.26-W	0.17	Ingress/egress, staging, spoil storage, parking	30 x 280	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 170.59-W	0.34	Log landing/decking/hauling, Ingress/egress, staging	50 x 350	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Shasta Red Fir-Mountain Hemlock Forest Roads, Corridors	USFS
TEWA 170.83-W	0.4	Ingress/egress, PI	30 x 607	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 170.90-N	0.26	PI, side cut	50 x 251	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 170.98-N	0.07	Ingress/egress, parking	15 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 171.01-N	0.19	Wetland crossing and staging	50 x 176	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 171.01-W	0.2	Wetland crossing and staging	50 x 176	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 171.08-N	1.85	PIs, road crossings, wetland/waterbody crossing, top soil storage	15-30 x 4,750 (Irregular)	Evergreen Forest Land Forested Wetland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Palustrine Forest (PFO) Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS, Private
TEWA 171.08-W	0.26	Wetland crossing and staging, ingress/egress, park	50 x 265	Evergreen Forest Land Herbaceous Rangeland Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Grasslands (E. Cascades) Roads, Corridors	USFS
TEWA 171.19-W	0.16	PI, side cut	50 x 181	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 171.50	0.77	Parking, staging	230 x 180 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 172.05-W	0.15	Ingress/egress, road crossing, staging/spoil storage	30 x 252	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 172.08-N	0.19	PI, road crossing, side cut	30 x 310	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 172.13-W	0.15	PI, road crossing staging/spooil storage	30 x 249	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 172.62-N	0.29	PI, road crossing, side cut	50 x 274	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 172.62-W	0.11	PI, spoil storage	30 x 200	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 173.01-W	0.28	Road crossing	50 x 283	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	Private
TEWA 173.45-N	0.53	PIs, side cut	15-30 x 1,404	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 173.91-N	0.12	PI, side cut	15 x 352	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (E. Cascades) Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 173.91-W	0.18	PI, side cut	25 x 352	Herbaceous Rangeland Regenerating Evergreen Forest Land	Grasslands (E. Cascades) Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 174.15-W	0.22	PI, road crossing, side cut	25 x 407	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 174.26-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 174.27-N	0.11	PI, side cut	15 x 320	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 174.32-W	0.03	PI, side cut	15 x 100	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
TEWA 174.52-W	0.04	PI, side cut	15 x 100	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 174.66-N	0.25	PI, ingress/egress, road crossing, side cut	50 x 244	Evergreen Forest Land Trans, Comm, Utilities Corridors	Douglas Fir Dominant - Mixed Conifer Roads, Corridors	USFS
TEWA 174.66-W	0.07	Ingress/egress, road crossing, side cut	30 x 106	Trans, Comm, Utilities Corridors	Roads, Corridors	USFS
TEWA 174.69-W	0.07	PI, ingress/egress, road crossing, side cut	30 x 110	Trans, Comm, Utilities Corridors	Roads, Corridors	USFS
TEWA 175.13-N	4.86	PIs, road crossings, side cut	30-50 x 6,540	Evergreen Forest Land Mixed Rangeland Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Douglas Fir Dominant - Mixed Conifer Grasslands (E. Cascades) Roads, Corridors	BLM, USFS, Private
TEWA 176.31-W	0.08	PIs, side cut	15 x 285 (Irregular)	Evergreen Forest Land Mixed Rangeland	Ponderosa Pine Forest and Woodland Grasslands (E. Cascades)	BLM
TEWA 176.42-W	0.03	PI, road crossing, side cut	15 x 100	Mixed Rangeland	Grasslands (E. Cascades)	BLM
TEWA 176.48-W	0.08	PI, road crossing, side cut	15 x 176 (Irregular)	Mixed Rangeland	Grasslands (E. Cascades)	BLM
TEWA 176.49-N	1.53	PIs, road crossing, waterbody crossing, side cut	25 x 2,680	Evergreen Forest Land Mixed Rangeland Streams and Canals Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Grasslands (E. Cascades) Rivers and Streams Roads, Corridors	BLM
TEWA 176.76-W	0.07	PI, side cut	15 x 220	Trans, Comm, Utilities Corridors	Roads, Corridors	BLM
TEWA 176.86-W	0.09	PIs, side cut	15 x 255	Trans, Comm, Utilities Corridors	Roads, Corridors	BLM
TEWA 177.15-N	0.13	PI, ingress/egress, road crossing	25 x 233	Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 177.56-N	0.27	Road crossing	50 x 275	Evergreen Forest Land Herbaceous Rangeland	Ponderosa Pine Forest and Woodland Grasslands (E. Cascades)	Private
TEWA 177.72-W	0.04	Wetland.waterbody crossing, top soil storage	30 x 55	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 177.81-W	0.06	Wetland waterbody crossing, top soil storage	15-30 x 156 (Irregular)	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 177.83-N	0.39	PIs, side cut	25 x 704	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 177.89-W	0.07	Road crossing, side cut	30 x 100	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 177.92-W	0.5	PI, road crossing, side cut	30-35 x 914 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.08-N	0.11	Parking	40 x 200	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 178.11-W	0.07	Road crossing, side cut	30 x 113	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.22-W	0.04	Road crossing, side cut	23 x 101	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 178.25-W	0.05	Road crossing, side cut	30 x 50	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.26-N	0.11	Parking	25 x 190	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 178.27-W	0.05	Road crossing, side cut	30 x 75	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 178.29-N	0.12	Parking	25 x 205	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.29-W	0.05	Road crossing, side cut	30 x 66	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.70-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.71-N	0.39	PIs, side cut	50 x 374	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 178.74-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.78-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.82-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 178.85-N	0.13	Ingress/egress, road crossing, side cut	25 x 240	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Shrublands Roads, Corridors	Private
TEWA 178.86-W	0.03	Ingress/egress, road crossing, side cut	15 x 77	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 178.88-W	0.03	Ingress/egress, road crossing, side cut	15 x 77	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 178.92-W	0.03	PI, side cut	15 x 100	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 179.00-W	0.03	PI, side cut	15 x 100	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 179.36-N	0.14	Ingress/egress, road crossing, staging	50 x 124	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 179.37-W	0.03	Ingress/egress, road crossing	15 x 77	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 179.39-W	0.03	Ingress/egress, road crossing	15 x 77	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 179.50-W	0.03	PI, wetland crossing, side cut, top soil storage	15 x 100	Nonforested Wetlands Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 179.67-N	0.27	Staging, truck turn around	50 x 269	Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine Forest and Woodland Shrublands	BLM
TEWA 179.86-W	0.03	Ingress/egress, road crossing	15 x 77	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 179.87-N	0.13	Ingress/egress, road crossing	25 x 239	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Shrublands Roads, Corridors	Private
TEWA 179.88-W	0.03	Ingress/egress, road crossing	15 x 77	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 180.35-N	0.27	Ingress/egress, road crossing	50 x 276	Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 180.72-W	0.09	PIs, road crossing	15 x 268	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 180.75-N	0.3	PIs, ingress/egress, road crossing	50 x 296	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Shrublands Roads, Corridors	Private
TEWA 180.80-W	0.04	PI, road crosssing	15 x 111	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 180.99-N	0.11	Ingress/egress, road crossing, parking, staging	50 x 100	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 181.27-N	0.13	Ingres/egress, road crossing, side cut	25 x 259	Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 181.46-N	0.97	PIs, road crossing, side cut	15-30 x 1,763	Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine Forest and Woodland Shrublands	Private
TEWA 182.14-N	0.27	Ingress/egress, road crossing	50 x 266	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Shrublands Roads, Corridors	Private
TEWA 182.31-W	0.03	PI, spoil storage	15 x 101	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	Private
TEWA 182.48-N	0.13	PI, ingress/egress, road crossing	25 x 244	Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine Forest and Woodland Shrublands	Private
TEWA 182.87-W	0.03	PI, spoil storage	15 x 100	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine Forest and Woodland Roads, Corridors	Private
TEWA 182.96-W	0.1	PIs, road crossing	15 x 293	Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 183.57-N	0.13	PI, side cut	25 x 249	Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 183.65-W	0.1	PIs, ingress/egress, road crossings, side cut	15 x 303	Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine - W. Juniper Shrublands	Private
TEWA 183.76-W	0.09	PIs, ingress/egress, road crossing, side cut	15 x 259	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 183.77-N	0.09	PIs, road crossing, side cut	25 x 174	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 184.02-W	0.03	PI, side cut	15 x 100	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 184.04-N	1.4	PIs, ingress/egress, road crossing, side cut	25 x 2,469	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 184.14-W	0.03	PI, road crossing, side cut	15 x 100	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 184.30	1.76	Water Source - Hydro (John C. Boyle Reservior)	211 x 550 (Irregular)	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	State, Private
TEWA 184.56-W	0.05	Road crossing, side cut	30 x 75	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 184.57-W	0.21	Road crossing, side cut	15-30 x 525	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 184.80-N	0.23	PI, ingress/egress, road crossing	50 x 243	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Shrublands Roads, Corridors	Private
TEWA 184.83-W	0.06	PI, ingress/egress, road crossing	30 x 125	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 185.23-N	0.13	Ingress/egress, road crossing	25 x 245	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 185.67-N	0.2	Ingress/egress, road crosssig	50 x 209	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 185.90-N	0.13	Ingress/egress, road crossing, parking, staging, spoil storage	25 x 244	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 186.17-N	0.27	Ingress/egress, road crossing	50 x 266	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Roads, Corridors	Private
TEWA 186.22-W	0.45	PI, wetland crossing, side cut, top soil storage	10 x 1,973	Evergreen Forest Land Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 186.65-W	0.54	PI, wetland crossing, side cut, top soil storage	10 x 2,337	Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 186.76-N	0.23	Ingress/egress, road crossing, parking	100 x 100	Herbaceous Rangeland	Grasslands (E. Cascades)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 187.12-W	0.13	Spoil storage	10 x 591	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 187.28-W	0.1	PI, side cut	30 x 175	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Shrublands Roads, Corridors	Private
TEWA 187.41-N	0.3	Block Valve installation, ingress/egress, PI	50 x 254	Regenerating Evergreen Forest Land Shrub and Brush Rangeland	Ponderosa Pine - W. Juniper Shrublands	Private
TEWA 187.73-N	0.14	Ingress/egress, road/powerline crossing, PI, spoil storage, staging	30 x 200	Regenerating Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Shrublands Roads, Corridors	Private
TEWA 187.80-W	0.15	Road/powerline crossing, PI, spoil storage	30 x 200	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 188.09-W	0.05	Road Crossing	30 x 50	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 188.11-W	0.05	Road Crossing	30 x 81	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 188.20-W	0.08	Road Crossing	30 x 50 (Irregular)	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 188.23-W	0.08	Road Crossing	30 x 169 (Irregular)	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 188.39-W	0.03	Road Crossing	30 x 50	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 188.41-W	0.03	Road Crossing	30 x 50	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors	Private
TEWA 188.42-N	0.77	PI, side cut	15 x 2,257	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Roads, Corridors Shrublands	Private
TEWA 188.82-W	0.66	Ingress/egress, road/waterbody crossing, PI, sideslopes, spoil storage	30 x 956	Regenerating Evergreen Forest Land Streams and Canals Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Rivers and Streams Roads, Corridors	Private
TEWA 189.00	0.66	Water Source - Hydro (Keno Reservoir)	115 x 304 (Irregular)	Beaches Trans, Comm, Utilities Corridors	Beaches Roads, Corridors	Private
TEWA 189.11-W	0.13	PI, spoil storage	30 x 200	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 189.22-W	0.08	PI, soil storage, change working sides	20 x 199	Regenerating Evergreen Forest Land	Ponderosa Pine - W. Juniper	Private
TEWA 189.27-N	0.05	Powerline crossing, PI, Staging/Spoil Storage	20 x 147	Regenerating Evergreen Forest Land Trans, Comm, Utilities Corridors	Ponderosa Pine - W. Juniper Grasslands (E. Cascades) Roads, Corridors	Private
TEWA 189.33-N	0.02	Powerline crossing, PI, Staging/Spoil Storage	20 x 70	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Shrublands Grasslands (E. Cascades)	Private
TEWA 189.36-W	0.19	PI & Change Direction	30 x 289	Evergreen Forest Land Shrub and Brush Rangeland	Western Juniper Woodland Shrublands	Private
TEWA 189.48-N	0.73	PI, side cut	30 x 1,054	Evergreen Forest Land Shrub and Brush Rangeland	Western Juniper Woodland Shrublands	Private
TEWA 189.80-W	0.14	PI, spoil storage	30 x 200	Shrub and Brush Rangeland	Shrublands	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 190.13-N	0.11	PI, sidehill, spoil storage	30 x 193	Evergreen Forest Land Shrub and Brush Rangeland	Western Juniper Woodland Shrublands	Private
TEWA 190.13-W	1.4	Sidehill, PIs, spoil storage	15-30 x 3,603	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Shrublands Roads, Corridors	Private
TEWA 190.79-N	1.95	Road/ditch crossing staging/spoil storage, topoil salvage	10-50 x 7,798	Cropland and Pasture Ditch Nonforested Wetlands Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Ditch Palustrine Emergent (PEM) Shrublands Roads, Corridors	Private
TEWA 191.43-W	0.21	Road crossing staging/spoil storage	50 x 204	Cropland and Pasture	Agriculture	Private
TEWA 191.48-W	0.22	Road crossing staging/spoil storage, topoil salvage	50 x 226	Cropland and Pasture	Agriculture	Private
TEWA 191.55-W	0.69	Pis, spoil storage, field road crossing, staging	50 x 611	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 192.13-W	14.94	Ingress/egress, canal crossing, spoil/topsoil stor	55 x 11,823	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 193.44-W	4.87	Canal/wetland crossing, PI, spoil/topsoil storage	25-165 x 5,813	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 193.50-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 193.69-N	0.46	Spoil/topsoil storage	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 193.88-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 194.07-N	0.46	Dewatering, hydrostatic discharge	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 194.26-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 194.50	0.2	Parking	60 x 251 (Irregular)	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 194.51	0.23	Parking	75 x 264 (Irregular)	Trans, Comm, Utilities Corridors	Roads, Corridors	Private
TEWA 194.53-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 194.64-W	3.12	Spoil/topsoil storage	25 x 5,441	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 194.72-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 194.91-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 195.08-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 195.28-N	0.46	Dewatering	100 x 200	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 195.69-N	0.24	Topsoil storage	50 x 212	Cropland and Pasture	Agriculture	Private
TEWA 195.74-N	6.64	Topsoil storage	55 x 5,270	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 195.76-W	2.97	PIs, wetland/waterbody crossings, top soil storage	25 x 5,167	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 196.65-N	2.24	Canal crossing, staging, spoil storage, Dewatering	35-345 x 684 (Irregular)	Cropland and Pasture Ditch Nonforested Wetlands	Agriculture Ditch Palustrine Unconsolidated Bottom (PUB)	Private
TEWA 196.65-W	0.35	Canal crossing, staging, spoil storage	25 x 622	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 196.79-W	0.38	Canal crossing, staging, spoil/topsoil storage	25 x 632	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 196.89-N	0.38	Wetland/waterbody crossings, top soil storage	30-50 x 1,026	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 196.91-W	0.46	Canal crossing, staging, spoil/topsoil storage	25 x 820	Cropland and Pasture	Agriculture	Private
TEWA 197.09-W	0.14	Canal crossing, staging, spoil/topsoil storage	25 x 231	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 197.31-W	0.09	Canal crossing, staging, spoil/topsoil storage	15 x 258	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 197.38-W	0.85	Canal crossing, staging, spoil/topsoil storage, hydrostatic test discharge	10-115 x 1,075 (Irregular)	Commercial and Sevices Cropland and Pasture	Urban Agriculture Palustrine Emergent (PEM)	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 197.51-N	0.63	Ingress/egress, PI, parking	96 x 568 (Irregular)	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 197.65-N	0.89	Ingress/egress, staging	120 x 398 (Irregular)	Other Urban or Built-up Land	Urban	Private
TEWA 197.66-W	0.47	Ingress/egress, staging	130 x 232 (Irregular)	Other Urban or Built-up Land	Urban	Private
TEWA 197.74-W	0.54	Topsoil storage, canal crossing	10-50 x 1,612	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 198.06-N	3.13	Ingress/egress, canal/road/wetland crossing staging	1-135 x 1,728 (Irregular)	Cropland and Pasture Herbaceous Rangeland Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Grasslands (E. Cascades) Urban Roads, Corridors	Private
TEWA 198.18-W	0.09	PI, ingress/egress	30 x 127	Cropland and Pasture Other Urban or Built-up Land	Agriculture Urban	Private
TEWA 198.22-W	9.8	Collins Pacific Yard	545 x 858 (Irregular)	Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Urban Roads, Corridors	Private
TEWA 198.41-W	4.46	Collins Pacific Yard	65-223 x 2,216 (Irregular)	Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Urban Roads, Corridors	Private
TEWA 198.44-N	6.59	Collins Pacific Yard	591 x 1,201 (Irregular)	Herbaceous Rangeland Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Grasslands (E. Cascades) Urban Roads, Corridors	Private
TEWA 198.72-N	5.36	Collins Pacific Yard	300 x 1,429 (Irregular)	Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Urban Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 198.92-W	0.04	PI, road crossing, spoil storage	15 x 100	Other Urban or Built-up Land	Urban	Private
TEWA 199.01-W	0.87	Klamath River HDD staging and pull back	25-45 x 1,247	Other Urban or Built-up Land	Urban	State, Private
TEWA 199.03-N	1.64	Klamath River HDD staging and pull back	95 x 1,098 (Irregular)	Other Urban or Built-up Land	Urban	Private
TEWA 199.58-W	2.97	Staging/spread move around, Klamath River HDD	15-117 x 2,337 (Irregular)	Cropland and Pasture Ditch	Agriculture Palustrine Emergent (PEM) Ditch	Private
TEWA 199.60-N	5.73	Klamath River HDD staging and pull back	197 x 1,786	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 199.97-N	0.3	Railroad crossing (bored), PI, spoil/topsoil storage	25 x 532	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 200.09-N	0.31	Railroad crossing (bored), PI, wetland crossing, topsoil storage	10-25 x 1,020	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 200.09-W	0.09	Wetland crossing, top soil storage	50 x 75	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 200.18-W	0.48	PI, spoil storage	55 x 468	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 200.31-N	2.93	Ingress/egress, road crossing, spoil storage, staging	50-325 x 757	Cropland and Pasture Residential Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Urban Sagebrush Steppe Roads, Corridors	Private
TEWA 200.46-N	0.31	Canal crossing, PI, spoil storage	50 x 316	Cropland and Pasture Shrub and Brush Rangeland	Agriculture Sagebrush Steppe	BOR, Private
TEWA 200.54-N	2.02	Canal/road crossing staging, PI, spoil/topsoil storage	10-50 x 2,412	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 200.61-W	0.38	PI, spoil storage	45 x 401	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 200.98-W	0.23	Ingress/egress, road crossing, spoil storage	50 x 194	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 201.01-N	0.96	Ingress/egress, road/wetland crossing, spoil/topsoil	10-60 x 3,285	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 201.02-W	1.49	Ingress/egress, road crossing, spoil storage	528 x 246 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 201.44-W	0.23	Ingress/egress, road/canal crossing, spoil storage	50 x 250	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 201.58-W	0.18	Canal crossing	50 x 191	Cropland and Pasture	Agriculture	Private
TEWA 201.63-N	4.54	Canal crossing	10-60 x 12,258	Cropland and Pasture Shrub and Brush Rangeland Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Sagebrush Steppe Palustrine Emergent (PEM) Ditch Roads, Corridors	BOR, Private
TEWA 201.63-W	4.54	Canal crossing	50 x 159	Cropland and Pasture	Agriculture	Private
TEWA 202.14-W	0.98	Powerline crossing, PI, spoil strorage	50 x 868	Cropland and Pasture	Agriculture	Private
TEWA 203.72-W	0.39	Road crossing, PI, spoil storage	50 x 400	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 203.85-W	0.82	Staging, PI spoil/topsoil storage	30-150 x 523 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 203.95-W	0.05	Staging, PI spoil/topsoil storage	30 x 72	Cropland and Pasture	Agriculture	Private
TEWA 203.97-N	0.68	Ingress/egress, road/canal crossing, spoil/topsoil	10-75 x 758	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 203.97-W	0.23	Ingress/egress, road crossing, spoil storage	50 x 225	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 204.12-N	0.92	Canal crossing, PI, spoil/topsoil storage	40 x 1,040	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 204.13-W	0.56	Canal crossing, PI, spoil/topsoil storage	30 x 1,181	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 204.34-N	0.68	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 1,644	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 204.34-W	0.14	Canal crossing	50 x 150	Cropland and Pasture	Agriculture	Private
TEWA 204.62-W	0.17	Ingress/egress, road cross spoil storage	50 x 175	Cropland and Pasture	Agriculture	Private
TEWA 204.66-N	0.51	Ingress/egress, road/canal cross spoil/topsoil storage	60 x 386	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 204.66-W	0.54	Ingress/egress, road/canal cross spoil/topsoil storage	50 x 432	Cropland and Pasture	Agriculture	Private
TEWA 204.74-N	0.75	Canal crossing, spoil/topsoil storage	10-60 x 2,111	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 204.76-W	0.19	Canal crossing	50 x 226	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 204.86-W	0.39	PI, spoil storage	50 x 400	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 205.11-W	0.14	Canal crossing	50 x 146	Cropland and Pasture	Palustrine Emergent (PEM)	Private
TEWA 205.15-N	0.6	Canal crossing	10-60 x 1,220	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 205.15-W	0.14	Canal crossing, spoil/topsoil storage	50 x 150	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 205.37-W	0.23	Canal crossing	50 x 200	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 205.40-N	0.7	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 1,702	Cropland and Pasture Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Sagebrush Steppe Roads, Corridors	Private
TEWA 205.42-W	0.29	Canal crossing	50 x 301	Cropland and Pasture Shrub and Brush Rangeland	Agriculture Sagebrush Steppe	Private
TEWA 205.54-W	0.28	PI, spoil storage	50 x 300	Cropland and Pasture	Agriculture	Private
TEWA 205.67-W	0.03	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private
TEWA 205.69-W	0.19	Ingress/egress, road crossing, spoil storage	50 x 184	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 205.73-N	0.73	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 1,159	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 205.73-W	0.21	Ingress/egress, road crossing, spoil storage, staging	50 x 217	Cropland and Pasture	Agriculture	Private
TEWA 205.92-W	0.23	Canal crossing	50 x 200	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 205.98-N	0.96	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 2,785	Cropland and Pasture	Agriculture	Private
TEWA 205.98-W	1.21	Canal crossing, staging spoil storage	227 x 440 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 206.44-W	0.19	Ingress/egress, road crossing, spoil/topsoil storage	50 x 209	Cropland and Pasture	Agriculture	Private
TEWA 206.50-W	0.11	Ingress/egress, road/canal crossing, spoil/topsoil storage	50 x 106	Cropland and Pasture	Agriculture	Private
TEWA 206.51-N	1.12	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 3,171	Cropland and Pasture	Agriculture	Private
TEWA 207.05-W	0.28	Canal crossing	50 x 284	Cropland and Pasture	Agriculture	Private
TEWA 207.12-N	0.78	Ingress/egress, road/canal crossing, spoil/topsoil	60 x 632	Cropland and Pasture	Agriculture	Private
TEWA 207.12-W	0.24	Canal crossing	50 x 216	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 207.25-W	0.14	Ingress/egress, road/canal crossing, spoil/topsoil	50 x 125	Cropland and Pasture	Agriculture	Private
TEWA 207.28-N	0.34	Ingress/egress, road/canal crossing, spoil/topsoil	10-60 x 679	Cropland and Pasture	Agriculture	Private
TEWA 207.30-W	0.3	Ingress/egress, road/canal crossing, spoil/topsoil	50 x 320	Cropland and Pasture	Agriculture	Private
TEWA 207.37-W	0.1	Ingress/egress, road/canal crossing, spoil/topsoil	50 x 133	Cropland and Pasture	Agriculture	Private
TEWA 207.42-W	0.32	Ingress/egress, road/canal crossing, spoil/topsoil storage	35 x 402	Cropland and Pasture	Agriculture	Private
TEWA 207.43-N	0.61	Ingress/egress, road/canal crossing, spoil/topsoil	35 x 797	Cropland and Pasture	Agriculture	Private
TEWA 207.57-W	0.64	Ingress/egress, canal crossing, spoil/topsoil storage	100 x 200	Cropland and Pasture	Agriculture	Private
TEWA 207.62-N	0.78	Ingress/egress, canal crossing, staging, topsoil storage	10-70 x 1,972	Cropland and Pasture	Agriculture	Private
TEWA 207.63-W	0.74	Ingress,egress, canal crossing, staging, spoil/topsoil storage	100 x 401	Cropland and Pasture	Agriculture	Private
TEWA 207.85-W	0.91	Canal crossing, PI, spoil/topsoil storage	15-127 x 649 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 207.99-N	0.35	Canal crossing, PI, spoil/topsoil storage	60 x 312	Cropland and Pasture	Agriculture	Private
TEWA 208.01-W	0.88	Canal crossing, PI, spoil/topsoil storage	75 x 438	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 208.07-N	0.46	Ingress/egress, canal crossing, staging, spoil/topsoil	35 x 547	Cropland and Pasture Residential	Agriculture Urban	Private
TEWA 208.09-W	0.97	Ingress/egress, canal crossing, staging, spoil/topsoil	100 x 454	Cropland and Pasture	Agriculture	Private
TEWA 208.19-N	2.2	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	10-92 x 3,044 (Irregular)	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 208.19-W	0.64	Ingress/egress, canal crossing, staging, spoil/topsoil storage	100 x 324	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 208.67-W	1.69	Railroad/Hwy 39/powerline/canal crossing (bored),	100 x 652	Cropland and Pasture	Agriculture	Private
TEWA 208.80-N	1.78	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	60-110 x 1,083	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 208.81-W	1.12	Ingress/egress, Railroad/Hwy 39/canal crossing, staging	100-175 x 443	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 208.99-W	0.19	Road/canal crossing	50 x 193	Cropland and Pasture Ditch Residential	Agriculture Ditch Urban	Private
TEWA 209.04-N	0.79	Ingress/egress, road crossing, staging, spoil/topsoil	60 x 511	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 209.07-W	0.49	Ingress/egress, road crossing, staging, spoil/topsoil	125 x 302 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 209.16-N	0.83	Ingress/egress, road/canal crossing, staging, spoil storage	10-60 x 1,558 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 209.16-W	0.53	Ingress/egress, road/canal crossing, staging, spoil storage	100 x 191	Cropland and Pasture	Agriculture	Private
TEWA 209.41-W	0.17	Canal crossing	50 x 189	Cropland and Pasture	Agriculture	Private
TEWA 209.46-W	0.18	Canal crossing	50 x 161	Cropland and Pasture	Agriculture	Private
TEWA 209.47-N	1.51	Ingress/egress, road/canal/powerline crossing, staging	10-85 x 3,575	Cropland and Pasture	Agriculture	Private
TEWA 209.79-W	0.1	Powerline crossing	25 x 200	Cropland and Pasture	Agriculture	Private
TEWA 209.86-W	0.04	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private
TEWA 210.13-W	0.29	Ingress/egress, road crossing, staging, spoil/topsoil storage	75 x 142	Cropland and Pasture Residential	Agriculture Urban	Private
TEWA 210.17-N	0.76	Ingress/egress, road/canal crossing, staging, spoil storage	60 x 498	Cropland and Pasture	Agriculture	Private
TEWA 210.17-W	0.67	Ingress/egress, road/canal crossing, staging, spoil storage	167 x 336 (Irregular)	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 210.26-W	0.86	Ingress/egress, road/canal crossing, staging, spoil storage	75 x 478	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 210.27-N	1.8	PI, ingress/egress, road crossing, waterbody crossings, topsoil	10-85 x 3,042	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 210.56-W	0.04	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private
TEWA 210.86-N	0.5	Road crossings, waterbody crossings, top soil storage	10-50 x 1,777	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 211.20-N	0.59	Road crossing, waterbody crossing	50 x 560	Nonforested Wetlands Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Palustrine Emergent (PEM) Urban Roads, Corridors	Private
TEWA 211.34-N	0.45	PI, waterbody crossings, top soil storage	10-50 x 965	Cropland and Pasture	Agriculture	Private
TEWA 211.51-W	0.36	PI, waterbody crossings	30 x 492	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Roads, Corridors	Private
TEWA 211.53-N	1.3	Lost River, PI, spoil/topsoil storage	10-110 x 2,758	Cropland and Pasture Streams and Canals Cropland and Pasture Ditch	Agriculture Rivers and Streams Agriculture Ditch	State, Private
TEWA 211.98-W	0.91	Lost River, crossing, spoil/topsoil storage	90 x 436	Streams and Canals Cropland and Pasture	Rivers and Streams Agriculture	State, Private
TEWA 212.08-N	1.34	Lost River/railroad, crossing, spoil/topsoil storage	10-100 x 2,276	Cropland and Pasture Nonforested Wetlands	Agriculture Palustrine Emergent (PEM)	State, Private
TEWA 212.08-W	0.49	Lost River, crossing, spoil/topsoil storage	100 x 232	Cropland and Pasture	Agriculture	State, Private
TEWA 212.36-W	0.04	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 212.49-W	0.44	Railroad crossing, spoil/topsoil storage	100 x 186	Cropland and Pasture Nonforested Wetlands Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private
TEWA 212.53-N	1.51	Railroad crossing, PI, spoil/topsoil storage	100 x 487 (Irregular)	Cropland and Pasture Nonforested Wetlands	Agriculture Palustrine Emergent (PEM)	Private
TEWA 212.53-W	0.44	Railroad crossing, PI, spoil/topsoil storage	10-100 x 392	Cropland and Pasture	Agriculture	Private
TEWA 212.67-N	1.24	Ingress/egress, road/canal crossing, PI, spoil/topsoil	10-50 x 3,131 (Irregular)	Cropland and Pasture Ditch Trans, Comm, Utilities Corridors	Agriculture Ditch Roads, Corridors	Private
TEWA 212.69-W	0.11	PIs, wetland crossing, top soil storage	15 x 331	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 212.87-W	0.4	PI, spoil/topsoil storage	50 x 400	Cropland and Pasture	Agriculture	Private
TEWA 213.01-W	0.29	Ingress/egress, road crossing, spoil/topsoil storage	50 x 300	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 213.16-W	0.1	PI, spoil storage	30 x 150	Cropland and Pasture	Agriculture	Private
TEWA 213.21-W	1	Canal crossing, staging/topsoil storage	150 x 229	Cropland and Pasture	Agriculture	Private
TEWA 213.28-N	1.5	Ingress/egress, canal crossing, spoil/topsoil storage	10-45 x 2,889	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 213.29-W	2.12	Canal crossing, spoil/topsoil storage	50-150 x 1,013 (Irregular)	Cropland and Pasture Ditch	Agriculture Ditch	Private
TEWA 213.80-W	0.37	Ingress/egress, canal crossing,	150 x 113	Cropland and Pasture	Agriculture	Private
TEWA 213.83-N	0.11	Canal crossing, spoil/topsoil storage	35 x 152	Cropland and Pasture	Agriculture	Private
TEWA 213.83-W	0.96	Canal crossing, spoil/topsoil storage	150 x 221	Cropland and Pasture	Agriculture	Private
TEWA 213.87-N	2.07	Canal crossing, PI, spoil/topsoil storage, staging	10-190 x 1,472 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 213.88-W	0.86	Canal crossing, spoil/topsoil storage	150 x 298	Cropland and Pasture	Agriculture	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 214.05-W	5.08	Ingress/egress, canal crossing, PI, spoil/topsoil	380 x 710 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 214.19-N	2.32	Ingress/egress, canal crossing, PI, spoil/topsoil	75-150 x 683	Cropland and Pasture	Agriculture	Private
TEWA 214.19-W	0.5	Canal/egress, PI, spoil/topsoil storage	89 x 275	Cropland and Pasture	Agriculture	Private
TEWA 214.31-N	1.05	Ingress/egress, road crossing, PI, spoil/topsoil storage	10-120 x 1,799	Cropland and Pasture	Agriculture	Private
TEWA 214.31-W	0.26	Ingress/egress, road crossing, spoil/topsoil storage	79 x 150	Cropland and Pasture	Agriculture	Private
TEWA 214.59-W	1.58	Ingress/egress, road crossing, PI, spoil/topsoil storage	70-120 x 540 (Irregular)	Cropland and Pasture	Agriculture	Private
TEWA 214.68-W	0.23	Ingress/egress	50 x 250	Shrub and Brush Rangeland	Sagebrush Steppe	Private
TEWA 214.98-W	4.39	PI, spoil storage, (rock), ingress/egress	15-150 x 5,783	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 214.99-N	0.57	PI, spoil storage	50 x 500	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Sagebrush Steppe	Private
TEWA 215.93-N	0.09	Rock storage	50 x 100	Trans, Comm, Utilities Corridors	Sagebrush Steppe	Private
TEWA 216.10-W	0.7	PI, spoil storage, (rock), ingress/egress	15 x 1,050	Evergreen Forest Land	Western Juniper Woodland	Private
TEWA 216.31-W	0.44	PI, spoil storage, (rock), ingress/egress	15 x 667	Evergreen Forest Land	Western Juniper Woodland	Private
TEWA 216.44-W	2.37	PI, spoil storage, (rock), ingress/egress	15-75 x 5,637 (Irregular)	Evergreen Forest Land Herbaceous Rangeland Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Grasslands (E. Cascades) Sagebrush Steppe Roads, Corridors	State, Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 216.46-N	0.09	Spoil storage (Rock)	50 x 100	Trans, Comm, Utilities Corridors	Sagebrush Steppe	Private
TEWA 217.46-N	0.1	PI, road crossings	10-30 x 260	Herbaceous Rangeland Trans, Comm, Utilities Corridors	Grasslands (E. Cascades) Roads, Corridors	Private
TEWA 217.54-W	0.44	Ingress/egress, road crossing, staging, parking	40 x 529	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 217.55-N	0.76	Powerline/waterbody crossing	10-30 x 2,742	Cropland and Pasture Herbaceous Rangeland Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Grasslands (E. Cascades) Sagebrush Steppe Roads, Corridors	Private
TEWA 217.83-W	0.3	Ingress/egress, road crossing, PI, spoil/topsoil	30 x 440	Herbaceous Rangeland	Grasslands (E. Cascades)	Private
TEWA 218.03-W	0.08	Waterbody crossing	30 x 150	Shrub and Brush Rangeland	Sagebrush Steppe	Private
TEWA 218.08-W	0.08	Waterbody crossing	30 x 150	Herbaceous Rangeland	Grasslands (E. Cascades)	Private
TEWA 218.34-N	0.17	Ingress/egress, road crossing, spoil storage	50 x 259	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Sagebrush Steppe Roads, Corridors	Private
TEWA 218.35-W	0.17	Ingress/egress, road crossing, spoil storage	50 x 248	Shrub and Brush Rangeland	Sagebrush Steppe	Private
TEWA 218.80-N	0.35	Ingress/egress, road crossing, spoil storage, hydrostatic test discharge	50 x 352	Evergreen Forest Land Trans, Comm, Utilities Corridors	Western Juniper Woodland Roads, Corridors	Private
TEWA 218.80-W	2.32	Ingress/egress, road crossing, spoil storage (rock)	20-50 x 4,648	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 219.21-N	0.29	Spoil storage	50 x 300	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 219.58-N	0.17	Road crossing	50 x 150	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 219.69	1.1	Waterbody crossing	211 x 312 (Irregular)	Evergreen Forest Land Nonforested Wetlands	Western Juniper Woodland Palustrine Unconsolidated Bottom (PUB)	Private
TEWA 219.70-W	6.51	Spoil storage (Rock), PI, ingress/egress, staging	20-120 x 10,016 (Irregular)	Cropland and Pasture Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 219.98-N	0.87	Spoil storage	30-100 x 800	Evergreen Forest Land Shrub and Brush Rangeland	Western Juniper Woodland Sagebrush Steppe	Private
TEWA 220.47-N	0.77	PI, staging, spoil storage	30-150 x 865	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Sagebrush Steppe Roads, Corridors	Private
TEWA 221.27-N	0.61	Road crossings, waterbody crossing, top soil storage	10 x 2,670	Cropland and Pasture Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Sagebrush Steppe Roads, Corridors	Private

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Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 221.78-N	0.31	Ingress/egress, road crossing, spoil/topsoil storage	10-30 x 1,116	Cropland and Pasture Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 221.98-W	0.16	Ingress/egress, road crossing, spoil/topsoil storage	50 x 141	Cropland and Pasture	Agriculture	Private
TEWA 221.99-W	0.35	Ingress/egress, road crossing, spoil/topsoil storage	15-50 x 605	Cropland and Pasture	Agriculture	Private
TEWA 222.00-N	1.25	Ingress/egress, road crossing, spoil/topsoil storage	10-30 x 5,112	Cropland and Pasture	Agriculture	Private
TEWA 222.92-W	0.18	PIs, road crossing	15 x 518	Cropland and Pasture	Agriculture	Private
TEWA 222.97-N	0.43	Topsoil storage, road/waterbody crossing staging	10-50 x 1,194	Cropland and Pasture Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Agriculture Urban Roads, Corridors	Private
TEWA 223.13-W	0.4	Topsoil, ditch crossing	50 x 400	Cropland and Pasture Other Urban or Built-up Land Trans, Comm, Utilities Corridors	Agriculture Urban Roads, Corridors	Private
TEWA 223.20-N	0.94	Ingress/egress, road crossing, spoil/topsoil storage	10-50 x 3,246	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 223.21-W	0.21	Road/ditcd crossing, spoil/topsoil storage	50 x 231	Cropland and Pasture	Agriculture	Private
TEWA 223.42-W	0.12	Road crossing, spoil/topsoil storage	30 x 210	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 223.67-W	0.03	Road crossing	30 x 50	Cropland and Pasture	Agriculture	Private
TEWA 223.68-W	0.03	Road crossing	30 x 50	Cropland and Pasture	Agriculture	Private
TEWA 223.81-W	0.03	Road crossing	30 x 50	Cropland and Pasture	Agriculture	Private

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 223.82-N	0.15	Topsoil	10 x 652	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 223.82-W	0.03	Road crossing	30 x 50	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 223.94-W	0.03	Road crossing	30 x 50	Cropland and Pasture	Agriculture	Private
TEWA 223.95-N	0.71	Topsoil	10 x 3,101	Cropland and Pasture Shrub and Brush Rangeland	Agriculture Sagebrush Steppe	Private
TEWA 223.95-W	0.03	Road crossing	30 x 50	Cropland and Pasture	Agriculture	Private
TEWA 224.03-W	0.12	Spoil/topsoil storage	30 x 210	Cropland and Pasture	Agriculture	Private
TEWA 224.17-W	0.12	Spoil/topsoil storage	30 x 210	Cropland and Pasture	Agriculture	Private
TEWA 224.53-W	1.17	Spoil storage (Rock)	15-50 x 2,781	Cropland and Pasture Shrub and Brush Rangeland	Agriculture Sagebrush Steppe	Private
TEWA 225.12-W	0.1	Spoil storage (Rock)	50 x 83	Evergreen Forest Land	Western Juniper Woodland	Private
TEWA 225.13-N	0.08	Ingress/egress, road crossing	50 x 72	Evergreen Forest Land Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Western Juniper Woodland Sagebrush Steppe Roads, Corridors	Private
TEWA 225.15-N	4.37	Topsoil	10-40 x 15,090	Cropland and Pasture Ditch Other Urban or Built-up Land Residential Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Ditch Urban Sagebrush Steppe Roads, Corridors	Private
TEWA 225.15-W	1.17	Ingress/egress, road crossing, staging, PI, spoil/topsoil	10-100 x 1,549	Cropland and Pasture	Agriculture	Private
TEWA 226.39-W	0.05	Road crossing	30 x 75	Cropland and Pasture	Agriculture	Private
TEWA 226.40-W	0.05	Road crossing	30 x 75	Cropland and Pasture	Agriculture	Private

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 226.49-W	0.09	PI, field road crossing, spoil storage	30 x 150	Cropland and Pasture	Agriculture	Private
TEWA 226.80-W	0.29	PI, wetland crossing, top soil storage	15-50 x 356	Cropland and Pasture	Agriculture Palustrine Emergent (PEM)	Private
TEWA 226.98-W	0.06	Road crossing	25 x 100	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 227.01-W	0.06	Road crossing	25 x 100	Cropland and Pasture	Agriculture	Private
TEWA 227.06-W	0.03	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private
TEWA 227.17-W	0.04	PI, spoil storage	15 x 100	Cropland and Pasture	Agriculture	Private
TEWA 227.25-W	0.31	PI, waterbody crossing, top soil storage	50 x 300	Cropland and Pasture	Agriculture	Private
TEWA 227.60-W	0.05	Road crossing	30 x 63	Cropland and Pasture	Agriculture	Private
TEWA 227.62-W	0.05	Road crossing	30 x 75	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 227.68-W	0.07	Road crossing	30 x 127	Cropland and Pasture Residential	Agriculture Urban	Private
TEWA 227.72-W	0.14	PI, road crossing, spoil storage	15-30 x 271	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private
TEWA 227.85-W	0.05	Road crossing	30 x 75	Shrub and Brush Rangeland Trans, Comm, Utilities Corridors	Sagebrush Steppe Roads, Corridors	Private
TEWA 228.02-W	1.03	Klamath CS	50 x 900	Other Urban or Built-up Land Shrub and Brush Rangeland	Urban Sagebrush Steppe	Private
TEWA 228.37	1.05	Water Source - Dust (Low Line Canal)	60 x 725 (Irregular)	Cropland and Pasture Nonforested Wetlands Trans, Comm, Utilities Corridors	Agriculture Palustrine Emergent (PEM) Roads, Corridors	Private

TABLE D-5

Temporary Extra Work Areas Necessary for Construction of the Pacific Connector Pipeline Project

Temporary Extra Work Areas (TEWAs) MP-Working [W] or Non-Working [N] side)	Size (acres)	Purpose	Dimension	Land Use	Vegetation	Jurisdiction
TEWA 228-01-N	27.46	Klamath CS	1,236 x 1,311 (Irregular)	Other Urban or Built-up Land Shrub and Brush Rangeland	Urban Sagebrush Steppe	Private
TEWA 229.29	3.06	Water Source - Hydro & Dust (High Line Canal & Capek Reservoir)	140 x 947 (Irregular)	Cropland and Pasture Trans, Comm, Utilities Corridors	Agriculture Roads, Corridors	Private

TABLE D-6

Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 15.54-N	0.25	25 x 621	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
			Cropland and Pasture	Agriculture	
			Mixed Forest Land	Mixed Conifer/Mixed Dec	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 15.61-W	0.15	15 x 419	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 15.80-N	0.30	25 x 505	Mixed Forest Land	Mixed Conifer/Mixed Dec	Private
UCSA 15.81-W	0.39	25 x 688	Clearcut Forest Land	Mixed Conifer/Mixed Dec	Private
			Mixed Forest Land	Mixed Conifer/Mixed Dec	
UCSA 27.68-W	4.31	100 x 1, 901	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 27.69-N	4.46	100 x 2,027	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 29.40-W	0.19	35 x 251	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 31.05-N	2.17	100 x 1,217	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 31.06-W	0.78	25 x 1,358	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	
UCSA 34.53-N	7.18	70 x 3,935	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 34.53-W	1.32	70 x 818	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
UCSA 34.73-W	5.42	70-100 x 2,772	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
			Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 37.36-W	1.39	30 x 2,011	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
UCSA 37.37-N	1.33	30 x 1,939	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
UCSA 37.82-N	1.86	30 x 2,692	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
			Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 37.82-W	1.82	30 x 2,649	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 38.37-N	2.18	30 x 3,107	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 40.16-N	0.42	20-50 x 796	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 40.18-W	0.61	55 x 479	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 40.35-W	0.67	50 x 595	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 43.22-W	0.99	30 x 1,464	Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 43.92-N	2.49	100 x 1,112	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 43.95-W	2.10	85 x 1,066	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
			Regenerating Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 44.28-N	2.44	100 x 2,164	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 44.28-W	2.52	100 x 1,098	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
UCSA 45.26-N	1.23	30 x 1,754	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 45.33-W	0.73	30 x 1,032	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 45.58-W	0.08	30 x 91	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
UCSA 45.62-W	0.27	30 x 365	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM
UCSA 45.72-W	0.18	30 x 230	Clearcut Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	BLM/Private
			Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	
UCSA 45.78-W	0.08	30 x 99	Evergreen Forest Land	Douglas Fir-W. Hemlock-W.Red Cedar	Private
UCSA 48.04-N	1.15	30 x 1,651	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Streams and Canals	Rivers and Streams	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 53.03-W	3.94	30-100 x 3,718	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 53.05-N	1.44	70-100 x 720	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 54.21-N	4.64	100 x 2,140	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 54.39-W	2.70	100 x 1,207	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 55.07-N	2.19	20-50 x 3,710	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 55.07-W	1.66	20 x 3,621	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 60.65-W	0.21	30 x 289	Cropland and Pasture	Agriculture	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 60.67-N	0.77	30 x 1,115	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 60.74-W	0.31	30 x 424	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 60.86-W	0.08	30 x 87	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 60.92-N	1.25	30 x 1,802	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 60.94-W	0.65	30 x 1,069	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.18-W	0.42	30 x 583	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.31-N	0.52	30 x 742	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.33-W	0.19	15-30 x 430	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 61.49-W	0.85	30 x 1,126	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 61.54-N	0.69	30 x 984	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 62.50-N	16.12	100 x 7,281	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 62.53-W	15.04	80 x 7,176	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 64.04-N	0.34	30 x 466	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 64.05-W	0.39	30 x 533	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 64.18-N	0.57	30 x 818	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 64.19-W	1.30	30 x 1,936	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 64.40-N	1.13	30 x 1,664	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 64.62-W	0.28	30 x 465	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 64.76-N	2.82	30 x 4,362	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
			Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 64.76-W	1.37	15-30 x 2,464	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
UCSA 65.26-W	1.03	30 x 1,704	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
UCSA 65.83-N	1.93	30 x 3,075	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Residential	Urban	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 65.85-W	0.12	15-30 x 329	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private

TABLE D-6

Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Residential	Urban	
UCSA 65.92-W	0.50	30 x 757	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Residential	Urban	
UCSA 66.29-W	0.18	30 x 251	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 66.44-W	0.64	30 x 930	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Residential	Urban	
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 66.48-N	0.88	15-30 x 1,405	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Residential	Urban	
			Shrub and Brush Rangeland	Shrublands	
UCSA 66.70-W	0.23	30 x 303	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Shrub and Brush Rangeland	Shrublands	
UCSA 66.79-W	0.24	30 x 336	Deciduous Forest Land	Oregon White Oak Forest	Private
			Shrub and Brush Rangeland	Shrublands	
			Streams and Canals	Rivers and Streams	
UCSA 67.07-N	0.71	30 x 1,018	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 67.07-W	0.40	30 x 564	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 67.30-N	0.71	30 x 1,006	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Deciduous Forest Land	Oregon White Oak Forest	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 67.31-W	0.58	30 x 806	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Deciduous Forest Land	Oregon White Oak Forest	
UCSA 75.04-N	1.50	100 x 640	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
UCSA 75.18-N	11.03	100 x 5,262	Herbaceous Rangeland	Grasslands (W. Cascades)	BLM/Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 75.31-W	9.06	50-70 x 5,151	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Regenerating Evergreen Forest Land	Mixed Conifer/Mixed Dec	
			Strip Mines, Quarries, and Gravel Pits	Industrial	
			Mixed Rangeland	Grasslands (W. Cascades)	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 76.22-N	1.02	100 x 445	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 76.61-N	11.23	50-100 x 5,300	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Nonforested Wetlands	Palustrine Emergent (PEM)	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 76.61-W	9.71	50-100 x 5,191	Cropland and Pasture	Agriculture	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Nonforested Wetlands	Palustrine Emergent (PEM)	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 77.62-N	0.67	100 x 410	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 77.62-W	1.36	100 x 559	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 77.71-N	1.56	50-100 x 910	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 78.05-W	13.40	100-130 x 4,862	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Mixed Rangeland	Grasslands (W. Cascades)	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 78.48-N	5.94	85-100 x 2,706	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 79.16-N	5.64	15-100 x 3,929	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	

TABLE D-6

Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Trans, Comm, Utilities Corridors	Roads, Corridors	
			Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest	
UCSA 79.17-W	0.04	30 x 55	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 79.19-W	0.24	15-30 x 416	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 79.38-W	0.09	15 x 267	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 79.52-W	12.25	50-100 x 6,500	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 79.91-N	8.41	70-100 x 4,138	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 81.66-N	8.43	100 x 3,702	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Herbaceous Rangeland	Grasslands (W. Cascades)	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 81.70-W	11.28	100 x 5,324	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Streams and Canals	Rivers and Streams	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 81.76-W	11.57	70-100 x 5,340	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 82.42-N	5.93	100 x 2,624	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 82.97-N	12.51	25-100 x 6,269	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 83.79-W	3.80	15-100 x 1,910	Herbaceous Rangeland	Grasslands (W. Cascades)	Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 84.25-N	37.89	50-100 x 17,532	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
			Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 84.25-W	32.96	15-100 x 16,685	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
			Herbaceous Rangeland	Grasslands (W. Cascades)	
UCSA 87.17-W	10.27	50-100 x 4,970	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 87.38-N	7.32	70-100 x 3,649	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 88.72-N	14.54	50-100 x 6,908	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
			Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Cropland and Pasture	Agriculture	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 88.73-W	3.68	85-100 x 1,690	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Cropland and Pasture	Agriculture	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 89.08-W	12.72	50-100 x 6,416	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 90.20-N	2.60	15-100 x 2,008 (Irregular)	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 90.31-W	7.15	50-100 x 3,795	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 90.66-N	3.58	100 x 2,112	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 91.77-N	0.67	30 x 970	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 91.99-W	0.30	30 x 411	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.00-N	0.25	30 x 340	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 92.13-N	0.33	30 x 474	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 92.15-W	0.29	30 x 398	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 92.29-W	0.14	30 x 173	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 92.30-N	0.12	30 x 150	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.40-N	0.41	30 x 562	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 92.40-W	0.40	30 x 552	Clearcut Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 92.55-N	0.09	30 x 104	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.55-W	0.08	30 x 82	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.64-W	0.17	30 x 236	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.66-N	0.12	30 x 155	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.73-N	0.20	30 x 255	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 92.73-W	0.11	30 x 124	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 92.82-N	0.31	30 x 431	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 92.93-N	0.33	30 x 451	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
UCSA 92.95-W	2.22	15-30 x 3,650	Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 93.08-N	1.34	30 x 1,925	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 93.77-N	0.16	30 x 173	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
			Regenerating Evergreen Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 93.80-W	0.33	30 x 486	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 93.84-N	0.61	30 x 860	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 93.98-W	0.16	30 x 226	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 94.04-W	0.21	15 x 593	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 94.23-N	0.45	30 x 639	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Mixed Rangeland	Grasslands (W. Cascades)	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 94.23-W	0.46	30 x 646	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Rangeland	Grasslands (W. Cascades)	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 98.30-W	1.14	50-100 x 731	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 98.31-N	1.93	100 x 796	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Streams and Canals	Rivers and Streams	
UCSA 98.46-N	4.38	100 x 2,023	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 98.46-W	39.44	15-100 x 18,697	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private/USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 98.93-N	34.58	50-100 x 16,159	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private/USFS
			Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 111.14-W	2.24	30 x 3,432	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 111.27-N	2.81	30 x 4,141	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 111.86-W	0.26	30 x 379	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 112.07-W	0.39	30 x 532	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 112.20-W	1.27	30 x 1,810	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 112.64-W	3.58	30 x 5,208	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private/USFS
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
TEWA 113.71-W	1.52	30 x 2,173	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 114.33-N	8.63	70-100 x 3,970	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 114.34-W	9.22	15-100 x 4,787	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 115.47-N	1.23	30 x 1,783	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 115.52-W	1.17	30 x 1,678	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 115.86-N	0.72	30 x 1,033	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 115.88-W	0.25	30 x 360	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 116.28-N	4.89	15-30 x 8,120	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 116.35-W	0.86	15-30 x 1,264	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 116.74-W	0.62	15 x 1,798	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Shrub and Brush Rangeland	Shrublands	
UCSA 117.10-W	0.12	15 x 321	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 117.42-W	0.41	15 x 1,187	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Shrub and Brush Rangeland	Shrublands	
UCSA 118.00-W	0.94	30 x 1,385	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 118.03-N	0.78	30 x 1,099	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
UCSA 118.28-N	1.93	30-50 x 2,233	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 118.43-W	1.43	30 x 2,068	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	Private
UCSA 118.95-N	0.26	30 x 381	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 118.95-W	0.22	30 x 314	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
USCA 119.20-N	6.90	30-100 x 6,029	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private
			Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	
			Streams and Canals	Rivers and Streams	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
			Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	
UCSA 119.21-W	0.86	5-30 x 1,464	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	BLM
USCA 119.57-W	0.29	30 x 391	Deciduous Forest Land	Oregon White Oak Forest	BLM
USCA 119.67-W	0.07	30 x 76	Deciduous Forest Land	Oregon White Oak Forest	BLM
USCA 119.73-W	0.71	30 x 1000	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	
			Streams and Canals	Rivers and Streams	
USCA 120.16-W	0.53	30 x 737	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Regenerating Evergreen Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	
UCSA 120.32-N	0.48	30 x 683	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private
			Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	
UCSA 120.32-N	0.48	30 x 683	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
UCSA 120.46-N	0.14	30 x 200	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
UCSA 120.50-W	0.11	30 x 141	Mixed Forest Land	Douglas Fir -White Fir//Tanoak-Madrone Mixed	Private
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 121.67-N	0.66	15-30 x 1,130	Deciduous Forest Land	Oregon White Oak Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 121.67-W	0.81	15-30 x 1,221	Deciduous Forest Land	Oregon White Oak Forest	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 124.38-N	0.65	30 x 931	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 124.42-W	0.46	30 x 652	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 124.63-N	1.25	30 x 1,788	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 124.63-W	0.83	15-30 x 1,920	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 125.31-N	0.19	25 x 308	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Mixed Forest Land	Ponderosa Pine/White Oak	
UCSA 125.31-W	0.15	30 x 181	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
UCSA 125.84-N	0.10	30 x 145	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
UCSA 126.58-N	0.54	30 x 771	Mixed Forest Land	Ponderosa Pine/White Oak	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 126.60-W	0.47	30 x 651	Mixed Forest Land	Ponderosa Pine/White Oak	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
UCSA 126.78-N	0.15	30 x 197	Mixed Forest Land	Ponderosa Pine/White Oak	Private

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 126.79-W	0.13	30 x 181	Mixed Forest Land	Ponderosa Pine/White Oak	Private
UCSA 128.68-N	0.31	30 x 446	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Shrub and Brush Rangeland	Shrublands	
			Cropland and Pasture	Agriculture	
			Streams and Canals	Rivers and Streams	
UCSA 128.70-W	0.44	30 x 613	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	BLM/Private
			Shrub and Brush Rangeland	Shrublands	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 129.02-W	1.27	15-30 x 3,074	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
UCSA 129.10-N	2.73	30 x 3,976	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Shrub and Brush Rangeland	Shrublands	
			Streams and Canals	Rivers and Streams	
			Herbaceous Rangeland	Grasslands (W. Cascades)	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 129.62-W	0.14	30 x 169	Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	Private
UCSA 129.74-W	0.39	30 x 536	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
UCSA 134.65-N	2.94	30 x 4,290	Clearcut Forest Land	Ponderosa Pine/White Oak	Private
			Mixed Rangeland	Grasslands (W. Cascades)	
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 134.65-W	0.50	30 x 706	Mixed Rangeland	Grasslands (W. Cascades)	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
UCSA 134.88-W	1.04	15-30 x 2,075	Clearcut Forest Land	Ponderosa Pine/White Oak	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 135.30-W	0.29	30 x 398	Clearcut Forest Land	Ponderosa Pine/White Oak	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
UCSA 135.46-W	0.22	30 x 306	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
			Shrub and Brush Rangeland	Shrublands	
UCSA 135.53-N	1.82	15-30 x 3,025	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 135.53-W	0.37	30 x 520	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 135.66-W	0.47	30 x 670	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 135.99-W	0.46	30 x 633	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 136.17-N	0.34	15-30 x 598	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 136.17-W	0.42	30 x 578	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 136.32-N	0.48	30 x 669	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Shrub and Brush Rangeland	Shrublands	
UCSA 136.32-W	0.48	30 x 667	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 136.48-N	1.18	30 x 1,705	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 136.48-W	1.18	30 x 1,686	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 136.88-W	1.21	30 x 1,827	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 136.97-N	0.51	30 x 819	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
UCSA 137.16-N	0.38	30 x 535	Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	Private
UCSA 137.71-N	1.15	30 x 1,651	Herbaceous Rangeland	Grasslands (W. Cascades)	Private
			Mixed Forest Land	Ponderosa Pine/White Oak	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
UCSA 137.87-W	0.42	30 x 574	Mixed Forest Land	Ponderosa Pine/White Oak	Private
			Regenerating Evergreen Forest Land	Ponderosa Pine/White Oak	
UCSA 139.84-W	0.52	15 x 1,496	Herbaceous Rangeland	Grasslands (W. Cascades)	BLM/Private
			Mixed Forest Land	Ponderosa Pine/White Oak	
UCSA 141.45-W	0.33	15-30 x 1,691	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 141.68-N	0.36	30 x 485	Deciduous Forest Land	Oregon White Oak Forest	BLM
			Shrub and Brush Rangeland	Shrublands	
UCSA 143.11-N	1.26	30 x 1,828	Deciduous Forest Land	Oregon White Oak Forest	Private
			Herbaceous Rangeland	Grasslands (W. Cascades)	
			Streams and Canals	Rivers and Streams	
UCSA 147.49-N	0.69	30 x 973	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
			Shrub and Brush Rangeland	Shrublands	
UCSA 147.78-W	0.56	30 x 799	Deciduous Forest Land	Oregon White Oak Forest	Private
			Mixed Forest Land	Ponderosa Pine/White Oak	
			Shrub and Brush Rangeland	Shrublands	
UCSA 147.93-N	1.78	30 x 2,602	Deciduous Forest Land	Oregon White Oak Forest	BLM/Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Mixed Forest Land	Douglas-Fir-Mixed Deciduous Forest	
			Mixed Forest Land	Ponderosa Pine/White Oak	
			Shrub and Brush Rangeland	Shrublands	
UCSA 148.48-W	0.22	30 x 290	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
			Shrub and Brush Rangeland	Shrublands	
UCSA 148.60-W	0.44	30 x 623	Mixed Forest Land	Ponderosa Pine/White Oak	BLM
			Shrub and Brush Rangeland	Shrublands	
UCSA 148.78-N	3.81	10-100 x 2,148	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Mixed Forest Land	Ponderosa Pine/White Oak	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Shrub and Brush Rangeland	Shrublands	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 150.49-N	0.51	25 x 874	Mixed Forest Land	Ponderosa Pine/White Oak	BLM/Private
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 151.85-N	0.91	30 x 1,349	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Shrub and Brush Rangeland	Shrublands	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 152.48-N	0.21	30 x 327	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	BLM
UCSA 152.48-W	0.21	30 x 314	Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	BLM
UCSA 153.10-W	0.86	50 x 726	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM
			Regenerating Evergreen Forest Land	Ponderosa Pine Forest and Woodland	
UCSA 153.81-N	1.07	30 x 1,548	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/USFS
			Mixed Rangeland	Grasslands (W. Cascades)	
			Shrub and Brush Rangeland	Shrublands	
UCSA 153.81-W	1.00	30 x 1,461	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	BLM/USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Shrub and Brush Rangeland	Shrublands	
UCSA 154.13-W	2.10	30 x 3,042	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Shrub and Brush Rangeland	Shrublands	
UCSA 154.15-N	2.27	30 x 3,302	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 154.82-W	0.37	30 x 507	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Mixed Rangeland	Grasslands (W. Cascades)	
UCSA 154.83-N	0.40	30 x 596	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS/Private
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 154.96-N	0.21	30 x 289	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
UCSA 155.26-N	0.48	30 x 708	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	Private
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 155.49-W	0.87	30 x 1,249	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 155.72-W	0.55	15-30 x 1,252	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 155.77-N	0.73	30 x 1,044	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 156.00-N	2.68	15-30 x 4,145	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 156.00-W	0.58	15-30 x 885	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 156.26-W	1.83	30 x 2,636	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 156.82-N	2.28	30 x 3,286	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 156.98-W	1.23	30 x 1,776	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 157.37-W	0.06	30 x 71	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 157.40-W	0.19	30 x 256	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 157.52-N	2.00	5-30 x 3,208	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 157.63-W	5.08	5-30 x 9,421	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Mixed Rangeland	Grasslands (W. Cascades)	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 158.23-N	1.87	30 x 2,719	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Mixed Rangeland	Grasslands (W. Cascades)	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 158.79-N	3.75	30 x 5,613	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 159.46-W	0.34	30 x 472	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 159.58-W	0.44	30 x 603	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 159.73-W	0.18	30 x 231	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 159.79-W	0.71	30 x 998	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 160.00-W	0.40	30 x 556	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 160.02-N	0.33	30 x 461	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 160.18-W	1.34	30 x 1,955	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 161.32-N	0.22	30 x 317	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 161.32-W	0.23	30 x 328	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 161.52-N	3.14	30 x 4,549	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 162.01-W	1.19	30 x 1,827	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 162.52-N	2.16	30 x 3,102	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 162.53-W	2.12	30 x 3,055	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 163.16-N	3.60	30 x 5,213	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 163.48-W	0.74	30 x 1,036	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 163.71-W	1.53	30 x 2,260	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 164.23-W	0.23	30 x 306	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 164.34-N	6.42	30 x 9,284	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 165.16-W	2.67	30 x 3,845	Clearcut Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 165.95-W	0.40	30 x 557	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 166.12-W	1.01	30 x 1,435	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Shrub and Brush Rangeland	Shrublands	
			Streams and Canals	Rivers and Streams	
UCSA 166.14-N	1.12	30 x 1,596	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Shrub and Brush Rangeland	Shrublands	
			Streams and Canals	Rivers and Streams	
UCSA 166.44-W	3.05	30 x 4,432	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 166.49-N	2.93	30 x 4,233	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 167.34-N	1.61	30 x 2,359	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 167.87-N	0.63	30 x 927	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
UCSA 167.87-W	1.23	30 x 1,809	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
UCSA 168.09-N	2.31	30 x 3,346	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
UCSA 168.77-W	0.13	30 x 164	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
UCSA 168.78-N	0.05	30 x 88	Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS
			Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
UCSA 168.87-N	2.30	30 x 3,327	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS/Private
			Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	

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Uncleared Storage Areas Necessary for Construction of the PCGP Project

Name	Acres	Dimension	Land Use	Vegetation	Jurisdiction
UCSA 168.87-W	2.41	30 x 3,485	Regenerating Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	USFS/Private
			Evergreen Forest Land	Shasta Red Fir-Mountain Hemlock Forest	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 170.95-N	0.08	25 x 142	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 170.98-N	0.09	25 x 151	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 171.14-W	0.19	25 x 298	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 171.26-N	1.68	15-30 x 4,333	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS/Private
			Forested Wetland	Palustrine Forest (PFO)	
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 172.14-N	1.76	30 x 2,534	Clearcut Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
			Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 172.67-N	1.39	30 x 2,011	Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS/Private
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
			Trans, Comm, Utilities Corridors	Roads, Corridors	
UCSA 173.77-W	0.43	25 x 737	Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	USFS
UCSA 173.98-W	0.53	25 x 892	Herbaceous Rangeland	Grasslands (E. Cascades)	USFS
			Regenerating Evergreen Forest Land	Douglas Fir Dominant - Mixed Conifer	
UCSA 222.80-N	2.61	390 x 383 (Irregular)	Cropland and Pasture	Agriculture	Private
			Nonforested Wetlands	Palustrine Unconsolidated Bottom (PUB)	

TABLE D-7

Rock Source and Permanent Disposal Sites Identified for Construction of the PCGP Project

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
Coos County						
TEWA 11.90-W	0.10	11.90	Ingress/egress, staging, spoil storage, disposal	Private	Mixed forest land, regenerating evergreen forest land	Mixed conifer/mixed deciduous
TEWA 12.53-N	2.32	12.53	Disposal, staging	Private	Clearcut forest land, transportation, communication, utilities corridors	Mixed conifer/mixed deciduous, roads, corridors
TEWA 14.60-N	0.61	14.60	Disposal, staging, spoil storage	Private	Regenerating evergreen forest land, transportation, communication, utilities corridors	Mixed conifer/mixed deciduous, transportation, roads, corridors
TEWA 17.82-W	0.93	18.11	Timber Clearing, Landing, PI, Steep slope staging, turnaround, disposal	Private	Regenerating evergreen forest land	Mixed conifer/mixed deciduous, grass-shrub-sapling or regenerating young forest, roads, corridors
TEWA 20.96	2.00	20.96	Disposal, staging	Private	Clearcut forest land, regenerating evergreen forest land	Douglas fir-W. Hemlock-W. redcedar
TEWA 27.86-N	0.47	27.86	Log landing, steep slope staging, spoil storage and disposal,	Private	Clearcut forest land, transportation, communication, utilities corridors, regenerating evergreen forest land	Douglas fir-W. Hemlock-W. red cedar, roads, corridors
TEWA 34.26-W	2.07	34.26	Staging, parking, truck turnaround, disposal	Private	Clearcut forest land, transportation, communication, utilities corridors	Douglas fir-W. Hemlock-W. red cedar, roads, corridors
TEWA 38.90	4.51	38.93	Rock source and disposal, staging, ingress/egress, spoil storage	Private/ BLM-Coos Bay District	Strip mines, quarries, and gravel pits, clearcut forest land, regenerating evergreen forest land, transportation, communication, utilities corridors	Douglas fir-W. Hemlock-W. red cedar, roads, corridors, urban. industrial
TEWA 42.55-W (Plum Creek)	4.10	42.55	Disposal, log decking/storage/ loading, road crossing staging	Private	Regenerating evergreen forest land, clearcut forest land, transportation, communication, utilities corridors	Douglas fir-W. Hemlock-W. redcedar, roads, corridors
Douglas County						
Signal Tree Road Quarry Sec. 3	1.22	45.86	Rock source and disposal; spoil storage, staging	BLM-Roseburg District	Quarries	Industrial
TEWA 45.84-W	0.41	45.84	Disposal, parking, staging	Private	Evergreen forest land, clearcut, transportation, communication, utilities corridors	Douglas fir-W. Hemlock-W. red cedar, roads, corridors
Signal Tree Road Quarry – Sec. 35	1.09	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial

TABLE D-7

Rock Source and Permanent Disposal Sites Identified for Construction of the PCGP Project

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
Weaver Road Quarry Site 1	1.62	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial
Weaver Road Quarry Site 2	1.30	47	Rock source and disposal	BLM-Coos Bay District	Quarries	Industrial
Signal Tree Quarry Site – Sec. 15	1.75	47	Rock source and disposal	BLM-Roseburg District	Quarries	Industrial
TEWA 52.23-N	2.62	52.23	Disposal, rock source, road crossing	Private	Quarries	Industrial
TEWA 54.83-W	0.50	54.83	Disposal, steep slope staging, spoil storage	Private	Clearcut forest land	Douglas fir dominant – mixed conifer
Private Quarry Benedict Rd.	1.49	56.75	Rock source	Private	Quarries	Industrial
Kent Creek Commercial Quarry	17.52	63.90	Rock source	Private	Quarries	Industrial
Private Quarry DG 105	10.79	67.00	Rock source	Private	Quarries	Industrial
Roth 1 – Existing Quarry #1	0.77	72.61	Rock source and disposal	Private	Quarries	Industrial
Roth 2– Existing Quarry #2	0.34	72.61	Rock source and disposal	Private	Quarries	Industrial
TEWA 75.28-W (BLM Quarry Site)	0.48	75.28	Rock source, staging	BLM-Roseburg District	Abandoned quarry, Mixed forest land	Industrial, Mixed conifer/mixed deciduous
TEWA 77.72-N	1.08	77.72	Disposal, staging, pipe storage	Private	Mixed forest land, herbaceous rangeland, transportation, communication, utilities corridors	Mixed conifer/mixed deciduous, grasslands (W. Cascades), roads, corridors, Douglas fir dominant - mixed conifer
TEWA 79.85-N (BLM Quarry Site)	3.61	79.85	Disposal, PI, spoil storage, log landing, steep slope staging	BLM-Roseburg District	Quarries, transportation, communication, utilities corridors, mixed forest land, regenerating evergreen forest land	Roads, corridors, Douglas fir dominant - mixed conifer
Pct Quarry DG-176	2.22	81.45	Rock source	Private	Quarries, evergreen forest land	Industrial, Douglas fir dominant – mixed conifer
TEWA 84.19-W	1.06	84.19	Disposal, staging	Private	Herbaceous rangeland	Grasslands (W. Cascades)
TEWA 93.01	0.55	93.01	Disposal	Private and BLM-Roseburg District	Evergreen forest land	Douglas fir dominant – mixed conifer
TEWA 94.56-W / (Reclaimed Quarry) Pvt DG-155	23.42	94.56	Milo pipe yard (pipe/contractor yard), stage, disposal	Private	Reclaimed quarry, mixed rangeland, transportation, communication, utilities corridors, commercial and services, transitional areas, nonforested wetlands, herbaceous rangeland	Grasslands (W. Cascades), roads, corridors, urban, grass-shrub-sapling or regenerating young forest, palustrine emergent (PEM), palustrine unconsolidated bottom (pub), grass-shrub-sapling or regenerating young forest, mixed conifer/mixed deciduous
Hatchet Quarry MP 102.30	2.00	102.3	Log Storage (Mitigation)	FS-Umpqua	Strip mines, quarries, gravel pit, transportation,	Industrial, roads and corridors

TABLE D-7

Rock Source and Permanent Disposal Sites Identified for Construction of the PCGP Project

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
					communication, utilities corridors	
Rock Disposal MP 104.12 (C&D Pit)	3.36	104.12	Disposal	FS-Umpqua	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, regenerating forest land	Industrial, roads and corridors, Douglas fir dominant – mixed conifer
Jackson County						
TEWA 110.73 (Peavine Quarry)	15.87	110.73	Staging, Parking, Disposal, hydrostatic discharge	FS-Umpqua	Strip mines, quarries, gravel pit and evergreen forest	Industrial and Douglas fir dominant - mixed conifer
Rock Source and Disposal MP 119.51	7.66	119.51	Rock source and disposal	Private	Strip mines, quarries, gravel pit, regenerating evergreen forest land, evergreen forest land	Industrial and Douglas fir dominant - mixed conifer
TEWA 149.97-N	0.32	149.97	Ingress/egress, rock source and disposal, staging	Private	Deciduous forest land, transportation, communication, utilities corridors, mixed forest land	Oregon white oak forest, roads, corridors, mixed conifer/mixed deciduous
TEWA 150.31-W (Heppsie Mountain Quarry)	5.56	150.31	Ingress/egress, staging, spoil storage, parking, rock source and disposal	Private and BLM-Medford District	Strip mines, quarries, and gravel pits, mixed rangeland, evergreen forest land, mixed forest land, transportation, communication, utilities corridors, regenerating evergreen forest land, clearcut forest land, herbaceous rangeland	Grasslands (W. Cascades), industrial, Ponderosa Pine/white oak, roads, corridors, grass-shrub-sapling or regenerating young forest
Rum Rye MP 160.41	4.91	160.41	Log Storage (Mitigation)	FS-Rogue River-Siskiyou	Strip mines, quarries, and gravel pits,	Industrial
TEWA 160.54-W (Big Elk Cinder Pit) (Ichabod Rock Quarry)	15.26	160.54	Log landing/decking/ hauling, ingress/egress, staging, rock source and disposal	FS-Rogue River-Siskiyou	Strip mines, quarries, and gravel pits, transportation, communication, utilities corridors, evergreen forest land,	Industrial, grasslands (W. Cascades), roads, corridors, true-fir hemlock montane, Douglas fir dominant - mixed conifer
Klamath County						
Rock Source and Disposal MP 180.56	7.76	180.56	Rock source and disposal	Private	Strip mines, quarries, gravel pit, transportation communication and utilities corridors, and regenerating forest land	Industrial, roads and corridors, and ponderosa pine/white oak
Rock Source and Disposal MP 180.71	2.95	180.71	Rock source and disposal	Private	Strip mines, quarries, gravel pits, clearcut forest land	Industrial, roads and corridors, and ponderosa pine/white oak

TABLE D-7

Rock Source and Permanent Disposal Sites Identified for Construction of the PCGP Project

Rock Source and/or Permanent Disposal Sites	Size (acres)	Pipeline MP location	Purpose	Jurisdiction	Land Use	Vegetation
Rock Source and Disposal MP 182.40	5.66	182.40	Rock source and disposal	Private	Quarries, gravel pits	Industrial
Rock Source and Disposal MP 201.61	4.96	201.61	Disposal	Private	Quarries, gravel pits, transitional areas, communication and utilities corridors	Industrial, roads corridors, and grasslands (E. Cascades)
Rock Source and Disposal MP 224.95	7.60	224.95	Rock source and disposal	Private	Strip mines, quarries, gravel pits, shrub and brush rangeland, transportation communication and utilities corridors, evergreen forest land, transitional area	Sagebrush steppe, roads and corridors, western juniper woodland, and industrial
TEWA (14) Total a/	**16.52 a/**					
TEWA (8) (associated with existing quarries) Total	**71.33 a/**					
Existing Quarries and Rock Source and Disposal Sites (20) Total	**86.97**					
Grand Total	**174.82**					

a/ The 87.85 (16.52 + 71.33) acres are included in the total TEWA acreage in Table 8A-2.

TABLE D-8

Landownership/Jurisdiction by Milepost

Begin MP	End MP	Jurisdiction	BLM District/National Forest/Reclamation/ River Name/Department	Length Crossed (miles)
Coos County				
1.47	1.73	Private		0.27
1.73	4.13	State	Coos Bay/Haynes Slough	2.46
4.13	6.21	Private		2.16
6.21	6.44	State	Kentucky Slough	0.24
6.44	11.08	Private		4.80
11.08	11.18	State	Coos River	0.11
11.18	11.08	Private		3.79
11.08	11.18	State	Catching Slough	0.05
11.18	17.04	Private		5.89
17.04	17.11	BLM	Coos Bay District	0.08
17.11	17.14	Private		0.02
17.14	17.31	BLM	Coos Bay District	0.18
17.31	17.40	Private		0.08
17.40	17.44	BLM	Coos Bay District	0.04
17.44	18.80	Private		1.38
18.80	18.87	BLM	Coos Bay District	0.06
18.87	20.04	Private		1.17
20.04	20.54	BLM	Coos Bay District	0.50
20.54	21.22	Private		0.68
21.22	21.81	BLM	Coos Bay District	0.61
21.81	23.19	Private		1.37
23.19	23.87	BLM	Coos Bay District	0.68
23.87	23.99	Private		0.11
23.99	24.36	BLM	Coos Bay District	0.38
24.36	25.53	Private		1.17
25.53	25.59	BLM	Coos Bay District	0.06
25.59	26.82	Private		1.25
26.82	27.08	BLM	Coos Bay District	0.26
27.08	27.11	Private		0.03
27.11	27.47	BLM	Coos Bay District	0.36
27.47	28.40	Private		0.92
28.40	28.79	BLM	Coos Bay District	0.38
28.79	31.58	Private		3.03
31.58	32.47	BLM	Coos Bay District	0.89
32.47	33.77	Private		1.46
33.77	34.21	BLM	Coos Bay District	0.44
34.21	35.12	Private		0.90
35.12	38.93	BLM	Coos Bay District	3.78
38.93	40.18	Private		1.25
40.18	40.21	BLM	Coos Bay District	0.04
40.21	41.44	Private		1.23
41.44	42.01	BLM	Coos Bay District	0.67
42.01	43.19	Private		1.15
43.19	43.50	BLM	Coos Bay District	0.30
43.50	44.63	Private		1.12
44.63	45.72	BLM	Coos Bay District	1.09
Douglas County				
45.72	46.90	Private		1.22
46.90	47.17	BLM	Roseburg District	0.27
47.17	48.27	Private		1.11
48.27	49.20	BLM	Roseburg District	1.07
49.20	51.04	Private		1.87
51.04	51.29	BLM	Roseburg District	0.25
51.29	52.61	Private		1.18
52.61	52.95	BLM	Roseburg District	0.33
52.95	53.11	Private		0.45
53.11	53.70	BLM	Roseburg District	0.60
53.70	54.38	Private		0.68
54.38	54.43	BLM	Roseburg District	0.05
54.43	60.85	Private		6.44

TABLE D-8

Landownership/Jurisdiction by Milepost

Begin MP	End MP	Jurisdiction	BLM District/National Forest/Reclamation/ River Name/Department	Length Crossed (miles)
60.85	61.66	BLM	Roseburg District	0.81
61.66	64.38	Private		2.72
64.38	64.50	BLM	Roseburg District	0.13
64.50	64.61	Private		0.11
64.61	64.88	BLM	Roseburg District	0.27
64.88	74.87	Private		10.71
74.87	75.52	BLM	Roseburg District	0.65
75.52	76.02	Private		0.51
76.02	76.11	BLM	Roseburg District	0.09
76.11	78.18	Private		2.07
78.18	78.79	BLM	Roseburg District	0.61
78.79	79.64	Private		0.87
79.64	80.56	BLM	Roseburg District	0.97
80.56	82.71	Private		2.14
82.71	83.32	BLM	Roseburg District	0.61
83.32	84.91	Private		1.59
84.91	85.19	BLM	Roseburg District	0.28
85.19	85.95	Private		0.76
85.95	86.25	BLM	Roseburg District	0.30
86.25	86.97	Private		0.72
86.97	87.49	BLM	Roseburg District	1.10
87.49	89.85	Private		2.39
89.85	90.48	BLM	Roseburg District	0.63
90.48	91.26	Private		0.77
91.26	91.93	BLM	Roseburg District	0.68
91.93	93.00	Private		1.08
93.00	93.07	BLM	Roseburg District	0.06
93.07	93.62	Private		0.56
93.62	93.92	BLM	Roseburg District	0.29
93.92	95.15	Private		1.26
95.15	95.82	BLM	Roseburg District	0.66
95.82	97.07	Private		1.23
97.07	98.47	BLM	Roseburg District	1.40
98.47	99.31	Private		0.83
99.31	99.83	Forest Service	Umpqua NF	0.52
99.83	100.39	BLM	Roseburg District	0.55
100.39	100.68	Forest Service	Umpqua NF	0.29
100.68	101.20	Private		0.54
101.20	101.89	Forest Service	Umpqua NF	0.69
101.89	102.32	BLM	Roseburg District	0.41
102.32	102.85	Forest Service	Umpqua NF	0.52
102.85	104.10	Private		1.27
104.10	109.99	Forest Service	Umpqua NF	5.95
Jackson County				
109.99	113.20	Forest Service	Umpqua NF	2.85
113.20	115.11	Private		1.92
115.11	115.39	BLM	Medford District	0.29
115.39	115.42	Private		0.03
115.42	116.77	BLM	Medford District	1.35
116.77	116.84	Private		0.07
116.84	117.80	BLM	Medford District	0.96
117.80	118.91	Private		1.10
118.91	119.90	BLM	Medford District	0.93
119.90	120.27	Private		0.45
120.27	120.46	BLM	Medford District	0.19
120.46	121.26	Private		0.81
121.26	121.55	BLM	Medford District	0.29
121.55	122.62	Private		1.06
122.62	122.70	State	Gold River	0.07
122.70	123.33	Private		0.60
123.33	124.23	BLM	Medford District	0.90
124.23	124.38	State	Oregon Department of Forestry	0.15

TABLE D-8

Landownership/Jurisdiction by Milepost

Begin MP	End MP	Jurisdiction	BLM District/National Forest/Reclamation/ River Name/Department	Length Crossed (miles)
124.38	125.54	BLM	Medford District	1.17
125.54	126.28	Private		0.76
126.28	126.58	BLM	Medford District	0.30
126.58	126.86	Private		0.28
126.86	127.11	BLM	Medford District	0.25
127.11	127.39	Private		0.28
127.39	128.42	BLM	Medford District	1.02
128.42	128.73	Private		0.31
128.73	129.45	BLM	Medford District	0.70
129.45	131.36	Private		1.88
131.36	131.93	BLM	Medford District	0.57
131.93	133.20	Private		1.30
133.20	133.45	BLM	Medford District	0.25
133.45	136.82	Private		3.32
136.82	137.12	BLM	Medford District	0.30
137.12	139.88	Private		2.75
139.88	140.57	BLM	Medford District	0.69
140.57	140.83	Private		0.26
140.83	141.92	BLM	Medford District	1.09
141.92	148.27	Private		6.77
148.27	149.90	BLM	Medford District	1.09
149.90	150.49	Private		0.60
150.49	151.65	BLM	Medford District	1.18
151.65	152.19	Private		0.54
152.19	153.81	BLM	Medford District	1.62
153.81	154.93	Forest Service	Rogue River-Siskiyou NF	1.12
154.93	155.45	Private		0.52
155.45	166.41	Forest Service	Rogue River-Siskiyou NF	11.01
Klamath County				
166.41	168.73	Forest Service	Rogue River-Siskiyou NF	2.40
168.73	169.37	Forest Service	Fremont-Winema NF	0.65
169.37	170.04	Private		0.67
170.04	171.39	Forest Service	Fremont-Winema NF	1.36
171.39	171.59	Private		0.20
171.59	172.71	Forest Service	Fremont-Winema NF	1.11
172.71	173.11	Private		0.43
173.11	174.81	Forest Service	Fremont-Winema NF	1.70
174.81	174.95	Private		0.14
174.95	175.37	Forest Service	Fremont-Winema NF	0.43
175.37	176.15	Private		0.77
176.15	177.04	BLM	Lakeview District	0.89
177.04	179.58	Private		2.54
179.58	179.72	BLM	Lakeview District	0.15
179.72	199.27	Private		18.42
199.27	199.46	State	Klamath River	0.19
199.46	200.52	Private		1.06
200.52	200.53	Reclamation	Bureau of Reclamation	0.01
200.53	202.54	Private		2.01
202.54	202.84	Reclamation	Bureau of Reclamation	0.30
202.84	212.06	Private		9.20
212.06	212.11	State	Lost River	0.05
212.11	216.49	Private		4.42
216.49	216.75	BLM	Lakeview District	0.26
216.75	231.79	Private		11.47
			Total	**231.79**

[1] Because equations have been inserted to prevent the mileposts from changing, it is no longer possible to use the distance between mileposts as an accurate length (e.g., the centerline is now 231.82 miles long but the ending MP is 228.13).

TABLE D-9

Privately-Owned Contractor and Pipe Storage Yards that may be used during Construction of the PCGP Project

Name	County	Size (acres)	Description
North Spit Dock Yard	Coos	4.79	Old industrial dock; gravel and grassy surface
Weyerhaeuser Cove [1]	Coos	N/A [1]	Old industrial; half is paved [1]
Coquille Sawmill Yard	Coos	7.46	Old industrial; abandoned sawmill; previously utilized as a contractor's yard
Fairview Yard	Coos	2.26	Old industrial; graveled and dirt surfaces
Coquille Yard	Coos	20.37	Old industrial, vacant lot
Glendale#1	Douglas	4.43	Vacant lot/old industrial
Glendale#2	Douglas	6.80	Vacant lot/old industrial
Old Highway 99 Yard	Douglas	8.55	Gravel-surfaced vacant lot
Sutherlin Central Avenue	Douglas	0.18	Old industrial; formerly Gerretsen Building Supply Co.
Gravel Pit South Winston	Douglas	129.22	Operational gravel pit
Green #1 Yard	Douglas	9.37	Old industrial, vacant lot
Green District Yard	Douglas	7.06	Old industrial log yard, gravel-surfaced parking lot
Days Creek Yard	Douglas	176.74	Pasture
Riddle Pasture	Douglas	22.72	Crop/pasture
Riddle Main Street	Douglas	8.78	Old industrial; vacant lot
Green Diamond Pipe	Douglas	67.28	Abandoned mining operation
Milo Yard [2]	Douglas	N/A [2]	Former quarry [2]
Highway 99 Hayfield Yard	Douglas	96.18	Agriculture (hayfield)
Weaver Road Yard	Douglas	7.77	Old industrial log storage yard
Hult Chip Yard (Pipe)	Douglas	13.30	Old industrial; paved
Hult Chip Yard (Parking)	Douglas	2.65	Old industrial; gravel surface
Hult Chip Yard (Roll)	Douglas	8.90	Old industrial; paved
Burrill Lumber	Jackson	61.44	Old lumber mill/log yard
Avenue F and 11th Street	Jackson	26.15	Industrial business and vacant leveled lot
Oregon Opportunities	Jackson	5.24	Developed industrial lot within industrial park
Rogue Aggregates	Jackson	111.02	Active aggregate quarry and processing facility and undeveloped land
Collins Pacific [3]	Klamath	N/A[3]	Active wood products plant [3]
Klamath Falls Amuchastegui Building	Klamath	25.46	Existing commercial site
Klamath Falls Industrial Oil	Klamath	39.14	Undeveloped site
Klamath Falls Memorial Drive	Klamath	48.00	Undeveloped site
Klamath Falls Memorial Drive Pipe Yard	Klamath	24.72	Old industrial/vacant lot
Klamath Falls North of Cross Road East	Klamath	30.56	Farmland
Klamath Falls North of Cross Road West	Klamath	37.53	Farmland
Merrill Siding	Klamath	9.78	Railroad siding
	Total	**1,023.85**	

a/ This yard is incorporated in the construction footprint as TEWA 1.46. The area (23.63 acres) of this yard is included in the TEWA impacts for the project.

b/ This yard is incorporated in the construction footprint as TEWA 94.52-W. The area (23.42 acres) of this yard is included in the TEWA impacts for the project.

c/ This yard is incorporated in the construction footprint as TEWAs 198.22-W, 198.42-W, 198.43-N, and 198.72-N. The area (26.21 acres) of this yard is included in TEWA impacts for the project.

APPENDIX E

BLM District and National Forest Consistency Forms

Jordan Cove Natural Gas Liquefaction and Pacific Connector Gas Pipeline Project

Final EIS

Appendix E

BLM District and National Forest Consistency Forms

Pacific Connector Gas Pipeline

Coos Bay, Roseburg, and Medford Districts and Klamath Falls Resource Area, Lakeview District, BLM Oregon; Umpqua, Rogue River, and Winema National Forests

Prepared for:

USDI Bureau of Land Management

USDA Forest Service

Prepared by:

North State Resources

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Appendix E. BLM District and National Forest Consistency Forms

To ensure the consistency of the Pacific Connector Gas Pipeline (PCGP) Project with the relevant BLM and Forest Service land management plans (LMP) was fully addressed and all inconsistencies identified, a detailed evaluation of LMP elements. For BLM LMPs, elements equate to management direction; for the Forest Service LMPs it equates to standards and guidelines. This appendix includes tables that document LMP consistency with each of the seven LMPs applicable to the PCGP Project; BLM (Coos Bay District, Roseburg District, Medford District and Klamath Falls Resource Area), Forest Service (Umpqua, Rogue River and Winema National Forests). Each table is organized to list all relevant LMP elements extracted from the respective LMP. For each element, a determination was made regarding (1) its applicability to the Project, (2) the consistency of the Project with the standard, and (3) in each table for each relevant element are the portion or portions of the DEIS that address the standard (expressed as EIS sections, EIS appendices, and POD attachments). The relevant location of the EIS where the element is addressed.

The applicability of each element was identified by relevant stage or stages of the PCGP Project (i.e., preconstruction, construction, restoration, and operation). The consistency of each standard was identified and expressed by adherence to agency-approved plans, designs, and procedures, application of agency-approved BMPs, careful and studied selection of the pipeline route, and implementation of agency-approved, off-site mitigation measures. This column is completed if a LMP amendment would be part of the agency decision-making process to ensure compliance with respective LMP. Column four identifies the specific LMP amendment that would be required.

Where certain sections of the LMP are not applicable, specific elements have been excluded to reduce the size of the tables (e.g., Adaptive Management Areas). In some instances individual LMPs have been updated or maintained and certain elements are no longer applicable (e.g., protection buffer species).
On each table, the specific elements are presented in column one by LMP section (topic). In column two ("Applicable") of each table, the applicability of each element was identified by relevant stage or stages of the PCGP Project as follows:

P	Pre-construction
C	Construction
R	Restoration (includes offsite mitigation actions)
O	Operation
N	Not Applicable to any stage

The majority of the relevant elements are applicable to more than one stage of the PCGP Project. In such cases, the codes are presented as above.

The consistency of each relevant element is expressed in column three ("Consistent") of each table as follows:

P	Consistent via agency-approved plans, designs & procedures
B	Consistent via rigorous application of BMPs
R	Consistent via careful and studied route selection
M	Consistent via offsite mitigation actions
A	Inconsistent, LMP amendment required

The majority of the relevant standards achieve consistency by adherence to more than one consistency criterion. In such cases, the codes are presented as above.

Included for each relevant element in column four of each table ("Comments") are the portion or portions of the DEIS that address the element, expressed as follows:

EIS section
EIS appendix
POD attachment (note references to these attachments was revised to use a letter consistent with applicant filing)

For each inconsistent Project action, the LMP plan amendment required to address the standard is specifically identified in column four.

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Key Watersheds			
In Key Watersheds, prepare watershed analyses prior to resource management activity, including timber harvest. Until completion of watershed analyses, proceed with minor activities—such as those categorically excluded under the NEPA regulations (except timber harvest)—contingent on their consistency with Aquatic Conservation Strategy objectives. Apply Riparian Reserve management actions/direction.	N		
Reduce existing road mileage within Key Watersheds. If funding is insufficient to implement reductions, do not construct (nor authorize through discretionary permits) a net increase in road mileage in Key Watersheds.	N		
Give highest priority to watershed restoration in Key Watersheds.	N		
Watershed Restoration			
Prepare watershed analyses and plans prior to activities within Riparian Reserves. See the Watershed Analysis section.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Focus watershed restoration on removing some roads and, where needed, upgrading those that remain in the system.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. Y POD Att. DD
Apply silvicultural treatments to restore large conifers in Riparian Reserves.	N		
Restore stream channel complexity. Instream structures will only be used in the short term and not as a mitigation measure.	P, R	P, B, M	EIS Sec. 1.4.2 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS App. F POD Att. DD
Survey and Manage for Amphibians, Mammals, Bryophytes, Mollusks, Vascular Plants, Fungi, Lichens, and Arthropods			
Manage known sites (highest priority): Acquire information on these sites, make it available to all project planners, and use it to design or modify activities.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): Protect known sites. For some species, apply specific management treatments such as prescribed fire.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Manage known sites (highest priority): For rare and endemic fungus species, temporarily withdraw known sites from ground-disturbing activities until the sites can be thoroughly surveyed and site-specific measures prescribed.	P	P, R,A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Continue existing efforts to survey and manage rare and sensitive species habitat.	P	P, R,A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For species without survey protocols, start immediately to design protocols and implement surveys.	N		
Survey prior to ground-disturbing activities and manage sites: Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species, survey for: • Del Norte salamander • Siskiyou Mountains salamander • Red tree voles These surveys will precede the design of all ground-disturbing activities that will be implemented in 1997 or later.	P	P,R,A	EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For the other species listed in Table C-1 of Appendix C[1], begin development of survey protocols promptly and proceed with surveys as soon as possible. These surveys will be completed prior to ground-disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the SEIS.	N		
Survey prior to ground-disturbing activities and manage sites: Conduct surveys at a scale most appropriate to the species.	P	P, A	EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Develop management actions/direction to manage habitat for the species on sites where they are located.	N		EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1

1 Appendix C, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Survey prior to ground-disturbing activities and manage sites: Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Conduct extensive surveys for the species to find high-priority sites for species management. Specific surveys prior to, ground-disturbing activities are not a requirement.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Design these surveys for efficiency and develop standardized protocols.	N		
Conduct extensive surveys and manage sites: Begin these surveys by 1996.	N		
Conduct general regional surveys: Survey to acquire additional information and to determine necessary levels of protection for arthropods, fungi species not classed as rare and endemic, bryophytes, and lichens.	N		
Conduct general regional surveys: Initiate these surveys no later than Fiscal Year 1996 and complete them within 10 years.	N		
Riparian Reserves			
Timber Management – Neither conduct nor allow timber harvest (including fuelwood cutting) in Riparian Reserves, except as follows: Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy objectives.	N		
Timber Management – Neither conduct nor allow timber harvest (including fuelwood cutting) in Riparian Reserves, except as follows: Remove salvage trees only when watershed analysis determines that present and future woody debris needs are met and other Aquatic Conservation Strategy objectives are not adversely affected.	N		
Timber Management – Neither conduct nor allow timber harvest (including fuelwood cutting) in Riparian Reserves, except as follows: Apply silvicultural practices for Riparian Reserves to control stocking, re-establish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Roads Management: Cooperate with federal, state, and county agencies and work with private parties with road use agreements to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2 EIS App. J POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by completing watershed analyses including appropriate geotechnical analyses (i.e., examining soil and rock conditions in riparian and stream crossings) prior to construction of new roads or landings in Riparian Reserves.	P	P	EIS Secs. 4.2.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by minimizing road and landing locations in Riparian Reserves.	P	P, R	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by preparing road design criteria, elements, and standards that govern construction and reconstruction.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by preparing operation and maintenance criteria that govern road operation, maintenance, and management.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.	C, R	B,M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by restricting sidecasting as necessary to prevent the introduction of sediment to streams.	C	B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by avoiding wetlands entirely when constructing new roads.	P, C	B, R	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y

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Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by reconstructing roads and associated drainage features that pose a substantial risk.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by closing and stabilizing (or obliterating and stabilizing) roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.	N		
Roads Management: Design and construct new culverts, bridges, and other stream crossings and improve existing culverts, bridges, and other stream crossings determined to pose a substantial risk to riparian conditions. New structures and improvements will be designed to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Roads Management: Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (e.g., streams which can be made available to anadromous fish by removing obstacles to passage).	C, R	B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan will include provisions for the following activities: • inspections and maintenance during storm events; • inspections and maintenance after storm events; • road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian-wetland resources; • traffic regulation during wet periods to prevent damage to riparian-wetland resources; and • establishing the purpose of each road by developing a road management objective.	P, C, R,O	P, B,M	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. Y
Grazing Management: Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Grazing Management: Locate new livestock handling and/or management facilities outside Riparian Reserves. For existing livestock handling facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.	N		
Grazing Management: Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy objectives are met.	N		
Recreation Management: Design new recreational facilities within Riparian Reserves, including trails and dispersed sites, so as not to prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves, evaluate and mitigate impacts to ensure that these do not prevent, and to the extent practicable contribute to, attainment of Aquatic Conservation Strategy objectives.	N		
Recreation Management: Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures—such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures—are not effective, eliminate the practice or occupancy.	N		

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Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Recreation Management: Address attainment of Aquatic Conservation Strategy objectives in Wild and Scenic River and Wilderness management plans.	N		
Mineral Management: For any proposed locatable mining operation in Riparian Reserves— other than notice level or casual use require the following actions by the operator consistent with 43 CFR 3809 regulations: • Prepare a Plan of Operations, including a reclamation plan and reclamation bond for all mining operations in Riparian Reserves. Such plans and bonds will address the costs of removing facilities, equipment, and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy objectives.	N		
Mineral Management: For any proposed locatable mining operation in Riparian Reserves— other than notice level or casual use require the following actions by the operator consistent with 43 CFR 3809 regulations: • Locate structures, support facilities, and roads outside Riparian Reserves. If no alternative to siting facilities in Riparian Reserves exists, locate in a way compatible with Aquatic Conservation Strategy objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in Riparian Reserves. When a road is no longer required for mineral or land management activities, it will be reclaimed. In any case, access roads will be constructed consistent with 43 CFR 3809 and acceptable road construction standards and will minimize damage to resources in Riparian Reserves.	N		
Minerals Management: For any proposed locatable mining operation in Riparian Reserves, other than notice level or casual use, require the following actions by the operator consistent with 43 Code of Federal Regulations 3809 regulations: • Avoid locating solid and sanitary waste facilities in Riparian Reserves. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Reserves exists, if releases can be prevented, and if stability can be ensured, then: – Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics. – Locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Reserves. – Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Require reclamation bonds adequate to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.	N		

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Element	Applicability	Consistency	EIS Section
Mineral Management: Where an existing operator is in noncompliance at the notice level (i.e., causing unnecessary or undue degradation), require actions similar to those stated above to meet the intent of 43 CFR 3809.	N		
Mineral Management: For leasable mineral activity in Riparian Reserves, prohibit surface occupancy for oil, gas, and geothermal exploration and development activities where leases do not exist. Where possible, adjust the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy objectives, consistent with existing lease terms and stipulations.	N		
Mineral Management: Allow development of salable minerals, such as sand and gravel, within Riparian Reserves only if Aquatic Conservation Strategy objectives can be met.	N		
Mineral Management: Develop inspection and monitoring requirements and include such requirements in exploration and mining plans and in leases or permits consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans, leases, and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Fire/Fuels Management: Design fuel treatment and fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.	P, C,R	P, B,M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. K POD Att. R POD Att. DD
Fire/Fuels Management: Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of Riparian Reserves. If the only suitable location for such activities is within the Riparian Reserve, an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Utilize an interdisciplinary team to predetermine suitable incident base and helibase locations.	N		
Fire/Fuels Management: Minimize delivery of chemical retardant, foam, or other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or following a review and recommendation by a resource advisor, when an escape would cause more long-term damage.	N		
Fire/Fuels Management: Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy objectives.	N		
Fire/Fuels Management: Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy objectives whenever Riparian Reserves are significantly damaged by a wildfire or when a prescribed fire is burning outside prescribed parameters.	N		

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Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Fire/Fuels Management: Until watershed analysis is completed for a watershed, suppress wildfire to avoid loss of habitat and to maintain future management options.	N		
Fire/Fuels Management: Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.	N		
Fire/Fuels Management: Consider rapid extinguishing of smoldering coarse woody debris and duff.	N		
Fire/Fuels Management: Locate and manage water-drafting sites (e.g., sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian habitat and water quality as consistent with Aquatic Conservation Strategy objectives.	N		
Lands: Issue leases, permits, rights-of-way, and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible, adjust existing leases, permits, rights-of-way, and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing leases, permits, rights-of-way, and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.3, 2.1.5 & 2.1.6 EIS Sec. 4.1.3.5 EIS App. J POD Att. Y
Lands: Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS App. F EIS App. J POD Att. DD LMP Amendment BLM-4
Lands: For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission (the Commission), provide timely, written comments regarding maintenance of instream flows and habitat conditions and maintenance/ restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of Riparian Reserves. For existing support facilities inside Riparian Reserves that are essential to proper management, provide recommendations to the Commission that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the Riparian Reserves should be located, operated, and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		

TABLE E-1

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Element	Applicability	Consistency	EIS Section
Lands: For other hydroelectric and surface water development proposals in Tier 1 Key Watersheds, require instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate state agencies. For other hydroelectric and surface water development proposals in all other watersheds, give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate state agencies.	N		
General Riparian Area Management: Identify and attempt to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.	N		
General Riparian Area Management: Apply herbicides, insecticides, other toxicants, and other chemicals only in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	P, C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
General Riparian Area Management: Fell trees in Riparian Reserves when they pose a safety risk. Keep felled trees onsite when needed to meet objectives for coarse woody debris retention.	P, C, O	P, B	EIS Sec. 2.6.2 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U
Watershed and Habitat Restoration: Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and attains Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD
Watershed and Habitat Restoration: Cooperate with federal, state, local, and tribal agencies, and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.	N		
Watershed and Habitat Restoration: Prevent watershed and habitat degradation rather than relying on mitigation measures or planned restoration.	N		
Fish and Wildlife Management: Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. DD

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Fish and Wildlife Management: Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish and wildlife interpretive and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Fish and Wildlife Management: Cooperate with federal, tribal, and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.	N		
Fish and Wildlife Management: Cooperate with federal, tribal, and state fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest, and poaching that threaten the continued existence and distribution of native fish stocks inhabiting streams with adjacent or nearby federal lands.	N		
Late-Successional Reserves			
Develop Late-Successional Reserve assessments prior to habitat manipulation. These assessments may be developed as part of province-level planning or as stand-alone assessments. If developed to stand alone, the assessments will be closely coordinated with subsequent watershed analysis and province-level planning. SEIS ROD standards and guidelines should be refined at the province level prior to development of Late-Successional Reserve assessments.	P	P	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. H EIS App. J
Only in unusual circumstances will silvicultural treatments, including prescribed fire, precede preparation of this management assessment. Late-Successional Reserve assessments are subject to review by the Regional Ecosystem Office. Until Late-Successional Reserve assessments are completed, fire suppression activities should be guided by land allocation objectives in coordination with local resource management specialists.	N		
Projects and activities within Late-Successional Reserves (including restoration, recreation, projects for public safety, thinning, and salvage) may proceed in fiscal years 1995-96 using initial Late-Successional Reserve assessments done at a level of detail sufficient to assess whether the activities are consistent with the objectives of the Late-Successional Reserves.	N		
Plan and implement non-silvicultural activities inside Late-Successional Reserves that are neutral or beneficial to the creation and maintenance of late-successional habitat.	P, C, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-4
Using interdisciplinary teams, evaluate other activities not described below and document appropriate guidelines.	N		

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Element	Applicability	Consistency	EIS Section
Request review by the Regional Ecosystem Office of all activities deemed to have potential adverse effects on Late-Successional Reserve objectives. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Silviculture: Plan and implement silvicultural treatments inside Late-Successional Reserves to be beneficial to the creation of late-successional habitat.	N		
Silviculture: If needed to create and maintain fate-successional forest conditions, conduct thinning operations in forest stands up to 80 years of age. This will be accomplished by precommercial and/or commercial thinning of stands regardless of origin (e.g., planted after logging or naturally regenerated after fire or blowdown).	N		
Salvage: Limit salvage of dead trees in Late-Successional Reserves to areas where stand-replacing events exceed 10 acres in size and canopy closure has been reduced to less than 40 percent.	N		
Salvage: Retain all standing live trees including those injured (e.g., scorched) but likely to survive.	N		
Salvage: Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.	N		
Salvage: Retain adequate quantities of coarse woody debris in a new stand so the future stand will contain amounts similar to naturally regenerated stands. Watershed-level or province-level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to coarse woody debris over the long term.	N		
Salvage: If essential to reduce future risk of fire or insect damage, conduct salvage that does not meet the preceding management actions/direction. Focus on those areas where there is high risk of large scale disturbance.	N		
Salvage: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.	N		
Salvage: After disturbance in younger stands, develop direction for diameter and biomass retention consistent with the intention of achieving late-successional forest conditions. Where green trees, snags, and logs are present following disturbance, the green tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snags can be credited toward the amount of coarse woody debris biomass needed to achieve management objectives.	N		
Salvage: Retain logs present on the forest floor before a disturbance event.	N		
Salvage: Retain coarse woody debris to approximate the species composition of the original stand to help replicate pre-existing suitable habitat conditions.	N		

TABLE E-1

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Element	Applicability	Consistency	EIS Section
Salvage: Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit deviations to as small an area as possible.	N		
Road Construction and Maintenance: Construct roads in Late-Successional Reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. Alternative access methods—such as aerial logging—will be considered to provide access for activities in reserves.	P, C, R	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.6 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. H POD Att. I POD Att. Y
Road Construction and Maintenance: Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material onsite if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.	C, O	P, B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U POD Att. Y
Fuelwood Gathering: Permit fuelwood gathering only in existing cull decks, in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, where trees are removed from the roadside to improve sight distance, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance. In all cases, these activities will comply with management actions/direction for salvage and silvicultural activities.	N		
Mining: Assess the impacts of ongoing and proposed mining activities in Late-Successional Reserves.	N		
Mining: Include stipulations in mineral leases and, when legally possible, require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.	N		
Developments: Neither construct nor authorize new facilities that may adversely affect Late-Successional Reserves.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Developments: Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on Late-Successional Reserves.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-4
Developments: Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.	P	P, R	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Retain and maintain existing developments—such as campgrounds, utility corridors, and electronic sites— consistent with other management actions/direction for Late-Successional Reserves.	P, C, O	P, B	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Developments: Remove hazard trees along utility rights-of-way and trails and in other developed areas.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.2.2 POD Att. U POD Att. Y
Land Exchanges: Consider land exchanges in Late-Successional Reserves if they provide benefits equal to or better than current conditions.	N		
Land Exchanges: Consider land exchanges especially to improve area, distribution, and quality (e.g., connectivity, shape, and contribution to biodiversity) of Late-Successional Reserves, especially where public and private lands are intermingled.	N		
Habitat Improvement Projects: Design projects to improve conditions for fish, wildlife, and watersheds if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-4
Habitat Improvement Projects: Design projects for threatened or endangered species even if they result in some reduction of habitat quality for other late- successional species.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. M POD Att. J POD Att. DD LMP Amendment BLM-4
Habitat Improvement Projects: Design and implement watershed restoration projects consistent with Late-Successional Reserve objectives.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-4
Range Management: In coordination with wildlife and fish biologists, implement range-related management activities that do not adversely affect late-successional habitat.	N		
Range Management: Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of Late-Successional Reserve objectives.	N		

TABLE E-1

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Element	Applicability	Consistency	EIS Section
Range Management: Evaluate effects of existing and proposed livestock management and handling facilities in Late-Successional Reserves to determine if reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.	N		
Fire Suppression and Prevention: As part of watershed analysis, plan fire management for each Late-Successional Reserve.	N		
Fire Suppression and Prevention: Emphasize maintaining late-successional habitat in wildfire suppression plans.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Fire Suppression and Prevention: Use minimum impact suppression methods for fuels management in accordance with guidelines for reducing risks of large-scale disturbances.	N		
Fire Suppression and Prevention: During actual fire suppression activities, consult an interdisciplinary team to assure that habitat damage is minimized.	N		
Fire Suppression and Prevention: Until a fire management plan is completed for a Late-Successional Reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options.	N		
Fire Suppression and Prevention: Prepare a specific fire management plan prior to any habitat manipulation activities in Late-Successional Reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the Late-Successional Reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office.	P	P, B	EIS Sec. 4.1.3.6 EIS App. H POD Att. K POD Att. R
Fire Suppression and Prevention: Apply prescribed fire in a manner that retains the amount of coarse woody debris determined through watershed analysis.	N		
Fire Suppression and Prevention: Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.	N		
Fire Suppression and Prevention: Consider rapidly extinguishing smoldering coarse woody debris and duff.	C, O	B	EIS Sec. 4.1.3.6 EIS App. H POD Att. K POD Att. R
Special Forest Products: Evaluate whether special forest product harvest activities have adverse effects on Late-Successional Reserve objectives.	N		
Special Forest Products: Prior to selling special forest products, ensure resource sustainability and protection of other resource values such as special status plant or animal species.	N		
Special Forest Products: Where special forest product activities are extensive, evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Recreational Uses: Use adjustment measures—such as education, use limitations, traffic control devices, or increased maintenance—when dispersed and developed recreation practices retard or prevent attainment of Late-Successional Reserve objectives.	N		
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: Consider access to nonfederal lands through Late-Successional Reserves and existing right-of-way agreements. Contracted rights, easements, and special/temporary use permits are valid uses in Late-Successional Reserves.	P	P	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.5 & 2.1.6 EIS Sec. 4.1.3.6 EIS App. H POD Att. U POD Att. Y
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on Late-Successional Reserves. Consider alternative routes that avoid Late-Successional Reserves. If rights-of-way must be routed through a reserve, design and locate them to have the least impact on late-successional habitat.	P, C, R	P, R, M	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.4 - 2.1.6 EIS Sec.3.4.3 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. U POD Att. Y POD Att. DD
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: Review all special/temporary use permits. When objectives of Late-Successional Reserves are not being met, attempt to reduce impacts through education or modification of existing permits.	C, O	B	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 4.1.3.6 EIS App. H
Non-native Species: If introduction of a non-native species is proposed, complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional objectives.	N		
Non-native Species: Evaluate impacts of non-native species (plant and animal) existing within reserves.	N		
Non-native Species: Develop plans and recommendations for eliminating or controlling non-native species that are inconsistent with Late-Successional Reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within Late-Successional Reserves.	P, C, R	P	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N
Matrix (Connectivity/ Diversity Blocks and General Forest Management Area)			
Timber Resources: Conduct timber harvest and other silvicultural activities in that portion of the Matrix with suitable forest lands, according to management actions/direction summarized below and in the Timber section.	N		
Timber Resources: Provide a renewable supply of large down logs well distributed across the Matrix landscape in a manner that meets the needs of species and provides for ecological functions. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Timber Resources: A minimum of 120 linear feet of logs per acre, averaged over the cutting area and reflecting species mix of the unit, will be retained in the cutting area. All logs shall have bark intact, be at least 16 inches in diameter at the large end, and be at least 16 feet in length. Logs shall be distributed throughout the cutting area, and not piled or concentrated in a few areas. Decay class 1 and 2 logs will be credited toward the total. Where this management action/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit.	N		
Timber Resources: In areas of partial harvest, apply the same basic management actions/direction, but they can be modified to reflect the timing of stand development cycles where partial harvest is practiced.	N		
Timber Resources: Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g., slash burning and yarding) that might otherwise destroy the integrity of the substrate.	N		
Timber Resources: Retain 6-8 green conifer trees per acre in regeneration harvest units.	N		
Timber Resources: Retain snags within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per acre requirements met on average areas no larger than 40 acres.	N		
Timber Resources: In addition to the green tree retention management action/direction, retain green trees for snag recruitment in timber harvest units where there is an identified, near-term (less than 3 decades) snag deficit. These trees do not count toward green-tree retention requirements.	N		
Timber Resources: Provide Connectivity/Diversity Blocks spaced throughout the Matrix. Manage the blocks as follows: • Maintain 25 to 30 percent of each block in late-successional forest at any point in time. Riparian Reserves and other allocations with late- successional forest count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.	N		
Timber Resources: Provide Connectivity/Diversity Blocks spaced throughout the Matrix. Manage the blocks as follows: • Manage available forest land on a 150-year area control rotation.	N		
Timber Resources: Provide Connectivity/Diversity Blocks spaced throughout the Matrix. Manage the blocks as follows: • When an area is regeneration harvested, retain 12-18 green trees per acre.	N		
Timber Resources: Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize intensive burning, unless appropriate for certain specific habitats, communities, or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Timber Resources: Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment.	N		
Timber Resources: Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to reduce the intensity and frequency of site treatments.	N		
Timber Resources: Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management action/direction will be applied in fifth field watersheds (20 to 200 square miles) in which federal forest lands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all federal land allocations in a watershed.) Within such an area, protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.	N		
Retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) spotted owl activity centers.	N		
Conform all management activities within the range of Port-Orford cedar to the guidelines described in the BLM Port-Orford Cedar Management Guidelines to mitigate damage caused by *Phytophthora lateralis*. Site-specific analysis for projects within the range of Port-Orford cedar will consider possible effects on the species.	P, C, O	P, B	EIS Secs. 4.5.1.2 & 4.5.1.3 POD Att. I
Air Quality			
By the year 2000, reduce particulate matter emissions and impacts from prescribed burning by 50 percent from the baseline period (1976-1979). This will be accomplished by planning, conducting, monitoring, and, if necessary, adjusting prescribed fire activities in accordance with the State Implementation Plan and the Oregon Smoke Management Plan.	P, C, O	P, B	EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. R
Reduce broadcast burning in favor of lower intensity under burning. Use emission reduction mitigation measures and smoke dispersal techniques to the greatest extent practical. Wildfire hazard reduction, site preparation, and the use of prescribed fire for species habitat mitigation will be implemented in a manner consistent with ecosystem management.	N		
Where needed, use dust abatement measures on roads during BLM timber harvest operations or other BLM commodity hauling activity. Encourage dust abatement measures when haulers use BLM roads under permits and right-of-way agreements.	C	B	EIS Sec. 4.10.2.6 POD Att. 2 POD Att. Y
Promote burning of dry fuelwood by making available copies of Oregon Department of Environmental Quality publications to fuelwood purchasers.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Consider alternative emission reduction techniques whenever they are compatible with land allocation objectives and other management actions/direction. See Air Quality Analysis section of the FSEIS for alternative treatments that may be considered during fuels management project design.	N		
Water and Soils			
Continue to implement a nonpoint source management program in cooperation with the U.S. Environmental Protection Agency and the Oregon Department of Environmental Quality.	C, O	P, B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS App. J POD Att. I POD Att. BB
Continue coordination with the Oregon Department of Environmental Quality for implementation of best management practices that protect beneficial uses of water.	P, C, O	B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2 & 4.4.3 EIS App. J
Ensure consistency of management activities with Oregon's Statewide Water Quality Management Plan for forest practices and with Oregon's water quality criteria and guidelines (Oregon Administrative Rule 340-41).	P, C, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS App. J POD Att. I
Protect floodplains and wetlands in accordance with Executive Orders 11988 and 11990 and BLM's Riparian-Wetlands Initiative for the 1990s.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.2 EIS App. J POD Att. 28
Design and implement watershed restoration projects that promote long-term ecological integrity of ecosystems, conserve the genetic integrity of native species, and attain Aquatic Conservation Strategy objectives. See Aquatic Conservation Strategy for additional guidance.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. L POD Att. DD

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Cooperate with federal, state, local, and tribal agencies and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.	P	P, M	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4 EIS App. F EIS App. J POD Att. I POD Att. U POD Att. Y POD Att. BB POD Att. DD
Prevent watershed degradation—rather than using mitigation or planned restoration—to correct foreseeable problems caused by management activities.	N		
Identify and attempt to obtain instream flows needed to maintain riparian resources, channel conditions, aquatic habitat, and water quality.	N		
Locate water-drafting sites to minimize adverse effects on stream channel stability, sedimentation, and instream flows needed to maintain riparian resources, channel conditions, and fish habitat.	N		
Apply herbicides, insecticides, and other chemicals in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	P, C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
Apply for water rights to support the needs for fire suppression, construction/maintenance (e.g., pump chances, water holes and reservoirs), recreation, and other programs.	N		
Apply Best Management Practices during all ground-and vegetation-disturbing activities.	C, O	P, B	EIS Sec. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. U
Minimize disturbance of identified fragile sites (TPCC system Nonsuitable Woodlands and Suitable Woodlands).	N		
Apply fertilizer in the Matrix to enhance soil productivity.	C	B	EIS Sec. 2.4.2.1 POD Att. I
Wildlife Habitat			

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations: Use the watershed analysis process to address wildlife habitat issues for individual watersheds. The analysis will help to resolve any concerns identified in applying management actions/direction in this section and those in the Special Status and SEIS Special Attention Species and Habitat section. Where appropriate, wildlife habitat enhancement opportunities will be identified through this process.	N		
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of wildlife habitat enhancement projects.	N		
All Land Use Allocations: Cooperate with federal, tribal, and state wildlife management agencies to identify and eliminate impacts associated with habitat manipulation, poaching, and other activities that threaten the continued existence and distribution of native wildlife inhabiting federal lands.	N		
Riparian Reserves: Design and implement wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.6.1.3 EIS App. F EIS App. J POD Att. DD
Riparian Reserves: Design, construct, and operate wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing wildlife interpretive and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Matrix - General Forest Management Area: Retain 6-8 green conifer trees per acre after regeneration harvest. Retained trees will be distributed in variable patterns (e.g., single trees, clumps and stringers) to contribute to stand diversity	N		
Matrix - General Forest Management Area: In addition to the green tree retention management action/direction, retain green trees for snag recruitment in harvest units where there is an identified, near-term (less than 3 decades) snag deficit. These trees do not count toward green-tree retention requirements.	N		
Matrix - Connectivity/Diversity Blocks: Maintain 25 to 30 percent of each block in late-successional forest at any point in time. The percentage of habitat will include habitat in other allocations, such as Riparian Reserves. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block should provide effective habitat to the extent possible.	N		
Matrix - Connectivity/Diversity Blocks: Retain 12-18 green conifer trees per acre when an area is regeneration harvested. Distribute the retained trees in variable patterns (e.g., single trees, clumps and stringers) to contribute to stand diversity. The management goal for the retained trees and subsequent density management is recovery of old-growth conditions in approximately 100 to 120 years.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Matrix – Special Habitats: Using interdisciplinary teams, identify special habitat areas and determine relevant values for protection or management on a case-by-case basis. Of particular importance in these determinations will be the habitat of species that have protection buffers specified in the SEIS ROD.	N		
Matrix – Special Habitats: Use management practices—including fire—to obtain desired vegetation conditions in special habitats.	N		
Matrix - Raptors and Great Blue Herons: Maintain the integrity of nest sites, centers of activity, or rookeries.	N		
Matrix - Raptors and Great Blue Herons: Install nesting platforms, nest boxes, and other structures to enhance habitat as appropriate.	N		
Matrix – Special Buffers: Osprey - 1 to 5 acres, depending on site characteristics.	N		
Matrix – Special Buffers: Golden Eagle - Protect sufficient acreage around nest site to avoid human disturbance.	N		
Matrix – Special Buffers: Red-tailed Hawk - Up to 1 acre around nest site.	N		
Matrix – Special Buffers: Sharp-shinned Hawk - 10-acre management area surrounding nest site.	N		
Matrix – Special Buffers: Cooper's Hawk - 15-acre management area surrounding nest site.	N		
Matrix – Special Buffers: Great Blue Heron/Great Egret - 250-yard no-disturbance buffer around heron and egret colonies.	N		
Matrix – Roosevelt Elk: In elk habitat areas, close and rehabilitate roads unneeded for continued resource management or use. Within the ODFW Tioga Big Game Management Area (approximately 190,200 acres), the goal will be to maintain 1.1 miles of road per section per watershed with a maximum density of 2.9 miles per section per watershed when all classes of road are considered. In the remainder of the district, the goal will be to maintain a density of 2.9 miles of road per section per watershed. Roads to be closed or with restricted access would be primarily local roads and secondary or collector roads.	N		
Matrix – Roosevelt Elk: Close the following habitat areas to public motorized vehicle use: Dean Creek Elk Viewing Area, except for the developed parking area and uncontrolled access roads.	N		
Matrix – Roosevelt Elk: Use seasonal restrictions on public use and management activities where needed to minimize disturbance and harassment of herds.	N		
Matrix – Roosevelt Elk: Keep major game trails clear of slash accumulations caused by thinning projects.	N		
Matrix – Roosevelt Elk: Conduct forage seeding in habitat areas with appropriate seed beds and where compatible with other management objectives.	N		
Matrix – Roosevelt Elk: Maintain visual barriers along roads in high use big game areas.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Matrix – Roosevelt Elk: Consider utilization of landings and roads for the creation of temporary (not to exceed 20 years) or permanent foraging areas where forage is lacking.	N		
Fish Habitat			
All Land Use Allocations: Use the watershed analysis process to address at-risk fish species and stocks and their habitat for individual watersheds. Where appropriate, fish habitat enhancement opportunities will be identified through this process.	N		
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife Wild Fish Policy during planning and implementation of fish habitat enhancement projects. Priority will be given to watersheds supporting at-risk fish species and stocks and those requiring extensive restoration.	N		
All Land Use Allocations: As identified through watershed analysis, rehabilitate streams and other waters to enhance natural populations of anadromous and resident fish.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.4.4 EIS App. F EIS App. J POD Att. DD
Riparian Reserves: Design and implement fish habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Riparian Reserves: Design, construct and operate fish interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish interpretative and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Riparian Reserves: Identify instream flows needed to maintain riparian resources, channel conditions, and fish passage.	N		
Special Status and SEIS Special Attention Species Habitat			
All Land Use Allocations – Special Status Species: Review all proposed actions to determine whether or not special status species occupy or use the affected area or if habitat for such species is affected. Tables 2 and 3 in Appendix C[2] list the special status plant and animal species known or suspected to occur on the district.	P	P	EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M POD Att. J

2 Appendix C: Special Status Species, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations – Special Status Species: Conduct field surveys according to protocols and other established procedures. This includes surveying during the proper season unless surveys are deemed unnecessary through watershed analysis, project planning, and environmental assessment. For example, field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted, whether previous surveys looked for all species that a new survey would, and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.	P	P	EIS Sec. 1.5.4.1 EIS Sec. 4.4.4 EIS. Secs. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Consul/conference with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) for any proposed action that may affect federal listed or proposed species or their critical or essential habitat. Based on the results of consultation/conferencing, modify, relocate, or abandon the proposed action. Request technical assistance from one of these agencies for any proposed action that may affect federal candidate species or their habitat.	P,C, R	P,B,R,M	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J.
All Land Use Allocations – Special Status Species: Coordinate with the USFWS, NMFS, and other appropriate agencies and organizations and jointly endeavor to recover federal listed and proposed plant and animal species and their habitats.	P, C, O	P, B	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Modify, relocate, or abandon a proposed action to avoid contributing to the need to list federal candidate species, state listed species, Bureau sensitive species, or their habitats.	P, C	P, R	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 3.4.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Coordinate and cooperate with the State of Oregon to conserve state-listed species.	N		
All Land Use Allocations – Special Status Species: Identify impacts of proposed actions, if any, to Bureau sensitive and assessment species as a whole and clearly describe impacts in environmental analyses. As funding permits and as species conservation dictates, actively manage the Bureau sensitive and assessment species.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Retain under federal management, or other appropriate management organization, habitat essential for the survival or recovery of listed and proposed species. Retain habitat of proposed, candidate, or Bureau sensitive species where disposal would contribute to the need to list the species.	N		
All Land Use Allocations – Special Status Species: Where appropriate opportunities exist, acquire land to contribute to recovery, reduce the need to list, or enhance special status species habitat.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations – Special Status Species: Coordinate with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements that identify actions to conserve single or multiple species and/or habitats. Such strategies could preclude the need for intensive inventories or modifications to some projects where the conservation plan provides adequate protection for the species and meets the intent of policy.	P	P	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs.1.5.4.1 & 1.5.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Where plans exist for species no longer on the special status list, continue with the prescribed conservation actions if determined to be required to avoid relisting or further consideration for listing. In the case of interagency plans or agreements, this determination will be mutually decided. Such plans may be modified as needed based on adequacy of existing range-wide conditions and conservation management.	N		
All Land Use Allocations – Special Status Species: Pursue opportunities for public education about conservation of species.	N		
All Land Use Allocations – Special Status Species: Where appropriate, pursue opportunities to increase the number of populations of species under BLM management through land acquisition and/or species reintroduction in coordination with other responsible agencies.	N		
Listed and Proposed Threatened and Endangered Species: Implement the land use allocations and management actions/direction of this proposed resource management plan that are designed to enhance and maintain habitat for threatened and endangered species.	C, R	B, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Secs. 2.1.3.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. F EIS App. K EIS App. M POD Att. J POD Att. DD LSR Amendment BLM-4
Listed and Proposed Threatened and Endangered Species: Northern Spotted Owl (federal threatened species). Fall no trees within 0.25 mile of all active northern spotted owl nest sites from approximately March 1 to September 30 to avoid disturbance and harm to young owls.	P, C, O	P, R	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.2 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Northern Spotted Owl (federal threatened species). With minor exceptions, restrict human activities that could disturb owl nesting—especially use of large power equipment— within 0.25 mile of all active spotted owl nest sites from approximately March 1 to September 30. Restrictions on activities would usually not be required for owl nests and activity centers located near roads or in other areas of permanent human activity.	P, C, O	P, R	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 3.4.2.1 EIS Sec. 4.6.1.2 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M

TABLE E-1

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Element	Applicability	Consistency	EIS Section
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (federal threatened species). Conduct two years of survey prior to any human disturbance of marbled murrelet habitat.	P	P, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (federal threatened species). Protect contiguous existing and recruitment habitat for marbled murrelets (i.e., stands that are capable of becoming marbled murrelet habitat within 25 years) within a 0.5 mile radius of any site where the birds' behavior indicates occupation (e.g., active nest, fecal ring or eggshell fragments, and birds flying below, through, into, or out of the forest canopy within or adjacent to a stand).	P, C, O	P, R, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (federal threatened species). Do not conduct nor allow harvest of timber within occupied marbled murrelet habitat—at least until completion of the Marbled Murrelet Recovery Plan.	C, A		EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (federal threatened species). During silvicultural treatments of non-habitat within the 0.5-mile circle, protect or enhance suitable or replacement habitat.	N		
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (federal threatened species). Amend or revise management direction as appropriate when the recovery plan is completed.	N		
Listed and Proposed Threatened and Endangered Species: ‘ Eagle (federal threatened species). Comply with the Pacific Bald Eagle Recovery and Implementation Plans and existing, site-specific habitat management plans.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Listed and Proposed Threatened and Endangered Species: Bald Eagle (federal threatened species). Provide a 440-yard radius buffer around known and future nest sites. Protect all snags within 550 yards of nest and roost sites. Consider the acquisition of up to 120 acres every two miles along 5 th order and larger streams where no publically owned lands exist. Acquire privately-owned lands surrounding bald eagle nests when possible. Manage immediately adjacent lands to reduce the fire hazard in nesting areas.	P, C, O	P, B, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Peregrine Falcon (federal endangered species). Comply with the Peregrine Falcon Recovery Plan and existing, site-specific habitat management plans.	P, C, O	P, B, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Aleutian Canada Goose (federal threatened species). Comply with the Aleutian Canada Goose Recovery Plan and the New River ACEC Management Plan. Continue to explore opportunities for acquiring potential habitat in the New River area. Coordinate with the USFWS to acquire habitat and population information on Aleutian Canada geese in the New River area.	N		
Listed and Proposed Threatened and Endangered Species: Western Snowy Plover (federal threatened species). Coordinate with the Snowy Plover Working Group and the Recovery Team, when established, for management of plover habitat on district lands on the North Spit of Coos Bay and in the New River area. Consider acquisition of parcels within the district that could facilitate recovery of the species. Protect nesting areas from disturbance from human activities and predation. Continue to gather habitat and nesting information on the species in coordination with ODFW, the Oregon Heritage Program, the Dunes National Recreation Area, and USFWS. Continue to improve and maintain habitat for the snowy plover on the North Spit of Coos Bay and at New River through direction provided by the Snowy Plover Working Group and in line with the Recovery Plan when approved.	N		
Plants (Listed and Proposed Endangered and Threatened Species): Implement the land use allocations and management actions/direction of this proposed resource management plan that are designed to enhance and maintain habitat for all endangered and threatened species.	C, R	M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 2.1.4 EIS Secs. 4.1.3.3 & 4.1.3.4 Sec.4.7.1.6 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD LSR Amendment BLM-3
Plants (Listed and Proposed Endangered and Threatened Species): Western lily *(Lilium occidentale)* (federal proposed). Participate in recovery efforts for the western lily. If populations are found on BLM-administered lands, management action/direction will be developed.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Plants (Listed and Proposed Endangered and Threatened Species): Western lily *(Lilium occidentale)* (federal proposed). Participate in research efforts that may help recover the species, including experimental introduction, seed collection and propagation, inventories, and population monitoring.	N		
Special Areas			
Manage special areas for the previously designated areas (Cherry Creek ACEC/RNA, New River ACEC, Powers Environmental Education Area) in accordance with their guidelines in Table 3[3] until management plans have been completed.	N		
Develop site-specific management plans for new special areas as needed. Protect resource values in new areas pending completion of management plans (see Table 35 for management guidelines). Management plans will address other possible actions such as land acquisition, recreational development, use of prescribed fire, visitor use, and interpretation.	N		
Cultural Resources Including American Indian Values			
Evaluate cultural resource sites to determine their potential for contributing to public, cultural heritage, and/or scientific purposes.	P, C	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.11.1.1 EIS Sec. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 EIS App. J POD Att. Z
Investigate landscape features such as bogs, ponds, packrat middens, and cultural sites that contain information regarding long-term environmental change.	N		
Develop mechanisms for describing past landscapes and the role of humans in shaping those landscapes.	N		
Address the management of cultural resources through watershed analyses and project plans.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.11.3.3 & 4.11.4 EIS App. J POD Att. Z
Develop educational and interpretive programs—as part of the Adventures in the Past initiative—to increase public awareness and appreciation of cultural resources.	N		
Develop partnerships with local American Indian tribes and other interested parties to accomplish cultural resource objectives.	N		
Take appropriate law enforcement or other actions when necessary to protect cultural resources. Such actions may include physical protection measures such as riprapping and barrier installations to reduce deterioration.	C	B	EIS Secs. 4.11.4 & 4.11.5 POD Att. Z

3 Table 3: Management of Existing and New Special Areas, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Develop memoranda of understanding with federally recognized Indian tribes and other Indian groups to provide for appropriate consideration of their heritage and religious concerns. These groups may include the Coquille Indian Tribe and the Confederated Tribes of the Siletz Indian.	N		
Acquire significant cultural resource properties for public, cultural heritage, and scientific purposes.	N		
Visual Resources			
Address visual resource management issues when conducting watershed analysis.	N		
Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet VRM objectives. Use mitigation measures to reduce visual contrasts.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.8.2.3 & 4.8.2.4 POD Att. 1 EIS App. F POD Att.29
Provide for natural ecological changes in VRM Class I areas. Some very limited management activities may occur in these areas. The level of change to the characteristic landscape should be very low and must not attract attention. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.	N		
Manage VRM Class II lands for low levels of change to the characteristic landscape. Management activities may be seen but should not attract the attention of the casual observer. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.	N		
Manage VRM Class III lands for moderate levels of change to the characteristic landscape. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. 1
Manage VRM Class IV lands for moderate levels of change to the characteristic landscape. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the effect of these activities through careful location, minimal disturbance, and repeating the basic elements of form, line, color, and texture.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. 1
Wild and Scenic Rivers – Not Applicable, Excluded From Table			
Wilderness and Wilderness Study Areas– Not Applicable, Excluded From Table			
Rural Interface Areas			
Work with local governments to improve the BLM data base regarding private land planning/zoning designations and residential development near BLM-administered land.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Work with local governments to provide information to local planners regarding BLM land allocations in RIAs and the management objectives and guidelines for these lands.	N		
Work with local governments to develop design features and mitigation measures that will minimize the possibility of conflicts between private and federal land management.	N		
Work with local governments to monitor the effectiveness of design features and mitigation measures in RIAs.	N		
As a part of watershed analysis and project planning, work with local individuals and groups—including fire protection districts—to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.	N		
Use design features and mitigation measures to avoid/minimize impacts to health, life, property, and quality of life. Examples include different harvest regimes, hand application rather than aerial application of herbicides and pesticides, and hand piling slash for burning as opposed to broadcast burning. Monitor the effectiveness of design features and mitigation measures.	N		
Eliminate or mitigate public hazards such as abandoned mine tunnels and quarries.	N		
Manage rural interface areas using visual resource management class III standards (unless an area is classified as visual resource management class I or II).	N		
Reduce unauthorized public use of non-through or local roads within rural interface areas and within 0.25 mile of existing dwellings. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate. These actions are needed to reduce public health and safety hazards, fire risk, and vandalism to private property.	N		
Encourage dust abatement measures when haulers use BLM roads under contracts, permits, and right-of-way agreements.	C	B	EIS Sec. 2.4.2.1 EIS Sec. 4.10.2.6 POD Att. 2 POD Att. I POD Att. Y POD Att. BB
Where needed reduce natural fuel hazards on BLM-administered lands in rural interface areas.	N		
Socioeconomic Conditions			
Support and assist the State of Oregon Economic Development Department's efforts to help rural, resource-based communities develop and implement alternative economic strategies as a partial substitute for declining timber-based economies.	N		
Improve wildlife and fish habitat to enhance hunting and fishing opportunities and to increase the economic returns generated by these activities.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Improve viewing opportunities for watchable wildlife at the Dean Creek Elk Viewing Area, New River ACEC, and Coos Bay Shorelands.	N		
Plan and design forest management activities to produce a sustained yield of products to support local and regional economic activity. A diversity of forest products (timber and non-timber) will be offered to support large and small commercial operations and provide for personal use.	P, R	P, M, A	EIS Sec.1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. 29
Pursue opportunities for development of resource-based attractions at other specific locations such as the Coos Bay Shorelands, New River ACEC, Cape Blanco, and Gregory Point (Bal'diyaka) pending the completion of activity plans and available funding. These areas offer unique sets of resources that have broad appeal to the tourism-orientated visitors to the area and offer potential for diversification of the local economy.	N		
Continue to participate as a member organization in Oregon Coastal Environments Awareness Network (OCEAN) to help foster educational and economic opportunities associated with the region's natural and cultural resource base.	N		
Continue partnership efforts to plan, develop, and operate the proposed Bal'diyaka Cultural Heritage Interpretive Center.	N		
Improve or develop numerous recreation sites, areas, trails, and Back Country Byways that can play a role in enhancing tourism activity within the district (see Recreation).	N		
Recreation - Not Applicable, Excluded from Table			
Timber Resources			
All Land Use Allocations: Conform all management activities within the range of Port-Orford-cedar to the guidelines described in the BLM Port-Orford-Cedar Management Guidelines to mitigate damage caused *by Phytophthora lateralis*. Site-specific analysis for projects within the range of Port-Orford-cedar will consider possible effects on the species.	P, C, O	P, B	EIS Secs. 4.5.1.2 & 4.5.1.3 POD Att. I
Matrix: Declare an annual allowable sale quantity (ASQ) of 5.3 million cubic feet (32 million board feet).	N		
Matrix: Maintain a well-distributed pattern of early and mid-seral forest across the Matrix.	N		
Matrix: Apply silvicultural systems that are planned to produce, over time, forests with desired species composition, structural characteristics, and distribution of seral or age classes (see Appendix E[4]).	N		

4 Appendix E: Silvicultural Systems and Harvest Methods Used in the Proposed Resource Management Plan, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Matrix: Develop plans for the locations and specific designs of timber harvests and other silvicultural treatments within the framework of watershed analyses.	N		
Matrix: Select logging systems based on the suitability and economic efficiency of each system for the successful implementation of the silvicultural prescription, for protection of soil and water quality (See Appendix D[5]), and for meeting other land use objectives.	P	P	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB
Matrix: Base silvicultural treatments and harvest designs on the functional characteristics of the ecosystem and on the characteristics of each forest stand and site. Treatments would be designed—as much as possible to prevent the development of undesirable stand characteristics. The principles of integrated pest management and integrated vegetation management would be employed to avoid the need for direct treatments. Herbicides would be used only as a last resort.	N		
Matrix: Plan harvest of marketable hardwood stands in the same manner as conifer stands, unless the land is otherwise constrained from timber management. Volume from projected hardwood harvest would be in addition to the allowable sale quantity estimate. Where hardwood stands became established following previous harvest of conifers, plan to re-establish a conifer stand on the site.	N		
Matrix: For unscheduled harvests, see the Riparian Reserves and Late-Successional Reserves sections.	N		
General Forest Management Area: Schedule regeneration harvests to assure that, over time, harvest occurs in stands at or above the age of volume growth culmination (i.e., culmination of mean annual increment). This refers to the age range which produces maximum average annual growth over the lifetime of a timber stand. In the planning area, culmination occurs between 60 and 80 years of age. To develop a desired age class distribution across the landscape and to provide for some commodity output, regeneration harvests will be scheduled in stands as young as 60 years.	N		
General Forest Management Area: Retain 6-8 green conifer trees per acre after regeneration harvest to provide a source of snag recruitment and a legacy for bridging past and future forests. Retained trees will be distributed in variable patterns (e.g., single trees, clumps and stringers) to contribute to stand diversity.	N		
General Forest Management Area: In addition to the green tree retention management action/direction, retain green trees for snag recruitment in harvest units where there is an identified, near-term (less than three decades) snag deficit. These trees do not count toward green-tree retention requirements.	N		

5 Appendix D: Best Management Practices for Maintaining Water Quality and Soil Productivity, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Connectivity/Diversity Blocks: Maintain 25-30 percent of each block in late-successional forest at any point in time. The percentage of habitat will include habitat in other allocations such as Riparian Reserves. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block should provide effective habitat to the extent possible.	P, R	P, M, A	EIS Sec.1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. 29
Connectivity/Diversity Blocks: Manage available forest land on a 150-year area control rotation. Regeneration harvests will occur at a rate of approximately 1/15 of the available acres per decade. Because of the limited size of operable areas within any given block, up to three decades of harvest could be removed at any one time from a single block to make a viable harvest unit. Eventually each connectivity/diversity block will have 4 to 5 different age class represented.	N		
Connectivity/Diversity Blocks: Retain 12-18 green conifer trees per acre when an area is regeneration harvested. Distribute the retained trees in variable patterns (e.g., single trees, clumps and stringers) to contribute to stand diversity. The management goal for the retained trees and subsequent density management would be the recovery of old-growth conditions in approximately 100 to 120 years.	N		
Special Forest Products– Not Applicable, Excluded From Table			
Energy and Minerals			
Riparian Reserves: For leasable minerals, prohibit surface occupancy for oil, gas, and geothermal exploration and development activities where leases do not exist. Where possible, adjust the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy objectives consistent with existing lease terms and stipulations.	N		
Riparian Reserves: Allow development of salable minerals (such as sand and gravel) within Riparian Reserves only if Aquatic Conservation Strategy objectives can be met.	N		
All Land Use Allocations – Leasable Minerals: Use special stipulations for oil, gas, and geothermal leases to protect fragile areas or critical resource values (see Appendix G[6] for a list of mineral restrictions by resource value). Special stipulations may include: a. Seasonal restrictions to protect resources such as critical wildlife habitat and to prevent excessive erosion. b. Controlled surface use stipulations to protect valuable resources in small areas. c. No surface occupancy stipulations to protect valuable resources scattered over a large area while still providing an opportunity for exploration and development.	N		

6 Appendix G: Proposed Restrictions and Requirements on Mineral and Energy Exploration and Development Activity, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations – Leasable Minerals: Special stipulations may be waived by authorized BLM officials if the objective of a stipulation could be met in another way.	N		
All Land Use Allocations – Leasable Minerals: Provide opportunities for coal and geothermal exploration and development in areas with potential for occurrence. Coal activities are regulated under 43 CFR 3400, and geothermal activities are regulated under 43 CFR 3200.	N		
All Land Use Allocations – Locatable Minerals: Use general requirements in 43 CFR 3809 and site-specific guidelines to avoid unnecessary or undue degradation of resources on mining claims.	N		
All Land Use Allocations – Locatable Minerals: Require reclamation at the earliest feasible time for all surface-disturbing operations, whether conducted under a notice or approved plan of operations.	N		
All Land Use Allocations – Locatable Minerals: Allow activities exceeding casual use, but disturbing five acres or less, to proceed 15 days after a notice is filed with the Coos Bay BLM District.	N		
All Land Use Allocations – Locatable Minerals: Require an approved plan of operation before work can begin on projects disturbing more than five acres of special resource areas.	N		
All Land Use Allocations – Locatable Minerals: Require bonding of plans of operations to ensure mitigation measures are followed and reclamation of the disturbed lands is completed.	N		
All Land Use Allocations – Salable Minerals: Address quarry development, management, and reclamation needs through implementation planning.	P, C, R	P, B, R	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS App. J POD Att. Q
All Land Use Allocations – Salable Minerals: Emphasize long-term regional quarry use.	N		
All Land Use Allocations – Salable Minerals: Develop new quarry sites in locations consistent with overall management objectives and guidelines of the proposed resource management plan.	N		
All Land Use Allocations – Salable Minerals: Continue to use rock from existing quarries for construction and maintenance of timber sale access roads and other purposes.	P, C	P, B	EIS Sec. 2.4.2.2 EIS Sec. 4.2.2.4 POD Att. I POD Att. Q
All Land Use Allocations – Salable Minerals: Make salable minerals available for other government agencies if requested, and if the action is consistent with management direction for protection of other resources.	N		
All Land Use Allocations – Salable Minerals: Issue sales for mineral materials that provide for reclamation of mined lands pursuant to 43 CFR 3604 or 3610 regulations.	N		
All Land Use Allocations – Salable Minerals: Consider mineral materials permits on a case-by-case basis. Issue them at the discretion of the Area Manager.	P	P	EIS Sec. 2.4.2.2 POD Att. I POD Att. Q POD Att. BB

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations – Reserved Federal Mineral Estate: Allow the reserved federal mineral estate to remain open for mineral development.	N		
All Land Use Allocations – Reserved Federal Mineral Estate: Allow development of locatable and salable minerals in accordance with restrictions determined by the surface owner/administrator.	N		
All Land Use Allocations – Reserved Federal Mineral Estate: Convey mineral interests owned by the United States where the surface is, or will be, in nonfederal ownership, to the existing or proposed owner of the surface estate only after a determination is made under Section 209(b) of FLPMA.	N		
Land Tenure Adjustments – Not Applicable, Excluded From Table			
Rights-of-Way			
Riparian Reserves: Issue rights-of-way to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible, adjust existing rights-of-way to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing rights-of-way will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.5 EIS App. J
Late-Successional Reserves: Retain and maintain existing developments (such as utility corridors and electronic sites) consistent with other management actions/direction for Late-Successional Reserves.	P, C, O	P, B	EIS Sec. 1.4.2 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.6 EIS App. H
Other Land Use Allocations: Encourage location of major new rights-of-way projects in existing utility/transportation routes and other previously designated corridors	P	P, R	EIS Secs. 2.1.2.1 & 2.1.2.2 EIS Secs. 2.3.2.3 EIS Sec. 4.10.2.6 EIS App. D
Other Land Use Allocations: Encourage applicants to consult the Western Regional Corridor Study in planning route locations.	P	P	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4
Other Land Use Allocations: Consider new locations for rights-of-way projects on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing route or corridor would not be technically or economically feasible; and the proposed project would otherwise be consistent with this RMP and would minimize damage to the environment.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4
Other Land Use Allocations: Allow expansion of communications facilities on existing communication sites.	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 EIS Sec. 4.8.2.2 POD Att. D

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Other Land Use Allocations: Consider new communication sites on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing, developed communication site would not be technically feasible; and the proposed facility would otherwise be consistent with this RMP and would minimize damage to the environment.	N		
Access			
Acquire access by obtaining easements, entering into new reciprocal right-of-way agreements, or amending existing reciprocal right-of-way agreements. Condemnation for access will be pursued when necessary.	N		
Acquire perpetual exclusive easements whenever possible to provide for public access and BLM control. Acquire temporary easements or nonexclusive easements, which do not provide for public access, consistent with management objectives and where no public access is needed.	N		
Continue to obtain access across lands of private companies or individuals who are a party (permittee) to existing reciprocal rights-of-way agreements through appropriate agreements. Whenever a willing permittee is identified and it is determined there is a need for public access, negotiations could be started to provide for the acquisition of public access rights.	N		
Emphasize acquisition for public access on major travel routes.	N		
Withdrawals – Not Applicable, Excluded From Table			
Roads			
Riparian Reserves: Develop and implement a Road Management Plan or a Transportation Management Plan that meets the Aquatic Conservation Strategy objectives.	P	P, B	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Key Watersheds: Reduce existing road mileage within Key Watersheds. If funding is insufficient to implement reductions, do not construct, or authorize through discretionary permits, a net increase in road mileage in Key Watersheds.	N		
Late Successional Reserves: Construct roads in Late Successional Reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, routed through Late Successional Reserves unsuitable habitat where possible, and designed to minimize adverse impacts. Alternative access—such as aerial logging—should be considered to provide access for activities in reserves.	P, C	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.6 EIS Secs.4.10.2.1 & 4.10.2.6 EIS App. H POD Att. I POD Att. Y

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations: Prepare a district wide road management plan after approval of the resource management plan. The management plan will specifically address recreation use, road densities, road closures, wildlife protection, water quality, Port-Orford-cedar management, timber management, construction and maintenance standards, fire suppression, and coordination with adjacent landowners. Address road management planning on a watershed basis consistent with Late-Successional Reserves, Riparian Reserves, and other major allocations. Specific road closures would be determined using standard analysis, public involvement, and notification procedures.	N		
All Land Use Allocations: Determine standards for new road construction during the project planning process. Standards will be the minimum necessary to meet resource and allocation objectives (e.g., recreation site, timber sale, and key watershed) while having minimal impacts on the environment.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Minimize new road construction in areas with fragile soils to reduce impacts to soils, water quality, and fisheries. Stabilize existing roads where they contribute to significant adverse effects on these resources.	P, C, R	P, B, M	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Conduct a geotechnical review on road design in areas of sensitive soils such as the serpentine and schists soils of Curry County. An inventory of existing unstable areas will be planned to stabilize those areas that pose sedimentation concerns or adversely affect other resources.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Specifically address—in the road management plan, watershed analysis, or in environmental assessment geotechnical review—options for stabilizing roads in sensitive soils and unstable areas.	P	P	EIS Sec. 4.1.3.5 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3.1 EIS Sec. 4.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
All Land Use Allocations: Locate, design, construct, and maintain roads to standards that meet management objectives in accordance with the district road management plan.	P, C, R, O	P, B, R, M	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Follow Best Management Practices (see Appendix D[7]) for water quality and soil productivity to mitigate adverse effects on soils, water quality, fish, and riparian habitat during road construction and maintenance.	C, R, O	B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. U POD Att. Y POD Att. BB
All Land Use Allocations: Reduce road density by closing minor collector and local roads in areas or watersheds where water quality degradation, big game harassment, or other road related resource problems have been identified.	N		
All Land Use Allocations: Acquire water rights for road management purposes.	N		
All Land Use Allocations: Avoid road construction in special areas and special habitats as an alternative to other geotechnical repairs.	N		
All Land Use Allocations: Manage non-through roads classified as local and located within rural interface areas and within 0.25 miles of existing dwellings to limit unauthorized public use activity that could contribute to public safety hazards, increased fire risk, and vandalism to private property. Gates and other types of traffic barriers (such as guardrails, berms, ditches, and log barricades) would be used as appropriate.	N		
All Land Use Allocations: Reduce the further spread of blackstain fungus through proper timing of roadside brushing.	P, C	P, B	EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
All Land Use Allocations: Consider the use of firewood sales as an option for the removal of roadside trees where they are obstructing sight distance.	N		
Noxious Weeds			
Late-Successional Reserves: Evaluate impacts of non-native plants (weeds) growing in Late-Successional Reserves.	P	P	EIS Sec. 2.6.2 EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H POD Att. N

7 Appendix D: Best Management Practices for Maintaining Water Quality and Soil Productivity, Coos Bay District Record of Decision and Resource Management Plan, May 1995

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Late-Successional Reserves: Develop plans and recommendations for eliminating or controlling non-native plants (weeds) that adversely affect Late-Successional Reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within reserves.	P	P, M	EIS Sec. 4.1.3.6 EIS Sec. 4.4.2.2 EIS Sec. 4.4.3.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H POD Att. N
All Land Use Allocations: Continue to survey BLM-administered land for noxious weed infestations, report infestations to the Oregon Department of Agriculture, and coordinate with them to reduce infestations.	P, C, O	P, B	EIS Sec. 1.5.4.1 EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
All Land Use Allocations: Use control methods that do not retard or prevent attainment of Aquatic Conservation Strategy Objectives.	C, R, O	B, M	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. J POD Att. N
All Land Use Allocations: Apply integrated pest management methods (e.g., chemical, mechanical, manual, and/or biological) in accordance with BLM's multi-state environmental impact statement, Northwest Area Noxious Weed Control Program, as supplemented, and the related ROD.	C, R, O	B, M	EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
Hazardous Materials			
Minimize the use of hazardous materials and eliminate known hazardous waste on BLM-administered lands.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.2.3.2 EIS Sec. 4.3.2.1 EIS Sec. 4.4.4.2 POD Att. E POD Att. W
Identify, investigate, and arrange for removal of hazardous substances on BLM-administered land in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Emergency response will be as specified in the District Hazardous Materials Contingency Plan. The response will include cleanup, proper notifications, criminal investigations, risk assessment, and other actions consistent with the Act and the nature of the emergency.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Store, treat, and dispose of hazardous materials and wastes in accordance with the Resource Conservation and Recovery Act (RCRA) and other appropriate regulations.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
Use the Emergency Planning and Community Right-To-Know Act to coordinate emergency planning with other federal, state, and local jurisdictions concerning hazardous materials, emergency notifications, and required reporting of hazardous materials inventories and activities.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Ensure acquisitions are unencumbered by the existence of hazardous materials and features such as underground storage tanks following appropriate state and federal regulations.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 App. F POD Att. DD
Until hazardous materials on BLM-administered land are removed, protect employees, the public—and where possible the environment—from exposure to these materials.	C, O	P, B, M	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X
Provide information and education to the public regarding the dangers of exposure to hazardous materials and the need to dispose of hazardous materials properly.	C,O	P,B, M	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X
Investigate illegal hazardous materials activity on public lands, determine responsible parties, pursue recovery costs, and—where appropriate—prosecution under the laws pertaining to such activity.	N		
Fire/Fuels Management			
Address fire/fuels management for all land use allocations as part of watershed analysis and project planning. This will include determinations of the role of fire and the risk of large-scale, high intensity wildfires at the landscape level.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Coordinate fire management activities in rural interface areas with local governments, agencies, and landowners. During watershed analysis, identify additional factors that may affect hazard reduction goals. Minimize the impacts of wildfire suppression actions.	N		
Matrix: Plan and implement prescribed fire treatments to minimize intensive burning, unless appropriate for certain specific habitats, communities, or stand conditions.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
Matrix: Plan and implement prescribed fire treatments to minimize consumption of litter and coarse woody debris.	N		
Matrix: Plan and implement prescribed fire treatments to minimize disturbance of soil and litter that may occur as a result of heavy equipment operation.	N		
Matrix: Plan and implement prescribed fire treatments to minimize frequency of treatments.	N		
All Land Use Allocations – Wildfire Suppression: Minimize the direct negative impacts of wildfire suppression on ecosystem management objectives.	N		
All Land Use Allocations – Wildfire Suppression: Respond to all wildfires by taking appropriate suppression responses. In most cases, responses will consist of aggressive initial attack to extinguish fires at the smallest size possible.	N		
All Land Use Allocations – Wildfire Suppression: For wildfires that escape initial attack, perform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induced by suppression activities compared to expected wildfire damage. Suppression tactics will consider: a. Public and firefighting personnel safety. b. Protection of specific attributes of each land use allocation. c. Coordination of wildfire suppression activities to avoid causing adverse impacts on federal and nonfederal lands. d. Appropriate use of suppression tools (such as aircraft, dozers, pumps, and other mechanized equipment) and clear definitions of any restrictions relating to their use. e. Potential adverse effects on meeting ecosystem management objectives. f. Protection of structural components such as snags, duff, and coarse woody debris to the extent possible.	N		
All Land Use Allocations – Fuels Management Using Prescribed Fire: Modify fuel profiles to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity, stand-replacing wildfires; and, adhere to smoke management and air quality standards.	N		

TABLE E-1

Coos Bay Approved Management Actions/Direction - 1995

Element	Applicability	Consistency	EIS Section
All Land Use Allocations – Fuels Management Using Prescribed Fire: Reduce hazards through methods such as prescribed burning; mechanical or manual manipulation of forest vegetation and debris; removal of forest vegetation and debris; and combinations of these methods. Hazard reduction plans will be developed through an interdisciplinary team approach and will consider the following: a. Safety of firefighting personnel. b. Identification of levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern. c. Developing a fuel profile that supports land allocation objectives. d. Reducing the risk of wildfire in a cost-efficient manner. e. Interagency cooperation to assure cost-effective fuel hazard reduction across the landscape. f. Adherence to smoke management and air quality standards. g. Consistency with objectives for land use allocations. h. Maintenance or restoration of ecosystem processes or structure. i. The natural role of fire in specific landscapes, current ecosystem needs, and wildfire hazard analysis included in the fire management plan.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: The use of prescribed fire will be based on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection, restoration, and maintenance of critical stands that are currently susceptible to large-scale catastrophic wildfire.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Underburning will be re-introduced across large areas over a period of time to create a mosaic of stand conditions. Treatments should be site-specific because some species with limited distributions are fire intolerant. The use of prescribed burning will be based on an interdisciplinary evaluation. Accordingly, funding authority must reflect the range of objectives identified for using fire under ecosystem management.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Consider using prescribed fire to manage seral stage diversity through the development of fire-resistant stand mosaics by timing the application of fire.	N		
All Land Use Allocations – Fuels Management for Hazard Reduction: Modify fuel profiles to lower the potential of fire ignition and rate of spread; protect and support land allocation objectives by lowering the risk of high- intensity, stand-replacing wildfires; and, adhere to smoke management and air quality standards.	N		

TABLE E-1 **Coos Bay Approved Management Actions/Direction - 1995**			
Element	**Applicability**	**Consistency**	**EIS Section**
All Land Use Allocations – Fuels Management for Hazard Reduction: Reduce hazards through methods such as prescribed burning; mechanical or manual manipulation of forest vegetation and debris; removal of forest vegetation and debris; and combinations of these methods. Hazard reduction plans will be developed through an interdisciplinary team approach and will consider the following: a. Providing for the safety of firefighting personnel. b. Identification of levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern. c. Developing a fuel profile that supports land allocation objectives while seeking a balance between reducing the risk of wildfire and the cost efficiency, consistent with meeting land allocation objectives.	N		

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TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Key Watersheds			
Prior to further resource management activity including timber harvest in Key Watersheds prepare watershed analyses. Until watershed analyses can be completed proceed with minor activities such as those categorically excluded under the National Environmental Policy Act regulations (except timber harvest) if they are consistent with Aquatic Conservation Strategy objectives. Apply Riparian Reserve management actions/direction.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Reduce existing road mileage within Key Watersheds. If funding is insufficient to implement reductions neither construct nor authorize through discretionary permits a net increase in road mileage in Key Watersheds.	N		
Give highest priority to watershed restoration in Key Watersheds.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. I POD Att. DD
Watershed Analysis			
Prepare watershed analyses and plans prior to restoration activities. See Use of the Plan (watershed analysis discussion) section.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Focus watershed restoration on removing some roads and where needed upgrading those that remain in the system.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. F EIS App. J POD Att. Y POD Att. DD
Apply silvicultural treatments to restore large conifers in Riparian Reserves.	N		
Restore stream channel complexity. In-stream structures will only be used in the short term and not as a mitigation measure.	P, R	P, B, M	EIS Sec. 1.4.2 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. F POD Att. DD
Survey and Manage for Amphibians Mammals Bryophytes Mollusks Vascular Plants Fungi Lichens and Arthropods			
Manage known sites (highest priority): Acquire and manage information on known sites make it available to all project planners and use it to design or modify activities.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Manage known sites (highest priority): Protect known sites. For some species apply specific management treatments such as prescribed fire.	P, C	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): For rare and endemic fungus species temporarily withdraw 160 acres around known sites from ground disturbing activities until the sites can be thoroughly surveyed and site specific measures prescribed.	P		EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): Establish management areas of all useable habitat up to 600 acres around two currently unprotected locations of *Oxiporous nobilissimus*. Protect these populations until the sites can be thoroughly surveyed and site specific measures prescribed. Protection will be undertaken immediately.	N		
Survey prior to activities and manage sites: Continue existing efforts to survey and manage rare and sensitive species habitat.	P	P, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to activities and manage sites: For species without survey protocols start immediately to design protocols and implement surveys.	N		
Survey prior to activities and manage sites: Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species survey for Del Norte Larch Mountain Shasta Siskiyou Mountains and Van Dyke's salamanders red tree voles and Lynx. These surveys will precede the design of all ground disturbing activities that will be implemented in 1997 or later.	P	P, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Secs. 4.7.4.1 - 4.7.4.4 EiS App. K EIS App. M LMP Amendment BLM/FS-1
Survey prior to activities and manage sites: For the other species listed in Table H-1 of Appendix H8 begin development of survey protocols in 1994 and proceed with surveys as soon as possible. These surveys will be completed prior to ground disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the SEIS.	N		

[8] Appendix H: Management for SEIS Special Attention Species, Roseburg District Record of Decision and Resource Management Plan, June 1995

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Survey prior to activities and manage sites: Conduct surveys at a scale most appropriate to the species.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to activities and manage sites: Develop management actions/direction to manage habitat for the species on sites where they are located.	N		
Survey prior to activities and manage sites: Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K
Conduct extensive surveys and manage sites: Conduct extensive surveys for the species to find high priority sites for species management. Specific surveys prior to ground disturbing activities are not a requirement.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Design these surveys for efficiency and develop standardized protocols.	N		
Conduct extensive surveys and manage sites: Begin these surveys by 1996.	N		
Conduct general regional surveys: Survey to acquire additional information and to determine necessary levels of protection for arthropods fungi species that were not classed as rare and endemic bryophytes and lichens.	N		
Conduct general regional surveys: Initiate these surveys no later than Fiscal Year 1996 and complete them within ten years.	N		
Riparian Reserves			
Timber Management: Neither conduct nor allow timber harvest including fuelwood cutting in Riparian Reserves with exception of the following: • Where catastrophic events such as fire flooding volcanic wind or insect damage result in degraded riparian conditions allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy objectives.	N		

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Timber Management: Neither conduct nor allow timber harvest including fuelwood cutting in Riparian Reserves with exception of the following: • Remove salvage trees only when watershed analysis determines that present and future woody debris needs are met and other Aquatic Conservation Strategy Objectives are not adversely affected.	N		
Timber Management: Neither conduct nor allow timber harvest including fuelwood cutting in Riparian Reserves with exception of the following: • Apply silvicultural practices for Riparian Reserves to control stocking reestablish and manage stands and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives.	N		
Roads Management: Cooperate with federal state and county agencies and work with private parties with road use agreements to achieve consistency in road design, operation and maintenance necessary to attain Aquatic Conservation Strategy objectives.	P, C, O	P, B, R, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2 EIS App. J POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by completing watershed analyses including appropriate geotechnical analyses (i.e. examining soil and rock conditions in riparian and stream crossings) prior to construction of new roads or landings in Riparian Reserves.	P	P	EIS Secs. 4.2.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.2 & 4.4.4.3 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by minimizing road and landing locations in Riparian Reserves.	P	P, R	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by preparing road design criteria elements and standards that govern construction and reconstruction.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by preparing operation and maintenance criteria that govern road operation maintenance and management.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by minimizing disruption of natural hydrologic flow paths including diversion of streamflow and interception of surface and subsurface flow.	C, R	B, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. DD

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by restricting sidecasting as necessary to prevent the introduction of sediment to streams.	C	B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by avoiding wetlands entirely when constructing new roads.	P, C	B, R	
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. Y
Roads Management: Meet Aquatic Conservation Strategy objectives by reconstructing roads and associated drainage features that pose a substantial risk.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Meet Aquatic Conservation Strategy objectives by prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.	P,C,R,O	P,B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Meet Aquatic Conservation Strategy objectives by closing and stabilizing or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.	P, C, R, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: Design and construct new culverts bridges and other stream crossings and improve existing culverts bridges and other stream crossings determined to pose a substantial risk to riparian conditions. New structures and improvements will be designed to accommodate at least the 100 year flood including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: Minimize sediment, delivery to streams from roads. Outsloping of the roadway surface is preferred except in cases where outsloping would increase sediment delivery to streams or where outsloping is not feasible or unsafe. Route road drainage away from potentially unstable channels, fills and hillslopes.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Provide and maintain fish passage at all road crossings of existing and potential fish bearing streams (e.g. streams which can be made available to anadromous fish by removing obstacles to passage).	C, R	B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: Develop and implement a Road Management Plan or a Transportation Management Plan that meets the Aquatic Conservation Strategy objectives. As a minimum this plan will include provisions for the following activities: • Inspections and maintenance during storm events. • Inspections and maintenance after storm events. • Road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources. • Traffic regulation during wet periods to prevent damage to riparian resources. • Establishing the purpose of each road by developing the road management objective.	P, C, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. Y
Grazing Management: Through a planning and environmental analysis process appropriate to the action adjust or eliminate grazing practices that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Grazing Management: Locate new livestock handling and/or management facilities outside Riparian Reserves. For existing livestock handling facilities inside Riparian Reserves ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met require relocation or removal of such facilities.	N		
Grazing Management: Limit livestock trailing bedding watering loading and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy objectives are met.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation Management: Design new recreational facilities within Riparian Reserves including trails and dispersed sites so as not to prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves evaluate and mitigate impacts to ensure that these do not prevent and to the extent practicable contribute to attainment of Aquatic Conservation Strategy objectives.	N		
Recreation Management: Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education use limitations traffic control devices increased maintenance relocation of facilities and/or specific site closures are not effective eliminate the practice or occupancy.	N		
Recreation Management: Address attainment of Aquatic Conservation Strategy objectives in Wild and Scenic River and Wilderness management plans.	N		
Minerals Management: For any proposed locatable mining operation in Riparian Reserves other than notice level or casual use require the following actions by the operator consistent with 43 CFR 3809 regulations: • Prepare a Plan of Operations including a reclamation plan and reclamation bond for all mining operations in Riparian Reserves. Such plans and bonds will address the costs of removing facilities equipment and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy objectives.	N		
Minerals Management: For any proposed locatable mining operation in Riparian Reserves other than notice level or casual use require the following actions by the operator consistent with 43 CFR 3809 regulations: • Locate structures support facilities and roads outside Riparian Reserves. If no alternative to locating facilities in Riparian Reserves exists locate in a way compatible with Aquatic Conservation Strategy objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in Riparian Reserves. When a road is no longer required for mineral or land management activities it will be reclaimed. In any case access roads will be constructed consistent with 43 CFR 3809 and acceptable road construction standards and will minimize damage to resources in Riparian Reserves.	N		

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Minerals Management: For any proposed locatable mining operation in Riparian Reserves other than notice level or casual use require the following actions by the operator consistent with 43 CFR 3809 regulations: • Avoid locating solid and sanitary waste facilities in Riparian Reserves. If no alternative to locating mine waste (waste rock spent ore tailings) facilities in Riparian Reserves exists if releases can be prevented and if stability can be ensured then: – Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics. – Locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term prohibit such facilities in Riparian Reserves. – Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Require reclamation bonds adequate to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.	N		
Minerals Management: Where an existing operator is in noncompliance at the notice level (i.e. causing unnecessary or undue degradation) require actions similar to those stated above to meet the intent of 43 CFR 3809.	N		
Minerals Management: For leasable mineral activity in Riparian Reserves prohibit surface occupancy for oil gas and geothermal exploration and development activities where leases do not exist. Where possible adjust the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy objectives consistent with existing lease terms and stipulations.	N		
Minerals Management: Allow development of saleable minerals such as sand and gravel within Riparian Reserves only if Aquatic Conservation Strategy objectives can be met.	N		
Minerals Management: Develop inspection and monitoring requirements and include such requirements in exploration and mining plans and in leases or permits consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans leases and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Fire/Fuels Management: Design fuel treatment and fire suppression strategies, practices and activities to meet Aquatic Conservation Strategy objectives and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 EIS App. F EIS App. J POD Att. K POD Att. R POD Att. DD

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fire/Fuels Management: Locate incident bases camps helibases staging areas helispots and other centers for incident activities outside of Riparian Reserves. If the only suitable location for such activities is within the Riparian Reserve an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location use conditions and rehabilitation requirements. Utilize an interdisciplinary team to predetermine suitable incident base and helibase locations.	N		
Fire/Fuels Management: Minimize delivery of chemical retardant foam or other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist or following a review and recommendation by a resource advisor when an escape would cause more long-term damage.	N		
Fire/Fuels Management: Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 EIS App. J POD Att. R POD Att. DD
Fire/Fuels Management: Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy objectives whenever Riparian Reserves are significantly damaged by a wildfire or a prescribed fire burning outside prescribed parameters.	N		
Fire/Fuels Management: Limit the size of all wild fires. When watershed analysis and/or landscape analysis are completed and approved some natural fires may be allowed to burn under prescribed conditions.	N		
Fire/Fuels Management: Consider rapidly extinguishing smoldering coarse woody debris and duff.	N		
Fire/Fuels Management: Locate and manage water drafting sites (e.g. sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian habitat and water quality as consistent with Aquatic Conservation Strategy objectives.	N		
Lands: Issue leases, permits, rights-of-way and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible, adjust existing leases permits rights-of-way and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible eliminate the activity. Priority for modifying existing leases permits rights-of-way and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.3, 2.1.5 & 2.1.6 EIS Sec. 4.1.3.5 EIS App. J POD Att. Y
Lands: Use land acquisition exchange and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Lands: For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission (the Commission) provide timely written comments regarding maintenance of instream flows and habitat conditions and maintenance/ restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of Riparian Reserves. For existing support facilities inside Riparian Reserves that are essential to proper management provide recommendations to the Commission that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the Riparian Reserves should be located operated and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Lands: For other hydroelectric and surface water development proposals in Tier One Key Watersheds require instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies. For other hydroelectric and surface water development proposals in all other watersheds give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies.	N		
General Riparian Area Management: Identify and attempt to secure instream flows needed to maintain riparian resources channel conditions and aquatic habitat.	N		
General Riparian Area Management: Fell trees in Riparian Reserves when they pose a safety risk. Keep felled trees on site when needed to meet Aquatic Conservation Strategy and Riparian Reserve objectives.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. U
General Riparian Area Management: Apply herbicides, insecticides other toxicants and other chemicals only in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.4 EIS Sec. 4.5.1.2 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.4 EIS App. J POD Att. N POD Att. X
General Riparian Area Management: Locate water drafting sites to minimize adverse effects on stream channel stability sedimentation and instream flows needed to maintain riparian resources channel conditions and fish habitat.	N		
Watershed and Habitat Restoration: Prevent watershed and habitat degradation rather than relying on mitigation measures or planned restoration.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Fish and Wildlife Management: Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. DD
Fish and Wildlife Management: Design construct and operate fish and wildlife interpretive and other user enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish and wildlife interpretative and other user enhancement facilities inside Riparian Reserves ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met relocate or close such facilities.	N		
Fish and Wildlife Management: Cooperate with federal tribal and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.	N		
Fish and Wildlife Management: Cooperate with federal tribal and state fish management agencies to identify and eliminate impacts associated with habitat manipulation fish stocking harvest and poaching that threaten the continued existence and distribution of native fish stocks inhabiting streams with adjacent or nearby federal lands.	N		
Late-Successional Reserves			
Develop Late-Successional Reserve assessments prior to habitat manipulation. See Management Assessments and Plans toward the end of this chapter for additional information.	P	P	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. H EIS App. J
Plan and implement non-silvicultural activities inside Late-Successional Reserves that are neutral or beneficial to the creation and maintenance of late-successional habitat.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-3
Using interdisciplinary teams evaluate other activities not described below and document appropriate guidelines.	N		
Request review by the Regional Ecosystem Office of all activities deemed to have potential adverse effects on Late-Successional Reserve objectives. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.	P	P	EIS Sec. 4.1.3.6 EIS App.H
Silviculture: Plan and implement silvicultural treatments inside Late-Successional Reserves that are beneficial to the creation of late-successional habitat.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Silviculture: If needed to create and maintain late-successional forest conditions conduct thinning operations in forest stands up to 80 years of age. This will be accomplished by precommercial or commercial thinning of stands regardless of origin (e.g. planted after logging or naturally regenerated after fire or blowdown).	N		
Salvage: Limit salvage of dead trees in Late-Successional Reserves to areas where stand replacing events exceed ten acres in size and canopy closure has been reduced to less than 40 percent.	N		
Salvage: Retain all standing live trees including those injured (e.g. scorched) but likely to survive.	N		
Salvage: Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.	N		
Salvage: Retain adequate coarse woody debris quantities in a new stand so that in the future it will still contain amounts similar to naturally regenerated stands. Watershed level or province level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to coarse woody debris over the long term.	N		
Salvage: In the Oregon Klamath Province if essential to reduce future risk of fire or insect damage conduct salvage that does not meet the preceding management actions/direction. Focus on those areas where there is high risk of large scale disturbance.	N		
Salvage: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.	N		
Salvage: After disturbance in younger stands develop diameter and biomass retention direction consistent with the intention of achieving late-successional forest conditions. Where green trees snags and logs are present following disturbance the green tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snags can be credited toward the amount of coarse woody debris biomass needed to achieve management objectives.	N		
Salvage: Retain logs present on the forest floor before a disturbance event.	N		
Salvage: Retain coarse woody debris to approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.	N		
Salvage: Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit deviations to as small an area as possible.	N		
Road Construction and Maintenance: Construct roads in Late-Successional Reserves if the potential benefits of silviculture salvage and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines they will be kept to a minimum be routed through unsuitable habitat where possible and be designed to minimize adverse impacts. Alternative access methods such as aerial logging will be considered to provide access for activities in reserves.	P, C, R		EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U POD Att. Y

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Road Construction and Maintenance: Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U POD Att. Y
Fuelwood Gathering: Permit fuelwood gathering only in existing cull decks in areas where green trees are marked by silviculturists for thinning in areas where blowdown is blocking roads and in recently harvested timber sale units where down material will impede scheduled post sale activities or pose an unacceptable risk of future large scale disturbance. In all cases these activities will comply with management actions/ direction for salvage and silvicultural activities.	N		
Mining: Assess the impacts of ongoing and proposed mining activities in Late-Successional Reserves.	N		
Mining: Include stipulations in mineral leases and when legally possible require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.	N		
Developments: Neither construct nor authorize new facilities that may adversely affect Late-Successional Reserves.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Developments: Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on Late-Successional Reserves.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-3
Developments: Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.	P	P, R	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Retain and maintain existing developments such as campgrounds, utility corridors and electronic sites consistent with other management actions/direction for Late-Successional Reserves.	P, C, O	P, B	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Remove hazard trees along utility rights-of-way and trails and in other developed areas.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.2.2 POD Att. U POD Att. Y
Land Exchanges: Consider land exchanges in Late-Successional Reserves if they provide benefits equal to or better than current conditions.	N		
Land Exchanges: Consider land exchanges especially to improve area distribution and quality (e.g. connectivity shape and contribution to biodiversity) of Late-Successional Reserves especially where public and private lands are intermingled.	N		

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Element	Applicable	Consistency	Comment
Habitat Improvement Projects: Design projects to improve conditions for fish, wildlife and watersheds if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. J POD Att. DD LMP Amendment BLM-3
Habitat Improvement Projects: Design projects for recovery of threatened or endangered species even if they result in some reduction of habitat quality for other late-successional species. These projects will be designed for least impact to late-successional species.	P, R	P, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Sec. 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-3
Habitat Improvement Projects: Design and implement watershed restoration projects consistent with Late-Successional Reserve objectives.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD LMP Amendment BLM-3
Fire Suppression and Prevention: As part of watershed analysis or a late-Successional Reserve Assessment plan fire management for each Late-Successional Reserve.	N		
Fire Suppression and Prevention: Emphasize maintaining late-successional habitat in wildfire suppression plans.	N		
Fire Suppression and Prevention: Use minimum impact suppression methods for fuels management in accordance with guidelines for reducing risks of large scale disturbances.	N		
Fire Suppression and Prevention: During actual fire suppression activities consult resource specialists to assure that habitat damage is minimized.	N		
Fire Suppression and Prevention: Until a fire management plan is completed for a Late-Successional Reserve or group of reserves suppress wildfire to avoid loss of habitat and to maintain future management options.	N		
Fire Suppression and Prevention: Prepare a specific fire management plan prior to any habitat manipulation activities in Late-Successional Reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the Late-Successional Reserve. Until the plan is approved proposed activities will be subject to review by the Regional Ecosystem Office.	P	P	EIS Sec. 4.1.3.6 EIS App. H POD Att. K POD Att. R

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fire Suppression and Prevention: Apply prescribed fire in a manner which retains the amount of coarse woody debris determined through watershed analysis.	C, O	B	EIS Sec. 4.1.3.6 EIS Sec. 4.4.4 EIS App. H POD Att. K POD Att. R
Fire Suppression and Prevention: Limit the size of all wild fires. When watershed analysis or a Late-Successional Reserve Assessment is completed some natural fires may be allowed to burn under prescribed conditions.	N		
Fire Suppression and Prevention: Consider rapidly extinguishing smoldering coarse woody debris and duff.	C, O	B	EIS Sec. 4.1.3.6 EIS Sec. 4.4.4 EIS App. H POD Att. K POD Att. R
Special Forest Products: Evaluate whether special forest product harvest activities have adverse effects on Late-Successional Reserve objectives.	N		
Special Forest Products: Prior to selling special forest products ensure resource sustainability and protection of other resource values such as special status plant or animal species.	N		
Special Forest Products: Where special forest product activities are extensive evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.	N		
Recreational Uses: Use adjustment measures such as education use limitations traffic control devices or increased maintenance when dispersed and developed recreation practices retard or prevent attainment of Late-Successional Reserve objectives.	N		
Rights-of-Way Contracted Rights Easements and Temporary Use Permits: Access to nonfederal lands through Late-Successional reserves will be considered and existing right-of-way agreements contracted rights easements and temporary use permits in Late-Successional Reserves will be recognized as valid uses.	N		
Rights-of-Way Contracted Rights Easements and Temporary Use Permits: For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on Late-Successional Reserves. Consider alternative routes that avoid Late-Successional Reserves. If rights-of-way must be routed through a reserve design and locate them to have the least impact on late-successional habitat.	P, C, R	P, R, M	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 3.4.3 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. U POD Att. Y POD Att. DD
Rights-of-Way Contracted Rights Easements and Temporary Use Permits: Review all temporary use permits. When objectives of Late-Successional Reserves are not being met reduce impacts through education or modification of existing permits.	C, O	B	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 4.1.3.6 EIS App. H

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Nonnative Species: If introduction of a nonnative species is proposed complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional objectives.	N		
Nonnative Species: Evaluate impacts of nonnative species (plant and animal) existing within reserves.	N		
Nonnative Species: Develop plans and recommendations for eliminating or controlling nonnative species which are consistent with Late-Successional Reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within Late-Successional Reserves.	P, C, R	P	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N
Adaptive Management Areas – Not Applicable, Excluded From Table			
Matrix (Connectivity/Diversity Blocks and General Forest Management Area)			
Conduct timber harvest and other silvicultural activities in that portion of the Matrix with suitable forest lands according to management actions/ direction summarized below and in the Timber section.	N		
Provide a renewable supply of large down logs well distributed across the Matrix landscape in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.	N		
Leave 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Down logs will reflect the species mix of the original stand. Where this management action/ direction cannot be met with existing coarse woody debris merchantable material will be used to make up the deficit.	N		
In areas of partial harvest (eg. Connectivity/ Diversity Blocks density management) apply the same basic management actions/direction as in Number 1 above but they can be modified to reflect the timing of stand development cycles where partial harvest is practiced.	N		
Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g. slash burning and yarding) which might otherwise destroy the integrity of the substrate.	N		
Retain green trees and snags throughout the General Forest Management Area: Retain six to eight green conifer trees per acre in regeneration harvest units.	N		
Retain green trees and snags throughout the General Forest Management Area: Retain snags within a timber harvest unit at levels sufficient to support species of cavity nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per acre requirements met on average areas no larger than 40 acres.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Retain green trees and snags throughout the General Forest Management Area: In addition to the previous green tree retention management action/direction retain green trees for snag recruitment in timber harvest units where there is an identified near term (less than three decades) snag deficit. These trees do not count toward green tree retention requirements.	N		
Provide Connectivity/Diversity Blocks spaced throughout the BLM Matrix. Manage the blocks as follows: Maintain 25 to 30 percent of each block in late-successional forest at any point in time. Inclusions of Riparian Reserves and other allocations with late-successional forest within the gross mapped Connectivity/Diversity Blocks count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.2 EIS Secs. 4.1.3.3 - 4.1.3.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. DD
Provide Connectivity/Diversity Blocks spaced throughout the BLM Matrix. Manage the blocks as follows: Manage available forest land within each block on a 150 year area control rotation.	N		
Provide Connectivity/Diversity Blocks spaced throughout the BLM Matrix. Manage the blocks as follows: When an area is regeneration harvested retain 12 to 18 green trees per acre within harvest units.	N		
Modify site treatment practices particularly the use of fire and pesticides and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize intensive burning unless appropriate for certain specific habitats communities or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris.	N		
Modify site treatment practices particularly the use of fire and pesticides and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment.	N		
Modify site treatment practices particularly the use of fire and pesticides and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to reduce the intensity and frequency of site treatments.	N		
Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management action/direction will be applied in fifth field watersheds (20 to 200 square miles) in which federal forest lands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all federal land allocations in a watershed.) Within such an area protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.	N		
Air Quality			

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Element	Applicable	Consistency	Comment
By the year 2000 reduce particulate matter emissions and impacts from prescribed burning by 50 percent from the baseline period (1976-1979). This will be accomplished by planning conducting monitoring and if necessary adjusting prescribed fire activities in accordance with the Oregon State Implementation Plan and the Oregon Smoke Management Plan (see Fire section).	N		
Reduce broadcast burning in favor of lower intensity under burning. Use emission reduction mitigation measures and smoke dispersal techniques to the greatest extent practical. Wildfire hazard reduction site preparation and the use of prescribed fire for species habitat mitigation will be implemented in a manner consistent with ecosystem management.	N		
Where needed use dust abatement measures on roads during BLM timber harvest operations or other BLM commodity hauling activity. Encourage dust abatement measures when haulers use BLM roads under permits and right-of-way agreements.	C, R	B, M	EIS Sec. 4.10.2.6 POD Att. 2 POD Att. Y POD Att. DD
Determine the cumulative effects of proposed forest management activities on local and subregional air quality and minimize impacts. Coordinate cumulative impact analysis with other federal agencies.	N		
As part of implementation planning prepare conformity determinations required by the Clean Air Act.	P	P	EIS Sec. 1.5.1.8 EIS Secs. 4.12.1.2 & 4.12.1.3 POD Att. B
Perform an emissions tradeoff analysis to determine and quantify the effects of prescribed burning and other types of fuel management on reduction of wildfire emissions. This analysis will be performed at the same geographic scale as conformity determinations.	P	P	EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3
Consider alternative emission reduction techniques whenever they are compatible with land allocation objectives and other management actions/direction. See the Air Quality Analysis section of the FSEIS for alternative treatments that may be considered during fuels management project design.	N		
Water and Soils			
Improve and/or maintain soil and water conditions by closing selected areas to off highway vehicle use or limiting such use to existing roads and trails and/or limiting the period of use. See Recreation Off Highway Vehicles for additional details.	C, O	B, M	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Sec. 4.8.1.2 EIS Sec. 4.8.2.3 EIS Sec. 4.10.2.5 POD Att. I POD Att. S POD Att. Y POD Att. DD
Water: Conduct watershed analysis as described in Use of the Plan and in the SEIS ROD.	P	P, M	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J POD Att. DD

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water: Continue to implement a nonpoint source management program in cooperation with the U.S. Environmental Protection Agency and in existing agreement with the Oregon Department of Environmental Quality.	C, O	B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS App. J POD Att. I POD Att. BB
Water: Continue coordination with the Oregon Department of Environmental Quality for implementation of Best Management Practices which protect beneficial uses of water.	C, O	B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2 & 4.4.3 EIS App. J
Water: Ensure consistency of management activities with Oregon's Statewide Water Quality Management Plan for forest practices and with Oregon's water quality criteria and guidelines (Oregon Administrative Rule 340-41).	C, O	B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS App. J
Water: Protect floodplains and wetlands in accordance with Executive Orders 11988 and 11990 and BLM's Riparian-Wetlands Initiative for the 1990s (USDI BLM 1991a).	P, C, R, O	P, B, M	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.2 EIS App. J POD Att. BB POD Att. DD
Water: Design and implement watershed restoration projects that promote long-term ecological integrity of ecosystems conserve the genetic integrity of native species and attain Aquatic Conservation Strategy objectives. See Aquatic Conservation Strategy for additional guidance.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD
Water: Cooperate with federal state local and tribal agencies and private landowners to develop watershed based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.	N		
Water: Prevent watershed degradation rather than using mitigation or planned restoration to correct foreseeable problems caused by management activities.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Water: Identify and attempt to obtain instream flows needed to maintain riparian resources channel conditions aquatic habitat and water quality.	N		
Water: Locate water drafting sites to minimize adverse effects on stream channel stability sedimentation and in-stream flows needed to maintain riparian resources channel conditions and fish habitat.	N		
Water: Apply herbicides insecticides and other chemicals in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	C, O	B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
Water: Apply for water rights to support the needs for fire suppression construction/maintenance (e.g. pump chances water holes and reservoirs) recreation and other programs.	N		
Water: Land management practices of adjacent landowners will be considered during site specific timber management planning and other specific activity and project planning.	N		
Water: Provide for protection of both surface water and ground water in planning for chemical uses. Chemicals used will include herbicides pesticides fertilizers and fire retardant chemicals. Application and monitoring of herbicides will be done in accordance with BLM's "Record of Decision Western Oregon Program Management of Competing Vegetation" 1991.	P, C, O	P, B	EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X POD Att. BB
Water: Management in municipal watersheds is subject to agreement with the cities of Drain Riddle and Canyonville through memorandums of understanding and with the City of Myrtle Creek through a special use permit.	N		
Soils: Apply Best Management Practices during all ground and vegetation disturbing activities. See Appendix D [9]for a list of practices.	C, O	B, M	EIS Sec. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. U POD Att. DD

[9] Appendix D: Best Management Practices, Roseburg District Record of Decision and Resource Management Plan, June 1995

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Soils: Minimize disturbance of identified fragile sites. Appendix D[3] contains a summary of management guidance for fragile sites.	P, C, O	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.2.2.1 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3 EIS Sec. 4.4.4.2 EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Secs. 4.7.4.1 – 4.7.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. M POD Att. I POD Att. J POD Att. Y
Soils: Use silvicultural systems that are capable of maintaining or improving long-term site productivity of soils.	N		
Soils: Design logging systems to avoid or minimize adverse impacts to soils.	P	P	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB
Soils: In forest management activities involving ground based systems, tractor skid trails, including existing skid trails, will be planned to have insignificant growth loss effect. Existing tractor trails will be used as much as possible and new trails will be limited to slopes less than 35 percent. Operation on these trails will minimize soil displacement and occur when soil moisture content provides the most resistance to compaction. Tractor trails including those from previous entries will be selectively tilled with a properly designed self-drafting winged subsoiler. Exceptions to this were included in Plan Maintenance in 2001.	P, C	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.1.6 EIS Sec. 4.1.3.5 EIS App. J POD Att. I POD Att. R
Soils: The following guidelines will be followed when using track type equipment with a brush blade for mechanical site preparation: • Restrict use to areas with suitable soil types and slopes less than 35 percent.	N		
Soils: The following guidelines will be followed when using track type equipment with a brush blade for mechanical site preparation: • Avoid displacing duff layers and topsoil into piles or windrows.	N		
Soils: The following guidelines will be followed when using track type equipment with a brush blade for mechanical site preparation: • Minimize piling of large woody material.	N		
Soils: The following guidelines will be followed when using track type equipment with a brush blade for mechanical site preparation: • Limit machine use to one round trip over the same area.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Soils: The following guidelines will be followed when using track type equipment with a brush blade for mechanical site preparation: • Operate at soil moistures that maximize resistance to compaction. A low ground pressure backhoe/loader grapple or other special equipment or techniques that will achieve the same insignificant soil compaction may be used instead of the preceding techniques. All areas compacted during site preparation will be tilled with a properly designed self-drafting winged subsoiler.	N		
Wildlife Habitat			
All Land Use Allocations: Use the watershed analysis process to address wildlife habitat issues for individual watersheds. The analysis will help to resolve any concerns identified in applying management actions/direction in this section and those in the Special Status and SEIS Special Attention Species section. Where appropriate wildlife habitat enhancement opportunities will be identified through this process. Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of wildlife habitat enhancement projects.	N		
All Land Use Allocations: Cooperate with federal tribal and state wildlife management agencies to identify and eliminate impacts associated with habitat manipulation poaching and other activities that threaten the continued existence and distribution of native wildlife inhabiting federal lands.	N		
All Land Use Allocations: Avoid road construction in areas with high wildlife values.	N		
Riparian Reserves: Design construct and operate wildlife interpretive and other user enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing wildlife interpretative and other user enhancement facilities inside Riparian Reserves ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met relocate or close such facilities.	N		
Riparian Reserves: Cooperate with federal tribal and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.	N		
Special Habitats: Using interdisciplinary teams identify special habitat areas and determine relevance for values protection or management on a case by case basis. Of particular importance in these determinations will be the habitat of species for which the SEIS ROD provides protection buffers.	N		
Special Habitats: Use management practices including fire to obtain desired vegetation conditions in special habitats.	N		

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Element	Applicable	Consistency	Comment
Special Habitats: Special habitat areas will be buffered by 100 to 200 feet to protect their plant community structure species composition and ecological processes. The special habitat buffer will be an area designated and managed for the protection or enhancement of the special habitat. Activities such as timber harvest timber salvage and prescribed burning will be permitted within the buffers when they are considered necessary for special habitat restoration and will benefit resident special habitat species. Water courses flowing into and out of wetland habitats will be maintained.	N		
Other Raptors Habitat: Known and future raptor nest sites not protected by other management recommendations will be protected by providing suitable habitat buffers and seasonal disturbance restrictions.	P, C, O	P, B, R	EIS Sec. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Wild Turkey Habitat: Consistent with underlying land use allocations all oak stands will be maintained except on conifer sites within designated turkey habitat utilizing a variety of methods including prescribed fire. A minimum of one ten acre stand of roosting habitat will be provided in each section of designated turkey habitat. Roosting habitat will contain the following components: • A scattering (eight to ten) of large (larger than 24" DBH) open limbed conifer trees on each acre. • Ponderosa pine when available will be preferred roost trees.	N		
Osprey Habitat: On BLM-administered lands within 1/4-mile of known osprey nest sites (2500 total acres) nest trees and adjacent perch trees will be protected and disturbance will be restricted between March 20 and August 31. Consistent with other land use allocations adequate nest and perch replacement trees for osprey will be retained within 1/4-mile of nest sites.	P, C, O	P, B, R	EIS Sec. 4.6.1.2 & 4.6.1.3
Fish Habitat			
All Land Use Allocations: Use the watershed analysis process to address at risk fish species and stocks and their habitat for individual watersheds. Where appropriate fish habitat enhancement opportunities will be identified through this process.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. M POD Att. DD
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife Wild Fish Policy during planning and implementation of fish habitat enhancement projects. Priority will be given to watersheds supporting at risk fish species and stocks and those requiring extensive restoration.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: As identified through watershed analysis rehabilitate streams and other waters to enhance natural populations of anadromous and resident fish. Possible rehabilitation measures will include but not be limited to fish passage improvements instream structures using boulders and log placement to create spawning and rearing habitat placement of fine and coarse materials for over-wintering habitat and riparian rehabilitation to establish or release existing coniferous trees.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.4.4 EIS App. F EIS App. J POD Att. DD
All Land Use Allocations: Use existing and new water impoundments to provide recreational fishing opportunities where sufficient water quality and quantity exist and where consistent with aquatic conservation strategy and other management action/direction.	N		
All Land Use Allocations: See the Special Status and SEIS Special Attention Species section and Best Management Practices (Appendix D[10]) for additional fish habitat management actions/direction and conservation practices.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.4.4 EIS App. F EIS App. J POD Att. DD
Riparian Reserves: Design, construct and operate fish interpretive and other user enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish interpretative and other user enhancement facilities inside Riparian Reserves ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met relocate or close such facilities.	N		
Riparian Reserves: Cooperate with federal, tribal and state fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest and poaching that threaten the continued existence and distribution of native fish stocks inhabiting federal lands.	N		
Riparian Reserves: Cooperate with federal tribal and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.	N		
Special Status and SEIS Special Attention Species Habitat			
All Land Use Allocations – Special Status Species: Review all proposed actions to determine whether or not special status species occupy or use the affected area or if the habitat for such species is affected.	P	P	EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M POD Att. J

[10] Appendix D: Best Management Practices, Roseburg District Record of Decision and Resource Management Plan, June 1995

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Special Status Species: Conduct field surveys according to protocols and established procedures. This includes surveying during the proper season unless surveys are deemed unnecessary through watershed analysis project planning and environmental assessment. Field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted whether previous surveys looked for all species that would be included on a new survey and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.	P	P	EIS Sec. 1.5.4.1 EIS Sec. 4.4.4 EIS. Secs. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Consult (formal informal conference or technical assistance as appropriate) with the U.S. Fish and Wildlife Service or National Marine Fisheries Service for any proposed action which may affect federal listed proposed or candidate species or critical or essential habitat. Based on the results of consultation modify relocate or abandon the proposed action.	N		
Special Status Species: Coordinate with the U.S. Fish and Wildlife Service National Marine Fisheries Service and other appropriate agencies and organizations and jointly endeavor to recover federal listed and proposed species and their habitats.	P, C, O	P, B, M	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Modify, relocate or abandon a proposed action to avoid contributing to the need to list under the Endangered Species Act all federal candidate state listed species and bureau sensitive species or their habitats.	P, C	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 3.4.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Coordinate and cooperate with the state of Oregon to conserve state listed species.	N		
All Land Use Allocations – Special Status Species: Protect assessment species where possible so as not to increase their status. Assessment species will be included in all field inventory and clearance work and all new locations will be documented. They will be considered in all environmental analyses where impacts will be clearly identified.	N		
All Land Use Allocations – Special Status Species: Where it is biologically appropriate and consistent with species recovery plans, buffer special status species by 100 to 300 feet from all surface disturbance and harvest of timber.	P, C	P, B, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.1.6 EIS Sec. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M Pod Att. J0

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Special Status Species: Retain under federal management or other appropriate management organization habitat essential for the survival or recovery of listed and proposed species. Retain habitat of candidate bureau sensitive and assessment species where disposal would contribute to the need to list the species.	N		
All Land Use Allocations – Special Status Species: Where appropriate opportunities exist acquire land to contribute to recovery reduce the need to list or enhance special status species habitat.	N		
All Land Use Allocations – Special Status Species: Coordinate with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements which identify actions to conserve single or multiple species and/or habitats.	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 2.1.4 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD LMP Amendment BLM-3
All Land Use Allocations – Special Status Species: Where plans exist for species no longer on the special status list continue with the prescribed conservation actions if determined to be necessary to avoid relisting or future consideration for listing. In the case of interagency plans or agreements this determination will be mutually decided. Such plans may be modified as needed based on adequacy of existing rangewide conditions and conservation management.	N		
All Land Use Allocations – Special Status Species: Pursue opportunities for public education about conservation of species.	N		
All Land Use Allocations – Special Status Species: Where appropriate pursue opportunities to increase the number of populations of species under BLM management through land acquisition and/or species reintroduction in coordination with other responsible agencies.	N		
Listed and Proposed Threatened and Endangered Species: Implement the land use allocations and management actions/direction of this Resource Management Plan which are designed to enhance and maintain habitat for all endangered and threatened species.	C, R, O	B, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 2.1.4 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD LMP Amendment BLM-3

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Listed and Proposed Threatened and Endangered Species: Northern Spotted Owl – Retain 100 acres of the best northern spotted owl habitat as close to the nest site or owl activity center as possible for all known (as of January 1 1994) spotted owl activity centers. Human activity within 1/ 4-mile of nest sites which could disturb owl nesting activities will be restricted especially the use of large power equipment and falling of trees. Restrictions will apply from March 1 to September 30 or until non-nesting status is confirmed using protocol procedures. The retention of adequate habitat conditions for dispersal of the northern spotted owl will be taken into account during watershed analysis that addresses the issue of adjusting Riparian Reserve widths.	N		
Columbian White-tailed Deer: Timber harvest or other vegetation altering activities on all BLM-managed lands (12761 acres) within the general area of distribution will only occur if determined beneficial to Columbian White-tailed deer or until such time that definitive information is available describing the use level and value of these lands in the context of meeting recovery plan goals. Of the above acres 8830 acres occurring within the core habitat area for the species have been removed from the timber base. Acquisition of lands within the core area (primarily T. 26 S. and T. 27 S. R. 5 W.) for the Columbian white-tailed deer in Douglas County through exchange or purchase will be actively pursued. To provide long term recovery for the Columbian white-tailed deer the recovery plan identifies a need for 5500 acres of secure suitable habitat and a population of 1000 animals supported on secure habitat for down listing to occur. A Habitat Management Plan will be prepared for existing BLM-managed lands determined to be of significant value to Columbia white-tailed deer or any lands acquired specifically for this species. The Roseburg District has recently acquired approximately 6600 acres (included in above totals) of prime habitat for this species. A management plan for the area is currently under development. When adequate habitat is secured to meet recovery plan goals and the species is no longer listed lands outside the core area and not acquired primarily for Columbian white-tailed deer management will no longer be restricted as described above.	N		
Listed and Proposed Threatened and Endangered Species: Townsend's Big-eared Bat – Townsend's big-eared bat roosts and hibernacula will be protected and buffered by 600 feet to maintain the integrity of sites. Disturbance will be limited near roosts and hibernacula to prevent detrimental impact to colonies. The use of pesticides which are detrimental to prey species or their habitat within the normal hunting range of known bat nursery colonies and hibernacula will be restricted. The restriction will apply to an area within the normal hunting range of known nursery colonies and hibernacula. BLM will pursue acquisition of the Scott Mountain hibernaculum consisting of approximately ten acres. To maintain habitat integrity on BLM-administered lands adjacent to the Scott Mountain hibernaculum 36 acres will remain withdrawn from the timber base.	P, C, O	P, B, R	EIS Sec. 1.5.2.1 EIS Sec. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EiS Sec. 4.7.4.4 EIS App. M

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Listed and Proposed Threatened and Endangered Species – Marbled Murrelet: Conduct two years of survey prior to any physical disturbance of marbled murrelet habitat within zone II (approximately 50 miles from coast).	P	P, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species – Marbled Murrelet: Protect contiguous existing and recruitment habitat for marbled murrelets (i.e. stands that are capable of becoming marbled murrelet habitat within 25 years) within a 0.5 mile radius of any site where the birds' behavior indicates occupation (e.g. active nest fecal ring or eggshell fragments and bird flying below through into or out of the forest canopy within or adjacent to a stand).	P, C, O	P, R, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species – Marbled Murrelet: Neither conduct nor allow harvest of timber within occupied marbled murrelet habitat at least until completion of the Marbled Murrelet Recovery Plan.	N		
Listed and Proposed Threatened and Endangered Species – Marbled Murrelet: Human activity will be minimized or curtailed within occupied or nesting stands between March 1 and July 15. During silvicultural treatments of nonhabitat within the 0.5-mile circle protect or enhance suitable or replacement habitat. This has been updated to reflect current Biological Opinion issued by consultation with USFWS.	C, O	B, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.2 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. M LMP Amendment BLM-1
Listed and Proposed Threatened and Endangered Species – Marbled Murrelet: Amend or revise management direction as appropriate when the recovery plan is completed.	N		
Listed and Proposed Threatened and Endangered Species – Bald Eagle: Comply with the Pacific Bald Eagle Recovery and Implementation Plans and existing site specific habitat management plans.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species – Bald Eagle: Manage 4658 acres along the major river corridors to develop or maintain forest structure needed to support nesting and foraging activities. These acres are withdrawn from the timber base.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Listed and Proposed Threatened and Endangered Species – Bald Eagle: To meet recovery plan goals the currently existing six bald eagle nest territories and habitat (4658 acres) will be protected as well as any future occupied territories under the following management guidelines: • Maintain or attain the following stand characteristics on all lands managed for bald eagles: • Large conifer trees that are greater than 50 inches dbh and occur at a density of five to seven trees per acre. • Multi-storied canopy with at least 60 percent crown closure. • Remainder of the stand with conifer trees with an average dbh of 24 inches and an average density of 50 to 70 trees per acre.	N		
Listed and Proposed Threatened and Endangered Species – Bald Eagle: To meet recovery plan goals the currently existing six bald eagle nest territories and habitat (4658 acres) will be protected as well as any future occupied territories under the following management guidelines: • Avoid disturbance including logging mining and mineral leasing (except existing recreational use) within 1/2-mile of active nest sites which may adversely affect between the dates of February 15 and August 31 contingent on consultation under Sec. 7 of the Endangered Species Act.	N		.
Listed and Proposed Threatened and Endangered Species – Bald Eagle: To meet recovery plan goals the currently existing six bald eagle nest territories and habitat (4658 acres) will be protected as well as any future occupied territories under the following management guidelines: • Provide an appropriate level of fire protection on lands managed for bald eagles and restrict the use of insecticides within 1/2-mile of bald eagle sites.	N		
Listed and Proposed Threatened and Endangered Species – Bald Eagle: Retain ownership of all BLM designated bald eagle habitat and pursue conservation easements or acquisition of other lands occurring within known active or future nesting territories. Priority is placed on acquiring 261 acres within Cougar Creek and Woodruff Mountain nesting territories.	N		
Listed and Proposed Threatened and Endangered Species – Bald Eagle: Implementation of the Umpqua Corridor Habitat Management Plan will continue. Habitat management plans will be developed for all active nesting territories.	N		
Listed and Proposed Threatened and Endangered Species – Bald Eagle: Vehicle use on 1.5 miles of road at the head of Huntley Creek will be restricted from February 15 to August 31 to limit nest site disturbance.	C, O	B	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. M POD Att. Y
Listed and Proposed Threatened and Endangered Species – Peregrine Falcon: Comply with the Peregrine Falcon Recovery Plan and existing site specific habitat management plans. Known and potential (sites rated 7 or above) nesting cliffs will be managed to maintain site integrity.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. M POD Att. Y

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Listed and Proposed Threatened and Endangered Species – Peregrine Falcon: Although there are no known Peregrine falcon nesting sites on BLM-administered lands sites occupied in the future will have seasonal disturbance restrictions of 1/4-mile or greater around them. Actual areas restricted will depend on the activity and likely disturbance at the nest cliff. Pesticides that have a negative effect on prey species or their habitat will not be applied within two miles of active sites. Habitat management plans will be written for all active Peregrine falcon nest sites on BLM-administered lands. High potential sites will periodically be surveyed for occupancy and all future occupied sites will be monitored annually to determine occupancy nesting and production. Acquisition will be pursued for occupied nest sites occurring on adjacent private lands. Currently there is one active nest site suitable for BLM acquisition.	N		
Listed and Proposed Threatened and Endangered Species – Northern Goshawk: Retain 30 acre buffers of undisturbed habitat around active and alternative nest sites. Restrict human activity and disturbance within 1/4-mile of active sites between March and August or until such time as young have dispersed.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Listed and Proposed Threatened and Endangered Species: Umpqua Mariposa Lily (*Calochortus umpquaensis*) – Manage Umpqua mariposa lily habitat to increase numbers of plants in each of the populations known throughout the species range. A conservation strategy will be prepared in cooperation with the Medford District BLM Umpqua National Forest and provide a baseline against which human impacts on the U.S. Fish and Wildlife Service which will prescribe the following management actions at locations throughout the species range: • Acquisition of private land to increase habitat in federal ownership. • Securing voluntary protection by private landowners through cooperative agreements. • Designation of habitat as Areas of Critical Environmental Concern. • Installation of gates and fences. • Management of livestock grazing and Off Highway Vehicle use. • Collection of seed for long term storage. • Prescribed burning of habitat. • Girdling trees precommercial thinning and commercial thinning forest stands to produce gaps in forest habitat. • Monitoring habitat to determine population trends and the effects of management treatments. • Conducting demographic studies.	N		
Special Areas			
Management activities will be implemented in such a manner so as to be compatible with specific management objectives identified in site specific activity management plans. Management plans with specific management objectives have already been prepared for all existing Areas of Critical Environmental Concerns and Research Natural Areas. New plans will be prepared for new and expanded Special Areas. These new plans will define specific management objectives and address a wide spectrum of management activities such as land acquisition the role of fire and public outreach. Interim management will be provided areas without activity management plans to protect the natural features for which the areas were designated and preserve future management options.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Land acquisition will be pursued for the Beatty Creek Area of Critical Environmental Concern/Research Natural Area to block up ownership and improve management opportunities. Land acquisition for other Special Areas will be addressed in site specific management plans or activity level environmental assessments.	N		
Mineral withdrawal of all Areas of Critical Environmental Concern/Research Natural Areas. Mining will be permitted in other Special Areas with a plan of operations to avoid undue and unnecessary degradation.	N		
No salable mineral development and no surface occupancy for leasable minerals in Special Areas.	N		
Closure of Areas of Critical Environmental Concern/Research Natural Areas to Off Highway Vehicle use and the restriction of Off Highway Vehicle use to existing roads and trails in all other Special Areas.	N		
No timber harvest road construction or the operation of ground based fire suppression equipment off existing roads or other surface disturbing activity in Areas of Critical Environmental Concern/Research Natural Areas.	N		
Cultural Resources Including American Indian Values			
Conduct systematic inventories of areas likely to contain cultural resources.	N		
Evaluate cultural resource sites to determine their potential for contributing to public cultural heritage and/or scientific purposes.	P, C	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.11.1.1 EIS Sec. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 EIS App. J POD Att. Z
Develop cultural resource management plans for areas with fragile resources or intensive prehistoric or historic use. These areas will include Golden Bar the North Umpqua River corridor the Little River/Wolf Creek area the Middle Creek drainage Camas Valley the White Rock/Deadman Mountain/Deadman Creek area and the mining areas in the southern portion of the district.	N		
Develop educational and interpretive programs to increase public awareness and appreciation of cultural resources as part of the “Adventures in the Past” initiative.	N		
Develop partnerships with local Native American groups and other interested parties to accomplish cultural resource objectives.	N		
Monitor cultural resources being impacted by unauthorized use such as 35DO100 35DO147 35DO153 and 35DO435 and take appropriate law enforcement actions.	N		
Implement physical protection measures such as riprapping and barrier installations to reduce deterioration.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Develop memoranda of understanding with federally recognized Indian tribes and other Indian groups so that their heritage and religious concerns may be appropriately considered. These groups may include the Cow Creek Band of Umpqua Tribe of Indians the Confederated Tribes of the Siletz Indians the Confederated Tribes of Grand Ronde the Confederated Tribes of Coos Lower Umpqua and Siuslaw Indians and the Coquille Indian Tribe.	N		
Acquire significant cultural resource properties for public cultural heritage and scientific purposes. These properties include 35DO17 35DO19 35DO291 35DO431 and the portion of 35DO383 located on nonfederal land.	N		
Develop province level inventory plans.	N		
Investigate landscape features such as bogs ponds and packrat middens as well as cultural sites that contain information regarding long-term environmental change.	N		
Develop mechanisms for describing past landscapes and the role of humans in shaping those landscapes.	N		
Maintain an updated record of paleontological sites in the Roseburg District and manage the sites as appropriate.	N		
Visual Resources			
Address visual resource management issues when conducting landscape/watershed analysis environmental assessments or environmental impact statements.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. J POD Att. A
Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet Visual Resource Management objectives. Use mitigation measures to reduce visual contrasts.	P, R	P, M	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. J POD Att. A
Provide for natural ecological changes in Visual Resource Management Class I areas. Some very limited management activities may occur in these areas. The level of change to the characteristic landscape would be very low and must not attract attention. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	N		
Manage Visual Resource Management Class II lands for low levels of change to the characteristic landscape. Management activities may be seen but should not attract the attention of the casual observer. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Manage Visual Resource Management Class III lands for moderate levels of change to the characteristic landscape. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A
Manage Visual Resource Management Class IV lands for moderate levels of change to the characteristic landscape. Management activities may dominate the view and be the major focus of viewer attention. However every attempt should be made to minimize the effect of the activities through careful location minimal disturbance and repeating the basic elements of form line color and texture.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A
Adhere to the following timber harvest scenarios to meet Visual Resource Management Class II III and IV objectives. Based on the visual resources rating system and site specific conditions these scenarios or others may be used. • VRM II: Timber management approaches to meet Visual Resource Management Class II objectives will employ single tree selection uneven-aged harvest retention of shelterwood overstory trees or group selection management in seen areas. Larger regeneration harvests will be in unseen areas. Fire suppression and fuels management standards will be established to meet Visual Resource Management Class II objectives.	N		
Adhere to the following timber harvest scenarios to meet Visual Resource Management Class II III and IV objectives. Based on the visual resources rating system and site specific conditions these scenarios or others may be used. • To permit screening of regeneration harvests and permit time for regrowth between sequential entries regeneration harvests will not remove more than 6.6 percent of any seen Visual Resource Management Class II area in a given decade.	N		
Adhere to the following timber harvest scenarios to meet Visual Resource Management Class II III and IV objectives. Based on the visual resources rating system and site specific conditions these scenarios or others may be used. • VRM III: Timber management approaches to meet Visual Resource Management Class III objectives will employ either short-term retention of shelterwood overstory trees or use of regeneration harvests which have less than ten acres of seen area and which do not disturb more than ten percent of the seen Visual Resource Management Class III area in any decade. Where possible regeneration harvests will be screened from key viewing points along major travel routes by uncut areas or by shelterwood units or young stands.	N		
Adhere to the following timber harvest scenarios to meet Visual Resource Management Class II III and IV objectives. Based on the visual resources rating system and site specific conditions these scenarios or others may be used. • VRM IV: No specific visual management constraints will apply to lands managed for Visual Resource Management Class IV objectives but mitigation of visual impacts will be incorporated where consistent with efficient timber harvest or other management activities.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Employ guidelines of the revised Oregon Forest Practices Act Section 17 in visually sensitive corridors along Interstate 5 and State Highways 38, 42 and 138.	N		
Monitor Visual Resource Management according to District Visual Resource Management monitoring procedures.	C, O	P, B	EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.8.2.3 POD Att. A
Conduct Visual Resource Management inventories on newly acquired public lands.	N		
Wild and Scenic Rivers			
Undesignated Segments: Determine future manageable river segments which may be suitable for designation to the National Wild and Scenic River System.	N		
Undesignated Segments: Protect Outstandingly Remarkable Values identified on BLM-administered lands within the study corridors of eligible river segments studied and found suitable for inclusion as components of the National Wild and Scenic Rivers System.	N		
Undesignated Segments: Provide interim protective management for Outstandingly Remarkable Values identified on BLM-administered lands along river segments determined eligible but not studied for inclusion as components of the National Wild and Scenic Rivers System.	N		
Undesignated Segments: Manage the natural integrity of river related values to maintain or enhance the highest tentative classification determined for rivers found eligible or studied for suitability.	N		
Designated Segments: Revise the North Umpqua Wild and Scenic River Management Plan dated 1992 to address attainment of Aquatic Conservation Strategy Objectives.	N		
Designated Segments: Manage the Congressionally designated North Umpqua River segment as a Wild and Scenic River under the North Umpqua Wild and Scenic River Management Plan.	N		
Rural Interface Areas			
Work with local governments to improve the BLM data base regarding private land planning/zoning designations and residential development near BLM-administered land.	N		
Work with local governments to provide information to local planners regarding BLM land allocations in Rural Interface Areas and the management objectives and guidelines for these lands.	N		
Work with local governments to develop design features and mitigation measures that will minimize the possibility of conflicts between private and federal land management.	N		
Work with local governments to monitor the effectiveness of design features and mitigation measures in Rural Interface Areas.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
As a part of watershed analysis and project planning work with local individuals and groups including fire protection districts to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.	N		
Use design features and mitigation measures to avoid/minimize impacts to health life and property and quality of life. The following timber management practices will not be applied on those lands: herbicide spraying clearcutting and broadcast burning.	N		
Manage rural interface areas using Visual Resource Management class III standards (unless an area is classified as Visual Resource Management class I or II).	N		
Socioeconomic Conditions			
Support and assist the state of Oregon Economic Development Department's efforts to help rural resource based communities develop and implement alternative economic strategies as a partial substitute for declining timber based economies.	N		
Improve wildlife and fish habitat to enhance hunting and fishing opportunities and to increase the economic returns generated by these activities.	N		
Improve viewing opportunities for watchable wildlife.	N		
Plan and design forest management activities to produce a sustained yield of products to support local and regional economic activity. A diversity of forest products (timber and non-timber) will be offered to support large and small commercial operations and provide for personal use.	P, R	P, M, A	EIS Sec.1.5.2.1 EIS Sec. 2.1.3.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. DD
Recreation - Not Applicable, Excluded From Table			
All Land Use Allocations – General Off Highway Vehicle: An implementation plan for Off Highway vehicle management will be completed as outlined in BLM Manual 8342.	N		
All Land Use Allocations – General Recreation Management: Implement initiatives goals and objectives in BLM's Recreation 2000 Strategic Plan to the capabilities of the District.	N		
All Land Use Allocations – General Recreation Management: Maintain District recreation sites to a standard that protects the resource the public and the public investment and fosters pride of public ownership.	N		
All Land Use Allocations – General Recreation Management: Place increased emphasis on interpretive and informational signs maps and brochures.	N		
Timber Resources			

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations: Conform all management activities within the range of Port-Orford cedar to the guidelines described in the BLM Port-Orford cedar Management Policies to mitigate damage caused by *Phytophthora lateralis*. Site specific analyses for projects within the range of Port-Orford cedar will consider possible effects on the species.	P, C, O	P, B	EIS Secs. 4.5.1.2 & 4.5.1.3 POD Att. I
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Declare an annual allowable sale quantity of 7.0 million cubic feet (45 million board feet).	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Apply silvicultural systems that are planned to produce over time forests which have desired species composition structural characteristics and distribution of seral or age classes (see Appendix E[11]).	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Develop plans for the locations and specific designs of timber harvests and other silvicultural treatments within the framework of watershed analyses.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Select logging systems based on the suitability and economic efficiency of each system for the successful implementation of the silvicultural prescription for protection of soil and water quality and for meeting other land use objectives.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Schedule regeneration harvests to assure that over time harvest will occur in stands at or above the age of volume growth culmination (i.e. culmination of mean annual increment). This refers to the age range which produces maximum average annual growth over the lifetime of a timber stand. In the planning area culmination occurs between 80 and 110 years of age. Regeneration harvests may be scheduled in stands as young as 60 years in order to develop a desired age class distribution across the landscape.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Base silvicultural treatments and harvest designs on the functional characteristics of the ecosystem and on the characteristics of each forest stand and site. Treatments will be designed as much as possible to prevent the development of undesirable species composition species dominance or other stand characteristics. The principles of integrated pest management and integrated vegetation management will be employed to avoid the need for direct treatments. Herbicides will be used only as a last resort.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Plan harvest of marketable hardwood stands in the same manner as conifer stands if the land is not otherwise constrained from timber management. Where hardwood trees became established following previous harvest of conifers plan to reestablish a conifer stand on the site.	N		

[11]Appendix E: Silvicultural Systems and Harvest Methods, Roseburg District Record of Decision and Resource Management Plan, June 1995

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Unscheduled Harvests - see Riparian Reserves and Late-Successional Reserves sections.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Timber sale contracts usually awarded on a competitive basis are the means of accomplishing all timber harvest and many forest development practices. The standard and special provisions (which include mitigating measures) in a contract set forth the performance standards to be followed by the contractor in carrying out the action in accordance with applicable laws regulations and policies. In contract preparation selection of special provisions is governed by the scope of the action to be undertaken and the physical characteristics of the specific site. Standard provisions of the basic timber sale contract Bureau Form 5450-3 are applicable for all timber sales. Bureau manuals and manual supplements provide a variety of approved special provisions for use as appropriate in individual contracts. The combination of selected special provisions constitutes Section 41 of the timber sale contract. Maintaining or enhancing water quality and long-term soil/site productivity will be inherent in all timber harvest and production practices.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): The Allowable Sale Quantity has been calculated using a computer program called TRIM-PLUS. The sustainable Allowable Sale Quantity has been calculated in cubic feet. Timber sales under the plan will be sold according to cubic foot measure.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Accomplish timber harvest by the appropriate application of aerial cable or ground-yarding systems. The logging systems and the degree of log suspension are design features that will be employed for yarding efficiency watershed protection to minimize soil damage and to minimize damage to residual trees in partial cut operations. BLM Oregon Manual Supplement H-5420-1 will guide selection of harvesting techniques for timber sale contracts.	P, C	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Plan timber sales involving ground yarding systems with skid trails (including trails from previous harvest entries) to have insignificant (less than one percent) growth loss effect. Skid trails will affect less than ten percent of the land. Existing skid trails will be used as much as possible and new skid trails will be limited to slopes of less than 35 percent. Operation on these trails will minimize soil displacement and occur when soil moisture content provides the most resistance to compaction. Upon final harvest all compacted trails including skid trails from previous entries will be tilled with a properly designed self-drafting subsoiler. For entries other than final harvest skid trails will be selectively tilled.	P, C, R	P, B	EIS Sec. 2.4.21 & 2.4.2.2 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. I POD Att. U
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Harvest unit size will be determined at the appropriate level given the site specific management objectives such as watershed wildlife habitat enhancement or salvage of timber damaged by fire disease insects or wind. In addition economic logistical and safety considerations may influence size.	N		

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Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Accomplish regeneration harvests in such a way that the land can be adequately restocked within five years.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Apply commercial thinning in the matrix where practical and where research indicates increased gains in timber production are likely. The interval of treatment will range from 10 to 30 years varying by site class with poor sites having longer intervals.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Harvest trees from lands withdrawn from timber production under certain circumstances only when their harvest will be consistent with other plan guidelines.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Design to the extent consistent with other management direction forest products sales to encourage complete utilization of harvestable timber including noncommercial species.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use site preparation procedures to prepare newly harvested and inadequately stocked areas for planting new trees. Four types of site preparation treatments (prescribed burning herbicide application and mechanical and manual techniques) will be utilized. BLM's "Record of Decision Western Oregon Program - Management of Competing Vegetation" 1992 and BLM Oregon Manual Supplement H-54201 will be followed in selecting site preparation treatments using an integrated vegetation management approach.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use prevention as the preferred strategy in controlling competitive and unwanted vegetation. The goal is to prevent or reduce the need for future vegetation control by considering known ecological relationships on individual sites. Harvest activity will be designed to eliminate or reduce post harvest treatment. Prevention seeks to detect and ameliorate conditions that cause or favor the presence of competing or unwanted vegetation in the harvest units before it interferes with management objectives. Prevention is in contrast to treatment.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use herbicides where considered the most appropriate treatment to control grasses forbs brush and noncommercial tree species to increase seedling survival. Application and monitoring of herbicides will be done in accordance with BLM's "Record of Decision Western Oregon Program Management of Competing Vegetation" 1992.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Apply herbicides aerially and by several ground methods as site specifically appropriate. The method selected will depend on costs topography equipment limitations target plant species and their distribution potential environmental impacts and biological conditions. Most aerial herbicide applications will be accomplished by helicopters equipped with systems designed to limit herbicide application to the target areas. Current BLM policy prohibits aerial application of pesticides.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Control stringently the timing of herbicide treatment in relation to specified weather conditions such as temperature humidity and wind. Continuous project inspection of spraying operations is required. There is full authority for ordering cessation of operations based on adverse field conditions. Both equipment and operators will be checked frequently by field project inspectors. Only registered chemicals will be used in accordance with label instructions on the container. Handling storage and application of chemicals will also be in accordance with the Oregon Forest Practices Rules.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use manual site preparation consisting of brush pulling or cutting or hand piling of slash for burning.	C O	B	EIS Sec. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. R POD Att. U
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use mechanical site preparation consisting of piling or windrowing of slash brush and unmerchantable stems. Track-type equipment with a brush blade will be restricted to areas with suitable soil types and slopes less than 35 percent.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Track-type tractor site preparation operations will meet the following minimum conditions: • Minimize piling of large woody material.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Track-type tractor site preparation operations will meet the following minimum conditions: • Avoid displacing duff layers and topsoil into piles or windrows.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Track-type tractor site preparation operations will meet the following minimum conditions: • Make only two machine passes (one round trip) over the same area.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Track-type tractor site preparation operations will meet the following minimum conditions: • Operate at soil moistures that maximize resistance to compaction. Special equipment or techniques that will achieve the same insignificant (less than one percent) growth loss result may be used instead of the preceding techniques especially on soils considered unsuitable for tractor type operations. All compacted areas will be tilled with a properly designed self drafting subsoiler equipment.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Convert lands identified as available for timber production but currently growing primarily brush or hardwoods to appropriate conifer species unless the hardwoods will produce a higher net monetary return than conifers. Such actions will meet relevant tests of economic feasibility or justification and will be consistent with other resource and land use allocation objectives of an alternative. Conversion could include harvest of existing merchantable trees slashing of nonmerchantable trees and other site preparation techniques as appropriate.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Achieve adequate reforestation as promptly as practical following timber harvest. Harvested areas will be planted with indigenous commercial coniferous species (e.g. Douglas-fir western hemlock and western redcedar etc.) generally within one year of the completion of harvesting and site preparation. Hardwoods will be encouraged on harvested sites where they will produce a higher net monetary return than conifers. Identified root disease centers will be planted with indigenous resistant tree species.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use planting stock from nursery grown seed collected on sites and at elevations similar to the specific project area. Genetically selected stock will also be nursery grown and used to the extent available in accordance with BLM's Western Oregon Tree Improvement Plan. Broad selection of parent trees for such stock is used to maintain genetic diversity.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS Secs. 4.7.1.3 & 4.7.1.6 EIS App. F POD Att. I POD Att. J POD Att. BB POD Att. DD
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Conduct post-treatment reforestation surveys to determine the rate of survival and if replanting or interplanting will be required to meet stocking standards.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Protect plantations by using treatments including protection of seedlings from the sun by shading and protection from damage by deer elk mountain beaver or other animals by placing plastic tubing or netting over the seedlings or by bud capping. Large populations of mountain beaver or pocket gophers will be reduced by several different methods when they cause significant damage to a plantation. The number of acres requiring each of these treatments will be determined annually in conjunction with normal reforestation surveys. Control within progeny test sites and other intensive study plots will also include porcupine or other animals causing significant damage. The appropriate treatments will be analyzed and determined through an interdisciplinary effort that will consider all resource objectives.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Promote the survival and establishment of coniferous seedlings through maintenance treatments. Release treatments reduce competition for light moisture and nutrients between surrounding vegetation and existing coniferous seedlings and promote dominance and growth of established coniferous trees. Faster growing hardwoods such as red alder bigleaf maple or vine maple overtop and suppress slower starting conifer seedlings. The degree and type of competition varies with the individual site. On dry sites grasses forbs and shrubs are strong competitors for water while elsewhere shrubs and/or hardwoods grow rapidly enough to shut out essential light and compete for water during the dry summer. With reduced competition the conifers rapidly grow beyond the point where they can be overtopped and further suppressed by surrounding vegetation. When this growth situation is achieved (approximately three to ten years after planting) there will be no further effort to control competing vegetation.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Use an integrated vegetation management approach in selection of maintenance and release treatments in conformance with BLM's "Record of Decision Western Oregon Program - Management of Competing Vegetation" 1992. Herbicides will be used to control competing vegetation when analysis shows their use to be the most appropriate treatment. See the previous discussion on site preparation for further discussion of herbicide use. Manual vegetation control methods (clearing around selected commercial trees using hand tools) will also be used when considered most appropriate to assure commercial tree growth.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Apply precommercial thinning to timber stands in the intensive timber production base that are overstocked. Thinning will generally be done between ten and 20 years of age. Average number of trees left will vary between 150 to 250 trees per acre depending on the alternative and individual stand prescription. Contract specifications will define desired density spatial arrangement and selection criteria for trees to be retained.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Fertilize areas precommercially or commercially thinned and portions of areas where stocking control is achieved through plantation spacing where increased wood yields will result. The average application is expected to be 200 pounds of nitrogen per acre beginning when the stand is precommercially thinned and at 15 year intervals thereafter until 20-25 years before final harvest. In addition to acceleration of growth for up to 15 years following treatment fertilization tends to reduce shock associated with thinning.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Manage top ranking plus trees intensively in the field to optimize cone production (thinning fertilization girdling and systemic insecticide treatment). The seed orchards for Douglas-fir and sugar pine will be managed to produce increasing yields of genetically selected seed. Minor species seed production plantations will also be planted in the seed orchards to ensure a dependable supply of seed for trees native to the Roseburg District.	N		
Matrix (General Forest Management Areas and Connectivity/Diversity Blocks): Apply pruning to selected young forest stands. This treatment can significantly increase the value of harvested timber. It reduces the proportion of juvenile wood in the tree and the number of knots caused by branches. The lower branches of the identified crop trees will usually be pruned to a height of approximately 18 feet.	N		
General Forest Management Area: Retain six to eight green conifer trees per acre after regeneration harvest to provide a source of snag recruitment and a legacy bridging past and future forests. Retained trees will be distributed in variable patterns (e.g. single trees clumps and stringers) to contribute to stand diversity.	N		
General Forest Management Area: In addition to the previous green tree retention management action/direction retain green trees for snag recruitment in harvest units where there is an identified near-term (less than three decades) snag deficit. These trees do not count toward green tree retention requirements.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
General Forest Management Area: Leave 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Existing decay class 1 and 2 logs count toward this requirement. Down logs will reflect the species mix of original stands. Where this management action/ direction cannot be met with existing coarse woody debris merchantable material will be used to make up the deficit.	N		
General Forest Management Area: Plan initial spacing of seedlings thinning and control of competing vegetation in the General Forest Management Area to maximize wood production by concentrating site resources on individual tree growth.	N		
General Forest Management Area: See Appendix E[12] for additional detailed management direction.			
Connectivity/Diversity Blocks: See Appendix E[7] for additional detailed management direction.			
Special Forest Products			
All Land Use Allocations: Establish specific guidelines for the management of individual Special Forest Products using interdisciplinary review as needed. Management guidelines will be based on the ecological characteristics of the Special Forest Products species and the requirements of associated plant animal and fungal species. Guidelines will include provisions that minimize changes in site productivity. Monitoring of harvest activities and the effects of harvest will be part of Special Forest Products management. Feasibility to harvest newly identified Special Forest Products species will receive interdisciplinary review.	N		
Riparian Reserves: Where catastrophic events result in degraded riparian conditions allow fuelwood cutting if required to attain Aquatic Conservation Strategy objectives.	N		
Energy and Minerals			
All Land Use Allocations – Leasable Minerals: Use special stipulations for oil gas and geothermal leases to protect fragile areas or critical resource values (see Appendix G [13]for a list of mineral restrictions by resource value). Special stipulations may include seasonal restrictions to protect resources such as critical wildlife habitat prevent excessive erosion etc.; controlled surface use stipulations to protect valuable resources in small areas; and no surface occupancy stipulations to protect valuable resources scattered over a large area while still providing an opportunity for exploration and development. Special stipulations may be waived by authorized BLM officials if the objective of a stipulation could be met in another way.	N		
All Land Use Allocations – Locatable Minerals: Use general requirements in 43 CFR 3809 and site specific guidelines to avoid unnecessary or undue degradation of resources on mining claims.	N		

[12] Appendix E: Silvicultural Systems and Harvest Methods, Roseburg District Record of Decision and Resource Management Plan, June 1995
[13] Appendix G: Restrictions on Mineral and Energy Exploration and Development Activity, Roseburg District Record of Decision and Resource Management Plan, June 1995

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Locatable Minerals: Require reclamation at the earliest feasible time for all surface disturbing operations whether conducted under a notice or approved plan of operations.	N		
All Land Use Allocations – Saleable Minerals: Address quarry development management and reclamation needs through implementation planning.	P, C, R	P, B, R	EIS Sec. 2.4.2.2 EIS Sec. 4.2.2.4 POD Att. I POD Att. Q
All Land Use Allocations – Saleable Minerals: Emphasize long-term regional quarry use.	N		
All Land Use Allocations – Saleable Minerals: Develop new quarry sites in locations consistent with overall management objectives and guidelines of the Resource Management Plan. New quarry sites will not be developed unless no other reasonable alternative can be found.	N		
All Land Use Allocations – Saleable Minerals: Continue to use rock from existing quarries for construction and maintenance of timber sale access roads and other purposes.	P, C	P, B	EIS Sec. 2.4.2.2 EIS Sec. 4.2.2.4 POD Att. I POD Att. Q
Land Tenure Adjustments - – Not Applicable, Excluded From Table			
Rights-of-Way			
Riparian Reserves: Issue rights-of-way to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible adjust existing rights-of-way to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible eliminate the activity. Priority for modifying existing rights-of-way will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.5 EIS App. J
Riparian Reserves: For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission (the Commission) provide timely written comments regarding maintenance of instream flows and habitat conditions and maintenance/ restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of Riparian Reserves. For existing support facilities inside Riparian Reserves that are essential to proper management provide recommendations to the Commission that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the Riparian Reserves should be located operated and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Riparian Reserves: For other hydroelectric and surface water development proposals in Tier One Key Watersheds require instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies. For other hydroelectric and surface water development proposals in all other watersheds give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies.	N		
Late-Successional Reserves: Retain and maintain existing developments such as utility corridors and electronic sites consistent with other management actions/direction for Late-Successional Reserves.	N		
Late-Successional Reserves: Remove hazard trees along utility right-of-way and in other developed areas.	C, O	B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.6 EIS App. H POD Att. U
Other Land Use Allocations: Encourage location of major new rights-of-way projects in existing utility/transportation routes and other previously designated corridors.	P	P, R	EIS Secs. 2.1.2.1 & 2.1.2.2 EIS Secs. 2.3.2.3 EIS Sec. 4.10.2.6 EIS App. D
Other Land Use Allocations: Encourage applicants to consult the Western Regional Corridor Study in planning route locations.	P	P, R	EIS Sec. 2.3.2.1 EIS Secs. 3.4.1 - 3.4.3
Other Land Use Allocations: Consider new locations for rights-of-way projects on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing route or corridor would not be technically or economically feasible; and the proposed project would otherwise be consistent with this Resource Management Plan and would minimize damage to the environment.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4
Other Land Use Allocations: Allow expansion of communications facilities on existing communication sites.	N		
Other Land Use Allocations: Consider new communication sites on a case-bycase basis. Applications may be approved where the applicant can demonstrate that use of an existing developed communication site would not be technically feasible; and the proposed facility would otherwise be consistent with this Resource Management Plan and would minimize damage to the environment.	N		
Access			
Acquire access by obtaining easements entering into new reciprocal right-of-way agreements or amending existing reciprocal right-of-way agreements. Condemnation for access will be pursued when necessary.	N		
Acquire perpetual exclusive easements whenever possible to provide for public access and BLM control. Acquire nonexclusive easements which do not provide for public access consistent with management objectives and where no public access is needed. Acquire temporary easements only when other options are not available.	N		

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Continue to obtain access across lands of private companies or individuals who are a party (permittee) to existing reciprocal rights-of-way agreements through appropriate agreements. Whenever a willing permittee is identified and it is determined there is a need for public access negotiations could be started to provide for the acquisition of public access rights.	N		
Emphasize acquisition for public access on major travel routes.	N		
Acquisition of easements will be required for access to all parcels in the planning area for resource management.	N		
Continue to provide all prospective purchasers of BLM timber with an equal opportunity of access when timber is offered for sale. This will most often be accomplished by reciprocal right-of-way agreements with private landowners or through federal ownership and control of roads. Reciprocal right-of-way agreements will continue to be used to identify conditions of use that are equitable and nondiscriminatory and facilitate management of the road network. Most of the lands where logging road right-of-way agreements are appropriate are now covered by reciprocal agreements. The 140 individual agreements and permits will continue to be subject to the regulations in effect when they were executed or assigned. The provisions of these agreements allow BLM only limited discretion to control the location of roads constructed by private parties across BLM-administered lands (and vice versa). This limited discretion allows BLM to object for only one environmental reason - excessive erosion damage. However future reciprocal right-of-way agreements could have different provisions depending on the regulations in effect at the time of their execution.	N		
Withdrawals – Not Applicable, Excluded From Table			
Noxious Weeds			
All Land Use Allocations: Continue to survey BLM-administered land for noxious weed infestations report infestations to the Oregon Department of Agriculture and work with the department to control infestations.	N		
All Land Use Allocations: Use control methods which do not retard or prevent attainment of Aquatic Conservation Strategy Objectives.	C, O	B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. J POD Att. N
All Land Use Allocations: Apply integrated pest management methods (e.g. chemical mechanical manual and biological) in accordance with BLM's 1985 Northwest Area Noxious Weed Control Program Environmental Impact Statement 1987 Supplement and respective Records of Decision.	C, O	B	EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
Hazardous Materials			

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Identify investigate and arrange for removal of hazardous substances on BLM-administered land in accordance with the Comprehensive Environmental Response Compensation and Liability Act (the Act). Emergency response will be as specified in the District Hazardous Materials Contingency Plan. The response will include cleanup, proper notifications, criminal investigations, risk assessment and other actions consistent with the Act and the nature of the emergency.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Store, treat and dispose of hazardous materials in accordance with the Resource Conservation and Recovery Act and other appropriate regulations.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Use the Emergency Planning and Community Right-To-Know Act to coordinate emergency planning with state and local jurisdictions concerning hazardous materials emergency notifications and routine reporting of hazardous materials inventories.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Until hazardous wastes on BLM-administered land are removed protect employees and the public from exposure to these materials.	C, O	B	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X
Provide information to the public regarding the need to properly dispose of hazardous materials and the danger of becoming exposed to hazardous materials.	P, C, O	P, B	EIS Sec. 1.6 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 POD Att. E POD Att. W POD Att. X
Fire/Fuels Management			
Address fire/fuels management for all land use allocations as part of watershed analysis and project planning. This will include determinations of the role of fire and the risk of large-scale high intensity wildfires at the landscape level.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. DD
Describe the need to use prescribed fire or other fuel management treatments to reduce fuel hazards and the risk of large scale high intensity fire while maintaining coarse woody debris down logs green tree retention and snags consistent with the natural role of fire and protection standards for each land allocation unit.	N		

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Coordinate fire management activities in rural interface areas with local governments, agencies and landowners. During watershed analysis identify additional factors which may affect hazard reduction goals. Minimize the impacts of wildfire suppression actions.	P, C, O, M	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.8.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. DD
Riparian Reserves: Allow some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.	N		
Riparian Reserves: Rapidly extinguishing smoldering coarse woody debris and duff should be considered to preserve these ecosystem elements.	N		
Adaptive Management Areas: Explore and support opportunities to research the role and effects of fire management on ecosystem functions.	N		
Adaptive Management Areas: Emphasize fire/fuels management cooperation across agency and ownership boundaries.	N		
Adaptive Management Areas: Follow fire/fuels management actions/direction in this Resource Management Plan until Adaptive Management Area plans are completed and approved.	N		
Adaptive Management Areas: Use accepted wildfire suppression strategies and tactics and conform with specific agency policy.	N		
Matrix: Plan and implement prescribed fire treatments to minimize intensive burning unless appropriate for certain specific habitats, communities or stand conditions.	P, C, O	P, B	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. H EIS App. J POD Att. K POD Att. R
Matrix: Plan and implement prescribed fire treatments to minimize consumption of litter and coarse woody debris.	N		
Matrix: Plan and implement prescribed fire treatments to minimize disturbance of soil and litter that may occur as a result of heavy equipment operation.	N		
Matrix: Plan and implement prescribed fire treatments to minimize the frequency of treatments.	N		
All Land Use Allocations – Wildfire Suppression: Minimize the direct negative impacts of wildfire suppression on ecosystem management objectives.	N		
All Land Use Allocations – Wildfire Suppression: Respond to all wildfires by taking appropriate suppression responses. In most cases responses will consist of aggressive initial attack to extinguish fires at the smallest size possible.	N		

TABLE E-2

Roseburg Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Wildfire Suppression: For wildfires that escape initial attack perform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induced by suppression activities compared to expected wildfire damage. Suppression tactics will consider: • Public and firefighting personnel safety. • Protection of specific attributes of each land use allocation. • Coordination of wildfire suppression activities to avoid causing adverse impacts on federal and nonfederal lands. • Appropriate use of suppression tools such as aircraft dozers pumps and other mechanized equipment and clear definitions of any restrictions relating to their use. • The potential adverse effects on meeting ecosystem management objectives. • Protection of structural components such as snags duff and coarse woody debris to the extent possible.	N		
All Land Use Allocations – Fuels Management (including Hazard Reduction) Using Prescribed Fire: Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity stand replacing wildfires; and adhere to smoke management and air quality standards.	C, O	B	EIS Sec. 2.4.2.1 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. K POD Att. R
All Land Use Allocations – Fuels Management (including Hazard Reduction) Using Prescribed Fire: Reduce hazards through methods such as prescribed burning mechanical or manual manipulation of forest vegetation and debris removal of forest vegetation and debris and combinations of these methods. Hazard reduction plans will be developed through an interdisciplinary team approach and will consider the following: • Safety of firefighting personnel. • Identification of levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern. • Developing a fuel profile that supports land allocation objectives. • Reducing the risk of wildfire in a cost efficiency manner. • Interagency cooperation to assure cost effective fuel hazard reduction across the landscape. • Adherence to smoke management and air quality standards. • Consistency with objectives for land use allocations. • Maintenance or restoration of ecosystem processes or structure. • The natural role of fire in specific landscapes current ecosystem needs and wildfire hazard analysis included in the fire management plan.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. K POD Att. R POD Att. DD
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: The use of prescribed fire will be based on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection restoration and maintenance of critical stands that are currently susceptible to large scale catastrophic wildfire.	C, R, O	B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. K POD Att. R POD Att. DD

TABLE E-2 **Roseburg Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Underburning will be reintroduced across large areas over a period of time to create a mosaic of stand conditions. Treatments should be site specific treatments because some species with limited distributions are fire intolerant. The use of prescribed burning will be based on an interdisciplinary evaluation. Funding authority therefore must reflect the range of objectives identified for using fire under ecosystem management.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Use prescribed fire to manage seral stage diversity through the development of fire resistant stand mosaics by timing the application of fire (e.g. every five to ten years).	N		
All Land Use Allocations – Fuels Management for Hazard Reduction: Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land allocation objectives by lowering the risk of high intensity stand replacing wildfires; and adhere to smoke management and air quality standards.	C, O	B	EIS Sec. 2.4.2.1 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. K POD Att. R
All Land Use Allocations – Fuels Management for Hazard Reduction: Reduce hazards through methods such as prescribed burning, mechanical or manual manipulation of forest vegetation, and debris removal of forest vegetation and debris and combinations of these methods. Hazard reduction plans will be developed through an interdisciplinary team approach and will consider the following: • Providing for the safety of firefighting personnel. • Identification of levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern. • Developing a fuel profile that supports land allocation objectives; and seeking a balance between reducing the risk of wildfire and the cost efficiency consistent with meeting land allocation objectives.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. K POD Att. R POD Att. DD

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TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Key Watersheds			
Prepare watershed analyses prior to further resource management activity including timber harvest in key watersheds. Until watershed analyses can be completed proceed with minor activities such as those categorically excluded under the National Environmental Policy Act (NEPA) regulations (except timber harvest) if they are consistent with Aquatic Conservation Strategy and riparian reserve objectives. Apply riparian reserve management actions/direction.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Reduce existing system and nonsystem road mileage outside roadless areas. If funding is insufficient to implement reductions there will be no net increase in the amount of roads in key watersheds.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. Y POD Att. DD
Give highest priority to watershed restoration in key watersheds.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. I POD Att. DD
Watershed Restoration			
Prepare watershed analyses prior to restoration activities.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Restore watershed processes to recover degraded habitat.	P, R	P, M	EIS Sec. 2.1.4 EIS Secd. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. DD
Focus watershed restoration on removing and upgrading roads.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. Y POD Att. DD
Apply silvicultural treatments to restore large conifers in riparian reserves.	R	M	EIS Sec.2.1.4 EIS Sec. 4.1.3.5 EIS App. J EIS App. F POD Att. DD

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Restore stream channel complexity. In-stream structures will only be used in the short term and not as a mitigation measure.	P, C, R	P, B, M	EIS Sec. 1.4.2 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS App. F POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Survey and Manage for Amphibians Mammals Bryophytes Mollusks Vascular Plants Fungi Lichens and Arthropods			
Manage known sites (highest priority): Acquire information on these sites make it available to all project planners and use it to design or modify activities.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): Protect known sites. For some species apply specific management treatments such as prescribed fire.	P, C	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): For rare and endemic fungus species temporarily withdraw known sites from ground-disturbing activities until the sites can be thoroughly surveyed and site-specific measures prescribed.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Continue existing efforts to survey and manage rare and sensitive species habitat.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For species without survey protocols start immediately to design protocols and implement surveys.	N		
Survey prior to ground-disturbing activities and manage sites: Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species survey for *Allotropa virgata Bensoniella oregana Cypripedium fasciculatum and Cypripedium montanum*. Survey for Del Norte salamanders Siskiyou Mountain salamanders and red tree voles. These surveys will precede the design of all ground-disturbing activities to be implemented in 1997 or later.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For the other species listed in Appendix C[14] begin development of survey protocols promptly and proceed with surveys as soon as possible. These surveys will be completed prior to ground-disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the FSEIS.	P, R	P, M , A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1

[14] Appendix C: Special Status Species Species to be Protected Through Survey and Manage Guidelines and Protection Buffer Species Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Survey prior to ground-disturbing activities and manage sites: Conduct surveys at a scale most appropriate to the species.	P, R	P, M A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Develop management actions/direction to manage habitat for the species on sites where they are located.	N		
Survey prior to ground-disturbing activities and manage sites: Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Conduct extensive surveys for the species to find high-priority sites for species management. Specific surveys prior to ground-disturbing activities are not a requirement.	P	P, A	EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K
Conduct extensive surveys and manage sites: Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time.	P, R	P, M, A	EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K
Conduct extensive surveys and manage sites: Design these surveys for efficiency and develop standardized protocols.	N		
Conduct extensive surveys and manage sites: Begin these surveys by 1996.	N		
Conduct general regional surveys: Survey to acquire additional information and to determine necessary levels of protection for arthropods bryophytes lichens and fungi species that were not classed as rare and endemic.	N		
Conduct general regional surveys: Initiate these surveys no later than Fiscal Year 1996 and complete them within 10 years.	N		
Riparian Reserves			
Timber Management: Prohibit timber harvest including fuelwood cutting in riparian reserves with the following exceptions: • Allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy and riparian reserve objectives where catastrophic events such as fire flooding volcanic wind or insect damage results in degraded riparian conditions.	N		
Timber Management: Prohibit timber harvest including fuelwood cutting in riparian reserves with the following exceptions: • Remove salvage trees only when watershed analysis determines that present and future woody debris needs are met and other Aquatic Conservation Strategy and riparian reserve objectives are not adversely affected.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Timber Management: Prohibit timber harvest including fuelwood cutting in riparian reserves with the following exceptions: • Apply silvicultural practices for riparian reserves to control stocking reestablish and manage stands and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy and riparian reserve objectives (see Appendix E[15]).	N		
Roads Management: Cooperate with Federal State and county agencies and work with private parties with road use agreements to achieve consistency in road design operation and maintenance necessary to attain Aquatic Conservation Strategy and riparian reserve objectives.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2 EIS App. J POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by completing watershed analyses including appropriate geotechnical analyses (i.e. examining soil and rock conditions in riparian and stream crossings) prior to construction of new roads or landings in Riparian Reserves.	P	P	EIS Secs. 4.2.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by minimizing road and landing locations in Riparian Reserves.	P	P, R	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by preparing road design criteria elements and standards that govern construction and reconstruction.	P	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by preparing operation and maintenance criteria that govern road operation maintenance and management.	P	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by minimizing disruption of natural hydrologic flow paths including diversion of streamflow and interception of surface and subsurface flow.	C, R	B, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. DD
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by restricting sidecasting as necessary to prevent the introduction of sediment to streams.	P, C	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y

[15] Appendix E: Silvicultural Systems Utilized in the Design of the Resource Management Plan Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: For each existing or planned road meet Aquatic Conservation Strategy objectives by avoiding wetlands entirely when constructing new roads.	P, C	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by reconstructing roads and associated drainage features that pose a substantial risk.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by: • Prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected. • Closing and stabilizing (or obliterating and stabilizing) roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: New culverts bridges and other stream crossings shall be constructed and existing culverts bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved to accommodate at least the 100-year flood including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels fills and hill slopes.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (e.g. streams that can be made available to anadromous fish by removing obstacles to passage).	P, C, R	B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum this plan will include provisions for the following activities: • Inspections and maintenance after storm events. • Inspections and maintenance during storm events. • Road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources. • Traffic regulation during wet periods to prevent damage to riparian resources. • Establishing the purpose of each road by developing the Road Management Objective.	P, C, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. Y
Grazing Management: Through a planning and environmental analysis process appropriate to the action adjust or eliminate grazing practices that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		
Grazing Management: Locate new livestock handling and/or management facilities outside riparian reserves. For existing livestock handling facilities inside riparian reserves ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met require relocation or removal of such facilities.	N		
Grazing Management: Limit livestock trailing bedding watering loading and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy and riparian reserve objectives are met.	N		
Recreation Management: Design new recreational facilities within riparian reserves including trails and dispersed sites so as not to prevent meeting Aquatic Conservation Strategy and riparian reserve objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within riparian reserves evaluate and mitigate impacts to ensure that these do not prevent and to the practicable extent contribute to attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		
Recreation Management: Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where adjustment measures such as education use limitations traffic control devices increased maintenance relocation of facilities and/or specific site closures are not effective eliminate the practice or occupancy.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation Management: Address attainment of Aquatic Conservation Strategy and riparian reserve objectives in wild and scenic river and wilderness management plans.	N		
Energy and Minerals Management: Require a Plan of Operations including a reclamation plan and reclamation bond for all mining operations in riparian reserves. Such plans and bonds will address the costs of removing facilities equipment and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy and riparian reserve objectives.	N		
Energy and Minerals Management: Locate structures support facilities and roads outside riparian reserves. If no alternative to siting facilities in riparian reserves exists locate in a way compatible with Aquatic Conservation Strategy and riparian reserve objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in riparian reserves. When a road is no longer required for mineral or land management activities it will be reclaimed. In any case access roads will be constructed consistent with 43 CFR 3809 and acceptable road construction standards and will minimize damage to resources in riparian reserves.	N		
Mineral Management: Avoid locating solid and sanitary waste facilities in Riparian Reserves. If no alternative to locating mine waste (waste rock spent ore and tailings) facilities in Riparian Reserves exists if releases can be prevented and if stability can be ensured then: • Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics. • Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. • Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. • Require reclamation bonds adequate to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.	N		
Energy and Minerals Management: Where an existing operator is in noncompliance at the notice level (i.e. causing unnecessary or undue degradation) require actions similar to those stated above to meet the intent of 43 CFR 3809.	N		
Energy and Minerals Management: For leasable mineral activity in Riparian Reserves prohibit surface occupancy for oil gas and geothermal exploration and development activities where leases do not exist. Where possible modify the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives consistent with existing lease terms and stipulations.	N		
Energy and Minerals Management: Allow development of saleable minerals such as sand and gravel within riparian reserves only if Aquatic Conservation Strategy and riparian reserve objectives can be met.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fire Management: Design fuel treatment fire suppression strategies practices and activities to meet Aquatic Conservation Strategy and riparian reserve objectives and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 EIS App. F EIS App. J POD Att. K POD Att. R POD Att. DD
Fire Management: Locate incident bases camps helibases staging areas helispots and other centers for incident activities outside of riparian reserves. If the only suitable location for such activities is within the riparian reserve an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location use conditions and rehabilitation requirements. Utilize an interdisciplinary team to predetermine suitable incident base and helibase locations.	N		
Fire Management: Minimize delivery of chemical retardant foam or other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exists or following a review and recommendation by a resource advisor when an escape would cause more long-term damage.	N		
Fire Management: Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, M	EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 EIS App. J POD Att. R POD Att. DD
Fire Management: Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy and riparian reserve objectives whenever riparian reserves are significantly damaged by a wildfire or a prescribed fire burning outside prescribed parameters.	N		
Fire Management: Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on watershed analysis and planning. Until watershed analysis is completed suppress wildfires to avoid loss of habitat and to maintain future management options.	N		
Fire Management: Consider rapidly extinguishing smoldering coarse woody debris and duff.	N		
Fire Management: Locate and manage water drafting sites (e.g. sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian habitat and water quality as consistent with Aquatic Conservation Strategy and riparian reserve objectives.	N		
Lands Management: Identify instream flows needed to maintain riparian resources channel conditions and fish passage.	N		

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Lands Management: Issue leases permits rights-of-way and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where legally possible adjust existing leases permits rights-of-way and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives. If adjustments are not effective and where legally possible eliminate the activity. Priority for modifying existing leases permits rights-of-way and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.3, 2.1.5 & 2.1.6 EIS Sec. 4.1.3.5 EIS App. J POD Att. Y
Lands Management: Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction.	N		
Lands Management: For proposed hydroelectric projects and other surface water development proposals under the jurisdiction of the Federal Energy Regulatory Commission (the Commission) provide timely written comments regarding maintenance of instream flows and habitat conditions and maintenance/restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of riparian reserves. For existing support facilities inside riparian reserves that are essential to proper management provide recommendations to the Commission that ensure Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the riparian reserves should be located operated and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		
Lands Management: For hydroelectric and other surface water development proposals in Tier One key watersheds require instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate State agencies. For other hydroelectric and surface water development proposals in all other watersheds give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources favorable channel conditions and fish passage. Coordinate this process with the appropriate State agencies.	N		
General Riparian Area Management: Identify and attempt to secure instream flows needed to maintain riparian resources channel conditions and aquatic habitat.	N		
General Riparian Area Management: Fell trees in riparian reserves when they pose a safety risk. Keep felled trees on site when needed to meet coarse woody debris objectives	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.2.2& 4.5.2.3 POD Att. U

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
General Riparian Area Management: Apply herbicides insecticides other toxicants and other chemicals only in a way that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
General Riparian Area Management: Locate water drafting sites to minimize adverse effects on stream channel stability sedimentation and instream flows needed to maintain riparian resources channel conditions and fish habitat.	N		
Watershed and Habitat Restoration: Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems conserves the genetic integrity of native species and attains Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. L POD Att. DD
Watershed and Habitat Restoration: Cooperate with Federal State local and Tribal agencies and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy and riparian reserve objectives.	N		
Watershed and Habitat Restoration: Prevent watershed and habitat degradation rather than relying on mitigation measures or planned restoration.	N		
Fish and Wildlife Management: Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Fish and Wildlife Management: Design construct and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing fish and wildlife interpretative and other user-enhancement facilities inside riparian reserves ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met relocate or close such facilities.	N		
Fish and Wildlife Management: Cooperate with Federal Tribal and State wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Fish and Wildlife Management: Cooperate with Federal Tribal and State fish management agencies to identify and eliminate impacts associated with habitat manipulation fish stocking harvest and poaching that threaten the continued existence and distribution of native fish stocks occurring on Federal lands.	N		
Late-Successional Reserves			
Develop late-successional reserve assessments prior to habitat manipulation (see Appendix A[16]).	P	P	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. H EIS App. J
A management assessment will be prepared for each large late-successional reserve (or group of smaller late-successional reserves) before habitat manipulation activities are designed and implemented. These assessments may be developed as part of province-level planning or as standalone assessments. If developed to stand alone the assessments will be closely coordinated with subsequent watershed analysis and province-level planning. SEIS ROD standards and guidelines should be refined at the province level prior to development of late-successional reserve assessments.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Silvicultural treatments for the establishment and maintenance of desired conifer and non-conifer species on units harvested prior to EIS App. H designation may precede completed management assessments (see C-12 of SEIS ROD). Only in unusual circumstances will other silvicultural treatments including prescribed fire precede preparation of this management assessment. Late-successional reserve assessments are subject to review by the Regional Ecosystem Office. Until late-successional reserve assessments are completed fire suppression activities should be guided by land allocation objectives in coordination with local resource management specialists.	N		
Projects and activities within late-successional reserves (including restoration recreation projects for public safety thinning and salvage) may proceed in fiscal years 1995-96 using initial late-successional reserve assessments done at a level of detail sufficient to assess whether the activities are consistent with the objectives of the late-successional reserves.	N		
Plan and implement non-silvicultural activities inside late-successional reserves that are neutral or beneficial to the creation and maintenance of late-successional habitat.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Using interdisciplinary teams evaluate other activities not described below and document appropriate guidelines.	N		

[16] Appendix A: Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Request review by the Regional Ecosystem Office of all activities deemed to have potential adverse effects on late-successional reserve objectives. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Silviculture: Plan and implement silvicultural treatments inside late-successional reserves that are beneficial to the creation of late-successional habitat (see Appendix E[17]).	N		
Silviculture: If needed to create and maintain late-successional forest conditions conduct thinning operations in forest stands less than 80 years of age. This will be accomplished by precommercial or commercial thinning of stands regardless of origin (e.g. planted after logging or naturally regenerated after fire or blowdown).	N		
Silviculture: EIS App. Hs would be managed to reduce the risk of large scale disturbance such as from wildfire and the subsequent loss of habitat for old-growth associated species.	N		
Salvage: Limit salvage of dead trees in late-successional reserves to areas where stand-replacing events exceed ten acres in size and canopy closure has been reduced to less than 40 percent.	N		
Salvage: Retain all standing live trees including those injured (e.g. scorched) but likely to survive.	N		
Salvage: Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.	N		
Salvage: Retain adequate coarse woody debris quantities in a new stand so that in the future it will still contain amounts similar to naturally regenerated stands. Watershed-level or province-level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to coarse woody debris over the long term.	N		
Salvage: If an EIS App. H assessment indicates it is essential to reduce future risk of fire or insect damage conduct salvage that does not meet the preceding management actions/direction. Focus on those areas where there is high risk of large scale disturbance.	N		
Salvage: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.	N		
Salvage: After disturbance in younger stands develop diameter and biomass retention direction consistent with the intention of achieving late-successional forest conditions. Where green trees snags and logs are present following disturbance the green-tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snags can be credited toward the amount of coarse woody debris biomass needed to achieve management objectives.	N		

[17] Appendix E: Silvicultural Systems Utilized in the Design of the Resource Management Plan Record of Decision for the Medford District Resource Management Plan 1995

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Salvage: Retain logs present on the forest floor before a disturbance event.	N		
Salvage: Retain coarse woody debris to approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.	N		
Salvage: Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit deviations to as small an area as possible.	N		
Road Construction and Maintenance: Construct roads in late-successional reserves if the potential benefits of silviculture salvage and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines they will be kept to a minimum be routed through unsuitable habitat where possible and be designed to minimize adverse impacts. Alternate access methods such as aerial logging will be considered to provide access for activities in reserves.	P, C	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.6 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. H POD Att. Y
Road Construction and Maintenance: Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U POD Att. Y
Fuelwood Gathering: Permit fuelwood gathering only in existing cull decks in areas where green trees are marked by silviculturists for thinning in areas where blowdown is blocking roads and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance from high intensity wildfire. In all cases these activities will comply with management actions/direction for salvage and silvicultural activities.	N		
Energy and Minerals: Assess the impacts of ongoing and proposed mining activities in late-successional reserves.	N		
Energy and Minerals: Include stipulations in mineral leases and when legally possible require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.	N		
Developments: Neither construct nor authorize new facilities that may adversely affect late-successional reserves.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Developments: Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on late-successional reserves.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Developments: Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.	P	P, R	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Maintain existing developments such as campgrounds utility corridors and electronic sites consistent with other management actions/direction for late-successional reserves.	P, C, O	P, B	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Developments: Remove hazard trees along utility rights-of-way and trails and in other developed areas.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.2.2 POD Att. U POD Att. Y
Land Exchanges: Consider land exchanges in late-successional reserves if they provide benefits equal to or better than current conditions.	N		
Land Exchanges: Consider land exchanges especially to improve area distribution and quality (e.g. connectivity shape and contribution to biological diversity) of late-successional reserves especially where public and private lands are intermingled.	N		
Habitat Improvement Projects: Design projects to improve conditions for fish wildlife special status species, SEIS special attention species and watersheds if they provide late-successional habitat benefits or if their adverse effect on late-successional associated species is negligible.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H POD Att. DD
Habitat Improvement Projects: Consider projects required for recovery of threatened or endangered species even if they result in some reduction of habitat quality for other late-successional species.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H POD Att. DD
Habitat Improvement Projects: Design and implement watershed restoration projects consistent with late-successional reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Livestock Grazing: Through an interdisciplinary process implement range-related management activities that do not adversely affect late-successional habitat.	N		
Livestock Grazing: Through a planning and environmental analysis process appropriate to the action adjust or eliminate grazing practices that retard or prevent attainment of late-successional reserve objectives.	N		
Livestock Grazing: Evaluate effects of existing and proposed livestock management and handling facilities in late-successional reserves to determine if reserve objectives are met. Where objectives cannot be met relocate livestock management and/or handling facilities.	N		
Fire Suppression and Prevention: As part of watershed analysis or late-successional reserve assessments plan fire management for each late-successional reserve.	N		

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fire Suppression and Prevention: Emphasize maintaining late-successional habitat in wildfire suppression plans.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Fire Suppression and Prevention: Use minimum impact suppression methods for fuel management in accordance with guidelines for reducing risks of large-scale disturbances.	C, R, O	B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Fire Suppression and Prevention: During actual fire suppression activities consult an interdisciplinary team or environmental specialist to assure that habitat damage is minimized.	C, R, O	B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Fire Suppression and Prevention: Until a fire management plan is completed for a late-successional reserve or group of reserves suppress wildfire to avoid loss of habitat and to maintain future management options.	N		
Fire Suppression and Prevention: Prepare a specific fire management plan prior to any habitat manipulation activities in late-successional reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the late-successional reserve. Until the plan is approved proposed activities will be subject to review by the Regional Ecosystem Office.	N		
Fire Suppression and Prevention: Apply prescribed fire in a manner that retains the amount of coarse woody debris determined through watershed analysis.	C, O	B	EIS Sec. 4.1.3.6 EIS App. H EIS App. J POD Att. K POD Att. R
Fire Suppression and Prevention: Limit the size of all fires until assessment or activity plans are completed.	N		
Fire Suppression and Prevention: Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.	N		
Fire Suppression and Prevention: Consider rapidly extinguishing smoldering coarse woody debris and duff.	N		
Special Forest Products: Evaluate whether special forest product harvest activities have adverse effects on late-successional reserve objectives.	N		
Special Forest Products: Prior to selling special forest products ensure resource sustainability and protection of other resource values such as special status plant or animal species.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Special Forest Products: Where special forest product activities are extensive evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.	N		
Recreational Uses: Use adjustment measures such as education use limitations traffic control devices or increased maintenance when dispersed and developed recreation practices retard or prevent attainment of late-successional reserve objectives.	N		
Rights-of-Way Contracted Rights Easements and Special/ Temporary Use Permits: Consider as valid uses access to nonfederal lands through late-successional reserves and existing rights-of-way agreements contracted rights easements and special/temporary use permits in late-successional reserves.	P	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.5 & 2.1.6 EIS Sec. 4.1.3.6 EIS App. H POD Att. U POD Att. Y
Rights-of-Way Contracted Rights Easements and Special/ Temporary Use Permits: For all new rights-of-way proposals design mitigation measures to reduce adverse effects on late-successional reserves. Consider alternate routes that avoid late-successional reserves. If rights-of-way must be routed through a reserve design and locate them to have the least impact on late-successional habitat.	P, R	P, R, M	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 3.4.3 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. U POD Att. Y POD Att. DD
Rights-of-Way Contracted Rights Easements and Special/ Temporary Use Permits: Review all special/temporary use permits. When objectives of late-successional reserves are not being met reduce impacts through education or modification of existing permits.	C, O	B	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 4.1.3.6 EIS App. H
Nonnative Species: If introduction of a nonnative species is proposed complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional objectives.	N		
Nonnative Species: Evaluate impacts of non-native species (plant and animal) existing within reserves.	N		
Nonnative Species: Develop plans and recommendations for eliminating or controlling nonnative species that are inconsistent with late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within late-successional reserves.	P, R	P, M	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N POD Att. DD
Applegate Adaptive Management Area – Not Applicable, Excluded From Table			
Managed Late-Successional Areas			

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Where sites are occupied by Siskiyou Mountain salamander or Del Norte salamander protect the site from ground disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance whichever is greater surrounding the location. Within the site and the surrounding buffer maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy.	N		
Matrix (General Forest Management Area and Connectivity/Diversity Blocks)			
General Forest Management Areas: Conduct timber harvest and other silvicultural activities in that portion of the Matrix with suitable forestlands according to management actions/ direction summarized below and in the Timber section (see Appendices E and F).	N		
General Forest Management Areas: Within the General Forest Management Area north of Grants Pass (northern GFMA) retain at least 6 to 8 green conifer trees per acre in regeneration harvest units.	N		
General Forest Management Areas: Within the General Forest Management Area south of Grants Pass (southern GFMA) retain at least 16 to 25 large green conifer trees per acre in regeneration harvest units.	N		
General Forest Management Areas: Where sites are occupied by Siskiyou Mountain Salamander or Del Norte Salamander protect the site from ground disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance whichever is greater surrounding the location. Within the site and the surrounding buffer maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy. These sites are referred to as managed late-successional reserves in the SEIS ROD.	N		
General Forest Management Areas: Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species survey for *Allotropa virgate, Bensoniella oregano, Cypripedium fasciculatum,* and Cypripedium montanum. Survey for Del Norte salamanders Siskiyou Mountain salamanders and red tree voles. These surveys will precede the design of all ground-disturbing activities to be implemented in 1997 or later.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Secs. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App.K EIS App. M LMP Amendment BLM/FS-1
General Forest Management Areas: Protect known occupied locations of *Ptilidium californicum* (Liverwort) by deferring timber harvest and avoiding removal of fallen trees and logs. The district has one known site at this time.	N		
General Forest Management Areas: If *Ulota meglospora* (Moss) *Aleuria rhenana* (Fungus) *Otidea leoporina Otidea onotica* and *Otidea smithii* (Fungi) are discovered defer ground-disturbing activities.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Connectivity/ Diversity (C/D) Blocks Spaced Throughout the Matrix Lands in the Northern GFMA: Maintain at least 25 to 30 percent of each block in late-successional forest. Riparian reserves and other allocations with late-successional forest count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible.	N		
Connectivity/ Diversity (C/D) Blocks Spaced Throughout the Matrix Lands in the Northern GFMA: Retain at least 12 to 18 green conifer trees per acre in regeneration harvest units.	N		
Air Quality			
By the year 2000 reduce particulate matter emissions and impacts from prescribed burning by 50 percent from the baseline period (1976-1979). This will be accomplished by planning conducting monitoring and if necessary adjusting prescribed fire activities in accordance with the Oregon State Implementation Plan and the Oregon Smoke Management Plan.	P, C, O	P, B	EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. R
Minimize broadcast burning in favor of lower intensity underburning. Use emission reduction mitigation measures and smoke dispersal techniques to the greatest practical extent.	N		
Wildfire hazard reduction site preparation and the use of prescribed fire for species habitat mitigation will be implemented in a manner consistent with ecosystem management objectives.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Where appropriate use dust abatement measures during construction activities and on roads during BLM wood product removal or other BLM commodity hauling activity. Encourage dust abatement measures when haulers use BLM roads under permits and rights-of-way agreements.	C, R	B, M	EIS Sec. 4.10.2.6 POD Att. 2 POD Att. Y POD Att. DD
Prepare conformity determinations required by the Clean Air Act as part of implementing planning.	P	P	EIS Sec. 1.5.1.8 EIS Secs. 4.12.1.2 & 4.12.1.3 POD Att. B
Perform an emissions tradeoff analysis to determine and quantify the effects of prescribed burning and other types of fuel management on reduction of wildfire emissions. This analysis should be performed at the same geographic scale as conformity determinations.	P	P	EIS Sec. 1.5.1.8 EIS Secs. 4.12.1.2 & 4.12.1.3 POD Att.B
For designated nonattainment areas where smoke from woodstoves has shown to be a major source of particulate matter directly affecting both health and visibility mitigation can include close permitted firewood cutting use on or before September 30 of each year to assure that firewood is not collected when it is wet and some curing time is available prior to burning.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
For designated nonattainment areas where smoke from woodstoves has shown to be a major source of particulate matter directly affecting both health and visibility mitigation can include coordinating the issuance of educational information with wood cutting permits that target proper gathering practices and ways to minimize adverse effects on air quality from inefficient burning wood.	N		
For designated nonattainment areas where smoke from woodstoves has shown to be a major source of particulate matter directly affecting both health and visibility mitigation can include cooperating with local air quality control agencies and other Federal land management agencies to assure uniform and accurate dissemination of public information and educational material on proper firewood use and enforcement of permit requirements across agency boundaries.	N		
Water and Soils			
Late-Successional Reserves: Consider watershed restoration projects if they provide late-successional habitat benefits or if their effect on late-successional associated species is neutral or beneficial. Design and implement watershed restoration projects in a manner that is consistent with late-successional reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
General: Improve and/or maintain soil and water conditions by closing selected areas to off-highway vehicle use and/ or limiting such use to existing or designated roads and trails.	P, C, R, O	B, M	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Sec. 4.8.1.2 EIS Sec. 4.8.2.3 EIS Sec. 4.10.2.5 POD Att. I POD Att. S POD Att. Y POD Att. DD
Water: Continue to implement a nonpoint source management program in cooperation with the U. S. Environmental Protection Agency and the Oregon Department of Environmental Quality.	C, O	B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS App. J POD Att. I POD Att. BB
Water: Ensure consistency of management activities with Oregon's Statewide Water Quality Management Plan for forest practices and with Oregon's water quality criteria and guidelines (Oregon Administrative Rule 340-41). This includes consistency with Oregon's program for water quality limited streams in the planning area which are Bear Creek and its tributaries Little Butte Creek and Evans Creek.	C, O	B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS App. J

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water: Continue coordination with the Oregon Department of Environmental Quality for implementation of best management practices that protect beneficial uses of water.	C, O	B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2 & 4.4.3 EIS App. J
Water: Protect floodplains and wetlands in accordance with Executive Orders 11988 and 11990 and BLM's Riparian-Wetlands Initiative for the 1990s (USDI BLM 1991a).	P, C, R, O	P, B, M	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.2 EIS App. J POD Att. CC POD Att. DD
Water: Cooperate with Federal State local and Tribal agencies and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy and riparian reserve objectives.	N		
Water: Prepare watershed plans in conjunction with and for the following community water systems where BLM administers a significant portion of land within the watershed: • city of Butte Falls • city of Glendale (section of Mill Creek) • city of Talent (Wagner Creek) and • city of Yreka.	N		
Water: Use watershed analysis to identify water quality concerns, watershed restoration opportunities and water monitoring strategies.	P, R	P, M	EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4 EIS App. F EIS App. J POD Att. I POD Att. M POD Att. BB POD Att. DD
Water: Design and implement watershed restoration projects that promote long-term ecological integrity of ecosystems conserve the genetic integrity of native species and attain Aquatic Conservation Strategy and riparian reserve objectives (see Aquatic Conservation Strategy and Riparian Reserve sections for additional guidance).	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water: Manage uplands to minimize nonpoint source pollution and moderate extremes in streamflow by maintaining or improving hydrologic functions (e.g. infiltration instream flow groundwater quantity etc.).	C, R, O	B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Water: Prevent watershed degradation rather than using mitigation or planned restoration to correct foreseeable problems caused by management activities.	N		
Water: Defer the following areas (approximately 49636 acres) identified as having high watershed cumulative effects from management activities including timber harvest and other surface-disturbing activities for ten years starting from January 1993. Management activities of a limited nature (e.g. riparian fish or wildlife enhancement salvage etc.) could be permitted in these areas if the effects will not increase the cumulative effects. Watershed analysis plans will be prepared if rehabilitation is deemed appropriate. The following areas will be reevaluated during the next planning cycle or by January 2003. (See Map 5)	N		
Water: Designate four areas covering approximately 4000 acres as watershed monitoring areas and defer them from timber harvest and other management activities over the planning period. Tentative watershed selections are East Fork Bobby Creek Upper Star Gulch Upper Morine Creek and Pipe Fork. These watersheds when paired with like watersheds where management activities will occur will provide baseline information of the effects of management activities on water quality and quantity.	N		
Water: Identify instream flows needed to maintain riparian resources channel conditions aquatic habitat and water quality. Attempt to acquire or encourage the State of Oregon to acquire instream flow water rights.	N		
Water: Apply for water rights to support the needs for fire suppression construction/maintenance (e.g. pump chances water holes and reservoirs) grazing recreation and other programs.	N		
Water: Locate water drafting sites to minimize adverse effects on stream channel stability sedimentation and in-stream flows needed to maintain riparian resources channel conditions and fish habitat.	N		
Water: If herbicides insecticides and other chemicals are applied do so in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Soil: Apply best management practices during all ground- and vegetation-disturbing activities. See Appendix D [18]for a list of practices.	C, R, O	B, M	EIS Sec. 2.4.2 POD Att. I POD Att. U POD Att. DD
Soil: Utilize silvicultural systems that are capable of maintaining or improving long-term soil productivity	N		
Soil: Design logging systems to avoid or minimize adverse impacts to soils.	P	P	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB
Soil: Provide a renewable supply of large down logs well distributed across the Matrix lands in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.	C, O	B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.2.2 & 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB
Soil: Leave a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Where this management actions/direction cannot be met with existing coarse woody debris merchantable material will be used to make up the deficit.	N		
Soil: In areas of partial harvest apply the same basic management actions/direction but they can be modified to reflect the timing of stand development cycles.	N		
Soil: Retain coarse woody debris already on the ground and protect it to the greatest extent possible from disturbance during treatment (e.g. slash burning and yarding).	C, R, O	B, M	EIS Sec. 2.6.2 EIS Sec. 4.3.3.1 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. I POD Att. K POD Att. R POD Att. U POD Att. DD

[18] Appendix D: Best Management Practices Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Soil: Use watershed analysis to determine appropriate amounts of coarse woody debris for site-specific conditions.	P, R	P, M	EIS Sec. 1.4.2 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. P POD Att. U POD Att. BB POD Att. DD
Soil: Manage lands dominated by fragile granitic and schist soils consistent with southern general forest management area guidelines. In addition limit surface-disturbing activities on all lands dominated by fragile granitic schist and pyroclastic soils (approximately 85300 acres) to maintain site productivity reduce soil erosion and minimize water quality degradation. These soils are scattered throughout the planning area however the largest concentrations of soils formed from decomposed schist and/or granite parent material occurs in Evans Snow Sugar and Meadow Creeks upper portions of Williams Creek and headwaters of Birdseye Creek. Soils formed in deeply weathered pyroclastic parent materials are predominantly in the foothills of the Cascades. (See Map 6 and Appendix D [19]for fragile soils mitigation measures.)	N		
Soil: While the goal of maintaining long-term soil productivity is inherent in all management practices it is recognized that some minor losses in productivity could result due to surface disturbances (soil compaction road construction etc.) caused by management activities. Implementing best management practices and minimizing disturbance of fragile areas will keep losses to a minimum (see Appendix D[7]).	C, R, O	B, M	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.2.2.1 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3 EIS Sec. 4.4.4.2 EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Secs. 4.7.4.1 – 4.7.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Wildlife Habitat			

[19] Appendix D: Best Management Practices Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Use the watershed analysis process to address wildlife habitat issues for individual watersheds. The analysis will help to resolve any concerns identified in applying management actions/direction in this section and those in the Special Status and SEIS Special Attention Species section. Where appropriate more site-specific habitat objectives and wildlife habitat enhancement opportunities will be identified through this process.	P, R	P, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.6.1.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. H EIS App. J POD Att. DD
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of wildlife habitat enhancement projects.	N		
All Land Use Allocations: Cooperate with Federal Tribal and State wildlife management agencies to identify and eliminate impacts associated with habitat manipulation poaching and other activities that threaten the continued existence and distribution of native wildlife inhabiting Federal lands.	N		
All Land Use Allocations: Land will be acquired to facilitate wildlife habitat management as appropriate.	N		
Riparian Reserves: Design and implement wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.6.1.3 EIS App. F EIS App. J POD Att. DD
Riparian Reserves: Design construct and operate wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing wildlife interpretative and other user-enhancement facilities inside riparian reserves ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met relocate or close such facilities.	N		
Late-Successional Reserves: Design projects to improve conditions for wildlife if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS Sec. 4.6.1.3 EIS App. F EIS App. H POD Att. J POD Att. DD
Late-Successional Reserves: If introduction of a nonnative species is proposed complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of late-successional reserve objectives.	N		
Late-Successional Reserves: Evaluate impacts of nonnative species existing within late-successional reserves.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Late-Successional Reserves: Establish a one-quarter mile protection zone around known great gray owl nest sites and provide a 300 foot no-harvest buffer around meadows and natural openings. Develop a standardized protocol for surveys within one year.	N		
Cavity Users: Snag and green tree retention of lands allocated to timber management. Provide for 100 percent of optimum woodpecker populations. Snag and green tree retention on lands not allocated to timber management. Unmerchantable snags and culls would be retained unless safety hazard. Provide for 40 percent of the mean number of snags found in unentered stands.	N		
Coarse Woody Debris (CWD): CWD retention on lands allocated to timber management. CWD would be retained to approximate the mean levels found in unentered stands. Retain 120 linear feet per acre logs equal to or greater than 16 inches in diameter and 16 feet long.	N		
Special Habitats: Special habitats would be protected or enhanced for wildlife habitat with a 100 to 200 foot buffer. New road location. Roads would avoid special habitats and minimize effects to wetlands and riparian areas. Off-highway vehicle closure. Meadows and wetlands would be closed to off-highway vehicle use.	P, C, R, O	P, B, R, M	EIS Sec. 2.1.4 EIS Sec. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.1.6 EIS Secs. 4.10.2.5 & 4.10.2.6 EIS App. F EIS App. M POD Att. I POD Att. J POD Att. Y POD Att. DD
Cliffs: Peregrine nests and potential peregrine nests would be protected.	N		
Talus Slopes: Sites where Del Norte and Siskiyou salamanders are found would be protected.	N		
Land Tenure: Land would be acquired to facilitate wildlife habitat management.	N		
Matrix: Within the General Forest Management Area north of Grants Pass (northern GFMA) retain at least 6to 8 green conifer trees per acre in regeneration harvest units.	N		
Matrix: Within the matrix provide snags and future sources of snags to maintain 100 percent of the potential population levels of white-headed and black-backed woodpeckers. Within the range of these species this level of snag retention will be added to the normal standards and guidelines for snag retention levels in the Matrix. It is assumed these snag levels are adequate to provide adequate habitat for pygmy nuthatches and flammulated owls.	N		
Matrix: Retain snags and green trees within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per-acre requirements met on average areas no larger than 40 acres.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix: In addition to the previous green-tree retention management actions/direction retain green trees for snag recruitment in timber harvest units where there is an identified near-term (less than three decades) snag deficit. These trees do not count toward the green-tree retention requirements.	N		
Matrix: Additional trees may need to be retained to contribute to bat roost sites on a site-specific basis.	N		
Raptors and Great Blue Heron: Protect nest sites centers of activity or rookeries as necessary to maintain the integrity of the site. Human disturbances that may disturb or interfere with nesting will be prohibited within one-quarter mile of active nesting areas between approximately March 1 and July 15.	P, C, O	P, R	EIS Sec. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Roosevelt Elk: Manage elk management areas (171,000 acres) to enhance elk habitat consistent with the objectives of other allocations (timber old-growth connectivity): • All roads except major collectors and arterials will be closed. New road construction will be minimized. • Limit motorized vehicle use to an open road density of 1.5 miles per square mile where possible. • Impose seasonal restrictions on activities if needed to avoid disturbance and harassment. • Maintain or enhance forage where appropriate by creating small openings in conifer stands of all ages prescribed burning seeding fertilizing underburning forest stands or other means. In Matrix lands priority would be given to utilizing portions of stands with little or no conifer stocking. • Manage the mix of forage areas thermal cover hiding cover and optimal cover to maintain or attain highly viable habitat condition for each of the four indices using the Wisdom Elk Model or equivalent model (see Appendix 2-WL-1 Draft RMP).	N		
Roosevelt Elk: Maintain target habitat conditions. Within selected elk management areas forage and cover would be managed to maintain habitat effect indices of at least 0.6.	N		
Roosevelt Elk: Within elk management areas, forage would be managed by creating small openings burning seeding fertilizing and other means.	N		
Roosevelt Elk: Lands would be acquired to facilitate habitat management.	N		
Deer and Elk Winter Range: Manage about 97100 acres of deer and elk winter range in the Cascade foothills as winter range with an emphasis on providing thermal cover and minimizing disturbances.	N		
Deer and Elk Winter Range: All roads except major collectors and arterials will be closed between November 15 and April 1. New road construction will be minimized.	N		
Deer and Elk Winter Range: Maintain at least 20 percent of these areas in thermal cover 70 percent canopy closure canopy height of at least 40 feet and large enough to avoid edge effects.	N		
Deer and Elk Winter Range: Restrict activities to avoid disturbance between approximately November 15 and April 1.	C, O	B	EIS Secs. 4.6.1.2 & 4.6.1.3

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Deer and Elk Winter Range: Where elk management areas overlap with winter range areas management directions for both areas will be applied.	N		
Deer and Elk Winter Range: Thermal cover. At least 20 percent of these areas would be maintained in thermal cover. Habitat management plans would be prepared unless incorporated into watershed analysis.	N		
Deer and Elk Winter Range: Activities would be restricted to avoid disturbance Nov. 15 to April 1.	C, O	B	EIS Secs. 4.6.1.2 & 4.6.1.3
Deer and Elk Winter Range: Permanent forage areas would be created only on lands not managed for timber.	N		
Special Habitats: Protect special habitats for plants and animals such as meadows, cliffs, caves, and talus slopes from disturbance as appropriate to the specific site. Generally the no harvest buffer will vary from 100-200 feet but could be increased or decreased based on site-specific circumstances and the objective to protect the special habitat values. Protection and necessary mitigation will be determined during activity planning.	P, C, O	P, B, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.3 & 4.1.3.4 EIS Sec. 4.1.3.6 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. H EIS App. K EIS App. J EIS App. M POD Att. J LMP Amendment BLM/FS-1
Special Habitats: Use management practices including fire to obtain desired vegetation conditions in special habitats.	C, R, O	B, M	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. 10 POD Att. DD
Oak Stands: White oak woodlands will be managed to maintain or enhance values for wildlife habitat range botanical values and biological diversity. Utilize prescribed fire to maintain habitat conditions within the white oak woodland communities.	N		
Golden Eagles: Protect approximately 30 acres around all golden eagle nest sites. Within those areas allow no timber harvest or other habitat removal. Human disturbance will be prohibited between approximately March 1 and July 15. No new roads will be constructed within the 30-acre core area around active nests.	N		
Fisheries Habitat			
Riparian Reserves: Design and implement fish habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. DD

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Riparian Reserves: Design construct and operate fish interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. For existing fish interpretative and other user-enhancement facilities inside riparian reserves ensure that Aquatic Conservation Strategy and riparian reserve objectives are met. Where Aquatic Conservation Strategy and riparian reserve objectives cannot be met relocate or close such facilities.	N		
Riparian Reserves: Cooperate with Federal Tribal and State fish management agencies to identify and eliminate impacts associated with habitat manipulation fish stocking harvest and poaching that threaten the continued existence and distribution of native fish stocks inhabiting Federal lands.	N		
Late-Successional Reserves: Design projects to improve conditions for fish if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS App. F POD Att. DD
All Land Use Allocations: Use the watershed analysis process to address at-risk fish species and stocks and their habitat for individual watersheds. Where appropriate fish habitat enhancement opportunities will be identified through this process.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. M POD Att. DD
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife Wild Fish Policy during planning and implementation of fish habitat enhancement projects. Priority will be given to watersheds supporting at-risk fish species and stocks and those requiring extensive restoration.	N		
All Land Use Allocations: As identified through watershed analysis, rehabilitate streams and other waters to enhance natural populations of anadromous and resident fish. Possible rehabilitation measures would include but not be limited to fish passage improvements instream structures using boulders and log placement to create spawning and rearing habitat placement of fine and coarse materials for over-wintering habitat and riparian rehabilitation to establish or release existing coniferous trees. See Table 3[20] for a list of possible fish enhancement projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.7.4.4 EIS App. F EIS App. J POD Att. DD
All Land Use Allocations: Except for land tenure Zone 3 lands riparian and fish habitat will be retained unless land exchanges would improve management of fish wildlife or riparian habitat elsewhere.	N		
All Land Use Allocations: BLM would work with the Oregon Department of Fish and Wildlife to determine appropriate streamflows for instream water rights to maintain or enhance aquatic habitat particularly for special status species.	N		

[20] Table 3: Potential Fish Habitat Projects Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations: Best Management Practices (Appendix D[21]) will be implemented for water quality and soil productivity whenever appropriate and practical to minimize adverse effects of management actions on water quality, fish and riparian habitat.	C, R, O	B, M	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. U POD Att. Y POD Att. BB POD Att. DD
All Land Use Allocations: BLM ownership in the watersheds shown on Table 4[22] would be blocked up where possible to improve watershed management for: • Federal candidate fish and amphibian species (Jenny Creek sucker Redband trout and Western pond turtle); • State of Oregon and American Fisheries Society sensitive fish species (coho salmon winter and summer steelhead); and • Prevent decline of other priority fish species in other watersheds.	N		
Special Status and SEIS Special Attention Species Habitat			
Late-Successional Reserves: Consider projects required for recovery of threatened or endangered animal and plant species even if they result in some reduction of habitat quality for late-successional species. These projects will be designed for least impact to late-successional species.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. K EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Review all proposed actions to determine whether or not special status species occupy or use the affected area or if habitat for such species could be affected.	P	P	EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Conduct field surveys according to current protocol. This includes surveying during the proper season. Field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted whether previous surveys looked for all species that a new survey would and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.	P	P	EIS Sec. 1.5.4.1 EIS Sec. 4.4.4 EIS. Secs. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Consult/conference with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) for any proposed action that may affect Federally listed or proposed species or their critical or essential habitat. Based on the results of consultation modify relocate or abandon the proposed action. Request technical assistance from one of these agencies for any proposed action that may affect Federal candidate species or their habitat.	P	P	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J

[21] Appendix D: Best Management Practices Record of Decision for the Medford District Resource Management Plan 1995

[22] Table 4: Acquisition Needs to Improve Watershed Management for Fish Production Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Special Status Species: Coordinate with the USFWS, NMFS and other appropriate agencies and organizations and jointly endeavor to recover Federal listed and proposed plant and animal species and their habitats.	N		
All Land Use Allocations – Special Status Species: Modify, relocate or abandon proposed actions that contribute to the need to list Federal candidate species State listed species Bureau-sensitive species or their habitats.	P, C, R, O	P, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 3.4.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Coordinate with the State of Oregon to conserve State listed species.	N		
Special Status Species: Identify impacts of proposed actions if any to Bureau-sensitive and assessment species and clearly describe impacts in environmental analyses. As funding permits and as species conservation dictates assessment species will be actively managed.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. K EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Retain under Federal management (or other appropriate management organizations) habitat essential for the survival or recovery of listed and proposed species. Retain habitat of candidate or Bureau-sensitive species where disposal could contribute to the need to list the species.	N		
All Land Use Allocations – Special Status Species: Where appropriate opportunities exist acquire land to contribute to recovery reduce the need to list or enhance special status species habitat.	N		
All Land Use Allocations – Special Status Species: Coordinate with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements that identify actions to conserve single or multiple species and/or habitats. Such strategies could preclude the need for intensive inventories or modifications to some projects where the conservation plan provides adequate protection for the species and meets the intent of policy.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs.1.5.4.1 & 1.5.4.4 EIS App. K EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Where plans exist for species no longer on the special status list continue with the prescribed conservation actions if determined to be required to avoid relisting or future consideration for listing. In the case of interagency plans or agreements this determination will be mutually decided. Such plans may be modified as needed based on adequacy of existing range-wide conditions and conservation management.	N		
All Land Use Allocations – Special Status Species: Pursue opportunities for public education about conservation of species.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Special Status Species: Where appropriate pursue opportunities to increase the number of populations of species under BLM management through land acquisition and/or species reintroduction.	N		
All Land Use Allocations – Special Status Species: Integrate management of special status plants into watershed assessment looking at historic patterns and modeling to improve habitat for special status plants.	N		
All Land Use Allocations – Special Status Species: Implement prescribed burns to enhance habitat for special status plants.	N		
All Land Use Allocations – Special Status Species: Implement noxious weed control in habitat of special status plants.	C, R, O	B, M	EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec.4.7.4 POD Att. I POD Att. J POD Att. N POD Att. DD
All Land Use Allocations – Special Status Species: Develop and implement automated data bases for storage and retrieval of information on special status plants.	N		
All Land Use Allocations – Special Status Species: Design and schedule site-specific management prescriptions and projects to benefit individual species habitats in allotment management plans and recreational management plans.	N		
All Land Use Allocations – Special Status Species: Develop monitoring plans for special status plants and their habitats that schedule measurement and periodic evaluation of trend status and progress toward meeting recovery and conservation objectives.	N		
All Land Use Allocations – Special Status Species: Develop monitoring plans to determine viability of populations over time and effects of management actions.	N		
All Land Use Allocations – Special Status Species: Develop Conservation Agreements with USFWS on Federal candidate plants to act as recovery plans and prevent listing.	N		
All Land Use Allocations – Special Status Species: Develop and implement education and outreach plans to improve public understanding and awareness of the need to protect and manage special status plants. Develop botanical (Wildflower) viewing sites for the public as part of the Watchable Wildlife Program.	N		
All Land Use Allocations – Special Status Species: Collect seed from special status plant species for storage at Berry Botanic Garden Cryogenic Seed Bank.	N		
All Land Use Allocations – Special Status Species: Implement Rare Plants and Natural Plant Communities Fish and Wildlife 2000.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Special Status Species: Identify and manage special habitat areas such as wetlands serpentine areas wet and dry meadows and rock cliffs where over 50 percent of the special status plants occur.	N		
All Land Use Allocations – Special Status Species: Where sites are occupied by Siskiyou Mountain Salamander or Del Norte Salamander protect the site from ground-disturbing activities. Designate a buffer of at least the height of one site-potential tree or a 100-foot horizontal distance whichever is greater surrounding the location. Within the site and the surrounding buffer maintain at least 40 percent canopy closure and avoid any activities that would directly disrupt the talus layer. Develop and use standardized survey protocol to determine occupancy. These sites are referred to as managed late-successional reserves in the SEIS ROD.	N		
All Land Use Allocations – Special Status Species: Conduct surveys for roosting bats. As an interim measure prohibit timber harvest within 250 feet of sites containing bats. Develop management standards and guidelines for each site.	N		
Listed and Proposed Threatened and Endangered Species: Implement the land use allocations and management actions/direction of this resource management plan that are designed to enhance and maintain habitat for threatened and endangered species.	P, R	P, M	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD
Listed and Proposed Threatened and Endangered Species: Northern Spotted Owl (Federal threatened species) • With minor exceptions restrict human activities that could disturb owl nesting especially timber falling and yarding and the use of large power equipment within one-quarter mile of all active northern spotted owl nest sites from approximately March 1 to September 30	C, O	B	EIS Sec. 1.5.1.1 EIS Sec. 4.6.1.2 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • Conduct two years of survey prior to any human disturbance of marbled murrelet habitat within 50 miles of the coast.	N		
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • Protect contiguous existing and recruitment habitat for marbled murrelets (i.e. stands which are capable of becoming marbled murrelet habitat within 25 years) within a 0.5 mile radius of any site where the birds' behavior indicates occupation (e.g. active nest fecal ring or eggshell fragments and birds flying below through into or out of the forest canopy within or adjacent to a stand).	N		
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • During silvicultural treatments of nonhabitat within the 0.5 mile radius around occupied stands protect or enhance suitable or replacement habitat.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • Neither conduct nor allow harvest of timber within occupied marbled murrelet habitat at least until completion of the Marbled Murrelet Recovery Plan.	N		
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • Amend or revise management direction as appropriate when the Recovery Plan is completed.	N		
Listed and Proposed Threatened and Endangered Species: Marbled Murrelet (Federal threatened species) • Restrict human activities that could disturb marbled murrelet nesting.	N		
Listed and Proposed Threatened and Endangered Species: Bald Eagle (Federal Threatened Species) • Comply with the Pacific Bald Eagle Recovery and Implementation Plan and existing site-specific habitat management plans.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Bald Eagle (Federal Threatened Species) • Within one-half mile of active bald eagle sites do not allow aerial use of herbicides or pesticides and minimize human disturbance between February 1 and August 15. Retain requisite forest habitat characteristics including large trees snags and at least 50 percent canopy closure. Prepare a site-specific management plan to provide more specific management guidelines for bald eagles.	P, C, O	P, B	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Bald Eagle (Federal Threatened Species) • Protect the core area around known bald eagle nest sites. In addition to the measures used in the one-half mile radius within the protected core area allow no planned timber harvest except to benefit bald eagle nest habitat no new road construction and no surface occupancy (NSO) for leasable minerals.	P, C, O	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Bald Eagle (Federal Threatened Species) • Retain two additional 80-acre areas with suitable nesting characteristics for future territory establishment consistent with the Pacific Bald Eagle Recovery Plan. One of these would be located along the wild section of the Rogue River in the vicinity of Whiskey Creek and the other would be in the Finley Bend area along the recreational section of the Rogue River. In addition manage one block of at least 80 acres for nesting habitat within one-half mile of each of the following water bodies to provide for future population expansion: Galesville Reservoir Illinois River Emigrant Lake Hyatt Lake Howard Prairie and Lost Creek reservoirs.	N		

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Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Listed and Proposed Threatened and Endangered Species: Bald Eagle (Federal Threatened Species) • Buffer around nest sites. Manage approximately 30-acre core area around nest sites. Retain older forests within 1/2-mile of nests. Develop HMP for sites. Seasonal restrictions. Avoid disturbance within 1/2-mile Feb. 1 - Aug. 15. Provide for future population expansion. Retain two 80-acre areas for future nest sites.	P, C, O	P, B, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Peregrine Falcon (Federal Endangered Species) • Comply with the Peregrine Falcon Recovery Plan and existing site-specific habitat management plans.	P, C, O	P, B, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Peregrine Falcon (Federal Endangered Species) • Minimize human disturbance with the potential to disturb nesting falcons within one mile of active peregrine falcon nest sites between January 1 and July 15. Prepare a site-specific management plan for each active site.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Peregrine Falcon (Federal Endangered Species) • The core area within one-half mile of active peregrine nest sites would receive additional protection. In addition to the measures used in the one-mile radius within the protected core area there would be no scheduled timber harvest no aerial application of herbicides or pesticides and no surface occupancy (NSO) for leasable minerals. There will be no new road construction unless the activity would not adversely affect the integrity of the site.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Listed and Proposed Threatened and Endangered Species: Peregrine Falcon (Federal Endangered Species) • Core area 1/2-mile around nest sites. No timber harvest no spraying no surface occupancy. Buffer around core area one mile. Manage for prey diversity. Seasonal restriction. Avoid disturbance Feb. 1 -Aug. 15. Provide for future population expansion. Maintain potential nests.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Townsend's big-eared bat: Protect within 250' of occupied sites develop management plan.	P, C, O	P, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Northern goshawk: Protect all nest sites.	P, C, O	P, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Siskiyou Mountain Salamander and Del Norte Salamander: Maintain 40% canopy closure within salamanders 100 feet of occupied sites. Avoid surface disturbing activities within 100 feet.	N		
Jenny Creek sucker and redband trout: Protect known sites. No timber harvest or surface-disturbing activities within steep canyon areas.	N		.

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Allotropa virigata: Protect known sites. Protect according to protocol.	P, C, O	P, R	EIS Secs. 4.5.1.2 & 4.5.1.3 This does not appear to be a sensitive or S&M species.
Cypripedium fasciculatum: Protect known sites. Protect according to protocol.	P, C, O	P, R	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M
Cypripedium montanum: Protect known sites. Protect according to protocol.	P, C, O	P, R	EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K
Special Areas – Not Applicable, Excluded From Table			
Forest Health			
Design and implement silvicultural treatments in stands that are in a condition or that will soon be in a condition which prevents management objectives from being achieved. Treatments are intended to restore the ability of stands to respond to other management and to reduce the risk of mortality from insects disease and wildfire. Treatments will consist of thinning of stands forest fertilization reduction of understory vegetation reduction of fuel ladders and restoration of more stable plant communities.	N		
Design forest condition restoration treatments to be consistent with the long-term objectives of the allocation in which the treatment is proposed. Develop treatments in an interdisciplinary manner.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD
Design restoration treatments to maintain or improve soil productivity meet coarse woody debris and snag objectives, maintain or improve hydrologic functions, and maintain the natural richness of tree species.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App.H EIS App. J POD Att. I POD Att. DD
Develop forest condition restoration treatments at the stand level based on the combination of stand condition and trend on the functional characteristics of the ecosystem and on characteristics of the site.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Design treatments as much as possible to prevent the development of undesirable species composition species dominance or other stand characteristics. Design treatments to incorporate and restore ecosystem function. Employ the principles of integrated pest management and integrated vegetation management to avoid the need for direct treatments. Use herbicides only as a last resort.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD
Off-Highway vehicle use will be limited to designated roads in areas which are infected with Port-Orford root disease.	N		
Riparian Reserves: Design and implement forest condition restoration treatments in a manner that contributes to the attainment of Aquatic Conservation Strategy and riparian reserve objectives.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. I POD Att. DD
Late-Successional Reserves: Design and implement forest condition restoration treatments that provide habitat benefits for late-successional associated species or that have negligible effects on such species. Design treatments to be consistent with the EIS App. H assessment.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. I POD Att. DD
Late-Successional Reserves: When possible avoid introducing nonnative plant species including grasses into late-successional reserves. If introduction of a nonnative species is proposed complete an assessment of the impacts and avoid any introduction that would retard or prevent achievement of late-successional reserve objectives.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.1 EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N
Late-Successional Reserves: Evaluate the impacts of nonnative plant species existing within late-successional reserves. Develop plans and recommendations for eliminating or controlling nonnative plant species that are inconsistent with late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species within the late-successional reserves.	P	P	EIS Sec. 2.4.2.1 EIS Sec. 2.6.1 EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N
Late-Successional Reserves: Prior to the use of prescribed fire as a forest condition restoration treatment develop an interdisciplinary fire management plan specifying how prescribed fire applications will meet the objectives of the late-successional reserve. Until the plan is approved proposed activities will be subject to review by the Regional Ecosystem Office. Apply prescribed fire in a manner that retains the amount of coarse woody debris determined to be appropriate for the site based on watershed analysis.	P, C, O	P, B	EIS Sec. 4.1.3.6 EIS Sec. 4.4.4 EIS Sec. 4.5.2.3 EIS App. H POD Att. K POD Att. R
Adaptive Management Areas: Emphasize cooperation across agency and ownership boundaries.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Connectivity/ Diversity Blocks: Maintain 25 to 30 percent of each block in late-successional forest at any point in time. The percentage of habitats will include habitat in other allocations such as riparian reserves. The size and arrangement of habitat within a block should provide effective habitat to the extent possible.	N		
General Forest Management Area: Retain snags within forest condition restoration treatment units at levels sufficient to support species of cavity nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the matrix with per-acre requirements met on average areas no larger than 40 acres.	N		
Special Habitats: In project areas containing special wildlife and plant habitats (e.g. talus and meadows) maintain ecologically significant buffers around the special habitat. This could be increased decreased or manipulated based on site-specific circumstances. Ecologically significant buffers will be determined by interdisciplinary teams.	P, C, O	P, B, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.3 EIS Sec. 4.1.3.3 & 4.1.3.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J LMP Amendment BLM/FS-1
Recreation – Not Applicable, Excluded from Table			
Wild and Scenic Rivers – Not Applicable, Excluded From Table			
Visual Resources			
Address visual resource management issues when conducting watershed analysis.	N		
Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet VRM objectives. Use mitigation measures to reduce visual contrasts.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.8.2.3 & 4.8.2.4 POD Att. A EIS App. F POD Att. DD
Provide for natural ecological changes in VRM Class I areas. Some very limited management activities may occur in these areas. The level of change to the characteristic landscape should be very low and must not attract attention. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	N		.
Manage VRM Class II lands for low levels of change to the characteristic landscape. Management activities may be seen but should not attract the attention of the casual observer. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	N		
Manage VRM Class III lands for moderate levels of change to the characteristic landscape. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form line color texture and scale found in the predominant natural features of the characteristic landscape.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Manage VRM Class IV lands for moderate levels of change to the characteristic landscape. Management activities may dominate the view and be the major focus of viewer attention. However every attempt should be made to minimize the effect of these activities through careful location minimal disturbance and should repeat the basic elements of form line color and texture.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A
Cultural Resources (Including Native American Values)			
Conduct paleo-environmental archaeological anthropological and historical studies.	N		
Conduct systematic inventories of areas likely to contain cultural resources.	N		
Evaluate archaeological and historical sites to determine their potential for contributing to public and scientific uses.	N		
Support ecosystem-based management by providing information about past ecological conditions past cultural/natural system interactions and differences among cultural and social groups regarding ecosystem management values.	N		
Develop project plans to preserve protect and enhance archaeological historical and traditional use sites and materials under the district's jurisdiction. This would include protection from wildfires.	P	P	EIS Sec. 4.11.1.1- 4.11.1.3 EIS Sec. 4.11.2 EIS Sec. 4.11.3.3 EIS Sec. 4.11.4 POD Att. Z
Increase public awareness and appreciation of cultural resources through development of education and interpretive programs.	N		
Develop methods and gather data to assess social and cultural ecosystem components of the environment for use in landscape-level analysis.	N		
Monitor cultural resources and take appropriate law enforcement action related to unauthorized use.	N		
Continue working with Native Americans to achieve the goals outlined in existing memoranda of understanding. Develop additional memoranda with Native American groups as needs arise.	N		
Acquire significant cultural resource properties for public cultural heritage and scientific purposes.	N		
Wilderness Study Areas– Not Applicable, Excluded From Table			
Timber Resources			
Matrix: Apply silvicultural systems that are planned to produce over time forests that have desired species composition structural characteristics and distribution of serial or age classes (See Appendix E[23] and Table 9[24] for details).	N		

[23] Appendix E: Silvicultural Systems Utilized in the Design of the Resource Management Plan Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Matrix: Matrix lands in the Medford District are divided into the northern general forest management area the southern general forest management area and connectivity/diversity blocks. Collectively these areas are referred to as the general forest management area. The line dividing the northern and southern GFMAs is meant to be flexible Also there will be local situations in the northern GFMA that should be managed along southern GFMA prescription guidelines and visa versa.	N		
Matrix: Declare an allowable sale quantity of 9.7 million cubic feet (57.1 million board feet).	N		
Retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1 1994) northern spotted owl activity centers.	N		
Retain late-successional forest patches in landscape areas where little late-successional forest persists. This management actions/direction will be applied in fifth field watersheds (20 to 200 square miles) in which Federal forestlands are currently comprised of 15 percent or less late-successional forest. (The assessment of 15 percent will include all Federal land allocations in a watershed.) Within such an area protect all remaining late-successional forest stands. Protection of these stands could be modified in the future when other portions of a watershed have recovered to the point where they could replace the ecological roles of these stands.	N		
Provide a renewable supply of large live trees and snags well distributed across the Matrix lands in a manner that provides habitat for cavity using birds bats and other species; provides structure and habitat diversity; provides future sources of large down logs; and provides for other ecological functions. Retained live trees and snags will reflect the species mix of the original stand. Emphasize retention of the larger trees and snags available to provide the unique structure and functions associated with these large old trees.	N		
Retain snags and trees within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 40 percent of potential population levels. Meet the 40 percent minimum throughout the Matrix with per-acre requirements met on average areas no larger than 40 acres.	N		
Modify site treatment practices particularly the use of fire and pesticides and modify harvest methods to minimize soil and litter disturbance.	P, C, O	P, B	EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. I POD Att. K POD Att. N POD Att. R POD Att. CC
Plan and implement treatments to minimize intensive burning unless appropriate for specific habitats communities or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 & 4.1.3.6 EIS App. H EIS App. J POD Att. R

[24] Table 9: General Features of Silvicultural Systems Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Plan and implement treatments to minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment.	P, C, R, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. BB
Plan and implement treatments to reduce the intensity and frequency of site treatments.	N		
Retain some large hardwood trees where present in harvest units to provide habitat diversity.	N		
Connectivity/ Diversity Blocks Spaced Throughout the Matrix Lands in the Northern GFMA: Schedule regeneration harvests on a 150-year area control rotation.	N		
All Land Use Allocations: To mitigate damage caused by *Phytophthora lateralis* an introduced root disease that is fatal to Port-orford cedar all management activities occurring within the range of Port-orford cedar will conform to the guidelines described in the BLM Port-Orford Cedar Management Plan. Site specific analyses for projects within the range of Port-orford cedar will consider possible effects on the species.	N		
Special Forest Products– Not Applicable, Excluded From Table			
Energy and Minerals:			
See Tables 10[25] 11[26] and 12 [27]for restrictions on energy and mineral activities and Appendices G[28] H[29] and I[30] for leasing stipulations and operating standards pertinent to locatable and saleable minerals.	N		
Riparian Reserves: Develop inspection and monitoring requirements and include such requirements in exploration and mining plans and in leases or permits consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans leases and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		
Late-Successional Reserves: Assess the impacts of ongoing and proposed mining activities in late-successional reserves.	N		

[25] Table 10: Oil and Gas Lease Restrictions Record of Decision for the Medford District Resource Management Plan 1995
[26] Table 11: Geothermal Lease Restrictions Record of Decision for the Medford District Resource Management Plan 1995
[27] Table 12: Locatable Mineral Restrictions Record of Decision for the Medford District Resource Management Plan 1995
[28] Appendix G: Restrictions on Mineral and Energy Exploration and Development Activity Record of Decision for the Medford District Resource Management Plan 1995
[29] Appendix H: Locatable Minerals Surface Management 43 CFR 3809 Standards for Exploration Mining and Reclamation Record of Decision for the Medford District Resource Management Plan 1995
[30] Appendix I: Guidelines for Development of Saleable Mineral Resources Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Late-Successional Reserves: Include stipulations in mineral leases and when legally possible require operational constraints for locatable mineral activities to minimize detrimental effects on late-successional habitat.	N		
All Land Use Allocations – Leasable Minerals: Standard oil and gas lease stipulations are listed in Section 6 of "Offer to Lease and Lease for Oil and Gas" Form 3100-1.	N		
All Land Use Allocations – Leasable Minerals: Special stipulations will be attached to oil and gas leases to provide additional protection for fragile areas or critical resource values. A seasonal restriction could be used to protect critical wildlife habitat or prevent excessive erosion etc. A controlled-use stipulation could be used to protect valuable resources in very small areas. A no surface occupancy (NSO) stipulation could be used to protect valuable resources spread over a large area while still providing an opportunity for exploration and development. The NSO stipulation will be used within riparian reserves.	N		
All Land Use Allocations – Leasable Minerals: Special stipulations for leasable minerals are shown in Appendix G[31]. The special stipulations regarding seasonal restrictions controlled surface use and prohibiting surface occupancy could be waived by authorized BLM officials if the objective of the stipulation would be met in another manner or if the resource being protected was no longer present.	N		
All Land Use Allocations – Leasable Minerals: Tables 10[32] and 11[33] illustrate the Federal mineral estate in the planning area on which oil and gas and geothermal activities respectively would be restricted.			
All Land Use Allocations – Locatable Minerals: Areas not specifically withdrawn from mineral entry will continue to be open under the mining laws. Mineral exploration and development will be regulated under 43 CFR 3802 and 3809 to prevent "unnecessary or undue degradation."	N		
All Land Use Allocations – Locatable Minerals: All surface disturbance from operations whether conducted under a notice or plan of operations will be reclaimed at the earliest feasible time.	N		
All Land Use Allocations – Locatable Minerals: The standards that govern activities conducted under a notice of operations (affecting five acres or less) and those that govern activities under a plan of operations (affecting more than five acres) are shown in Appendix H[34].	N		

[31] Appendix G: Restrictions on Mineral and Energy Exploration and Development Activity Record of Decision for the Medford District Resource Management Plan 1995
[32] Table 10: Oil and Gas Lease Restrictions Record of Decision for the Medford District Resource Management Plan 1995
[33] Table 11: Geothermal Lease Restrictions Record of Decision for the Medford District Resource Management Plan 1995
[34] Appendix H: Locatable Minerals Surface Management 43 CFR 3809 Standards for Exploration Mining and Reclamation Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Locatable Minerals: All instream placer mining would be closed to suction dredging for the time specified in Oregon Guidelines for "Timing of In-Water Work" to protect fish and wildlife resources. Waivers could be granted by Oregon Department of Fish and Wildlife.	N		
All Land Use Allocations – Locatable Minerals: Mining operations within riparian reserves will be subject to mitigation measures whether conducted under a notice or a plan of operations. Mitigating measures will be developed to prevent degradation of water quality including siltation and water temperature and to comply with Executive Order 11190 (Protection of Wetlands). Road construction clearing vegetation hazard tree removal mining waste disposal and other surface-disturbing activities that would degrade water quality or riparian/wetland habitat will either be prohibited or require special mitigation. These activities within riparian reserves will be considered unnecessary or undue degradation unless acceptable mitigation measures are approved in advance. Mining activities will conform to best management practices (BMPs) to protect water quality (see Appendix D[35] and Aquatic Conservation Strategy and Riparian Reserve objectives).	N		
All Land Use Allocations – Locatable Minerals: Mining activities within EIS App. Hs will be designed to mitigate detrimental effects.	N		
All Land Use Allocations – Locatable Minerals: Mining operations will be allowed in designated ACECs but only in a manner that would not impair or degrade those significant resource values that lead to area of critical environmental concern (ACEC) designation. A plan of operations will be required in all designated ACECs. A plan of operations will not be approved if operations would irreparably damage those resource values for which the ACEC was designated.	N		
All Land Use Allocations – Locatable Minerals: Mining operations will not be allowed to disturb lands classified fragile nonsuitable woodlands under the timber production capability classification (TPCC) unless adequate mitigation measures are implemented to prevent slope failures damage to soil productivity or erosion.	N		
All Land Use Allocations – Locatable Minerals: Mining operations in lands classified VRM Class II will maintain the existing visual characteristics of the landscape. Evidence of exploration and development activities will be reclaimed to meet VRM Class II management objectives. All disturbed lands will be graded to near natural contours where practical and revegetated with native plants.	N		
All Land Use Allocations – Locatable Minerals: All mining activity employing suction dredges will comply with Oregon State Department of Environmental Quality Permit No. 0700.	N		
All Land Use Allocations – Locatable Minerals: All mining activities discharging waste water will comply with Oregon State Department of Environmental Quality Permit No. 0600.	N		

[35] Appendix D: Best Management Practices Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Locatable Minerals: A number of areas/sites have been proposed to be withdrawn from mineral entry under the mining laws. These areas/sites will also be closed to disposal of saleable minerals and be made available for exploration and development of leasable minerals with NSO stipulation or not at all. Withdrawals from mineral entry would be pursued for the areas/sites discussed below. • All existing withdrawals carried forward are listed in Table 13[36]; • Withdrawals from mineral entry will be pursued for research natural areas (RNOs) to protect the ecosystems being monitored as baseline data; • Rivers or streams eligible for inclusion in the Wild and Scenic Rivers Systems and proposed for designation as Wild will be withdrawn from mineral entry to conform with the Wild and Scenic Rivers Act upon designation; • A withdrawal from mineral entry will be pursued for that portion of the recreation section of the Rogue River downstream from Yew Wood Creek not presently withdrawn from mineral entry to conform with other segments of the designated river section and to conform with the existing management plan; • Mineral withdrawals will be pursued for all sites with significant capital improvements such as administrative sites reaches of streams with fish improvements and developed recreation sites following initiation of the investment; • A withdrawal from mineral entry will be pursued for the Jacksonville Trail System. BLM and the city of Jacksonville plan to establish a trail system for recreation purposes. Any mining would impair the trail improvements and scenic values; • A withdrawal from mineral entry will be pursued for Agate Flat a well-known agate collecting area frequented by rock clubs and collectors to keep the area open to the public; and • A withdrawal from mineral entry will be pursued for Galice Creek for recreational and cultural values.	N		
All Land Use Allocations – Salable Minerals: Saleable minerals including common varieties of sand gravel rock and stone will be made available for local governments private industry individuals and nonprofit organizations consistent with management objectives of other resources and consistent with the requirement that undue or unnecessary degradation be prevented. Most of these needs will be met from community pits located throughout the planning area.	N		
All Land Use Allocations – Salable Minerals: Rock quarries will continue to be used to provide rock for use in construction and maintenance of timber sale access roads and for other purposes. New quarry sites will be developed as needed if they are consistent with the management objectives of other resource values. All quarry development will include development and reclamation plans. Long-term regional quarry use will be emphasized. A districtwide quarry management plan will be developed to address development standards and reclamation goals.	P, C	P, B	EIS Sec. 2.4.2.2 EIS Sec. 4.2.2.4 POD Att. I POD Att. Q
All Land Use Allocations – Salable Minerals: Saleable mineral activities within riparian reserves will occur only if Aquatic Conservation Strategy objectives can be met. Activities within EIS App. Hs will be designed to mitigate detrimental effects.	N		

[36] Table 13: Existing Land Classifications and Withdrawals Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Salable Minerals: Guidelines and restrictions for development of saleable minerals are presented in Appendix I[37].	N		
All Land Use Allocations – Reserved Federal Mineral Estate: The reserved Federal mineral estate (Federal minerals underlying nonfederal surface) would continue to be open for mineral development in the same manner and degree as adjacent BLM-administered land. Conveyances of mineral interest owned by the United States where the surface is or will be in nonfederal ownership could be made to the existing or proposed owner of the surface estate consistent with FLPMA Section 209(b).	N		
Socioeconomic Conditions– Not Applicable, Excluded From Table			
Land Tenure Adjustments– Not Applicable, Excluded From Table			
Rights-of-Way			
Riparian Reserves: Issue rights-of-way to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives. Where legally possible adjust existing rights-of-way to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy and riparian reserve objectives. If adjustments are not effective and where legally possible eliminate the activity. Priority for modifying existing rights-of-way will be based on the actual or potential impact and the ecological value of the riparian resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.5 EIS App. J
Riparian Reserves: For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission (the Commission) provide timely written comments regarding maintenance of instream flows and habitat conditions and maintenance/restoration of riparian resources and stream channel integrity. Request the Commission to locate proposed support facilities outside of riparian reserves. For existing support facilities inside riparian reserves that are essential to proper management provide recommendations to the Commission that ensure Aquatic Conservation Strategy and riparian reserve objectives are met. Where these objectives cannot be met provide recommendations to the Commission that such support facilities should be relocated. Existing support facilities that must be located in the riparian reserves should be located operated and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	N		
Late-Successional Reserves: Remove hazard trees along utility rights-of-way and in other developed areas.	C, O	B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.6 EIS App. H POD Att. U

[37] Appendix I: Guidelines for Development of Saleable Mineral Resources Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Other Land Use Allocations: Encourage location of major new rights-of-way projects in existing utility/transportation routes and other previously designated corridors.	N		
Other Land Use Allocations: Encourage applicants to consult the Western Regional Corridor Study in planning route locations.	N		
Other Land Use Allocations: Consider new locations for rights-of-way projects on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing route or corridor would not be technically or economically feasible; and the proposed project would otherwise be consistent with this resource management plan and would minimize damage to the environment.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4
Other Land Use Allocations: Allow expansion of communications facilities on existing communication sites consistent with protection of threatened and endangered species.	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 EIS Sec. 4.8.2.2 POD Att. D
Other Land Use Allocations: Consider new communication sites on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing developed communication site would not be technically feasible; and the proposed facility would otherwise be consistent with this proposed resource management plan and would minimize damage to the environment.	N		
Access– Not Applicable, Excluded From Table			
Withdrawals– Not Applicable, Excluded From Table			
Roads			
Riparian Reserves: Cooperate with Federal State and county agencies and work with parties with road use agreements to achieve consistency in road design operation and maintenance necessary to attain Aquatic Conservation Strategy and riparian reserve objectives.	P, C, O	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.5 EIS Secs.4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Riparian Reserves: Determine the influence of each road on the Aquatic Conservation Strategy and riparian reserve objectives through watershed analysis.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs.4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Riparian Reserves: Meet Aquatic Conservation Strategy and riparian reserve objectives by reconstructing roads and associated drainage features that pose a substantial risk.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: Meet Aquatic Conservation Strategy and riparian reserve objectives by prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: Meet Aquatic Conservation Strategy and riparian reserve objectives by closing and stabilizing or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy and riparian reserve objectives and considering short-term and long-term transportation needs.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: New culverts bridges and other stream crossings shall be constructed; and existing culverts bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved to accommodate at least the 100-year flood including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels fills and hill slopes.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Riparian Reserves: Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (e.g. streams that can be made available to anadromous fish by removing obstacles to passage).	C, R	B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Riparian Reserves: Develop and implement a Road Management Plan or a Transportation Management Plan that meets the Aquatic Conservation Strategy and riparian reserve objectives. As a minimum this plan will include provisions for the following activities: • inspections and maintenance during storm events; • inspections and maintenance after storm events; • road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources; • traffic regulation during wet periods to prevent damage to riparian resources; and • establishing the purpose of each road by developing the road management objective.	P, C, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Key Watersheds: Reduce existing road mileage within key watersheds. If funding is insufficient to implement reductions neither construct nor authorize through discretionary permits a net increase in road mileage in key watersheds.	N		
All Land Use Allocations: Prepare a districtwide road management plan. The management plan will specifically address recreation use road densities road closures wildlife protection water quality Port-Orford cedar management timber management construction and maintenance standards fire suppression access and coordination with adjacent landowners. Address road management planning on a watershed basis consistent with late-successional reserves riparian reserves and other major allocations. Specific road closures would be determined using standard analysis public involvement and notification procedures.	N		
All Land Use Allocations: Determine standards for new road construction during the project planning process. Standards will be the minimum necessary to meet resource and allocation objectives (e.g. recreation site timber sale key watershed etc.) while having minimal impacts on the environment.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Minimize new road construction in areas with fragile soils (granitic schist and pyroclastic soils) to reduce impacts to soils water quality and fisheries. Stabilize existing roads where they contribute to significant adverse effects on these resources.	P, C, R	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations: Locate, design, construct and maintain roads to standards that meet management objectives in accordance with the district road management plan.	P, C, R, O	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Follow best management practices (see Appendix D[38]) for water quality and soil productivity to mitigate adverse effects on soils water quality fish and riparian habitat during road construction and maintenance.	C, R, O	B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Reduce road density by closing minor collector and local roads in areas or watersheds where water quality degradation, big game harassment or other road related resource problems have been identified.	C, R, O	B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Acquire water rights for road management purposes.	N		
All Land Use Allocations: Specifically address either in the road management plan or in a watershed analysis stabilizing existing roads located on fragile granitic schist and pyroclastic soils (e.g. West Evans Creek and the Upper Lake Creek drainages) watersheds with water quality limited streams and other areas of the district where soil/water quality problems are known to exist.	N		
All Land Use Allocations: Avoid road construction in special areas and special habitats.	N		
All Land Use Allocations: Manage and design road systems to reduce public health and safety hazards fire risks and vandalism to public and private property. Of particular concern is unauthorized public use of nonthrough or "local" roads within rural interface areas and within one-quarter mile of existing dwellings. Gates and other types of traffic barriers such as guardrails berms ditches and log barricades will be used as appropriate.	N		
All Land Use Allocations: Reduce the further spread of blackstain fungus through proper timing of roadside brushing.	P, C	P, B	EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
All Land Use Allocations: Determine necessity of road systems to meet initial wildfire suppression objectives prior to any prepared closure or modification.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. DD
Rural Interface Areas (RIA)			
Work with local governments to improve management of activities within RIA.	N		

[38] Appendix D: Best Management Practices Record of Decision for the Medford District Resource Management Plan 1995

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
As a part of watershed analysis and project planning, work with local individuals and groups including fire protection districts to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.	N		
Use design features and mitigation measures to avoid/minimize impacts to health, life and property, and quality of life. Examples include different harvest regimes, hand application rather than aerial application of herbicides and pesticides, and hand piling slash for burning as opposed to broadcast burning. Monitor the effectiveness of design features and mitigation measures.	N		
Eliminate or mitigate public hazards such as abandoned mine tunnels and quarries.	N		
Manage rural interface areas using visual resource management Class III standards (unless an area is otherwise classified as visual resource management Class I or II).	P, C, R, O	P, B, R	EIS Sec.4.8.2.3 POD Att. 1
Use dust abatement measures on roads during BLM timber harvest operations or other BLM commodity hauling. Encourage and enforce the use of dust abatement measures when haulers use BLM roads under permits and rights-of-way agreements.	C	B	EIS Sec. 4.10.2.6 POD Att. 2 POD Att. Y
Reduce natural fuel hazards on BLM-administered lands in rural interface areas.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. K POD Att. R POD Att. DD
Protect resources on BLM-administered land from potential wildfires originating on adjacent private land by using prescribed fire to reduce fuel hazards. The use of low intensity underburning is the preferred technique.	N		
Fire Management			
Address fire/fuels management for all land use allocations as part of watershed analysis. This will include determinations of the role of fire and the risk of large-scale high intensity wildfires at the landscape level.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Coordinate fire management activities in rural interface areas with local governments agencies and landowners. During watershed analysis identify additional factors that may effect hazard reduction goals. Minimize the impacts of wildfire suppression actions.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.8.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Riparian Reserves: Determine the probable risk of large-scale high intensity wildfires which would prevent or delay the attainment of Aquatic Conservation Strategy and riparian reserve objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale high intensity wildfires.	N		
Riparian Reserves: Mop-up plans for both prescribed and wildfires should consider rapidly extinguishing smoldering coarse woody debris and duff.	N		
Late-Successional Reserves: Determine the probable risk of large-scale high intensity wildfires which would prevent or delay the attainment of resource management objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale high intensity wildfires.	N		
Late-Successional Reserves: Manage fuels in accordance with guidelines for reducing risks of large-scale disturbances. Use risk assessment as a tool to allow for interdisciplinary decision making such seeks to prioritize fuel treatment need based on potential loss of critical habitat.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Late-Successional Reserves: During fire suppression activities ensure that unacceptable habitat damage from suppression activities is minimized.	C, R, O	B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Late-Successional Reserves: Until a fire management plan is completed for a reserve or group of reserves suppress wildfire to avoid loss of habitat and to maintain future management options. Under an approved fire management plan allow some natural fires to burn when they are identified as being consistent with resource management objectives.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Late-Successional Reserves: Prepare a fire management plan as a component of the late-successional reserve assessment prior to any habitat manipulation activities. Specify fire suppression fuels management and prescribed fire use to meet resource objectives.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. R POD Att. DD
Late-Successional Reserves: Apply prescribed fire based on the role of fire within each landscape in a manner consistent with ecosystem management objectives including fuel hazard reduction and retention of coarse woody debris.	C, O	B	EIS Sec. 2.6.2 EIS Sec. 4.1.3.6 EIS App. H POD Att. K POD Att. R
Late-Successional Reserves: During wildfire suppression operations consider rapidly extinguishing smoldering coarse woody debris snags and duff in areas that are deficient of crucial stand components.	N		
Adaptive Management Areas: Explore and support opportunities to research the role and effects of fire management on ecosystem functions. Test the concepts of using prescribed fire to mitigate long term risk of conflagration type wildfires.	N		
Adaptive Management Areas: Emphasize fire/fuels management cooperation across agency and ownership boundaries.	N		
Matrix: Plan and implement prescribed fire treatments designed to minimize intensive burning unless appropriate for specific habitats, communities or stand conditions.	N		
Matrix: Plan and implement prescribed fire treatments designed to minimize consumption of litter and coarse woody debris.	N		
Matrix: Plan and implement prescribed fire treatments designed to minimize disturbance to soil and litter that may occur as a result of heavy equipment operations.	N		
Matrix: Plan and implement prescribed fire treatments designed to minimize the frequency of treatments.	N		
Wildfire Suppression: Minimize the direct negative impacts of wildfire suppression on ecosystem management objectives.	N		
Wildfire Suppression: Respond to all wildfires by taking appropriate suppression responses. In most cases responses will consist of aggressive initial attack to extinguish fires at the smallest size possible.	N		
Wildfire Suppression: For wildfires that escape initial attack perform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induced by suppression activities compared to expected wildfire damage.	N		
Wildfire Suppression: Rehabilitation plans should consider the use of available soil seed banks the use of native species and/or sterile aliens for both emergency and large scale wildfire rehabilitation work.	N		

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Fuels Management (including Hazard Reduction): Using prescribed fire throughout the planning area identify the need for prescribed fire to restore and/or maintain crucial wildlife habitat key plant associations plant communities and fire dependent/ adapted species emphasizing special status plant and animal habitat need.	N		
Fuels Management (including Hazard Reduction): Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity stand-replacing wildfires; and adhere to smoke management and air quality standards.	N		
Fuels Management (including Hazard Reduction): Reduce both natural and activity based fuel hazards through methods such as prescribed burning mechanical or manual manipulation of forest vegetation and debris removal of forest vegetation and debris and combinations of these methods.	N		
Prescribed Fire Use for Ecosystem Maintenance and Restoration: Base the use of prescribed fire on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection restoration and maintenance of crucial stands that are current susceptible to large-scale catastrophic wildfire.	N		
Prescribed Fire Use for Ecosystem Maintenance and Restoration: Reintroduce underburning across large areas of the landscape over a period of time to create a mosaic of stand conditions. Treatments should be site-specific because some species with limited distributions are fire intolerant.	N		
Prescribed Fire Use for Ecosystem Maintenance and Restoration: Identify opportunities to use prescribed fire to make stands more resistent to wildfire.	N		
Prescribed Fire Use for Ecosystem Maintenance and Restoration: Revise where appropriate landscape objectives for coarse woody debris down logs green-tree retention and snags consistent with the natural role of fire and protection standards through the Watershed Analysis Process.	N		
Livestock Grazing– Not Applicable, Excluded From Table			
Noxious Weeds			
Late-Successional Reserves: Evaluate impacts of nonnative plants (weeds) growing in late-successional reserves.	N		
Late-Successional Reserves: Develop plans and recommendations for eliminating or controlling nonnative plants (weeds) which adversely affect late-successional reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within late-successional reserves.	N		
All Land Use Allocations: Continue to survey BLM-administered land for noxious weed infestations report infestations to the Oregon Department of Agriculture (the department) and work with the department to reduce infestations.	N		

TABLE E-3

Medford Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Use control methods that do not retard or prevent attainment of Aquatic Conservation Strategy and riparian reserve objectives.	C, O	B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. J POD Att. N
All Land Use Allocations: Apply integrated pest management methods (e.g. chemical mechanical manual and/or biological) in accordance with BLM's multistate environmental impact statement Northwest Area Noxious Weed Control Program 1986 as supplemented in 1987 and the related ROD.	C, O	B	EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
All Land Use Allocations: Place priority on elimination or reduction of noxious weeds occurring within special areas.	N		
Hazardous Materials			
Identify investigate and arrange for removal of hazardous substances on BLM-administered land in accordance with the Comprehensive Environmental Response Compensation and Liability Act. Emergency response will be as specified in the District Hazardous Materials Contingency Plan. The response will include cleanup proper notifications criminal investigations risk assessment and other actions consistent with the Act and the nature of the emergency.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Store treat and dispose of hazardous materials in accordance with the Resource Conservation and Recovery Act and other appropriate regulations.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Follow guidelines in the Emergency Planning and Community Right-To-Know Act to coordinate emergency planning with State and local jurisdictions concerning hazardous materials emergency notifications and routine reporting of hazardous material inventories.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Remove and replace if appropriate all existing underground storage tanks with above ground storage facilities following State and Federal regulations.	N		
Until hazardous materials on BLM-administered land are removed protect employees and the public from exposure to these materials.	C, O	B	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X

TABLE E-3 **Medford Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Provide information to the public regarding the need to properly dispose of hazardous materials and the danger of becoming exposed to hazardous materials.	C,O	B	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X

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TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Key Watersheds			
Prior to further resource management activity, including timber harvest, in Key Watersheds, prepare watershed analyses. Until watershed analyses can be completed, proceed with minor activities, such as those categorically excluded under the National Environmental Policy Act regulations (except timber harvest), if they are consistent with Aquatic Conservation Strategy objectives. Apply Riparian Reserve management actions/direction.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Reduce existing road mileage within Key Watersheds. If funding is insufficient to implement reductions, neither construct nor authorize through discretionary permits a net increase in road mileage in Key Watersheds.	N		
Give highest priority to watershed restoration in Key Watersheds.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. I POD Att. DD
Manage riparian-wetland areas to protect, maintain, or improve riparian-wetland habitat for wildlife and native plant diversity. Restore or maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition by 1997. The overall objective is to achieve an advanced ecological status, except where resource management objectives, including proper functioning condition, will require an earlier successional stage, thus providing the widest variety of vegetation and habitat diversity for wildlife, fish, and watershed protection. Proper functioning condition exists when adequate vegetation, landform, or large woody debris are present to: dissipate stream energy associated with high water flows; filter sediment, capture bedload and aid floodplain development; improve flood water retention and groundwater recharge; develop stabilizing root masses; create aquatic habitat; and insulate streams from summer and winter temperature extremes. Proper functioning condition is discussed in Chapter 3 in the Riparian Zones section.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. BB POD Att. DD
Watershed Analysis – Not Applicable, Excluded From Table			
Watershed Restoration			
Prepare watershed analyses and plans prior to restoration activities. Activities will be designed to restore watershed processes and recover degraded habitat. See Use of the Plan section.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Focus watershed restoration on removing some roads and, where needed, upgrading those that remain in the system.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. Y POD Att. DD

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Apply silvicultural treatments to restore and retain large conifers in Riparian Reserves.	P, R	P, M	EIS Sec.2.1.4 EIS Sec. 4.1.3.5 EIS App. J EIS App. F POD Att. DD
Restore stream channel complexity. Instream structures will only be used in the short term and not as a mitigation measure.	P, R	P, B, M	EIS Sec. 1.4.2 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS App. F POD Att. DD
Survey and Manage for Amphibians, Mammals, Bryophytes, Mollusks, Vascular Plants, Fungi, Lichens, and Arthropods:			
Manage known sites (highest priority): Acquire information on these sites, make it available to all project planners, and use it to design or modify activities.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Manage known sites (highest priority): Protect known sites. For some species, apply specific management treatments such as prescribed fire.	P, C	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K EIS App. M LMP Amendment BLM/FS-1
Manage known sites (highest priority): For rare and endemic fungus species, temporarily withdraw known sites from ground-disturbing activities until the sites can be thoroughly surveyed and site-specific measures prescribed.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K POD Att. DD LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Continue existing efforts to survey and manage rare and sensitive species habitat.	P, R	P, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K EIS App. M POD Att. DD LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For species without survey protocols, start immediately to design protocols and implement surveys.	N		

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Element	Applicable	Consistency	Comment
Survey prior to ground-disturbing activities and manage sites: Within the known or suspected ranges and within the habitat types of vegetation communities associated with the species, survey for: • Red tree voles • Lynx	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K POD Att. DD LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: For the other species listed in Appendix C[1], begin development of survey protocols promptly and proceed with surveys as soon as possible. These surveys will be completed prior to ground disturbing activities that will be implemented in Fiscal Year 1999 or later. Work to establish habitat requirements and survey protocols may be prioritized relative to the estimated threats to the species as reflected in the Supplemental Environmental Impact Statement.	P, R	P, A, M	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K POD Att. DD LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Conduct surveys at a scale most appropriate to the species.	P, R	P, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K POD Att. DD LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Develop management actions/direction to manage habitat for the species on sites where they are located.	N	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Survey prior to ground-disturbing activities and manage sites: Incorporate survey protocols and proposed site management in interagency conservation strategies developed as part of ongoing planning efforts coordinated by the Regional Ecosystem Office.	P	P, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
Conduct extensive surveys and manage sites: Conduct extensive surveys for the species to find high-priority sites for species management. Specific surveys prior to ground-disturbing activities are not a requirement. Conduct surveys according to a schedule that is most efficient and identify sites for protection at that time.	P	P, A	EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K
Conduct extensive surveys and manage sites: Design these surveys for efficiency and develop standardized protocols.	N		
Conduct extensive surveys and manage sites: Begin these surveys by 1996.	N		
Conduct general regional surveys: Survey to acquire additional information and to determine necessary levels of protection for arthropods, fungi species that were not classed as rare and endemic, bryophytes, and lichens.	N		

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Element	Applicable	Consistency	Comment
Conduct general regional surveys: Initiate these surveys no later than Fiscal Year 1996 and complete them within 10 years.	N		
Riparian Reserves			
Timber Management – Neither conduct nor allow timber harvest, including fuelwood cutting, in Riparian Reserves, with exception of the following: • Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian-wetland conditions, allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy objectives.	N		
Timber Management – Neither conduct nor allow timber harvest, including fuelwood cutting, in Riparian Reserves, with exception of the following: • Remove salvage trees only when watershed analysis determines that present and future coarse woody debris needs are met and other Aquatic Conservation Strategy objectives are not adversely affected.	N		
Timber Management – Neither conduct nor allow timber harvest, including fuelwood cutting, in Riparian Reserves, with exception of the following: • Apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives.	N		
Roads Management: Cooperate with federal, state, and county agencies and work with private parties with road use agreements to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2 EIS App. J POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by completing watershed analyses including appropriate geotechnical analyses (i.e., examining soil and rock conditions in riparian and stream crossings) prior to construction of new roads or landings in Riparian Reserves.	P	P	EIS Secs. 4.2.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by minimizing road and landing locations in Riparian Reserves.	P	P, R	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by preparing road design criteria, elements, and standards that govern construction and reconstruction.	P	P, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. DD

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by preparing operation and maintenance criteria that govern road operation, maintenance, and management.	P	P, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. DD
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.	C, R	B, M	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. DD
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by restricting sidecasting as necessary to prevent the introduction of sediment to streams.	P, C	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Roads Management: For each existing or planned road, meet Aquatic Conservation Strategy objectives by avoiding wetlands entirely when constructing new roads.	P, C	P, B	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by reconstructing roads and associated drainage features that pose a substantial risk.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Roads Management: Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by closing and stabilizing (or obliterating and stabilizing) roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Design and construct new culverts, bridges, and other stream crossings and improve existing culverts, bridges, and other stream crossings determined to pose a substantial risk to riparian conditions. New structures and improvements will be designed to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian-wetland resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping will increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.	P, C, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Roads Management: Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.	P, C, R	P, B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD

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Element	Applicable	Consistency	Comment
Roads Management: Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan will include provisions for the following activities: • inspections and maintenance during storm events; • inspections and maintenance after storm events; • road operation and maintenance giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian-wetland resources; • traffic regulation during wet periods to prevent damage to riparian-wetland resources; and • establishing the purpose of each road by developing a road management objective.	P, C, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.3.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. Y
Minerals Management: For any proposed locatable mining operation in Riparian Reserves, other than notice level or casual use, require the following actions by the operator consistent with 43 Code of Federal Regulations 3809 regulations: • Prepare a Plan of Operations, including a reclamation plan and reclamation bond for all mining operations in Riparian Reserves. Such plans and bonds will address the costs of removing facilities, equipment, and materials; recontouring of disturbed areas to an approved topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging and replacing topsoil; and revegetating to meet Aquatic Conservation Strategy objectives.	N		
Minerals Management: For any proposed locatable mining operation in Riparian Reserves, other than notice level or casual use, require the following actions by the operator consistent with 43 Code of Federal Regulations 3809 regulations: • Locate structures, support facilities, and roads outside Riparian Reserves. If no alternative to siting facilities in Riparian Reserves exists, locate in a way compatible with Aquatic Conservation Strategy objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Roads will be constructed and maintained to meet road management standards and to minimize damage to resources in Riparian Reserves. When a road is no longer required for mineral or land management activities, it will be reclaimed. In any case, access roads will be constructed consistent with 43 Code of Federal Regulations 3809 and acceptable road construction standards and will minimize damage to resources in Riparian Reserves.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals Management: For any proposed locatable mining operation in Riparian Reserves, other than notice level or casual use, require the following actions by the operator consistent with 43 Code of Federal Regulations 3809 regulations: • Avoid locating solid and sanitary waste facilities in Riparian Reserves. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Reserves exists, if releases can be prevented, and if stability can be ensured, then: – Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics. – Locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Reserves. – Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives. – Require reclamation bonds adequate to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.	N		
Minerals Management: Where an existing operator is in noncompliance at the notice level (that is, causing unnecessary or undue degradation), require actions similar to those stated above to meet the intent of 43 Code of Federal Regulations 3809.	N		
Minerals Management: For future leasable mineral activity in Riparian Reserves, prohibit surface occupancy for oil, gas, and geothermal exploration and development activities unless it can be demonstrated that impacts will be acceptable or can be mitigated so that the objectives of the Aquatic Conservation Strategy can be met. Where possible, adjust the stipulations in existing leases to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy objectives, consistent with existing lease terms and stipulations.	N		
Minerals Management: Allow development of salable minerals, such as sand and gravel, within Riparian Reserves only if Aquatic Conservation Strategy objectives can be met.	N		
Minerals Management: Develop inspection and monitoring requirements and include such requirements in exploration and mining plans and in leases or permits consistent with existing laws and regulations. Evaluate the results of inspection and monitoring to determine if modification of plans, leases and permits is needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Recreation Management: Design new recreational facilities within Riparian Reserves, including trails and dispersed sites, so as not to prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves, evaluate and mitigate impacts to ensure that these do not prevent, and to the extent practicable contribute to, attainment of Aquatic Conservation Strategy objectives.	N		

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Element	Applicable	Consistency	Comment
Recreation Management: Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective, eliminate the practice or occupancy.	N		
Recreation Management: Address attainment of Aquatic Conservation Strategy objectives in Wild and Scenic River and Wilderness management plans.	N		
Fire/Fuels Management: Design fuel treatment and fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy objectives, and to minimize disturbance of riparian-wetland ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 EIS App. F EIS App. J POD Att. K POD Att. R POD Att. DD
Fire/Fuels Management: Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside of Riparian Reserves. If the only suitable location for such activities is within the Riparian Reserve, an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Use an interdisciplinary team to predetermine suitable incident base and helibase locations.	N		
Fire/Fuels Management: Minimize delivery of chemical retardant, foam, or other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor, when an escape would cause more long-term damage.	N		
Fire/Fuels Management: Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 EIS App. J POD Att. R POD Att. DD
Fire/Fuels Management: Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy objectives whenever Riparian Reserves are significantly damaged by a wildfire or a prescribed fire burning outside prescribed parameters.	N		
Fire/Fuels Management: Limit the size of all wildfires to the extent practical.	N		
Fire/Fuels Management: Rapidly extinguishing smoldering coarse woody debris and duff should be considered to preserve these ecosystem elements.	N		
Fire/Fuels Management: Locate and manage water drafting sites (for example, sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian-wetland habitat and water quality as consistent with Aquatic Conservation Strategy objectives.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Lands: Identify instream flows needed to maintain riparian wetland resources, channel conditions, and fish passage in coordination with the Oregon Department of Fish and Wildlife, Department of Environmental Quality, and the Oregon Parks and Recreation Department.	N		
Lands: Issue leases, permits, rights-of-way, and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible, adjust existing leases, permits, rights-of-way, and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing leases, permits, rights-of-way, and easements will be based on the actual or potential impact and the ecological value of the riparian-wetland resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.3, 2.1.5 & 2.1.6 EIS Sec. 4.1.3.5 EIS App. J POD Att. Y
Lands: Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction.	N		
Lands: For proposed hydroelectric projects under the jurisdiction of the Federal Energy Regulatory Commission, provide timely, written comments regarding maintenance of instream flows and habitat conditions and maintenance/restoration of riparian resources and stream channel integrity. Request the Federal Energy Regulatory Commission to locate proposed support facilities outside of Riparian Reserves. For existing support facilities inside Riparian Reserves that are essential to proper management, provide recommendations to the Commission that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, provide recommendations to the Federal Energy Regulatory Commission that such support facilities should be relocated. Existing support facilities that must be located in the Riparian Reserves should be located, operated, and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Lands: For other hydroelectric and surface water development proposals in Tier 1 Key Watersheds, require instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate state agencies. For other hydroelectric and surface water development proposals in all other watersheds, give priority emphasis to instream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions, and fish passage. Coordinate this process with the appropriate state agencies.	N		
Grazing Management: Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of Aquatic Conservation Strategy objectives.	N		
Grazing Management: Locate new livestock handling and/or management facilities outside Riparian Reserves. For existing livestock handling facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Grazing Management: Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy objectives are met.	N		
Watershed and Habitat Restoration: Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and attains Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. DD
Watershed and Habitat Restoration: Cooperate with federal, state, local, and tribal agencies, and private landowners to develop watershed based coordinated resource management plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD
Watershed and Habitat Restoration: Prevent watershed and habitat degradation rather than relying on mitigation measures or planned restoration.	N		
General Riparian Area Management: Identify and attempt to secure instream flows needed to maintain riparian resources, channel conditions, fish passage, and aquatic habitat in coordination with the Oregon Department of Fish and Wildlife, Department of Water Resources, Department of Environmental Quality, and the Oregon Parks and Recreation Department.	N		
General Riparian Area Management: Fall trees in Riparian Reserves when they pose a safety risk. Keep felled trees on site when needed to meet coarse woody debris objectives.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. U
General Riparian Area Management: Apply herbicides, insecticides, other toxicants, and other chemicals only in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.	P, C, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 EIS Sec. 4.6.1.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
General Riparian Area Management: Locate water drafting sites (sites where water is pumped to control or suppress fires or for road construction and maintenance) to minimize adverse effects on stream channel stability, sedimentation, and instream flows needed to maintain riparian resources, channel conditions, and fish habitat	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fish and Wildlife Management: Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4.3 EIS Sec. 4.6.2.3 EIS App. F EIS App. J POD Att. DD
Fish and Wildlife Management: Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish and wildlife interpretative and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Fish and Wildlife Management: Cooperate with federal, tribal, and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.	N		
Fish and Wildlife Management: Cooperate with federal, tribal, and state fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest and poaching that threaten the continued existence and distribution of native fish stocks inhabiting streams with adjacent or nearby federal lands.	N		
Late-Successional/District Designated Reserves			
Plan and implement non-silvicultural activities inside Late-Successional Reserves/District Designated Reserve that are neutral or beneficial to the creation and maintenance of late-successional habitat.	P, R	P, M	EiS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Using interdisciplinary teams, evaluate other activities not described below and document appropriate guidelines.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Request review by the Regional Ecosystem Office of all activities deemed to have potential adverse effects on Late-Successional/District Designated Reserve objectives. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Provide Late-Successional/District Designated Reserves for biodiversity and old growth habitat on the east side by the designation of Miller Creek Canyon and Yainax Butte as areas of critical environmental concern (see the Special Areas section). Manage forest lands on the east side of the planning area under uneven-age harvest prescriptions that will provide for a diversity of structure and species composition.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Silviculture: Plan and implement silvicultural treatments inside Late-Successional/District Designated Reserves that are beneficial to the creation of late-successional habitat. If needed to create, maintain, or enhance late-successional forest conditions, conduct thinning operations in forest stands. This will be accomplished by pre-commercial thinning, commercial thinning, or selective harvesting of stands regardless of origin (for example, planted after logging or naturally regenerated after fire or blowdown).	N		
Silviculture: Large-scale disturbances, such as fire, are natural events and can eliminate spotted owl habitat on hundreds of thousands of acres. Certain risk management activities, if properly planned and implemented, may reduce the probability of these major stand-replacing events. Elevated risk levels are attributed to changes in the characteristics and distribution of the mixed-conifer forests resulting from past fire protection. These forests occur in drier environments, have had repeated insect infestations, and are susceptible to major fires. Risk reduction efforts are encouraged where they are consistent with the objectives for the Late-Successional/District Designated Reserves.	N		
Silviculture: Silvicultural activities aimed at reducing risk shall focus on younger stands in Late-Successional/ District Designated Reserves. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances. Salvage activities should focus on the reduction of catastrophic insect, disease, and fire threats. Treatments should be designed to provide effective fuel breaks wherever possible. However, the scale of salvage treatments should not generally result in degeneration of currently suitable owl habitat or other late-successional conditions.	N		
Silviculture: In some Late-Successional/District Designated Reserves, management that goes beyond these guidelines may be considered. Levels of risk in those Late-Successional/District Designated Reserves may be particularly high and may require additional measures. Consequently, management activities designed to reduce risk levels are encouraged in those Late-Successional/District Designated Reserves even if a portion of the activities must take place in currently late-successional habitat. While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, the activities are clearly needed to reduce risks, and the activities will not prevent the Late-Successional/District Designated Reserve from playing an effective role in the objectives for which they were established.	N		
Salvage: Limit salvage of dead trees in Late-Successional/ District Designated Reserves to areas where stand-replacing events exceed ten acres in size and canopy closure has been reduced to less than 40 percent.	N		
Salvage: Retain all standing live trees including those injured (for example scorched) but likely to survive.	N		
Salvage: Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Salvage: Retain adequate coarse woody debris quantities in a new stand so that in the future it will still contain amounts similar to naturally regenerated stands. Watershed-level or province-level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to coarse woody debris over the long term.	N		
Salvage: If essential to reduce future risk of fire or insect damage, conduct salvage that does not meet the preceding management actions/ direction. Focus on those areas where there is high risk of large scale disturbance.	N		
Salvage: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.	N		
Salvage: After disturbance in younger stands, develop diameter and biomass retention direction consistent with the intention of achieving late successional forest conditions. Where green trees, snags, and logs are present following disturbance, the green tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snags can be credited toward the amount of coarse woody debris biomass needed to achieve management objectives.	N		
Salvage: Retain logs present on the forest floor before a disturbance event.	N		
Salvage: Retain coarse woody debris to approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.	N		
Salvage: Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit deviations to as small an area as possible.	N		
Road Management: Construct roads in Late-Successional/District Designated Reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. Alternative access methods, such as aerial logging, will be considered to provide access for activities in reserves.	P, C	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.6 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. H POD Att. Y
Road Management: Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.	C, O	b	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. U POD Att. Y
Fuelwood Gathering: Permit fuelwood gathering only in existing cull decks, in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance. In all cases these activities will comply with management actions/direction for salvage and silvicultural activities.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Minerals Management: Assess the impacts of ongoing and proposed mining activities in Late-Successional/District Designated Reserves.	N		
Minerals Management: Include stipulations in mineral leases, mineral material disposals, and, when legally possible, require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.	N		
Developments: Neither construct nor authorize new facilities that may adversely affect Late-Successional/District Designated Reserves.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Developments: Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on Late-Successional/District Designated Reserves.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Developments: Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.	P	P, R	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Retain and maintain existing developments, such as campgrounds, utility corridors, and electronic sites, consistent with other management actions/direction for Late-Successional/District Designated Reserves.	P, C, O	P, B	EIS Sec. 2.1.2 EIS Sec. 4.1.3.6 EIS App. H
Developments: Remove hazard trees along utility rights-of-way and trails and in other developed areas.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.2.2 POD Att. U POD Att. Y
Recreational Uses: Use adjustment measures, such as education, use limitations, traffic control devices, or increased maintenance, when dispersed and developed recreation practices retard or prevent attainment of Late-Successional/District Designated Reserve objectives.	N		
Fuels Management: As part of watershed analysis, plan fire management for each Late-Successional/District Designated Reserve.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. DD
Fuels Management: Emphasize maintaining late-successional habitat in wildfire suppression plans.	N		
Fuels Management: Use minimum impact suppression methods for fire management in accordance with guidelines for reducing risks of large-scale disturbances.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fuels Management: During actual fire suppression activities, consult an interdisciplinary team to assure that habitat damage is minimized. Until a fire management plan is completed for a Late-Successional/District Designated Reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options.	N		
Fuels Management: Prepare a specific fire management plan prior to any habitat manipulation activities in Late-Successional/District Designated Reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the Late-Successional/District Designated Reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office.	N		
Fuels Management: Apply prescribed fire in a manner which retains the amount of coarse woody debris determined through watershed analysis.	C, O	B	EIS Sec. 4.1.3.6 EIS App. H POD Att. K POD Att. R
Fuels Management: Limit the size of all wildfires to the extent practicable.	N		
Fuels Management: Allow some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning. (See the 1994 Klamath Falls Resource Area Fire Management Environmental Assessment.)	N		
Fuels Management: Consider rapidly extinguishing smoldering coarse woody debris and duff.	N		
Lands: Consider land exchanges in Late-Successional/District Designated Reserves if they provide benefits equal to or better than current conditions.	N		
Lands: Consider land exchanges especially to improve area, distribution, and quality (for example connectivity, shape, and contribution to biodiversity) of Late-Successional/District Designated Reserves, especially where public and private lands are intermingled.	N		
Grazing Management: In coordination with wildlife and fish biologists, implement range related management activities that do not adversely affect late-successional habitat.	N		
Grazing Management: Through a planning and environmental analysis process appropriate to the action, adjust or eliminate grazing practices that retard or prevent attainment of Late-Successional/District Designated Reserve objectives.	N		
Grazing Management: Evaluate effects of existing and proposed livestock management and handling facilities in Late-Successional/District Designated Reserves to determine if reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Habitat Improvement Projects: Design projects to improve conditions for fish, wildlife, and watersheds if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Habitat Improvement Projects: Design and implement watershed restoration projects consistent with Late-Successional/District Designated Reserve objectives.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Special Forest/Natural Products: Evaluate whether special forest/natural product harvest activities have adverse effects on Late-Successional/District Designated Reserve objectives.	N		
Special Forest/Natural Products: Prior to selling special forest products, ensure resource sustainability and protection of other resource values such as special status plant or animal species.	N		
Special Forest/Natural Products: Where special forest product activities are extensive, evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.	N		
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: Access to nonfederal lands through Late-Successional/District Designated Reserves will be considered and existing right-Of-way agreements, contracted rights, easements, and special/temporary use permits in Late-Successional/District Designated Reserves will be recognized as valid uses.	P	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.5 & 2.1.6 EIS Sec. 4.1.3.6 EIS App. H POD Att. U POD Att. Y
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on Late-Successional/District Designated Reserves. Consider alternative routes that avoid Late-Successional/District Designated Reserves. If rights-of-way must be routed through a reserve, design and locate them to have the least impact on late-successional habitat.	P, R	P, R, M	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 3.4.3 EIS Sec. 4.1.3.4 & 4.1.3.6 EIS App. F EIS App. H POD Att. U POD Att. Y POD Att. DD
Rights-of-Way, Contracted Rights, Easements, and Special/Temporary Use Permits: Review all special/temporary use permits. When objectives of Late-Successional/District Designated Reserves are not being met, reduce impacts through education or modification of existing permits.	N		
Non-native Species: If introduction of a non-native species is proposed, complete an assessment of impacts and avoid any introduction that will retard or prevent achievement of Late-Successional/District Designated Reserve objectives.	N		
Non-native Species: Evaluate impacts of non-native species (plant and animal) existing within reserves.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Non-native Species: Develop plans and recommendations for eliminating or controlling non-native species which are inconsistent with Late-Successional/District Designated Reserve objectives. Include an analysis of effects of implementing such programs on other species or habitats within Late-Successional/District Designated Reserves.	P, R	P, M	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. H POD Att. I POD Att. N POD Att. DD
Matrix (General Forest Management Area) – West Side			
Apply the management actions/direction in the Special Status and Supplemental Environmental Impact Statement Special Attention Species section. Conduct timber harvest and other silvicultural activities in that portion of the Matrix with suitable forest lands, according to management actions/ direction summarized below, the Timber section, and Appendix E[39].	N		
A portion of BLM-administered forest lands will be available for maintenance of biological diversity, including old growth characteristics, and will not be subject to planned timber harvest. These forest lands include: nonsuitable woodlands, suitable woodlands-all categories, recreation sites, forest lands allocated for riparian-wetland area protection in Riparian Reserves, proposed areas of critical environmental concern and research natural areas, core areas around bald eagle and spotted owl nest sites, and other areas required for threatened and endangered species recovery. These forest lands total approximately 24,050 acres, of which 6,600 acres are currently old growth and 6,100 acres are mature forest.	N		
Designate the Klamath Canyon an Area of Critical Environmental Concern (see the Special Areas section) and manage for old growth and diversity of native plant communities, as well as for historic, cultural, scenic, fisheries, and wildlife populations.	N		
Manage the 23,550 acres of Matrix forest lands under uneven-age/multiple canopy management harvest prescriptions (see the Timber section). These forest lands will allow for migration and dispersal of organisms between the Late-Successional Reserves on U.S. Forest Service land to the north and the Klamath Canyon to the south (see Maps 3 and 4 in the map packet).	N		
Provide a renewable supply of large down logs well distributed across the Matrix landscape in a manner that meets the needs of species and provides for ecological functions. Down logs will reflect the species mix of the original stand. Models will be developed for groups of plant associations and stand types that can be used as a baseline for developing prescriptions.	N		
Leave 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. Decay class 1 and 2 logs will be credited toward the total. Down logs will reflect the species mix of the original stand. Where this management actions/direction cannot be met with existing coarse wood debris, merchantable material will be used to make up the deficit.	N		
In areas of partial harvest, apply the same basic management actions/decision, but they can be modified to reflect the timing of stand development cycles where partial harvest is practiced.	N		

[39] Appendix E: Timber Management, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Retain coarse woody debris already on the ground, and protect it to the extent compatible with ecosystem processes of the site, from disturbance during treatment (for example, underburning and yarding) that might otherwise destroy the integrity of the substrate.	C, O	B	EIS Sec. 2.6.2 EIS Sec. 4.3.3.1 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.2 & 4.5.2.3 POD Att. I POD Att. K POD Att. R POD Att. U
Retain 16 to 25 large green trees per acre where available.	N		
Retain snags within a timber harvest unit at levels sufficient to support species of cavity-nesting birds at 60 percent of potential population levels. Meet the 60 percent minimum throughout the Matrix with per acre requirements met on average areas no larger than 40 acres.	N		
When an area is regeneration harvested, limit patch size to 3 acres.	N		
Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize intensive burning, unless appropriate for certain specific habitats, communities, or stand conditions. Prescribed fires should be planned to leave the appropriate amount of litter and coarse woody debris for the site.	N		
Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment.	N		
Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance. Plan and implement treatments to reduce the intensity and frequency of site treatments.	N		
Matrix (Late-Successional/District Designated Reserve Buffers)			
Management in the buffers around the reserves will be designed to reduce the risk of natural disturbances. Old growth ecosystem prescriptions are harvest methods designed to facilitate the attainment or maintenance of old growth characteristics (see Appendix E[40]).	N		
Manage coarse woody debris, green trees, and snags in a manner that meets the intent of the management actions/direction for the Matrix.	N?		
Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbances.	N		
Minimize intensive burning, unless appropriate for certain specific habitats, communities, or stand conditions. Prescribed fires should be planned to leave the appropriate amount of litter and coarse woody debris for the site.	N		

[40] Appendix E: Timber Management, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Minimize soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment.	C, R, O	B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I POD Att. BB
Reduce the intensity and frequency of site treatments.	N		
Explore and support opportunities to research the role and effects of fire/fuels management on ecosystem functions.	N		
Plan and implement non-silvicultural activities inside these areas that are neutral or beneficial to the creation and maintenance of late-successional habitat.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Using interdisciplinary teams, evaluate other activities not described below and document appropriate guidelines.	P	P	EIS Sec. 4.1.3.6 EIS App. H
Silviculture: Produce a sustainable supply of timber and other forest commodities.	N		
Silviculture: Plan and implement silvicultural treatments inside these areas that are beneficial to the creation or maintenance of late-successional habitat.	N		
Silviculture: Create and maintain late-successional forest conditions. Conduct thinning operations in forest stands. This will be accomplished by pre-commercial, commercial thinning, or selective harvesting of stands regardless of origin (for example, planted after logging or naturally regenerated after fire or blowdown).	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Silviculture: Large-scale disturbances, such as fire, are natural events and can eliminate spotted owl habitat on hundreds or thousands of acres. Certain risk management activities, if properly planned and implemented, may reduce the probability of these major stand-replacing events. Elevated risk levels are attributed to changes in the characteristics and distribution of the mixed-conifer forests resulting from past fire protection. These forests occur in drier environments, have had repeated insect infestations, and are susceptible to major fires. Risk reduction efforts are encouraged where they are consistent with the objectives for these areas.	N		
Silviculture: Silvicultural activities aimed at reducing risk shall focus on younger stands. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances. Salvage activities should focus on the reduction of catastrophic insect, disease, and fire threats. Treatments should be designed to provide effective fuel breaks wherever possible. However, the scale of salvage and other treatments should not generally result in degeneration of currently suitable owl habitat or other late-successional conditions.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Silviculture: In some of these areas, management that goes beyond these guidelines may be considered. Levels of risk in those areas may be particularly high and may require additional measures. Consequently, management activities designed to reduce risk levels are encouraged in those areas even if a portion of the activities must take place in current late-successional habitat. While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat; and the activities will not prevent these areas from playing an effective role in the objective for which they were established.	N		
Salvage: Down woody debris objectives will be the same as the rest of the Matrix.	N		
Salvage: Retain snags that are likely to persist until late-successional forest conditions have developed and a new stand is again producing large snags.	N		
Salvage: Retain adequate coarse woody debris quantities in a new stand so that in the future it will still contain amounts similar to naturally regenerated stands. Watershed-level or province-level plans will establish appropriate levels of coarse woody debris to be used. Levels will be typical and will not require retention of all material where it is highly concentrated or too small to contribute to course woody debris over the long term.	N		
Salvage: If essential to reduce future risk of fire or insect damage, conduct salvage that does not meet the preceding management actions/direction. Focus on those areas where there is high risk or large scale disturbance.	N		
Salvage: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some material where coarse woody debris is inadequate.	N		
Salvage: After disturbance in younger stands, develop diameter and biomass retention direction consistent with the intention of achieving late-successional forest conditions. Where green tree, snags, and logs are present following disturbance, the green tree and snag direction will be applied first and completely satisfied where possible. The biomass left in snag can be credited toward the amount of course woody debris biomass needed to achieve management objectives.	N		
Salvage: Retain logs present on the forest floor before a disturbance event.	N		
Salvage: Retain course woody debris to approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.	N		
Salvage: Deviate from these management actions/direction only to provide reasonable access to salvage sites and feasible logging operations. Limit the deviations to as small an area as possible.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Road Management: Construct roads in these areas if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. Alternative access methods, such as aerial logging, will be considered to provide access for activities in reserves.	P, C	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.6 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. H POD Att. I POD Att. Y
Road Management: Remove trees along rights-of-way if they are a hazard to public safety. Consider leaving material on site if available coarse woody debris is inadequate. Consider topping of trees as an alternative to felling.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.2.1.3 EIS Sec. 4.5.2.2 & 4.2.2.3 POD Att. U POD Att. Y
Fuelwood Gathering: Permit fuelwood gathering only in existing cull decks in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large scale disturbance. In all cases these activities will comply with management action/direction for salvage and silvicultural activities.	N		
Mineral Management: Assess the impacts of ongoing and proposed mining activities in these areas.	N		
Mineral Management: Include stipulations in mineral leases, mineral material deposits, and, when legally possible, require operational constraints for locatable mineral activities to minimize detrimental effects to late-successional habitat.	N		
Developments: Neither construct nor authorize new facilities that may adversely affect these areas.	P	P	EIS Sec. 2.1.4 EIS Secs. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Developments: Review on a case-by-case basis new development proposals that address public needs or provide significant public benefits. They may be approved when adverse effects can be minimized and mitigated. They will be planned to have the least possible adverse impacts on these areas.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Developments: Locate new developments to avoid degradation of habitat and adverse effects on identified late-successional species.	P	P, R	EIS Sec. 2.1.4 EIS Secs. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Developments: Retain and maintain existing developments, such as campgrounds, utility corridors, and electronic sites, consistent with other management actions/direction for these areas.	P, C, O	P, B	EIS Sec. 2.1.4 EIS Secs. 4.1.3.6 EIS App. F EIS App. H POD Att. DD

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Developments: Remove hazard trees along utility rights-of-way and trails and in other developed areas.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.2.2 POD Att. U POD Att. Y
Matrix – Not Applicable, Excluded From Table			
Air Quality			
By the year 2000, reduce particulate matter emissions and impacts from prescribed burning by 50 percent from the baseline period (1976-1979). This will be accomplished by planning, conducting, monitoring, and, if necessary, adjusting prescribed fire activities in accordance with the Oregon State Implementation Plan and the Oregon Smoke Management Plan (see Fire section).	P, C, O	P, B	EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. R
Reduce broadcast burning in favor of lower intensity underburning. Use emission reduction mitigation measures and smoke dispersal techniques to the greatest extent practical. Wildfire hazard reduction, site preparation, and the use of prescribed fire for species habitat mitigation will be implemented in a manner consistent with ecosystem management.	N		
Where needed, use dust abatement measures on roads during BLM timber harvest operations or other BLM commodity hauling activity. Encourage dust abatement measures when haulers use BLM roads under permits and right-of-way agreements.	C, R	B, M	EIS Sec. 4.10.2.6 POD Att. 2 POD Att. Y POD Att. DD
Determine the cumulative effects of proposed forest management activities on local and sub-regional air quality and minimize impacts. Coordinate cumulative impact analysis with other federal agencies.	N		
As part of implementation planning, prepare conformity determinations required by the Clean Air Act.	P	P	EIS Sec. 1.5.1.8 EIS Secs. 4.12.1.2 & 4.12.1.3 POD Att. B
Perform an emissions trade-off analysis to determine and quantify the effects of prescribed burning and other types of fuel management on reduction of wildfire emissions. This analysis will be performed at the same geographic scale as conformity determinations.	P	P	EIS Sec. 1.5.1.8 EIS Secs. 4.12.1.2 & 4.12.1.3 POD Att. B
Promote burning of dry fuelwood by making available copies of the Oregon Department of Environmental Quality publications to fuelwood purchasers.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
For those designated nonattainment areas that smoke from woodstove is shown to be a major source of particulate matter, which directly affects both health and visibility, and most of the wood burned comes from surrounding forest land mitigation should be developed that assures proper curing of the wood has occurred before sale off of federal land. Potential consideration to meet this objectives are: 1. Coordinate the issuance of educational information, with wood permits, that targets proper gather practices and way to minimize adverse effects on air quality from inefficient burning of the wood; 2. Cooperate with local air quality control agencies and other federal land management agencies to assure uniform and accurate dissemination of public information and educational material on proper firewood use and enforcement of permit requirements across agency boundaries.	N		
Water and Soils			
Improve and/or maintain soil and water conditions by closing selected areas to off-highway vehicle use and/or limiting such use to existing or designated roads and trails. See the Recreation Section, Off-Highway Vehicles, for additional details.	C, R, O	B, M	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.8.1.2 EIS Sec. 4.8.2.3 EIS Secs. 4.10.2.5 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y POD Att. DD
Water: Comply with state water quality requirements to restore and maintain water quality necessary to protect identifiable beneficial uses as directed by the Clean Water Act, as amended.	P, C, R, O	P, B, M	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. BB POD Att. DD
Water: Comply with state laws and regulations pertaining to the beneficial uses identified by the states and any applicable water quality standards that have been established, as directed by the Federal Water Quality Act of 1987. The State of Oregon has established a list of beneficial uses for the Klamath Basin (Oregon Administrative Rules 340-41-962) and water quality standards that provide protection for those uses. Continue to implement a nonpoint source management program in cooperation with the U.S. Environmental Protection Agency and the Oregon Department of Environmental Quality to assure protection of water and water-dependent resources.	P, C, R, O	P, B, M	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS Sec. 4.6.2.3 & 4.6.2.4EIS App. J POD Att. I POD Att. BB POD Att. DD

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water: Design management practices to comply with Oregon's Antidegradation Policy, which describes the conditions under which water quality may be lowered and when it must be maintained or enhanced. The purposes of the Antidegradation Policy, which includes policies on high quality waters, water quality limited waters, and outstanding resources waters, is to protect, maintain, and enhance existing surface water quality to protect all existing beneficial uses.	P	P, B	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS Sec. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. BB
Water: Continue coordination with the Oregon Department of Environmental Quality for implementation of best management practices which protect beneficial uses of water. Best management practices will be selected based on site-specific conditions, feasibility, and the water quality standards for potentially affected waters (see Appendix D[41]). Mining, timber, grazing, recreation, off-highway vehicle use, and other activities will be regulated to protect water quality and riparian-wetland areas.	P, C, R, O	P, B, M	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2 & 4.4.3 EIS App. J POD Att. DD
Water: Ensure consistency of management activities with the Oregon Water Management Program for forest practices and with Oregon's water quality criteria and guidelines (Oregon Administrative Rule 340-41).	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.4.3 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS App. J
Water: Watershed analysis will provide the mechanism for consideration, incorporation and implementation of the above into land and water resource management planning.	P		EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS App. J
Water: Permit no degradation of water quality if it will interfere with or become injurious to the established beneficial uses of water within those segments of a river designated under the National Wild and Scenic Rivers Act.	N		
Water: Protect flood plains and wetlands in accordance with Executive Orders 11988 and 11990.	P, C, R, O	P, B, M	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.2 EIS App. J POD Att. 28 POD Att. DD

[41] Appendix D: Best Management Practices, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Water: Follow a four tier approach to land and water resource management: regional, physiographic or river basin, watershed, and site specific or project level. Under this approach, analysis starts at the watershed level. The planning units will be physiographic province or river basin, consisting of a number of watersheds. Watershed based planning will be implemented and, over time, the BLM will switch from existing planning units to the provinces or modify the boundaries of current planning units to be more compatible with the watershed based approach.	N		
Water: Watershed analysis will provide the basis for cumulative effects analysis.	P	P	EIS Sec. 1.4.3.2 EIS Sec. 1.4.3.4 EIS Secs. 1.5.1 - 1.5.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2 & 4.4.2.2 EIS Secs. 4.4.3.2 & 4.4.4.2 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.14.2.4 EIS Sec. 4.14.3 EIS App. J POD Att. I POD Att. BB
Water: Evaluate proposed projects or management actions for their cumulative effects on water quality, runoff, and stream channel conditions. The results from the cumulative effects analysis will influence final decisions both on activity scheduling and on the application of design features and mitigation measures, including best management practices.	P	P	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Sec. 4.14.2.4 EIS Sec. 4.14.3 EIS App. J POD Att. I POD Att. Y POD Att. BB
Water: Refer to the Riparian Reserves section earlier in this Chapter for additional guidance. In general, guidance for Riparian Reserves supersedes guidance for riparian-wetland areas in this section and in best management practices Appendix D[42]. In some instances, however, guidance in this section and in Appendix D[5] is more restrictive than that stipulated in the Record of Decision for Riparian Reserves. In those instances, the more restrictive guidance will be followed.	P	P	EIS Sec. 1.5.2.1 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4.2 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. J
Water: Emphasize, in accordance with the Riparian-Wetland Initiative for the 1990s, the following in management of riparian-wetland areas: protection of riparian-wetland areas and associated uplands; rehabilitation and maintenance of riparian-wetland areas; and partnership and cooperative rehabilitation and management of riparian-wetland areas.	N		

[42] Appendix D: Best Management Practices, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Water: Manage riparian-wetland areas to protect, maintain, or improve riparian habitat for wildlife and native plant diversity. Restore or maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition by 1997. The overall objective is to achieve an advanced ecological status, except where resource management objectives, including proper functioning condition, will require an earlier successional stage, thus providing the widest variety of vegetation and habitat diversity for wildlife, fish, and watershed protection. Proper functioning condition exists when adequate vegetation, landform, or large woody debris are present to: dissipate stream energy associated with high water flows; filter sediment, capture bedload and aid floodplain development; improve flood water retention and groundwater recharge; develop stabilizing root masses; create aquatic habitat; and insulate streams from summer and winter temperature extremes.	N		
Water: Achieve riparian-wetland area improvement and maintenance objectives through the management of existing uses, wherever feasible.	N		
Water: Ensure that new resource management plans and activity plans, and revisions of existing plans incorporate, as applicable, practices that enhance or maintain properly functioning riparian systems and maintain, restore or enhance water quality, and result in water quality that meets or exceeds State water quality standards.	N		
Water: Prescribe management of riparian-wetland values based on site-specific characteristics and settings.	N		
Water: Give special attention to monitoring and evaluating management activities in riparian-wetland areas and revise management practices where site-specific objectives are not being met.	N		
Water: Cooperate with and encourage the involvement of interested federal, state and local governments, organizations and private parties to share information, implement management, coordinate activities, and provide education on the value, productivity and management of riparian-wetland areas.	N		
Water: Retain riparian-wetland areas in public ownership unless disposal would be in the public interest, as determined by land use planning.	N		
Water: Identify, encourage, and support research and studies needed to ensure that riparian-wetland area management objectives can be properly defined and met.	N		
Water: Provide environmental education materials to schools and other publics relating to riparian-wetland management.	N		
Water: Incorporate into the resources area's grazing management program, as appropriate, any additional requirements, goals, and objectives devised as a result of the Eastside Ecosystem Management Project and/or Healthy Rangelands record of decision.	N		
Water: Achieve watershed and riparian-wetland management objectives through improved livestock distribution and management through fencing, brush control, spring and other water source development, and through changes in livestock numbers and/or season of use. Maintain existing exclosures where appropriate to meet identified resource management objectives.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Water: Continue implementation of the Gerber Riparian Demonstration Area Plan. Develop an interpretive program to showcase the intensive multiple use management systems currently being used to bring about improvements in riparian-wetland conditions.	N		
Soils: Protect watersheds according to the Federal Land Policy and Management Act (1976). Minimize soil erosion and rehabilitate eroded areas, as an overall goal, to maintain and enhance watershed condition and soil productivity and reduce nonpoint source pollution that could result from management and land use activities.	P, C, R, O	P, B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Soils: Locate and analyze areas prone to erosion in watershed analysis. Management opportunities identified for these areas will be evaluated to determine potential impacts. Best management practices or mitigating measures will be identified and incorporated into future proposed activities (see Appendix D[43] for more information). Proposed activities will also be evaluated under the National Environmental Policy Act, as appropriate, for their effects on soils.	P, R	P, B, R, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Soils: Include corrective measures, such as construction of erosion control structures, allocation of proper levels of vegetation use by livestock and wildlife, forest or other land treatments measures and control or mitigation of activities that may contribute to soil erosion and degradation of watershed condition.	P, C, R, O	P, B, M	EIS Sec. 1.5.1 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Soils: Rehabilitate headcuts and gullies on watershed uplands where feasible.	N		
Soils: Rehabilitate burned areas with critical or severe erosion hazards or other environmental concerns.	N		
Soils: Implement treatment projects, such as juniper thinning or brush control, to improve perennial grass cover conditions or wildlife habitat.	N		

[43] Appendix D: Best Management Practices, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Soils: Apply best management practices during all ground and vegetation disturbing activities. See Appendix D[6] for a list of practices.	C, O	B	EIS Sec. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. U
Soils: Minimize disturbance of identified fragile sites. Appendix D[6] contains management guidance for fragile sites.	P, C, O	P, R, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.2.2.1 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3 EIS Sec. 4.4.4.2 EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Secs. 4.7.4.1 – 4.7.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. K EIS App. M POD Att. I POD Att. Y
Soils: Exclude fragile nonsuitable sites from the timber production base to minimize soil erosion and the effects of land management activities on surface waters.	N		
Soils: Incorporate, as applicable, in grazing-related plans and activities practices that maintain or achieve healthy, properly functioning uplands. Uplands function properly when vegetation and ground cover maintain soil conditions that can sustain natural biotic communities. The functioning condition of uplands results from the interaction of geology, soil, climate, water, biological activity, and landform.	N		
Soils: Manage uplands to provide the following functions within site capabilities, consistent with Appendix D[6] and consistent with other management direction: • The vegetation canopy allows moisture from typical storm events to reach the soil surface. • Standing vegetation captures blowing or drifting snow. • Organic material (plant litter, standing vegetation) protects the soil surface form raindrop impact. • Coarse rock fragments protect the soil surface from raindrop impact. • Water is not restricted from infiltrating the soil surface (for example, organic matter is present and no physical soil crusting, capping, or sealing of the surface is present). • Subsurface soil conditions support infiltration rates (for example, compaction layers and evident of frost heave are uncommon). • Standing vegetation and plant litter detain overland flow and trap sediment. • Surface roughness detains overland flow. • Evidence of excessive overland flow (rills and gullies, pedestalling), wind erosion or other soil movement is uncommon. • Plant cover and litter protect the soil surface from the evaporative effects of sun and wind. • Plants are vigorous and productive and consist of desirable species.	N		
Wildlife Habitat			

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Except where public safety is a concern, snags will be retained on lands not allocated to timber production at 100 percent of optimum population potential for cavity nesters. Where relevant to meeting cavity nester objectives, some green trees will be girdled or topped (having the top cut or blasted) or managed to create snags. Timber sale contracts will encourage retention of all snags and non-merchantable trees that could be left safely in timber harvest areas.	N		
Leave all soft snags except where unacceptable for safety, logging system, or burning considerations.	N		
Leave scattered hard snags and green trees, both to provide the current needs of hard-snag dependent species and to serve as a source of future soft snags. Where available, green trees retained will be cull trees. If cull trees are not available, sound trees will be retained for this purpose. At least half of reserved wildlife trees will be future snags (green culls, or sound trees).	N		
All Land Use Allocations: Use the watershed analysis process to address wildlife habitat issues for individual watersheds. The analysis will help to resolve any concerns identified in applying management actions/direction in this section and those in the Special Status and Supplemental Environmental Impact Statement Special Attention Species section. Other wildlife enhancement opportunities may be or have been identified through an interagency or cooperative effects (such as Coordinated Resource Management Plan, Challenge Cost Share, or existing Habitat Management Plans).	P, R	P, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS Sec. 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.6.1.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. H EIS App. J POD Att. DD
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of wildlife habitat enhancement projects.	N		
All Land Use Allocations: Cooperate with federal, tribal, and state wildlife management agencies to identify and mitigate impacts associated with habitat manipulation, poaching, and other management activities that threaten the continued existence and distribution of native wildlife inhabiting federal lands.	N		
All Land Use Allocations: Cooperate with the Oregon Department of Fish and Wildlife on any wildlife research, inventory, or monitoring conducted on Klamath Falls Resource Area-administered lands, as well as for their assistance in developing an educational program to increase public awareness of wildlife (for example Watchable Wildlife and Fish and Wildlife 2000).	N		
All Land Use Allocations: Continue ongoing animal damage control activities conducted by the Animal and Plant Health Inspection Service/Animal Damage Control according to the annual work plan. This includes control for predation on wildlife, livestock, crops, timber, and conifer seedlings. This may also involve control of wildlife causing damage to facilities or special habitats.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations: Reduce open road density to 1.5 miles or less per section as a road system management goal in accordance with other management activities. Existing off-highway vehicle closures in big game winter ranges will remain in effect throughout the plan (see the Recreation section for more details). Other important and sensitive wildlife habitats (special habitat features, project areas) will be evaluated for seasonal road closures. Some roads could remain open for administrative use, forest product removal, or access for mineral exploration and development. Road closures could be achieved using a variety of methods, such as gates, cables, boulders, obliteration or other.	N		
Riparian Reserves: Design, construct and operate wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing wildlife interpretative and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Late-Successional/District Designated Reserves: Manage the system of 80 to 100-acre Late-Successional/District Designated Reserves to provide a diverse mosaic of habitats across the west side of the planning area. These areas will not be subject to planned timber harvest but harvest will be allowed to attain or maintain old growth characteristics. These forest lands total 1,600 acres, most of which are currently old growth or mature forest.	N		
Late-Successional/District Designated Reserves: Reintroduce fire as a natural disturbance factor through prescribed burning.	N		
Matrix (General Forest Management Area) – West Side: Use old growth ecosystem prescriptions in one quarter mile buffers around each late-Successional! District Designated Reserve. These buffer areas will provide an additional component of habitat diversity. The gross BLM-administered acreage in these areas is 3,800 acres. Old growth ecosystem prescriptions are harvest methods designed to facilitate the attainment or maintenance of old growth characteristics (see Appendix E[44]).	N		
Matrix (General Forest Management Area) – West Side: On lands available for timber harvest, retain snags, live green cull trees, and green merchantable trees to provide nest sites for a minimum of 60 percent of optimal cavity nester populations, both for present needs and long-term sustainability. This retention level corresponds to approximately 1.9 snags per acre (or 190 snags per 100 acres).	N		
Matrix (General Forest Management Area) – East Side: On lands available for timber harvest, retain snags, live green cull trees, and green merchantable trees to provide nest sites for a minimum of 60 percent of optimal cavity nester populations, both for present needs and long-term sustainability. This retention level corresponds to approximately 1.4 snags per acre (or 140 snags per 100 acres) in forested habitat.	N		

[44] Appendix E: Timber Management, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Matrix (General Forest Management Area) – East Side: Use prescribed fire as a favored tool for site preparation, fuel reduction, and to restore or retain natural ecological processes through site disturbance.	N		
Matrix (General Forest Management Area) – East Side: On lands east of Highway 97, manage range and riparian-wetland areas in the Gerber Block for a mosaic of native plant communities. This mosaic will allow for migration and dispersal of organisms between BIM-administered lands and adjacent U.S. Forest Service-administered lands. Reintroduce fire as a natural disturbance factor through prescribed burning.	N		
Special Habitats: Manage special habitats, such as lakes, talus slopes, meadows, and wetlands (see Table 1 in Appendix B[45]) to protect their primary habitat values; however, rock quarries could be developed on cliffs or talus slopes not occupied by special status species. Consider wildlife values in the development and rehabilitation of rock quarries. Actions that will benefit wildlife include: constructing cavities for raptors and other species in quarry walls during development, or in abandoned quarries; and piling large boulders at the base of slopes or in waste areas to create cavities for mammals.	N		
Special Habitats: Buffer special habitats from surface disturbance and timber harvest if necessary to protect primary values.	N		
Special Habitats: Use management practices, including prescribed fire or timber harvest, to obtain desired vegetation conditions in special habitats.	N		
Deer, Elk, and Antelope: Design thinning projects to maintain existing major game trails free of slash accumulations that impede big game movement.	N		
Deer, Elk, and Antelope: Conduct forage seeding in habitat areas with appropriate seed beds and where compatible with other management objectives.	R	B	EIS Secs. 4.6.1.2 & 4.6.1.3
Deer, Elk, and Antelope: Use seasonal restrictions on public use and management activities where needed to minimize disturbance and harassment of herds during critical use periods (for example, birthing areas, winter range, etc.).	P, C, O	P, B	EIS Secs. 4.6.1.2 & 4.6.1.3
Deer, Elk, and Antelope: Use patch cut harvesting in big game habitat only where silviculturally essential to accomplish relevant forest management or other resource objectives (such as providing small patch openings). Keep existing major game trails slash free in pre-commercial thinning units. Maintain or improve all seasonal ranges throughout the planning area through a variety of habitat projects and practices.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. F POD Att. DD

[45] Appendix B: Summary of Land Allocations and Management Actions/Directions, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Deer, Elk, and Antelope: Conduct forage seedlings on up to 40 percent of appropriate habitat in harvest areas. Fertilize up to 50 percent of appropriate habitat in deer winter range. Create forage openings up to 5 acres in closed canopy areas. Create and/or maintain forage openings in closed canopy areas on summer and winter ranges. Provide visual barriers up to 25 feet wide along roads in harvest areas. Avoid constructing connecting or through roads in winter ranges. Continue existing seasonal off-highway vehicle closures in big game winter ranges. On lands available for timber production, maintain 40 percent in hiding and thermal cover.	N		
Deer, Elk, and Antelope: Conduct thinnings of encroaching juniper to protect and improve forage areas for big game. These thinnings will protect old growth juniper and be designed to consider edge effect, escape cover, and proper unit size.	N		
Furbearers: Conduct systematic inventory of furbearers such as pine marten, beaver, and otter.	N		
Golden Eagle (Protected): Provide a buffer of up to 30 acres around known and future nest sites and restrict some management activity near nest sites between January 1 and August 31.	N		
Osprey: Restrict some management activity within % mile of known nest sites between May 1 and August 1; develop nest structures to improve nesting opportunities in suitable habitat.	N		
Osprey: Provide snags or green culls for perch/nest sites along all suitable (fish-bearing) waterbodies. Provide up to a 5-acre buffer around known and future nest sites.	N		
Accipiters: Provide up to a 15-acre buffer for some management activities around known and future activity centers.	N		
Prairie Falcon: Provide up to a 15-acre buffer for some management activities around known and future activity centers.	N		
Red-tailed Hawk: Provide up to a 5-acre buffer for some management activities around known and future nest sites.	N		
Other Raptors: Maintain the integrity of nest sites and centers of activity.	N		
Woodpeckers: Manage for 60 percent of optimum population potential on all lands allocated to timber production. Lands not allocated to timber production will be managed at 100 percent of optimum population potential.	N		
Sandhill Crane: Conduct systematic nest surveys and construct artificial nest structures to optimize nesting potential.	N		
Sandhill Crane: Restrict some management activities within 200 feet of nest sites from April 1 to August 1.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Waterfowl: Where necessary, acquire water rights, consistent with Oregon State water laws in important waterfowl production areas; as opportunities arise, private lands in important waterfowl habitat will be obtained through exchange or other mutual agreement. Allow livestock grazing in waterfowl nesting habitat only under guidelines set by an interdisciplinary team process. If necessary, initiate a predator control program to enhance nesting success and production, within guidelines of the established animal damage control environmental impact statement.	N		
Wild Turkey: Rehabilitate and improve meadows with native plants and grasses in suitable habitat and plant small food plots with high yield grains and grasses in disturbed areas. Create and/or maintain open forage areas up to 3 acres in appropriate habitat. Maintain hardwoods to maximize mast production in up to 50 percent of harvested acres. In suitable habitat provide 2 roost sites (approximately 1/8 to 1/4 acre) per 40 acres of harvest area. Minimize open roads and avoid new road construction within %mile of nest and roost sites.	N		
Other Upland Gameblrds: Maintain clumps of mature conifers on major ridges to provide winter habitat for grouse. Install guzzlers in cooperation with the Oregon Department of Fish and Wildlife to benefit upland game-birds and other wildlife. Continue to introduce red-legged partridge/chukar, pheasant, and turkey in cooperation with the Oregon Department of Fish and Wildlife.	N		
Trout: Develop a coordinated recreation management plan to include tributaries of the Jenny Creek watershed; install instream structures in areas lacking sufficient habitat; stock suitable waterbodies that are below carrying capacity and/or areas above barriers; timber sale contracts would require, when practical, removal of debris that obstructs fish passage or would degrade the stream channel; retain large woody debris in and adjacent to the stream channel; improve trout habitat and/or maintain through minimal impact grazing system; use riparian-wetland exclosures to enhance streamside habitat; remove debris jams that impede migration; modify or replace culverts that block migration; and block up ownership when possible on lands with trout bearing streams.	P, R	P, B	EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Fish Habitat			
All Land Use Allocations: Use the watershed analysis process to address at-risk fish species and stocks and their habitat for individual watersheds. Where appropriate, fish habitat enhancement opportunities will be identified through this process or through coordinated resource management plans.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. M POD Att. DD

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Coordinate with the Oregon Department of Fish and Wildlife during planning and implementation of fish habitat enhancement projects. Priority will be given to watersheds supporting at-risk fish species and stocks and those requiring extensive restoration. As identified through watershed analysis, rehabilitate streams and other waters to enhance natural populations of resident Possible rehabilitation measures will include, but not be limited to, fish passage improvements, instream structures using boulders and log placement to create spawning and rearing habitat, placement of fine and coarse materials for overwintering habitat, and establishment or release of riparian-wetland trees.	N		
All Land Use Allocations: Enhance warm water fisheries in reservoirs or ponds where fish populations provide forage for eagles or osprey or where recreational needs can be fulfilled.	N		
Riparian Reserves: Design, construct, and operate fish interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish interpretative and other user-enhancement facilities inside Riparian Reserves, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.	N		
Special Status and Supplemental Environmental Impact Statement Special Attention Species Habitat			
All Land Use Allocations – Special Status Species: Protect the following sites from grazing: known and newly discovered sites of the following mollusk species will be protected from grazing by all practicable steps to ensure that the local populations of the species will not be impacted. These species include: *Fluminicola n.* sp. 1, *Flumincola n.* sp. 11, *Fluminicola n.* sp. 19, *Fluminicola n.* sp. 20, *Fluminicola n.* sp. 3, and *Fluminicola seminalis*. Freshwater mollusks in the family *Hydrobiidae* (to which the genus *Fluminicola* belong) are known to exist in the resource area. Tentative identification of mollusks collected at several sites in the resource area has been made. Further investigation is required for more positive identification of which species of *Fluminicola* are present in the resource area. Implementation of protection actions will be initiated after watershed analysis and appropriate National Environmental Policy Act decisions.	N		
All Land Use Allocations – Special Status Species: Review all proposed actions to determine whether or not special status species occupy or use the affected area or if habitat for such species is affected.	P	P	EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Conduct field surveys according to protocols and other established procedures. This includes surveying during the proper season unless surveys are deemed unnecessary through watershed analysis, project planning, and environmental assessment. For example, field surveys may not be conducted in all cases depending on the number and timing of previous surveys conducted, whether previous surveys looked for all species that a new survey would look for, and the likelihood of potential habitat. The intensity of field surveys will also vary depending on the same factors.	P	P	EIS Sec. 1.5.4.1 EIS Sec. 4.4.4 EIS. Secs. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App. M POD Att. J

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Special Status Species: Consult/conference with the U.S. Fish and Wildlife Service or National Marine Fisheries Service for any proposed action which may effect federal listed or proposed species or their critical or essential habitat. Based on the results of consultation/conferencing, modify, relocate, or abandon the proposed action. Request technical assistance from one of these agencies for any proposed action which may affect federal candidate species or their habitat.	P	P	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Coordinate with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and other appropriate agencies and organizations and jointly endeavor to recover federal listed and proposed plant and animal species and their habitats.	P, C, O	P, B	EIS Sec. 1.5.1 EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Modify, relocate, or abandon a proposed action to avoid contributing to the need to list federal candidate species, state listed species, or Bureau sensitive species.	P, C	P, R	EIS Sec. 1.5.3.5 EIS Sec. 3.4.3 EIS Sec. 4.7.4.1 – 4.7.4.4 EIS App. K EIS App M POD Att. J
All Land Use Allocations – Special Status Species: Coordinate and cooperate with the state of Oregon to conserve state listed species.	P, C, R, O	P, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.7.3.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. M POD Att. DD
All Land Use Allocations – Special Status Species: Identify impacts of proposed actions, if any, to bureau assessment species as a whole and clearly describe impacts in environmental analyses. As funding permits and as species conservation dictates, Bureau assessment species will be actively managed.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Special Status Species: Retain under federal management, or other appropriate management organization, habitat essential for the survival or recovery of listed species. Retain habitat of candidate or Bureau sensitive species where disposal will contribute to the need to list the species.	P	P	EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Where appropriate opportunities exist, acquire land to contribute to recovery, reduce the need to list, or enhance special status species habitat.	N		

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Special Status Species: Where appropriate, pursue opportunities to increase the number of populations of species under BLM management through land acquisition and/or species reintroduction in coordination with other responsible agencies.	N		
All Land Use Allocations – Special Status Species: Coordinate with other agencies and groups in management of species across landscapes. Coordination will be accomplished through conservation plans or similar agreements which identify actions to conserve single or multiple species and/or habitats. Such strategies could preclude the need for intensive inventories or modifications to some projects where the conservation plan provides adequate protection for the species and meets the intent of policy.	p	P	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec.1.5.4.1 & 1.5.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Where plans exist for species no longer on the special status list, continue with the prescribed conservation actions if determined to be required to avoid relisting or future consideration for listing. In the case of interagency plans or agreements, this determination will be mutually decided. Such plans may be modified as needed based on adequacy of existing range-wide conditions and conservation management.	N		
All Land Use Allocations – Special Status Species: Pursue opportunities for public education about conservation of species.	N		
All Land Use Allocations – Special Status Species: In addition to protection of federally listed or proposed threatened or endangered plant or animal species, manage areas to restore and retain biological diversity to provide protection for clusters of federal candidate category 1 and 2, state listed, Bureau sensitive, and Bureau assessment species. Modify or constrain Bureau management actions and permitted actions to the extent considered necessary to avoid contributing to the need to list federal candidate category 1 and 2, state listed, state candidate, and Bureau sensitive species.	P	P, R	EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Monitor and manage habitats of federally listed or proposed threatened or endangered species as required by law. Prior to any vegetation or ground manipulation, or any disposal of BLM-administered land, conduct a review of the affected site(s) or tract(s) for such plants and animals.	P, C	P	EIS Secs. 4.7.1 & 4.7.4 EIS App. M POD Att. J
All Land Use Allocations – Special Status Species: Conduct general inventories for special status species where needed to determine species distribution and status. Conduct monitoring of these species populations to determine their requirements and trends. Prepare management plans when necessary, and implement active management where needed to prevent listing or to conserve the species. Report population and occurrence data to the Oregon Natural Heritage Program.	N		

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Listed, Proposed, or Candidate Threatened and Endangered Species: Implement the land use allocations and management actions/direction of this resource management plan which are designed to enhance and maintain habitat for threatened and endangered species.	C, R, O	B, M	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.4 EIS Sec. 4.1.3.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. M POD Att. J POD Att. DD
All Land Use Allocations – Northern Spotted Owl (federal threatened species): In the Matrix, retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) spotted owl activity centers.	N		
All Land Use Allocations – Northern Spotted Owl (federal threatened species): Fall no trees within 1/4 mile of all active northern spotted owl nest sites from approximately March 1 to September 30 to avoid disturbance and harm to young owls.	P, C, O	P, R	EIS Sec. 1.5.1.1 EIS Sec. 4.6.1.2 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Northern Spotted Owl (federal threatened species): With minor exceptions, restrict human activities that could disturb owl nesting, especially use of large power equipment, within ¼ mile of all active spotted owl nest sites from approximately March 1 to September 30. Restrictions on activities will usually not be required for owl nests and activity centers located near roads or in other areas of permanent human activity.	P, C, O	P, R	EIS Sec. 1.5.1.1 EIS Sec. 4.6.1.2 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Northern Spotted Owl (federal threatened species): Continue the Surveyor Mountain study to monitor spotted owl density, northern goshawk, and other old growth species and their response to harvest prescriptions.	N		
All Land Use Allocations – Bald Eagle (federal threatened species): Protect known and potential habitat sites identified in the Pacific Bald Eagle Recovery Plan. Provide a buffer of up to 30 acres around nest sites and restrict management activity near nest sites between January 1 and August 31. Coordinate with the Oregon Department of Fish and Wildlife to maintain optimum fish populations in reservoirs providing potential nesting and foraging sites. All management activities will be consistent with objectives identified in the recovery plan and the Working Implementation Plan for Bald Eagle Recovery in Oregon and Washington.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Bald Eagle (federal threatened species): Provide snags for perching and protect those snags within ¼ mile of nest, roost, and known forage sites. Retain old growth characteristics in existing and potential habitat, including large trees and snags, to provide for future population expansion. Acquire easements or ownership of private lands within 1/2 mile of existing or potential habitat that aids in meeting recovery plans; also specifically evaluate acquisition of the Algoma and Swan Lake nest sites as recommended in the recovery plan. Conduct fuels reduction management actions to help reduce potential loss of habitat to catastrophic wildfire occurrences.	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M

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Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Bald Eagle (federal threatened species): Write and implement a site-specific habitat management plan for bald eagle nest sites and major use areas in the Klamath Falls Resource Area, incorporating those management actions identified in the Working Implementation Plan for Bald Eagle Recovery in Oregon and Washington for which the BLM is responsible.	N		
All Land Use Allocations – Peregrine Falcon (federal endangered species): • Comply with the Pacific Coast Recovery Plan for Peregrine Falcons and any other site-specific habitat management plans. • Provide a buffer of up to 30 acres around known and future sites; survey for presence in potential nesting habitat and cooperate with the Oregon Department of Fish and Wildlife to reintroduce peregrines into the Klamath River Canyon. • Restrict new roads and other management activities within ½ mile of existing and potential nest sites. Protect potential habitat in cliff areas of upper Klamath River Canyon.	N		
All Land Use Allocations – Northern Goshawk (Federal Candidate Category 2): Provide up to a 30-acre buffer around known and future activity centers.	P, C, O	P, R	EIS Secs. 4.6.1.2 & 4.6.1.3
All Land Use Allocations – Townsend's Big-eared Bat (Federal Candidate Category 2): When available, obtain through exchange or other mutual agreement private lands that support bat populations or contain potential habitat change or other mutual agreement private lands that support bat populations or contain potential habitat. Continue the Salt Caves seasonal habitat closure from May 1 to September 15.	N		
All Land Use Allocations – Townsend's Big-eared Bat (Federal Candidate Category 2): Buffer current and future use sites up to 20 acres. Restrict management activities within V4 mile of occupied sites.	P, C, O	P, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Townsend's Big-eared Bat (Federal Candidate Category 2): Conduct an inventory of Townsend's big-eared bats in all potential habitat. To optimize big-eared bat populations, minimize detrimental human disturbance in habitat used by the bat. As opportunities arise, obtain through exchange or other mutual agreement, private lands with habitat that support big-eared bat populations or have the potential for use by the bat.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Western Sage Grouse (Federal Candidate Category 2): Conduct surveys in cooperation with the Oregon Department of Fish and Wildlife.	N		
All Land Use Allocations – Western Sage Grouse (Federal Candidate Category 2): Inventory, monitor, and manage important habitats for those characteristics important for grouse.	N		
All Land Use Allocations – Western Sage Grouse (Federal Candidate Category 2): Provide a buffer around lek sites up to 20 acres; institute a seasonal restriction on surface disturbing activity of up to V4 mile around lek sites from March 1 through May 1.	N		
All Land Use Allocations – Western Sage Grouse (Federal Candidate Category 2): Prohibit the removal of large tracts of sagebrush in and near important sage grouse use areas.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Amphibians and Reptiles: Conduct inventories for special status reptiles and amphibians in the planning area. Inventory and documentation of non-status reptiles and amphibians will also take place during this time.	P	P	EIS Sec. 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Shortnose Sucker (Endangered), Lost River Sucker (Endangered), Klamath Largescale Sucker (Candidate), and Western Pond Turtle (Candidate): Provide a buffer of up to 300 feet around waterbodies used by these species. Maintain riparian crown cover in accordance with best management practices and riparian-wetland areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.1.3 & 4.7.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Redband Trout (Candidate): Provide a buffer of up to 300 feet around waterbodies used by this species. Maintain riparian crown cover in accordance with best management practices and riparian-wetland areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.2.2 & 4.6.2.3 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – *Astragalus applegatei* (federal endangered): Although there are known populations within the planning area, none of these populations have been found on BLM-administered lands.	N		
All Land Use Allocations – Supplemental Environmental Impact Statement Special Attention Species – Survey and Manage: Implement the survey and manage provision of the Supplemental Environmental Impact Statement Record of Decision within the range of Supplemental Environmental Impact Statement special attention species and the particular habitats that they are known to occupy. Appendix C[46] shows which species are covered by this provision, and which of the following four categories and management actions/direction are to be applied to each:	P	P, R, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.4 EIS Sec. 4.1.3.4 EIS Secs. 4.7.4.3 & 4.7.4.4 EIS App. K LMP Amendment BLM/FS-1
All Land Use Allocations – Supplemental Environmental Impact Statement Special Attention Species – Roosting Bats: Conduct surveys to determine the presence of roosting bats, including fringed myotis, silver-haired bats, long-eared myotis, long-legged myotis, and pallid bats. Surveys will be conducted according to protocol defined in the Supplemental Environmental Impact Statement Record of Decision and in any subsequent revisions to protocol.	P	P	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
All Land Use Allocations – Supplemental Environmental Impact Statement Special Attention Species – Roosting Bats: As an interim measure, allow no timber harvest within 250 feet of sites containing bats. Develop mitigation measures in project or activity plans involving these sites. The intent of these measures is to protect sites from destruction, vandalism, disturbance from road construction or blasting, or any other activity that could change cave or mine temperatures or drainage patterns.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M

[46] Appendix C: Management for the Supplemental Environmental Impact Statement Special Attention Species, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Supplemental Environmental Impact Statement Special Attention Species – Roosting Bats: When Townsend's big-eared bats are found on federal land, notify the Oregon Department of Fish and Wildlife. Develop management prescriptions for these sites that include special consideration for potential impacts on this species. See the management actions/direction for Townsend's big-eared bats listed in the Special Status Species section.	P	P	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. M
Late-Successional/District Designated Reserves: Design projects for recovery of threatened or endangered animal and plant species even if they result in some reduction of habitat quality for late-successional species. These projects will be designed for least impact to late-successional species.	P	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. M POD Att. J POD Att. DD
Late-Successional/District Designated Reserves: Design projects to maintain health of the habitat for the long term.	P	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. DD
Special Areas			
Develop site-specific management plans for new special areas as needed. Protect resource values in new areas pending completion of management plans. Management plans will address other possible actions such as land acquisition, use of prescribed fire, and interpretation.	N		
Apply the guidelines of the prevailing land use allocation(s) to candidate areas of critical environmental concern that were dropped from further consideration. See Appendix F[47] for a list of these areas and the land use allocations under which they will be managed.	N		
Use minimum impact suppression activities during wildfires.	N		
Areas of Critical Environmental Concern: Miller Creek: 2,000 acres, from Gerber dam to the Goodlow Rim, 200 feet either side of canyon rim. Maintain, protect, or restore natural processes, wildlife, and scenic values. Not available for planned timber harvest; restrict grazing; mineral leasing subject to no surface occupancy; close area to off-highway vehicle use (except Round Valley Road area); provide for primitive and semiprimitive recreation opportunities, including a trail along Miller Creek.	N		

[47] Appendix F: Special Areas, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Areas of Critical Environmental Concern: Upper Klamath River: 4,960 acres, 11 miles of the Klamath River canyon from rim to rim extending from J.C. Boyle powerhouse to the Oregon-California State line. Maintain, protect, or restore historic, cultural, scenic, fisheries, wildlife populations and habitat. Not available for planned timber harvest; limit off-highway vehicle use to designated roads; no developments allowed to enhance the potential for grazing; mineral leasing subject to no surface occupancy, not available for hydroelectric development. Manage area for semi-primitive motorized recreation opportunities.	N		
Areas of Critical Environmental Concern: Yainax Butte: 720 acres, isolated mountain eight miles south of Beatty, Oregon. Maintain, protect, or restore natural processes and systems. Not available for planned timber harvest; open to grazing, but fence if necessary to protect plant communities from grazing; limit off-highway vehicle use to existing roads; mineral leasing subject to no surface occupancy. Manage area for semi-primitive motorized recreation opportunities.	N		
Areas of Critical Environmental Concern/Research Natural Area: Old Baldy: 520 acres (Klamath Falls Resource Area +160 acres Medford District BLM). High elevation mixed conifer forests and associated brush fields to fill Research Natural Area cell. Preserve, protect, or restore natural processes or system. No timber harvest, firewood, or salvage· sales; closed to off-highway vehicle use; area to remain free of cattle use with no developments allowed to enhance the potential for grazing. Mineral leasing Subject to no surface occupancy; closed to mineral entry. Manage area for semiprimitive non-motorized recreation opportunities.	N		
Clover Creek: 30 acres; an area adjacent to a tributary of Spencer Creek used by elementary classes for educational purposes (annual forestry tour). Manage and maintain area for educational values as presented in forestry tour and for recreation. Consider development of adjacent area for parking of large vehicles (busses) and provide day-use facilities. Make parking area available as a winter snow-park. Restrict timber harvest; open to off-highway vehicle use; open to grazing use; mineral leasing subject to no surface occupancy.	N		
Surveyor Forest Area: 150 acres; an area adjacent to Surveyor Recreation site, old growth, mixed conifer forest with meadows along the headwaters of Johnson Creek. Manage and maintain educational values, natural processes, scenic values, and wildlife habitat. Not available for planned timber harvest; limit off-highway vehicle use to designated roads; control grazing by fencing; mineral leasing subject to no surface occupancy. Manage area for semi-primitive recreation opportunities. Develop informational,\ educational, interpretive trail to highlight old growth education and riparian-wetland ecosystems.	N		
Special Botanical/Habitat Areas: Alkali Lake: 240 acres; wetland area in Yonna Valley between Dairy and Bonanza, Oregon. Protect, maintain, and/or restore wildlife habitat area. Open to off-highway vehicle use (no public access); actively pursue land exchange and legal access opportunities; mineral leasing subject to no surface occupancy; control grazing by fencing.	N		
Special Botanical/Habitat Areas: Tunnel Creek Wetlands: 280 acres; Lodgepole pine swamp located between Keno Road and Buck Lake. Protect, maintain, and/or restore natural systems or processes. Restrict timber harvest; limit off-highway vehicle use to designated roads; control grazing by fencing; mineral leasing subject to no surface occupancy.	N		

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Special Botanical/Habitat Areas: Bumpheads: 50 acres; volcanic formations at the south end of the Gerber Block. Preserve, protect, or restore natural processes or system, and scenic resources; limit off-highway vehicle use to existing roads; control grazing by fencing; mineral leasing subject to no surface occupancy.	N		
The following two areas, while not falling into one of the above land use allocations, will receive special management attention (see Appendix F[48]). • Pacific Crest National Scenic Trail • Spencer Creek	P, C, R, O	P, B, R, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.8.1.3 EIS Sec. 4.14.2.8 EIS App. F EIS App. H EIS App. J POD Att. 1 POD Att. DD
Cultural Resources Including American Indian Values			
Identify and evaluate Native American traditional use areas requiring protection and management during watershed analysis or site-specific planning.	P	P	EIS Sec. 4.1.3.5 EIS Secs. 4.11.1.1 - 4.11.1.3 EIS Sec. 4.11.3.3 EIS Sec. 4.11.4 EIS App. J POD Att. Z
Evaluate cultural resource sites to determine their potential for contributing to public, cultural heritage, and/or scientific purposes. Evaluate the Klamath River Canyon and lands on Bryant Mountain for nomination to the National Register of Historic Places as Archaeological Districts.	P, C	P, B, R	EIS Sec. 4.1.3.5 EIS Sec. 4.11.1.1 EIS Sec. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 EIS App. J POD Att. Z
Investigate landscape features such as bogs, ponds, and packrat middens, and cultural sites that contain information regarding long-term environmental change.	N		
Develop mechanisms for describing past landscapes and the role of humans in shaping those landscapes, Address the management of cultural resources through watershed analyses and project plans.	N		
Develop educational and interpretive programs to increase public awareness and appreciation of cultural resources, as part of the "Adventures in the Past" initiative, and the "Heritage Education" program.	N		
Develop partnerships with local American Indian tribes and other interested parties to accomplish cultural resource objectives.	N		
Take appropriate law enforcement or other actions when necessary to protect cultural resources. (Such actions may include physical protection measures such as riprapping and barrier installations to reduce deterioration.)	N		

[48] Appendix F: Special Areas, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Work with federally recognized American Indian tribes to develop Memoranda Of Understanding so that their heritage and religious concerns may be appropriately considered. These tribes may include but are not limited to the Klamath Tribes, the Shasta Tribe, the Modoc Tribe of Oklahoma, and the Consolidated Modoc and Paiute Tribe.	N		
Consider acquiring significant cultural resource properties for public, cultural heritage, and scientific purposes.	N		
Visual Resources			
Address visual resource management issues when conducting watershed analysis,	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. J POD Att. 1
Use the visual resource contrast rating system during project level planning to determine whether or not proposed activities will meet Visual Resource Management objectives. Use mitigation measures to reduce visual contrasts.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.8.2.3 & 4.8.2.4 POD Att. A EIS App. F POD Att. DD
Provide for natural ecological changes in Visual Resource Management Class I areas. Some very limited management activities may occur in these areas. The level of change to the characteristic landscape should be very low and must not attract attention. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.	N		
Manage Visual Resource Management Class II lands for low levels of change to the characteristic landscape. Management activities may be seen but should not attract the attention of the casual observer. Changes should repeat the basic elements of form, line, color, texture, and scale found in the predominant natural features of the characteristic landscape.	N		
Manage Visual Resource Management Class III lands for moderate levels of change to the characteristic landscape. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form, line color, texture, and scale found in the predominant natural features of the characteristic landscape.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A
Manage Visual Resource Management Class IV lands for moderate levels of change to the characteristic landscape. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the effect of these activities through careful location, minimal disturbance, and repeating the basic elements of form, line, color, and texture.	P, C, R, O	P, B, R	EIS Sec. 4.8.2.3 POD Att. A
Wild and Scenic Rivers – Not Applicable, Excluded From Table			
Wilderness and Wilderness Study Areas – Not Applicable, Excluded From Table			

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Rural Interface Areas			
Work with local governments to improve the BLM data base regarding private land planning/zoning designations and residential development near BLM-administered land.	N		
Work with local governments to provide information to local planners regarding BLM land allocations in rural interface areas and the management objectives and guidelines for these lands.	N		
Work with local governments to develop design features and mitigation measures that will minimize the possibility of conflicts between private and federal land management.	N		
Work with local governments to monitor the effectiveness of design features and mitigation measures in rural interface areas.	N		
As a part of watershed analysis and project planning, work with local individuals and groups, including fire protection districts, to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.	N		
Use design features and mitigation measures to avoid/minimize impacts to health, life, and property and quality of life. Examples include different harvest regimes, hand application rather than aerial application of herbicides and pesticides, and hand piling slash for burning of low to moderate intensity prescribed burns. Monitor the effectiveness of design features and mitigation measures.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS App. F POD Att. A POD Att. BB POD Att. DD
Eliminate or mitigate public hazards such as abandoned mine tunnels and quarries.	N		
Manage within 1/4 mile of rural interface areas using no less than visual resource management Class III standards (unless an area is classified as visual resource management Class I or II).	P, C, R, O	P, B, R	EIS Sec.4.8.2.3 POD Att. A
Reduce unauthorized public use of non-through or "local" roads within rural interface areas and within ¼ mile of existing dwellings. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate. These actions are needed to reduce public health and safety hazards, fire risk, vandalism to private property, and will be used on an as needed basis.	P, C, R, O	P, B	EIS Secs. 4.10.2.2 & 4.10.2.6 POD Att. Y
Reduce natural fuel hazards on BLM-administered lands in rural interface areas.	N		
Socioeconomic Conditions – Not Applicable, Excluded From Table			
Recreation – Not Applicable, Excluded From Table			
Forest Condition Restoration (Forest Health Restoration)			

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Design and implement silvicultural treatments in stands that exhibit deteriorating conditions. Treatments are intended to restore the ability of stands to respond to other management and to reduce the risk of mortality from drought, insects, disease, and wildfire. Treatments will consist of thinning of stands, prescribed fire, forest fertilization, reduction of understory vegetation, reduction of ladder fuels, and restoration of more stable plant communities.	N		
All Land Use Allocations Design forest condition restoration treatments to be consistent with the long-term objectives of the allocation in which the treatment is proposed. Develop treatments in an interdisciplinary manner.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App.H EIS App. J POD Att. I POD Att. DD
All Land Use Allocations Maintain the natural richness of tree species (conifers and hardwoods).	N		
All Land Use Allocations Develop forest condition restoration treatments at the stand level based on the combination of stand condition and trend, on the functional characteristics of the ecosystem, and on characteristics of the site. Design treatments, as much as possible, to prevent the development of undesirable species composition, species dominance, stand density, or other stand characteristics. Employ the principles of integrated pest management and integrated vegetation management to avoid the need for direct treatments. Use herbicides only as a last resort.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. F EIS App.H EIS App. J POD Att. I POD Att. DD
Riparian Reserves: Design and implement forest condition restoration treatments in a manner that contributes to the attainment of Aquatic Conservation Strategy objectives.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. I POD Att. DD
Late-Successional/District Designated Reserves: Design and implement forest condition restoration treatments if they provide habitat benefits for late-successional associated species or if the effects on such species are negligible.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. I POD Att. DD
Late-Successional/District Designated Reserves: Prior to the use of prescribed fire as a forest condition restoration treatment, develop an interdisciplinary fire management plan specifying how prescribed fire applications will meet the objectives of the Late-Successional Reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office. Apply prescribed fire in a manner which retains the needed amount of coarse woody debris as determined through watershed analysis.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix (General Forest Management Area) - West and East Sides: Retain snags within forest condition restoration treatment units at levels sufficient to support species of cavity-nesting birds at 60 percent of potential population levels. Meet the 60 percent minimum throughout the Matrix with per acre requirements met on average areas no larger than 40 acres.	N		
Matrix (General Forest Management Area) - West and East Sides: Special Habitats. In project areas containing special wildlife habitats (for example, talus and meadows) maintain 100 to 200 foot buffers around the special habitat. This could be increased, decreased, or manipulated based on site-specific circumstances. Ecologically significant buffers will be determined by interdisciplinary teams.	N		
Timber Resources – Not Applicable, Excluded From Table			
Special Forest/Natural Products – Not Applicable, Excluded From Table			
Energy and Minerals – Not Applicable, Excluded From Table			
Grazing Management – Not Applicable, Excluded From Table			
Wild Horse Management – Not Applicable, Excluded From Table			
Land Tenure Adjustments – Not Applicable, Excluded From Table			
Rights-of-Way			
Riparian Reserves: Issue rights-of-way to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where legally possible, adjust existing rights-of-way to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective and where legally possible, eliminate the activity. Priority for modifying existing rights-of-way will be based on the actual or potential impact and the ecological value of the riparian-wetland resources affected.	P, C, O	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.5 EIS App. J
Riparian Reserves: The right-of-way application for the Salt Caves hydroelectric project is denied based on the Secretary of Interior's designation of the upper Klamath River as scenic. The outcome of litigation between the City of Klamath Falls and the Secretary of the Interior could change this decision.	N		
Late-Successional/District Designated Reserves: Retain and maintain existing developments, such as utility corridors and electronic sites, consistent with other management actions/direction for late-Successional/District Designated Reserves.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Late-Successional/District Designated Reserves: Review on a case-by-case basis new development proposals. They may be approved when adverse effects can be minimized and mitigated.	P, R	P, M	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4 EIS Sec. 4.1.3.6 EIS App. H
Late-Successional/District Designated Reserves: Remove hazard trees along utility rights-of-way and in other developed areas.	C, O	B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 4.1.3.6 EIS App. H POD Att. U
Other Land Use Allocations: Encourage location of major new rights-of-way projects in existing utility/transportation routes and other previously designated corridors.	P	P, R	EIS Secs. 2.1.2.1 & 2.1.2.2 EIS Secs. 2.3.2.3 EIS Sec. 4.10.2.6 EIS App. D
Other Land Use Allocations: Encourage applicants to consult the Western Regional Corridor Study in planning route locations.	N		
Other Land Use Allocations: Consider new locations for rights-of-way projects on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing route or corridor will not be technically or economically feasible; and the proposed project will otherwise be consistent with this resource management plan and will minimize damage to the environment.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 3.4.3 & 3.4.4
Other Land Use Allocations: Allow expansion of communications facilities on existing communication sites.	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 EIS Sec. 4.8.2.2 POD Att. D
Other Land Use Allocations: Consider new communication sites on a case-by-case basis. Applications may be approved where the applicant can demonstrate that use of an existing, developed communication site will not be technically feasible; and the proposed facility will otherwise be consistent with this resource management plan and will minimize damage to the environment.	P	P	EIS Sec. 2.1.2.2 EIS Sec. 4.3.2.2 POD Att. D
Other Land Use Allocations - Alternative Energy Projects: Issuance of a right-of-way grant for alternative energy (pumped storage, wind, etc.) are acceptable so long as the proposal is consistent with other resource values and management objectives. Consistency will be determined by appropriate site-specific National Environmental Policy Act analysis.	N		
Access – Not Applicable, Excluded From Table			
Withdrawals – Not Applicable, Excluded From Table			
Roads			

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Prepare a district wide road management plan after approval of the resource management plan. The management plan will specifically address recreation use, road densities, road closures. wildlife protection, water quality, timber management, construction and maintenance standards, fire suppression, and coordination with adjacent landowners. Address road management planning on a watershed basis consistent with Late-Successional Reserves, Riparian Reserves, and other major allocations. Specific road closures will be determined using standard analysis, public involvement, and notification procedures.	N		
All Land Use Allocations: Existing off-highway vehicle closures in big game winter ranges will remain in effect throughout the plan (see the Recreation section for more details). Other important and sensitive wildlife habitats (special habitat features, project areas) will be evaluated for seasonal road closures. Some roads could remain open for administrative use, forest product removal, or access for mineral exploration and development. Road closures could be achieved using a variety of methods, such as gates, cables, boulders, obliteration, or other.	N		
All Land Use Allocations: Determine standards for new road construction during the project planning process. Standards will be the minimum necessary to meet resource and allocation objectives (for example, recreation site, timber sale, key watershed, etc.) while having minimal impacts on the environment.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Minimize new road construction in areas with fragile soils to reduce impacts to soils, water quality, and fisheries. Stabilize existing roads where they contribute to significant adverse effects on these resources.	P, C, R	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
All Land Use Allocations: Locate, design, construct, and maintain roads to standards that meet management objectives in accordance with the district road management plan.	P, C, R, O	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. YPOD Att. Y
All Land Use Allocations: Follow best management practices (see Appendix D[49]) for water quality and soil productivity to mitigate adverse effects on soils, water quality, fish, and riparian-wetland habitat during road construction and maintenance.	C, R, O	B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. U POD Att. Y POD Att. BB
All Land Use Allocations: Reduce road density by closing minor collector and local roads in areas or watersheds where water quality degradation, big game harassment, or other road related resource problems have been identified.	N		
All Land Use Allocations: Acquire water rights for road management purposes consistent with Oregon State Water laws.	N		

[49] Appendix D: Best Management Practices, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Specifically address, either in the road management plan or in a watershed analysis, stabilizing existing roads located in drainages, watersheds with water quality limited streams, and other parts of the resource area where soil/water quality problems are known to exist.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.5 EIS Sec. 4.4.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
All Land Use Allocations: Avoid road construction in special areas and special habitats.	N		
All Land Use Allocations: Manage non-through roads classified as local and located within rural interface areas and within one quarter mile of existing dwellings to limit unauthorized public use activity that could contribute to public safety hazards, increased fire risk, and vandalism to private property. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate.	P, C, R, O	P, B, R	EIS Sec. 2.4.2.1 EIS Sec. 4.10.2.6 POD Att. S POD Att. Y
All Land Use Allocations: Reduce the further spread of blackstain fungus through proper timing of roadside brushing.	P, C	P, B	EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Key Watersheds: Reduce existing road mileage within key watersheds. If funding is insufficient to implement reductions, neither construct nor authorize through discretionary permits a net increase in road mileage in Key Watersheds.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. Y POD Att. BB POD Att. DD
Noxious Weeds			
All Land Use Allocations: Continue to survey BLM-administered land for noxious weed infestations, report infestations to the Oregon Department of Agriculture, and work with the Department of Agriculture to reduce infestations.	P, C, R, O	P, B	EIS Sec. 1.5.4.1 EIS Sec. 2.6.2 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
All Land Use Allocations: Use control methods which do not retard or prevent attainment of Aquatic Conservation Strategy Objectives.	C, O	B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. J POD Att. N

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations: Apply integrated pest management methods (for example, chemical, mechanical, manual, and/or biological) in accordance with the BLM's multi-state environmental impact statement, Northwest Area Noxious Weed Control Program, 1985, as supplemented in 1987, and the related Record of Decision, and as described in the Noxious Weed Strategy for Oregon/Washington (July 1994). Local direction for the planning area is from an integrated weed control plan and environmental assessment decision record of July 1993.	C, O	B	EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. N
All Land Use Allocations: Design management actions to minimize the potential for noxious weed invasion and/or dominance of the affected area.	N		
Late-Successional/District Designated Reserves: Evaluate impacts of non-native plants (weeds) growing in late-Successional/District Designated Reserves.	N		
Hazardous Material			
Identify, investigate, and arrange for removal of hazardous substances on BLM-administered land in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. Emergency response will be as specified in the District Hazardous Materials Contingency Plan. The response will include cleanup, proper notifications, criminal investigations, risk assessment, and other actions consistent with the Act and the nature of the emergency.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Store, treat and dispose of hazardous materials in accordance with the Resource Conservation and Recovery Act and other appropriate regulations.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Use the Emergency Planning and Community Right-To-Know Act to coordinate emergency planning with state and local jurisdictions concerning hazardous materials, emergency notifications, and routine reporting of hazardous materials inventories.	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec. 4.3.2.1 EIS Sec. 4.4.2.2 EIS Sec. 4.4.4.2 POD Att. E POD Att. W POD Att. X
Until hazardous materials on BLM-administered land are removed, protect employees and the public from exposure to these materials.	C, O	B	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Provide information to the public regarding the need to properly dispose of hazardous materials and the danger of becoming exposed to hazardous materials.	C, O	B	EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.2 POD Att. E POD Att. I POD Att. W POD Att. X
Fire/Fuels Management			
Address fire/fuels management for all land use allocations as part of watershed analysis and project planning. This will include determinations of the role of fire and the risk of large-scale, high intensity wildfires at the landscape level.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Describe the need to use prescribed fire of other fuel management treatments to reduce fuel hazards and the risk of large-scale, high intensity fire, while maintaining coarse woody debris, down logs, green tree retention, and snags, consistent with the natural role of fire and protection standards for each land allocation unit.	N		
Coordinate fire management activities in rural interface areas with local governments, agencies, and landowners. During watershed analysis, identify additional factors which may affect hazard reduction goals. Minimize the impacts of wildfire suppression actions.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.8.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.4.4 EIS App. F EIS App. H EIS App. J POD Att. K POD Att. R POD Att. DD
Following election by the interdisciplinary team, prescribed burning will be conducted using management ignition to reduce wildfire hazards in locations adjacent to rural interface areas.	N		
The management of wildland fire will be conducted following the process and guidelines within the Klamath Falls Resource Area Fire Management Environmental Assessment (Environmental Assessment OR-014-94-09, Finding of No Significant Impact, May 1994 and Decision Record, June 1994.) The Fire Environmental Assessment assessed/assesses the impacts of wildfire as a historic natural process, current wildfire suppression methods, and how prescribed fire mimicking a natural function, is to be conducted on areas selected by random process for ecosystem management, utilizing both management ignitions and/or prescribed natural fire (see Table 1 in Appendix B[50] and Table 19[51]).	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 POD Att. K .

[50] Appendix B: Summary of Land Allocations and Management Actions/Directions, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4 **Klamath Falls Approved Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
All Land Use Allocations – Wildfire Suppression: Minimize the direct negative impacts of wildfire suppression on ecosystem management objectives.	N		
All Land Use Allocations – Wildfire Suppression: Respond to all wildfires by taking appropriate suppression actions. In most cases, response will consist of aggressive initial attack to extinguish fires at the smallest size possible.	N		
All Land Use Allocations – Wildfire Suppression: For wildfires that escape initial attack, preform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induces by suppression activities compared to expected wildfire damage. Suppression tactics will consider: • Public and firefighting personnel safety; • Protection of specific attributes of each land use allocation; • Coordination of wildfire suppression activities to avoid causing adverse impacts on federal and nonfederal lands; • Appropriate use of suppression tools such as aircraft, dozers, pumps and other mechanized equipment, and clear definitions of any restrictions relating to their use; • The potential adverse affects on meeting ecosystem management objectives; and • Protection of structural components such as snags, duff, and coarse woody debris to the extent possible.	N		
All Land Use Allocations – Fuels Management (Including Hazard Reduction) Using Prescribed Fire: Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity, stand-replacing wildfires; and, adhere to smoke management and air quality standards.	N		

[51] Table 19: Fire Management Acres, Klamath Falls Resource Area Record of Decision and Resource Management Plana and Rangeland Program Summary, June 1995

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
All Land Use Allocations – Fuels Management (Including Hazard Reduction) Using Prescribed Fire: Reduce hazards through methods such as prescribed burning, mechanical or manual manipulation of forest vegetation and debris, removal of forest vegetation and debris, and combinations of these methods. Hazard reduction plans will be developed through an interdisciplinary team approach and will consider the following: • safety of fire fighting personnel; • identification of levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern; • consumption of litter and coarse woody debris that are in excess of historic fuel levels that existed prior to attempted fire suppression; • developing a fuel profile that supports land allocation objectives; and seeking a balance between reducing the risk of wildfire and the cost efficiency consistent with meeting land allocation objectives; • interagency cooperation to assure cost effective fuel hazard reduction across the landscape; • adherence to smoke management and air quality standards; • consistency with objectives for land use allocations; • maintenance or restoration of ecosystem processes or structure; and • the natural role of fire in specific landscapes, current ecosystem needs, and wildfire hazard analysis included in the fire management plan.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: The use of prescribed fire will be based on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection, restoration, and maintenance of critical stands that are current susceptible to large-scale catastrophic wildfire.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Introduce prescribed fire across large areas over a period of time to create a mosaic of vegetation conditions. Treatments should be site-specific treatments because some species with limited distributions are fire intolerant. The use prescribed burning will be based on an interdisciplinary evaluation. Funding authority, therefore, must reflect the range of objectives identified for using fire under ecosystem management.	N		
All Land Use Allocations – Prescribed Fire Use for Ecosystem Maintenance and Restoration: Use prescribed fire to manage seral stage diversity through the development of fire resistant vegetation mosaics by timing the application of fire (for example, every five to ten years).	N		
Riparian Reserves: Allow some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning. In Riparian Reserves, the goal of wildfire suppression is to limit the size of all fires. When watershed and/or landscape analysis, or province-level plans are completed and approved, some natural fires may be allowed to burn under prescribed conditions.	N		
Late-Successional/District Designated Reserves: Until a fire management plan is completed for a Late-Successional/District Designated Reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options. Then some natural fires may be allowed to burn under prescribed conditions.	N		

TABLE E-4

Klamath Falls Approved Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Matrix (General Forest Management Area) - West and East Sides: Plan and implement prescribed fire treatments to minimize: • Intensive burning, unless appropriate for certain specific habitats, communities, or stand conditions; • consumption of litter and coarse woody debris that are in excess of historic fuel levels that existed prior to attempted fire suppression; and • disturbance of soil and litter that may occur as a result of heavy equipment operation.	N		
Matrix (General Forest Management Area) - West and East Sides: Identify levels of coarse woody debris and snags of adequate size and in sufficient quantities to meet habitat requirements of species of concern.	N		

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TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation			
Developed Recreation: Evaluate and authorize service by the private sector on National Forest lands that complement National Forest objectives.	N		
Developed Recreation: New recreation residence sites will not be permitted, except as allowed by Forest Service regulations.	N		
Developed Recreation: Consider the needs of elderly and physically challenged users in all construction or reconstruction of developed facilities in accordance with FSM direction.	N		
Developed Recreation: Continue to use sampling at developed sites as funds permit to determine visitor origin, extent of use and kinds of activities.	N		
Developed Recreation: Sites will be administered and maintained to provide visitor safety, sanitation, and protection of facility and site resources.	N		
Developed Recreation: Sites shall be managed to the following ROS classes: rural at Diamond Lake fee sites; roaded natural at non-fee developed sites; roaded natural on the remainder of the Forest.	N		
Developed Recreation: Existing sites shall be maintained or reconstructed to assigned ROS standards.	N		
Developed Recreation: Potential developed sites and acres shown in List IV-2[52] and on the accompanying inventory map in the map packet shall be reserved for recreation occupancy and managed to the following standards: • The ROS direction for both the existing and future condition shall be (1) rural for Diamond Lake sites; (2) roaded natural for Lemolo, Clearwater, North Umpqua River corridor, Little River, South Umpqua, and Brice/Sharps; and (3) roaded modified for other North Umpqua Ranger District sites.	N		
Developed Recreation: Potential developed sites and acres shown in List IV-2[1] and on the accompanying inventory map in the map packet shall be reserved for recreation occupancy and managed to the following standards: • Visual resource direction within the sites shall be partial retention and views from the sites will be managed to the sensitivity level of the corridor in which they are located.	N		

[52] List IV-2: Potential Developed Sites, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Developed Recreation: Potential developed sites and acres shown in List IV-2[1] and on the accompanying inventory map in the map packet shall be reserved for recreation occupancy and managed to the following standards: • Conceptual site plans shall be approved before any resource development occurs. Roads developed by projects shall be located to serve the planned recreation use as well as other resource needs. Mature and old growth timber may only be removed selectively to make the site safe for recreation occupancy. There will be no programmed salvage or harvest on these sites. Young conifers and hardwoods shall be utilized as necessary to provide future campsite screening and visually attractive cover.	N		
Developed Recreation: Recreation old growth groves and acres shown in List IV-3[53] shall be managed to provide for their high interpretive values.	N		
Dispersed Roaded and Unroaded Recreation: Emphasize "pack-in/pack-out" policy to reduce management costs and resource impacts.	N		
Dispersed Roaded and Unroaded Recreation: List IV-4[3] displays roaded dispersed sites, special features and acres inventoried within roaded modified ROS forest settings. The management direction for these sites is: • Manage to ROS roaded natural.	N		
Dispersed Roaded and Unroaded Recreation: List IV-4 [54]displays roaded dispersed sites, special features and acres inventoried within roaded modified ROS forest settings. The management direction for these sites is: • Visual quality objective is modification in foreground seen areas and partial retention within the site and along the access trail.	N		
Dispersed Roaded and Unroaded Recreation: List IV-4[3] displays roaded dispersed sites, special features and acres inventoried within roaded modified ROS forest settings. The management direction for these sites is: • Programmed harvest which meets the visual requirements is allowed.	N		
Dispersed Roaded and Unroaded Recreation: List IV-4[3] displays roaded dispersed sites, special features and acres inventoried within roaded modified ROS forest settings. The management direction for these sites is: • Timber management activities (sale location, scheduling, harvest, timber stand improvement actions) should provide for the protection of activities that attract recreationists, such as huckleberry picking or wildlife viewing.	N		

[53] List IV-3: Recreation Old Growth Groves Inventory, Umpqua National Forest Land And Resource Management Plan
[54] List IV-4: Roaded Dispersed Recreation Sites and Special Features, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Dispersed Roaded and Unroaded Recreation: The Oregon Cascades Recreation Area (OCRA) shall be jointly managed by the Deschutes, Willamette and Umpqua National Forests as directed by the management plan shown in Appendix E[55], and SPM no harvest and SPNM no harvest.	N		
Dispersed Roaded and Unroaded Recreation: Unroaded recreation management areas (URMA - MA1) shall be managed in accordance with SPM-no harvest, SPNM-no harvest and unroaded concentrated direction.	N		
Dispersed Roaded and Unroaded Recreation: Special interest areas shown in List IV-5[56] shall be managed for public recreation emphasizing their special values.	N		
Layng Creek Watershed: Overnight camping, swimming and developed recreation sites will not be allowed.	N		
Layng Creek Watershed: Dispersed day use is permitted, but increased usage shall not be encouraged.	N		
Layng Creek Watershed: Control recreational vehicle use on roads during wet periods through a travel management plan. In the interim, wet-period travel will be restricted to paved or rocked roads.	N		
Layng Creek Watershed: ROS class for the Layng Creek municipal watershed is roaded modified, except for a portion of Hardesty Mountain, which is semi-primitive non-motorized.	N		
Off-Road Vehicles: Provide opportunities for ORV use on appropriate National Forest System lands. The use of off-road vehicles on the Forest shall conform to guidance in EO 11644 as amended by EO 11989 (FSM 2355.01) and Appendix F[57].	N		
Off-Road Vehicles: Manage ORV use to minimize: a) disturbance to Wildlife habitat, b) recreation use conflicts, c) damage to soil and water resources, and d) damage to vegetation.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3 EIS Sec. 4.5.1.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Sec. 4.8.2.3 EIS Secs. 4.10.2.5 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y

[55] Appendix E: Oregon Cascades Recreation Area Management Plan, Umpqua National Forest Land And Resource Management

[56] List IV-5: Special Interest Areas, Umpqua National Forest Land And Resource Management Plan

[57] Appendix F: Recreation Travelway Management Guide, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Off-Road Vehicles: Site-specific recreational vehicle use will be in accordance with Appendix F[6], titled Recreation Travelway Management Guide This document is a summary of prescriptive direction for motorized and non-motorized vehicles. Also see the Facilities (Transportation) standards and guidelines for additional discussion of road use, including licensing requirements.	N		
Off-Road Vehicles: A travel management plan will be prepared within three years of signature of the Forest Plan and will specify closures and restrictions of use on non-roaded areas, roads, and trails based on the broad direction summarized in Appendix F[6] in the Forest Plan.	N		
Off-Road Vehicles: Vehicle travel off roads is prohibited in the Layng Creek municipal watershed.	N		
Trails: Selected potential trail corridors, shown on the inventory map on file in the Supervisor's Office, shall be given consideration for their integrity during ground-disturbing activities and management direction for the area. Those corridors will be cleared of any debris and slash caused by industrial activities.	N		
Trails: Existing system trail tread must be relocated, reconstructed or restored after logging activities are concluded Logging slash will be cleaned up and signing restored.	N		
Trails: In programming construction and reconstruction of trails, priorities shall be based in part on estimated use, public demand, other resource compatibility and ROS needs.	N		
Trails: Full trail management for hikers will be allowed on existing system trails in the Layng Creek municipal watershed.	N		
Visual Resources			
Direction on the assignment of VQO's is contained in Management Area descriptions. Additional Visual resource direction for some recreation inventories is located in forestwide recreation standards and guidelines.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
The Visual resource is defined by visual inventory units which are an aggregation of three inventory components: • Distance Zone – fg, foreground – mg, middleground – bg, background • Sensitivity Level – 1, highest sensitivity – 2, average sensitivity – 3, low sensitivity • Variety Class – A, distinctive – B, common – C, minimal The sensitivity level assignments of routes, use areas and waterbodies on the Forest are shown in list IV-6 [58]and on the Forest Plan Inventory Map at the National Forest Headquarters. Routes and use areas within Management Areas 1 and 6 allocated in the Forest Plan but not shown in the inventory of sensitive routes, water bodies, and use areas shall be assigned Sensitivity Level 2. Exterior views from use areas, routes and waterbodies within these management areas shall be managed in accordance with specific direction in contained in Management Area Descriptions.	N		
Minimum Level: The minimum acceptable level of Visual quality shall be 'maximum modification.'	N		
Exception/Mitigation: Proposed exceptions to meeting assigned VQOs will be identified through project environmental analysis and amendment procedures described in Forest Plan Chapter Five. Examples of some exceptions are areas where past management practices make it impractical to meet the adopted visual quality objectives (VQO), or areas where catastrophic loss is imminent or has occurred. Visual mitigation measures shall be developed for areas when VQOs are not met so that projected future visual conditions are consistent with the Forest Plan. Mitigation measures also include visual rehabilitation considerations for landscapes which presently do not meet assigned Visual quality objectives. Rehabilitation is described in Department of Agriculture Handbook 462.	P, R	P, B	EIS Sec. 4.8.1.3 EIS Sec. 4.8.2.2 & 4.8.2.3 POD Att. A
Duration of Visual Impact: The duration objective pertaining to ground disturbance shown in Agriculture Handbook 462 for retention shall be modified to be the same as partial retention. Within R and PR objective areas, duration shall be an evaluation criterion during project environmental analysis Management techniques shall be explored during the analysis process to attain duration objectives.	N		

[58] List IV-6 : Inventory of Sensitivity Level 1 and 2 Routes, Water Bodies and Use Areas, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Created Openings: Created openings (timber harvest Units) shall be shaped and blended to the extent practicable with the natural terrain. Openings shall be located to achieve the desired combination of multiple use considerations. A harvest unit will no longer be considered a created opening for Visual resource purposes when the stand averages 20 feet tall in foreground and middleground distance zones. In background distance zone the average height of vegetation shall be 4.5 feet. Table IV-1[59] describes the standards for each visual quality objective. Regeneration harvest shall be scheduled at an even and fair share rate Within viewsheds as shown in the 'Maximum % Created Openings at Any One Time' column.	N		
Visual Enhancement: Visual enhancement, as described in Department of Agriculture Handbook 462, shall be routinely considered in applicable landscapes, consistent with other resource standards and guidelines.	N		
Visual Diversity: Where a suitable environment exists, hardwood species should be retained or planted as a minor component of the stand on Sensitivity Level 1 and 2 routes after ground-disturbing activities. Seed grass to create temporary openings on some regeneration units occurring within 300 feet of those sensitive routes.	N		
Viewshed Planning: Viewshed (corridor) plans will be developed on Sensitivity Level 1 and 2 routes. USDA Handbook 559 and other accepted reference works or field models shall be used as guidance.	N		
Activity Slash: Activity slash within viewsheds shall be treated commensurate with the VQO. Areas within 500 feet of sensitive routes shall have high priority for treatment viewsheds should be treated in a manner that avoids soil color contrast or denudation of the site. Slash treatment shall meet the general landscape management guidelines stated in Agriculture Handbooks 462 and 608, applicable fuels handbooks, fire and soils guidelines in this document, and best field experience.	N		
Recreation Access Routes: The views from the Recreational Access Routes inventory shown in the List IV-7 [60]shall be managed as priority for visual enhancement and rehabilitation. Those Sensitivity Level 3 routes shall be afforded an extra degree of sensitive treatment within the foreground ordinarily not applied to other Level 3 routes.	N		
Scenic Byways Program: The Forest shall actively cooperate in nominating existing highly scenic roadways to the Chief for inclusion in the National Forest Scenic Byways Program.	N		
Wild/Scenic/Recreation Rivers – Not Applicable, Excluded From Table			
Cultural Resources			

[59] Table IV-1: Standards of Visual Quality Objectives, Umpqua National Forest Land And Resource Management Plan
[60] List IV-7: Recreational Access Routes, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Inventory all areas where ground-disturbing activities are planned in order to discover all reasonably locatable cultural resources.	P	P	EIS Sec. 1.5.4.7 EIS Sec. 4.11.1.1 EIS Secs. 4.11.3.2 & 4.11.3.3 EIS Sec. 4.11.5
Evaluate all sites discovered during reconnaissance against the criteria for eligibility to the National Register of Historic Places. A plan will be developed within three years of the Record of Decision (ROD) to evaluate all other cultural resources by theme groups, agreements, or other cost-effective means as the Forestwide cultural resource inventory of the Umpqua NF nears completion. Results of the survey and evaluation of any discovered cultural resources will be sent to the State Historic Preservation Officer (SHPO) office. Documentation will be included in the project environmental analyses, in compliance with NHPA and NEPA.	P	P	EIS Sec. 1.5.4.7 EIS Sec. 4.11.1.1 EIS Sec. 4.11.2 EIS Secs. 4.11.3.2 & 4.11.3.3 EIS Sec. 4.11.5
Nominations will be scheduled incidentally or thematically until completion of the Forest-wide inventory of cultural resources. Nominate cultural resources that meet the appropriate criteria to the National Register of Historic Places.	N		
Protect the resources considered eligible for the National Register of Historic Places by (a) making reasonable efforts to avoid adverse Impacts to the resources or (b) developing a procedure to conserve the values through proper scientific study. Protection plans may include physical protection such as fences and bafflers, scientific study and collection, patrol, and site motoring, proper use or removal of signs, maintaining site anonymity, and/or increasing public understanding and support through education. Protect eligible cultural resources from vandalism and natural destruction. Cultural resource management will ensure that significant properties (and the records which document them) are protected from unauthorized uses and possible degradation of the resource. Protection and management of traditional Native American religious uses will be coordinated with Native American groups, most notably the Cow Creek Band of Umpqua Indians.	P, C, O	P, R	EIS Sec. 1.5.1.5 EIS Sec.1.5.4.7 EIS Sec. 4.11.1.1 EIS Secs. 4.11.3.2 & 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
Decisions on the maintenance level for eligible historic structures will be based on an analysis of Utility, Interpretive value, public Interest, existing site or area allocation, funding sources, existing agreements, etc. Eligible historic uses will be maintained or the resultant adverse effect will be mitigated.	N		
Displays, Interpretive trails, video and audio recordings, brochures, tours, and signing are appropriate Interpretive means. Cultural resource sites may be developed for educational purposes to the extent that the integrity of the resource is maintained. Use will be carefully monitored to prevent degradation.	N		
Assign cultural resources to appropriate management categories for present and future uses such as Interpretation, scientific Investigation, adaptive uses, and preservation In place for developing future scientific needs.	N		
Wilderness – Not Applicable, Excluded From Table			
Fisheries			

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Maintain all effective shading vegetation on perennial streams. Utilize silvicultural practices to establish shade on perennial streams where currently lacking.	P, C, R, O	P, B, A	EIS Sec. 2.1.3.5 EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.14.3.1 EIS App. J POD Att. I LMP Amendment UNF-1
Maintain or improve soil stability adjacent to all streams. When slope stability risks are high or very high, use stability buffer specifications found In Standard and Guideline Number 4, under the Soil Productivity Section.	P, C, R, O	P, B	EIS Sec. 2.4.2.2 EIS Sec. 4.2.3.1 EIS Sec. 4.3.3.1 POD Att. I POD Att. BB
Retain all existing instream large woody material, streamside snags, and streamside downed material within riparian areas of perennial streams (Class I, II, and III streams) that will not create a blockage to fish passage. Retain standing trees which are likely to fall into the stream In the future.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. P POD Att. 20 POD Att. BB POD Att. DD
Protect riparian area from prescribed fire and equipment when treating slash in adjacent harvest unit where practical.	N		
Fall timber directionally away from riparian areas to protect full width of residual vegetation where practical.	C, O	B	EIS Sec. 2.6.2 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. U
Do not apply pesticides within the riparian area.	C, O	B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS App. J POD Att. N
All fish-producing streams (Class I and II) will be Inventoried Within ten years of signature of the Record of Decision for this Forest Plan, using the sub-basin analysis procedure and With limiting factors determined.	N		
Streams or portions of streams, where fish production is demonstrably below potential due to habitat restrictions, will be rehabilitated using whatever measures are appropriate based on the analysis. Some examples are riparian plantings, blasting of pools, off-channel developments, fish passage projects, and instream structures Develop fish habitat enhancement plans for all Class I streams within two years of completion of the sub-basin analysis.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. DD

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Keep total fine sediment (<1. 0 millimeter) to less than 20 percent by weight in spawning gravels.	P, C, R, O	P, B, M	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 POD Att. I POD Att. BB POD Att. DD
Design new stream crossings to provide for unimpeded fish passage and correct existing passage problems on a prioritized schedule.	P, R	P, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. BB POD Att. DD
Encourage KV collection for fish habitat improvement projects by including stream reaches and potential pond sites within timber sale area boundaries. The locations and types of stream improvements shall be based on the sub-basin analysis procedure where such analysis is completed.	N		
Locate new roads outside riparian areas; preferably on ridgetops, except where a stream crossing is necessary. Road reconstruction should not further degrade riparian areas.	P, C, R, O	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Wildlife Habitat And Threatened, Endangered, or Sensitive Species			
Woody material (slash) to provide wildlife cover will be retained on 10 percent of the area of all regeneration harvest units. (Not applicable to 500 feet each Side of visual Sensitivity Level 1 and 2 routes.)	P,R, C	P,B,R	EIS Sec 4.6.1.2 POD Att. I
Down, dead woody material (20 feet or more in length) and a minimum of 12 Inches in diameter at the small end) will be left at the rate of two per acre on each unit that is regeneration harvested. Additional material will be left when logs have little or no commercial value and do not produce an unacceptable fire hazard.	P,R,C	P,B,R	EIS Sec 4.6.1.2 POD Att. I
Harvest units shall be designed with Irregular shapes or boundaries, to the extent practicable, to increase the amount of edge habitat. (Refer to Visual standards and guidelines.)	N		
Native hardwood trees or tree-like shrubs will be maintained on at least 10 percent of the area on all regeneration harvest and commercial/pre-commercial thinning units. This standard applies in areas where hardwoods are a natural component of conifer stands and is intended to ensure that hardwoods will continue to be represented in the regenerating conifer stands. If mature conifers are not retained, an adequate hardwood reproduction will be protected during the various cultural treatments. (Refer to Visual standards and guidelines.)	N		

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Established big game travel lanes will not have their character altered through precommercial thinning.	N		
Any management activity that will negatively affect plant or animal species listed on the Regional Forester's Sensitive Species list, or their habitat will be modified to either avoid (preferable) or minimize the impact. Activities will not be permitted If they will result in the loss of a colony or subpopulation that is important In the natural distribution of the species.	P, C, R, O	P, B, R	EIS Sec. 3.4.3 EIS Sec. 4.6.1.3 EIS Sec. 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J
Activities will not be permitted that damage the plants or growing site of those species listed as Category 2 plants In the 1985 or subsequent Plant Notice of Review, USDI Fish and Wildlife Service.	N		
Active raptor nest sites identified In project planning or during project work should be protected from human disturbance until fledging or nesting is complete (see prescriptions and other standards for threatened, endangered or sensitive raptors)	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. L
All proposed activities within areas designated for management under the bald eagle or peregrine falcon prescription will first be coordinated With the USDI Fish and Wildlife Service as required by consultation procedures.	P	P	EIS Sec. 1.5.3.5 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
If additional sites occupied by a species classified as threatened or endangered under the Endangered Species Act of 1974 are discovered, these sites will be managed as directed by the appropriate recovery plan or draft recovery plan. Any activity that may Impact the species will be coordinated with the USDI Fish and Wildlife Service as required by consultation procedures.	P, C, O	P, B, R	EIS Sec. 1.5.3.5 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J POD Att. L
Activities that may impact species listed as threatened or endangered by the State of Oregon will be submitted for review to the Oregon Department of Agriculture (plants) or the Oregon Department of Fish and Wildlife (animals).	P	P	EIS Sec. 1.5.4.1 EIS Sec. 1.5.4.4 EIS Sec. 4.7.3.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J POD Att. L
The Forest will consult and cooperate with the USDI Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, and/or the Oregon Department of Agriculture to prepare 'species guides', or Similar references, for selected species. Guides will contain goals and management direction based on the distribution and biology of the species and will provide guidance In such a manner as to not Impair existence of, or recovery of, any threatened or endangered species.	N		
Pileated Woodpecker Habitats - Provide one habitat area for every 12,000 to 13,000 acres of suitable habitat. Habitats will be distributed In such a way that any given habitat unit will be connected to two or more other Suitable habitats. For a description of the habitat requirements see Prescription C5-VII (pileated woodpecker).	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Pine Marten Habitats - Provide one habitat area for every 4,000 to 5,000 acres of suitable habitat. Habitat will be distributed in such a way that any given habitat unit will be connected to two or more other suitable habitats. For a description of the habitat requirements see Prescriptions C5-IX and C5-X (pine marten).	N		
Nesting, non-network (FEIS) northern spotted owl pairs will be protected during timber harvest by deferring harvest within a five-chain radius of the nest tree. Additionally, activities such as road construction, felling and yarding within a ten-chain radius of an active next tree will not occur between April 1 through August 15, annually. If a nest remains unoccupied for five consecutive years, these restrictions will no longer apply	N		
Stage 6 vegetation - Within each RSA, efforts should be made to retain 10 percent of the acreage In Stage 6 vegetation. In preparing and evaluating timber sale alternatives, consideration should be given to the conservation of large contiguous stands of Stage 6 vegetation, 15 acres or greater.	N		
When planning timber sales in Important big game areas, a habitat effectiveness model (A Model to Evaluate Elk Habitat in Western Oregon' or similar model) will be used to compare the Impact of various alternatives on big game habitat	N		
When possible, wildlife trees (snags and green culls) will be left standing in areas of timber harvest. This habitat will be in addition to that provided by Implementing the snag habitat prescriptions.	N		
Range – Not Applicable, Excluded From Table			
Timber/Vegetation Management – Not Applicable, Excluded From Table			
Water Quality/Riparian Areas			
Forestwide Resource Programs: All effective shading vegetation will be maintained on perennial streams (Class I, II, or III), unless a site-specific assessment shows that shade removal will not result in water temperature Increase or aquatic habitat degradation on downstream fish-producing streams. Shade may be removed from nonfishery (Class III) streams with July low flow less than 1/2 inch deep, on any stream reach farther than 1/2 mile from a fish-producing stream (Class I or II). This exception must be determined for each stream, and be consistent with other riparian objectives. (See Water Temperature Guidelines for Small Streams, in 'Umpqua National Forest Standard and Guideline Procedures for Watershed Cumulative Effects and Water Quality' stored in the Umpqua National Forest Planning Record.	P, C, R, O	P, B, A	EIS Sec. 2.1.3.5 EIS Sec. 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS Sec. 4.14.3.1 EIS App. J POD Att. I POD Att. BB LMP Amendment UNF-1

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Forestwide Resource Programs: Existing and Introduced woody material will be maintained In streams except when: 1) the material will float downstream and cause unacceptable damage during a 25-year flow event, or 2) the woody material contributes to unacceptable turbidity, dissolved oxygen, or other water quality Impacts which outweigh benefits of the wood to fish habitat or channel stability (reference 'Guidelines for the Management of Woody Material in Small Channels,' in 'Umpqua National Forest Standard and Guideline Procedures for Watershed Cumulative Effects and Water Quality' stored In the Umpqua National Forest Planning Record. Woody material, Including slash from timber harvest activities, will not usually be removed from streams with a drainage area of 100 acres or less (for example, timber sale contract clause C6.5).	P, C, R, O	P, B	EIS Sec.2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 POD Att. BB EIS App. J
Forestwide Resource Programs: Down and stable woody material, including tree boles, roots, and limbs will not be removed from perennial streams (Class I, II, and III) except on the recommendation of a fishery biologist or hydrologist. Where timber harvest occurs in riparian areas of any stream, stable unmerchantable wood affecting the flood channel or hills lope stability will not be yarded.	P, C, R, O	P, B	EIS Sec.2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 POD Att. BB EIS App. J
Forestwide Resource Programs: The entry of large stable wood Into fish-producing (Class I and II) streams will be maintained or Increased by maintaining standing trees (green, dying, or dead) which are likely to reach the water when they fall. Some standing trees will be left on other streams (Class III and IV) where necessary to maintain a source of large woody material.	P, C, R, O	P, B	EIS Secs. 2.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 POD Att. 16 POD Att. U POD Att. BB
Forestwide Resource Programs: Stream course protection will be used instead of mitigation, to maintain water quality. Stream channels with a defined bank and at least seasonal surface flow will be designated for stream course protection on timber sale area maps (for example Timber Sale Contract Clause B6.5) during timber harvest, and will be provided similar protection during other management activities. Logs should be fully suspended when yarded or hauled across protected stream courses, except at designated crossings.	P, C, O	P, B	EIS Sec. 2.3.2.3 EIS Sec. 2.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 POD Att. BB
Forestwide Resource Programs: Directional failing methods will be used, where effective, to meet riparian objectives during timber harvest (for example, timber sale contract clauses C6.51 and C641).	N		
Forestwide Resource Programs: Vegetation and dead woody material in riparian units (Class I, II, III, and IV streams) will be protected from prescribed fire. Where mitigation is more effective than protecting seasonal (Class IV) streams, stable woody material (plus seeding and planting) will be used to mitigate temporary soil erosion and ravel. Mitigation will be planned and effectively implemented before the runoff season which follows project activities. Mitigation should not be planned in lieu of protection where Fish Habitat prescriptions including C2-IV, VI and C2-X apply.	P, C, R, O	P, B, M	EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.5.2.3 EIS App. F EIS App. J POD Att. I POD Att. R POD Att. BB POD Att. DD

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Forestwide Resource Programs: Pesticides and fertilizer will not be used in riparian units, except along seasonal (Class IV) streams during the season when flow does not occur. Herbicides will be applied in a manner which protects vegetation necessary for meeting riparian objectives.	P, C, R, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.6.1.2 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. N POD Att. X
Forestwide Resource Programs: Forest Service transportation of pesticides, petroleum products, dust palliatives, fertilizers, and other potentially hazardous materials will follow procedures of the Umpqua National Forest Spill Prevention and Response Plan.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.5.1.3 POD Att. I POD Att. X
Forestwide Resource Programs: Site preparation, release, and precommercial thinning will not be applied in riparian units along perennial streams, except to meet riparian objectives. Usually no precommercial thinning will be done within an average of 100 feet of fish-producing streams or within 50 feet of other perennial streams. (See riparian prescriptions for specific distances.)	P, C, R, O	P, B, R, M, A	EIS Sec. 2.1.3.5 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.5.2.3 EIS App. J POD Att. I POD Att. U POD Att. BB POD Att. DD LMP Amendments UNF-1 & UNF-2.
Forestwide Resource Programs: Streams In the Steamboat Management Area will be designated for stream course protection In timber sale area maps and will display stream class (I, II, III, or IV) and riparian risk (a, b, or c), as shown In Table IV-14[61], Protection Requirements for Stream courses and Riparian Areas Within the Steamboat Management Area Risk to riparian objectives will be assigned during environmental analysis, based on mass movement potential and difficulty in protecting riparian vegetation during timber harvest or Similar activity. Low risk Class Ic-IIIc streams are assigned fish habitat prescription C2-IV and no-harvest C2-IX. Low risk Class IVc streams are assigned harvest fish habitat prescription C2-VI High risk streams (a) are protected by soil productivity standard #7. Moderate risk streams (b) are protected by soil productivity standard #9 In addition, streams are protected by the fish habitat riparian prescriptions listed In Table IV-14[15]. For example, seasonal moderate risk Class IV streams are assigned no-harvest prescription C2-X (SBT Fish IV).	N		

[61] Table IV-14: Protection Requirements for Stream courses and Riparian Areas, Steamboat Management Area (MA 12) (Assigned Prescription), Umpqua National Forest Land And Resource Management Plan

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Element	Applicable	Consistency	Comment
Forestwide Resource Programs: The application of Best Management Practices for the protection of water quality and beneficial uses (fish habitat or potable water, for example) will be monitored on ground-disturbing activities. Specific BMPs will be listed for each activity unit at the time of environmental analysis. On that unit, each Item will be monitored for accomplishment at the close of the activity (for example, release of a subdivision In the timber sale contract).	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. 28
Forestwide Resource Programs: Floodplain and wetland actions require a formal declaration and public notification under Executive Orders 11988 and 11990. The minimum areas considered as floodplains and wetlands are perennial streams and wet meadows, respectively, inventoried in forest ecoclass maps, in the Planning Record. Only lands meeting the definitions of floodplains and wetlands in the executive orders, as determined by environmental analysis, will be subject to evaluation and declaration. The following recurring activities on the Umpqua National Forest have been evaluated and formally declared in Chapter Four of the FEIS for the Forest's Land and Resource Management Plan. a. timber harvest, b. the minimum road construction necessary to cross perennial streams, c. rights-of-way acquisition and conveyance, and d. activities which are permitted or qualify for exemptions from permit under Section 404 of the Clean Water Act (PL 92-500). These activities, when conducted according to applicable prescriptions and standards/ guidelines specified in the Forest Plan, will not significantly affect (or be affected by) floodplains or wetlands. Specific floodplain and wetland declarations will be made for activities not declared In the FEIS for the Forest Plan. Examples are land exchanges, campground construction, building construction In floodplains and wetlands, and road construction affecting wetlands (wet meadows).	P, R	P, B, R, M, A	EIS Sec. 1.5.1.7 EIS Sec. 2.1.3.5 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Secs. 4.1.3.4 - 4.1.3.6 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. H EIS App. J POD Att. CC POD Att. DD LMP Amendment UNF-4
Forestwide Resource Programs: Activities In wetlands, lakes and perennial streams ('waters of the United States') are subject to provisions of the Federal Clean Water Act, as amended, and Oregon's Removal-FIJI Law (ORS 541.605 - 541.695). Development of wetlands by removing, filling or alteration of more than 50 cubic yards of material must be done under permit from the Oregon Division of State Lands. Where required by section 404 of the Clean Water Act and the Removal-Fill Law, permits will be obtained from the US Army Corps of Engineers and the Oregon Division of State Lands for removal, filling or alteration of lakes, streams and wetlands.	P, C, R	P, B, M	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. CC POD Att. DD
Forestwide Resource Programs: Water uses on National Forest streams will be compatible with the instream needs and reserved rights of the United States. Unreserved nights for compatible uses will be obtained from the Oregon Water Resources Department.	N		

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Element	Applicable	Consistency	Comment
Forestwide Resource Programs: Treatment will be provided for point source discharges of sewage and other waste entering Forest lakes, streams and groundwater. Treatment, testing, and reporting will meet, at a minimum, the applicable standards of the Oregon Department of Environmental Quality and US Environmental Protection Agency.	N		
Forestwide Resource Programs: Public drinking water on the Forest will meet the facility water quality testing and reporting requirements of the Safe Drinking Water Act (PL- 93-523).	N		
Forestwide Resource Programs: Oil and gas leasing and exploration activities will be conducted in a manner which will meet riparian objectives, maintain fish and Wildlife habitat, and maintain water quality and quantity.	N		
Forestwide Resource Programs: Energy transmission corridors and hydroelectric facilities will be managed In a manner which will meet riparian objectives and maintain fish and wildlife habitat, and water quality and quantity.	N		
Forestwide Resource Programs: Domestic and public water supply intakes will be located on Total Resource Inventory (TRI) Aquatic Sub-system maps. Water quality and flow will be protected when planning activities which will affect domestic and public water supplies.	N		
Forestwide Resource Programs: Comply with State requirements in accordance with the Clean Water Act for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act, regulations, and Federal guidance issued thereto.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. CC
Forestwide Resource Programs: In cooperation with the State of Oregon, the Forest will use the following process: a. Select and design BMPs based on site-specific conditions, technical, economic, and Institutional feasibility, and the water quality standards for those waters potentially Impacted. b. Implement and enforce BMPs. c. Monitor to ensure that practices are correctly applied as designed. d. Monitor to determine the effectiveness of practices In meeting design expectations and In attaining water quality standards. e. Evaluate monitoring results and mitigate where necessary to minimize Impacts from activities where BMPs do not perform as expected f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level. Evaluate the appropriateness of water quality criteria for reasonably assuring protection of beneficial uses. Consider recommending adjustment of water quality standards.	P, C, R, O	P, B, M	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. CC POD Att. DD

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Forestwide Resource Programs: Use the existing agreed-upon process to Implement the State Water Quality Management Plan on lands administered by the USDA Forest Service as described in memorandum of understanding (MOU) between the Oregon Department of Environmental Quality and U.S. Department of Agriculture, Forest Service (2/12/79 and 12/7/82), and 'Attachments A and B' referred to in this MOU (Implementation Plan for Water Quality Planning on National Forest Lands In the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal Lands, respectively).	N		
Watershed Cumulative Effects and Water Quality: In watersheds where project scoping identifies an issue regarding the cumulative effects of activities on water quality or stream channels, a cumulative effects assessment will be made. This will include land in all ownerships in the watershed. Activities on National Forest System lands in these watersheds should be dispersed In time and space at least to the extent necessary to protect beneficial uses of water and aquatic habitat. On intermingled ownerships, scheduling efforts will be coordinated to the extent practicable.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.14.2.4 EIS Sec. 4.14.3.4 EIS Sec. 4.14.4 EIS App. J
Watershed Cumulative Effects and Water Quality: Before issues are identified regarding cumulative effects of activities on water quality or stream channels, the beneficial uses of downstream waters will be identified. Special attention should be given to identifying those characteristics of the stream which are unique, sensitive and closest to the activity The effects of previous activities on beneficial uses, if not part of the cumulative effects assessment, should be Identified.	P	P	EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS Sec. 4.14.2.4 EIS App. J
Watershed Cumulative Effects and Water Quality: Beneficial uses of water and aquatic habitats will not be degraded by turbidity, sediment, or scoured stream channels caused by timber harvest, road construction and related activities. To reduce or avoid unacceptable cumulative effects that can result from surface erosion, landslides, and/or debris torrents, timber harvest and associated activities will be evaluated during project planning. This evaluation will be done on watershed analysis areas, which are generally 1000- to 5000-acre watersheds affecting fishery streams.	P, C, R, O	P, B, R, M	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS Sec. 4.14.2.4 EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Watershed Cumulative Effects and Water Quality: The Umpqua Sediment Index Analysis (USIA) or a comparable procedure will be used when 10 percent or more of soils have a high risk of surface erosion or mass wasting as given In USIA. The potential cumulative effects of these erosional processes will be evaluated and displayed relative to beneficial uses, identified during scoping. The USIA procedure is described In the publication titled 'Umpqua National Forest Plan Standard and Guideline Procedures for Watershed Cumulative Effects and Water Quality' stored In the Umpqua National Forest Planning Record.	N		

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Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Watershed Cumulative Effects and Water Quality: In the Steamboat Management Area, the cumulative effects of landslides, debris torrents and surface erosion will be evaluated and displayed for all watershed analysis areas (generally 1,000- to 5,000-acre watersheds affecting fishery streams). The 'Umpqua Sediment Index Analysis' or a comparable procedure will be used. The USIA procedure is described in the document 'Umpqua National Forest Standard and Guideline Procedures For Watershed Cumulative Effects and Water Quality'. This document is stored In the Umpqua National Forest Planning Record.	N		
Watershed Cumulative Effects and Water Quality: Beneficial uses of water and aquatic habitats will not be degraded by Increased peak flows and resulting channel scour, caused by timber harvest, road construction and related activities. Project scoping will Identify peak flows as an issue. If more than 25 percent of watershed analysis areas (generally 1,000 to 5,000 acres affecting fishery streams) will have been harvested when activities are completed. Peak flow increases will be estimated only from lands In the transient snow zone, between 2,000 and 5,000 feet elevation.	P, C, R, O	P, B, R, M	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS Sec. 4.14.2.4 EIS App. J POD Att. I POD Att. Y POD Att. BB POD Att. DD
Watershed Cumulative Effects and Water Quality: If scoping Identifies peak flows as an Issue, the 'Hydrologic Recovery Percentage' (HRP) or similar procedure will be used to calculate hydrologic condition of project planning drainages. When activities are planned which will reduce hydrologic condition below 75 percent recovery (using HRP or equivalent measure), the potential cumulative effect of increased peak flows will be displayed and evaluated. Evaluation of potential cumulative effects will consider landslide risk, stream channel stability and beneficial uses affected. The HRP procedure is described in the document 'Umpqua National Forest Standard and Guideline Procedures for Watershed Cumulative Effects and Water Quality'. This document is stored in the Umpqua National Forest Planning Record.	N		
Watershed Cumulative Effects and Water Quality: Infiltration of snowmelt and rain should not be decreased on deep pumice soils common to the North Umpqua River aquifer. Subsurface water should not be intercepted on deep pumice soils. On Soil Resource Inventory mapping units 90, 92, 94, 901, 902, 921, 924, 932, 942, 943, and 946 the following standards will be applied to maintain the high summer flow characteristics of streams: a. Permanent roads and landings on inventoried aquifer lands will occupy less than 5 percent of land area or a road density of 5.3 miles/square mile and will not disrupt natural drainage or Intercept and transfer subsurface water to surface channels. b. Drainage structures (relief culverts or drain dips) on new or reconstructed roads will be placed no more than 100 feet from perennial or intermittent streams. c. Soil productivity standards With respect to detrimental compaction will be applied.	N		
Layng Creek Municipal Watershed: Use of all chemicals within the Layng Creek Municipal Watershed will be coordinated with and acceptable to the City of Cottage Grove.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Layng Creek Municipal Watershed: Maintain water quality on all lands, according special attention to lands prone to erosion and mass failure In the Layng Creek Municipal Watershed. A normal watershed restoration program will be implemented. Watershed enhancement activities are encouraged.	N		
Layng Creek Municipal Watershed: Woody residues in fishery streams will be managed in favor of reducing turbidity risks.	N		
Soil Productivity			
The combined total amount of unacceptable soil condition (detrimental compaction, displacement, puddling or severely burned) within an activity area (e g., cutting Unit, range allotment, site preparation area) should not exceed 20 percent. All roads and landings, unless rehabilitated to natural conditions, are considered to be In detrimental condition and are included as part of this 20 percent. Criteria for unacceptable soli conditions are: a. Detrimental compaction: A physical change to soil resulting from mechanical forces such as weight and vibration that Increase soli bulk density and decreases soil porosity. 1. Volcanic ash/pumice soils· An Increase In soil bulk density of 20 percent or more over the undisturbed level. 2. Other soils· An Increase in soil bulk density of 15 percent or more over the undisturbed level, or a macropore space reduction of 50 percent or more. b. Detrimental puddling: The physical change to soil structure that results when traffic ruts and molds a soil to a depth of 6 Inches or more. c. Detrimental displacement: The horizontal removal by mechanical means of 50 percent or more of the A 1 or AC horizons from 100 square feet and where one dimension is at least 5 feet (an area at least 5 by 20 feet). d. Severely burned: A surface soil condition where the top layer has significantly changed color (usually more red) and the next half-inch contains blackened or charred organic matter because of soil heating.	P, C, R, O	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.5 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Sec. 4.14.2.3 EIS Secs. 4.14.3.1 & 4.14.3.4 POD Att. I LMP Amendment UNF-3
To meet acceptable levels of surface soil loss resulting from gravity, water, or wind action on land dedicated to the production of vegetation, provide for at least a minimum amount of effective ground cover to exist within the first year following the end of a ground-disturbing activity, as specified in Table IV-15[62].	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Surface organic material (litter, duff and wood) needed to maintain soil productivity will be planned for all ground-disturbing activities, including post-wildfire activity. Minimum litter and duff needed for mineral soils with cold climatic conditions, low nutrient levels, and/or low water holding capacities will be similar to the amount of effective ground cover needed for soils with high to very high erosion hazard ratings. (See Table IV-15[17].)	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Sec. 4.5.2.3 EIS App. F POD Att. I POD Att. U POD Att. DD

[62] Table IV-15: Minimum Ground Cover Requirements, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Large woody material (LWM) needed to maintain long-term soil productivity shall be left on site following regeneration harvest, catastrophic salvage, and site preparation in all forest ecoclasses. This material provides sites for a wide variety of flora and fauna that are part of the essential network of nutrient recyclers and nitrogen accumulators. The amount, condition, and distribution of LWM needed are not clearly established with current research. The recommendations in Table IV-16[63] reflect the current best estimate based on linked data and experience. Up to 60 percent of the total required woody material may be left as 'standing wood' (green culls and/or snags) at regeneration harvest. In shelterwood units, up to 100 percent of total required woody material may be left as 'standing wood' at initial harvest entry.	N		
Soil mass movement potentials shall be evaluated on all project areas. A risk and hazard analysis shall be made by an interdisciplinary team process when there is a chance of triggering mass movement events which either: a. Have the potential risk of one or more 300-square-yard and larger mass movement event for a period of 15 years following an activity, Or b. Have the potential hazard to damage life, property, facilities, soil, water, and/or fishery values. Decisions regarding the nature of the proposed activities should consider the results of this risk-and-hazard analysis and ensure that minimum soil, water, and fish habitat standards and guidelines are met. When management activities would significantly increase the potential risk or hazards in items (a) and (b), alternative prescription(s) will be developed and evaluated.	P	P, B, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Areas Identified as high risk for mass movement will be delineated and permanently stored on District Inventory maps.	N		
Timber harvest and road building activities planned on Soil Resource Inventory (SRI) Mapping Units 21, 211, 212, 213, 215, 242, 342, 412, 71, and 712 are to have no timber cutting (Including salvage) and no road or trail construction within a slope stability buffer zone along all streams where sideslope gradients exceed 50 percent. This no-cut stability buffer will start from the streambank or from the upslope terrace edge, when present It will extend upslope for a distance that is three times the average slope gradients exceeding 50 percent (slope distance measured in feet). The no-cut buffer requirement can be waived or modified following documented, Site-specific soil, geologic, and watershed Investigations when little risk to soil, stream habitat or other related values exist.	N		
All lands classified as unsuitable due to Irreversible soil damage, Including all steep (greater than 60 percent gradient), granitic soils found In SRI Mapping Units 61, 612, 617, 621, 623, 624, 631, and 673, will not have tree cutting or any other ground-disturbing activities that likely will Increase the risk of mass movements.	N		

[63] Table IV-16: Specifications For Large Woody Material, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
SRI mapping Units with landtypes 8, 31, 41, 46, 51, 91, and 96 on slopes exceeding 60 percent have scattered sites with high mass movement potentials. When these landtypes are encountered during project planning, site-specific soil, geologic and watershed evaluations for movement risk and hazards shall be made. Pages 71-78 of the SRI report display the landtype component by percent area for each SRI mapping Unit.	N		
Project analysis will address how the proposed activities plan to meet soil standards and guidelines. Mitigation measures (or additional alternatives) will be developed and evaluated when detrimental soil conditions are expected as a result of the proposed action	P, R	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment UNF-3
During and after ground-disturbing activities, soil conditions will be monitored to determine if sod management objectives are being met.	C, R, O	B	EIS Sec. 2.4.2.1 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. J POD Att. I
Plan and conduct restoration projects on lands where range, road construction, timber harvest, or other management activities cause soil and watershed conditions that do not meet standards and guidelines. Evaluate for use of KV funds.	P, R	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F EIS App. J POD Att. DD LMP Amendments UNF-1 to UNF-4.
Designed erosion control measures should have effective ground cover and erosion control structures applied on construction sites, Including new road construction and reconstruction, by the beginning of the rainy season. Erosion control measures and drainage structures will be maintained current with operations. Any soil disturbed during the rainy season In excess of 0.5 acre will have effective ground cover provided Forestwide, the rainy season is considered to be November 1 through April 30. Effective ground cover is considered to be the amount of cover necessary for maintaining a disturbed Site In a low hazard category for erosional processes See Table IV-12[64] for minimum requirements for effective ground cover material. Alternate erosion control measures may be substituted for effective ground cover if considered equal by the Forest Service	P, C, R, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. BB

[64] Table IV-12: Forest Growth and Mortality (From Suitable Lands), Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Site-specific analysis will be performed and documented for activities which affect evapotranspiration within the runoff source area (watershed) of active slump/earthflow areas. The analysis will, at a minimum, recommend ways to schedule or mitigate effects of the proposed activity on earthflow movement.	N		
Soil chemical and physical characteristics should be evaluated to aid in the prioritization of fertilization projects.	N		
Erosion control needs will be identified where developed areas, including recreation sites, roads, trails, rockpits and others, produce erosion/sedimentation that may affect water quality and beneficial uses In surface waters (lakes, streams, springs, ponds).	P, C, R, O	P, B, M	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. BB POD Att. DD
Layng Creek Municipal Watershed: Identify and carefully manage lands associated with high Soil erosion and/or high landslide risk to maintain water quality. Watershed restoration activities on such lands should be encouraged.	N		
Experimental Forest – Not Applicable, Excluded From Table			
Research Natural Areas – Not Applicable, Excluded From Table			
Minerals/Geology – Not Applicable, Excluded From Table			
Lands			
Land Uses: Land use evaluation, permit issuance, fees, and administration will be in accordance With 36 CFR 251 and current management direction.	P	P, B, R, A	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.3.5 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 4.1.3.4 – 4.1.3.6 EIS App. H EIS App. J LMP Amendments UNF-1 – UNF-4
Land Uses: In considering land use applications, the benefits to the public as a whole will be given higher priority. All applications will be processed in a timely manner.	P	P	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6
Land Uses: Priority will be given to cost-sharing and easement exchanges in the administration of the land use program.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Land Uses: Land use terms, conditions or stipulations will be adequate to protect land and other resource values. Forest Service approval is required for the location of all developments, designs, and plans for the construction of facilities.	P	P, B, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.3.5 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 4.1.3.4 LMP Amendments UNF-1 – UNF-4
Land Uses: Land to be used will be suitable for the proposed use and limited in size consistent with the intended use. National Forest land will not be made available for private development when suitable private land is available to support needs.	P	P, R, A	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Sec. 2.1.3.5 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 4.1.3.4 – 4.1.3.6 EIS App. H EIS App. J LMP Amendments UNF-1 – UNF-4
Land Uses: New permits will be Issued through a competitive process If there is a competitive Interest If additional recreation services or facilities are determined to be needed and could be provided by the private sector, the Forest will explore the opportunity to do this by expanding existing permits or issuing permits for a new service or facility.	N		
Landownership: Consistent with Forest Plan direction, landownership adjustments will be made based upon a determination of the ownership pattern within the Forest boundary which will best resolve conflicting uses with adjacent landowners and Improve resource management efficiency.	N		
Landownership: The Small Tracts Act (P.L 97-465/96 Stat. 2535 1/12/83) will be utilized as needed to resolve cases which are within the authority of the Act.	N		
Land Lines: Maintenance of existing posted landlines will be the top priority in annual program formulation.	N		
Land Lines: Unposted property lines between National Forest System lands and those managed by the Bureau of Land Management will be marked and agreed upon between appropriate line managers as impacting projects are planned.	N		
Facilities: Transportation System			
Transportation System Construction and Reconstruction: Road density should be the most economical system necessary to meet land management objectives. Evaluation of road development alternatives will be made for the planned uses considering safety, costs of transportation, and effects upon lands and resources	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Transportation System Construction and Reconstruction: Road design standards will be based on the following criteria: Resource management objectives, environmental constraints, safety, physical environmental factors, traffic requirements, traffic service levels, vehicle characteristics, road users, and economics. Road design criteria will be documented for all roads on or added to the Forest Transportation System. Arterial and collector roads will be designed for traffic service levels A, B, or C. Local roads will be designed for traffic service levels C or D Design standards will follow the guidelines in the Road Preconstruction Handbook.	P	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.6.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Transportation System Construction and Reconstruction: Stream crossings adequate for fish passage will be incorporated into the design and construction of all new roads crossing streams which support fisheries. An analysis will be made of fishery values versus various alternatives for these types of structures. Inadequate structures on existing roads will be programmed for replacement providing there has been an analysis of the fishery values and the additional costs.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. Y POD Att. BB POD Att. DD
Transportation System Construction and Reconstruction: Planned road construction activities, in areas with known or potential slope stability, erosion and drainage concerns, should be implemented only after soil, water, geotechnical engineering and geological evaluations have been made.	P, C	P, B, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.2.2.2 & 4.2.3.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System Construction and Reconstruction: Designed erosion control measures should have effective ground cover and erosion control structures applied on construction sites, including new road construction and reconstruction, by the beginning of the rainy season. Erosion control measures and drainage structures will be maintained current with operations. Any soil disturbed during the rainy season m excess of 0.5 acre will have effective ground cover provided. Forestwide, the rainy season is considered to be November 1 through April 30. Effective ground cover is considered to be the amount of cover necessary for maintaining a disturbed site In a low hazard category for erosional processes See Table IV-15[65] In the 5011 Productivity standards and guidelines section for a definition of effective ground cover material. Alternate erosion control measures may be substituted for effective ground cover if considered equal by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System Construction and Reconstruction: Prior to Implementing major reconstruction work (continuous segments of realignment, significant betterment, or change in surfacing type), alternatives will be analyzed for resolving road capacity, safety, road surface structural, or life-cycle cost concerns. Alternatives considered should be traffic management, spot reconstruction, or complete reconstruction.	N		

[65] Table IV-15: Minimum Ground Cover Requirements, Umpqua National Forest Land And Resource Management Plan

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Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Transportation System Construction and Reconstruction: During project transportation planning, aerial or long-span yarding systems should be considered where feasible, as alternatives to construction of new roads on steep or highly erosive slopes, where there is a potential of affecting water quality and the beneficial uses of water. These should be considered where roads are being planned on side slopes over 50 percent, or where high mass wasting potential or highly erosive soils have been Identified. These systems should also be considered where they can contribute to other resource objectives such as visual, wildlife, and recreation.	P	P, B, R	EIS Sec. 4.1.3.5 EIS Secs. 4.2.2.2 & 4.2.3.1 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. 1 POD Att. Y
Transportation System Construction and Reconstruction: Proposed airfields and heliports must first be evaluated through the environmental assessment process and conform to all Federal Aviation Administration (FAA) guidelines and standards applicable at the time of construction.	N		
Transportation System Management and Maintenance: All Forest development roads will be maintained to protect the resources, perpetuate the intended road management objective, and protect the investment in the facility. These roads will be maintained In accordance with maintenance standards in FSH 7709.15, Transportation System Maintenance Handbook. Road maintenance planning and priorities should emphasize the maintenance of: a. Drainage and erosion control structures and features, including bridges, on all Forest development roads b. Signs and traffic control devices. c. Arterial and collector roads. d. Trailhead and recreation site access roads, and campground roads.	P, C, R, O	P, B, M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Management of roads will be in accordance with the Highway Safety Act on roads intended to be used by the public for travel with normal passenger cars (normally roads in Maintenance Levels 3 through 5).	N		
Transportation System Management and Maintenance: Road ditches that show no sign of erosion (e.g., grassed-in, rocky, etc.) should not be disturbed by road maintenance unless necessary to maintain drainage.	C, O	B	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System Management and Maintenance: Forest development roads will be managed with a mix of traffic management strategies to accomplish road management objectives and to reduce road user conflicts.	N		
Transportation System Management and Maintenance: Roads may be made available for different user groups at different times, or otherwise restricted. All Forest development roads are subject to short-term traffic restrictions and/or closures, due to seasonal or unusual weather conditions, safety hazards, emergency traffic, or when necessary to permit reconstruction and maintenance	P,C,R,O	P,B,M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Roads will not be used if their use causes irreparable damage to the road or unacceptable impacts to adjacent resources (36 CFR 261). Damage is exclusive of normal wear, involves a reduction In the ability of a road or roadway structure to carry traffic, and cannot be corrected by normal maintenance practices.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y

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Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Transportation System Management and Maintenance: Vehicle load, weight, height, length, and width limitations may be Imposed (36 CFR 212.7). Variance from these limitations will require a permit or other written authorization.	P, C, O	P, B. M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: All State of Oregon traffic rules and regulations apply on all open Forest development roads (roads in Maintenance Levels 2 through 5), except where Federal orders under 36 CFR 261 have been Issued (36 CFR 212).	P, C, R, O	P, B, M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Road entrance management information that visually communicates to Forest visitors the road conditions and purpose of the road, such as mixed traffic, passenger car use, high clearance vehicles only, or logging use only, will be provided for each Forest development road. Emphasis will be on providing this Information at the entrance of roads not maintained for passenger cars.	N		
Transportation System Management and Maintenance: Assure short-term (temporary) roads are closed within one year of when the timber purchaser has completed contractual requirements for the portion of the timber sale served by the road. Re-establish vegetation cover to put land back into production within ten years of contract, lease, or permit termination on roads not remaining a permanent part of the Forest transportation system.	N		
Transportation System Management and Maintenance: Forest development roads will generally be open to use by vehicles licensed for highway travel, except when closed for one of the following reasons: a. The mode of access causes unacceptable damage to, or negates adequate protection and management of Forest resources. b. Safety hazards to the road user exist. c. Prescriptions in this Forest Plan recommend closures. d. To provide security to contractors/cooperators, special use permittees, private land owners, and Forest Service administrative facilities. e. Road maintenance costs to keep a road open are high compared to existing or expected use of the road. Roads closed for one of the above reasons may be closed either seasonally or year-around. Seasonal closures are preferred over year-around closures, wherever feasible, consistent with Forest Plan prescriptions, and If the objectives of the closure can be met. The Forest Supervisor, under the authority of 36 CFR 261, may enter into cooperative road closures during hunting season with the Oregon Department of Fish and Wildlife for protection of Forest resources.	P,C, R, O	P, B, M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Some open roads will only be maintained for high clearance vehicle use (Maintenance Level 2). Roads with seasonal road closures will be maintained In accordance with Maintenance Level 2 through 5 standards. Roads closed for one year or more (year-around closure) will be generally maintained to Maintenance Level 1 standards, except for those closed to provide security to administrative facilities, which may be maintained to a higher level.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Transportation System Management and Maintenance: During development and subsequent review of District Travel Management Plans (Appendix F[66]), existing road closures will be evaluated as to the specific objectives to be accomplished by the closure, the type of closure device used, and the need to continue the closure Prior to blocking or closing an existing Forest development road the following will be documented: a. Reason or objective for the closure. b. The closure period (seasonal or year-around). c. Exceptions to the closure; I.e. who or what type of vehicle may use the road, and under what circumstances d. The type of closure device (physical barriers, signing, natural barrier, or locked gate). Law enforcement needs and prescriptions will be identified prior to Issuing regulatory closures.	N		
Transportation System Management and Maintenance: Advisory devices and natural barriers (earth berms, rocks, brush, etc.) are preferred over regulatory road closures and locked gates where It is necessary to close roads. Use an advisory sign (or poster) near locked gates to describe the reason for the closure. Notify the public before closing an existing open road with a locked gate (except for emergencies). Give sufficient lead time in the notice. Use advisory signs in advance of road closures where adequate turnarounds for public traffic is not available at the closure or where significant inconvenience to the public may occur.	P, C, R, O	P, B, R, M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Various road management techniques and strategies may be used to accomplish land and resource management goals and prescriptions in this plan. Following their development, the travel management plans will be reviewed annually and updated every two years, if necessary. Guidelines for travel management planning is in Appendix F[21].	N		
Transportation System Management and Maintenance: Some closed roads (Maintenance Level 1) may be converted to other uses such as all-terrain vehicle (ATV) routes, and special purposes trails. Some roads In Maintenance Levels 2 through 5 may be closed to highway legal vehicle use during the winter, when sufficient snow depth exists, for use as winter sports trails (Nordic skiing, snowmobiles, etc.). See Forestwide standards and guidelines for dispersed recreation, and Appendix F[21], for additional guidelines for use of closed roads.	C, R, O	P, B, R, M	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System Management and Maintenance: Existing airfields or heliports are to be operated and maintained using existing direction documented In appropriate Forest Service manuals and handbooks.	N		
Transportation System Management and Maintenance: Input and comment will be requested from facility users, the FAA and the Oregon Aeronautics Division of the Department of Transportation on any proposed closure of an airfield or heliport. Closure of any aviation facility will be In conformance with Forest Service and FFA standards.	N		
Facilities - Corridors			

[66] Appendix F: Recreation Travelway Management Guide, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Utility Corridors: The four existing utility Corridors are shown on the utility Corridor map (see Figure IV-3[67]). The Forest Service will coordinate with the Federal Energy Regulatory Commission (FERC) and Pacific Power and Light in the maintenance of the Corridors authorized under FERC license. The corridors authorized by Forest Service special use permits will be maintained as stated in the authorizing document.	N		
Utility Corridors: The western regional Corridor study of 1986 by the Western Utility Group Identified two additional Corridors on the Umpqua National Forest. A maximum of three additional potential utility corridors, known as 'windows', will be considered for future utilities. These windows are shown on the Utility Corridor Map[20] and as described below. Any future proposal to construct a utility line within these 'windows' will require a separate environmental analysis or EIS: a. Windigo Pass Utility Window: The possibility for a utility Corridor exists through Windigo Pass outside of the OCRA. This 1,000-foot window, 500 feet on each side of Forest Road No 60, follows the boundary of the two parts of the OCRA As the boundary of the OCRA follows the curvature of Forest Road No. 60, the construction of a power transmission line totally within the boundary of this Window may not be practical. However, Section 4(e) of The Oregon Wilderness Act of 1984, which established the OCRA, states, "Within the recreation area, the Secretary may permit, under appropriate regulations, those limited activities and facilities which he determines necessary for resource protection and management and for visitor safety and comfort, including .. (6) public services land occupancies, Including power transmission lines, provided there is no feasible alternative location, and, the Secretary finds that it is In the public interest to locate such facilities Within the recreation area." b. Upper Highway 138 Window: This Window, near State Highway 138, will need future study and analysis, as only a narrow strip between the boundaries of Crater Lake National Park and Mt Thieisen Wilderness/ OCRA is available. c. Red Butte Window: This proposal connects a power transmission line from Red Butte to the Soda Springs-Roseburg line. The maximum Width of this corridor will be 600 feet.	N		
Utility Corridors: Any new proposed utility corridors will be planned on an Interagency basis and coordinated between the affected National Forests. The three canal corridors on the North Umpqua River, Clearwater River and Fish Creek, which supply water to Pacific Power and Light's Toketee power installation will be operated according to the license granted by the Federal Energy Regulatory Commission (#1927).	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Secs. 3.4.3
Transportation Corridors: The three existing transportation corridors are shown on the transportation map (see Figure-IV-4[68]). These corridors are Oregon State Highway 138, (North Umpqua Highway segment); State Highway 230 (Diamond Lake West Highway); and Douglas County Road 1 (part of the Tiller Trail Highway).	N		

[67] Figure IV-3: Utility Corridors (Power), Umpqua National Forest Land And Resource Management Plan
[68] Figure IV-4: Umpqua National Forest Transportations System, Umpqua National Forest Land And Resource Management Plan

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Transportation Corridors: Procedures for the coordination of maintenance, signing, right-of-way grants, access control, any reconstruction and other matters relating to the portions of Oregon State Highways 138 and 230 Within the Forest will be in accordance with the current Memorandum of Understanding between Region SIX, USDA Forest Service, and Oregon Department of Transportation, Highway Division.	N		
Transportation Corridors: Procedures for the coordination of planning, design, and construction of Forest highway projects within, adjacent to, or serving the Forest will be In accordance With the Memorandum of Understanding between the Federal Highway Administration and the U.S. Forest Service (FSM 1535).	N		
Transportation Corridors – Windigo Pass Transportation Window: The possibility of a transportation corridor exists along Forest Development Road (FDR) 60 between Highways 138 and 58, including the window outside of the OCRA through Windigo Pass. This potential transportation Corridor, or window, is shown on the transportation map. The Windigo Pass Road (FDR 60), from Its junction With FDR 6020 at Umli on the Deschutes National Forest south to its Junction with FDR 6000-700 at the south end of the OCRA on the Umpqua National Forest, will be managed as follows:	N		
Transportation Corridors – Windigo Pass Transportation Window: There is no immediate need to improve this road. The road is adequate to handle the existing low volume of traffic use. The Windigo Pass Road will be managed at its current design and maintenance standards for the foreseeable future.	N		
Transportation Corridors – Windigo Pass Transportation Window: The road may be Improved in the future as needed to accommodate Increased traffic demands Any future upgrading of the road or Improvement In road standards will be undertaken only after further NEPA documentation and public Involvement Involving both the Umpqua and the Deschutes National Forests.	N		
Transportation Corridors – Windigo Pass Transportation Window: The road will be maintained during the winter as a snowmobile route, and left unplowed for standard highway type vehicles.	N		
Transportation Corridors – Windigo Pass Transportation Window: The Windigo Pass Road (FDR 60), from Its Junction With Highway 138 to Its junction With FDR 6000-700 at the south end of the OCRA on the Umpqua National Forest, may be upgraded, including paving, to meet traffic needs.	N		
Transportation Corridors: Any major upgrading of existing transportation corridors will be coordinated between the National Forest and the agency proposing the project, With the appropriate environmental reviews as required by NEPA.	N		
Transportation Corridors: Visual resource management direction for the existing transportation corridors and the potential Corridor through Windigo Pass is contained in the Forest-Wide Standards and Guidelines for Visual Resource.	N		
Facilities - Administrative Sites – Not Applicable, Excluded			

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Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Protection			
Fire Management: Wildfires that threaten life, property, public safety, Improvements, or investments will receive aggressive suppression action using an appropriate suppression response.	N		
Fire Management: All wildfires will require the use of the appropriate suppression response. This will provide the option of applying the appropriate strategy to all areas of the Forest, using cost efficiency and meeting resource management objectives.	N		
Fire Management: Wildfires that escape initial action and threaten to exceed established limits will require that an Escaped Fire Situation Analysis (EFSA) be prepared. This analysis will measure the cost of suppression against the resource loss potential, with emphasis on minimizing the cost and resource losses	N		
Fire Management: Levels and methods of fuels treatment will be guided by the protection and resource objectives within the management area. The Forest fuels appraisal process will be available for use to assist in making this determination. Reducing fuel loadings through marketing strategies will be explored.	N		
Fire Management: Prescribed fire is a management tool that may be used to meet management and vegetation objectives, and to maintain desired fuel profiles In all ecosystems. It will be utilized after an analysis Indicates that it will be cost effective and will meet resource management objectives. The analysis will include air quality considerations such as Increased utilization of slash, reduction of acres to be burned for hazard reduction, and ignition and burning techniques to save as much of the fuels 3' to 8.9' diameter as possible.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. R POD Att. DD
Fire Management: Unplanned Ignitions (lightning-caused) may be used for prescribed fires when (1) a prescribed fire plan has been prepared and approved and (2) the fire is burning Within prescribed parameters. (For exceptions to this policy, see Standard #9.)	N		
Fire Management: Burning plans will be prepared In advance of ignition and approved by the appropriate line officer for each prescribed fire. A prescribed fire exceeding both prescribed parameters and line-holding capabilities will be declared a wildfire and appropriate suppression response will be Initiated.	P, C, R, O	P, B, M	EIS Secs. 2.1.4 & 2.1.6 EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS App. F POD Att. R POD Att. DD

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Fire Management: Air quality will be emphasized during prescribed fire planning. Mitigating measures will be considered, including extending the burning season to spread emissions throughout the year and the avoidance of burning near recreation areas during peak use periods. All burning will be planned and conducted to comply with applicable air quality laws and regulations and coordinated with appropriate air quality regulatory agencies.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.6.2 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 EIS App. F POD Att. I POD Att. R POD Att. DD
Fire Management: Planned Ignitions will be considered in wilderness only when an extensive analysis has determined: (1) the area has been Significantly altered from its natural state due to fire exclusion and (2) the probability of lightning Ignition returning the area to its natural state is low. The need for any scheduled Ignition in wildernesses will be addressed In the individual wilderness management plans.	N		
Fire Management: All human-caused unplanned ignitions in wilderness will be declared a wildfire. Natural unplanned Ignitions In wilderness will be permitted to burn if prescribed In an approved management plan.	N		
Fire Management: During timber sale planning, the value of old growth timber stands for wildfire protection should be considered. Efforts to leave these old growth stands adjacent to plantations for wildfire suppression strategies should be considered whenever possible.	N		
Pest Management: Integrated Pest Management (IPM) prevention and suppression strategies will be utilized to manage pests within the constraints of laws and regulations and to meet forest management objectives. Methods may Include management practices (cultural or silvicultural), regulatory measures, biological, mechanical, manual, prescribed fire, and/or chemical treatments.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. F POD Att. N POD Att. X POD Att. DD
Pest Management: Special procedures will be implemented when pesticides are used, including the certification of contractors and Forest Service crew leaders. All pesticide use will be reviewed and approved before application by administrative representatives who are certified for pesticide use. Public notification will be given in advance of all applications	P, C, R, O	P, B	EIS Secs. 4.5.1.2 & 4.5.1.3 POD Att. N POD Att. X
Law Enforcement: Law enforcement will be a cooperative effort between the Forest Service, other Federal agencies, State, and local law enforcement, within the scope and responsibilities of each agency.	N		
Law Enforcement: Emphasis will be placed on preventing violations of laws and regulations through the proper administration of Forest Service permits and contracts and an aggressive public information program.	N		
Law Enforcement: Known Violations of laws or regulations will be promptly investigated and appropriate action initiated. Reporting procedures outlined in FSM 5340.3 will be followed.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Human Resources – Not Applicable, Excluded From Table			
Management Area 1: Provides opportunities for unroaded recreation primarily In semi-primitive settings. Not Applicable, Excluded From Table			
Management Area 2: Provides an appropriate environment for concentrated developed recreation activities in the areas immediately surrounding Diamond and Lemolo Lakes. Not Applicable, Excluded From Table			
Management Area 3: Provides an appropriate area for future development of a winter sports site on Mount Bailey, Insures that prescriptions assigned will provide for management of the area in condition suitable for ski area development. Insures that prescriptions assigned will provide for management of the area in a condition suitable for ski area development. Not Applicable, Excluded From Table			
Management Area 4: Manage to preserve the natural character of these lands In a manner consistent with the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984. Not Applicable, Excluded From Table			
Management Area 5: Manage the Oregon Cascades Recreation Area (OCRA) consistent With the intent of the Oregon Wilderness Act. Not Applicable, Excluded From Table			
Management Area 6: Provides for the protection and enjoyment of remarkable designated special Interest areas. Not Applicable, Excluded From Table			
Management Area 7: Manage the North Umpqua River, as designated In the Oregon Omnibus Wild and Scenic Rivers Act of 1988, for the protection of remarkably outstanding features for the benefit and enjoyment of people. Not Applicable, Excluded From Table			
Management Area 8: Manage as an experimental forest dedicated to basic and applied research on the function and operation of forest ecosystems In both natural and disturbed states. Not Applicable, Excluded From Table			
Management Area 9: Manage established and Identified potential research natural areas (RNOs) in the system of nationwide RNOs. Not Applicable, Excluded From Table			
Management Area 10: Produce timber on a cost-efficient sustainable basis consistent with other resource objectives for wildlife habitat, riparian habitat and water quality, visual quality, and recreation. Not Applicable, Excluded From Table			
Management Area 11: Provide big game winter range habitat and timber production consistent with other resource objectives for wildlife habitat, riparian habitat and water quality, visual quality, and recreation. Not Applicable, Excluded From Table			
Management Area 12: Provides additional management direction to maintain or enhance the fisheries resource of Steamboat Creek and Its tributaries consistent with the intent of the 1984 amendment to the Wild And Scenic Rivers Act. Not Applicable, Excluded From Table			
Management Area 13: Provides additional emphasis for the orderly exploration, development, extraction, and production of mineral resources on lands within the Fairview-Bohemia mineralized area.			
Management Area 14: Manage undeveloped Intact ecosystems for their ecological values with a focus on preservation of the genetic base of natural plants and animals and maintenance of natural processes. Not Applicable, Excluded From Table			
Prescription A1-I: Recreation, Semi-Primitive Non-Motorized - No Harvest Not Applicable, Excluded From Table			

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Prescription A1-IV: Recreation, Semi-Primitive Motorized - No Harvest Not Applicable, Excluded From Table			
Prescription A1-V: Recreation - Unroaded Concentrated Not Applicable, Excluded From Table			
Prescription A3-I: North Umpqua Viewshed Not Applicable, Excluded From Table			
Prescription A4-I: Recreation - Concentrated Developed Not Applicable, Excluded From Table			
Prescription A4-II: Recreation – Winter Sports Site - Not Applicable, Excluded From Table			
Prescription A4-IV: Recreation – Existing Developed Sites at Less Than Standard-Service Level - Not Applicable, Excluded From Table			
Prescription A4-V: Recreation Maintenance Levels Than Standard-Service Level - Not Applicable, Excluded From Table			
Prescription A4-V: Recreation Maintenance Level - Not Applicable, Excluded From Table			
Prescription A5-II: Recreation, Special Interest Areas - Not Applicable, Excluded From Table			
Prescription B1-II: Wilderness WRS Primitive - Not Applicable, Excluded From Table			
Prescription B1-III: Wilderness WRS Semi-Primitive - Not Applicable, Excluded From Table			
Prescription C1-I: Old Growth Groves (Recreation Use) - Not Applicable, Excluded From Table			
Prescription C1-II: Spotted Owl (Dedicated) - Not Applicable, Excluded From Table			
Prescription C2-I: Riparian Area Class I and II Streams, Lakes and Ponds			
Recreation: Recreation facilities and trail locations are designed to protect vegetation which is providing shade, stabilizing banks and sides lopes, or serving as existing or future fish habitat source (woody material for Class I and II streams) Sanitary facilities are discouraged in riparian areas and must adequately treat wastes consistent With DEQ regulations. Existing recreation developments are maintaining existing water quality, fish, and Wildlife habitat. Before Investment In new campgrounds or other facilities are undertaken, a floodplains and wetland determination and assessment of Impacts, With public notice, are necessary on these streams and wetlands.	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent With riparian objectives.	N		

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wilderness: All Wilderness activities are compatible In riparian areas, Including natural fire, trail construction and use, and research	N		
Wildlife and Fish: All fish habitat improvement projects, structural wildlife improvements and snag preservation are compatible In riparian areas and are encouraged. Provide structural and nonstructural improvement projects to maintain or Increase the present population of salmonids. These areas are suitable for winter range cover for big game, except the Layng Creek watershed.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. P POD Att. U POD Att. DD
Range: Livestock use is permitted when consistent With allotment management plans, If riparian objectives are met. Locate watering structures and sailing, holding and loading areas outside riparian areas Direct trailing across, but not along, watercourses Within the riparian area.	N		
Timber: No timber harvest, site preparation, release, planting, precommercial thinning, firewood cutting or pesticide use are permitted except to meet riparian objectives. Salvage harvest is restricted to catastrophic occurrences (>50 percent of existing stand), when timber not necessary for fish habitat, water quality, wildlife habitat or soil productivity may be removed In consultation with a fishery biologist or hydrologist. Yarding corridors are permitted at designated locations with full log suspension over the streambank and protected vegetation corridors must minimize disturbance to riparian vegetation and meet riparian objectives. If effective shade or fish habitat is reduced, shade or habitat restoration is necessary for mitigation. Maintain existing deciduous/ conifer mix of riparian vegetation Maintain existing channel profile through vegetation rootmat In banks, and with stable woody material In the channel.	N		
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams. Plant vegetation where necessary to minimize soil movement. Where existing shade or channel stability has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs. Plant rapid-growing conifers on drier upper banks to provide long-term shade. Emphasize watershed Improvement In riparian areas where appropriate.	P, R	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 - 4.1.36 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1, UNF-3 & UNF-4.

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals: Rehabilitation of existing rock quarries or pits by seeding and planning is compatible and desirable. Extraction or storage of common minerals, Including use and construction of rock pits, is discouraged In riparian areas when riparian objectives cannot be met. Panning or dredging in or adjacent to streams is compatible when carried out in accordance with Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and riparian objectives. Special stipulations will be required for mineral leases when needed to protect riparian habitat. Operating plans for mining operations will Include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: On lands considered for exchange, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands. Encourage the acquisition of riparian lands that may be of Significant Wildlife or fisheries value Special use applications must show compatibility with riparian objectives before awarded.	N		
Facilities: Allow for free fish passage on all Class I and II streams and lakes. Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, to replace effective shade, and to protect water crossings from flood peaks and resulting channel impacts. Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores within the riparian unit. Pesticides may not be used In the riparian unit. Buildings and other structures should conform to management direction In timber and recreation program elements for vegetation disturbance and sanitation, respectively. Open canals and site occupancy related to hydropower projects are not compatible. Before investment In new buildings or other facilities are undertaken, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands.	N		
Protection: Activities which minimize both prescribed fire and wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and streambank stabilization. Utilize the appropriate suppression responses that will minimize damage to riparian vegetation. Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams These measures Include hand piling slash, not burning, burning one side of a Unit at a time, low-intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices are allowed when riparian objectives can be met.	N		
Protection: No pesticide use is permitted In riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round In perennial streams). Fire retardant may not be applied to fish-producing (Class I and II) streams or lakes.	N		
Prescription C2-II: Riparian Area Class III Streams, Lakes and Ponds			

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation: Recreation facilities and trail locations are designed to protect vegetation which is providing shade, stabilizing banks and sideslopes, or serving as aquatic food source. Sanitary faculties are discouraged and must adequately treat wastes consistent With State DEQ regulations Existing recreation developments are maintaining existing water quality, fish and Wildlife habitat Before investment In new campgrounds and other facilities, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent With riparian objectives.	N		
Wilderness: All wilderness activities are compatible in riparian areas, including natural fire, trail construction and use, and research.	N		
Wildlife and Fish: All structural wildlife Improvements and snag preservation are compatible in riparian areas and are encouraged. These areas are suitable for winter range cover for big game, except in the Layng Creek watershed.	N		
Range: livestock use is permitted when consistent with allotment management plans and If riparian objectives are met. Locate watering structures and sailing, holding and loading areas outside riparian areas Direct trailing across, but not along, watercourses Within the riparian area.	N		
Timber: Where timber harvest can meet riparian objectives, natural regeneration and uneven-aged management is preferred. No site preparation, release, planting, precommercial thinning, firewood cutting or pesticide use are permitted except to meet riparian objectives. Yarding corridors are permitted at designated locations With full log suspension over the streambank and protected vegetation. Condors must minimize disturbance to riparian vegetation and meet riparian objectives.	N		
Timber: If effective shade or channel stability are reduced, shade or channel restoration is necessary for mitigation. Maintain existing deciduous/conifer mix of riparian vegetation. Maintain existing channel profile through vegetation rootmat In banks, and stable woody material In the channel.	N		
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams. Plant vegetation where necessary to minimize soil movement.	P, R	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-2 & UNF-3

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Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soil and Water: Where existing shade or channel stability has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs. Plant rapid-growing conifers on drier upper banks to provide long-term shade. Emphasize watershed improvement and watershed restoration In riparian areas where appropriate.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendment UNF-1
Minerals: Rehabilitation of existing rock quarries or Pits by seeding and planting is compatible and desirable extraction or storage of common minerals, Including use and construction of rock pits, is discouraged in riparian areas when riparian objectives cannot be met. Panning or dredging In or adjacent to streams is compatible when carried out In accordance With Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and riparian objectives. Special stipulations will be required for mineral leases when needed to protect riparian habitat. Operating plans for mining operations will Include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: On lands considered for exchange, a floodplain and wetland determination and assessment of Impacts, With public notice, are necessary on these streams and wetlands. Encourage the acquisition of riparian lands that may be of significant wildlife or fisheries value Special use applications must show compatibility With riparian objectives before being awarded.	N		
Facilities: Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, effective shade is replaced, and protection is provided at water crossings from flood peaks and their resulting channel impacts.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Facilities: Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores within the riparian unit. Pesticides may not be used In the riparian unit. Buildings and other structures should conform to management direction in timber and recreation program elements for vegetation disturbance and sanitation, respectively. Open canals and site occupancy related to hydropower projects are not compatible.	P, C, R, O	P, B, R, A	EIS Sec. 2.1.3.5 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS App. J LMP Amendment UNF-2.

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Facilities: Before investment In new buildings or other faculties, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands.	P	P	EIS Sec. 1.5.1.7 EIS Secs. 1.5.3.3 & 1.5.4.3 EIS Sec. 1.5.4.9 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.1 EIS App. J
Protection: Activities which minimize both prescribed fire and wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and streambank stabilization. Utilize the appropriate suppression responses that will minimize damage to riparian vegetation. Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams. These measures include hand piling slash, not burning, burning one side of a unit at a time, low-intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices allowed when riparian objectives can be met.	N		
Protection: No pesticide use is permitted In riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round In perennial streams).	P, C, R, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.3 EIS Sec. 4.6.2.4 EIS App. J POD Att. N
Prescription C2-III: Riparian Area Class IV Streams, Lakes and Ponds			
Recreation: Recreation Improvements and trail locations are designed to protect vegetation which is stabilizing channels, banks and sideslopes. Sanitary facilities are discouraged; If necessary, they must adequately treat wastes consistent with State DEQ regulations. Existing recreation developments are maintaining existing water quality and wildlife habitat.	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent With riparian objectives.	N		
Wilderness: All Wilderness activities are compatible In riparian areas, Including natural fire, trail construction and use, and research.	N		
Wildlife and Fish: All wildfire activities are compatible In riparian areas, Including use as winter range forage or cover, consistent With riparian objectives.	N		

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Livestock use is permitted when consistent with allotment management plans If riparian objectives are met. Locate watering structures and salting, holding and loading areas outside riparian areas. Direct trailing across, but not along, watercourses Within the riparian area.	N		
Timber: Where timber harvest can meet riparian objectives, protection of understory, natural regeneration and all-aged limber management is preferred. Special logging procedures, including jacking to directionally fall trees, will be used where effective Where natural regeneration is not practical, planting for timber management and riparian protection is encouraged No commercial or personal-use firewood cutting permitted. No firewood cutting or gathering for onsite use permitted.	N		
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams. Plant vegetation where necessary to minimize soil movement. Where existing shade or channel stability has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs. Plant rapid-growing conifers on drier upper banks to provide long-term shade. Emphasize watershed Improvement in riparian areas where appropriate.	P, R	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 - 4.1.36 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1 - UNF-4.
Minerals: Rehabilitation of existing rock quarries or pits by seeding and planting is compatible and desirable. Extraction or storage of common minerals, Including use and construction of rock pits, is discouraged In riparian areas when riparian objectives cannot be met. Recreational panning or dredging In or adjacent to streams is compatible when carried out In accordance with Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and riparian objectives Special stipulations will be required for mineral leases when needed to protect riparian habitat Operating plans for mining operations will Include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: Encourage the acquisition of riparian lands that may be of significant wildlife or riparian value Special use applications must show compatibility With riparian objectives before being awarded.	N		
Facilities: Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, and to protect water crossings from flood peaks and resulting channel impacts. Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores within the riparian area. Pesticides may not be used In the riparian unit during the season when flow occurs. Buildings and other structures should conform to management direction In timber and recreation program elements for vegetation disturbance and sanitation, respectively. Open canals and site occupancy related to hydropower projects are not compatible	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Activities which minimize both prescribed fire and Wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and streambank stabilization Utilize the appropriate suppression responses that will minimize damage to riparian vegetation Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams These measures Include handpillng slash, not burning, burning one Side of a unit at a time, low-Intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, R, C, O	P, R, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices allowed when riparian objectives can be met	N		
Protection: No pesticide use is permitted in riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round In perennial streams).	N		
Prescription C2-IV: Fish Habitat Class I and II Streams, Lakes and Ponds			
Recreation: Recreation facilities and trail locations are designed to protect vegetation which is providing shade, stabilizing banks and sideslopes, or serving as existing or future fish habitat source (woody material for Class I and II streams). Sanitary facilities are discouraged In riparian areas and must adequately treat wastes consistent with DEQ regulations. Existing recreation developments are maintaining existing water quality, fish, and wildlife habitat. Before investment In new campgrounds or other facilities are undertaken, a floodplain and wetland determination and assessment of impacts, with public notice, are necessary on these streams and wetlands.	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent with riparian objectives.	N		
Wilderness: All Wilderness activities are compatible in riparian areas, Including natural fire, trail construction and use, and research.	N		
Wildlife and Fish: All fish habitat Improvement projects, structural wildlife Improvements and snag preservation are compatible In riparian areas, and encouraged. Provide structural and nonstructural improvement projects where It has been determined that fish production is below potential due to habitat restrictions. These areas are Suitable for winter range cover for big game	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. DD
Wildlife and Fish: Write fish habitat management plans for major drainages within two years of completion of sub-basin analysis for those drainages	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Range: Livestock use is permitted when consistent with allotment management plans if riparian objectives are met. Locate watering structures and salting, as well as holding and loading areas outside riparian areas. Direct trailing across, but not along, watercourses within the riparian area.	N		
Timber: No timber harvest, site preparation, release, planting, precommercial thinning, firewood cutting or pesticide use are permitted except to meet riparian objectives. Salvage harvest is restricted to catastrophic occurrences (>50 percent of existing stand), when timber not necessary for fish habitat, water quality, wildlife habitat or soil productivity may be removed in consultation with a fishery biologist or hydrologist. Yarding corridors are permitted at designated locations with full log suspension over the streambank and protected vegetation Corridors must minimize disturbance to riparian vegetation and meet riparian objectives. If effective shade or fish habitat is reduced, shade or habitat restoration is necessary for mitigation Maintain existing deciduous/conifer mix of riparian vegetation Maintain existing channel profile through vegetation rootmat In banks, and with stable woody material In the channel.	N		
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams. Plant vegetation where necessary to minimize soil movement. Where existing shade has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs Plant rapid-growing conifers on drier upper banks to provide long-term shade. Inventory and actively rehabilitate all Identified bank and sideslope failures, channel downcutting, and unshaded stream reaches to Improve existing water quality.	P, R	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 - 4.1.36 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1, UNF-3 & UNF-4.
Minerals: Rehabilitation of existing rock quarries or Pits by seeding and planting is compatible and desirable. Extraction or storage of common minerals, Including use and construction of rock pits, is discouraged In riparian areas when riparian objectives cannot be met. Recreational panning or dredging in or adjacent to streams is compatible when earned out In accordance With Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and riparian objectives Special stipulations will be required for mineral leases when needed to protect riparian habitat. Operating plans for mining operations will include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: On lands considered for exchange, a floodplain and wetland determination and assessment of Impacts, With public notice, is necessary on these streams and wetlands. Encourage the acquisition of riparian lands that may be of Significant wildlife or fisheries value Special use applications must show compatibility With riparian objectives before being awarded.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Facilities: Allow for free fish passage on all Class I and II streams and lakes. Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, to replace effective shade, and to protect water crossings from flood peaks and resulting channel impacts. Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores within the riparian unit.	P, C, R, O	P, B, M, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.1.3.5 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1 & UNF-2
Facilities: Pesticides may not be used in the riparian Unit. Buildings and other structures should conform to management direction in timber and recreation program elements for vegetation disturbance and sanitation, respectively. Open canals and site occupancy related to hydropower projects are not compatible. Before Investment In new campgrounds or other facilities, a floodplain and wetland determination and assessment of Impacts, with public notice, is necessary on these streams and wetlands.	N		
Protection: Activities which minimize both prescribed fire and wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and streambank stabilization. Utilize the appropriate suppression responses that will minimize damage to riparian vegetation. Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams. These measures include handpiling slash, not burning, burning one side of a unit at a time, low-intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices are allowed when riparian objectives can be met.	P, C, R, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.3 EIS Sec. 4.6.1.3 & 4.6.2.4 EIS App. J POD Att. N
Protection: No pesticide use is permitted in riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round in perennial streams). Fire retardant may not be applied to fish-producing (Class I and II) streams or lakes.	P, C, R, O	P, B	EIS Sec. 2.7.3 EIS Sec. 4.1.3.5 EIS Sec. 4.5.1.3 EIS Sec. 4.6.1.3 & 4.6.2.4 EIS App. J POD Att. N
Prescription C2-V: Fish Habitat Class III Streams			

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation: Recreation facilities and trail locations are designed to protect vegetation which is providing shade, stabilizing banks and sideslopes, or serving as aquatic food source. Sanitary facilities are discouraged and must adequately treat wastes consistent with State DEQ regulations Existing recreation developments are maintaining existing water quality, fish, and wildlife habitat Before Investment In new campgrounds and other facilities, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands.	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent With riparian objectives.	N		
Wilderness: All wilderness activities are compatible In riparian areas, including natural fire, trail construction and use, and research.	N		
Wildlife and Fish: All structural wildlife improvements and snag preservation are compatible In riparian areas and are encouraged These areas are suitable for winter range cover for big game.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. DD
Range: Livestock use is permitted when consistent With allotment management plans and if riparian objectives are met. Locate watering structures and salting, holding and loading areas outside riparian areas Direct trailing across, but not along, watercourses within the riparian area.	N		
Timber: Where timber harvest can meet riparian objectives, natural regeneration and uneven-aged management is preferred. No site preparation, release, planting, precommercial thinning, firewood cutting or use, or pesticide use are permitted except to meet riparian objectives. Yarding Corridors are permitted at designated locations With full log suspension over the streambank and protected vegetation corridors must minimize disturbance to riparian vegetation and meet riparian objectives. If effective shade or channel stability are reduced, shade or channel restoration is necessary for mitigation. Maintain existing deciduous/conifer mix of riparian vegetation. Maintain existing channel profile through vegetation rootmat In banks, and stable woody material In the channel	N		
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams Plant vegetation where necessary to minimize soil movement. Where existing shade has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs. Plant rapid-growing conifers on drier upper banks to provide long-term shade. Inventory and actively rehabilitate all identified bank and sideslope failures, channel downcutting, and unshaded stream reaches to Improve existing water quality.	P, R	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 - 4.1.36 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1, UNF-3 & UNF-4.

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Minerals: Rehabilitation of existing rock quarries or pits by seeding and planting is compatible and desirable Extraction or storage of common minerals, including use and construction of rock pits, is discouraged In riparian areas when riparian objectives cannot be met. Recreational panning or dredging in or adjacent to streams is compatible when carried out In accordance with Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and riparian objectives. Special stipulations will be required for mineral leases when needed to protect riparian habitat. Operating plans for mining operations will Include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: On lands considered for exchange, a floodplain and wetland determination and assessment of impacts, with public notice, is necessary on these streams and wetlands. Encourage the acquisition of riparian lands that may be of significant Wildlife or fisheries value. Special use applications must show compatibility with riparian objectives before being awarded	N		
Facilities: Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, effective shade is replaced, and protection is provided at water crossings from flood peaks and their resulting channel impacts.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Facilities: Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores Within the riparian unit. Pesticides may not be used in the riparian unit. Buildings and other structures should conform to management direction in timber and recreation program elements for vegetation disturbance and sanitation, respectively. Open canals and site occupancy related to hydropower projects are not compatible. Before investment In new buildings or other facilities, a floodplain and wetland determination and assessment of Impacts, with public notice, are necessary on these streams and wetlands.	P, C, R, O	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.7.3 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.5.1.3 EIS Sec. 4.6.2.4 EIS App. J POD Att. N LMP Amendment UNF-2
Protection: Activities which minimize both prescribed fire and Wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and streambank stabilization. Utilize the appropriate suppression responses that will minimize damage to riparian vegetation. Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams These measures include handpiling slash, not burning, burning one Side of a unit at a time, low-Intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, C, R, O	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices allowed when riparian objectives can be met.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: No pesticide use is permitted In riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round 10 perennial streams).	N		
Prescription C2-IV: Fish Habitat Class IV Streams			
Recreation: Recreation Improvements and trail locations are designed to protect vegetation which is stabilizing channels, banks and sideslopes. Sanitary facilities are discouraged; If necessary, they must adequately treat wastes consistent with State DEQ regulations Existing recreation developments are maintaining existing water quality and Wildlife habitat.	N		
Recreation: ORV use is not permitted except on designated, hardened trail prisms.	N		
Visual: Visual management activities will be consistent with riparian objectives	N		
Wilderness: All Wilderness activities are compatible In riparian areas, Including natural fire, trail construction and use, and research.	N		
Wildlife and Fish: All wildlife activities are compatible In riparian areas, Including use as winter range forage or cover, consistent With riparian objectives	N		
Range: Livestock use is permitted when consistent With allotment management plans and meets other resource objectives. Locate watering structures and salting, holding and loading areas outside riparian areas Direct trailing across, but not along, watercourses Within the riparian area.	N		
Timber: Where timber harvest can meet riparian objectives, protection of understory natural regeneration, and all-aged timber management is preferred. Special logging procedures, Including Jacking to directionally fall trees, will be used where effective. The chief difference between this prescription and C2-11J is that slash and residual vegetation will be protected from prescribed fire In MA 12, the NO-harvest Prescription C2-X will be used where burning risks are high. Where natural regeneration is not practical, planting for timber management and riparian protection is encouraged. No pesticide use is permitted in riparian units during the season when flow occurs.	N		
Timber: No commercial or personal-use firewood cutting permitted. No firewood cutting or gathering for onsite use permitted.	N		

TABLE E-5

Umpqua National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soil and Water: Watershed improvement projects are compatible and desirable to meet riparian objectives. Soil restoration projects will take place as necessary to maintain or reduce sediment delivery to permanent streams Plant vegetation where necessary to minimize Soil movement Where existing shade has been reduced, plant hardwoods along stream courses to provide shade where sufficient moisture occurs. Plant rapid-growing conifers on drier upper banks to provide long-term shade. Inventory and actively rehabilitate all Identified bank and sideslope failures, channel downcutting, and unshaded stream reaches to Improve existing water quality.	P, R	P, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 - 4.1.36 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD LMP Amendments UNF-1, UNF-3 & UNF-4.
Minerals: Rehabilitation of existing rock quarries or Pits by seeding and planting is compatible and desirable. Extraction or storage of common minerals, Including use and construction of rock Pits, is discouraged In riparian areas when riparian objectives cannot be met. Panning or dredging in or adjacent to streams is compatible when carried out In accordance with Oregon Department of Fish and Wildlife recommendations, Oregon Department of Environmental Quality recommendations and other riparian objectives Special stipulations will be required for mineral leases when needed to protect riparian habitat. Operating plans for mining operations will include reasonable, operationally feasible requirements to protect riparian values and to meet State water quality standards.	N		
Lands: Encourage the acquisition of riparian lands that may be of significant Wildlife or riparian value. Special use applications must show compatibility With riparian objectives before being awarded.	N		
Facilities: Roads crossing riparian areas are compatible with the prescription when mitigation measures are employed to prevent sediment delivery to streams and lakes, and to protect water crossings from flood peaks and resulting channel Impacts. Utility/transportation corridors, roads or transmission lines may cross but must not parallel streams and lake shores Within the riparian area. Pesticides may not be used In the riparian unit during the season when flow occurs. Buildings and other structures should conform to management direction In timber and recreation program elements for vegetation disturbance and sanitation, respectively Open canals and Site occupancy related to hydropower projects are not compatible.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Activities which minimize both prescribed fire and Wildfire damage to riparian vegetation are necessary. Rehabilitation of disturbance from suppression activities must be planned, Including erosion control, channel storage structures, and stream bank stabilization. Utilize the appropriate suppression responses that will minimize damage to riparian vegetation. Measures must be taken to prevent burning riparian vegetation during slash disposal adjacent to streams. These measures Include handpiling slash, not burning, burning one Side of a unit at a time, low-Intensity burning, or hose-lays to protect riparian vegetation. Firelines should be constructed outside the riparian unit.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. DD LMP Amendments UNF-1 - UNF-3.
Protection: Insect and disease control practices allowed when riparian objectives can be met.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: No pesticide use is permitted In riparian units during the season when flow occurs (seasonally In ephemeral streams and year-round in perennial streams).	N		
Prescription C2-VII: North and South Umpqua/Steamboat Fish Resting Holes – Not Applicable, Excluded From Table			
Prescription C2-VIII: Riparian Class I Streams with Demonstrated Unique Anadromous Fish Populations – Not Applicable, Excluded From Table			
Prescription C2-IX, Steamboat Fish Habitat Class III Streams – Not Applicable, Excluded From Table			
Prescription C2-X, Steamboat Fish Habitat Class IV Streams – Not Applicable, Excluded From Table			
Prescription C3-I: Peregrine Falcon			
Recreation: No new trails or other recreation facilities will be constructed within 5 miles of nest site. Public access and use may be restricted January 1 - July 31 each year.	N		
Recreation: ORV use closed during January 1 - July 31	N		
Visual: Minimum visual quality objective is partial retention within areas, and as directed by Forestwide visual standards and guidelines.	N		
Wildlife and Fish: These sites are high priority for annual monitoring. Any proposed enhancement project or management technique must be reviewed and coordinated with the USDI Fish and Wildlife Service.	N		
Range: The area within a 20-chaln radius of any nest site will be excluded from any future range allotments. No special use livestock structures permitted.	N		
Timber: No programmed harvest Within the Immediate vicinity of the nest site. Restrict timber harvest activity between January 1 - July 31 as needed to reduce disturbance during nesting season. Within a 5-mile radius of nest Site, If determined necessary, restrict timber sale activity during January 1 - July 31. Review all timber sales in the 1.5-mlle zone With USDI Fish and Wildlife Service	P,C	P	EIS 4.6.1.2 & 4.6.1.3 MIS Report
Timber: Within three-mile radius of nest, manage harvest schedule to provide a diversity of age classes. Maintain 50 percent of the stands In pole size or larger. Where possible, leave five or more hardwoods per acre in regeneration units. Modify herbicide application to provide at least 25 percent of the original hardwood component. Manage snags at 40 percent or more of potential population capacity.	N		
Timber: Firewood cutting limited to same specifications as timber harvest activities. Gathering of firewood is limited to that needed for onsite use.	N		
Soil and Water: Activities prohibited as described above in timber element. Soil and water enhancement permissible if snags are not removed.	N		

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals: Subject to determination of values, including mineral values, all area within the boundaries of the site will be considered for recommendation for withdrawal from mineral entry If necessary to maintain the Integrity of existing cliff or tree nest Sites, Extraction of common variety minerals shall not be permitted.	N		
Lands: These lands should not be considered available for exchange or transfer Land acquisitions are encouraged.	N		
Facilities: Roads Within 5 miles may be blocked permanently or closed to use January 1 – July 31, If needed to reduce disturbance during nesting season Road construction or reconstruction within 1.5 miles will not normally take place during January 1 - July 31 New utility and transportation corridors will be discouraged. Where no reasonable alternatives exist, Corridors will be located to Impose the least Impact as determined In the EA process.	N		
Protection: High priority areas for fire suppression using appropriate suppression response. Law enforcement protection is high Priority.	N		
Protection: No use of chemicals to control Insect and disease outbreaks Within the 1.5-mile radius except under recommendation from US Fish and Wildlife Service.	N		
Prescription C3-II: Bald Eagle, Maintained – Not Applicable, Excluded From Table			
Prescription C4-I: Winter Range – Normal – Not Applicable, Excluded From Table			
Prescription C4-II: Four-Part Winter Range - Optimum – Not Applicable, Excluded From Table			
Prescription C5-I: Wildlife - Unique Habitat – Not Applicable, Excluded From Table			
Prescription C5-III: Wildlife - Mosaic Habitats – Not Applicable, Excluded From Table			
Prescription C5-V: Wildlife – Management of Unsuitable Timberlands – Not Applicable, Excluded From Table			
Prescription C5-VI: Wildlife – Snag Management Areas – Not Applicable, Excluded From Table			
Prescription C5-VII: Wildlife – Pileated-Woodpecker – Not Applicable, Excluded From Table			
Prescription C5-VIII: Wildlife – Pileated-Woodpecker – Not Applicable, Excluded From Table			
Prescription C5-IX: Wildlife - Pine Marten, Dedicated - Not Applicable, Excluded From Table			
Prescription C5-X: Wildlife - Pine Marten (Managed) - Not Applicable, Excluded From Table			
Prescription E1-I: Timber - Intensive PNV, Not Applicable, Excluded From Table			
Prescription E1-II: Timber - Intensive Volume - Not Applicable, Excluded From Table			

TABLE E-5 **Umpqua National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Prescription E1-IV: Low Intensity Timber Management - Not Applicable, Excluded From Table			
Prescription E1-V: Timber - Intensive Short Rotation - Not Applicable, Excluded From Table			
Prescription E2-1: Research Natural Area - Not Applicable, Excluded From Table			
Prescription E2-II: Undeveloped Ecosystems - Not Applicable, Excluded From Table			
Prescription E3-I: Experimental Forest - Not Applicable, Excluded From Table			
Prescription F1-II: Layng Creek Municipal Watershed - 1989 Plan - Not Applicable, Excluded From Table			
Prescription J1-II: Maintenance of Existing Conditions - Not Applicable, Excluded From Table			

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TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Minimum Management 01			
Recreation - Roaded Natural: Manage the area for at least Maximum Modification Visual Quality Objective. Assess the impacts to visual resources in the project environmental analysis. Specifically address how the visual quality objective will be met.	N		
Recreation - Roaded Natural: Manage any trails that pass through this management area in a manner not m conflict with good stewardship management.	N		
Recreation - Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all project environmental analysis.	N		
Recreation - Roaded Natural: Protect Special Dispersed Features, including trawls, from adverse Impacts until management of the special dispersed feature is addressed in an environmental analysis.	N		
Recreation - Roaded Natural: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed “area of effect” of prefects or elsewhere Document results of the investigation/ Inventory in the project environmental analysis Inventory of non-prefect areas will be guided by the Forest’s cultural resource inventory strategy.	N		
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist, to determine their potential archaeological, historical or cultural significance. Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Natural: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Natural: Mitigate potential adverse impacts to significant cultural resources by redesigning the project to avoid damage or disturbance or implementing appropriate mitigation procedures to reduce the adverse Impact to the resource	N		
Recreation - Roaded Natural: Inventory and protect cultural resources to insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may Include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting	N		
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management. Coordinate cultural resource management with appropriate State and Federal agencies	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places: eligible properties will be nominated to the National Register.	N		
Recreation - Roaded Natural: Off-road vehicle recreation use on roads, trails or areas is permissible if not in conflict with strategy goals and objectives.	N		
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish And Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed In cooperation with the USDI Fish and Wildlife Service. Oregon Department of Fish and Wildlife. Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish And Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans	P, C, R, O	P, B, R, M, A	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD RRNF-7
Wildlife, Fish And Plants: Biological evaluations (FSM 2672 4) shall be prepared for each project authorized, funded or conducted on the Forest The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species The biological evaluation consists of five steps: a. Pre-field review of existing information, b. Field reconnaissance of the project area; c. Determination of whether local populations of listed and PETS species will be affected by a project, d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish And Plants: If endangered, threatened or proposed species are found in a project area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671 4. No adverse impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670 31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish And Plants: Northern Spotted Owl – Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide. In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation. During the planning and scheduling phase of any project activity that may impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish And Plants: Osprey - Protect active nests dung the nesting season. Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31. Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish And Plants: Goshawk - Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of an active nest. Each nest sate is assumed potentially active until June 1 If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived. Monitoring will be supervised and evaluated by a qualified wildlife biologist. Goshawk nests will be protected within a 25-acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish And Plants: Woodpeckers - (Cavity Nesters) Cavity nesting habitat will be allowed to occur at natural levels on coniferous forest lands This should provide 100 percent of the potential population level for cavity nesting species. This may require leaving green trees standing as well, in order to maintain the snags throughout the rotation Soft snags will not be removed except for protection or human safety. Snags should be uniformly distributed insofar as practical. Land areas containing activities which impact amounts of large woody maternal (LWM) on the site shall have LWM management prescription(s). The prescription will not only be site specific but will also consider maintenance of LWM in perpetuity. At a minimum, a "moderate" amount of LWM will be left after project completion. The moderate range is 10 to 20 pieces of Class I and II logs per acre and all existing Class III, IV and V logs, except for incidental amounts removed during management activities.	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD
Wildlife, Fish And Plants: Resident Trout and Steelhead –Water quality law establishes a level of aquatic resource management that will maintain the Forest's fisheries habitat at a level capable of sustaining or exceeding minimum viable populations for the various species of anadromous and resident fish. Cold water production for both on and off Forest fish needs is identified as a principal objective for the Forest's streams. Maintain existing fish habitat capability and develop fish habitat improvement projects to fully utilize potential smelt production capability of Forest anadromous streams and resident fish in other streams and lakes. Coordinate land management activities with the California Department of Fish and Game and Oregon Department of Fish and Wildlife objectives Natural debris, plus trees needed for a future supply, will be maintained and managed to 1) enhance stream channel and bank structure so as to protect water quality, and 2) provide structural fish habitat to meet the objectives of small habitat capability or resident fish populations provided for in the Forest Plan.	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. L POD Att. DD
Wildlife, Fish And Plants: Deer and Elk - Maintain summer range to provide forage, hiding and thermal cover. A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish And Plants: Bald Eagle - Develop a Bald Eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply. Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates. 1) Primary Zone-All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant: 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15.blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet: 4) A communal roost is any stand of trees m which eagles regularly roost together The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible. Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish And Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found. The site plan design will be tailored to in the landscape and the use patterns established by the birds. The following may be included m the Plan 1) Delineate the nest site (eyrie): 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie; 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January; 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie; 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie: 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and tertiary zones (approximately a three-mile radius of the eyrie): 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support lays, bandtail pigeon and other passerine birds. Biological evaluation and informal consolation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Provide annual permittee plans for livestock distribution and use patterns.	N		
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary. Allotment planning procedures are documented in FSM 2210.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the Integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Forage utilization standards will be incorporated In allotment management plans Allotment management plans may Include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and livestock Utilization for grass and grass like species is based on the percent of plant weight removed. Utilization for shrub species is based on Incidence of use, weight, and/or twig length (e g. utilization is 50 percent If 50 out of 100 leaders are browsed) Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) IS:	N		
RANGE MANAGEMENT INTENSITY Minimum 1/ / Extensive 2/ / Intensive 3/ **Forested Areas** -Satisfactory Condition: 40% / 45% / 50% -Unsatisfactory Condition: 0-30% / 0-35% / 0-40% **Grasslands** -Satisfactory Condition: 50% / 55% / 60% -Unsatisfactory Condition: 0-30% / 0-35% / 0-40% **Shrublands** -Satisfactory Condition: 40% / 45% / 50% -Unsatisfactory Condition: 0-25% / 0-30% / 0-35% 1/ Minimum - Minimum amount of improvements; simple grazing system 2/ Extensive - Most or all improvements are non-structural; rotation grazing systems used. 3/ Wide variety of structural and non-structural improvements; rotation grazing systems used.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Rehabilitate areas that have been impacted by catastrophic occurrences.	N		
Timber: In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species, well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot. Strive for a natural seed source from a variety of species.	N		
Timber: Timber harvest is not programmed and would normally not occur except for the following situations: to eliminate hazards; removal incidental to construction or maintenance of improvements; minor unavoidable inclusions to logical management units; or in the case of natural catastrophe; and research and administrative studies when removal of such timber is not detrimental to achieving the goals of the management area.	N		
Water: Evaluate effects of proposed projects on stream courses in all environmental analyses. Discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analyses.	P	P	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 34041) and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987) regulations, and federal guidance issued thereto.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on sate specific conditions, technical, economic, and institutional feasibility, and water quaky standards for those waters potentially Impacted; b. Implement and enforce BMPs; c. Monitor to Insure that practices are correctly applied as designed, Monitor to determine the effectiveness of practices in meeting design expectations and in attaining water quality standards; d. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected; e. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level. Evaluate the appropriateness of water quality criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards; f. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described in Memorandums of Understanding between 1) the Oregon Department of Environmental Quaky and US. Department of Agriculture, Forest Service (2/12/79 and 12/7/82), and Attachments A and B' referred to in thus MOU (Implementation Plan for Water Quaky Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Aquaculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC
Water: The following requirements will be employed in project implementation when proposed projects may affect streams: a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods needed, b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26), c. Locate springs that may be affected and evaluate for appropriate levels of protection. Thus would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD. Att. 3 POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water nights for development of non-reserved uses.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, B, M, R, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Minerals: Develop and manage new and existing aggregate sources in compliance with approved Rock Resource Development Plan and an approved environmental analysis.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mrnera1 resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed in a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to protect riparian and fishery values: meet State water quality standards, and insure that disturbed areas are reclaimed Insofar as practicable to a productive condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives. Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource input.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Human and Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human and Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to increase awareness and participation will be used.	N		
Human and Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise the traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human and Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human and Community Development: Identify opportunities for the Forest to coordinate resource activities with the interest of adjacent communities.	N		
Lands: Revise all special use permits to be consistent with the direction in thus management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility corridors when applications for rights-of-ways from public or private entities are received. Analyze any additional corridors with an environmental analysis.	N		
Lands: Use control measures to prohibit livestock access to chemically treated corridors.	N		
Lands: Direct applications for electronic sties toward use of sites in the following order: a. Utilizing residual capacity of existing sites, b. Develop new sites identified in the Forest-wide Electronic Site Plan.	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 POD Att. D
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Soils: Address the potential for detrimental soil displacement, compaction, peddling, severe burning, mass wasting and surface soil erosion In project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are Likely to result In detrimental displacement, compaction, mass wasting or erosion.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: No more than 10 percent of an activity area should be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices including roads and landings. Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue River National Forest landside, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Soils: Design management activities to retain effective ground cover The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined In the Rogue River National Forest Soil Resource Inventory. a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soil; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sties.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described In Forest Service Handbook 7709.55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria. These in turn will be used to develop: a. Road and Trail Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-Road Vehicle Management Strategies, h. Travel Maps and i. Closure Orders.			

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Facilities: Within sensitive soil resource Inventory land types as shown m Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management; b. Temporary roads will be planned, located, surveyed, designed, constructed and operated utilizing the same procedures for reviewing decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads; and c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	N		
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	N		
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Provide a low level of prevention activities limited primarily to public contact through patrol and fire prevention signing at campgrounds, rest areas, main access road junctions and information centers.	N		
Protection: Use prescription fire to obtain desired ecological characteristics of the area	N		
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	N		
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		
Protection: Each wildfire will have an appropriate response m accordance with the Rogue Rover National Forest Fire Management Pokey and Plan.	N		
Backcountry Non-Motorized 03 – Not Applicable, Excluded From Table			
Developed Recreation 04			
Recreation - Roaded Natural: Provide recreation developments at levels two through five (see Glossary for definitions).	N		
Recreation - Roaded Natural: Manage the area for Modification Visual Quality Objective.	N		
Recreation - Roaded Natural: Rehabilitate deteriorated recreation use areas.	N		
Recreation - Roaded Natural: Utilize private enterprise and other public agencies to manage National Forest recreation sites if warranted for efficient operation.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation - Roaded Natural: Prohibit hunting in this area.	N		
Recreation - Roaded Natural: Construct and operate facilities and sites to protect capital investments and public health and safety.	N		
Recreation - Roaded Natural: Off-road vehicles and standard vehicles shall only be permitted on the roads or trails not closed to such use.	N		
Recreation - Roaded Natural: Use fertilizer and seeding to maintain and enhance recreation sites or trails not closed to motorized use.	N		
Recreation - Roaded Natural: Recreation residences will not exceed the present level.	N		
Recreation - Roaded Natural: Assess the impacts to visual resources in all project environmental analysis. Analyze visual values in terms of degradation, maintenance or enhancement.	N		
Recreation - Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes In all project environmental analysts.	N		
Recreation - Roaded Natural: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed 'area of effect' of projects or elsewhere Document results of the investigation/Inventory in the project environmental analysis Inventory of non-project areas will be guided by the Forest's cultural resource inventory strategy.			
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Natural: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Natural: Mitigate potential adverse Impacts to significant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	N		
Recreation - Roaded Natural: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under an intensive recreation management strategy.	N		
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish and Plants: Emphasis will be on habitat improvement for watchable wildlife and maintaining or improving fish habitat. If significant changes in recreation use are planned because of changes in facilities or access, this will be coordinated with the State's Departments of Fish and Wildlife.	P, R	P, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.8.1.3 EIS App. F POD Att. S POD Att. DD
Wildlife, Fish and Plants: Permit wildlife and fish projects that do not conflict with recreation management activities and recreation resource values.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.8.1.3 EIS App. F POD Att. S POD Att. DD
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a project area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning. At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season. Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31. Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Resident Trout and Steelhead – Water quality law establishes a level of aquatic resource management that will maintain the Forest's fisheries habitat at a level capable of sustaining or exceeding minimum viable populations for the various species of anadromous and resident fish. Cold water production for both on and off Forest fish needs is identified as a principal objective for the Forest's streams. Maintain existing fish habitat capability and develop fish habitat improvement projects to fully utilize potential smolt production capability of Forest anadromous streams and resident fish in other streams and lakes Coordinate land management activities with the California Department of Fish and Game and Oregon Department of Fish and Wildlife objectives Natural debris, plus trees needed for a future supply, will be maintained and managed to 1) enhance stream channel and bank structure so as to protect water quality, and 2) provide structural fish habitat to meet the objectives of small habitat capability or resident fish populations provided for in the Forest Plan.	P, C, R, O	P, B, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. L POD Att. DD
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle sate management plan for each nesting or roosting area as it is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660foot radius around the nest. The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone _ All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant; 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles, Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest; 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking. timber harvest, road and water access into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees in which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found. The site plan design will be tailored to fit the landscape and the use patterns established by the bards The following may be included in the Plan. 1) Delineate the nest site (eyrie); 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie; 3) Withdraw the nest sate from mineral entry, 4) Restrict management activities and recreational use to September through January, 5) Allow no structural developments within the primary zone unless it benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie; 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie. 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and tertiary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphasis towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine bards. Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Where these lands fall within grazing allotment boundaries, portions with heavy use and development will be excluded from the allotment or classified as unusable range.	N		
Range: Developed recreation areas adjacent to rangelands will have livestock control, mainly fences or natural barriers to restrict livestock.	N		
Range: Small pasture allotments for individually owned recreation stock will not be allowed in this management area.	N		
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary. Allotment planning procedures are documented in FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Timber: Timber will be managed on a nonscheduled basis to meet recreation objectives. Objectives will be to: a. Reduce risk of public injury from hazardous frees and vegetation. b. Maintain or improve visual quality associated with the recreational experience of the area. c. Salvage and prevent catastrophic destruction of the vegetative cover (insects, diseases, fire, wind).	N		
Timber: Tractor logging will be done in a way, such as skidding over the snow, that prevents injuries to root systems and the spread of disease.	N		
Timber: Fuelwood gathering will normally be limited to cleaning up management activities.	N		
Timber: Manage vegetation on recreation sites, except for ski areas and snow play areas, to meet the following objectives: a. Understory screening with emphasis on broad leaf species. b. Multi-layered canopies c. Provide shade on approximately 60 percent of the area. d. Maintain a healthy, vigorous stand. e. Maintain clumpy, irregular spacing. f. Maintain or create a natural looking stand.	N		
Timber: Manage vegetation on ski and snow play areas to meet the needs of the activities while being compatible with other resource values.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been impacted by timber sale activities.	N		
Timber: All silvicultural prescriptions will be approved by a certified silviculturalist and reviewed by the Distinct Ranger.	N		
Timber: The logging system design for timber sales will be reviewed by logging systems specialists designated by the Forest Supervisor Reviewer for feasibility, silvicultural compatibility and economics.	N		
Timber: All silvicultural prescriptions and logging plans will be reviewed by a landscape architect for feasibility, silvicultural compatibility and the ability to meet developed recreation objectives.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Utilization standards for timber harvested will meet the standards as stated In the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and m Table 3-6 Standards m timber sale contracts may vary depending on markets and costs of harvesting.	N		
Timber: In seed collections, no seed lot shall be represented by fewer than 15 families of trees from that species, well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Water: Evaluate effects of proposed projects on stream courses. In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. 28
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. • Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, I needed.	P	P, B, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 POD Att. I POD Att. W POD Att. X POD Att. BB
Water: The following requirements will be employed in project implementation when proposed projects may affect streams. • Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26);	P, R	P, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS App. F EIS App. J POD Att. DD LMP Amendment RRNF-5
Water: The following requirements will be employed in project implementation when proposed projects may affect streams. • Locate springs that may be affected and evaluate for appropriate levels of protection. This would usually require consultation with soil, water or geology specialists.	P	P, B, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Sec. 4.2.2.5 EIS Sec. 4.4.1.2 POD Att. C3 POD Att. I
Water: The following requirements will be employed in project implementation when proposed projects may affect streams. • In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P	P, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.5 EIS App. J

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Element	Applicable	Consistency	Comment
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Water: Comply with the specific direction for management of each of the municipal watersheds as specified in management agreements between the U.S. Department of Agriculture or Forest and municipalities.	N		
Minerals: Areas not already withdrawn will be recommended for withdrawal from mineral entry.	N		
Minerals: Prohibit aggregate source development.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		

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Element	Applicable	Consistency	Comment
Human And Community Development: Inform the general public, including minorities and the underprivileged. of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Human And Community Development: Consider the needs of the handicapped in the design of facilities.	N		
Human And Community Development: Maintain and promote the HOST program.	N		
Human And Community Development: Promote volunteer programs.	N		
Lands: Mark area boundaries.	P, C, O, R	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Direct applications for electronic sites toward use of sites In the following order. a. Utilizing residual capacity of existing sites b. Developing new sites identified in the Forest-wide Electronic Site Plan	N		
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	N		
Soils: Alternative management practices will be developed or mitigation measures planned and implemented when activities are likely to result In detrimental displacement, compaction, mass wasting or erosion.	N		
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue River National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	N		
Soils: Rehabilitate adversely impacted sites.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Facilities: The Access Management Objectives Process, as described in Forest Service Handbook 7709.55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trail Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trawl Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-Road Vehicle Management Strategies, h. Travel Maps and i. Closure Orders	N		
Facilities: Water, sewer, and electrical systems are necessary for many facilities provided. This infrastructure shall be constructed and maintained to provide safe service without detracting from the experience provided at the site.	N		
Facilities: Signing is necessary to provide user information and safe use of sites. The following guidelines apply: a. Traffic signing shall meet applicable standards to provide for safe use by intended vehicles during inclement weather and hours of darkness. Where allowable under those standards, standards, pavement markings will be used in lieu of signs. b. Informational and interpretive signing shall be constructed as necessary to facilitate use of sites.	N		
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	N		
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service.	N		
Facilities: When new facilities are constructed and when existing facilities are substantially reconstructed, provisions shall be made for use by the physically handicapped.	N		
Facilities: Vegetation shall be established on substantial areas of disturbed ground within one year of completion of construction or other ground disturbing activities.	N		
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Suppress pest outbreaks with a minimum of disturbance to protect developments and/or users. Favor biological and silvicultural treatments where possible.	N		
Protection: Utilize integrated Pest Management strategies to prevent unacceptable losses. Monitor trees in developed sites for hazard to facilities and users. Remove hazard trees.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Provide a high level of fire prevention activities consisting of public contact through the use of media, including the use of low watt AM radio stations providing information emphasizing fire prevention as a part of the overall message. High visibility prevention activities include signing and personal public contact at all campgrounds and dispersed recreation areas, rest areas, main road junctions, heavily used public access points, information centers and local businesses.	N		
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	N		
Protection: Prescribed fire may be used to reduce hazardous fuel concentrations at the periphery of the site and to form fuelbreaks adjacent to high use, high fire occurrence areas. Burning will be planned so as to have a minimum impact on use of the recreation opportunities in the area.	N		
Protection: Design hazard reduction activities so that they are compatible with management strategy objectives.	N		
Protection: Slash disposal and other post-sale cleanup activities will be completed in cuffing areas prior to the beginning of the next recreation season. Some slash may be left for firewood for recreational use.	N		
Protection: Conduct prescribed burning in such a manner that It will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Protection: Recreation sites may be used as fire camps. However, fire camp activities shall not cause site damage. Appoint a resource specialist to advise the Incident Commander and/or Logistics Section Chief on the best use of the site.	N		
Special Interest Areas 05 – Not Applicable, Excluded From Table			
Foreground Retention 06			
Recreation - Roaded Natural: Manage the area for Retention Visual Quality Objective. Catastrophic occurrences may dictate a need for short term departure from Retention. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	P, C, O, R	P, B, R, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-2

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Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Design management activities to meet visual quality objective when viewed from travel routes and critical viewpoints.	P	P, B, R, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-2
Recreation - Roaded Natural: Design all projects with assistance of a landscape architect.	P, R	P, R, M, A	EIS Sec. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. F POD Att. A POD Att. DD LMP Amendment RRNF-2
Recreation - Roaded Natural: Correct unacceptable form, line, color or texture as a result of management activities either during the operation or within one year after completion of the activity.	P, R	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-2
Recreation - Roaded Natural: Rehabilitate deteriorated recreation use areas.	N		
Recreation - Roaded Natural: Provide for dispersed recreation activities such as hunting, fishing, gathering of forest products and scenic driving.	N		
Recreation - Roaded Natural: Manage trails and dispersed occupancy sites in a manner not in conflict with visual resource values.	N		
Recreation - Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all protect environmental analysis.	P, R	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-2

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Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Off-road vehicle use is permitted if evidence of use meets the visual quality objective. When this activity begins to adversely impact the visual qualities of these areas, restrictions will be imposed on off-road vehicle activities. These restrictions may include prohibition on types of equipment used, seasonal closures or total closures.	N		
Recreation - Roaded Natural: View shed plans will be prepared to provide project level direction for implementing the Forest Plan.	N		
Recreation - Roaded Natural: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed feature is addressed in an environmental analysis.	N		
Recreation - Roaded Natural: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed "area of effect" of projects or elsewhere Document results of the investigation/ inventory in the protect environmental analysts Inventory of non-project areas will be guarded by the Forest's cultural resource Inventory strategy.	N		
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Natural: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Natural: Mitigate potential adverse Impacts to sign& cant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	N		
Recreation - Roaded Natural: Inventory and protect cultural resources to insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses. Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	P, C, O	P, B, R	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under an intensive recreation management strategy.	N		

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Element	Applicable	Consistency	Comment
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish and Plants: Permit wildlife and fish projects that do not conflict with recreation management activities and recreation resource values.	N		
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl - Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight Into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation During the planning and scheduling phase of a timber sale or any other project activity that may Impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of Impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31 Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of the active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Goshawk nests will be protected within a 25 acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 60 percent of the potential population levels for cavity nesting species The distribution of numbers and size class necessary to meet 60 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 179 17+ / 36 25+ / 3 Total / 218 Siskiyou and Cascade True Fir Size / Number 15+ / 143 17+ / 11 25+ / 3 Total / 157	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand. Trees selected for retention should maximize use of the stands cull component. If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class (i.e., if 25" trees are not available go to 17" trees) Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements. The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs except for incidental amounts removed during management activities Additional green merchantable trees will not be designated unless none of the other categories exist The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true for working groups the life span is 20 years The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand information for the prescription will be provided by a wildlife biologist based on site by site needs A certified silviculturist will validate the data and include It in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres Including adjacent harvest units The Intent being to provide well distributed habitat and allow adjacent stands to provide the needed wildlife trees for past harvest units where the adjacent stands plus harvest units do not exceed 60 acres Where past harvest units were very large, the adjacent stands within 900 feet would be managed at higher wildlife tree levels to bring the overall area to the 40 percent level When the past harvest units were of such magnitude that the above methods cannot bring the entire area to the 40 percent level, the remaining shortage will not be provided for, but will be recorded and tracked for purposes of monitoring the forest plan Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until (5-7) years after project completion (sale closure), in order to capture any mortality that may occur during that time Operational accomplishment will be Included as a monitoring item in the forest plan.	P, C, O, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD
Wildlife, Fish and Plants: Deer and Elk - Maintain summer range to provide hiding and thermal cover Timber harvesting and/or thinning should provide hiding and thermal cover between treatment areas and roads with continuous vehicle use Hiding cover should be dense enough to hide 90 percent of a deer or elk from view at 200 feet Hiding cover need not be continuous but gaps between screens should not exceed one quarter of a mile A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Livestock grazing will be allowed.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns Where conflicts cannot be resolved or mitigated, relocation or removal of livestock will be considered.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary Allotment planning procedures are documented m FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Allow range Improvements that meet Retention Visual Quality Objectives.	N		
Range: Allow increases in permitted grazing use to capture increases in transitory range where compatible with Foreground Retention objectives.	N		
Range: Prescribe kind and amount of grass seeding in silviculture prescriptions.	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and Livestock. Utilization for grass and grass-like species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) IS:	N		
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements, simple grazing system.
2/ Extensive - Most or all improvements are non-structural, rotation grazing systems used
3/ Wide variety of structural and non-structural improvements, rotation grazing systems used

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Timber harvest will be scheduled in thus management strategy.	N		
Timber: When trees are cut for timber production objectives, the cutting shall be made in a way to assure that technology and knowledge exist to adequately restock the site within five years after final harvest (36 CFR 219 27(c)(3)).	N		
Timber: Timber harvesting shall only occur on lands classified as suitable for timber production except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives d the Forest Plan establishes that such actions are appropriate (36 CFR 219.27(c)(l)).	N		
Timber: Treat timber stands to achieve desired visual characteristics through the following practices. a. Sate preparation - chemical, mechanical, biological and manual; b. Tree improvement (genetics); c. Reforestation by planting Random natural seeding will count towards reaching desired stocking; d. Growing stock protection from animals, insects and diseases; e. Release and weeding - chemical, mechanical, biological and manual: f. Precommercial thinning; g. Commercial thinning, h. Salvage mortality as necessary, i. Final Harvest - even-aged silvicultural system using shelterwood, seed tree or clearcut methods The shelterwood method will probably be the most common, however, selection will be determined by the environmental assessment process and documented in a site-specific silvicultural prescription.	N		
Timber: The selection of the appropriate silvicultural system will be guarded by the following criteria: a. Must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest. b. Must permit the use of an available and acceptable logging method. c. Must be capable of providing special conditions when required by critical soil conditions or needed to achieve management objectives. d. Must permit control of existing or potential vegetation to a degree that establishment of numbers of trees and rates of growth as identified In site-specific silvicultural prescriptions for harvest areas can be achieved. e. Must promote stand structure and species composition which avoids serious risk of damage from mammals, Insects, disease or wildfire and will allow treatment of existing Insect, disease or fuel conditions. f. Must meet resource and vegetation management objectives.	N		
Timber: Utilize uneven-aged management if specific site and vegetation characteristics lend the area to this type of management.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Manage the area for an overall mix of size classes of trees for visual as well as biological diversity. The following mix of size class types can be used as a guideline. The specific distribution will be determined in a project implementation plan. Size Class / % of Land Area 30”-36” 30 22”-30” 30 16”-22” 15 9”-16” 15 0”-9” 10	N		
Timber: Emphasize the viewing of large diameter Douglas-fir, ponderosa pine, sugarpine or Shasta fir species. Emphasize other species where appropriate. Plan for dispersal of target trees to give the overall Character of large trees to the whole area.	N		
Timber: Design “created openings” to meet the visual quality objective. The size of a created opening could vary from less than l/4 acre in the immediate foreground (generally within 200 feet of a travel route) to 3 acres in the distant foreground. The size of created openings adjacent to trails generally will be much less than this.	N		
Timber: The timber harvested area will no longer be considered a created opening for visual purposes when trees are 20 feet in height.	N		
Timber: Provide a variety of views into the forest and the adjacent landscape. Provide irregular shaped openings to create the overall impression of an undisturbed landscape. Emphasize a mix of deciduous shrub and ground cover species such as dogwood or vine maple.	N		
Timber: As a guideline, no more than 3.3 percent of the viewed area per decade, or 6.6 percent at any one time, will be in a created opening condition.	N		
Timber: Permit created openings along a route of not more than 600 ft. per mile and not more than 300 feet continuously.	N		
Timber: Utilize irregular spacing when thinning.	N		
Timber: Create irregular patterns with plantings with a blend of tree species, approximating natural stands In seed collections no seed lot shall be represented by fewer than 15 families of trees of that species, well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Emphasize a high edge per acre ratio on all even-aged units.	N		
Timber: Make miscellaneous forest products such as poles, posts, boughs, Christmas trees, house logs, etc., available on an as needed basis consistent with the resource objectives of this management area.	N		
Timber: Provide access to potential fuelwood when appropriate Bring fuelwood to convenient points in timber sale or thinning areas Utilize appropriate timber sale clauses or modify fuels management prescriptions to meet this objective.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Allow commercial fuelwood contracts for slash disposal, thinning and site preparation.	N		
Timber: Open slash areas to fuelwood gathering prior to traditional disposal methods.	N		
Timber: Leave slash as a fuelwood source where there is no conflict with resource activity.	N		
Timber: Consider using the fuelwood program as a means to meet silvicultural objectives in appropriate areas, such as low productivity stands or other stands prior to reaching commercial size.	N		
Timber: Consider the season of year and access when implementing a fuelwood program. The public will be encouraged to burn dry wood.	N		
Timber: Document fuelwood availability for public uses in project environmental analysis.	N		
Timber: Be responsive to the needs of the public for fuelwood.	N		
Timber: Create a Forest fuelwood and miscellaneous products policy to include fuelwood Inventory.	N		
Timber: Stumps visible from and within 200 feet of critical travel routes or viewpoints will be a maximum height of 12 inches on the high side of the stump.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been Impacted by timber sale activities.	N		
Timber: All silvicultural prescriptions will be approved by a certified silviculturalist and reviewed by the District Ranger and Landscape Architect.	N		
Timber: Reforestation, precommercial thinning and release to meet recommended stocking will be addressed with sate specific silvicultural prescriptions.	N		
Timber: The logging system design for timber sales will be reviewed by logging systems specialists and landscape architect Review for feasibility, silviculture compatibility and economics.	N		
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
UTILIZATION STANDARDS	N		

Type Tree	Minimum dbh.	Minimum Top dib
First Decade Existing mature trees, except lodge-pole pine (first and future decades)	9	6
Existing commercial thinning size trees and lodgepole pine	7	4
Future Decades All species, except surviving stands of first decade existing mature	7	4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Sec. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, if needed; b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26); c. Locate springs that may be affected and evaluate for appropriate levels of protection This would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD. Att. 3 POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, B, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD. Att. 3 POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Comply with the specific direction for management of each of the municipal watersheds as specified in management agreements between the U.S. Department of Agriculture or Forest and municipalities.	N		
Minerals: Manage existing aggregate sources in compliance with approved Rock Resource Development Plan and an environmental analysis.	N		
Minerals: Rehabilitate aggregate source sites to meet Retention Visual Quality Objective.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Direct applications for electronic sates toward use of sates in the following order. a. Utilizing residual capacity of existing Sates b. Develop new sates identified in the Forest-wade Electronic Site Plan	N		
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result in detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5..1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described in Forest Service Handbook 7709.55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	N		
Facilities: The road system necessary for management of this area will be planned and constructed to minimize the number of intersections with the State Highway, County Road, or Forest Arterial Road along which the scenic management corridor is located. Where possible, local road access for logging will be from the “back side” using spurs from road systems parallel to the Highway.	N		
Facilities: Landscape architect and traffic engineering input will be required for design and operation of intersections of Forest roads with the Highway.	N		
Facilities: Where it is necessary to close a Forest route intersecting the Highway on a seasonal or intermittent basis, the closure shall be designed to achieve the visual qualify objective as viewed from the Highway.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management; b. Temporary roads will be planned, located, surveyed, designed, constructed and operated utilizing the same procedures for reviewing decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads; and c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service. Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Facilities: Power lines and other utilities shall be constructed, operated, and maintained to achieve the visual quality objective as viewed from the Highway.	P, C, R, O	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Sec. 4.1.3.4 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-4
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Suppress pests when outbreaks threaten managed resources and/or users. Use methods that minimize site disturbance.	N		
Protection: Utilize integrated Pest Management strategies to prevent unacceptable damage in visual corridors. Manual, mechanical end cultural methods are emphasized.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Protection: Provide a high level of fire prevention activities consisting of public contact through the use of media, including the use of low watt AM radio stations providing information emphasizing fire prevention is a part of the overall message. High visibility prevention activities include signing and personal public contact et all campgrounds and dispersed recreation areas, rest areas, main road junctions, heavily used public access points, information centers and local businesses.	N		
Protection: Prescription fire is not generally compatible with this management area.	N		
Protection: Treat activity fuels to a level which meets protection standards end resource objectives in a cost-efficient manner.	N		
Protection: Hazard reduction activities will be compatible with management are objectives.	N		
Protection: Design fuelbreaks to meet the natural characteristics of the area.	N		
Protection: Integrate fuelbreak construction with vegetation management projects.	N		
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Foreground Partial Retention 07			
Recreation – Roaded Natural: Manage the area for Partial Retention Visual Quality Objective. Catastrophic occurrences may dictate a need for short-term departure from Partial Retention Visual Quality Objective. Blend and shape regeneration openings with the natural terrain to the extent possible. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	P, C, O, R	P, B, R, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec.3.4.1.31 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-3
Recreation – Roaded Natural: Design management activities to meet visual quality objective when viewed from travel routes and critical viewpoints.	P	P, B, R, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec.3.4.1.31 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-3

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation – Roaded Natural: Design projects having high visual impacts with assistance of a landscape architect.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. F POD Att. A POD Att. DD
Recreation – Roaded Natural: Correct unacceptable form, fine, color or texture as a result of management activities either during the operation or within two years after completion of the activity.	P, R	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec.3.4.1.31 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-3
Recreation – Roaded Natural: Rehabilitate deteriorated recreation use areas.	N		
Recreation – Roaded Natural: Provide for dispersed recreation activities such as hunting, fishing gathering of forest products and scenic driving.	N		
Recreation – Roaded Natural: Manage trails and dispersed occupancy sites in a manner not in conflict with visual resource values.	N		
Recreation – Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all project environmental analysis.	N		
Recreation – Roaded Natural: Off-road vehicle use is permitted if evidence of use meets the visual quality objective. When this activity begins to adversely impact the visual qualities of these areas, restrictions will be imposed on off-road vehicle activities. These restrictions may include prohibition on types of equipment used, seasonal closures or total closures.	N		
Recreation – Roaded Natural: Viewshed plans will be prepared to provide project level direction for implementing the Forest Plan.	N		
Recreation - Roaded Natural: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed feature is addressed in an environmental analysis.	N		
Recreation - Roaded Natural: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed “area of effect” of projects or elsewhere. Document results of the investigation/ inventory in the protect environmental analysts Inventory of non-project areas will be guarded by the Forest’s cultural resource Inventory strategy.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Natural: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Natural: Mitigate potential adverse Impacts to sign& cant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	N		
Recreation - Roaded Natural: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under a foreground partial retention management strategy.	N		
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish and Plants: Permit wildlife and fish projects that do not conflict with recreation management activities and recreation resource values.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.8.1.3 EIS App. F POD Att. S POD Att. DD

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service (PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl - Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight Into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation During the planning and scheduling phase of a timber sale or any other project activity that may Impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of Impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31 Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of the active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Goshawk nests will be protected within a 25 acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 60 percent of the potential population levels for cavity nesting species The distribution of numbers and size class necessary to meet 60 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 179 17+ / 36 25+ / 3 Total / 218 Siskiyou and Cascade True Fir Size / Number 15+ / 143 17+ / 11 25+ / 3 Total / 157	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand Trees selected for retention should maximize use of the stands cull component If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class (i.e., if 25" trees are not available go to 17" trees) Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs except for incidental amounts removed during management activities Additional green merchantable trees will not be designated unless none of the other categories exist The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true for working groups the life span is 20 years The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand information for the prescription will be provided by a wildlife biologist based on site by site needs A certified silviculturist will validate the data and include It in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres Including adjacent harvest units The Intent being to provide well distributed habitat and allow adjacent stands to provide the needed wildlife trees for past harvest units where the adjacent stands plus harvest units do not exceed 60 acres Where past harvest units were very large, the adjacent stands within 900 feet would be managed at higher wildlife tree levels to bring the overall area to the 40 percent level When the past harvest units were of such magnitude that the above methods cannot bring the entire area to the 40 percent level, the remaining shortage will not be provided for, but will be recorded and tracked for purposes of monitoring the forest plan Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until (5-7) years after project completion (sale closure), in order to capture any mortality that may occur during that time Operational accomplishment will be Included as a monitoring item in the forest plan.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L
Wildlife, Fish and Plants: Deer and Elk - Maintain summer range to provide hiding and thermal cover. Timber harvesting and/or thinning should provide hiding and thermal cover between treatment areas and roads with continuous vehicle use. Hiding cover should be dense enough to hide 90 percent of a deer or elk from view at 200 feet Hiding cover need not be continuous but gaps between screens should not exceed one quarter of a mile. A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Livestock grazing will be allowed. Grazing may be encouraged to provide added scenic variety.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns Where conflicts cannot be resolved or mitigated, relocation or removal of livestock will be considered.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary Allotment planning procedures are documented m FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Allow range improvements that meet partial retention.	N		
Range: Allow increases in permitted grazing use to capture increases in transitory range where this is compatible with Foreground Partial Retention objectives.	N		
Range: Prescribe kind and amount of grass seeding in silviculture prescriptions.	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and Livestock. Utilization for grass and grass-like species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) IS:	N		
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements; simple grazing system.
2/ Extensive - Most or all improvements are non-structural, rotation grazing systems used
3/ Wide variety of structural and non-structural improvements, rotation grazing systems used

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Timber harvest will be scheduled in thus management strategy.	N		
Timber: When trees are cut for timber production objectives, the cutting shall be made in a way to assure that technology and knowledge exist to adequately restock the site within five years after final harvest (36 CFR 219.27(c)(3)).	N		
Timber: Timber harvesting shall only occur on lands classified as suitable for timber production except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives d the Forest Plan establishes that such actions are appropriate (36 CFR 219.27(c)(l)).	N		
Timber: Treat timber stands to achieve desired visual characteristics through the following practices. a. Sate preparation - chemical, mechanical, biological and manual and prescribed fire; b. Tree improvement (genetics); c. Reforestation by planting. Random natural seeding will count towards reaching desired stocking; d. Growing stock protection from animals, insects and diseases; e. Release and weeding - chemical, mechanical, biological and manual prescribed fire; f. Precommercial thinning; g. Fertilization; h. Commercial thinning; i. Salvage mortality as necessary; j. Final Harvest - even-aged silvicultural system using shelterwood, seed tree or clearcut methods The shelterwood method will probably be the most common, however, selection will be determined by the environmental assessment process and documented in a site-specific silvicultural prescription.	N		
The even-aged silvicultural system will be the most commonly used system in coniferous forests The uneven-aged silvicultural system may be used when healthy, fully stocked, uneven aged stands exist or can be created by identified treatments within a defined time period The selection of the appropriate silvicultural system will be guided by the following criteria. a. Must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest. b. Must permit the use of an available and acceptable logging method. c. Must be capable of providing special conditions when required by critical soil conditions or needed to achieve management objectives. d. Must permit control of existing or potential vegetation to a degree that establishment of numbers of trees and rates of growth as identified In site-specific silvicultural prescriptions for harvest areas can be achieved. e. Must promote stand structure and species composition which avoids serious risk of damage from mammals, Insects, disease or wildfire and will allow treatment of existing Insect, disease or fuel conditions. f. Must meet resource and vegetation management objectives.	N		
Timber: Utilize uneven-aged management if specific site and vegetation characteristics lend the area to this type of management.	N		

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Element	Applicable	Consistency	Comment
Timber: Manage the area for an overall mix of size classes of trees. The following mix of size class types should be achieved as the overall long term objective for the viewshed: Size Class — % of Land Area 22”-30” — 43 16”-22” — 21 9”-16” — 22 0”-9” — 14	N		
Timber: Emphasize the viewing of large diameter Douglas-fir, ponderosa pine, sugar pine or Shasta fir. Emphasize other species where appropriate. Plan for dispersal of target trees to give the overall character of large trees to the whole area.	N		
Timber: Design “created openings” to meet visual quality objective. The normal maximum size of “created openings” is 5 acres along roads and 3 acres along trails. Unit size applies to all even-aged regeneration units. Exceptions can be designed through the environmental analysis process.	N		
Timber: The timber harvested area will no longer be considered a created opening for visual purposes when trees are 20 feet in height.	N		
Timber: Provide a variety of views into the forest and the adjacent landscape.	N		
Timber: Provide irregular shaped openings to create the overall impression of an undisturbed landscape.	N		
Timber: Created openings will be no more than 4.8 percent of the viewed area per decade with a maximum of 9.6 percent at any one time.	N		
Timber: Permit created openings along a route of not more than 800 ft. per mile and not more than 450 ft. continuously.	N		
Timber: Emphasize a mix of deciduous shrub and ground cover species such as dogwood or vine maple.	N		
Timber: Utilize irregular spacing when thinning.	N		
Timber: Create irregular patterns with plantings with a blend of tree species, approximating natural stands In seed collections no seed lot shall be represented by fewer than 15 families of trees of that species, well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Emphasize a high edge per acre ratio on all even-aged units.	N		
Timber: Make miscellaneous forest products such as poles, posts, boughs, Christmas trees, house logs, etc., available on an as needed basis consistent with the resource objectives of this management area.	N		

TABLE E-6

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Element	Applicable	Consistency	Comment
Timber: Provide access to potential fuelwood when appropriate Bring fuelwood to convenient points in timber sale or thinning areas Utilize appropriate timber sale clauses or modify fuels management prescriptions to meet this objective.	N		
Timber: Allow commercial fuelwood contracts for slash disposal, thinning and site preparation.	N		
Timber: Open slash areas to fuelwood gathering prior to traditional disposal methods.	N		
Timber: Leave slash as a fuelwood source where there is no conflict with resource activity.	N		
Timber: Consider using the fuelwood program as a means to meet silvicultural objectives in appropriate areas, such as low productivity stands or other stands prior to reaching commercial size.	N		
Timber: Consider the season of year and access when implementing a fuelwood program. The public will be encouraged to burn dry wood.	N		
Timber: Document fuelwood availability for public uses in project environmental analysis.	N		
Timber: Be responsive to the needs of the public for fuelwood.	N		
Timber: Create a Forest fuelwood and miscellaneous products policy to include fuelwood Inventory.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been Impacted by timber sale activities.	N		
Timber: All silvicultural prescriptions will be approved by a certified silviculturalist and reviewed by the District Ranger and Landscape Architect.	N		
Timber: Reforestation, precommercial thinning and release to meet recommended stocking will be addressed with sate specific silvicultural prescriptions.	N		
Timber: The logging system design for timber sales will be reviewed by logging systems specialists and landscape architect Review for feasibility, silviculture compatibility and economics.	N		
Timber: All silvicultural prescriptions and logging plans will be reviewed by a landscape architect for feasibility silvicultural compatibility and the ability to meet the foreground partial retention Visual Qualify Objective.	P	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 3.4.1.31 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. U LMP Amendment RRNF-3
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
UTILIZATION STANDARDS	N		

Type Tree	Minimum dbh	Minimum Top dib.
First Decade Existing mature trees, except lodgepole pine (first and future decades)	9	6
Existing commercial thinning size trees and lodgepole pine	7	4
Future Decades All species, except surviving stands of first decade existing mature	7	4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in project implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, if needed; b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26); c. Locate springs that may be affected and evaluate for appropriate levels of protection This would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Water: Comply with the specific direction for management of each of the municipal watersheds as specified in management agreements between the U.S. Department of Agriculture or Forest and municipalities.	N		
Minerals: Develop and manage new and existing aggregate sources in compliance with approved Rock Resource Development Plan and an approved environmental analysis.	N		
Minerals: Rehabilitate aggregate source sites to meet Partial Retention Visual Quality Objectives.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Direct applications for electronic sites toward use of sites in the following order. a. Utilizing residual capacity of existing Sates b. Develop new sates identified in the Forest-wade Electronic Site Plan	N		
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	N		
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T1
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, C, R	P, B, R, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5..1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I

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Element	Applicable	Consistency	Comment
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709.55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	N		
Facilities: The road system necessary for management of this area will be planned and constructed to minimize the number of intersections with the State Highway, County Road, or Forest Arterial Road along which the scenic management corridor is located. Where possible, local road access for logging will be from the “back side” using spurs from road systems parallel to the highway.	N		
Facilities: Landscape architect and traffic engineering input will be required for design and operation of intersections of Forest roads with the Highway.	N		
Facilities: Where it is necessary to close a Forest route intersecting the Highway on a seasonal or intermittent basis, the closure shall be designed to achieve the visual quality objective as viewed from the Highway.	N		
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management; b. Temporary roads will be planned, located, surveyed, designed, constructed and operated utilizing the same procedures for reviewing decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads; and c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		

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Element	Applicable	Consistency	Comment
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P	P, R	EIS Sec. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Facilities: Power lines and other utilities shall be constructed, operated, and maintained to achieve the visual quality objective as viewed from the Highway.	P, C, R, O	P, B, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Sec. 4.1.3.4 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-3
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Suppress pests when outbreaks threaten managed resources and/or users. Use methods that minimize site disturbance.	N		
Protection: Utilize integrated Pest Management strategies to prevent unacceptable damage in visual corridors. Manual, mechanical end cultural methods are emphasized.	N		
Protection: Provide a moderate level of fire prevention activities consisting of: public contact through the use of media and personal contact at campgrounds and dispersed recreation areas; and fire prevention signing at campgrounds, rest areas, main road junctions, information centers and local businesses.	N		
Protection: Use prescription fire to obtain the dewed ecological characteristics of the area.	N		
Protection: Treat activity fuels to a level which meets protection standards and resource objectives In a cost-effluent manner.	N		
Protection: Hazard reduction activities will be compatible with management area objectives.	N		
Protection: Design fuel breaks to meet the natural characteristics of the area.	N		
Protection: Integrate fuel break construction with vegetation management projects.	N		

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Element	Applicable	Consistency	Comment
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Middleground Retention 08 – Not Applicable, Excluded From Table			
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Middleground Partial Retention 09			
Recreation – Roaded Natural: Manage the area for Partial Retention Visual Quality Objective. Catastrophic occurrences may dictate a need for short term departure from partial retention. Blend and shape regeneration openings with the natural terrain to the extent possible. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	P, C, R, O	P, B, R, A	EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. S LMP Amendment RRNF-4
Recreation - Roaded Natural: Design recreation developments to meet Partial Retention Visual Quality Objectives when viewed from travel routes and critical viewpoints.	N		
Recreation - Roaded Natural: Design projects having high visual impacts with assistance of a landscape architect.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. F POD Att. A POD Att. DD
Recreation - Roaded Natural: Provide for dispersed recreation activities such as hunting, fishing, gathering of forest products and scenic driving.	N		
Recreation - Roaded Natural: Rehabilitate deteriorated recreation use areas.	N		
Recreation - Roaded Natural: Manage trails and dispersed occupancy sites in a manner not in conflict with visual resource values.	N		
Recreation - Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all project environmental analysis.	P	P, A	EIS Sec. 2.1.3.6 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. S LMP Amendment RRNF-4

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Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed feature is addressed in an environmental analysis.	N		
Recreation - Roaded Natural: Viewshed plans will be prepared to provide project level direction for implementing the Forest Plan.	N		
Recreation - Roaded Natural: Investigate area to Inventory archaeological, historical or other cultural resource properties which may be located within the proposed "area of effect" of projects or elsewhere. Document results of the investigational inventory in the project environmental analysts Inventory of non-project areas will be guided by the Forest's cultural Inventory strategy.	P	P	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	P, C, R, O	P, B	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
Recreation - Roaded Natural: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	P	P	EIS Sec. 4.11.3.3
Recreation - Roaded Natural: Mitigate potential adverse impacts to significant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	P, C, R, O	P, B, R	EIS Sec. 3.4.3 EIS Sec. 4.11.3.3 EIS Sec. 4.11.4 POD Att. Z
Recreation - Roaded Natural: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses. Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	P, C, O	P, B, R	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	P	P	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Sec. 4.11.3.3 EIS Sec. 4.11.5

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Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Off-road vehicle recreation use on roads, trails or areas is permissible, if not in conflict with strategy goals and objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Sec. 4.3.2.1 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Sec. 4.8.2.3 EIS Secs. 4.10.2.5 & 4.10.2.6 POD Att. A POD Att. S POD Att. Y
Wilderness: This element is not applicable under a middleground partial retention management strategy.	N		
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish and Plants: Permit wildlife and fish projects that do not conflict with recreation management activities and recreation resource values.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.8.1.3 EIS App. F POD Att. S POD Att. DD
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Biological evaluations (FSM 2672 4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a project area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl - Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight Into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation During the planning and scheduling phase of a timber sale or any other project activity that may Impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of Impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31 Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of the active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Goshawk nests will be protected within a 25 acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 60 percent of the potential population levels for cavity nesting species The distribution of numbers and size class necessary to meet 60 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 179 17+ / 36 25+ / 3 Total / 218 Siskiyou and Cascade True Fir Size / Number 15+ / 143 17+ / 11 25+ / 3 Total / 157	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand Trees selected for retention should maximize use of the stands cull component If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class (i.e., if 25" trees are not available go to 17" trees) Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs except for incidental amounts removed during management activities Additional green merchantable trees will not be designated unless none of the other categories exist The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true for working groups the life span is 20 years The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand information for the prescription will be provided by a wildlife biologist based on site by site needs A certified silviculturist will validate the data and include It in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres Including adjacent harvest units The Intent being to provide well distributed habitat and allow adjacent stands to provide the needed wildlife trees for past harvest units where the adjacent stands plus harvest units do not exceed 60 acres Where past harvest units were very large, the adjacent stands within 900 feet would be managed at higher wildlife tree levels to bring the overall area to the 40 percent level When the past harvest units were of such magnitude that the above methods cannot bring the entire area to the 40 percent level, the remaining shortage will not be provided for, but will be recorded and tracked for purposes of monitoring the forest plan Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until (5-7) years after project completion (sale closure), in order to capture any mortality that may occur during that time Operational accomplishment will be Included as a monitoring item in the forest plan.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD
Wildlife, Fish and Plants: Deer and Elk - Maintain summer range to provide forage, hiding and thermal cover at or above 20 percent level In addition, where consistent with the goal statement of this strategy, maintain 40 percent of each 500-l,000-acre area of non-critical deer and elk wintering area in a condition to provide for thermal cover Timber harvesting and/or thinning should provide hiding and thermal cover between treatment areas and roads with continuous vehicle use Hiding cover should be dense enough to hide 90 percent of a deer or elk from view at 200 feet Hiding cover need not be continuous but gaps between screens should not exceed one-quarter of a mile A restricted operating period from April 1 to June 30 may be Imposed in identified deer or elk fawning or calving areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Range: Permit livestock grazing on transitory ranges under the following situations: a. Where forage occurs in natural stands or as a result of site disturbance and/or timber canopy removal on a periodic basis. b. Where disturbed sites and/or areas under timber management can be seeded with species which improve forage production and does not restrict tree establishment and growth. (FSM 2521.02, RR Supplement #6, 2173) c. On forest plantations when livestock will not damage the young trees.	N		
Range: Permit livestock grazing on primary and secondary range.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns Where conflicts cannot be resolved or mitigated, relocation or removal of livestock will be considered.	N		
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary Allotment planning procedures are documented m FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Allow range improvements.	N		
Range: Allow increases In permitted grazing use to capture increases in transitory range where this is compatible with Middleground Partial Retention objectives.	N		
Range: Prescribe kind and amount of grass seeding in silviculture prescriptions.	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and Livestock. Utilization for grass and grass-like species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) IS:	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements, simple grazing system.
2/ Extensive - Most or all improvements are non-structural, rotation grazing systems used
3/ Wide variety of structural and non-structural improvements, rotation grazing systems used

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Timber harvest will be scheduled.	N		
Timber: When trees are cut for timber production objectives, the cutting shall be made in a way to assure that technology and knowledge exist to adequately restock the site within five years after final harvest (36 CFR 219 27(c)(3)).	N		
Timber: Timber harvesting shall only occur on lands classified as suitable for timber production except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives d the Forest Plan establishes that such actions are appropriate (36 CFR 219 27(c)(l)).	N		
Timber: Treat timber stands to achieve desired visual characteristics through the following practices. a. Site preparation - chemical, mechanical, biological and manual and prescribed fire; b. Tree improvement (genetics); c. Reforestation by planting Random natural seeding will count towards reaching desired stocking; d. Growing stock protection from animals, insects and diseases; e. Release and weeding - chemical, mechanical, biological and manual and prescribed fire; f. Precommercial thinning; g. Fertilization; h. Commercial thinning; i. Salvage mortality as necessary; j. Final Harvest - even-aged silvicultural system using shelterwood, seed tree or clearcut methods The shelterwood method will probably be the most common, however, selection will be determined by the environmental assessment process and documented in a site-specific silvicultural prescription.	N		
Timber: Provide a mosaic of vegetative textures with natural shaped openings that are evident but are not dominant.	N		
Timber: The normal maximum size of “created openings” is 15 acres. Unit size applies to all even-aged regression units. Exceptions can be designed through the environmental analysis process.	N		
Timber: Created openings will be separated by areas generally not classed as created openings. The areas between created openings shall contain one or more logical harvest units. These areas shall be large enough and contain a stand structure to meet resource requirements of the management area. The total area of created openings contiguous to 30 acre or larger natural openings should normally be limited to an area not exceeding l/3 the size of the natural opening and not occupying more than l/3 of the natural opening perimeter. Openings should not be created adjacent to any natural openings unless adequate vegetation along the edge can be developed or retained in sufficient density to protect values and visual management objectives. The determination of adequate vegetation will be made by an appropriate interdisciplinary team.	N		
Timber: The timber harvested area will no longer be considered a created opening for visual purposes when trees are 20 feet in height and free to grow.	N		
Timber: Provide a minimum of 600 feet between created openings.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Created openings will be no more than 7 percent of the viewed area per decade with a maximum of 14 percent at any one time.	N		
Timber: Emphasize a high edge per-acre ratio on all even-aged units.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been Impacted by timber sale activities.	N		
Timber: All silvicultural prescriptions will be approved by a certified silviculturalist and reviewed by the Distinct Ranger.	Yes? P, R	P, B, M	EIS Secs. 1.5.2.1 & 1.5.2.2 EIS Sec. 2.4.2.1 EIS Sec. 2.1.4 EIS App. F POD Att. I POD Att. U POD Att. DD
Timber: The logging system design for umber sales will be reviewed by logging systems specialists designated by the Forest Supervisor Review for feasibility, silvicultural compatibility and economics.	N		
Timber: The even-aged silvicultural system will be the most commonly used system m coniferous forests. The uneven-aged silvicultural system may be used when healthy, fully stocked, uneven-aged stands exist or can be created by identified treatments within a defined time period The selection of the appropriate silvicultural system will be guided by the following criteria. a. Must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest. b. Must permit the use of an available and acceptable logging method. c. Must be capable of providing special conditions when required by critical soil conditions or needed to achieve management objectives. d. Must permit control of existing or potential vegetation to a degree that establishment of numbers of trees and rates of growth as identified In site-specific silvicultural prescriptions for harvest areas can be achieved. e. Must promote stand structure and species composition which avoids serious risk of damage from mammals, Insects, disease or wildfire and will allow treatment of existing Insect, disease or fuel conditions. f. Must meet resource and vegetation management objectives Identified for this management area.	N		
Timber: Strive for reasonably balanced acreage in each age class to obtain diversity in each locator area.	N		
Timber: Reforestation, precommercial thinning and release to meet recommended (full) stocking will be addressed with site-specific silvicultural prescriptions.	N		
Timber: Set harvest treatment priorities by cut categories on each District so that the stands most needing treatment are done first, wherever reasonably possible.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Maintain a blend of tree species approximating natural stands In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Make miscellaneous forest products such as poles, posts, boughs, Christmas trees, house logs, etc., available on an as needed basis consistent with the resource objectives of this management area.	N		
Timber: Provide access to potential fuelwood when appropriate Bring fuelwood to convenient points in timber sale or thinning areas Utilize appropriate timber sale clauses or modify fuels management prescriptions to meet this objective.	N		
Timber: Allow commercial fuelwood contracts for slash disposal, thinning and site preparation.	N		
Timber: Open slash areas to fuelwood gathering prior to traditional disposal methods.	N		
Timber: Leave slash as a fuelwood source where there is no conflict with resource activity.	N		
Timber: Consider using the fuelwood program as a means to meet silvicultural objectives in appropriate areas, such as low productivity stands or other stands prior to reaching commercial size.	N		
Timber: Consider the season of year and access when implementing a fuelwood program. The public will be encouraged to burn dry wood.	N		
Timber: Document fuelwood availability for public uses in project environmental analysis.	N		
Timber: Be responsive to the needs of the public for fuelwood.	N		
Timber: Create a Forest fuelwood and miscellaneous products policy to include fuelwood Inventory.	N		
Timber: All silvicultural prescriptions and logging plans will be reviewed by a landscape architect for feasibility, silvicultural compatibility and the ability to meet middleground partial/ retention Visual Quality Objective.	N		
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		

TABLE E-6

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Element	Applicable	Consistency	Comment
UTILIZATION STANDARDS	N		

Type Tree	Minimum dbh.	Minimum Top dib
First Decade Existing mature trees, except lodge-pole pine (first and future decades)	9	6
Existing commercial thinning size trees and lodgepole pine	7	4
Future Decades All species, except surviving stands of first decade existing mature	7	4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted; b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards; e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected; f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards; g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, if needed; b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26); c. Locate springs that may be affected and evaluate for appropriate levels of protection This would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Minerals: Develop and manage new and existing aggregate sources in compliance with approved Rock Resource Development Plan and an approved environmental analysis.	N		
Minerals: Rehabilitate aggregate source sites to meet Retention Visual Quality Objective.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Direct applications for electronic sates toward use of sates in the following order. a. Utilizing residual capacity of existing Sates b. Develop new sates identified in the Forest-wade Electronic Site Plan	N		
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	N		
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709 55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trail Design Elements, b. Road and Trail Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	P	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.6.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Facilities: Road clearing and excavation shall be designed to fit the natural patterns of form, line and texture of the landscape and meet the visual quality objective.	P	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. U POD Att. Y
Facilities: New helispots, rock pits, and borrow areas will meet the visual quality objective.	N		
Facilities: Existing roads and facilities that do not meet the visual quality objective shall be identified. Long term plans shall be implemented to rehabilitate these facilities.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management b. Temporary roads will be planned, located, surveyed, designed, constructed, and operated utilizing the same procedures for renewing, decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage	P, C, R, O	P, B, R	EIS Secs. 2.3.2.1 - 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 EIS Sec. 4.2.3.1 EIS Sec. 4.3.3.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	N		
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	P	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. I POD Att. N POD Att. X
Protection: Suppress pests when outbreaks threaten managed resources and/or users. Use methods that minimize site disturbance.	P, C, O, R	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. I POD Att. N POD Att. X
Protection: Utilize integrated Pest Management strategies to prevent unacceptable damage in visual corridors. Manual, mechanical end cultural methods are emphasized.	P, C, O, R	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.8.2.3 POD Att. I POD Att. N POD Att. X
Protection: Provide a moderate level of fire prevention activities consisting of: public contact through the use of media and personal contact at campgrounds and dispersed recreation areas; and fire prevention signing at campgrounds, rest areas, main road junctions, information centers and local businesses.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Protection: Use prescription fire to obtain the desired ecological characteristics of the area.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	P, C, R, O	P, B	EIS Secs. 4.1.3.5 EIS Sec. 4.5.2.3 EIS App. J POD Att. K POD Att. R
Protection: Hazard reduction activities will be compatible with management area objectives.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Design fuel breaks to meet the natural characteristics of the area.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Protection: Integrate fuel break construction with vegetation management projects.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	P, C, R, O	P, B	EIS Sec. 1.5.1.8 EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 EIS App. H EIS App. J POD Att. I POD Att. R

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Wild River 10 – Not Applicable, Excluded From Table			
Scenic River – Not Applicable, Excluded From Table			
Botanical Area 12 – Not Applicable, Excluded From Table			
Wilderness 13 – Not Applicable, Excluded From Table			
Big Game Winter Range 14			
Recreation - Roaded Modified: Manage the area for Modification Visual Qualify Objective. Blend and shape regeneration openings with the natural terrain to the extent possible. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	N		
Recreation - Roaded Modified: Allow for dispersed recreation activities such as hunting, fishing and the gathering of forest products	N		
Recreation - Roaded Modified: Manage trails, motorized and nonmotorized recreation use, dispersed occupancy sites and activities to minimize conflict with wildlife management activities and winter range values.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.8.1.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y
Recreation - Roaded Modified: Allow off-road vehicle use only on designated roads and trails when it will not conflict with big game winter range values.	N		
Recreation - Roaded Modified: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes In all project environmental analysts.	N		
Recreation - Roaded Modified: Control vehicle access in big game winter range as needed between November 1 and April 30 to prevent biological stress.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.8.1.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y
Recreation - Roaded Modified: Rehabilitate deteriorated recreation use areas.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Roaded Modified: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed features is addressed in an environmental analysis The environmental analysis shall propose alternative management practices and mitigation measures where appropriate	N		
Recreation - Roaded Modified: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed “area of effect” of projects or elsewhere. Document results of the investigation/ inventory in the protect environmental analysts Inventory of non-project areas will be guarded by the Forest’s cultural resource Inventory strategy.	N		
Recreation - Roaded Modified: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Modified: Assess the Impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Modified: Mitigate potential adverse Impacts to sign& cant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	N		
Recreation - Roaded Modified: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation - Roaded Modified: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Roaded Modified: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Roaded Modified: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under a big game winter range management strategy.	N		
Wilderness: Project plans will assure that wilderness boundaries are not violated.	N		
Wildlife, Fish and Plants: Manage big game winter range habitat to provide a minimum of 50 percent thermal cover on each 500 to 1000 acres analysis area. At least two-thirds of the thermal cover (30 percent of the analysis area) should meet optimal thermal cover requirements.	P, C, R, O		EIS Sec. 3.4.2.13 EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Provide a minimum of 20 percent of each analysis area as forage area by maintaining or improving forage conditions with emphasis on increasing the variety and quality of plants available for forage and a mixture of age classes of shrubs.	P, R	P	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Where foraging areas are created, the units will be irregular in shape and designed so that any point in the unit is no more than 600 feet from cover. Hiding/thermal cover will be maintained immediately adjacent to the foraging site. If more than one unit is treated in a single year, the units should be at least 600 feet apart. As an opening is reestablished with trees and qualifies as cover, adjacent areas can be harvested to maintain forage producing areas.	P, R	P	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Forage improvement activities will be coordinated with State Fish and Game Departments.	P, R	P	EIS Sec. 1.5.4.4 EIS Secs. 4.6.1.2 & 4.6.1.3 .
Wildlife, Fish and Plants: Because winter range habitat is used year round by elk and deer, a restricted operating period from April 1 to June 30 may be imposed in identified fawning or calving areas.	P, C, O	P	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Allow wildlife habitat improvement projects	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F POD Att. S POD Att. DD
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl - Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight Into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation During the planning and scheduling phase of a timber sale or any other project activity that may Impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of Impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31 Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of the active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Goshawk nests will be protected within a 25 acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 60 percent of the potential population levels for cavity nesting species The distribution of numbers and size class necessary to meet 60 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 179 17+ / 36 25+ / 3 Total / 218 Siskiyou and Cascade True Fir Size / Number 15+ / 143 17+ / 11 25+ / 3 Total / 157	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand Trees selected for retention should maximize use of the stands cull component If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class (i.e., if 25" trees are not available go to 17" trees) Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs except for incidental amounts removed during management activities Additional green merchantable trees will not be designated unless none of the other categories exist The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true for working groups the life span is 20 years The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand information for the prescription will be provided by a wildlife biologist based on site by site needs A certified silviculturist will validate the data and include It in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres Including adjacent harvest units The Intent being to provide well distributed habitat and allow adjacent stands to provide the needed wildlife trees for past harvest units where the adjacent stands plus harvest units do not exceed 60 acres Where past harvest units were very large, the adjacent stands within 900 feet would be managed at higher wildlife tree levels to bring the overall area to the 40 percent level When the past harvest units were of such magnitude that the above methods cannot bring the entire area to the 40 percent level, the remaining shortage will not be provided for, but will be recorded and tracked for purposes of monitoring the forest plan Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until (5-7) years after project completion (sale closure), in order to capture any mortality that may occur during that time.	P, C, O, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Permit livestock grazing as long as sufficient forage is left for wildlife during the winter season.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns Where conflicts cannot be resolved or mitigated, relocation or removal of livestock will be considered.	N		

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Element	Applicable	Consistency	Comment
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary Allotment planning procedures are documented m FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Design range improvements complimentary to elk winter range management.	N		
Range: Allow increases in permitted grazing use to capture increases in transitory range caused by timber cutting compatible with winter range management objectives.	N		
Range: Prescribe kind and amount of grass and browse seeding in silviculture prescriptions.	N		
Range: Permit grazing on disturbed sites and/or areas under timber management which can be seeded with species to improve forage production and does not restrict tree establishment and growth. (FSM 2521.02, RR Supplement #6, 2/73).	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and Livestock. Utilization for grass and grass-like species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) IS:	N		
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements, simple grazing system.
2/ Extensive - Most or all improvements are non-structural, rotation grazing systems used
3/ Wide variety of structural and non-structural improvements, rotation grazing systems used

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Timber harvest will be scheduled.	N		
Timber: When trees are cut for timber production objectives, the cutting shall be made in a way to assure that technology and knowledge exist to adequately restock the site within five years after final harvest (36 CFR 219 27(c)(3)).	N		
Timber: Timber harvesting shall only occur on lands classified as suitable for timber production except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives d the Forest Plan establishes that such actions are appropriate (36 CFR 219 27(c)(l)).	N		
Timber: Treat timber stands to achieve desired visual characteristics through the following practices. a. Site preparation - chemical, mechanical, biological and manual and prescribed fire; b. Tree improvement (genetics); c. Reforestation by planting Random natural seeding will count towards reaching desired stocking; d. Growing stock protection from animals, insects and diseases; e. Release and weeding - chemical, mechanical, biological and manual and prescribed fire; f. Precommercial thinning; g. Fertilization; h. Commercial thinning; i. Salvage mortality as necessary; j. Final Harvest - even-aged silvicultural system using shelterwood, seed tree or clearcut methods The shelterwood method will probably be the most common, however, selection will be determined by the environmental assessment process and documented in a site-specific silvicultural prescription.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Opening size and stocking levels need to be restricted on the sensitive land types shown in the following table.	N		

LANDTYPE	ENVIRONMENTAL ZONE	SLOPE BREAK	LANDTYPE	ENVIRONMENTAL ZONE	SLOPE BREAK
5			236		>65%
9			236H		"
			239		"
409					
54	III	>65%	80	II	>65%
59	II		82	II	
515	II		87	I	>55%
519	II		88	II, III	>65%
542	III		89	I, II	"
543	III	>65%	800	II	"
545	II, III		802	II	"
545	II, III		802	II	"
557	II		804	II	"
560	III		808	II	"
571	II		820	II	"
			822	III	"
61	II		824	III	"
62	III		828	II	"
69	I, II, III		829	II, III	"
609	I, II		843	III	"
619	I, II, III		884	III	"
629	II, III		888	II	"
639	II, III	>30%	892	II	"
689	I, II, III	"	898	II	"
699	II				
			99	II, III	
71	II	>65%	969	II	
705	II	"	979	II	
793	II, III				
795	II				

Timber: Logging unit size for regeneration and vegetation management for sate conversion treatments, normally will not exceed 15 acres and no more than 30 percent of the sensitive area will be treated. Openings and percent of area treated will be distributed relative to the stability characteristics of the landscape. Adjacent lands in sensitive sites can be reentered when (1) minimum stocking for the site reaches 12 feet in height, or (2) 70 percent of ground is covered with trees and brush 12 feet in height. Deviations will be supported with a fully documents environmental analysis. Precommercial stand maintenance and precommercial thinning is not subject to the limitations shown in (1) and (2) above.	N		
Timber: For commercial intermediate treatments, stocking may be reduced to minimum stocking level for the site or 50 percent of existing level, whichever is greater Deviations will be supported with a fully documented environmental analysis.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Opening size limitations for other land types not shown above are as follows. a. Where stand conditions permit, the size of created openings will be between 30 and 60 acres. b. Limit created openings with tree sizes of less than 4 5 feet tall to a maximum of 17 percent of the area Exceptions are permitted when natural catastrophic situations such as fires, windstorms, or Insect and disease attacks occur. c. A harvested area of commercial forest will no longer be considered a created opening for silvicultural purposes when stocking surveys carried out in accordance with Regional instructions indicate prescribed crop tree stocking at or above 4 5 feet in height and free to grow.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been Impacted by timber sale activities.	N		
Timber: Reforestation, precommercial thinning and release to meet recommended stocking will be addressed with site specific silvicultural perceptions.	N		
Timber: The logging system design for umber sales will be reviewed by logging systems specialists designated by the Forest Supervisor Review for feasibility, silvicultural compatibility and economics.	N		
Timber: The even-aged silvicultural system will be the most commonly used system m coniferous forests. The uneven-aged silvicultural system may be used when healthy, fully stocked, uneven-aged stands exist or can be created by identified treatments within a defined time period The selection of the appropriate silvicultural system will be guided by the following criteria. a. Must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest. b. Must permit the use of an available and acceptable logging method. c. Must be capable of providing special conditions when required by critical soil conditions or needed to achieve management objectives. d. Must permit control of existing or potential vegetation to a degree that establishment of numbers of trees and rates of growth as identified In site-specific silvicultural prescriptions for harvest areas can be achieved. e. Must promote stand structure and species composition which avoids serious risk of damage from mammals, Insects, disease or wildfire and will allow treatment of existing Insect, disease or fuel conditions. f. Must meet resource and vegetation management objectives.	N		
Timber: Set harvest treatment priorities by cut categories on each District so that the stands most needing treatment are done first, wherever reasonably possible.	N		
Timber: Coordinate chemical and fertilizer use with the Oregon Department of Fish and Wildlife and California Department of Fish and Game.	N		
Timber: Design and schedule timber sales to accomplish forage and thermal cover ratio specified under “Wildlife, Fish And Plants” of this management strategy.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Create forage units that are irregular in shape and design so that any point is no more than 600 feet from cover. Maintain hiding cover immediately adjacent to the forage site.	N		
Timber: Slash shall be managed to facilitate big game movement and forage production.	N		
Timber: Firewood gathering will be coordinated with winter road closures and season restrictions will apply during the winter and spring. Firewood gathering will be allowed in conjunction with timber management activities or in designated fuelwood gathering areas.	N		
Timber: Maintain a blend of tree species approximating natural stands In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Make miscellaneous forest products such as poles, posts, boughs, Christmas trees, house logs, etc., available on an as needed basis consistent with the resource objectives of this management area.	N		
Timber: Provide access to potential fuelwood when appropriate Bring fuelwood to convenient points in timber sale or thinning areas Utilize appropriate timber sale clauses or modify fuels management prescriptions to meet this objective.	N		
Timber: Allow commercial fuelwood contracts for slash disposal, thinning and site preparation.	N		
Timber: Open slash areas to fuelwood gathering prior to traditional disposal methods.	N		
Timber: Leave slash as a fuelwood source where there is no conflict with resource activity.	N		
Timber: Consider using the fuelwood program as a means to meet silvicultural objectives in appropriate areas, such as low productivity stands or other stands prior to reaching commercial size.	N		
Timber: Consider the season of year and access when implementing a fuelwood program. The public will be encouraged to burn dry wood.	N		
Timber: Document fuelwood availability for public uses in project environmental analysis.	N		
Timber: Be responsive to the needs of the public for fuelwood.	N		
Timber: Create a Forest fuelwood and miscellaneous products policy to include fuelwood Inventory.	N		
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
UTILIZATION STANDARDS	N		

Type Tree	Minimum dbh.	Minimum Top dib
First Decade Existing mature trees, except lodge-pole pine (first and future decades)	9	6
Existing commercial thinning size trees and lodgepole pine	7	4
Future Decades All species, except surviving stands of first decade existing mature	7	4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, if needed, b. Consider relation of protect to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26), c. Locate springs that may be affected and evaluate for appropriate levels of protection. This would usually require consultation with soil, water or geology specialists, d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring play for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Water: Comply with the specific direction for management of each of the municipal watersheds as specified in management agreements between the U.S. Department of Agriculture or Forest and municipalities.	N		
Minerals: Develop and manage new and existing aggregate sources in compliance with approved Rock Resource Development Plan and an approved environmental analysis.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged. of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Direct applications for electronic sates toward use of sates in the following order. a. Utilizing residual capacity of existing Sates b. Develop new sates identified in the Forest-wade Electronic Site Plan	N		
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709 55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	N		
Facilities: Between the end of the big game hunting seasons (approximately November 1 and April 30), the following Road Traffic Management Strategies will be utilized to limit the number of roads open to vehicle traffic to approximately l-1/2 miles per square mile of land. a. Encourage or accept use of arterial and collector roads. b. Accept use of local roads necessary for operating active timber sales or for current year spring access for site preparation and reforestation activities. c. Discourage, eliminate or prohibit all other use of local roads. d. Allow off-road vehicle use only on designated roads and trails when It will not conflict with winter range values.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management. b. Temporary roads will be planned, located, surveyed, designed, constructed, and operated utilizing the same procedures for renewing, decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads. c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P	P	EIS Sec. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Aggressively suppress insects and diseases using the most cost-effective suppression strategies when outbreaks threaten resource management objectives Includes stump treatment for root rots, application of pesticides for defoliators and cone insects, etc., as necessary.	N		
Protection: Practice high intensity prevention activities such as monitoring pest populations to be forewarned of outbreaks, stump removal for root rots, stocking control, species selection for plantings, timely salvage of weather damaged timber, etc.	N		
Protection: Provide a moderate level of fire prevention activities consisting of: public contact through the use of media and personal contact at campgrounds and dispersed recreation areas; and fire prevention signing at campgrounds, rest areas, main road junctions, information centers and local businesses.	N		
Protection: Maintain natural fuel loadings at a level which meets protection standards and resource objectives in a cost-efficient manner.	N		
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	N		
Protection: Hazard reduction activities will be compatible with management area objectives.	N		
Protection: Design fuel breaks to meet the natural characteristics of the area.	N		
Protection: Integrate fuel break construction with vegetation management projects.	N		
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Old Growth 15 – Not Applicable, Excluded From Table			
Mature Habitat 16 – Not Applicable, Excluded From Table			
Primary Range 17 – Not Applicable, Excluded From Table			
Secondary Range 18 – Not Applicable, Excluded From Table			
Spotted Owl Habitat 19			
Recreation - Semi-Primitive Motorized: Manage the area for Modification Visual Quality Objective.	N		
Recreation - Semi-Primitive Motorized: Allow for dispersed recreation activities such as hunting, hiking and the gathering of forest products.	N		
Recreation - Semi-Primitive Motorized: Manage trails and dispersed occupancy sites in a manner not in conflict with range management activities and forage resource values.	N		
Recreation - Semi-Primitive Motorized: Discourage or prohibit recreation use where public safety is threatened.	N		
Recreation - Semi-Primitive Motorized: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all project environmental analysis.	N		
Recreation - Semi-Primitive Motorized: Off-road vehicle recreation use allowed only on designated roads and trails.	N		
Recreation - Semi-Primitive Motorized: Rehabilitate deteriorated recreation use areas.	N		
Recreation - Semi-Primitive Motorized: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed features is addressed in an environmental analysis. The environmental analysis shall propose alternative management practices and mitigation measures where appropriate.	N		
Recreation - Semi-Primitive Motorized: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed "area of effect" of projects or elsewhere. Document results of the investigation/ inventory in the project environmental analysis. Inventory of non-project areas will be guided by the Forest's cultural resource inventory strategy.	N		
Recreation - Semi-Primitive Motorized: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group. If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Semi-Primitive Motorized: Assess the impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Semi-Primitive Motorized: Mitigate potential adverse impacts to significant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the property.	N		
Recreation - Semi-Primitive Motorized: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation - Semi-Primitive Motorized: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation - Semi-Primitive Motorized: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Semi-Primitive Motorized: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under an spotted owl habitat management strategy.	N		
Wilderness: Project plans will assure that Wilderness boundaries are not violated.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Northern Spotted owl - Amount of suitable habitat - The intent is to insure that breeding pairs in areas designed for spotted owls have sufficient habitat within their home ranges to meet overall life needs for survival and successful reproduction. The amounts of suitable spotted owl habitat at each designated habitat area will vary by physiographic province. The acreages should occur in at least one 300-acre stand of habitat that includes the nest site. Other habitats within 1.5 miles of the nest site should be as contiguous as possible. The following amounts of suitable spotted owl habitat designated per site are: 1,500 acres within 1.5 miles of nest site in the Cascade Mountains and 1,000 acres within 1.5 miles of nest site in the Siskiyou Mountains. Habitat areas may vary from the acreage objective if approved by the Regional Forester. A habitat area may be larger than the acreage objective for a suitable habitat, if it meets at least one of the following two criteria: 1) the area contains more than one breeding pair of spotted owls, and it has been demonstrated that the reproductive rate, on average over time, has exceeded that necessary to replace the breeding adults; and 2) the area is a key link in the network. A key link is defined as a spotted owl habitat area which, if not designated, would result in a separation of the network contrary to spacing guidelines. Key links should be larger than the spotted owl habitat area acreage objective, especially where the local landscape contains little spotted owl habitat in lands unsuitable for timber production or in reserved lands, and where the general forest landscape is heavily fragmented. Designated spotted owl habitat areas may contain less than the acreage objective for habitat where: 1) Breeding success within the previous two years has been documented and the amount and quality of spotted owl habitat has not declined significantly within the pair's home range during the previous two years; 2) The habitat area is necessary to meet spacing requirements and less than the suitable habitat acreage objective exists; 3) In addition, if acreage of suitable habitat is less than 1,000 acres and meets one of the above criteria, potential habitat that will bring the total existing and potential habitat to 1,000 acres shall be added.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Northern Spotted owl - Spacing of designated habitat areas - The intent is to insure that reproductive individuals are well distributed so they can interact with others in the planning area (the regional population). The ability to interact provides for recolonization of unoccupied habitats, interchange of genetic resources, and resilience of populations to normal fluctuations in births and deaths. Distances between habitat areas within clusters of three or more spotted owl habitat areas shall be not more than 1.5 miles measures edge to edge. Distances between clusters of three or more spotted owl habitat areas or between habitats in land unsuitable for timber production that can support at least three pairs, shall be not more than 12 miles measured edge to edge. Distances between all other habitat areas (cluster, single, or habitat area within land unsuitable for timber that could support at least one pair) shall be not more than six miles measured edge to edge. Distances between spotted owl habitat areas may be extended 20 percent (that is, up to 7.2 miles for singles and 14.4 miles for clusters). This variation applies only where needed to locate a habitat area at a site with higher level of spotted owl occupancy (i.e., contains pair, rather than single bird) than would be otherwise available. Each designated habitat area should link to at least three other areas within the spacing standards. These three other areas can be other designated spotted owl habitat areas, or suitable spotted owl habitat in lands unsuitable for timber production. A cluster is not considered to be three distinct areas for the purpose of this positioning. Spacing standards apply across boundaries of adjacent National Forests. National Forests adjacent to other ownerships having suitable spotted owl habitat that will be maintained over time should provide habitats to help insure distribution across ownership boundaries; and, as far as practicable, coordinate their efforts to identify and designate habitat areas. In this regard, other ownerships include, but are not restricted to, USDI Bureau of Land Management and USDI National Park Service.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Northern Spotted owl - Threatened and Endangered Species - No spotted owl habitat management activity shall adversely affect Federally-listed threatened or endangered species or their habitats.	P, C, R, O	P, B, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Northern Spotted owl - Identification of suitable habitat – The intent is to provide consistency and accuracy in identifying forest stand conditions that constitute suitable habitat for spotted owls. Its principal application will be in inventory, mapping and monitoring to assure that the right kinds of habitat are being designated or counted as appropriate.	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Northern Spotted owl - Vegetation types - Vegetation types in which spotted owl habitat occurs are: • Spruce/Cedar/Hemlock Forest • Cedar/Hemlock/Douglas-fir • Mixed Conifer Forest • California Mixed Evergreen Forest • Silver fir/Douglas-fir Forest • Red fir Forest • Ponderosa Shrub Forest with – White fir/Grand fir – Fir/Hemlock Forest – Grand fir/Douglas-fir Forest – Douglas-fir Forest	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Wildlife, Fish and Plants: Northern Spotted owl - Stand structures - The following structural characteristics identify forest stands suitable for spotted owls. These conditions occur at different ages for each vegetation type and location; but, in general, they occur in stands considered to be mature and old-growth: 1) Relatively large diameter of dominant trees in the stand; 2) Multi-layered canopy of trees with a moderate to high canopy closure in overstory, mid-story and understory layers; 3) Large, tall trees with cavities, broken tops, mistletoe, or platforms of branches capable of holding accumulated organic matter suitable for nesting; 4) Dead standing trees and fallen decayed trees to support abundant populations of prey species, especially northern flying squirrel and woodrat; 5) Stands with the above conditions and larger than 60 acres in area.	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Wildlife, Fish and Plants: Northern Spotted owl - The Forest will specify the inventory and mapping criteria used to identify suitable spotted owl habitat in Forest planning, subject to approval by the Regional Forester.	P	P, B	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Wildlife, Fish and Plants: Northern Spotted owl - Suitable habitat (vegetation types and structural or developmental stages) shall be identified in the Forest Plan for inventory, mapping and monitoring purposes in accordance with the general description above.	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Northern Spotted owl - The intent in locating designated habitat areas is to designate spotted owl habitat areas without unnecessary restrictions of other uses of the forest, to the extent possible while meeting the management requirement for spotted owl population viability. The criteria for locating designated habitat areas is as follows: 1) Map spotted owl habitat in the following land use designations: lands withdrawn by Chief's authority or higher, other lands unsuitable for timber production, lands suitable for timber production with reduced yields and lands suitable for timber production with full yields; 2) Map the known locations of spotted owls and show locations of breeding pairs, pairs with verified non-breeding status or breeding status unknown, and other spotted owl sighting; 3) Identify areas in land unsuitable for timber production that have at least the specified acres of habitat within 1.5 miles from a central point in Oregon, and 2.1 miles from a central point in Washington; 4) Access the distribution of habitat relative to spacing standards to determine if additional spotted owl habitat areas need to be designated. If designation is necessary, use mapped owl locations as the priorities for selecting spotted owl habitat areas in lands suitable for timber production; 5) Designate spotted owl habitat areas on lands suitable for timber production if needed to meet the spacing standard. If a verified breeding pair is located closer than six miles from the edge of lands unsuitable for timber production, that areas can be designated if there are no verified breeding pairs within the adjacent lands unsuitable for timber production. The preference is to provide spotted owl habitat areas in a cluster arrangement. Use reduced yield lands before full yield lands where compatible with other criteria; 6) Use the following priorities in designating spotted owl habitat area on lands suitable for timber production (listed in decreasing order of priority): Verified occupancy by breeding pairs within the last five years. If verification is not based on data from the current year, the site should meet, or approximately meet, Regional standards for habitat amounts and characteristics, remained stable since the year of verification. Verified occupancy by breeding pairs more than five years ago. If verification is not based on data from the current year, the site should meet Regional standards for habitat amounts and characteristics, or the habitat amounts and characteristics must have remained stable since the year of verification. Verified occupancy by pairs; verified non-breeding, or breeding status or success unknown. If verification is not based on data from the current year, the site should meet or approximately meet Regional standards for habitat amounts and characteristics, or the habitat amounts and characteristics must have remained stable since the year of verification. Presence of spotted owls; pair status unknown. Areas with an appropriate amount of suitable owl habitat, within the radius prescribed, where the presence or absence of owls is unknown. An appropriate amount of habitat is that specified in Standard and Guideline 1. Amount of Suitable Habitat in Designated Areas.	P	P	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Wildlife, Fish and Plants: Northern Spotted owl - Implementation of these standards and guidelines shall be achieved in a cost-effective manner. Their application will result in designation of spotted owl habitat capable of supporting pairs of spotted owls through time. The Regional Forester will approve National Forest spotted owl habitat networks which result from the application of these standards and guidelines.	C, O	B	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Northern Spotted owl - Develop wildlife and fish projects that take advantage of the unique characteristics of spotted owl habitat.	P, R	P, B, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 7 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Sec. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. J EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Existing and Proposed Endangered, Threatened and Sensitive Species - Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Existing and Proposed Endangered, Threatened and Sensitive Species - Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Existing and Proposed Endangered, Threatened and Sensitive Species - Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Existing and Proposed Endangered, Threatened and Sensitive Species - If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670.31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish and Plants: Existing and Proposed Endangered, Threatened and Sensitive Species - If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season. Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31. Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk - Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of an active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk - Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived. Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk - Goshawk nests will be protected within a 25-acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Cavity nesting habitat will be allowed to occur at natural levels on coniferous forest lands. This should provide for 100 percent of the potential population level for cavity nesting species. This may require leaving green trees standing as well, in order to maintain the snags through the rotation. Soft snags will not be removed except for protection or human safety. Snags should be uniformly distributed insofar as practical. Land areas containing activities which impact amounts of large woody material (LWM) on the site shall have LWM management prescription(s). The prescription will not only be site specific but will also consider maintenance of LWM in perpetuity. At a minimum, a 'moderate" amount of LWM will be left after project completion. The moderate range is 10 to 20 pieces of Class I and II logs per acre and all existing Class III, IV and V logs, except for incidental amounts removed during management activities.	P, C, O	P, B, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L
Wildlife, Fish and Plants: Resident Trout and Steelhead – Water quality law establishes a level of aquatic resource management that will maintain the Forest's fisheries habitat at a level capable of sustaining or exceeding minimum viable populations for the various species of anadromous and resident fish. Cold water production for both on and off Forest fish needs is identified as a principal objective for the Forest's streams. Maintain existing fish habitat capability and develop fish habitat improvement projects to fully utilize potential smolt production capability of Forest anadromous streams and resident fish in other streams and lakes. Coordinate land management activities with the California Department of Fish and Game and Oregon Department of Fish and Wildlife objectives. Natural debris, plus trees needed for a future supply, will be maintained and managed to: 1) enhance stream channel and bank structure so as to protect water quality; and 2) provide structural fish habitat to meet the objectives of small habitat capability or resident fish populations provided for in the Forest Plan.	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. L POD Att. DD
Deer and Elk - Maintain summer range to provide forage, hiding and thermal cover. A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	P, C, R, O	P, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Evaluate the effects of proposed projects on wildlife habitat in all environmental analysis. Discuss pertinent components of the habitat such as edge, migration routes, vegetation diversity and microclimate. Specify mitigation measures when the area is disturbed.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F EIS App. H EIS App. J POD Att. DD
Range: Livestock grazing is permitted at levels which maintain the desired spotted owl habitat characteristics and species composition of the understory. Forage utilization will be limited to that not needed to maintain indigenous plant species. Exotic plants cannot be introduced.	N		
Range: Salt blocks or water developments are allowed if livestock use does not change the plant composition.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns. Where conflicts cannot be resolved or mitigated, relocation and/or removal of livestock will be considered.	N		
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary. Allotment planning procedures are documented in FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Allow range improvements.	N		
Range: Allow increases in permitted grazing use to capture increases in transitory range caused by timber cutting where this is compatible with the suitable owl habitat management objectives.	N		
Range: Prescribe kind and amount of grass seeding in silviculture prescriptions.	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and livestock. Utilization for grass and grasslike species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) is:	N		

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Element	Applicable	Consistency	Comment
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements; simple grazing system.
2/ Extensive - Most or all improvements are non-structural, rotation grazing systems used
3/ Wide variety of structural and non-structural improvements, rotation grazing systems used

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Element	Applicable	Consistency	Comment
Timber: There will not be any scheduled volume from these areas.	N		
Timber: Timber harvest can only take place if it benefits the spotted owl habitat. The exception will be that timber harvest will be allowed in catastrophic situations such as salvage of fire or insect damage and to prevent the spread of insects and disease to areas managed for other purposes providing the owl habitat needs are not compromised or to meet the management area objectives. Salvage operations will require a project environmental analysis and be designed to minimize impact on resources. Restoration of such an area will be designed to return it to a natural state.	N		
Timber: In the event of a need for access for salvaging timber from catastrophes, nonground based systems, such as helicopter, are preferred.	N		
Timber: Firewood gathering and cutting compatible with objectives of the area will be permitted.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been impacted by timber sale activities.	N		
Timber: All silvicultural prescriptions will be approved by a certified silviculturist and reviewed by the District Ranger.	N		
Timber: The logging system design for timber sales will be reviewed by logging systems specialists designated by the Forest Supervisor. Review for feasibility, silvicultural compatibility and economics.	N		
Timber: Maintain a blend of tree species approximating natural stands. In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species, well distributed across the breeding zone. In addition, no family of parent trees shall represent greater than 20 percent of a seed lot. Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, I needed; b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26); c. Locate springs that may be affected and evaluate for appropriate levels of protection This would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Water: Comply with the specific direction for management of each of the municipal watersheds as specified in management agreements between the U.S. Department of Agriculture or Forest and municipalities.	N		
Minerals: Prohibit development of aggregate rock sources.	N		
Minerals: Prohibit expansion of existing aggregate sources.	N		
Minerals: Rehabilitate aggregate sources as they are closed.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to: protect riparian and fishery values; meet State water quality standards; and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		

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Element	Applicable	Consistency	Comment
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Direct applications for electronic sates toward use of sates in the following order. a. Utilizing residual capacity of existing sites b. Develop new sates identified in the Forest-wade Electronic Site Plan	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 POD Att. D
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T

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Element	Applicable	Consistency	Comment
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. A LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6
Soils: No more than 10 percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I

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Element	Applicable	Consistency	Comment
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709.55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	P	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.6.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management; b. Temporary roads will be planned, located, surveyed, designed, constructed and operated utilizing the same procedures for reviewing decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads; and c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P	P	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service. Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	P	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.7.3 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. I POD Att. N POD Att. X
Protection: Provide a low level of prevention activities limited primarily to public contact through patrol and fire prevention signing at campgrounds, rest areas, main access road junctions and information centers.	N		

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Element	Applicable	Consistency	Comment
Protection: Use prescription fire to obtain desired ecological characteristics of the area.	P, C, R, O	P, B	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	P, C, R, O	P, B	EIS Sec. 4.1.3.5 EIS Sec. 4.5.2.3 EIS App. J POD Att. K POD Att. R
Protection: Hazard reduction activities will be compatible with management area objectives.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	P, C, R, O	P, B	EIS Sec. 1.5.1.8 EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 EIS App. H EIS App. J POD Att. I POD Att. R
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Timber Suitable 1 20			
Recreation – Roaded Modified: Manage the area for Modification Visual Quality Objective. Blend and shape regeneration openings with the natural terrain to the extent possible. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	N		
Recreation – Roaded Modified: Allow for dispersed recreation activities such as hunting, fishing and the gathering of forest products.	N		
Recreation – Roaded Modified: Manage trails and dispersed occupancy sites in a manner not in conflict with timber management activities and timber resource values.	N		
Recreation – Roaded Modified: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes In all project environmental analysis.	N		

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Recreation – Roaded Modified: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed features is addressed in an environmental analysis. The environmental analysis shall propose alternative management practices and mitigation measures where appropriate.	N		
Recreation – Roaded Modified: Rehabilitate deteriorated recreation use areas.	N		
Recreation – Roaded Modified: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed "area of effect" of projects or elsewhere. Document results of the investigation/ inventory in the project environmental analysis. Inventory of non-project areas will be guided by the Forest's cultural resource inventory strategy.	N		
Recreation – Roaded Modified: Evaluate the cultural resources found within the area using a qualified cultural resource specialist to determine their potential archaeological, historical or cultural significance Evaluate cultural resources on a project-specific basis or by thematic/multi-resource group If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation – Roaded Modified: Assess the impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation – Roaded Modified: Mitigate potential adverse impacts to significant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the property.	N		
Recreation – Roaded Modified: Inventory and protect cultural resources to Insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation – Roaded Modified: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the Integrity of the resource is maintained Use will be carefully monitored.	N		
Recreation – Roaded Modified: Develop and administer schedules for long-range cultural resource management Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation – Roaded Modified: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Recreation – Roaded Modified: Off-road vehicle recreation use is permitted when not in conflict with timber management or other resource objectives.	N		
Wilderness: This element is not applicable under a timber management strategy.	N		
Wilderness: Project plans will assure that Wilderness boundaries are not violated.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Permit wildlife and fish projects that do not conflict with recreation management activities and recreation resource values.	N		
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service (PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Biological evaluations (FSM 2672.4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671.4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670 31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize Impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32) Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl – Manage this species under the standards and guidelines established in the ROD for the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide In the event that a pair of northern spotted owls are found in an area, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species, (2) providing insight Into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation During the planning and scheduling phase of a timber sale or any other project activity that may Impact spotted owl habitat, conduct a biological evaluation in order to determine the degree of Impact and to provide for protective measures.	P, C, R, O	P, R, M, A	EIS Secs. 1.5.1.1 & 1.5.2.1 EIS Sec. 2.1.3.5 EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. H EIS App. L POD Att. DD LMP Amendment RRNF-7
Wildlife, Fish and Plants: Osprey – Protect active nests during the nesting season Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31 Nest and perch trees will be protected until they are no longer usable.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of the active nest.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived Monitoring will be supervised and evaluated by a qualified wildlife biologist.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Goshawk – Goshawk nests will be protected within a 25 acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 40 percent of the potential population levels for cavity nesting species. The distribution of numbers and size class necessary to meet 40 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 119 17+ / 24 25+ / 2 Total / 145 Siskiyou and Cascade True Fir Size / Number 15+ / 95 17+ / 7 25+ / 2 Total / 104	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand. Trees selected for retention should maximize use of the stand's cull component. If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class. (i.e. if 25" trees are not available go to 17" trees). Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements. The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs, except for incidental amounts removed during management activities. Additional green merchantable trees will not be designated unless none of the other categories exist. The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true fir working groups the life span is 20 years. The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated. Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand. Information for the prescription will be provided by a wildlife biologist based on site by site needs. A certified silviculturist will validate the data and include it in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements. The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres including adjacent existing harvest units. The objective is to provide well distributed habitat and allow adjacent stands to provide the needed wildlife trees for past harvest units where current standards were not met. Where past timber harvest activities created clearcuts, the acreage within a 900 foot "edge" adjacent to an uncut timber stand will be used to compute the number of wildlife trees needed to bring this common boundary "edge', area up to a minimum 20 percent potential population level for cavity nesting species. Excess cull trees and snags in the adjacent uncut stand, (being managed at the 40 percent level), if available, can be applied to the number of wildlife trees needed in the "edge" area. If no culls or snags are available, green merchantable trees may be marked and managed for wildlife tree needs in this uncut area.	P, C, O, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) On existing large shelterwood areas it is assumed that natural mortality will occur to meet the 20 percent potential population levels needed as a minimum, however, if there are excess cull trees and snags in adjacent stands, they can be used to bring the biological potential up to 40 percent. The minimum 20 percent biological potential level will not be met for two or more decades on the area beyond the 900 foot "edge", on existing clearcut areas. By that time natural mortality will begin to occur in the new stands and sufficient trees will be managed for wildlife needs.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App .F POD Att. P POD Att. U POD Att. DD EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands. Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until 5-10 years after project completion (sale closure), in order to capture any mortality that may occur during that time. Adequacy of wildlife tree levels will be monitored as a part of the Forest Plan.	P, C, R, O	P, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L
Wildlife, Fish and Plants: Deer and Elk - Maintain summer range to provide 20 percent forage, and at least 20 percent thermal cover for an area generally 500 to 1,000 acres. To the extent possible, timber harvesting and/or thinning should provide hiding and thermal cover between treatment areas and roads with continuous vehicle use. Hiding cover should be dense enough to hide 90 percent of a deer or elk from view at 200 feet. Hiding cover need not be continuous but gaps between screens should not exceed one-quarter of a mile. A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Permit livestock grazing on transitory ranges under the following situations: a. Where forage occurs in natural stands or as a result of site disturbance and/or timber canopy removal on a periodic basis. b. Where disturbed sites and/or areas under timber management can be seeded with species which improve forage production and does not restrict tree establishment and growth. (FSM 2521.02, RR Supplement #6, 2/73). c. On forest plantations when livestock will not damage the young trees.	N		
Range: Provide annual permittee plans for livestock distribution and use patterns Where conflicts cannot be resolved or mitigated, relocation or removal of livestock will be considered.	N		
Range: Write range allotment plans to reflect management direction for all lands within the allotment boundary. Allotment planning procedures are documented m FSM 2210.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Develop structural and non-structural range improvements.	N		
Range: Allow increases in permitted grazing use to capture increases in transitory range caused by timber cutting where this is compatible with the timber management objectives.	N		
Range: Prescribe kind and amount of vegetative seeding in silviculture prescriptions.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and livestock. Utilization for grass and grasslike species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) is:	N		
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements; simple grazing system.
2/ Extensive - Most or all improvements are non-structural; rotation grazing systems used.
3/ Wide variety of structural and non-structural improvements; rotation grazing systems used.

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: When trees are cut for timber production objectives, the cutting shall be made in a way to assure that technology and knowledge exist to adequately restock the site within five years after final harvest (36 CFR 219 27(c)(3)).	N		
Timber: Timber harvesting shall only occur on lands classified as suitable for timber production except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives d the Forest Plan establishes that such actions are appropriate (36 CFR 219 27(c)(l)).	N		
Timber: The landscape will be predominated by a mosaic of even-aged managed timber stands although even and uneven aged management are accepted systems in this strategy. Silvicultural practices employed to accomplish management goals may include the following: a. Site preparation - chemical, mechanical, biological and manual and prescribed fire; b. Tree improvement (genetics); c. Reforestation by planting Random natural seeding will count towards reaching desired stocking; d. Growing stock protection from animals, insects and diseases; e. Release and weeding - chemical, mechanical, biological and manual and prescribed fire; f. Precommercial thinning; g. Fertilization; h. Commercial thinning; i. Salvage mortality as necessary; j. Final Harvest - even-aged silvicultural system using shelterwood, seed tree or clearcut methods The shelterwood method will probably be the most common, however, selection will be determined by the environmental assessment process and documented in a site-specific silvicultural prescription, k. Pruning.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been impacted by timber sale activities if in keeping with the goals and objectives of this management strategy.	N		
Timber: The logging system design for timber sales will be reviewed by logging systems specialists designated by the Forest Supervisor. Content review will be for feasibility, silvicultural compatibility and economics.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: The even-aged silvicultural system will be the most commonly used system in coniferous forests The uneven-aged silvicultural system may be used when healthy, fully stocked, uneven aged stands exist or can be created by identified treatments within a defined time period The selection of the appropriate silvicultural system will be guided by the following criteria. a. Must permit the production of sufficient volume of marketable trees to permit utilization of all trees which meet utilization standards and are designated for harvest. b. Must permit the use of an available and acceptable logging method. c. Must be capable of providing special conditions when required by critical soil conditions or needed to achieve management objectives. d. Must permit control of existing or potential vegetation to a degree that establishment of numbers of trees and rates of growth as identified In site-specific silvicultural prescriptions for harvest areas can be achieved. e. Must promote stand structure and species composition which avoids serious risk of damage from mammals, Insects, disease or wildfire and will allow treatment of existing Insect, disease or fuel conditions. f. Must meet resource and vegetation management objectives identified for this management area.	N		
Timber: Forest openings created by the application of even-aged silviculture shall be limited to a maximum size of 60 acres in the Douglas-fir forest type and to a maximum size of 40 acres on all other lands of the Forest. Exceptions are permitted in the following cases: a. When natural catastrophic situations such as fires, windstorms, or insect and disease attacks occur. b. On an individual timber sale basis after 60-day, public notice and review by the Regional Forester.	N		
Timber: When any one of the criteria described below is met and will produce a more desirable combination of benefits, the limits may be exceeded by not more than 50 percent without review by the Regional Forester or 60-day public notice. a. When larger created openings will reduce the disturbance to soil, water, fish or riparian resources, or residual vegetation by: (1) allowing economically feasible logging systems that reduce landing and road construction, or (2) locating roads away from unstable soils, and (3) by reducing soil and vegetation disturbance from dragging logs. b. Where groups of dwarf mistletoe or root rot disease infected trees need to be incorporated into the created opening to avoid infection of susceptible conifer reproduction and their inclusion cannot be achieved by centering the created opening over the area of infection. c. Where visual quality objectives require shaping and blending of openings to fit landform. d. Where larger units are needed to achieve silviculture objectives in existing areas of regeneration cutting by the shelterwood method and where destruction of the newly created stand of reproduction would occur as a result of delayed removal of shelter trees. This exception applies only to existing shelterwood units and shelterwood units under contract prior to approval of Forest Plan.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Created openings will be separated by areas generally not classed as created openings. The areas between created openings shall contain one or more logical harvest units. These areas shall be large enough and contain a stand structure to meet resource requirements of the management area. The total area of created openings contiguous to 30-acre or larger natural openings should normally be limited to an area not exceeding 1/3 the size of the natural opening and not occupying more than 1/3 of the natural opening perimeter. When openings are created adjacent to natural openings, they should be designed to retain and manage adequate vegetation along the edge in sufficient density to retain wildlife values and visual management objectives. The determination of adequate vegetation will be made by an appropriate interdisciplinary team.	N		
Timber: A harvested area of commercial forest will no longer be considered a created opening for silvicultural purposes when stocking surveys carried out in accordance with Regional instructions indicate prescribed crop tree stocking at or above 4.5 feet in height and free to grow.	N		
Timber: Strive for a reasonably balanced acreage in each age class (i.e. 20 percent of each 500 to 1,000 acre area in stands 40 feet tall with 70 percent crown closure) to obtain biological diversity and thermal cover.	N		
Timber: Reforestation, precommercial thinning and release to meet recommended (full) stocking will be addressed with site-specific silvicultural prescriptions.	N		
Timber: Set harvest treatment priorities by cut categories on each District so that the stands most needing treatment are done first, wherever reasonably possible.	N		
Timber: Maintain a blend of tree species approximating natural stands In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species well distributed across the breeding zone In addition, no family of parent trees shall represent greater than 20 percent of a seed lot Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Make miscellaneous forest products such as poles, posts, boughs, Christmas trees, house-logs, etc., available on an as-needed basis consistent with resource objectives of affected management areas.	N		
Timber: Provide access to potential fuelwood or bring the fuelwood to convenient points in timber sale or thinning areas through the utilization of appropriate timber sale clauses or the modification of fuels management prescriptions to meet this objective.	N		
Timber: Allow commercial fuelwood contracts for slash disposal, thinning and site preparation.	N		
Timber: Open slash areas to fuelwood gathering prior to traditional disposal methods.	N		
Timber: Leave slash as a fuelwood source where there is no conflict with resource activity.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Timber: Consider using the fuelwood program as a means to meet silvicultural objectives in appropriate areas, such as low productivity stands or other stands prior to reaching commercial size.	N		
Timber: Consider the season of year and access when implementing a fuelwood program. The public should be encouraged to burn dry wood.	N		
Timber: Document fuelwood availability for public uses in project environmental analysis.	N		
Timber: Be responsive to needs of public for fuelwood.	N		
Timber: Create a Forest fuelwood and miscellaneous products policy to include fuelwood inventory.	N		
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		
UTILIZATION STANDARDS	N		

Type Tree	Minimum dbh.	Minimum Top dib
First Decade Existing mature trees, except lodgepole pine (first and future decades)	9	6
Existing commercial thinning size trees and lodgepole pine	7	4
Future Decades All species, except surviving stands of first decade existing mature	7	4

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and U.S. Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, I needed; b. Consider relation of project to riparian strategy areas (all streams classed as I, II and III are allocated to Strategy 26); c. Locate springs that may be affected and evaluate for appropriate levels of protection This would usually require consultation with soil, water or geology specialists; d. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring plan for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. C
Water: Allow for watershed restoration projects.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Minerals: Develop and manage new and existing aggregate sources in compliance with approved Rock Resource Development Plan and an approved environmental analysis.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Minerals: In plans of operation, require operationally feasible provisions designed to' protect riparian and fishery values, meet State water quality standards: and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged. of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received Analyze any additional corridors with an environmental analysis.	N		
Lands: Use control measures to prohibit livestock access to chemically treated corridors.	N		
Lands: Direct applications for electronic sites toward use of sites in the following order. a. Utilizing residual capacity of existing Sites b. Develop new sites identified in the Forest-wade Electronic Site Plan	P	P	EIS Sec. 2.1.2.2 EIS Sec. 2.3.2.3 EIS Sec. 4.3.2.2 POD Att. D
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. I POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Lands: Establish and maintain property boundaries on lands administered by the Forest Service.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I
Soils: Design management activities to return effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Forty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils; b. Thirty percent exposure on high or severe erosion hazard soils; c. Fifteen percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709 55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	N		
Facilities: Within sensitive soil resource Inventory land types, as shown in Management Strategy 21, the following guidelines apply. a. Geotechnical Input is required for road location, design, and management; b. Temporary roads will be planned, located, surveyed, designed, constructed and operated utilizing the same procedures for reviewing decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads; and c. Roads which access or traverse these land types may be closed seasonally to prevent resource damage.	N		
Facilities: Temporary roads that have been evaluated through the NEPA process are permitted.	P	P, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Aggressively suppress insects and diseases using the most cost-effective suppression strategies when outbreaks threaten resource management objectives Includes stump treatment for root rots, application of pesticides for defoliators and cone insects, etc., as necessary.	N		
Protection: Practice high intensity prevention activities such as monitoring pest populations to be forewarned of outbreaks, stump removal for root rots, stocking control, species selection for plantings, timely salvage of weather damaged timber, etc.	N		
Protection: Provide a moderate level of fire prevention activities consisting of: public contact through the use of media and personal contact at campgrounds and dispersed recreation areas; and fire prevention signing at campgrounds, rest areas, main road junctions, information centers and local businesses.	N		
Protection: Maintain natural fuel loadings at a level which meets protection standards and resource objectives in a cost-efficient manner.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. K POD Att. R POD Att. DD
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	P, C, R, O	P, B	EIS Secs. 4.1.3.5 EIS Sec. 4.5.2.3 EIS App. J POD Att. K POD Att. R
Protection: Hazard reduction activities will be compatible with management area objectives.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R

TABLE E-6 **Rogue River National Forest Land And Resource Management Plan**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Design fuel breaks to meet the natural characteristics of the area.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Protection: Integrate fuel break construction with vegetation management projects.	N		
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	N		
Protection: Each wildfire will have an appropriate response in accordance with the Rogue River National Forest Fire Management Policy and Plan.	N		
Timber Suitable 2 – Not Applicable, Excluded From Table			
Restricted Watershed 22 – Not Applicable, Excluded From Table			
Managed Watershed – Not Applicable, Excluded From Table			
Research Natural Areas – Not Applicable, Excluded From Table			
Restricted Riparian 26			
Recreation - Roaded Natural: Manage the area for Retention Visual Quality Objective. Blend and shape regeneration openings with the natural terrain to the extent possible. Assess the impacts to visual resources in all project environmental analysis. Specifically address how the visual quality objective will be met.	N		
Recreation - Roaded Natural: Protect Special Dispersed Features, including trails, from adverse impacts until management of the special dispersed feature is addressed in an environmental analysis. The environmental analysis shall propose alternative management practices and mitigation measures where appropriate.	N		
Recreation - Roaded Natural: Allow for dispersed recreation activities such as dispersed camping, hunting, fishing and the gathering of forest products.	N		
Recreation - Roaded Natural: Manage trails and dispersed occupancy sites in a manner not in conflict with fisheries resource values.	N		
Recreation - Roaded Natural: Discourage or prohibit recreation use where public safety is threatened.	N		
Recreation - Roaded Natural: Identify the potential effect of any proposed activity on recreation opportunity spectrum classes in all project environmental analysis.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Recreation - Roaded Natural: Restrict vehicle use to roads and trails except where prohibited.	N		
Recreation - Roaded Natural: Prohibit new developed recreation sites.	N		
Recreation - Roaded Natural: Portions of riparian areas suffering resource damage from recreation use will be rehabilitated and may be closed.	N		
Recreation - Roaded Natural: Investigate area to inventory archaeological, historical or other cultural resource properties which may be located within the proposed "area of effect" of projects or elsewhere. Document results of the investigation/ inventory in the project environmental analysis. Inventory of non-project areas will be guided by the Forest's cultural resource inventory strategy.	N		
Recreation - Roaded Natural: Evaluate the cultural resources found within the area using a qualified cultural resource specialist, to determine their potential archaeological, historical or cultural significance. Evaluate cultural resources on a project-specific basis or by thematic/multiresource group. If a cultural resource is discovered after project activity has begun, the activity will cease or be modified until an evaluation of significance can be made.	N		
Recreation - Roaded Natural: Assess the impacts of a proposed action to determine the effect of the project upon potentially or known significant cultural resources.	N		
Recreation - Roaded Natural: Mitigate potential adverse impacts to significant cultural resources by redesigning the project to avoid damage or disturbance, or implementing appropriate mitigation procedures to reduce the adverse impact to the resource.	N		
Recreation - Roaded Natural: Inventory and protect cultural resources to insure that values are not damaged or destroyed until they can be evaluated for scientific study, interpretation or other appropriate uses. Protection of values may include maintenance of structures, avoidance of the site, or scientific removal, analysis and reporting.	N		
Recreation - Roaded Natural: Evaluate and enhance cultural resources for scientific, educational, recreational and ethnic use to the extent the integrity of the resource is maintained. Use will be carefully monitored.	N		
Recreation - Roaded Natural: Develop and administer schedules for long-range cultural resource management. Coordinate cultural resource management with appropriate State and Federal agencies.	N		
Recreation - Roaded Natural: Properties that meet the significance criteria will be treated as eligible to the National Register of Historic Places; eligible properties will be nominated to the National Register.	N		
Wilderness: This element is not applicable under a riparian strategy.	N		
Wilderness: Project plans will assure that Wilderness boundaries are not violated.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Permit fish projects that enhance the resource values.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Sec. 4.8.1.3 EIS App. F POD Att. S POD Att. DD
Wildlife, Fish and Plants: Resident Trout and Steelhead are selected species. The Clean Water Act establishes a level of aquatic resource management that will maintain the Forest's fisheries habitat at a level capable of sustaining or exceeding minimum viable populations for the various species of anadromous and resident fish. Cold water production for both on and off Forest fish needs is identified as a principal objective for the Forest's streams. Maintain existing fish habitat capability and develop fish habitat improvement projects to utilize fully potential smolt production capability of Forest anadromous streams and resident fish in other streams and lakes. Coordinate land management activities with the California Department of Fish and Game and Oregon Department of Fish and Wildlife objectives. Protect streams and lakes from detrimental changes in water temperature, blockages of water courses and deposits of sediment. Natural debris, plus trees needed for a future supply, will be maintained and managed to 1) enhance stream channel and bank structure so as to protect water quality, and 2) provide structural fish habitat to meet the objectives of small habitat capability or resident fish populations provided for in the Forest Plan.	P, C, R, O	P, B, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. J EIS App. L POD Att. DD
Wildlife, Fish and Plants: Endangered, threatened and sensitive species (and species proposed for Federal listing by USDA Fish and Wildlife Service [PETS]) will be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Natural Heritage Database, and California Department of Fish and Game.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Legal and biological requirements for the conservation of listed and proposed endangered, threatened and sensitive plant and animal species shall be met. Habitat for existing federally-listed species shall be managed to achieve objectives of recovery plans.	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Biological evaluations (FSM 2672 4) shall be prepared for each project authorized, funded or conducted on the Forest. The biological evaluation shall be used to determine the possible effects the proposed activity will have on listed and PETS species. The biological evaluation consists of five steps. a. Pre-field review of existing information; b. Field reconnaissance of the project area, c. Determination of whether local populations of listed and PETS species will be affected by a project; d. Analysis of the significance of project effects on local and total populations of listed and PETS species, e. When step four cannot be completed due to lack of information, a biological or botanical investigation is conducted to gather the information needed to complete step four.	P, R	P, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: If endangered, threatened or proposed species are found in a prefect area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205) and FSM 2671 4 No adverse Impacts on endangered, threatened or proposed species or their habitats shall occur except when It is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the USDI Fish and Wildlife Service (FSM 2670 31) Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219 27(a)(8)).	P, C, R, O	P, B, R, M	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. L POD Att. DD
Wildlife, Fish and Plants: If sensitive species are found in a project area, avoidance or other mitigation to minimize impacts to local populations shall be used for those species whose viability has been identified as a concern (FSM 2670.32). Maintaining viable populations of species throughout their geographic range (FSM 2670.22) shall be an objective during project planning. At a minimum, no action shall result in loss of species viability or create significant trends toward Federal listing (FSM 2670.32).	P, C, R, O	P, R, M	EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 3.4.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Wildlife, Fish and Plants: Northern Spotted Owl - Manage this species under the standards and guidelines established in the ROD to the Supplement to the Environmental Impact Statement for an amendment to the Pacific Northwest Regional Guide. In the event that a pair of northern spotted owls are found in an area not identified prior to September 1, 1981, consideration will be given to (1) the need to improve the distribution of older forest ecosystems for all associated plant and animal species; (2) providing insight into management of spotted owl habitat areas (SOHA) through experimental habitat manipulation. If a nesting pair of owls is found during a scheduled timber sale or other activity outside a SOHA, a biological assessment for sensitive species will be made and protective measures will be instituted to protect the nest site until after fledging.	N		
Wildlife, Fish and Plants: Osprey - Protect active nests during the nesting season. Land management activities having adverse potential impact should not occur within a 20-chain radius of the nest from March 1 to August 31. Nest and perch trees will be protected until they are no longer usable.	N		

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Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Goshawk - Nest sites will be protected from disturbing human activities during the nesting season. To maintain the physical suitability of nesting areas and prevent disturbances that may cause nesting failures, the period of protection will be from March 1 to August 31 for the area within 20 chains of an active nest.	N		
Wildlife, Fish and Plants: Goshawk - Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive and the above nest site restriction may be waived. Monitoring will be supervised and evaluated by a qualified wildlife biologist.	N		
Wildlife, Fish and Plants: Goshawk - Goshawk nests will be protected within a 25-acre no-harvest buffer of trees unless other adjacent alternate buffers are available in a logical basis to maintain habitat over time.	N		
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Leave sufficient wildlife trees (hard snags or green trees designated to become snags) in coniferous forest lands to provide for at least 100 percent of the potential population levels for cavity nesting species. The distribution of numbers and size class necessary to meet 100 percent per 100 acres is as follows: Siskiyou and Cascade Mixed Conifer Size / Number 15+ / 298 17+ / 60 25+ / 5 Total / 363 Siskiyou and Cascade True Fir Size / Number 15+ / 238 17+ / 18 25+ / 5 Total / 261	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F POD Att. P POD Att. U POD Att. DD EIS App. L

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Woodpeckers - (Cavity Nesters) Species distribution should be representative of the site's original stand. Trees selected for retention should maximize use of the stand's cull component. If the proper number and size of trees do not exist in the stand to be treated, select the proper number from the next lower size class (i.e. if 25" trees are not available go to 17" trees). Material that satisfies the need for down woody material recruitment will come from existing down material, down woody material that is the result of a silvicultural treatment and from the trees that are designated to meet standing wildlife tree requirements. The long-term goal for large woody material (LWM) is 10 to 20 pieces of class I and II logs per acre, and all existing class III, IV and V logs, except for incidental amounts removed during management activities. Additional green merchantable trees will not be designated unless none of the other categories exist. The expected life span of snags or dead trees in mixed conifer working groups is 30 years and in true fir working groups the life span is 20 years. The silvicultural prescription will describe the total number, size and species of wildlife trees that will be required through the next full rotation of the stand being treated. Wildlife and down woody material requirement will be included as part of the vegetative (silvicultural) prescription for each stand. Information for the prescription will be provided by a wildlife biologist based on site by site needs. A certified silviculturist will validate the data and include it in the preparation of the final vegetative (silvicultural) prescription that implements all the interdisciplinary requirements. The logging system required, reforestation needs, slash disposal requirements and site preparation needs should be compatible with the wildlife tree distribution needs. Primary cavity excavator habitat will be met on areas no larger than 60 acres including adjacent existing harvest units. The objective is to provide well distributed habitat, and to allow adjacent stands to provide the needed wildlife trees for past harvest units where current standards were not met. Where past harvest units were very large, the adjacent stands within 900 feet will be managed at higher wildlife tree levels to bring the overall area to at least the 40 percent level. When the past harvest units were of such magnitude that the above methods cannot bring the entire area to 40 percent level, the remaining shortage will not be provided for, but will be tracked for the purpose of monitoring the forest plan. Selection of wildlife trees to make up for past deficits will meet the same selection criteria as in newly treated stands. Green merchantable trees will not be girdled to create wildlife snags, regardless of the situation, until (5-7) years after project completion (sale closure), in order to capture any mortality that may occur during that time. Operational accomplishment will be included as a monitoring item in the forest plan.	P, C, O, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App .F POD Att. P POD Att. U POD Att. DD EIS App. L
Wildlife, Fish and Plants: Deer and Elk - Maintain deer and elk summer range to provide forage, hiding and thermal cover. A restricted operating period from April 1 to June 30 may be imposed in identified deer or elk fawning or calving areas.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Wildlife, Fish and Plants: Bald Eagle - Develop a bald eagle site management plan for each nesting or roosting area as It is discovered Until a site specific management plan is developed, the following measures will apply Establish the primary nesting zone to be a 330 foot radius around the nest and the secondary zone to be a 660 foot radius around the nest The following activities should not occur within the nesting zones and communal roosting sates 1) Primary Zone All human related activities unless the activities pre-existed to nest discovery and the eagles are apparently tolerant, 2) Secondary Zone - Major land uses such as development of commercial and industrial sites, home, road, powerline or other construction, oil drilling, surface mining, and spraying of chemicals which adversely affect eagles. Timber cutting to enhance habitat is permitted but there is no scheduled timber harvest, 3) Primary and Secondary Zones between January 1 and August 15 - blasting, use of firearms, camping, picnicking, timber harvest, road and water access Into the nesting territory, and low level aircraft operations with helicopters no closer than 1,000 feet and with fixed wing no closer than 500 feet, 4) A communal roost is any stand of trees m which eagles regularly roost together. The primary zone for roosting eagles is 330 feet from the roosting trees and the secondary zone is one-quarter of a mile from the roosting trees. Large trees used as solitary roosts should be left along shoreline of lakes and streams wherever possible Biological evaluation and informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4
Wildlife, Fish and Plants: Peregrine Falcon - Develop a Peregrine falcon site management plan for each nesting area found The site plan design will be tailored to fit the landscape and the use patterns established by the birds. The following may be included in the Plan. 1) Delineate the nest site (eyrie), 2) Define primary (nesting) and secondary and tertiary zones associated with the eyrie, 3) Withdraw the nest site from mineral entry, 4) Restrict management activities and recreational use to September through January: 5) Allow no structural developments within the primary zone unless It benefits the species; 6) Maintain and/or enhance riparian habitats within a three-mile radius of the eyrie, 7) Develop water sources (springs, seeps, ponds, catchments) within approximately one-half mile radius of the eyrie, 8) Implement silvicultural prescriptions, prescribed fire or other management techniques to maintain a mosaic of all vegetative serial stages within the secondary and ternary zones (approximately a three-mile radius of the eyrie); 9) Direct special emphases towards maintaining and/or enhancing mast- and berry-producing shrubs and trees which support jays, bandtail pigeon and other passerine birds. Biological evaluation and Informal consultation with the U.S. Fish and Wildlife Service will be conducted for all potentially disturbing activities proposed within one mile of all nesting and roosting areas, within potential habitat, or as called for within site-specific management plans.	P	P, R	EIS Sec. 3.4.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Sec. 4.7.1.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L
Range: Livestock grazing will be permitted but will be managed to meet the goal of protecting the productivity of habitat values in riparian areas.	N		

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Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Range: Protecting and enhancing riparian area values will be addressed in each Allotment Management Plan as it is revised and/or updated. Specific objectives will be determined for riparian areas within grazing allotments. A measurable desired future riparian condition will be established based upon existing and potential vegetation conditions. When the current riparian condition is less than that desired, grazing systems and associated structural improvements will be designed and implemented to meet those objectives. Measurable objectives will be set for key parameters such as streambank stability, sedimentation, and vegetation condition. The Allotment Management Plan will describe the monitoring needed to determine if the desired rate of improvement is occurring.	N		
Range: Allotment Management Plans currently not meeting Forest Plan direction will be revised on a priority basis under a schedule established by the Forest Supervisor.	N		
Range: Prohibit salting within the management area.	N		
Range: Develop Coordinated Resource Management Plans where possible and feasible to facilitate the integrated resource management of range and other resources, and between agencies, permittees and other landowners.	N		
Range: Forage utilization standards will be incorporated in allotment management plans. Allotment management plans may include utilization standards which are lower or rarely higher when associated with intensive grazing systems and specific vegetation management objectives which will meet resource management objectives and the intent of the management strategy. The standards include cumulative annual use by big game and livestock. Utilization for grass and grasslike species is based on the percent of plant weight removed. Utilization for shrub species is based on incidence of use, weight, and/or twig length (e.g. utilization is 50 percent if 50 out of 100 leaders are browsed). Satisfactory condition is determined by allotment classification and/or forage condition. Unsatisfactory condition is anything not meeting satisfactory conditions. Allowable use of available forage (Maximum percent of annual utilization by big game and livestock) is:	N		
RANGE MANAGEMENT INTENSITY	N		

	Minimum 1/	Extensive 2/	Intensive 3/
Forested Areas			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Grasslands			
-Satisfactory Condition	50%	55%	60%
-Unsatisfactory Condition	0-30%	0-35%	0-40%
Shrublands			
-Satisfactory Condition	40%	45%	50%
-Unsatisfactory Condition	0-25%	0-30%	0-35%

1/ Minimum - Minimum amount of improvements; simple grazing system.
2/ Extensive - Most or all improvements are non-structural; rotation grazing systems used.
3/ Wide variety of structural and non-structural improvements; rotation grazing systems used.

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Element	Applicable	Consistency	Comment
Timber: Timber harvest is not programmed and would normally not occur except for the following situations: to eliminate hazards, removal incidental to construction or maintenance of improvements, minor unavoidable inclusions to logical management units, or in the case of natural catastrophe, when removal of such timber is not detrimental to achieving the goals of the management area.	N		
Timber: Maintain vegetation characteristics needed for fish habitat and water quality protection. a. For areas normally dominated by trees, at least 80 percent of the normal tree crown cover will be retained over the length of the stream in the project area. The 80 percent figure was established to allow cross stream logging where logical. The intent of this is to cause less disturbance to watersheds by eliminating roads. b. An exception can be made for catastrophes. When shading vegetation along a stream is removed and creates an opening, recovery will be considered sufficient when the shade is reestablished. In all cases water temperatures must be maintained at acceptable levels.	N		
Timber: Maintain a blend of tree species approximating natural stands. In seed collections, no seed lot shall be represented by fewer than 15 families of trees of that species, well distributed across the breeding zone. In addition, no family of parent trees shall represent greater than 20 percent of a seed lot. Although any given plantation may be planted to a single species, strive for a natural seed source from a variety of species.	N		
Timber: Fuelwood and other miscellaneous forest products will be available only when consistent with riparian habitat management objectives.	N		
Timber: Rehabilitate and reconstruct developments and resources that have been impacted by timber sale activities.	N		
Timber: Utilization standards for timber harvested will meet the standards as stated in the Pacific Northwest Regional Guide, Standards and Guidelines 4-2 and in Table 3-6. Standards in timber sale contracts may vary depending on markets and costs of harvesting.	N		
Water: Evaluate effects of proposed projects on stream courses In all environmental analysis, Discuss pertinent stream classification and recommend changes where appropriate as a result of the environmental analysis.	P	P	EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. CC

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Element	Applicable	Consistency	Comment
Water: Comply with State requirements in accordance with the Clean Water Act of 1972, as amended (1977 and 1987) for protection of waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41), and the State of California (Porter-Cologne Water Quality Control Act, Division 7) through planning, application, and monitoring of Best Management Practices (BMPs) in conformance with the Clean Water Act of 1972, as amended (1977 and 1987), regulations, and federal guidance issued thereto.	P, C, R, O	P, B	EIS Secs. 1.4.3.2 & 1.4.3.4 EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. BB
Water: In cooperation with the States of Oregon and California, the Forest will use the following process. a. Select and design BMPs based on site specific conditions, technical, economic, and institutional feasibility, and water quality standards for those waters potentially impacted, b. Implement and enforce BMPs; c. Monitor to insure that practices are correctly applied as designed: d. Monitor to determent the effectiveness of practices in meeting design expectations and in attaining water quality standards: e. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected: f. Adjust BMP design standards and application when it is found that beneficial uses are not being protected and water quality standards are not being achieved to the desired level Evaluate the appropriateness of water quaky criteria for reasonably assuming protection of beneficial uses. Consider recommending adjustment of water quality standards, g. Use the existing agreed to process to Implement the State Water Quality Management Plan on lands administered by the USFS as described In Memorandums of Understanding between. 1) the Oregon Department of Environmental Quality and US. Department of Agriculture, Forest Service (Z/12/79 and 12/7/82), and "Attachments A and 8' referred to In this MOU (Implementation Plan for Water Quality Planning on National Forest lands in the Pacific Northwest 12/78 and Best Management Practices for Range and Grazing Activities on Federal lands) and 2) the State Water Resources Control Board, State of California, and US Department of Agriculture Forest Service, Pacific Southwest Region, 1981.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. I POD Att. M POD Att. CC

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Water: The following requirements will be employed in protect implementation when proposed projects may affect streams. a. Determine restricted distance from streams for equipment operation, type of stream crossing, if crossing is needed, and erosion control methods, if needed, b. Locate springs that may be affected and evaluate for appropriate levels of protection. This would usually require consultation with soil, water or geology specialists, c. In project planning, consider basin constraint percentages by subwatershed as identified in the monitoring play for watersheds.	P, R	P, B, R, M, A	EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.2.2.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS App. F EIS App. J POD Att. C POD Att. I POD Att. W POD Att. X POD Att. BB POD Att. DD LMP Amendment RRNF-5
Water: Acquire water rights for development of non-reserved uses.	N		
Water: Allow watershed improvement projects. However, those which involve removal of debris from streams will normally be restricted to removal of man-caused debris only.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Water: Design project water monitoring as appropriate.	P	P, B	EIS Secs. 2.3.2.1 & 2.1.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 2.6.1 & 2.6.2 POD Att. I POD Att. M POD Att. CC
Water: In-stream flows on National Forest lands should be protected through critical analysis of proposed water uses, diversion and transmission applications and renewal of permits.	N		
Water: Insure that proposed projects have no adverse effects on snow survey sates included in the Regional Forester's memorandum of understanding with the Soil Conservation Service.	N		
Minerals: Prohibit development of new, permanent aggregate sources	N		
Minerals: Prohibit expansion of existing aggregate sources.	N		
Minerals: Rehabilitate aggregate sources as they are closed.	N		
Minerals: Under mining laws, claimants are entitled to access to their mining claims Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan A decision on approval of reasonable access will be made as a result of appropriate environmental analyses.	N		

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Minerals: Operating plans for mining operations will be processed In a timely manner in accordance with 36 CFR 228.	N		
Minerals: In plans of operation, require operationally feasible provisions designed to: protect riparian and fishery values; meet State water quality standards; and Insure that disturbed areas are reclaimed Insofar as practicable to a practicable condition.	N		
Minerals: Reclamation plans will Identify management objectives for disturbed areas and detail the procedures and time frames necessary to accomplish the objectives Reclamation bonds will be based on actual reclamation costs and formulated using technical and other resource Input.	N		
Human And Community Development: Conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, and established Forest Service standards.	N		
Human And Community Development: Inform the general public, including minorities and the underprivileged, of availability and benefits which they are eligible to receive from Forest programs. Techniques to Increase awareness and participation will be used.	N		
Human And Community Development: As directed by the American Indian Religious Freedom Act, the Forest will protect and preserve for Native Americans their inherent right of freedom to believe, express and exercise their traditional religions on Forest lands This includes, but is not limited to, access to ceremonial sites, use and possession of sacred objects, and the freedom to worship through traditional ceremonies and rites.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities compatible with interests of surrounding Indian tribes.	N		
Human And Community Development: Identify opportunities for the Forest to coordinate resource activities with the Interest of adjacent communities.	N		
Lands: Revise all special use permits to be constant with the direction in this management strategy when renewed.	N		
Lands: Utilize residual capacity in existing utility condors when applications for rights-of-ways from public or private entities are received. Analyze any additional corridors with an environmental analysis.	P	P, R	EIS Sec. 1.4.2 EIS Secs. 1.5.1 & 1.5.2 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3
Lands: Insure that proposed projects do not have adverse effect on lands included in active exchanges.	N		
Lands: Proposed projects are responsible for distinguishing boundaries between management areas with differing management objectives.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Lands: Develop rights-of-ways as necessary to implement projects.	P, C, R, O	P, B, R, A	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.6 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 41.3.4 POD Att. A POD Att. U POD Att. Y POD Att. BB LMP Amendments RRNF-2 to RRNF-7
Lands: Establish and maintain property boundaries.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. T
Soils: Address the potential for detrimental soil displacement, compaction, puddling, severe burning, mass wasting and surface soil erosion in project environmental analysis.	P	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Alternative management practices will be developed or mitigating measures planned and Implemented when activities are likely to result m detrimental displacement, compaction, mass wasting or erosion.	P, R	P, B, M, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 EIS Sec. 3.4.3 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. DD LMP Amendment RRNF-6
Soils: No more than ten percent of an activity area to be compacted, puddled or displaced upon completion of project (not including permanent roads or landings). No more than 20 percent of the area should be displaced or compacted under circumstances resulting from previous management practices, Including roads and landings Permanent recreation facilities or other permanent facilities are exempt.	P, C, R	P, B, A	EIS Sec. 1.5..1 EIS Sec. 2.1.3.6 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I LMP Amendment RRNF-6
Soils: Landslide hazard evaluation will be used to assess potential mass wasting risk by the project. The Rogue Rover National Forest landslide, slope stability and hazard rating maps will be used to determine need for detailed slope stability mapping.	P	P, R	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 3.4.3 EIS Sec. 4.2.2.2 POD Att. I

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Soils: Design management activities to retain effective ground cover. The mineral soil exposure should not exceed the following limits overall, based on the erosion hazard rating of the soil type, as defined in the Rogue River National Forest Soil Resource Inventory: a. Twenty percent mineral soil exposed on soils classed as very slight, slight, low or moderate erosion hazard soils. b. Ten percent exposure on high or severe erosion hazard soils. c. Seven percent exposure on very high or very severe erosion hazard soils.	P	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soils: Rehabilitate adversely impacted sites.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Facilities: The Access Management Objectives Process, as described m Forest Service Handbook 7709 55, will be used to develop Road Design, Road Operation, Road Maintenance, and Off-Road Travel Criteria These in turn will be used to develop. a. Road and Trawl Design Elements, b. Road and Trawl Design Standards, c. Road Maintenance Levels, d. Road and Trail Maintenance Plans, e. Road Traffic Management Strategies, f. Road Restriction Orders and Traffic Control Devices, g. Off-road Vehicle Management Strategies, h. Travel Maps, and i. Closure Orders.	N		
Facilities: Geotechnical input is required for road location, design, and management.	P	P	EIS Sec. 3.4.3 EIS Sec. 4.2.3.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Facilities: Temporary roads will be planned, located, surveyed, designed, constructed, and operated utilizing the same procedures for renewing, decisions, selecting design elements and standards, and controlling construction, operation, and maintenance as are used for permanent transportation system roads.	P	P, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads may be closed seasonally to prevent resource damage.	P, C, O	P	EIS Sec. 2.4.2.1 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Facilities: Roads that are no longer needed shall be obliterated and properly drained when they are taken out of service Vegetation shall be reestablished within one year.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y POD Att. DD

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Facilities: Off-Road Vehicles will be restricted to: a. Trails on which the use will neither damage the trail nor the soils. b. Roads closed to highway vehicles on which ORV use will neither damage the road nor the soils.	N		
Facilities: Over snow vehicle use of roads is acceptable when sufficient snow is present to close roads to highway vehicles.	N		
Facilities: Where existing roads or trails are adversely impacting water quality, steps will be taken to mitigate the problem.	P, C, O, R	P, B	EIS Sec. 2.1.4 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F EIS App. J POD Att. I POD Att. Y
Facilities: Prohibit pit toilets, vault toilets, sewage disposal of any kind, and waste disposal of any kind within this management area.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 POD Att. I POD Att. W
Facilities: Helispots and transmission corridors should be located outside this management area.	P	P, R, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.6 EIS Sec. 2.3.2.3 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS App. J LMP Amendment RRNF-5
Protection: Suppress pests when outbreaks threaten managed resources and/or users. Use methods that minimize site disturbance.	N		
Protection: Plan pest control alternatives to be biologically selective, cost beneficial and to have no irreversible adverse effect on the environment.	N		
Protection: Permit the use of heavy equipment to construct firelines if it results in less total impact on the environment. A resource advisor should be appointed in all such situations to advise the incident commander on the location and standard of equipment work, and rehabilitation techniques.	N		
Protection: Provide a moderate level of fire prevention activities consisting of: public contact through the use of media and personal contact at campgrounds and dispersed recreation areas; and fire prevention signing at campgrounds, rest areas, main road junctions, information centers and local businesses.	N		
Protection: Treat activity fuels to a level which meets protection standards and resource objectives in a cost-efficient manner.	P, C, R, O	P, B	EIS Secs. 4.1.3.5 EIS Sec. 4.5.2.3 EIS App. J POD Att. K POD Att. R

TABLE E-6

Rogue River National Forest Land And Resource Management Plan

Element	Applicable	Consistency	Comment
Protection: Hazard reduction activities will be compatible with management area objectives.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Use prescription fire to obtain the desired ecological characteristics of the area.	P, C, R, O	P, B	EIS Sec. 2.1.6 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.2.3 EIS App. H EIS App. J POD Att. R
Protection: Provide for a protective strip of undisturbed surface between the prescribed burn area and specified water courses, considering local topographic, vegetative and soil characteristics.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. J POD Att. I POD Att. R
Protection: Avoid high intensity prescribed fires on soils that are highly erodible and/or are subject to the development of hydrophobic (non-wettable) conditions.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I POD Att. R
Protection: Construction and maintenance of fuel breaks will be permitted provided low impact methods such as hand tools are used.	P, R	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.6 EIS App. F EIS App. H POD Att. K POD Att. DD
Protection: Conduct prescribed burning in such a manner that it will conform to applicable provisions of the Federal Clean Air Act, Oregon Smoke Management Plan and the Rogue River National Forest Smoke Management Plan.	P, C, R, O	P, B	EIS Sec. 1.5.1.8 EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 EIS App. H EIS App. J POD Att. I POD Att. R

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Air Quality			
Management activities shall be planned to maintain air quality at a level adequate for the protection and use of the national forest resources and to meet or to exceed applicable Federal and State standards and regulations (36 CFR 219.27[a][12]).	P	P	EIS Sec. 1.5.1.8 EIS Sec. 1.5.4.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. B
The Forest shall coordinate with the appropriate air quality regulatory agencies. Prescribed burning operations shall comply with the procedures identified in the Smoke Management Operations Plan (Oregon State Forestry Directive 1-4-1-601).	P, C, O	P, B	EIS Sec. 1.5.4.3 EIS Sec.4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. B POD Att. I POD Att. R
The Forest shall demonstrate reasonable progress in reducing total suspended particulate (TSP) emissions from prescribed fire.	N		
The best available predictive methods and models and the most cost efficient technology should be used to minimize the impact of prescribed burning on smoke-sensitive areas and designated Federal Class I areas.	P, C, O	P, B	EIS Sec.4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. B POD Att. I POD Att. R
Three basic strategies may be used to manage prescribed fire smoke: reduction, dilution, and avoidance. The strategy of reduction focuses on reducing the amount of smoke (particulates) produced by increasing the efficiency of burning and reducing the amount of fuel consumed by fire. This may be accomplished by such methods as: 1. Increasing wood utilization standards and the continued use of WM and PUM specifications (yarding or piling unmerchantable material), consistent with the objectives for large woody materia1,'in timber sale contracts. 2. Specifying logging methods that reduce timber breakage and minimize creation of unmerchantable debris (for example, directional felling and tree lining). 3. Selecting fuel moisture parameters that reduce the total consumption of fuel and reduce the smoldering phase of combustion. 4. Selecting ignition (fire-starting) methods and techniques that lower TSP production. 5. Utilizing alternative slash treatment methods, such as chipping or burying, in place of prescribed fire. 6. Requiring, where feasible, prompt and vigorous mop-up (extinguishing remnant traces of fire to prevent its recurrence) 7. Increasing the air supply to slash piles and burn bays (specially created areas along roads for accumulating and treating slash). 8. Changing the merchantability specifications of logs.	P, C, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. K POD Att. R POD Att. U

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Three basic strategies may be used to manage prescribed fire smoke: reduction, dilution, and avoidance. The third strategy, avoidance, may also be used in a Forest smoke management program. This strategy involves the selection of on-site and meteorological conditions that will put the smoke either up and over smoke-sensitive areas or away from these areas. Practices that may be followed include: 1. Burning when wind direction is favorable to avoid smoke-sensitive areas. 2. Selecting a combination of burning prescription parameters to generate an elevated plume that exceeds the ceiling of the smoke-sensitive area and then moves quickly over or away from the area 3. Using the combination of terrain elevation and inversion layers to prevent smoke from settling into sensitive areas.	P, C, O	P, B	EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. R
Public understanding of prescribed fire and smoke management will be most helpful in ensuring that any one of the strategies, or a combination of strategies, is successful. Some measures that may be employed include: 1. Educating the public as to the objectives of prescribed fire use in the local environment, the steps taken to reduce smoke, and how smoke is managed. 2. Informing the public before the ignition of potentially troublesome units	N		
Coordination with other local agencies that also are responsible for maintaining air quality is a key in ensuring a viable air quality maintenance program for the Forest Some measures that may be taken to ensure overall air quality are: 1. Cooperating with local air pollution authorities in monitoring activities that may result in new or modified sources of emissions which may impact Class I areas. 2. Completing review of any air quality studies that are part of new source permits.	N		
Cultural Resources			
The Forest will comply with all applicable legal requirements for management of cultural resources, including the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, the American Indian Religious Freedom Act of 1978, and the Archaeological Resources Protection Act of 1979.	P, C, O	P, B, R	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Sec. 4.11.5 POD Att. Z
The Forest cultural resource overview shall be maintained and updated.	N		
A cultural resource inventory program will be conducted under the supervision of a professional archaeologist on a project-specific level before ground-disturbing activities occur, in compliance with applicable Federal historic preservation legislation. The results of project-level cultural resource inventories shall be documented in a cultural resource report and in the project planning records.	P	P	EIS Sec. 1.5.4.7 EIS Sec. 4.11.2 EIS Secs. 4.11.3.2 & 4.11.3.3 EIS Sec. 4.11.5

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
The significance of inventoried sites shall be evaluated by applying the criteria for eligibility to the National Register of Historic Places; qualifying sites ('eligible' cultural resources) should be nominated.	P	P	EIS Sec. 1.5.4.7 EIS Sec. 4.11.1.1 EIS Sec. 4.11.2 EIS Secs. 4.11.3.2 & 4.11.3.3 EIS Sec. 4.11.5
The effects of all management activities on significant cultural resources shall be considered, and measures shall be developed to avoid or mitigate any adverse effects. Measures shall be developed in consultation with the Oregon State Historic Preservation Officer (SHPO) and, if necessary, the National Advisory Council to protect significant sites from adverse effects due to ground-disturbing project activities	N		
Eligible cultural resources will be considered for protection from degradation due to vandalism, unauthorized public use, and natural deterioration. They should be monitored by means of a recurring inventory to assess whether their condition has been affected by vandalism, unauthorized use, and natural deterioration. Stabilization or rehabilitation may be carried out on significant sites which have been damaged.	N		
Antiquities permits may be issued to qualifying academic institutions or other organizations and individuals for the study and research of cultural resource sites.	N		
Suitable cultural resource properties may be interpreted for the recreational use and educational benefit of the general public. Preferred methods include brochures, signs, displays, interpretative trails, tours, and video or slide programs.	N		
Any long-term management of cultural resources shall be coordinated as necessary with the State Historic Preservation Office, the Klamath Tribe, and other groups or individuals.	P, C, O	P, R	EIS Sec. 1.5.1.5 EIS Sec. 1.5.4.7 EIS Secs. 4.11.1.1 – 4.11.1.3 EIS Secs. 4.11.3.3 EIS Sec. 4.11.5 POD Att. Z
Cultural resources shall be managed according to the following priorities: Non impactive data collection (including mapping, photo documentation, and reporting) to preserve cultural resources for future scientific study and to guide development of the cultural resource program.	N		
Cultural resources shall be managed according to the following priorities: Encouragement of understanding and ownership of the cultural resource program through public information efforts with special emphasis for members of the Klamath Tribe and local publics.	N		
Cultural resources shall be managed according to the following priorities: Adaptive use of historical structures by considering them for interpretative purposes; for example, administrative sites, residences, and interpretative centers.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Cultural resources shall be managed according to the following priorities: Adherence to a consultation process with the Klamath Tribe, recognizing the tribe's interest in sites related to Its tribal history.	N		
Cultural resources shall be managed according to the following priorities: When cultural resource sites are damaged, controlled data recovery by means of testing, excavating, and analyses will be done in consultation with the Klamath Tribe.	N		
Management of culturally significant, traditional use, and religious sites shall be coordinated with the Klamath Tribe. Information about planned project activities shall be presented to the Klamath Tribe for coordination concerning effects on these sites.	N		
Facilities			
Transportation System: Development and management of the Forest transportation system shall be in accordance with an approved transportation system plan. This plan shall be the official description of the transportation system. The plan consists of a series of base maps showing the location of each facility and an inventory record defining their characteristics.	P, C, O, R	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y POD Att. DD
Transportation System: Management of the Forest transportation system shall be in accordance with an approved Forest road management plan The purpose of this plan is to determine the proper combination of development, traffic management, and maintenance of the existing road system to meet the management area objectives the best. This plan shall contain specific road management objectives, multiyear development plans, traffic management and maintenance plans, and the road plans of other agencies.	P, C, O	P, B	EIS Sec. 4.10.2.6 POD Att. Y
Transportation System: Temporary roads may be constructed where there is a one-time need for a transportation facility. After the need is fulfilled, the road shall be closed and returned to vegetative production. Temporally roads left from past activities shall be evaluated as they are encountered during project-level analysis	P, C, R, O	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System: Roads shall be constructed and maintained to the standards and levels necessary to meet the resource management objectives.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System: All roads shall have approved road management objectives contained in the road management plan. These objectives state the intended purpose of the road; the resource objectives sewed; and the selected design, maintenance, and operation criteria that apply to the road.	P	P	EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Transportation System: Road construction, reconstruction, maintenance, and signing shall be in accordance with management area objectives, and should meet recognized engineering standards contained in Forest Service manuals, design handbooks, and other technical guides.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Transportation System: Existing roads not needed for future transportation purposes shall be closed and returned to vegetative productivity.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. F POD Att. Y POD Att. DD
Transportation System: Whenever practical, roads should be located in areas with the lowest erosion potential.	P	P, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 4.2.2.1 & 4.2.2.2 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. Y
Transportation System: Road construction activities shall be scheduled to minimize soil erosion when heavy rain or heavy surface runoff is most likely to occur.	P, C, O	P	EIS Sec. 2.4.2.1 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System: Where existing roads or trails are affecting air and water quality, steps should be taken to mitigate the problem.	C, O	M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. F EIS App. J POD Att. Y POD Att. DD
Transportation System: Road drainage shall be designed and maintained to minimize road runoff sediment directly into riparian areas	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y
Transportation System: Culverts or bridges shall be of adequate size to accommodate anticipated high stream flows and fish passage.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. F EIS App. J POD Att. Y POD Att. BB POD Att. DD
Transportation System: Stream crossings should not change floodplain or stream flow characteristics.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. BB POD Att. DD

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Transportation System: Stream crossing construction shall be scheduled during low stream flow and/or outside spawning periods.	P, C, R, O	P, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. BB POD Att. DD
Transportation System: Traffic management shall be considered as an alternative to road reconstruction when the existing facility is inadequate for mixed traffic.	N		
Transportation System: All new major transportation and utility facilities should be placed within or beside existing corridors to the extent practicable.	P	P, R, A	EIS Sec. 2.1.3.7 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3 EIS Sec. 4.1.3.4 EIS Sec. 4.10.2.6 LMP Amendment WNF-1
Transportation System: Road construction or reconstruction activities within an existing utility corridor shall be coordinated with the appropriate utility company to determine which precautions are necessary to safely cross the corridor.	P, C, O	P	EIS Secs. 2.3.2.1 EIS Sec. 2.4.2.2 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. Y
Transportation System: Existing roads not needed for access should be closed until access is required. Roads should be closed based on one or all of the following criteria: (1) need to protect the road, soil and water, or wildlife; (2) expected access need or road use; (3) safety of expected users; (4) need to protect cultural resources; (5) need to maintain or improve habitat effectiveness for wildlife; (6) need to provide planned recreation experience opportunities; and (7) reduction in road maintenance costs.	N		
Administrative Sites – Site Planning: An approved site development plan must be completed before expenditure of funds on new construction or additions to existing structures, including utilities.	N		
Administrative Sites – Site Planning: New facilities and additions to existing facilities shall be designed to provide barrier-free access.	N		
Administrative Sites – Construction, Reconstruction, and Operational Management: Acquisition, use, and disposal of Forest facilities (including historic structures) shall be in accordance with an approved facilities master plan.	N		
Administrative Sites – Construction, Reconstruction, and Operational Management: Design standards shall be based on site management objectives, including environmental constraints, user safety, national and local uniform building codes, traffic requirements and economics.	P	P, B	EIS Sec. 2.4.2.3 POD Att. I
Administrative Sites – Construction, Reconstruction, and Operational Management: All new sites shall be planned, constructed, and managed to provide the anticipated uses safely with a minimum impact to adjacent uses and landowners. Completed projects shall include provisions for reducing adverse environmental effects of sight, sound, odor, and drainage.	P, C, O	P, B	EIS Sec. 2.4.2.3 EIS Sec. 2.7.3 POD Att. I

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Administrative Sites – Construction, Reconstruction, and Operational Management: Site or structure closures may be implemented to meet health and safety needs or to reduce damage and maintenance costs.	N		
Administrative Sites – Construction, Reconstruction, and Operational Management: Facility condition surveys shall be conducted to determine maintenance needs and to identify needed corrective actions.	N		
Administrative Sites – Construction, Reconstruction, and Operational Management: Building maintenance funds and quarters collections will be allocated to cover operation, maintenance, and management proposals for facilities, and shall be guided by the following: (1) health and safety--hazard elimination; (2) prevention of further deterioration--of facilities, grounds maintenance, and other site improvement; (3) program support maintenance that contributes to increased resource production and/or decreased unit costs for projects; (4) energy conservation; and (5) compliance with other laws and regulations.	N		
Administrative Sites – Construction, Reconstruction, and Operational Management: Protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of buildings and structures that are on, or have been nominated to, the National Register of Historic Places shall follow the Secretary of the Interior's standards for historic preservation projects.	N		
Administrative Sites – Temporary Structures: Construction of 'temporary facilities' should normally be discouraged. Structures planned and constructed as 'temporary' shall be removed or obliterated when the need is satisfied. Methods used and timing should be in accordance with the project plan. Structures that subsequently are needed for additional use or are not removed or obliterated as planned shall be included in the site plan.	N		
Fish, Wildlife, and Sensitive Plants			
At the Forest level, fish and wildlife habitat shall be managed to maintain viable populations of all existing native and desired non-native plant and animal species. Distribution of habitat shall provide for species viability and maintenance of populations throughout their existing range on the Forest.	P, C, R, O	P, R, M	EIS Sec. 2.1.4 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. F EIS App. L POD Att. J POD Att. DD
Endangered, Threatened, or Sensitive Species: Endangered, threatened, and sensitive species shall be identified and managed in cooperation with the USDI Fish and Wildlife Service, Oregon Department of Fish and Wildlife (animals), and Oregon Department of Agriculture (plants). Legal and biological requirements for the conservation of endangered and threatened species and species proposed for listing as threatened or endangered status shall be met.	P, C, R, O	P, B, R	EIS Sec. 1.5.3.5 EIS Sec. 1.5.4.1 & 1.5.4.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Endangered, Threatened, or Sensitive Species: Habitat for existing federally classified threatened and endangered species shall be managed to achieve objectives of recovery plans.	P, C, O	P, R	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Sec. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. J EIS App. L POD Att. J
Endangered, Threatened, or Sensitive Species: All Forest Service projects, programs, and activities conducted, funded, or permitted shall be reviewed for possible effects on threatened, endangered, and sensitive species of animals and plants.	P	P	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. J EIS App. L POD Att. J
Endangered, Threatened, or Sensitive Species: Biological evaluations shall be prepared for each project authorized, funded, or conducted on National Forest System land to determine the possible effects the proposed activity will have on endangered, threatened, proposed, or sensitive species.	P	P	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J
Endangered, Threatened, or Sensitive Species: If endangered, threatened, or proposed species are found in a project area, consultation requirements with the USDI Fish and Wildlife Service shall be met in accordance with the Endangered Species Act (Public Law 93-205). Before a project can be carried out, protection or mitigation requirements shall be specified (NFMA, 36 CFR 219.27[a][8]).	P, C, O	P, B, R	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 2.1.4 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J POD Att. L
Endangered, Threatened, or Sensitive Species: Lists of endangered, threatened, and sensitive plant and animal species shall be maintained and updated periodically as new information is collected. Pertinent information shall be submitted to the Regional Office for updating the Regional Forester's Sensitive Species Lists and to the appropriate agencies for inclusion in statewide data bases.	N		
Endangered, Threatened, or Sensitive Species: Forest personnel shall not identify (to the public) specific location information that could, jeopardize the welfare of an endangered, threatened, proposed, or sensitive species.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Endangered, Threatened, or Sensitive Species: Habitat use of the Winema National Forest by these species shall be evaluated. Habitat requirements sufficient to maintain the species shall be provided.	P	P, R	EIS Sec. 1.5.1.1 EIS Sec. 1.5.3.5 EIS Secs. 1.5.4.1 & 1.5.4.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H EIS App. J EIS App. L POD Att. J
Endangered, Threatened, or Sensitive Species: Where appropriate, standards and guidelines developed by the Oregon Department of Fish and Wildlife may be used for species that are considered sensitive by ODFW and that are on the Regional Forester's Sensitive Species List.	P, C, R, O	P, B	EIS Sec. 1.5.4.4 EIS Sec. 4.7.3.2 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. J
Endangered, Threatened, or Sensitive Species: Where appropriate, standards and guidelines developed by the Klamath Tribe may be used for species that are considered to have traditional cultural significance to the Klamath Tribe.	N		
Raptors and Colonial Nesting Birds: Active roost and nest sites (including rookeries) shall be protected from disturbing human activities during their respective nesting seasons. Table 4-12[69] indicates protection zones and nesting and roosting seasons of some important bird species on the Winema National Forest. Each nest site is assumed potentially active until June 1. If monitoring has shown that no nesting attempt has been initiated or that a nesting attempt has failed by June 1, the nest site will be considered inactive, and nest site restrictions may be waived. Monitoring will be supervised and evaluated by a qualified wildlife biologist. Site management guides shall be developed for all consistently occupied (more than two years) nest sites, roosts, and rookeries	P, C, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 - 4.7.4.4 EIS App. K EIS App. L
Deer and Elk Habitat: Deer (mule and black-tailed deer) habitat shall be managed, considering all factors such as roads, cover, forage, water distribution, and livestock competition so that habitat capability to support deer is maintained or improved. On limited site-specific instances, short-term decreases (less than 10 years) are acceptable to achieve long-term benefits. Effects shall usually be calculated for projects on areas ranging from 8,000 to 60,000 acres. Habitat suitability models, such as the Interagency Technical Advisory Committee Mule Deer Model, 1985 as amended, may be used in projects such as but not limited to timber sales, grazing plans, road construction and water development.	P, C, R, O	P, B, R	EIS Secs. 4.6.1.2 & 4.6.1.3

[69] Table 4-12: Important Wildlife Nesting and Roosting Seasons and Required Protection Zones, Winema Land and Resource Management Plan

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Deer and Elk Habitat: Road access will be restricted and human activities will be discouraged between May 1 and June 30 in areas that have been identified as having traditional elk calving, only an area on the north end of Klamath District has been identified. Migration corridors of continuous coniferous cover no less than 600 feet wide will be retained to access calving areas as they are identified. Riparian areas and old-growth areas may contribute to migration corridors. As other elk calving areas are identified, this standard will be applied.	P, C, O	P	EIS Secs. 4.6.1.2 & 4.6.1.3
Deer and Elk Habitat: With the exception of calving areas, habitat east of Highway 97 will not be managed specifically for elk until completion of a cooperative elk study and the cooperative development of elk management guidelines.	P	P	EIS Secs. 4.6.1.2 & 4.6.1.3
Deer and Elk Habitat: The Forest shall provide a minimum of 30 percent of Its area as cover for deer. Generally 15 percent of the area will be hiding cover, 10 percent will be thermal cover, and 5 percent will be cover for fawning. Whenever possible, all cover also will be hiding cover. A short-term (10-year) reduction of cover to 15 percent of an area may be justified on a project-specific basis if reduction below 30 percent cover will provide long-term (greater than 10 years) benefits for deer.	P	P	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3
Deer and Elk Habitat: To provide adequate diversity of forage structure for deer, activities shall be planned to achieve multiple age classes in the brush vegetative component.	P	P	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3
Deer and Elk Habitat: Wildlife forage will be allocated firstly to meet the needs of big game, secondly to meet the needs of other animals.	P	P	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3
Fish and Aquatic Habitat: Streams shall be managed to maintain or to improve the present level of native fish habitat capability. Stream inventories shall be maintained and updated to: assess habitat capability; monitor changes due to natural or management-related events; and identify opportunities for rehabilitation or enhancement.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Secs. 2.4.2.2 & 2.4.2.3 EIS Sec. 4.1.3.5 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. BB POD Att. DD
Fish and Aquatic Habitat: Fisheries habitat enhancement shall be conducted according to Forest basin priorities. Basin priorities and plans should be prepared in cooperation with the Klamath Tribe and the Oregon Department of Fish and Wildlife. The plans will evaluate the current condition of habitat, fish populations, opportunities for enhancement, and the associated costs and benefits. Enhancement projects shall be monitored to evaluate effectiveness. Emphasis will be placed on maintenance or improvement of spawning, rearing, and migration habitats.	P, R	P, B, M	EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. DD

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Wildlife Tree (Snag) Habitat: Habitat capability for woodpeckers (indicators for cavity-nesting species) shall be continually maintained throughout the Forest at not less than 40 percent of potential population levels (Thomas et al1979) in all forested lands except lodgepole pine. In lodgepole pine, the decrease in large diameter trees because of catastrophic mountain pine beetle infestation may preclude achieving the 40 percent level. In lodgepole pine, the highest potential population level possible shall be achieved up to the 40 percent level. With the possible exception of lodgepole pine. This will result in maintenance of self-sustaining populations of cavity-nesting species.	P, C, O	P, R	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. L POD Att. P POD Att. U
Wildlife Tree (Snag) Habitat: In new sale areas, additional individual wildlife trees or wildlife tree clumps shall be left to offset lower numbers in older units in the vicinity. In these situations, the objective is to maintain an average 40 percent habitat level within as small an area as feasible (such as a small drainage basin).	N		
Wildlife Tree (Snag) Habitat: Established for forests in Region 6, wildlife tree management standards shall be followed (1920/2600 letter from Regional Forester dated September 9, 1988). This direction provides, in part, that snag densities needed to meet Management Requirement direction for cavity excavators must be provided within land areas that are generally no larger than normal unit size (not more than 40 acres). These densities will be maintained through the full rotation on these areas by providing for green replacement trees that will become snags of adequate size when existing snags fall.	P, C, O	P, R	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS Secs. 4.7.4.1 & 4.7.4.2 EIS Sec. 4.7.4.4 EIS App. H POD Att. P POD Att. U
Wildlife Tree (Snag) Habitat: Tables 4-13[70] and 4-14[71] should be used to meet the 40 percent habitat capability level. Table 4-13[2] identifies the number of acres of clumps needed to produce snags at the 40 percent level per 40 acres based on the Forest average for major timber working groups from the timber inventory. Table 4-14[3] identifies the number of snags and green trees needed per 40 acres to meet the objective 40 percent level.	N		
Wildlife Tree (Snag) Habitat: Snags with the largest diameter breast height (DBH) last longer and make the best wildlife habitat, and should be selected whenever possible. However, wildlife trees that will continue to grow for another 30 years to 35 years before becoming snags may be of smaller diameter than those which die at the beginning of a rotation. Snags with diameters (DBH) over 20 inches meet the standard and guideline for large woody material.	P	P, R	EIS Sec. 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H
Wildlife Tree (Snag) Habitat: Wildlife trees designated in riparian areas may be counted toward snag objectives only if they are excess to those needed to provide shade in stream corridors (essential shade trees shall not be killed to provide snag habitat) or large woody debris requirements.	P, C, O	P, B	EIS Sec. 4.1.3.5 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. J POD Att. P POD Att. U

[70] Table 4-13: Estimated Acres for Each 40 Acres to Produce a 40 Percent Potential Population Level for Cavity Nesters, Winema Land and Resource Management Plan
[71] Table 4-14: Number of Snags and Greet Trees for Each 40 Acres to Produce a 40 Percent Potential Population Level for Cavity Nesters, Winema Land and Resource Management Plan

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Wildlife Tree (Snag) Habitat: Wildlife trees should be clumped where this technique is usable and feasible and meets the 40 percent standard. Individual trees may be used If stand conditions preclude clumping and safety considerations are met.	P	P, R	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H EIS App. J POD Att. P POD Att. U
Wildlife Tree (Snag) Habitat: Designated wildlife trees or wildlife tree clumps shall be protected from woodcutting and Forest management activities.	P, C, O	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. P POD Att. U
Dead and Down Woody Material: Class I or II logs shall be left to maintain dead and down woody material habitat. This material shall be left in the following numbers and size classes by working group. 1. Ponderosa Pine: two or more logs/acre, 12 inches or greater diameter at the small end, greater than 8 feet long. 2. Pine Associated: SM or more logs/acre, 12 inches or greater diameter at the small end, greater than 8 feet long. 3. Mixed Conifer: six or more logs/acre, 12 inches or greater diameter at the small end, greater than 8 feet long. 4. Lodgepole Pine: 10 or more logs/acre, 6 inches or greater diameter at large end, greater than 8 feet long.	N		
Dead and Down Woody Material: Charring of down material should be minimized in prescribed burning where practicable. The suitability of logs as vertebrate and invertebrate habitat is reduced by charring.	P, C, O	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 POD Att. I POD Att. R
Dead and Down Woody Material: Live or dead standing trees shall be left to become down material when Class I and II logs are not available on the ground. Since these live or dead trees will become dead and down woody material habitat, they must be in addition to the snag or green tree replacement habitat requirements.	P, C, O	P, B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS App. H EIS App. J POD Att. I POD Att. P POD Att. U
Dead and Down Woody Material: To provide habitat for small animals, at least one pile of slash or natural piles of limbs shall be retained per acre. Slash piles should be at least 3 feet in height and 6 feet in diameter.	C, O	B	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.1 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 POD Att. I POD Att. U
Cliffs, Caves, and Talus Habitat: Individual projects shall be designed to protect the value of cliffs (including rimrock), caves, and talus habitat for wildlife. Protection shall include vegetative protection zones: at least 200 feet adjacent to cliff, cave, and talus habitat receiving nesting or denning use by mammals; and at least 200 feet adjacent to this habitat receiving nesting or rearing use by birds.	P	P, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 2.4.2.2 EIS Sec. 4.5.1.3 EIS Sec. 4.6.1.3

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Cliffs, Caves, and Talus Habitat: Rock quarries should be located at sites exhibiting the least desirable characteristics as wildlife habitat.	N		
Hardwood Habitat: Maintain or enhance hardwood (aspen and cottonwood) production on the Forest. Maintain a variety of hardwood age classes on the Forest. Hardwood stands mixed with conifers make a substantial contribution to visual, wildlife habitat, and vegetative diversity.	N		
Meadows: Protect and enhance meadows as a forest habitat component. Protection and enhancement includes stopping or reversing forest tree encroachment. A buffer of shrub or tree vegetation may need to be preserved on the perimeter of the opening.	N		
Miscellaneous Wildlife Sites: During the life of this Forest Plan, habitat sites will be found. These sites will have special value for wildlife or botanical resources, and are not otherwise addressed in the standards and guidelines. Management of these sites should be dealt with individually as part of the environmental analysis process for specific management activities. Each Ranger District shall maintain a list of sites to be considered for special management consideration as Wildlife or Botanical Sites at the next revision of the Forest Plan	N		
Plant Collecting (Including Sensitive Species): Federally listed threatened and endangered species are protected by the Federal Endangered Species Act (1982 amendments). The Forest Service cannot issue permits to collect these species for any purpose. This authority is granted only to the US. Fish and Wildlife Service.	N		
Plant Collecting (Including Sensitive Species): The Forest Supervisor may issue permits to collect sensitive or restricted plants or plant pans for legitimate scientific or educational purposes. Such collection must not jeopardize the continued vigor or existence of a plant population. Sensitive or restricted plants shall not be collected for commercial or personal use.	N		
Plant Collecting (Including Sensitive Species): Collecting plants or plant parts for any commercial purpose requires a commercial use permit issued by the Ranger District where the collecting activity is proposed. District rangers shall issue or deny commercial permits after review of a proposal presented by the collecting party. When evaluating applications for commercial collecting permits, consideration shall be given to the impacts on all Forest resources, including plant and animal diversity.	N		
Plant Collecting (Including Sensitive Species): Botanical collection permits may be issued by the Forest Supervisor to authorize collection of species other than endangered, threatened, sensitive, or restricted species.	N		
Plant Collecting (Including Sensitive Species): The above standards and guidelines regarding plant collection do not apply to the harvest of trees for timber and firewood.	N		
Lands			

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
National Forest System and non-Federal lands inside and adjacent to the Winema National Forest boundary shall be classified into one of the five landownership planning groups listed below. The Forest may develop more specific adjustment plans by area or with specific ownerships as a supplement to the Forest Plan. Group 1 - Congressional Direction This group includes those lands in which Congress has directly or indirectly instructed the Forest Service to retain in ownership and to acquire non-Federal lands for a designated purpose, such as wilderness or wild and scenic rivers. Acquisition of less than fee (full) title would be considered if direction and land management objectives could be met. Group 2 - Special Management Areas This group includes those lands that the Forest Service has recognized the need for a special kind of management through the land and resource management planning process. Examples include special interest, roadless recreation, and research natural areas. The landownership direction is to retain National Forest System ownership and to acquire non-Federal land as the opportunity and/or need arises. Acquisition of less than fee title would be considered if land management objectives could be met. Group 3 - General Forest This group includes lands that are characteristically general forestland or general rangeland where management direction emphasizes commodity production. These lands will be available for land adjustment and will usually provide most of the land considered in exchange projects. The basis for group 3 is the assumption that lands in this group will be managed to provide similar types of outputs, whether in private or public ownership. Landownership direction is to acquire and to dispose of lands as necessary to facilitate exchanges. Group 4 - Isolated National Forest Tracts and Intensively Developed Non-Federal Land Land in this group consists of (1) small isolated tracts of National Forest land situated away from contiguous blocks of National Forest land; and (2) non-Federal lands that are managed for intensive uses such as agriculture, residential subdivision, industrial development, ditch lines, and State and county highways. Landownership direction for this group characteristically is to make National Forest land available for acquisition of non-Federal lands in groups 1, 2, or 3. Non-Federal lands in this group will generally not be acquired. Group 5 - Lands Needing Further Study This group includes situations where more intensive study and planning are necessary before landownership decisions can be made. The primary factor that determines the need for intensive study is the necessity for close coordination with local and State governments. Intensive study generally involves private expansion around National Forest ownership Examples are: residential community growth, industrial development, or conversion of timberlands and rangelands to a more intense type of agriculture.	N		
Land Line Location: Property boundary surveys, posting, and marking shall be accomplished to support planned or ongoing resource projects (such as timber harvest) to solve or to prevent trespass and to identify administrative and private land boundaries. Adjacent landowners should be encouraged to share the costs of surveying common boundaries.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Land Line Location: Land surveying shall be accomplished in accordance with existing objectives, priorities, and standards.	P	P, B	EIS Sec. 2.4.2.1 POD Att. U POD Att. 21
Land Line Location: To protect the values of congressionally designated areas like wilderness, national parks, and wild and scenic rivers, boundaries shall be located before project implementation.	N		
Rights-of-Way: Appropriate rights-of-way shall be acquired for all roads and trails necessary for the operation and administration of the Forest.	N		
Rights-of-Way: In areas where national forest intermixes with large areas of private land or other land under a single ownership, the Forest Service should enter into a Road Rights-of-way Construction and Use Agreement for cost-sharing any joint road system. (This should be done when It is feasible and advantageous to the United States.) Roads within agreement areas shall be added to the agreement by supplement before commercial use commences.	N		
Special Uses: Special use management provides for the use and occupancy of National Forest land when such use is consistent with Forest management area goals and objectives. This use should be permitted only by law, when such uses are in the public interest, and when such uses cannot be served by reasonable development on private land. Special use applications shall be evaluated through environmental analysis before the permit is issued, and appropriate site-specific requirements and mitigation measures shall be developed and included in the permit.	P, R	P, B, M, A	EIS Sec. 1.4.2 EIS Secs. 1.5.1 - 1.5.4 EIS Sec. 2.1.3.7 EIS Secs. 2.1.4 - 2.1.6 EIS Sec. 3.4.3 EIS Sec. 4.1.3.3 - 4.1.3.6 EIS App. F EIS App. H EIS App. J POD Att. DD LMP Amendments WNF-1 to WNF-5.
Special Uses: Private landowners shall be granted reasonable access across National Forest System land, subject to applicable regulations and policies. Where reasonable access alternatives across other ownerships exist, authorization to cross National Forest land will not be granted.	N		
Special Uses: Existing withdrawals shall be reviewed by 1991 to determine whether, and for how long, the continuation of the existing withdrawals would be consistent with the statutory objectives of the programs for which the lands were dedicated.	N		
Special Uses: All special-use permits shall be revised when renewed to reflect Forest Plan direction.	N		
Special Uses: All recreation special uses shall be compatible with the Recreation Opportunity Spectrum classification of the area. Facilities shall be designed to meet the designated services to be provided. The number of permits for a specific use should be limited in order to create or to maintain economical operations, to reduce administrative costs, and to provide high quality services. Prospective permittees must demonstrate that they have the financial resources to undertake the proposed venture, or the permit shall not be issued.	N		
Special Uses: All special uses shall be inspected to ensure compliance with the permit.	P, C, R, O	P, B	EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.6.2

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Special Uses: In project planning and execution, care should be taken to prevent damage to permitted uses, such as summer homes, water developments, and private utilities.	P	P, B, R	EIS Sec. 2.4.2.2 POD Att. I
Special Uses: The facilities located within existing transportation and utility corridors shall be managed by the agency that acquired the rights-of-way, in accordance with the requirements of the easement, special-use permit, or authorization.	P, C, O	P, B	EIS Secs. 2.1.5 & 2.1.6
Special Uses: Additional transportation and utility corridors that major utilities may need shall be designated through an interagency environmental analysis following procedures in the Regional Guide. Future corridor planning and subsequent environmental analysis shall be in accordance with management area goals and objectives. These areas have management goals or environmental constraints that are not, or may not be, compatible with certain types of utility or transportation facilities.	N		
Special Uses: To avoid the proliferation of rights-of-way, the use of existing corridors shall be considered first in determining the best location for a new utility proposal. New transportation and utility proposals shall be accommodated within existing corridors to the maximum extent feasible.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.2.1 EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.3.2.3 EIS Sec. 3.4.3
Special Uses: Existing sites used for electromagnetic communications shall be protected from interferences generated by power transmission lines This may require the power transmission lines to be rerouted or redesigned to protect those sites, or it may otherwise require the proponent of the power line to equitably mitigate the uses established for those sites.	N		
Special Uses: The following actions should be taken in connection with electronic sites: 1. Develop site plans for existing sites which have facilities in place. 2. Identify potential sites for future development during environmental analyses. 3. Develop site plans for new sites prior to development. 4. Issue new permits to direct use of the sites in the following order: a. Utilize residual capacity of existing sites; b. Utilize identified potential sites; and c. Utilize other sites deemed suitable through environmental analysis after preparation of a site plan	N		
Special Uses: Utilities should be designed and located so that they are not highly visible from sensitive transportation corridors or other sensitive viewer locations.	P, R	P, R, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Sec. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. F POD Att. 1 POD Att. DD LMP Amendments WNF-2 & WNF-3
Special Uses: Utility lines shall be buried when it is technically and economically feasible.	P, C	P, B	EIS Sec. 2.4.2.1 POD Att. I

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals and Energy – Not Applicable, Excluded From Table			
Native American Rights and Claims			
The Forest is committed to fulfilling its obligations as an agency of the United States under the Klamath Treaty of 1864. Since management of the forest may affect the resources on which the tribe depends for exercise of its treaty rights, the Forest will determine through the NEPA process whether each land and/or resource management decision may affect resources subject to the tribe's treaty rights. The Forest, through the NEPA process, will analyze, disclose, and consider potential effects on the tribe.	P	P, R	EIS Sec. 1.4.2 EIS Sec. 1.5.1.5 EIS Sec. 4.11.1.2 EIS Sec. 4.11.3.3 EIS Secs. 4.11.4 & 4.11.5 POD Att. Z
All management activity on former reservation lands shall meet applicable requirements of the Klamath Treaty of 1864, the Act of August 13, 1954, as amended (Termination of Federal Supervision of the Klamath Tribe), the Restoration Act, and the terms of the Consent Decree of 1981. Appendix D[72] contains the major portions of the treaty and consent decree.	P, C, O	P, B, R	EIS Sec. 1.4.2 EIS Sec. 1.5.1.5 EIS Sec. 4.11.1.2 EIS Sec. 4.11.2.2 EIS Sec. 4.11.5 POD Att. Z
The Forest will inform and invite participation from the Klamath Tribe in planning of resource management activities. This will include holding an annual coordination meeting with the tribe to discuss anticipated projects. This meeting will be used to identify interest in specific projects.	P, C, O	P	EIS Sec. 1.5.1.5 EIS Sec. 4.11.1.2 POD Att. Z
The American Indian Religious Freedom Act shall be complied with on all Forest land.	P, C, O	P	EIS Sec. 1.5.1.5 EIS Sec. 4.11.1.2 EIS Sec. 4.11.4 POD Att. Z
Protection			
Fire Management: All wildfires shall receive an appropriate suppression response. The response shall be safe, timely, and cost efficient and shall meet management objectives for the area, including objectives for plant and animal diversity.	N		
Fire Management: Using the lowest cost suppression option, aggressive suppression action shall be applied to control and extinguish wildfires that threaten life, private properly, public safety, improvements, or investments.	N		
Fire Management: An escaped fire situation analysis shall be prepared for any wildfire that escapes initial attack and/or threatens to exceed established parameters, or is no longer consistent with fire management direction.	N		
Fire Management: Retardant drops shall be carefully controlled in proximity to open bodies of water (lakes and streams) to preclude retardant from entering lakes or live streams.	N		

[72] Appendix D: Klamath Indian Treaty and Consent Decree, Winema Land and Resource Management Plan

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Fire Management: Utility companies shall be notified of any fire situation originating on or threatening their permitted use area to ensure the safety of firefighters and to allow utilities to be prepared to temporarily suspend use if needed.	N		
Fire Management: Prescribed fire may be used in natural fuels: to reduce fire hazard; to enhance diversity in the structure and composition of plant communities: to enhance the production and protection of commercial timber yields: and to enhance other resource outputs such as wildlife habitat, forage, and browse. Prescribed fire may include both planned and unplanned ignitions.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Sec. 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. I POD Att. R
Fire Management: Prescribed fire in wilderness (see 'Protection,' Management Area 6 - Wilderness).	N		
Fire Management: Proposed activity units (harvest, thinning, conversion, and release, for example) should be designed and coordinated on the ground. This is done to consider size, shape, location, timing, spatial distribution, and management risk for fire management and other resource requirements and to help make the fuel treatment and fire protection of the units as practical and economical as possible.	N		
Fire Management: Fuel treatments shall conform with all Federal and State standards and regulations for air quality.	P, C, O	P, B	EIS Sec. 1.5.1.8 EIS Sec. 1.5.4.3 EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. B POD Att. I POD Att. K POD Att. R
Fire Management: Prescribed fire prescriptions shall be consistent with management area objectives.	P	P, B	EIS Secs. 4.5.1.3 & 4.5.2.3 EIS Sec. 4.8.1.3 EIS Sec. 4.12.1.3 POD Att. B POD Att. R
Integrated Pest Management: All planned activities shall include integrated pest management practices. All insect and disease control projects shall be carried out in ways that meet management area objectives	P, C, R, O	P, B	EIS Sec. 2.7.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H EIS App. J POD Att. I POD Att. N

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Integrated Pest Management: Silvicultural methods and cultural treatments should be applied to reduce susceptibility to hazards of insects and disease. If normal insect surveillance indicates the threat of an epidemic, project-level detection and control operations, including coordination with other landownerships, shall be accomplished on a forestwide basis.	P, C, R, O	P, B	EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.5.2.2 & 4.5.2.3 POD Att. N
Integrated Pest Management: The Forest Plan incorporates the Pacific Northwest Region's FEIS for Managing Competing and Unwanted Vegetation. In implementing the Forest Plan through project activities, the Forest will comply with the Record of Decision issued by the Regional Forester dated December 8, 1988, and the Mediated Agreement of August 1989. Use of all vegetation management techniques is allowed only when other methods are ineffective, or will unreasonably increase project costs Emphasis must be on prevention and early treatment of unwanted vegetation and on full public involvement in all aspects of project planning and implementation. Information about the vegetation management FEIS, ROD, and Mediated Agreement is available at the Forest Supervisor's Office.	N		
Noxious Weed Control: Treatment priorities and strategies shall be in accordance with the Oregon State Comprehensive Classification List: • 'A' Classification (isolated distribution) - eradicate existing populations; • 'B' Classification (general distribution) - intensively control or eradicate; and • 'C' Classification (general distribution) - control or (It feasible) eradicate.	N		
Noxious Weed Control: Under any funding level, funds available for weed control activities shall be distributed in the following order: 1. Cooperation with the Oregon State Department of Agriculture; 2. Treatment of Forest infestations through internal funding; and 3. Treatment of waived private lands within Forest boundaries through internal funding.	N		
Noxious Weed Control: In project planning, all available methods of control (for example, manual, mechanical, biological, chemical, cultural, fire, and regulatory methods) shall be fully considered.	P	P, B	EIS Sec. 2.7.3 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.5.1.2 & 4.5.1.3 EIS Secs. 4.6.1.2 & 4.6.1.3 EIS App. H EIS App. J POD Att. N
Law Enforcement: Aggressive, appropriate actions will be taken to enforce Federal laws, rules, and regulations as set forth in Titles 16, 18, and 21 of the U.S. Federal Code as they pertain to lands managed by the US. Forest Service. These actions will be accomplished by professional law enforcement persons within the Forest Service.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Law Enforcement: Priorities for law enforcement will be: 1. Protection of employees and the public from harassment, bodily injury, and/or death while using the national forest or working on the national forest; 2. Timber theft in the form of sawlogs and firewood; 3. Drug manufacturing and the related violence and contamination; and 4. Cultural resource theft and vandalism and the related losses.	N		
Law Enforcement: The goals of the Forest Law Enforcement Program are: (1) to ensure compliance with Federal laws and regulations pertaining to the national forests; (2) to provide for the protection of the Forest's property and resources: (3) to provide for the safety of Forest visitors and their property in a cooperative effort with local law enforcement agencies; and (4) to provide for the safety of Forest Service employees. These goals will be accomplished by: 1. Prevention - Preventing violations through voluntary compliance by Forest users is the main objective of the program. This can normally be accomplished by means of education. 2. Cooperation - Cooperative Law Enforcement is authorized by Public Law 92-82. Under this law, the Forest Service will reimburse the cooperator for those extraordinary expenditures incurred by providing additional services requested by the Forest Service for recreational users. 3. Enforcement - Line officers are responsible to assure that effective action is taken against persons violating Federal laws and regulations on the Forest.	N		
Range – Not Applicable, Excluded From Table			
Recreation			
The Forest shall coordinate with adjacent forests and other recreation providers (public and private) to provide a full range of recreation settings and opportunities.	N		
An interpretative plan shall be developed for each district to coordinate efforts to provide interpretation of natural and cultural features and management activities and to provide outdoor education. Interpretative facilities, techniques, and materials selected shall be compatible with the assigned Recreation Opportunity Spectrum (ROS) classes and development levels.	N		
The public shall be informed of recreation opportunities and conditions on a continual basis using a variety of media.	N		
Construction and reconstruction projects shall be planned and implemented as outlined in the Region 6 (R-6) Recreation, Facilities, and Trails Development Process.	N		
Only facility designs that are approved for use in R-6 and that are compatible with the ROS class and designed development level shall be installed. All recreation signs shall be in accordance with applicable Regional standards.	N		
New facilities shall be designed to be barrier-free to the extent feasible. Selected existing facilities shall be modified to remove barriers.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
The project feasibility report shall include estimates of existing and potential demand for the type, design, and location of proposed recreation facilities. Demand estimates should be based on market surveys, customer surveys, or user group requests.	N		
New or reconstructed sno-parks should be designed in accordance with the Oregon Department of Transportation 'Guidelines and Criteria for Designating Sno-parks.' Designs and snow-plowing needs should be coordinated with local State or county highway maintenance departments.	N		
Areas that are important to Forest visitors include undeveloped campsites; places with scenic, geologic, or biological values; and other areas that receive significant dispersed recreation use. These special places shall be identified and evaluated for significance during project planning. These areas shall be considered for protection and/or enhancement in project design.	N		
The Forest shall emphasize educating dispersed area users to the principles of minimum-impact use of the Forest, such as the 'Pack it Out,' 'Without a Trace,' and Tread Lightly' programs.	N		
Off-road vehicle (ORV) use shall be managed to: minimize resource damage; promote user safety; minimize conflicts with others; and, be compatible with management area objectives. Where ORV use is causing resource or facility damage, use may be restricted or prohibited. An ORV implementation schedule shall be developed with user groups to designate ORV travelways and to list restricted and closed areas.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 EIS Sec. 2.7.3 EIS Secs. 4.3.2.1 & 4.3.2.5 EIS Sec. 4.3.3 EIS Sec. 4.5.1.3 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Sec. 4.8.2.3 EIS Secs. 4.10.2.5 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y
Trails shall be planned, designed, constructed, and maintained as recreation facilities that complement the objectives of the management areas being served, in accordance with documented trail management objectives.	N		
The Forest trail system shall be designed to provide users with a wide range of ROS and WRS settings and difficulty levels. The system shall provide for a wide variety of user types, including both summer and winter users.	N		
A trail management plan shall be developed for each district. These plans shall include a trail inventory, trail management objectives for each trail, and a prioritized listing of construction and reconstruction needs.	N		
Trails and related facilities shall be protected with appropriate mitigation measures during management activities. Measures that may be used to mitigate effects of activities include vegetative screening, temporary or permanent rerouting, temporary closure, interpretative signing, and modification of treatments along the trail corridor.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Trail and road locations shall be planned to minimize conflicts. New road crossings of existing trails should be avoided.	??		
Displacement of system trails by new roads or other management activities should be avoided. Where displacement occurs, trails shall be relocated to maintain the integrity of the system and to ensure the quality of the recreation experience.	??		
An automated recreation information system (RGRIM) shall be maintained. This includes an inventory of facilities and a record of estimated use by site or area.	N		
Scenic Resources			
A higher visual quality objective than that stated in the management area may be met when consistent with management area objectives.	N		
Treatment of catastrophic occurrences, such as insect or disease outbreaks or major wildfires, may suggest a deviation from scenic management direction. This will be documented through the environmental analysis process before implementation.	N		
Landscape architects should assist with the planning and design of those projects that have the potential to affect the scenic resources, especially considering cumulative effects.	P, R	P, R, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 3.4.1.32 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS Secs. 4.14.2.8 & 4.14.3 EIS App. F POD Att. A POD Att. DD LMP Amendments WNF-2 & WNF-3
All management activities, as practicable, shall be shaped and blended to fit the natural landscape character as viewed from background distances.	N		
Inventories of visual quality shall be maintained or updated; existing visual condition and desired condition, as a minimum, shall be mapped. Use and demand for scenic quality will be reflected in mapping.	N		
Evidence of management activities throughout project implementation, such as signing, tagging, tree marking, and staking, should be located to minimize negative effects on scenery and recreation settings. These should be removed following completion of projects.	P, C, R, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.8.1.3 & 4.8.2.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. U POD Att. T POD Att. BB

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
During project environmental analyses, identified existing conditions that do not meet scenic management direction shall be considered for rehabilitation.	P, R	P, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.3 & 4.8.2.3 EIS App. F POD Att. A POD Att. DD LMP Amendments WNF-2 & WNF-3
For project planning, the 'National Forest Landscape Management Series' handbooks may be used for technical guidance.	N		
The State Highway 140 viewshed Implementation Guide shall be used for guidance in project planning within that viewshed.	N		
Soil and Water			
The Forest shall cooperate with local Soil and Water Conservation Districts and other agencies to improve soil, water, and riparian resources.	N		
Cooperative snow courses, buffers, and improvements shall be protected as required by current agreement with the Soil Conservation Service. Existing sites include: Billie Creek, Chemult, Cold Springs, Fourmile Lake, Sevenmile Marsh, and Taylor Butte.	N		
Land management activities shall be planned and conducted to maintain or to improve soil productivity and stability.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.4 EIS Sec. 4.3.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS App. F POD Att. I POD Att. U POD Att. BB POD Att. DD LMP Amendments WNF-4 & WNF-5
Forest management activities shall meet or exceed the stated objectives in the Organic Act of 1897, the Multiple Use Sustained Yield Act of 1960, and the National Forest Management Act of 1976. Floodplains and wetlands on the Forest shall be managed according to Executive Order 11 988 (Floodplain Management) and Executive Order 11 990 (Protection of Wetlands).	P, C, R, O	P, B, R, M, A	EIS Secs. 1.4.2 & 1.4.3 EIS Secs. 1.5.1 - 1.5.3 EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 2.4.2.1 – 2.4.2.3 EIS Sec. 4.1.3.4 EIS App. F POD Att. I POD Att. BB POD Att. DD LMP Amendments WNF-1 – WNF-5 LMP Amendment BLM/FS-1

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
The current Soil Resource Inventory shall be revised and updated as needed to meet management needs.	N		
Detrimental Soil Conditions: The cumulative effects of detrimental soil conditions should not exceed 20 percent of the total acreage within the activity area: any reason for exceeding the limitation shall be documented in an environmental assessment. Detrimental soil conditions include compaction, displacement, puddling, and moderately or severely burned soil from all activities (including roads, skid trails, and landings). Sites where the standards for displacement, puddling, and compaction are not currently met will require rehabilitation such as ripping, backblading, or fertilization. The potential for creating detrimental soil conditions will be specifically addressed through project environmental analyses. If needed, alternative management practices will be developed, and mitigating measures will be planned and implemented.	P, C, R, O	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.7 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Sec. 4.14.2.3 EIS Secs. 4.14.3.1 & 4.14.3.4 POD Att. I LMP Amendments WNF-4 & WNF-5
Detrimental Soil Conditions: Detrimental conditions occur when one or more of the following criteria are exceeded. 1. Compaction: Detrimental compaction is that beyond the following limits--(a) on volcanic ash/pumice soils, an increase in soil bulk density of 20 percent or more over the undisturbed level; (b) on other soils, an increase in soil bulk density of 15 percent or more over the undisturbed level, a macropore space reduction of 50 percent or more, and/or a reduction below the 15 percent level as measured by an air permeameter. 2. Puddling: Soil puddling is a physical change in soil properties due to shearing forces that destroy soil structure and reduce porosity. 3. Displacement: Detrimental displacement is the removal of more than 50 percent of the topsoil- or humus-enriched AI or AC horizons from an area of 100 square feet or more which is at least 5 feet in width. 4. Severely burned soil: Leave a minimum of 90 percent of a project area unaffected by severely burned conditions, Soils are considered to be severely burned when the top layer of mineral soil is significantly changed in color, usually to a reddish color, and the next 0 5 inch is blackened from organic matter charred by heat conducted through the top layer.	P, C, R, O	P, B, A	EIS Sec. 1.5.2.1 EIS Secs. 2.1.3.7 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 LMP Amendments WNF-4 & WNF-5
Soil Erosion: To stay within acceptable levels of soil loss and meet soil management objectives, the minimum percent effective ground cover after any soil disturbing activity should be as follows in Table 4-18[73]. Exceptions to these standards may be made after completing the environmental assessment process with input from a soil specialist.	P, R	P, B	EIS Secs. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 POD Att. I
Soil Erosion: Tractor logging should generally not be prescribed when slopes exceed 35 percent.	N		
Organic Residues: Management activities should be planned to retain small woody (dead and down) material to sustain soil nutrients and a healthy forest ecosystem. As a goal, 10 tons or more per acre of 9-inch diameter or smaller woody material should be maintained where practicable.	P	P, B	EIS Sec. 2.4.2.1 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Sec. 4.5.2.3 POD Att. I POD Att. U

[73] Table 4-18: Minimum Percent Effective Ground Cover, Winema Land and Resource Management Plan

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Riparian Ecosystems (Streams, Stream-Side Areas, Floodplains, and Wetlands): For those projects that could adversely affect riparian ecosystems, water quality, or stream structure and function, specific objectives for the management of riparian areas shall be developed during project environmental analysis. These objectives will be based on: stream classification, site-specific topographic and vegetative characteristics, water quality standards and goals, and other resource objectives (as appropriate).	P	P, A	EIS Sec. 2.1.3.7 EIS Sec. 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.4.4.1 EIS App. J POD Att. BB LMP Amendments WNF-1 & WNF-5.
Riparian Ecosystems (Streams, Stream-Side Areas, Floodplains, and Wetlands): In riparian ecosystems, hydrologic conditions and riparian habitat shall be maintained or improved.	P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. F EIS App. J POD Att. BB POD Att. DD LMP Amendment WNF-5
Riparian Ecosystems (Streams, Stream-Side Areas, Floodplains, and Wetlands): No management practices shall be permitted within riparian areas that cause detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment which seriously and adversely affect water conditions or fish habitat.	P	P, B, A	EIS Sec. 2.1.3.7 EIS Sec. 2.4.2.2 EIS Secs. 4.1.3.4 & 4.1.3.5 EIS Sec. 4.4.4.1 EIS App. J POD Att. I POD Att. BB LMP Amendment WNF-5
Riparian Ecosystems – Vegetation Management: Sufficient amounts of ground cover should be maintained within a riparian area to prevent erosion and the direct movement of potential pollutants into a stream. Refer to table 4-18[74].	P, C, R, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.5.1.3 POD Att. I POD Att. BB
Riparian Ecosystems – Vegetation Management: Riparian areas should be managed to maintain stream banks in a stable condition along at least 85 percent of a stream's length in any given drainage.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD

[74] Table 4-18: Minimum Percent Effective Ground Cover, Winema Land and Resource Management Plan

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Riparian Ecosystems – Vegetation Management: In stream-side areas for Class I, II, and III streams, present and future sources of large woody material should be provided. Existing instream material should be maintained or enhanced. Specific quantitative criteria should be developed on a stream-by-stream basis.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. P POD Att. U POD Att. BB POD Att. DD
Riparian Ecosystems – Vegetation Management: Vegetation should be managed to provide adequate shading in areas along streams to meet State of Oregon temperature standards. Shade may be provided by overhanging grasses, shrubs, trees, and topography.	P, C, R, O	P, B, M	EIS Sec. 1.5.4.3 EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. BB POD Att. DD
Riparian Ecosystems – Vegetation Management: Riparian areas should be managed to maintain or achieve a range forage condition class of good.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.5.1.3 EIS App. F EIS App. J POD Att. BB POD Att. DD
Riparian Ecosystems – Vegetation Management: Riparian areas should be managed to maintain or improve the habitat of fish and aquatic and terrestrial wildlife. Vegetation and natural debris should be maintained and managed to: (1) maintain or enhance stream channel and bank structure so as to maintain or enhance water quality and (2) provide structural fish habitat to support natural populations of fish in Class I and II streams.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.5.1.3 EIS App. F EIS App. J POD Att. BB POD Att. DD
Riparian Ecosystems: Management activities shall meet the aquatic resource protection standards of Oregon's Removal-Fill Law (ORs 541.695) unless otherwise exempted.	P, C, R	P, B	EIS Sec. 1.5.1.7 EIS Sec. 1.5.3.3 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS App. J POD Att. CC

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Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Riparian Ecosystems: New water developments and reconstruction of existing developments shall be coordinated through the environmental analysis process. Water developments may need to be fenced to protect riparian vegetation and wildlife habitat from damage by livestock or other resource activities.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. BB POD Att. DD
Stream-Side Areas and Floodplains: Activities that could have short-term adverse effects on floodplain values may occur only if specific mitigation measures designed to minimize the effects are implemented and documented in project planning records. Natural floodplain characteristics shall be restored shortly after the activity has stopped. Floodplain values include those characteristics of a floodplain that facilitate the safe passage of flood flows with minimal damage on-site or downstream. Vegetation, topography, and other features that contribute to the safe dissipation and release of peak flows and maintenance of base flows should be maintained or improved.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 EIS App. F EIS App. J POD Att. I POD Att. BB POD Att. DD
Stream-Side Areas and Floodplains: Intensity of harvest treatments and spatial distribution of cutting units shall ensure that hydrologic conditions are maintained or improved.	N		
Water Quality (Best Management Practices): The Forest shall comply with State requirements in accordance with the Clean Water Act for protecting waters of the State of Oregon through planning, applying, and monitoring Best Management Practices (BMPs) in conformance with the Clean Water Act, regulations, and Federal guidance.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. CC
Water Quality (Best Management Practices): In cooperation with the State of Oregon, the Forest shall use the following process: 1. Select and design BMPs based on site-specific conditions; technical, economic, and institutional feasibility; and the water quality standards for those waters potentially impacted. 2. Implement and enforce BMPs. 3. Monitor to ensure that practices are correctly applied as designed. 4. Monitor to determine the effectiveness of practices in meeting design expectations and in attaining water quality standards. 5. Evaluate monitoring results and mitigate where necessary to minimize impacts from activities where BMPs do not perform as expected 6. Adjust BMP design standards and application when it is found that beneficial uses (including domestic, recreation, irrigation, industrial, and fish and wildlife habitat uses) are not being protected and water quality standards are not being achieved to the desired level or if it is found that BMPs are more restrictive than necessary. Evaluate the appropriateness of water quality criteria for reasonably assuring protection of beneficial uses. Consider recommending adjustment of water quality standards.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. CC

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Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water Quality (Best Management Practices): Use the existing arranged process to implement the State Water Quality Management Plan on lands administered by the Forest Service as described in Memoranda of Understanding (MOU) between the Oregon Department of Environmental Quality and U.S. Department of Agriculture, Forest Service (February 12, 1979, and December 7, 1982), and 'Attachments A and B' referred to in this MOU ('Implementation Plan for Water Quality Planning on National Forest Lands in the Pacific Northwest' (December 1978) and 'Best Management Practices for Range and Grazing Activities on Federal Lands,' respectively).	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 2.6.2 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 POD Att. I POD Att. M POD Att. BB
Water Quality (Best Management Practices): Individual, general Best Management Practices are described in 'General Water Quality Best Management Practices,' Pacific Northwest Region, November 1988. Site specific BMPs are developed at the project level.	P	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 POD Att. I POD Att. M POD Att. X POD Att. BB
Water Quality (Best Management Practices): BMPs relating to protection of water quality shall be followed for any chemical application projects. In the event of an accidental spill of hazardous materials, procedures shall be followed as set forth in the Oil and Hazardous Substances Pollution Contingency Plan.	P, C, R, O	P, B	EIS Sec. 1.5.1.7 EIS Secs. 1.5.4.3 & 1.5.4.9 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.4.2.2 & 4.4.3.2 POD Att. I POD Att. N POD Att. X POD Att. BB
Water Quality (Best Management Practices): Management activities in and around Class I and II streams shall not cause a measurable water temperature increase when the existing stream temperatures are 58 degrees F or greater, or cause more than a 2 degrees F increase due to cumulative effects when the existing stream temperatures are 56 degrees F or less.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. BB POD Att. DD
Water Quality (Best Management Practices): No more than 10 percent increase over natural stream turbidities should occur. Temporary changes to the above standard may occur, but must be transitory in nature. Changes as a result of management activities must be minimal and adequately monitored.	P, C	P, B	EIS Sec. 2.4.2.2 EIS Sec. 2.6.2 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Secs. 4.6.2.3 & 4.6.2.4 POD Att. I POD Att. M POD Att. BB

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Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Water Quality (Best Management Practices): Management activities in and around Class III and IV streams will not contribute to the deterioration of water quality for downstream Class I and II streams. However, these activities are allowed, provided the standards for Class I and II streams continue to be met.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Sec. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.4.2.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. BB POD Att. DD
Water Quality (Best Management Practices): Management activities, particularly timing of road building and timber harvest, shall be scheduled to minimize long-term detrimental changes in watershed conditions. Spatial distribution and timing of activities will be the principle factors used to avoid unacceptable cumulative impacts.	P, C, O	P, B	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS Sec. 4.14.2.4 EIS App. J POD Att. I POD Att. U POD Att. Y POD Att. BB
Water Quality (Best Management Practices): Areas in which water quality is being adversely affected shall be given high priority for treatment to minimize the effects and eliminate the cause.	P, C, R, O	P, M	EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. H EIS App. J POD Att. 9 POD Att. BB POD Att. DD
Water Quality (Best Management Practices): Effluents shall be disposed of in a manner which will prevent the contamination of surface or subsurface water. Sewage treatment and disposal facilities shall be approved by the Oregon Department of Environmental Quality or Its contract agents and shall be in compliance with the rules of the Environmental Quality Commission.	P, C, R, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 2.6.2 POD Att. I POD Att. M POD Att. W3
Instream Flow: Wetland, floodplain, riparian, and watershed characteristics shall be maintained to provide for storage and routing of ground and surface water, including floodwaters.	P, C, R, O	P, B, M	EIS Sec. 2.1.4 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.4.2.2 & 4.4.3.2 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. H EIS App. J POD Att. I POD Att. BB POD Att. DD

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Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Instream Flow: The Forest shall follow national and regional policy when obtaining water rights, protecting existing water rights, and protecting instream flows.	N		
Instream Flow: The Forest shall conform with any minimum stream flow established by law.	N		
Cumulative Effects: A cumulative effects assessment shall be made in watersheds where project scoping identifies an issue or concern regarding the cumulative effects of activities on water quality or stream structure and function. This will include land in all ownerships in the watershed. Activities on National Forest System lands in these watersheds should be dispersed in time and space to the extent practicable and at least to the extent necessary to meet management requirements. On intermingled ownerships, scheduling efforts shall be coordinated to the extent practicable.	P	P	EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Secs. 4.14 .2.4 & 4.14.3.4 EIS App. H EIS App. J
Coordinate Federal Water Claim: The Forest will coordinate the development, timing, and content of its water rights claim in the Klamath Basin Adjudication with those of the Klamath Tribe and other Federal agencies (including U S Fish and Wildlife Service, National Parks Service, and US. Bureau of Reclamation).	N		
Timber: Programmed timber harvest activities shall occur only on lands classified as suited for timber production However, harvest activities may occur on other lands for the following purposes: 1. Removal of timber from road locations. 2. Construction or protection of capital improvements like campgrounds, buildings, fuelbreaks, and dispersed recreation sites; or projects designed to enhance other resource values. 3. Removal of hazards to human life and health. 4. Removal of timber killed by catastrophic events, such as fife, windthrow, drought, insects or disease (36 CFR 219.27[c][1]). The decision to salvage harvest an area shall be based on an analysis of existing conditions following the disturbance. 5. Where small inclusions in harvest units that otherwise are suitable will allow use of more logical management units and road locations resulting in less resource impacts. 6. As part of a research study to test the feasibility of silvicultural and harvesting practices that could be successful on these lands.	N		
Timber: During project-level planning, the inventory of suitable lands shall be corrected as needed using the following process: 1. Boundary adjustments to refine mapping lines shall be documented in the project planning records and maintained in the Ranger District resource inventory system. 2. Where changes in classification are needed, the analysis and rationale for the needed change shall be documented by the Ranger District and sent to the Forest Supervisor for inclusion in the Forest planning process records. These changes shall be reviewed by the Forest Supervisor for consistency, and amendments will be made to the Forest Plan as needed.	N		
Timber: The selection of the appropriate harvest cutting method shall be guided by the criteria provided in the Regional Guide on page 3-2.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Timber: A silvicultural prescription shall be written for all stands scheduled for silvicultural treatment. A prescription will describe the proposed treatment following an analysis of present stand conditions, physical site factors, management direction, and silvicultural objectives. Information needed to evaluate stand conditions and to develop and verify silvicultural prescriptions should be gathered from a stand examination or other type of adequate data collection survey.	N		
Timber: Logging systems shall be compatible with silvicultural systems and resource protection objectives. Timber sales requiring special logging systems shall be planned by a person trained in logging systems.	P	P, B	EIS Sec. 2.4.2.1 POD Att. I POD Att. U
Timber: Tractor logging generally should not be prescribed when slopes exceed 35 percent.	N		
Timber: Forest openings created by the application of even-aged silviculture shall not exceed 40 acres. The openings should be shaped or blended with the natural terrain to achieve scenic, plant and animal diversity, and wildlife habitat objectives to the extent practicable. Exceptions are permitted for catastrophic events (such as windstorms, or insect and disease attacks) or on an individual basis after a 60-day public notice period and review by the Regional Forester. In addition, the 40-acre limit may be exceeded by as much as 50 percent without necessitating review by the Regional Forester or a 60-day public notice when exceeding the lima will produce a more desirable combination of net public benefits and when any one of the following criteria is met: 1. When a larger created opening will enable the use of an economically feasible logging system that will lessen the disturbance to soil, water, wildlife, fish, riparian resources, or residual vegetation. 2. When created openings meeting this size limit cannot completely encompass groups of trees infected with dwarf mistletoe or root disease and, therefore, need to be expanded to include these trees in order to avoid infection of adjacent susceptible timber. 3. Where visual quality objectives require shaping and blending of openings to fit the landform. 4. When larger openings are needed to achieve regeneration objectives in harvest areas being cut by the shelterwood method and when destruction of the newly created stand of reproduction would occur as a result of delayed removal of shelter trees. This exception applies only to existing sheltewood units and shelterwood units under contract before approval of the Forest Plan. Newly planned shelterwood units should not exceed the opening size limitations.	N		
Timber: Created openings shall be separated by areas generally not classed as created openings. The areas between created openings shall contain one or more logical harvest units. These areas shall be large enough and contain a stand structure to meet resource requirements. Resource requirements may include needs for wildlife habitat, watershed, scenic management, and other resources.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Timber: Created openings adjacent to 30-acre or larger natural openings should be limited to an area not exceeding one-third the size of the natural opening and not occupying more than one-third of the natural opening perimeter. Openings created adjacent to any natural openings should be designed to protect wildlife values and visual quality levels.	N		
Timber: A harvest area shall no longer be considered a created opening for silvicultural purposes when stocking surveys carried out in accordance with Regional instructions indicate prescribed crop tree stocking at or above 4.5 feet in height and free to grow. Where other resource management considerations are limiting, such as wildlife habitat and scenic requirements, a created opening shall no longer be considered an opening when the vegetation in it meets the management area prescription objectives.	N		
Timber: Acreage of continuous stand management activity in any one decade for uneven-aged management treatments, intermediate treatments for even-aged stands, overwood removal treatments, and precommercial thinning shall be determined through the interdisciplinary process considering wildlife, scenic, and other resource standards and guidelines for the management area.	N		
Timber: Lands should be reforested within five years of final harvest, except where permanent openings are created for wildlife habitat improvement, vistas, recreation uses, and similar practices Five years after final harvest means five years after clearcutting, five years after final overstory removal, five years after seed tree removal in seed tree harvesting, or five years after selection harvesting where stocking is reduced below minimum levels.	N		
Timber: A regeneration prescription shall contain the minimum number, size distribution, and species composition of planned regeneration. The prescription shall plan to prevent unwanted vegetation and animal damage to the seedlings. The prescription shall plan for monitoring the plantation, and aggressive action shall be taken to eliminate unwanted vegetative competition, animal damage, and any other threat that would prevent meeting the reforestation objective.	N		
Timber: Natural regeneration opportunities should be prescribed where experience indicates natural regeneration will be successful meeting the standards of 13-11 above.	N		
Timber: With a goal of satisfactory stocking within three years, site preparation units should be planted within one year of scarification, except where such units have been prepared for natural regeneration.	N		
Timber: Regional or local stocking guides shall be used to assess stocking adequacy on all regeneration units prior to certifying them as satisfactorily reforested	N		
Timber: Where stocking levels are lower than optimum but above minimums, interplanting should be done when it is a manageable and economically feasible method to meet growth requirements.	N		
Timber: Stocking level control shall be based on Regional or local site-specific stocking guides.	N		
Timber: Stocking level control should be maintained on all acres with a programmed harvest.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Existing stands of seedlings and saplings less than 5 inches DBH may be precommercially thinned. Existing stands of poles that exceed 5 inches DBH should be planned for commercial thinning.	N		
Timber: Clearcuts may be prescribed when. 1. Regenerating shade-intolerant species and planning to reforest by natural regeneration or planting; 2. Regenerating shade-intermediate tolerance species and planning to reforest by planting; 3. Regenerating shade-intolerant species in heavily diseased or insect infested stands; or 4. Openings created in the forest do not conflict with wildlife, scenic, or other management objectives.	N		
Timber: Seed tree harvests may be prescribed when: 1. Regenerating shade-intolerant species; 2. Regenerating shade-intolerant species and planning to supplement planted stock with natural seeding of another species; 3. Regenerating shade-intolerant species where anticipated mortality will be high and supplementing planted stock to ensure adequate stocking is achieved; 4. Regenerating in areas physically unsuited for plantings such as rocky areas or areas with high potential for animal damage (also see 13-13); or 5. Openings created in the forest do not conflict with wildlife, scenic, or other management objectives.	N		
Timber: Shelterwood harvests may be prescribed when: 1. Sites need amelioration (for example, reduction in temperature extremes) for establishment of desired species. 2. Sites need to be modified to reduce the potential for animal damage or vegetative competition. 3. Scenic, wildlife, or other management objectives can best be met by delaying removal of all trees in an area.	N		
Timber: Final removal of shelter trees should occur as rapidly as possible, providing the following criteria are met: 1. Reproduction no longer requires protection of overstory shelter trees. 2. Reproduction has gone through a minimum of two growing seasons, is healthy, and meets or exceeds minimum stocking levels. 3. Removal of overstory shelter trees meets other resource objectives.	N		
Timber: Uneven-aged management shall be the preferred silvicultural system on climax ponderosa pine stands and on healthy pine associated stands.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Even-aged stands of ponderosa pine and pine associated stands should be treated to develop uneven-aged stand structures whenever possible.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Uneven-aged pine associated stands should be planted as needed to maintain at least 50 percent ponderosa pine species composition.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Uneven-aged management should be used where stands are free of dwarf mistletoe and root rots. Where stands are lightly infected, uneven-aged management shall be employed only where the dwarf mistletoe and root rot can be managed to maintain stand growth within 80 percent of its disease-free potential. Disease centers should be managed using even-aged silvicultural practices at a large enough scale to prevent reinfection from the perimeter. In stands with small scattered disease centers, group selection may be an appropriate silvicultural practice as long as the disease centers are effectively treated to prevent spread. A recordkeeping system will be developed to record the location and past treatment of known disease centers to schedule future treatments to control and to prevent the spread of the disease.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Silvicultural prescriptions should be designed to maintain or to improve the existing size class diversity and uneven-aged structure.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Group selection may be used to: treat diseased stands, convert even-aged stands to uneven-aged stand structures, and maintain or develop early successional species such as ponderosa pine in the pine associated and mixed conifer stands. Group selections shall be 0.25 acre to 2 acres in size.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Timber harvest should not occur before the stand density equals 45 percent of the maximum stand density index or 60 percent maximum basal area.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Individual tree selection shall not reduce stocking levels below 25 percent of the maximum stand density index or 45 percent maximum basal area.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Timber harvest and post-sale activities should generally be planned on a 30-year entry cycle for individual tree selection and on a 20-year cycle for group selection. All post sale activities should be completed within five years following the harvest entry.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Stands should not be salvage logged at other than the prescribed entry cycle; the exception is where wildfire, bark beetles, disease, or other conditions have created catastrophic mortality.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Timber marking guidelines should be developed which retain the most vigorous trees of best quality. First priority for leave trees are those with demonstrated good vigor. Second priority is those trees which will produce high value products in the future.	N		
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Following each commercial harvest entry, post-sale activities should emphasize natural regeneration and stocking level control. Where natural regeneration is a planned objective, post-sale activities should be closely coordinated to produce disturbance to the litter and vegetation as necessary for natural regeneration to occur.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Climax Ponderosa Pine Stands And Healthy Pine Associated Stands: Selection harvest units should be planted as needed to maintain stocking levels and to maintain disease-free healthy stands.	N		
Timber harvest, fuels treatment, and site preparation activities should strive not to damage residual crop trees.	N		
Stands receiving overstory removal treatments should meet or exceed minimum crop tree stocking following completion of harvest and post-sale activities.	N		
Prescriptions for regeneration harvest should feature maintenance of existing reproduction that has crop tree potential.	N		
Minimum utilization standards to be used in timber harvest operations for all commercial species shall be: (1) 9 inch DBH to a 6 inch top for regeneration harvest, (2) 7 inch DBH to a 5 inch top for commercial thinning and selection harvest, and (3) 7 inch DBH to a 4 inch top for all lodgepole pine harvest.	N		
Where individual market areas or specific products present opportunities for utilizing a higher proportion of the tree, these standards could be exceeded. In some cases, other resource objectives may require leaving a higher proportion of woody material on site. These utilization standards do not apply to materials left to meet fish, wildlife, and soil management objectives.	N		
Miscellaneous forest products such as poles, boughs, Christmas trees, and house logs should be made available to the level compatible with meeting management area objectives.	N		
Management Area 1 -Semiprimitive Recreation – Not Applicable, Excluded From Table			
Management Area 1A – Yamsay Mountain Semiprimitive Recreation Area – Not Applicable, Excluded From Table			
Management Area 1 B – Brown Mountain Semiprimitive Recreation Area – Not Applicable, Excluded From Table			
Management Area 1 C – Pelican Butte Semiprimitive Recreation Area			
Management Area 2 - Developed Recreation			
Recreation: Areas shall generally be managed to provide roaded natural or rural Recreation Opportunity Spectrum (ROS) settings	N		
Recreation: Motorized vehicles shall be restricted to designated routes and areas. Some trails or areas may be designated for nonmotorized activities only, such as hiking, biking, or cross-county skiing.	N		
Recreation: A site plan for any recreation development shall be prepared before construction. The plan shall be prepared or reviewed by a journey-level landscape architect and approved by the Forest Supervisor. 'As built' site plans for existing sites shall be prepared or updated to show current and proposed facilities.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Recreation: Developed recreation sites shall be designed, administered, and maintained to provide a quality experience for the visitor, to provide for public health and safety, to protect the site resources and facilities, and to minimize operation and maintenance costs (FSM 2330).	N		
Recreation: Existing sites should be upgraded and/or expanded to accommodate user needs before new sites are constructed. Compatible facilities and sites should be concentrated in recreation complexes to provide a variety of opportunities in one area and to minimize operating costs.	N		
Recreation: New or additional facilities to add capacity shall be planned when the average weekend use exceeds 90 percent of the designed persons-at-one-time (PAOT) of the site or when use for the managed peak use season exceeds 90 percent of the Practical Maximum Capacity.	N		
Scenic: Management activities in the environment surrounding recreation sites shall achieve the retention visual quality level, except in lodgepole pine salvage areas.	N P, C, R, O	P, B, M, A	EIS Sec. 2.1.3.7 EIS Sec. 2.1.4 EIS Sec. 4.1.3.4 EIS Sec. 4.8.1.3 EIS Secs. 4.8.2.2 & 4.8.2.3 EIS App. F POD Att. B POD Att. DD LMP Amendments WNF-1 to WNF-3
Timber: Timber harvest shall not be programmed.	N		
Timber: Timber management activities shall be utilized to maintain overall, healthy stand conditions and to maintain or to enhance recreational values in accordance with an approved vegetation management plan. Such activities within existing sites normally shall occur during non-use or low-use periods	N		
Timber: Hazardous trees or limbs will be removed before opening sites to public use.	N		
Water, Soil, and Air: Comply with State requirements in accordance with the Clean Water Act for protection of waters of the State of Oregon, including the antidegradation policy for high quality waters, through implementation of General Water Quality Best Management Practices.	N		
Water, Soil, and Air: In areas with concentrated recreation use, the percent of area impacted by detrimental soil conditions (compaction) may exceed forestwide standards. Facilities should be designed and arranged to concentrate and to direct traffic flow to reduce impacts. Site-hardening measures used should be appropriate for the designed development level.	N		
Minerals and Energy: Salable mineral material sources should not be developed.	N		
Minerals and Energy: Dead and down logs for firewood may be gathered within a recreation area or site for use in that area.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Lands: Landownership classification group 2 applies to this management area.	N		
Lands: This management area is an avoidance area for new transportation and utility corridors.	N		
Facilities: With full consideration to public safety, roads and trails shall be constructed and maintained to standards that are consistent with recreation opportunities and the level of service needed.	N P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.8.1.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. I POD Att. S POD Att. Y
Facilities: New facilities shall be designed to blend with the natural setting and to visually complement existing structures.	N		
Protection: All wildfires shall be aggressively suppressed by using low-impact methods as much as practical. During high fire danger periods, rapid attack may be appropriate, using all available tactics to ensure public safety and to protect improvements.	N		
Protection: Fuel treatment methods that minimize adverse effects like removal and chipping shall be used within developments. Treatment normally would occur during non-use or low-use periods.	N		
Management Area 2A – Developed Recreation, Low Level Development – Not Applicable, Excluded From Table			
Management Area 2B – Developed Recreation, Moderate Level Development – Not Applicable, Excluded From Table			
Management Area 2C – Developed Recreation, High Level Development – Not Applicable, Excluded From Table			
Management Area 2D – Developed Recreation, Special-Use Permit Areas – Not Applicable, Excluded From Table			
Management Area 3 - Scenic Management			
Recreation: The area shall be managed to provide a semiprimitive or roaded natural recreation opportunity setting.	N		
Recreation: Recreation facilities may be placed in this management area, provided they are designed to achieve the visual quality objectives.	N		
Recreation: Viewshed guides shall be prepared to provide project-level direction for Forest Plan implementation. These guides shall provide guidance regarding the following elements: large trees, distinctive bark, spring and fall color, variety of tree species, shrubs and ground covers, emphasis on special landscape features, vista creation, rotation of view openings, and rehabilitation needs.	N		
Recreation: Because of existing negative visual elements like skid roads, activity residues, or cable corridors, landscapes or portions of landscapes not meeting visual quality objectives should be rehabilitated with consideration for the resource values present.	N		
Recreation: Enhancement of selected areas or views may be conducted through vegetative manipulation, landform alteration, or inclusion of structural elements when needed to achieve objectives of the management area.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Range: Structural and nonstructural range improvements shall be constructed of native materials or designed to blend with the landscape.	N		
Timber: Timber harvest shall be programmed.	N		
Timber: A mix of naturally occurring species should be maintained in regenerated harvest units in pine associated and mixed conifer working groups with emphasis on ponderosa pine, Douglas-fir, and sugar pine.	N		
Timber: Aspen, ponderosa pine, and white fir should be emphasized where they occur in predominantly lodgepole stands. Presence of ponderosa pine in ecotones should be maintained.	N		
Timber: Screening vegetation should be perpetuated for areas such as rock quarries, road cut and fill slopes, utility ways, structures, or unhealed harvest areas.	P, C, R, O	P, B, A	EIS Secs. 2.1.3.7 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1 2 & 4.8.1.3 EIS Secs. 4.8.2.2 - 4.8.2.4 EIS Sec. 4.12.2.5 POD Att. B LMP Amendments WNF-1 to WNF-3
Timber: Created openings shall be shaped to appear natural in the landscape.	N		
Timber: Size of timber harvest units should be in scale with the surrounding landscape character, considering distance from viewer and dispersion needs to achieve desired variety.	N		
Timber: Clumps or islands of vegetation/leave trees within natural-shaped clearcut units may be retained to reduce contrast of visual elements.	N		
Timber: Individual tree selection, group selection, or combinations of both shall be used to achieve the desired future condition in ponderosa pine and pine associated species.	N		
Timber: In ponderosa pine and pine associated species where uneven-aged management is applied, from 30 percent to 35 percent of an area shall be considered for treatment at any one time, and treatments shall be dispersed over the total area. All lands should be entered, as needed, on a 20- to 30-year cutting cycle.	N		
Timber: Management of armillana root rot in mixed conifer and mountain pine beetle in lodgepole pine should focus on long-term diversity and visual quality achievement. Consideration should be given to short-term mitigation such as design of harvest units (which includes maintenance of vegetated clumps). Some natural mortality also should be accepted until stand conversion can be implemented over time.	N		
Minerals and Energy: New salable mineral material sources should not be developed.	N		
Minerals and Energy: Existing mineral material sources should not be expanded into scenic areas.	N		

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Minerals and Energy: Existing mineral material sources shall be analyzed for short-term mitigations to achieve scenic objectives and long-term rehabilitation measures. Partial rehabilitation of a material source should be considered when that part no longer is of use for development.	N		
Minerals and Energy: Reasonable access for the exploration and/or development of locatable and leasable minerals shall be allowed but shall be highly controlled to protect scenic values.	N		
Minerals and Energy: Except for road access, surface occupancy should not be allowed.	N		
Lands: Landownership classification group 3 applies to this management area. Disposal of lands should occur only if lands of equal or higher scenic quality shall be acquired.	N		
Lands: Special-use permits shall be permitted for structures that existed before designation of lands to scenic emphasis. Rehabilitation should be emphasized for any structures that do not blend with the landscape.	N		
Lands: New special uses may be permitted when they are consistent with the management objectives and are justified through an environmental analysis.	P	P, B, A	EIS Secs. 2.1.5 & 2.1.6 EIS Sec. 2.1.3.7 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A LMP Amendments WNF-1 to WNF-4.
Lands: This management area is an avoidance area for new transportation and utility corridors.	P	P, R, A	EIS Sec. 2.1.3.7 EIS Sec. 4.1.3.4 EIS Secs. 4.8.1.2 & 4.8.1.3 EIs Secs. 4.8.2.3 & 4.8.2.4 POD Att. A LMP Amendment WNF-1
Facilities: Roads, parking lots, and other necessary facilities shall be designed to flow with the typical lines and slopes in the landscape and/or shall be screened by natural vegetation	P, R	P, B, R	EIS Secs. 2.3.2.2 & 2.3.2.3 EIS Sec. 2.4.2.3 EIS Sec. 4.8.1.3 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. A POD Att. Y
Facilities: Closed roads should appear natural with large logs and boulders partially buried to blend with the area and should be tilled and revegetated with trees, shrubs and grasses, as appropriate to the location.	N		
Management Area 3A – Scenic Management, Foreground Retention			

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Scenic: Evidence of management activities from projects that produce slash (tree harvest) or charred bark (underburning) will not be noticeable one year after the work has been completed.	C, R, O	B, A	EIS Sec. 2.1.3.7 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. R POD Att. U LMP Amendments WNF-1 & WNF-2.
Timber: Large tree character will be perpetually retained in the foreground retention area in all species, except lodgepole pine, through maintaining three to five large diameter trees (between 30 inches and 36 inches DBH) on the average per acre. These should be distributed in groupings for greatest visual effect. Some areas may have high numbers of large diameter trees, and other areas may have fewer small clumps. Openings may or may not have mature large-diameter trees, if not, more trees will be retained on other acres to maintain the three-to-five-trees-per-acre average in the foreground overall.	P, C, R, O	P, B, A	EIS Sec. 2.3.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.1.2 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. H EIS App. J POD Att. P POD Att. U LMP Amendment WNF--2.
Timber: In ponderosa pine and pine associated areas where uneven-aged management will prevail, the objective is to achieve a healthy, multi-aged forest with timber stands that contain a variety of tree sizes up to 36 inches DBH following harvest. At least three canopy levels or size classes are present within each stand.	N		
Timber: For even-aged and group selection management, the long-term objective is to achieve the mix of tree size classes shown in Table 4-22[75].	N		
Timber: Stumps, If visible, shall be cut to approximately 6 inches or less in height on the uphill side of the stump.	C, O	B	EIS Sec. 2.4.2.1 POD Att. A POD Att. I POD Att. U
Timber: Thinning units should be irregularly marked (vary the density of leave trees) in the immediate foreground to break up the viewing distance and to provide diversity.	N		
Timber: Landings, decks, major skid roads, temporary roads, and slash piles shall be located to utilize vegetative or landform screening opportunities. These should be located away from critical line-of-sight viewing areas.	P	P, R	EIS Sec. 2.4.2.1 EIS Secs. 4.8.1.3 & 4.8.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. A POD Att. I POD Att. U POD Att. Y

[75] Table 4-22: Scenic Foreground Retention Tree Size Class Objectives: Even-Aged and Group Selection Management Strategies, Winema Land and Resource Management Plan

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Protection: Fire suppression efforts in the immediate foreground should use low-impact methods. If heavy equipment is needed on high-intensity fires, rehabilitation may be needed to mitigate the effect on the visual resource.	P, C, O	P, B	EIS Sec. 2.4.2.1 EIS Sec. 4.8.2.3 POD Att. I POD Att. K
Protection: Harvest residues resulting from management activities should not be evident after residues treatment.	C, R, O	B	EIS Sec. 2.4.2.1 EIS Sec. 4.8.2.3 POD Att. A POD Att. I POD Att. U
Management Area 3B – Scenic Management, Foreground Partial Retention			
Scenic: Evidence of management activities from projects that produce slash (tree harvest) or charred bark (underburning) should not be noticeable from two to three years after the work has been completed.	C, R, O	B, A	EIS Sec. 2.1.3.7 EIS Sec. 2.4.2.1 EIS Sec. 4.1.3.4 EIS Secs. 4.8.2.3 & 4.8.2.4 POD Att. A POD Att. I POD Att. R POD Att. U LMP Amendment WNF-3
Timber: Large tree character will be retained in the foreground area in all species, except lodgepole pine, through maintaining three to five large diameter trees (between 24 inches and 30 inches DBH) on the average per acre. These should be distributed in groupings for greatest visual effect. Some areas may have high numbers of large diameter trees, and other areas may have fewer small clumps. Openings may or may not have mature large diameter trees; if not, more trees will be retained on other acres to maintain the three-to-five trees-per-acre average in the foreground overall.	P, C, R, O	P, B, A	EIS Sec. 2.3.2.1 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.5.1.2 EIS Secs. 4.8.2.3 & 4.8.2.4 EIS App. H EIS App. J POD Att. I POD Att. P POD Att. U LMP Amendment WNF-3
Timber: In ponderosa pine and pine associated areas where uneven-aged management will prevail, the objective is to achieve a healthy, multi-aged forest with timber stands that contain a variety of size classes up to 30 inches DBH following harvest. At least three canopy levels or size classes are present within each stand.	N		
Timber: For even-aged and group selection management, the long-term objective is to achieve the mix of tree size classes shown in Table 4-24[76].	N		
Timber: Stumps, if visible, shall be cut to approximately 6 inches or less in height on the uphill side of the tree.	Yes? C, O	B	EIS Sec. 2.4.2.1 POD Att. A POD Att. I POD Att. U
Timber: Thinning units should be irregularly marked (vary the density of leave trees) in the immediate foreground to break up the viewing distance and to provide diversity.	N		

[76] Table 4-24: Scenic Foreground Partial Retention Tree Size Class Objectives: Even-Aged and Group Selection Management Strategies, Winema Land and Resource Management Plan

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Timber: Landings, decks, major skid roads, temporary roads, and slash piles should be located to the rear of the stands to use vegetative or landform screening opportunities. These should be located away from critical line-of-sight viewing areas.	P	P, R	EIS Sec. 2.4.2.1 EIS Secs. 4.8.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 POD Att. A POD Att. I POD Att. U POD Att. Y
Protection: Harvest residues resulting from stand management activities may be evident but should blend, where possible, with the surrounding landscape characteristics.	C, R, O	B	EIS Sec. 2.4.2.1 EIS Sec. 4.8.2.3 POD Att. A POD Att. I POD Att. U
Protection: Hand tools are the preferred method for fire suppression in the immediate foreground. Mitigation or rehabilitation measures may be necessary for high-intensity fires.	P, C, R, O	B	EIS Sec. 2.4.2.1 EIS Sec. 4.8.2.3 POD Att. I POD Att. K
Management Area 3C – Scenic Management, Middleground Partial Retention – Not Applicable, Excluded From Table			
Management Area 4 - Unique Management Areas – Not Applicable, Excluded From Table			
Management Intensity 4A – The Pinnacles and Devils Garden Geologic Areas – Not Applicable, Excluded From Table			
Management Intensity 4B - Mare's Egg Spring Botanical Area – Not Applicable, Excluded From Table			
Management Intensity 4C – Williamson River Gorge Scenic Area – Not Applicable, Excluded From Table			
Management Area 5 - Sycan National Wild and Scenic River – Not Applicable, Excluded From Table			
Management Area 6 – Wilderness – Not Applicable, Excluded From Table			
Management Area 6A – Mount Thielsen Wilderness – Not Applicable, Excluded From Table			
Management Area 6B – Sky Lakes Wilderness – Not Applicable, Excluded From Table			
Management Area 6C – Mountain Lakes Wilderness – Not Applicable, Excluded From Table			
Management Area 7 – Old-Growth Ecosystems – Not Applicable, Excluded From Table			
Management Area 8 - Riparian Areas			
Recreation: The area shall be managed for a full range of recreation opportunity settings.	N		
Recreation: Primary recreation emphasis shall be placed in dispersed recreation.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Recreation: The visual quality level shall be consistent with adjacent area objectives, and typically will be partial retention or better as a result of other riparian area standards and guidelines.	N		
Recreation: Recreation facilities placed in riparian areas shall be designed to protect riparian values.	N		
Wildlife and Fish: Dead woody material and cavity-nester habitat shall be provided by managing dead trees at the 80 percent potential population level for cavity nesters (Thomas 1979) in forested areas Green trees shall be managed for future replacements for dead trees.	N?		
Wildlife and Fish: New roads within 0.25 mile of a riparian area shall be located in a manner as to provide for greatest topographic and vegetative screening of the riparian area.	P	P, R	Secs. 2.3.2.1 & 2.3.2.3 EIS Sec. 4.1.3.5 EIS Sec. 4.8.2.3 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. A POD Att. Y
Wildlife and Fish: Wildlife habitat improvements may be permitted.	P, R	P, M	EIS Sec. 2.1.4 EIS Secs. 4.1.3.5 & 4.1.3.6 EIS Sec. 4.6.1.3 EIS App. F EIS App. H EIS App. J POD Att. DD
Range: Where a combination of high soil moisture and fine soil texture results in stream banks susceptible to early season trampling damage, grazing shall be delayed to a late season period (Claly and Webster 1989).	N		
Range: Where stream banks or channels are highly erodible, the stubble height at the end of the grazing period shall exceed 4 inches. Under extreme conditions, the area may need permanent protection or removal of grazing for long periods (Claly and Webster 1989).	N		
Range: Water developments for livestock or wildlife in riparian areas shall be designed to protect riparian values.	N		
Range: Salting areas shall be located on uplands outside of riparian areas.	N		
Range: Sheep bedding areas shall be located on uplands outside of riparian areas.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Soil and Water: Riparian area management objectives shall be described for a specific zone along a stream or wetland within the proposed project area. As a minimum, the following areas shall be evaluated during the preparation of the objectives: 1. an area within 100 feet of the normal high water line of Class I, II, or 111 streams (for protection of water quality and wildlife habitat); 2. an area within 25 feet on each side of Class IV streams; 3. any timbered area within 200 feet of wet meadows (to provide wildlife hiding cover); 4. the entire area of a wetland, including the farthest reaches of the riparian vegetative influence; and 5. any seeps and springs	P	P	EIS Sec. 4.1.3.5 EIS Secs. 4.4.1.2, 4.4.2.2 & 4.4.3.2 EIS Secs. 4.6.1.3 & 4.6.2.4 EIS App. J
Soil and Water: The cumulative total area of detrimental soil conditions in riparian areas shall not exceed 10 percent of the total riparian acreage within an activity area. Detrimental soil conditions include compaction, displacement, puddling, and moderately or severely burned soil.	P, C, R, O	P, B, A	EIS Sec. 1.5.2.1 EIS Sec. 2.1.3.7 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.4 EIS Secs. 4.3.3.1 & 4.3.3.2 EIS Sec. 4.14.2.3 EIS Secs. 4.14.3.1 & 4.14.3.4 POD Att. I LMP Amendment WNF-5
Soil and Water: Fish habitat and riparian area improvement projects shall be permitted.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS Secs. 4.4.4.1 & 4.4.4.3 EIS Sec. 4.6.2.4 EIS App. F EIS App. J POD Att. DD
Timber: Timber harvest shall not be programmed within 100 feet of Class I and II streams and within 50 feet of Class III streams. In other riparian areas, timber harvest shall be programmed.	N		
Timber: Stocking level control may be delayed If necessary to provide big game cover or habitat diversity.	N		
Timber: Directional fell and yard away from all stream channels (classes I-IV) and wet areas. Logs yarded over streams shall be fully suspended where practicable.	N		
Timber: Landings should not be located within riparian associations as defined by 'Riparian Zone Associations' (R6 Ecol TP-279-87, Kovalchik).	N		
Timber: Uneven-aged management in the ponderosa pine, pine associated, and mixed conifer working groups shall be designed to maintain healthy, multistoried stands that contain various size classes up to 36 inches DEH following harvest. The lodgepole pine working group shall receive a variety of silvicultural treatments to meet the management area objectives.	N		
Timber: Existing stands of hardwood species should be protected or enhanced.	N		

TABLE E-7

Winema Management Actions/Direction – 1995

Element	Applicable	Consistency	Comment
Minerals and Energy: New salable mineral material sources should not be developed, and existing developments should not be expanded into riparian areas.	N		
Minerals and Energy: Reasonable access for the exploration and/or development of locatable and leasable minerals shall be allowed but shall be highly controlled to protect riparian values.	N		
Minerals and Energy: Except for road access, surface occupancy should not be allowed.	N		
Lands: Landownership classification group III applies to this management area. Disposal of lands shall occur only if riparian lands of equal or higher quality shall be acquired.	N		
Facilities: New road construction in riparian areas should be avoided. Where road construction is unavoidable, roads should cross riparian areas perpendicular to the landform. System and temporary roads should not be constructed through the length of a riparian area System and temporary roads crossing a riparian area shall not alter stream or ground water flow characteristics to a degree that will adversely affect the riparian characteristics.	P, C, R, O	P, B, R	EIS Secs. 2.3.2.1 & 2.3.2.3 EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Secs. 4.10.2.1 & 4.10.2.6 EIS App. J POD Att. I POD Att. Y POD Att. BB
Facilities: Existing roads within riparian areas should be evaluated for opportunities to reduce impacts on riparian values.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Facilities: New water developments and reconstruction of developments for road dust abatement and fire control, for example, in riparian areas shall be designed to protect riparian values.	P	P	EIS Secs. 2.4.2.1 & 2.4.2.2 EIS Sec. 4.1.3.5 EIS Sec. 4.10.2.6 EIS App. J POD Att. A POD Att. I POD Att. BB
Protection: Wildfire suppression methods that minimize effects on the soil and on riparian ecosystems shall be used. High-impact methods shall be used only on fires that threaten human life and property and riparian resources.	N		
Management Area 8A – Riparian Areas Adjacent to Class I, II, and III Streams			
Recreation: Vehicles, including off-road vehicles, shall not be allowed in stream channels or on sensitive stream banks.	N		
Wildlife and Fish: Water use during low water periods shall be limited to emergency fire suppression situations only.	P, C, O	P, B	EIS Sec. 2.4.2.2 POD Att. B POD Att. M

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Wildlife and Fish: Fish habitat improvements may be permitted but must be coordinated with range, watershed, and recreation resources, and the Oregon Department of Fish and Wildlife.	P, R	P, M	EIS Sec.1.5.1 EIS Sec. 1.5.4.4 EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Wildlife and Fish: Shrubs and trees shall be managed to maintain at least 50 percent of the riparian area in hiding cover for big game.	N		
Wildlife and Fish: Wildlife improvements encouraging streamside cover may be permitted.	P, R	P, M	EIS Sec. 2.1.4 EIS Sec. 4.1.3.5 EIS App. F EIS App. J POD Att. DD
Wildlife and Fish: Reservoirs may be planned for fisheries and other compatible uses where feasible.	N		
Range: Livestock shall be managed so that no more than 5 percent of the stream banks in a stream reach (see glossary) exhibit degradation caused or perpetuated by livestock.	N		
Timber: All logging slash/residue shall be removed from within the high water level. Large logs may be left or introduced as large woody debris.	N		
Timber: Created openings, which may be necessary to treat lodgepole pine, shall not occur directly across a stream from an existing opening. Openings shall not encompass more than 600 feet of a stream length.	N		
Timber: Selected hardwoods or conifer trees adjacent to the stream channel shall be retained.	N		
Facilities: To provide for fish passage, arch culverts, bridges, or similar open bottom structures should be required on permanent road crossings on all Class I and II perennial streams.	N		
Protection: Heavy equipment generally shall not be allowed in stream channels. Based on resource analysis, exceptions such as dry crossings or fords may be allowed upon approval of appropriate line officer or designated resource adviser.	N		
Protection: Fuels shall be disposed of so that they will not reach stream courses. Slash piles shall not be located within the normal high-water flow area of either natural or created drainages.	N		
Protection: Only low intensity fire should be prescribed within 100 feet horizontal distance on either side of Class I, 11, or III stream channels.	N		
Management Area 8B – Riparian Areas Adjacent to Class IV Streams – Not Applicable, Excluded From Table			
Management Area 8C – Moist and Wet Meadows – Not Applicable, Excluded From Table			

TABLE E-7 **Winema Management Actions/Direction – 1995**			
Element	**Applicable**	**Consistency**	**Comment**
Management Area 8D - Moist and Wet Forested Riparian Areas (Hardwood, Lodgepole, or Other Conifer) – Not Applicable, Excluded From Table			
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Management Area 9C – Bald Eagle Winter Roosting Habitat – Not Applicable, Excluded From Table			
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APPENDIX F

BLM and Forest Service Compensatory Mitigation Plan and Amendment

F-1. BLM and Forest Service Compensatory Mitigation Plan
F-2. Amendment to the Draft Compensatory Mitigation Plan

Appendix F-1

BLM and Forest Service Compensatory Mitigation Plan

Jordan Cove Natural Gas Liquefaction and Pacific Connector Gas Pipeline Project

Draft EIS

Appendix F

BLM and Forest Service Compensatory Mitigation Plan

Pacific Connector Gas Pipeline

Coos Bay, Roseburg, and Medford Districts and Klamath Falls Resource Area, Lakeview District, BLM Oregon; Umpqua, Rogue River, and Winema National Forests

Prepared for:

USDI Bureau of Land Management

USDA Forest Service

Prepared by:

North State Resources

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1.0 INTRODUCTION AND BACKGROUND

BLM and Forest Service interdisciplinary teams have developed compensatory mitigation plans (CMP) for the PCGP Project specific to the BLM (four BLM districts) and the Forest Service (three national forests). The CMPs are based on the respective Land Management Plans (LMP), the recommendations of the 2008 and draft (2010) northern spotted owl (NSO) recovery plans, applicable Late Successional Reserve Assessments (LSRA) and 5th field Watershed Analyses (WA) for watersheds where impacts of the PCGP Project would occur. Members of the interagency team used common sense, professional judgment and knowledge of the affected landscapes to develop the mitigation actions described in this appendix. The CMPs discussed in this appendix are based on previous versions that were developed by the BLM and Forest Service and essentially the same as those described in section 2.1.4 of the DEIS.[1] These previous versions are included in this appendix as Attachments 1 and 2. They have been included because they provide a history of the development of the mitigation actions, summaries of the conditions and issues in each of the affected watersheds, and the strategy and rationale that were used in developing the actions. A central provision of the BLM and Forest Service mitigation plan is that it is to remain adaptable to new information and changed conditions.

This appendix is organized by landscapes (i.e., watersheds); central themes emerged on each landscape that drove the design of mitigation actions.

On the BLM Coos Bay District in the watersheds of the North Fork, East Fork, and Middle Fork Coquille Rivers current conditions include high road densities, sediment delivery to stream systems from roads, and high stream temperatures. Conditions also include the threat of stand replacing fire in Late-Successional Reserve (LSR) 261, fragmented habitats, and blockages of fish passage by roads and loss of pool habitat for over wintering juvenile salmonids. Desired conditions include reduced risk of stand-replacement fire in Late-Successional and Old Growth (LSOG) forest habitats, and achievement of Aquatic Conservation Strategy (ACS) objectives, (USDA FS; USDI BLM 1994b; USDA FS; USDI BLM et.al. 1998b). Mitigation actions are intended to reduce the risk of catastrophic fire by increasing available water sources, improve fish habitat through culvert removal and adding large woody debris (LWD) to streams, and reduce road-related sediment delivery to streams through road surfacing and storm proofing. Additional information on watershed conditions and the development of mitigation actions on the Coos Bay District is included in Attachment 1 of this appendix.

On the BLM Roseburg District in the watersheds of Olalla-Lookingglass, Myrtle Creek, and South Umpqua River current conditions include high road densities, sediment delivery to stream systems from roads, and high stream temperatures. Current conditions also include the threat of stand replacing fire in LSR 223, fragmentation from past logging, blockages of fish passage by roads and loss of pool habitat for over wintering juvenile salmonids. Desired conditions include reduced risk of stand-replacement fire in LSOG habitats, and achievement of ACS objectives, (USDA FS; USDI BLM 1994b; USDA FS; USDI BLM 1999). Mitigation actions are intended

[1] The Forest Service March 2011 mitigation summary was based on the previous filing by the applicant for an LNG import facility. However since the proposed pipeline location is essentially the same as previously filed, the proposed mitigation actions have not changed. The BLM March 2012 mitigation summary is based on the proposed export facility filed by the applicant in 2011 and also has not changed. The acres and miles of the PCGP Project listed in the reports for each watershed may be slightly different than listed in Chapter 2 of the DEIS since some minor variations were made to the proposed route in the 2013 filing.

to reduce the risk of catastrophic fire through fuel hazard reduction, improve fish habitat through culvert removal and adding LWD to streams, and reduce road-related sediment delivery to streams through road surfacing, storm-proofing, and drainage repair. Additional information on watershed conditions and the development of mitigation actions on the Roseburg District is included in Attachment 1 of this appendix.

On the BLM Medford District in the watersheds of Trail Creek, Shady Cove-Rogue River, Big Butte Creek and Little Butte Creek current conditions include high road densities, sediment delivery to stream systems from roads, and high stream temperatures (Little Butte Creek). Little Butte Creek is a Tier 1 Key Watershed. Current conditions also include the threat of stand replacing fire in LSOG habitat, fragmentation from past logging, and the lack of LWD in streams. Desired conditions include reduced risk of stand-replacement fire in LSOG habitats, and achievement of ACS objectives, (USDA FS; USDI BLM 1994b). Mitigation actions are intended to reduce the risk of catastrophic fire through fuel hazard reduction and improved water sources, improve fish habitat through adding LWD to streams, and reduce road-related sediment delivery to streams through road surfacing, storm proofing, and drainage repair. Additional information on watershed conditions and the development of mitigation actions on the Medford District is included in Attachment 1 of this appendix.

On the BLM Lakeview District in the Spencer Creek Watershed current conditions include sediment delivery to stream systems from roads, and high stream temperatures. Current conditions in this Tier 1 Key Watershed also include the threat of stand replacing fire in LSOG habitat and riparian reserves, and fragmentation from past logging. Desired conditions include reduced risk of stand-replacement fire in LSOG habitats, and achievement of ACS objectives, (USDA FS; USDI BLM 1994b). Mitigation actions are intended to reduce the risk of catastrophic fire through fuel hazard reduction, improve riparian habitat through riparian thinning, and reduce road-related sediment delivery to streams through road closures and drainage repair. Additional information on watershed conditions and the development of mitigation actions on the Lakeview District is included in Attachment 1 of this appendix.

On the Rogue River National Forest (NF) in the watershed of Little Butte Creek, a Tier 1 Key Watershed that also includes part of LSR 227, current conditions include high road densities, high stand densities, sediment delivery to stream systems from roads and high stream temperatures (USDA FS; USDI BLM 1997; USDA FS; USDI BLM; USDI FWS 1998a). Desired conditions include reduced stand densities, development of late-successional stand characteristics in LSR 227 and achievement of ACS objectives (USDA-FS: RRNF LRMP 1990; USDA FS; USDI BLM 1994b). Mitigations actions in the Little Butte Creek watershed are intended to reduce road densities by decommissioning roads, accelerate the development of interior stand conditions, and restore LSOG stand characteristics and aquatic systems. Additional information on watershed conditions and the development of mitigation actions on the Rogue River NF is included in Attachment 2 of this appendix.

On the Umpqua NF in the watersheds of East Fork Cow Creek, Elk Creek and Trail Creek including portions of LSR 223, current conditions include high stand densities and the threat of stand replacing fire in LSR 223, fragmented habitats, sediment delivery to stream systems from roads, blockages of fish passage by roads and the presence of non-native invasive species (UNF 1995; UNF 1995b; USDA FS; USDI BLM; USDI FWS 1999). Desired conditions include reduced risk of stand-replacement fire in LSOG habitats, reduction of fragmentation, restoration

of native species, and achievement of ACS objectives (USDA-FS: UNF LRMP 1990; USDA FS; USDI BLM 1994b; UNF 1995; UNF 1995b; USDA FS; USDI BLM; 1999). Mitigation actions are intended to reduce the risk of catastrophic fire by integrated stand density reduction and fuels management projects that build off of the Project corridor, provide fish passage at key stream crossings, restore native plant species by eliminating non-native invasive species, and reduce road-related sediment delivery to streams. Additional information on watershed conditions and the development of mitigation actions on the Umpqua NF is included in Attachment 2 of this appendix.

On the Winema NF in Spencer Creek, a Tier 1 Key Watershed, current conditions include high road densities, sediment in streams and high stream temperatures (USDA FS WNF 1995 Executive Summary). Desired conditions include reduced road densities and achievement of Aquatic Conservation Strategy (ACS) objectives (USDA-FS_WNF_LRMP 1990; USDA FS; USDI BLM 1994b). The primary objective of proposed mitigation actions is to improve aquatic conditions in the Spencer Creek watershed by decommissioning roads and restoring aquatic habitats. Riparian plantings and in-stream log placement are also planned to further reduce sediment and stream temperature. Additional information on watershed conditions and the development of mitigation actions on the Winema NF is included in Attachment 2 of this appendix.

Proposed mitigation actions are intended to be responsive to LMP objectives that include:

- Compliance with the ACS as specified in the respective LMPs
- Habitat for Threatened or Endangered (T&E) species including NSO, marbled murrelets (MAMU) and Coho salmon
- Mitigation of impacts on LSRs
- Specific resource issues as they occur by watershed

Offsite mitigation is a supplemental mitigation to address important issues or LMP objectives/management direction/standards and guidelines that cannot be acceptably mitigated on-site.

Section 2 of this appendix summarizes the different types of mitigation actions being proposed, the rationale for the actions, and the short-term adverse and long-term beneficial environmental consequences. Sections 3 and 4 describe the proposed actions for each administrative unit and fifth-field watershed. Section 5 summarizes the proposed mitigation actions in watersheds where both the BLM and Forest Service are proposing actions. Section 6 contains maps of the proposed mitigation actions by administrative unit. Section 7 contains a list of references.

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2.0 SUMMARY OF MITIGATION ACTIONS BY MITIGATION GROUP AND PROJECT TYPE

Table 2-1 summarizes all of the compensatory mitigation actions proposed by the BLM and Forest Service for the Project. The actions are summarized by Mitigation Group and Project Type. The table also provides an estimated amount of each Project Type along with the rationale for the projects and a brief discussion of potential short-term adverse impacts and long-term benefits. Each Project Type is only listed once even though some Project Types could fit into more than one Mitigation Group. For example, the Riparian Vegetation Fuels Reduction Project Type, which is in the Stand Density and Fuels Reduction and Fuel Break Mitigation Group, could also have been included in the Aquatic and Riparian Habitat Mitigation Group. The Project Types were only listed once in order to avoid confusion and double counting of mitigation actions. In placing the Project Types into a Mitigation Group, the main objective of the Project Type was the determining factor.

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
Aquatic and Riparian Habitat			The Project will remove riparian vegetation and cross streams. Aquatic restorations are aimed accomplishing objectives of the ACS and offsetting project impacts at the watershed scale. Proposed projects are located in the fifth-field watersheds affected by the Project, but because of the checkerboard nature of BLM lands, feasible projects may not be located in the same sub-watersheds as the PCGP Project.	
	Large Woody Debris (LWD) In-stream	29.76 Miles	Placement of LWD in streams adds structural complexity to aquatic systems by creating pools and riffles, trapping fine sediments and can contribute to reductions in stream temperatures over time (Tippery, Jones et al. 2010) This is responsive to ACS objectives 2, 3, 4 and 5.	**Short-term adverse effects**: In-stream LWD refers to logs (typically greater than 20 inches in diameter), limbs, or root wads that intrude into a stream channel. Placing this material in-stream can be accomplished with ground equipment such as excavators and/or helicopters. These activities have the potential to increase suspended sediment in streams and impact riparian vegetation as a result of heavy equipment use or the dragging of materials (e.g. logs) in the stream channel. Short-term impacts to water quality would occur in the form of suspended sediment and turbidity increases during implementation. However, no lasting measureable effect to water quality would occur, as any sediment plume created, would quickly dissipate as soon as in-stream activities stop. In-stream work is done during summer low flow periods when turbidity plumes are an infrequently occurring event. Project design features (PDF) would include Best Management Practices (BMP) that would prevent any indirect effects to salmonids and other stream fish from project related sediment. The placement of restoration materials in the stream by using cable systems, excavators, or helicopters would create noise that could disturb both the NSO and MAMUs. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for both these species. These PDFs would reduce impacts from noise to acceptable levels. **Long-term beneficial effects**: Placing structure in streams affects channel morphology, the routing and storage of water and sediment, and provides structure and complexity to stream systems. Complex pools and side channels created by LWD provide overwintering habitat to stream salmonids and other aquatic organisms (Solazzi 2000). They also provide cover from predators during summer low flow periods when predation is at its highest. Providing more stream channel structure results in better over wintering habitat, improved summer pool habitat, and more abundant spawning gravels.

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
	Fish Passage	14 Projects	Old culverts may block fish passage either by poor design or by failure over time. Removing these blockages and replacing them with fish-friendly designs can allow fish and other aquatic organisms to access previously unavailable habitat. This is responsive to ACS Objectives 1, 2, 3 and 9 (USDA FS; USDI BLM 2012).	**Short-term adverse effects**: Removing old culverts and restoring stream/road crossings would result in short-term adverse effects similar to the effects described previously for in-stream LWD projects; both actions involve the use of heavy equipment in and around the stream channel. Similarly the work would be done during low summer flow periods to minimize impacts to aquatic species and PDFs would be designed to minimize disturbance for NSO and MAMU. **Long-term beneficial effects**: Stream crossing replacement would directly improve stream connectivity and habitat for aquatic species by immediately restoring access to formerly inaccessible habitats. Indirectly, these projects would reduce potential sediment levels in the long-term by decreasing the potential for road failure. Stream crossing projects also reduce stream velocities by increasing stream crossing sizes, eliminating flow restrictions and allowing passage to additional reaches of habitat by removing barriers to aquatic species which improves access to spawning and rearing habitat and allows unrestricted movement throughout stream reaches during seasonal changes in water levels (Hoffman 2007).
	Stream / Road Crossings	58 Sites	Restoring stream crossings reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting as a mitigation which will help offset the impact of shade removal at pipeline crossings. This work is typically accomplished in association with road decommissioning.	
	Riparian Planting	0.5 Miles	Riparian planting reestablishes willows and other riparian vegetation in areas where prior land use has removed existing vegetation. Riparian plantings reestablish shade, increase bank stability and, over time, contribute to restored riparian plan plant communities.	**Short-term adverse effects**: Riparian planting and fencing are typically done by hand and as such would not measurably impact stream sedimentation of erosion, riparian vegetation, water quality, aquatic habitats or any T&E species. Riparian fencing may require vegetation removal along the fence line but would not adversely affect water quality, channel substrate or bank conditions. **Long-term beneficial effects**: These projects directly affect riparian vegetation and would increase the health of riparian areas by promoting species diversity. Planting riparian vegetation decreases areas of bare soil and provides a sediment filtering buffer. A diverse native riparian plant community consisting of annuals, perennials, woody shrubs, and trees, provides a large variety of habitat features including food sources, shade, and large wood, and rooting depths which provide stream bank stability. Diverse, healthy vegetation has a major influence on stream channel shape and size; well-vegetated streams tend to be narrow and deep due to the binding nature of plants and their root systems (Comfort 2005). Excluding livestock access from the stream channel and riparian
	Fencing	6.4 Miles	Fencing restricts cattle grazing in sensitive riparian ecosystems. This allows riparian vegetation to be reestablished and eliminates hoof damage to stream banks.	

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
				area would improve ecological conditions within the riparian areas. Livestock tend to congregate in riparian areas due to the presence of water and green vegetation and cooler temperatures throughout the drier months. Livestock trample and graze riparian vegetation, resulting in stream bank erosion and loss of biological diversity (Belsky 1999). Excluding livestock from the riparian area would allow vegetation to reestablish and increase the likelihood of success of native shrub and tree plantings (Sarr 2002).
Road Sediment Reduction			The Project may cause sediment transport from construction clearing and use of roads by the Project. Road sediment reduction projects are aimed at reducing the chronic contributions of fine-grained sediment from road surfaces and fill failures to stream systems.	
Road Sediment Reduction	Road Decommis-sioning	98.46 Miles	Decommissioning roads can substantially reduce sediment delivery to streams (Madej 2000; Keppeler et al. 2007). Proposed road decommissioning will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from road-related surface erosion in the watershed where the impacts from the Project occur. This mitigation is responsive to ACS objectives 2, 3, 4 and 5 and Standards and Guidelines for Key Watersheds (USDA FS; USDI BLM 1994b: p. B-11, C-7).	**Short-term adverse effects:** Road decommissioning methods generally include actions utilizing mechanized construction equipment to physically stabilize the road prism, restore natural drainage patterns, and allow for revegetation of the roadbed. Mechanized construction equipment might include excavators, backhoes and truck mounted loaders. Road closure is a method of preventing access to a road so that regular maintenance is no longer needed and future erosion is largely prevented by restoring drainage patterns if necessary and eliminating road traffic. Road Decommissioning has the potential to cause short-term degradation of water quality by increasing sediment delivery to streams as roads are de-compacted by heavy equipment, culverts and cross drains are removed, and other restoration activities are implemented. The use of heavy mechanized equipment near streams could disturb the stream influence zone, deliver sediment, create turbidity, and cause stream bank erosion. There is also the potential of an accidental fuel/oil spill. These projects may cause a short-term degradation of water quality due to sediment input and chemical contamination. Stream bank condition and habitat substrate may also be adversely affected in the short-term. However, with careful project design and seasonal timing, these affects are expected to be of a limited extent and duration. Road decommissioning would create noise from heavy equipment that could disturb both the NSO and MAMU. The potential for disturbance is mainly
	Road Closure	17.95 Miles	Road closure reduces fine-grained sediments by eliminating traffic impacts.	

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
				associated with breeding behavior at active nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for both these species. These PDFs would reduce impacts from noise to acceptable levels. **Long-term beneficial effects:** Proposed road decommissioning would increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from road-related surface erosion in the watershed where the impacts from the Project would occur. Decommissioning roads would restore natural drainage patterns and thereby avoid large volumes of added sediment to the stream network that would be likely to eventually occur. In addition, road maintenance dollars would be focused on the remaining road systems resulting in more maintenance of culverts and ditchlines resulting in less potential for catastrophic failure. Madej (2001) concluded that by eliminating the risk of stream diversions and culvert failures, road removal treatments significantly reduce long-term sediment production from retired logging roads. Beneficial effects to fisheries include long-term improvements to fish habitat and riparian areas, restored fish passage for all life histories of threatened and proposed species, re-established connectivity of fish populations above and below man-made barriers, restoration of hydrologic function, and more natural routing of wood and sediment through stream systems. Road decommissioning would also benefit many species of wildlife including NSOs and MAMUs through reduced disturbance from the elimination of road traffic and long-term benefits as decommissioned roads become reforested reducing fragmentation of habitat.
	Road Surfacing and Drainage Improvement	80.55 Miles	Road surfacing reduces sediment by capping existing fine textured sediments in the running surface of a gravel road with coarser rock or by paving. Paving all but eliminates traffic-generated sediments. Drainage repair reestablishes out-sloping, cross-drains and in some cases ditchlines to ditch-relief culverts. These actions have the effect of getting water off the road before it can enter stream courses. This mitigation is responsive to ACS objectives 2, 3, 4 and 5 and Standards and Guidelines for Key Watersheds (USDA FS; USDI BLM 1994b: p. B-11, C-7).	**Short-term adverse effects:** Road improvements including surfacing, drainage repair, storm proofing, stabilization, and culvert replacement may result in short-term, construction-related increases in sediment. Sediment affects are expected to be of limited extent and duration and can be minimized or eliminated through the application of PDFs and BMPs. Road improvements would create noise from heavy equipment that could disturb both NSOs and MAMUs. The potential for disturbance is mainly associated with breeding behavior at active nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for both these species. These PDFs
	Storm-proofing	13.78 Miles	Storm-proofing reduces sediment from roads by increasing the resistance of a road to failure during high intensity rainfall events.	

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
			Storm-proofing strategies include improving drainage, reducing diversion potential at culverts, outsloping road surfaces and replacing culverts with hardened low water fords.	would reduce impacts from noise to acceptable levels. **Long-term beneficial effects:** Road improvement projects reduce erosion from existing road surfaces, cut banks and fill slopes, and reduce the probability of failure through improvement of road surface stability and drainage. In the long-term, road improvements reduce both chronic and episodic erosion and sedimentation. Drainage improvements, such as out-sloping, reduce or eliminate chronic sources of road erosion and fine sediment delivery resulting in long-term improvements in water quality and aquatic habitat.
	Stabilization and Culvert Replacement	5 sites	Road stabilization and culvert replacement reduce road-related sediment by stabilizing or removing failing cut and fill slopes. Culvert replacement reduces sediment by replacing undersized or failing culverts with culverts that are appropriate to pass debris at higher flows. This reduces the probability of fill failure associated with plugged culverts.	
Fire Suppression	Suppression Capacity	26 Sites	The Project will create fire suppression complexity by creation of a continuous corridor of early seral plant communities. High intensity stand-replacement fire has been identified as the single largest factor causing the loss of late successional and old growth forests in the first 15 years of implementation of the NWFP (USDA FS; USDI BLM 2011). These projects include Heli-ponds (3) and pumper access / dry hydrant pumper connections at water sources. High intensity fire has been identified as the single factor most impacting LSOG forest habitats on federal lands in the area of the NWFP. Fire control is necessary to protect LSRs and habitat for T&E species should a wildfire occur. Construction of the Project would remove both mature and developing stands and would increase fire suppression complexity however; the corridor also provides a fuel break. Quick response time is imperative for successful control in wildfire situations during initial attack. Pump chance developments and helicopter dipping ponds provide readily available water sources to support fire suppression efforts.	**Short-term adverse effects**: Fire suppression capacity projects include the use of heavy equipment especially for the construction of heli-ponds which may be as large as 500,000 gallons. Soil erosion risk would increase with the proposed activities because bare soil would be exposed during implementation. Impacts caused by heavy equipment would increase the amount of detrimental soil damage within the treatment areas. By employing appropriate BMPs and PDFs, the risk of erosion, sediment delivery, and detrimental soil damage within the treatment areas is expected to be minimal and within LMP standards and guidelines. Fire suppression capacity projects would create noise from heavy equipment that could disturb both the NSOs and MAMUs. The potential for disturbance is mainly associated with breeding behavior at active nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for both of these species. These PDFs would reduce impacts from noise to acceptable levels. **Long-term beneficial effects**: Pump chance developments and helicopter dipping ponds provide readily available water sources to support fire suppression efforts. These projects would help to reduce the threat of losing late-successional habitat to stand-replacement fire.
Stand Density and Fuels Reduction and Fuel			The Project will create fire suppression complexity by creation of a continuous corridor of early seral plant communities. The Project will also remove late successional stands in the corridor construction areas and indirectly affect LSOG habitat in stands adjacent to the project. Both mature stands and developing	

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
Break			stands would be removed during Project construction. Density management integrated with fuels reduction will increase longevity of existing mature stands by reducing losses from disease, insects, and fire. Density management in younger stands will accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Impacts to mature and developing stands will exceed the life of this project by many decades. LSRAs have identified the importance of density management to control losses to stand replacing fire. The proposed ridge line pipeline route intersects an area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation action would assist in protection and restoration of the LSRs and associated LSOG habitat values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners, and public.	
	Integrated Stand Density and Fuels Reduction	6563 Acres	WAs and LSRAs for landscapes in in Southwest Oregon have noted shifts from forests dominated by fire-resistant LSOG stands to fire-prone early and mid-seral forests (USDA FS; USDI BLM et al. 1998; USDA FS USDI BLM 1999). Use of fuels reduction and stand density management are appropriate tools to reduce the risk of high intensity stand replacement fires in these forests (Forest Service and BLM 1994b). Management activities that reduce the risk of natural disturbance adjacent to KOACs are also appropriate (USDA FS; USDI BLM 1994b: p. C-11). Stand density reductions in riparian zones have the dual benefit of reducing the risk of stand-replacing fire, while also accelerating the development of late successional stand conditions by accelerating growth of remaining trees. This project would create a fuel break on federal lands that stretches from Milo to Shady Cove Oregon.	**Short-term adverse effects**: Integrated stand density and fuels reduction activities include the use of heavy equipment for cutting, skidding, slash piling, under-burning and hauling forest vegetation. Soil erosion risk would increase with the proposed activities because bare soil would be exposed during implementation. As the amount of bare/compacted soil increases, so does the risk of soil movement. Impacts caused by heavy equipment would increase the amount of detrimental soil damage within the treatment areas. By maintaining proper amounts of protective groundcover along with appropriate BMPs and PDFs, the risk of erosion, sediment delivery, and detrimental soil damage within the treatment areas is expected to be minimal and within LMP standards and guidelines. Stand density fuels reduction treatments would not be expected to adversely affect NSO nesting habitat since the treatments would not remove constituent elements of their nesting habitat. The proposed harvest treatments could temporarily impact acres of dispersal habitat. This habitat would be impacted by reduction of canopy cover as well as the loss of some LWD, shrubs and snags, which provide habitat for prey species. Although the dispersal habitat within these treatment areas would be reduced in quality, the projects would be designed so that the areas would still function as dispersal habitat. Integrated stand density treatments would create noise from heavy equipment that could disturb the NSO. The potential for disturbance is mainly associated with breeding
	Under-burning	2035 Acres	Under-burning is a component of the integrated stand density reduction. This provides a mechanism to maintain shaded fuel breaks created by mechanically thinning stands. It also reintroduces fire on selected landscapes as recommended in various WAs and LSRAs.	
	Pre-commercial Thinning	1039 Acres	Pre-commercial thinning reduces stand density in overstocked young stands. This reduces the risk of stand replacing fire, increases the resilience of remaining trees to low intensity fire and accelerates the development of late successional stand	

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
			characteristics.	behavior at active nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for NSO. These PDFs would reduce impacts from noise to acceptable levels. Under-burning and burning of slash piles can impact air and visual quality during burning activities. All burning would be scheduled in conjunction with the State of Oregon to comply with the Oregon Smoke Implementation Plan and to minimize any adverse effects on air quality. Burning prescriptions would be developed to minimize the potential for adverse effects. Implementation of these measures would ensure compliance with the federal Clean Air Act. **Long-term beneficial effects**: By creating less dense stands with less tree competition, residual trees would benefit from the increased availability of sunlight, nutrients and water. With the increase of available nutrients, trees should be more vigorous and less susceptible to large scale insect/disease out-breaks. The proposed treatments would move the vegetation towards conditions that would have occurred under a natural disturbance regime. This would lower flame lengths, reduce fire spread and lower the probability of tree mortality in the event of a wildfire, leading to more successful suppression efforts. Aerial delivered retardant or water would be more effective in lighter fuels and a more open canopy, making it safer for firefighters to successfully anchor and contain wildfires. These actions would reduce the threat of losing LSOG habitat to fire.
	Riparian Vegetation Fuels Reduction	70 Acres/ 6 Miles	Fuels reduction in riparian areas reduces the risk of stand replacement fire and accelerates the development of late successional stand characteristics.	
Terrestrial / Upland Habitat Improvement			The Project will remove snags and LSOG habitat, and will create a vector for noxious weeds. Terrestrial mitigations are intended to offset the loss of snags, future recruitment of LWD and eradicate noxious weed populations.	
	Habitat Planting	620 Acres	The Dead Indian Plateau region is one of three known sites for Mardon Skipper butterflies in the world. It is also adjacent to a known site for Short-horned Grasshoppers. Both species are on the Regional Forester's Sensitive Species list. The pipeline requirement of a permanent open corridor provides a unique opportunity to develop habitat for these two species. Planting the corridor with plants preferred by these species has the potential to increase the habitat and local range for both species. Rehabilitation of disturbed sites is required under various BMP guidelines. Results would be immediate in stabilizing the local habitat and location would be in the pipeline.	**Short-term adverse effects**: This activity would take place within the Project corridor and would not result in any additional adverse impacts. **Long-term beneficial effects**: Beneficial impacts include helping to re-vegetate and stabilize the Project corridor and improving habitat for several listed or sensitive insect species.

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
			The Project may also impact habitat of *Fritillaria gentneri* which is listed as Endangered under the federal ESA. Out-planting to suitable habitat locations is recommended in the recovery plan for *Fritillaria gentneri*.	
	LWD Upland Placement	470 Acres	These projects are intended to mitigate for the loss of recruitment of LWD to adjacent stands and within Project corridor. The Project will forgo the development of LWD for the life of the Project and for decades after. LWD is a constituent element of habitat for NSO and is a significant component of late successional forest ecosystems. Replacement of LWD will partially mitigate for the barrier effect of the Project corridor by creating structure across the corridor for use by a diverse assemblage of wildlife species. Placement in wood deficient areas adjacent to the corridor allows for scattering of stockpiled wood, reducing localized fuel loads while improving habitat in deficient stands. Larger logs maintain moisture longer and are less likely to be fully consumed by fire. Managing for the proposed levels provide for a greater assurance of species abundance (DecAID snag model) (Marcot et. al. 2002). This type of mitigation project is consistent with NWFP Standards and Guidelines page C-11 (USDA FS; USDI BLM 1994b). Acres that can be treated are necessarily limited by LWD available from the corridor.	**Short-term adverse effects**: Placement of LWD within and adjacent to the Project corridor would typically be done with heavy equipment that would drag the material into place. Heavy equipment use would increase the amount of detrimental soil damage within the treatment areas. By maintaining proper amounts of protective groundcover along with appropriate BMPs and PDFs, the risk of erosion, sediment delivery, and detrimental soil damage within the treatment areas is expected to be minimal and within LMP standards and guidelines. LWD placement would create noise from heavy equipment that could disturb the NSO. The potential for disturbance is mainly associated with breeding behavior at active nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for NSO. These PDFs would reduce impacts from noise to acceptable levels. **Long-term beneficial effects**: Beneficial effects include improving habitat for late-successional species and providing for long-term soil productivity.
	Snag Creation	1,029 Acres	The creation of snags is intended to mitigate the loss of snag habitats within, and adjacent to the Project corridor. The Project would prevent development of large snags during the life of the Project and for decades after. Corridor construction will result in loss of snag habitat on approximately 775 acres of BLM and NFS lands. WAs and LSRAs indicate many areas traversed by the Project are far below historic levels of snag habitat due of past management actions. The Project would add to those cumulative impacts. As snags are a critical component of LSRs, replacement is needed. Snag requirements are specifically outlined in the BLM and Forest Service LMPs. Replacement would be immediate, though there would be a 10-year delay as snag decay occurs. Snag management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels incorporated into these mitigation projects are based on BLM and Forest Service guidelines. The function and benefits of snags are also discussed in the South Cascades LSRA - chapter 3 (USDA FS;	**Short-term adverse effects:** Snag creation typically employs the use of chainsaws or inoculum to kill live trees. As such there is little if any ground disturbance and only minimal noise disturbance. The potential for noise disturbance is mainly associated with breeding behavior at active NSO nest sites. The PDFs would focus disturbance outside the critical nesting period and beyond critical distances for NSO. These PDFs would reduce impacts from noise to acceptable levels. Any adverse environmental impacts would be de minimus and very short-term. **Long-term beneficial effects**: Beneficial impacts include the improvement of habitat for snag dependent species and in particular those species dependent on late successional forests. Long-term benefits would also accrue as the created snags decay over time and eventually provide for LWD on the forest floor improving habitat for many other species and contributing to long-term soil productivity.

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
			USDI BLM 1998a).	
	Noxious Weed Treatments	6 Road Miles, 127 Acres	The construction and operation of the Project has the potential to create vectors for noxious weeds. These treatments are intended to reduce populations of noxious weeds that are in close proximity to the Project corridor, as well as restore meadow habitats in the fifth-field watersheds that are currently impacted by noxious weeds.	**Short-term adverse effects:** Treatments typically involve the cutting, pulling or spraying of noxious weeds. Since the work is typically done by hand there is minimal if any ground or noise disturbance. All activities would be conducted consistent with the most recent direction and plans for weed management and integrated vegetation management on BLM and Forest Service lands to minimize adverse impacts to plant and animal communities as well as water quality and aquatic habitats. **Long-term beneficial effects**: Long-term benefits would include restoration of native plant populations and species diversity. Restoring native plant communities and increasing vegetation diversity generally contributes to restoring habitat for a broad group of animal species.
Visual Impacts on the Clover Creek Road		113 Acres	The Project will create a hard visual line along the timbered edge of the corridor that does not fit with the visual objectives for the Clover Creek Road or the Dead Indian Memorial Highway. Thinning and fuels treatments can be used to soften the edge to a more natural appearing texture by restoring stand density to more natural levels and creating small openings that are consistent with the landscape. Thinning of commercial sized material may be accomplished with a commercial timber sale. The mitigation is intended to supplement funding for the non-commercial part of that work for visual purposes that could not otherwise be accomplished.	**Short-term adverse effects**: The activities associated with thinning and fuels treatments and resulting short-term adverse impacts would be similar to the impacts of the integrated stand density treatments described previously. **Long-term beneficial effects**: The proposed activity would help mitigate the adverse visual impacts of the Project along these road segments and would also create a fuel break and defensible space that could be used in helping to suppress high intensity wildfires.
Reallocation of Matrix Lands to Late Successional Reserves		1896 Acres	This mitigation group contributes to the "neutral to beneficial" standard for new developments in mapped and unmapped LSRs by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the Project. It also compensates for the removal of occupied MAMU habitat and suitable roosting, nesting and foraging NSO habitat. In addition, the selected parcel reduces the potential edge effects caused by management of matrix lands adjacent to occupied MAMU sites by reallocating the entire parcel to LSR. Reallocation of matrix lands to LSR also contributes to ACS objectives and may benefit S&M species by providing additional habitat that is managed to create LSOG stand conditions over time. Since the land reallocated to LSR on BLM-managed O&C and/or the CBWR lands matrix timber base, there is a need to	**Short-term adverse effects**: The reallocation of matrix lands to LSR is an administrative action that would not have any immediate environmental consequences on the ground. **Long-term beneficial effects**: The proposed reallocation would change the management direction of approximately 1,896 acres from one of multiple uses with an emphasis on timber management to a management emphasis focusing on the creation and maintenance of late-successional forest habitat. Over time, this reallocation would benefit species dependent on late-successional forests through management actions that would be designed to improve or maintain LSOG habitat conditions.

TABLE 2.1

Summary of BLM and Forest Service Mitigation Projects by Mitigation Group and Project Type

Mitigation Group	Project Type	Amount	Rationale	Environmental consequences a/
			replace those lands with other timber-producing lands to ensure that BLM continues to comply with statutes, regulations and policies for these lands. It is expected these lands would be acquired by the applicant and conveyed to the BLM to be managed as part of the matrix.	

a/ For all project types additional field surveys for T&E species, Special Status species, and Heritage Resources would be completed where necessary before implementation. In addition, consultations with the USFWS and NOAA Fisheries would also be completed as necessary prior to implementation. All future decision making under NEPA for these projects would be completed consistent with the CEQ Regulations (40 CFR 1500-1508) and would tier to this EIS.

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3.0 DESCRIPTION OF PROPOSED BLM MITIGATION ACTIONS BY FIFTH-FIELD WATERSHED

The following tables and figures describe the proposed mitigation actions by BLM administrative unit and fifth-field watershed. The Project impacts include the corridor, temporary extra work areas (TEWA), uncleared storage areas (UCSA) and associated roads and other ancillary areas subject to BLM authorization. Quantities are approximate estimates. Maps of the proposed mitigation actions are included in section 6 of this appendix.

TABLE 3-1a

Mitigation Actions Proposed in the North Fork Coquille Watershed on the BLM Coos Bay District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Coos Bay BLM	North Fork Coquille River	Aquatic and Riparian Habitat	LWD In-stream	Steinnon Creek and North Fork Coquille River Watershed In-stream LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project corridor. Implementation of the PCGP Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	3.7	miles
Coos Bay BLM	North Fork Coquille River	Road Sediment Reduction	Road Surfacing	Bridge Approach paving - Woodward & Alder Creek Roads	Road-related sediment has negatively this watershed. While BMPs would be implemented, construction of the Project would likely cause sediment to enter stream channels and may affect aquatic habitat. Surfacing the bridge approach would reduce, if not eliminate sediment input to Coho salmon and, steelhead and cutthroat trout habitat from these locations.	2	ea.

TABLE 3-1b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Coos Bay District-North Fork Coquille Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	2.9	42.5	0.0	16.6	6
LWD In-stream	3.7	33.6	19.1	33.6	
Road Resurfacing/Repair	0.1	0.2	0.0	0.2	2

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Note: LWD In-stream acres based on a 75' wide treatment area

Figure 3-1a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the North Fork Coquille River Watershed

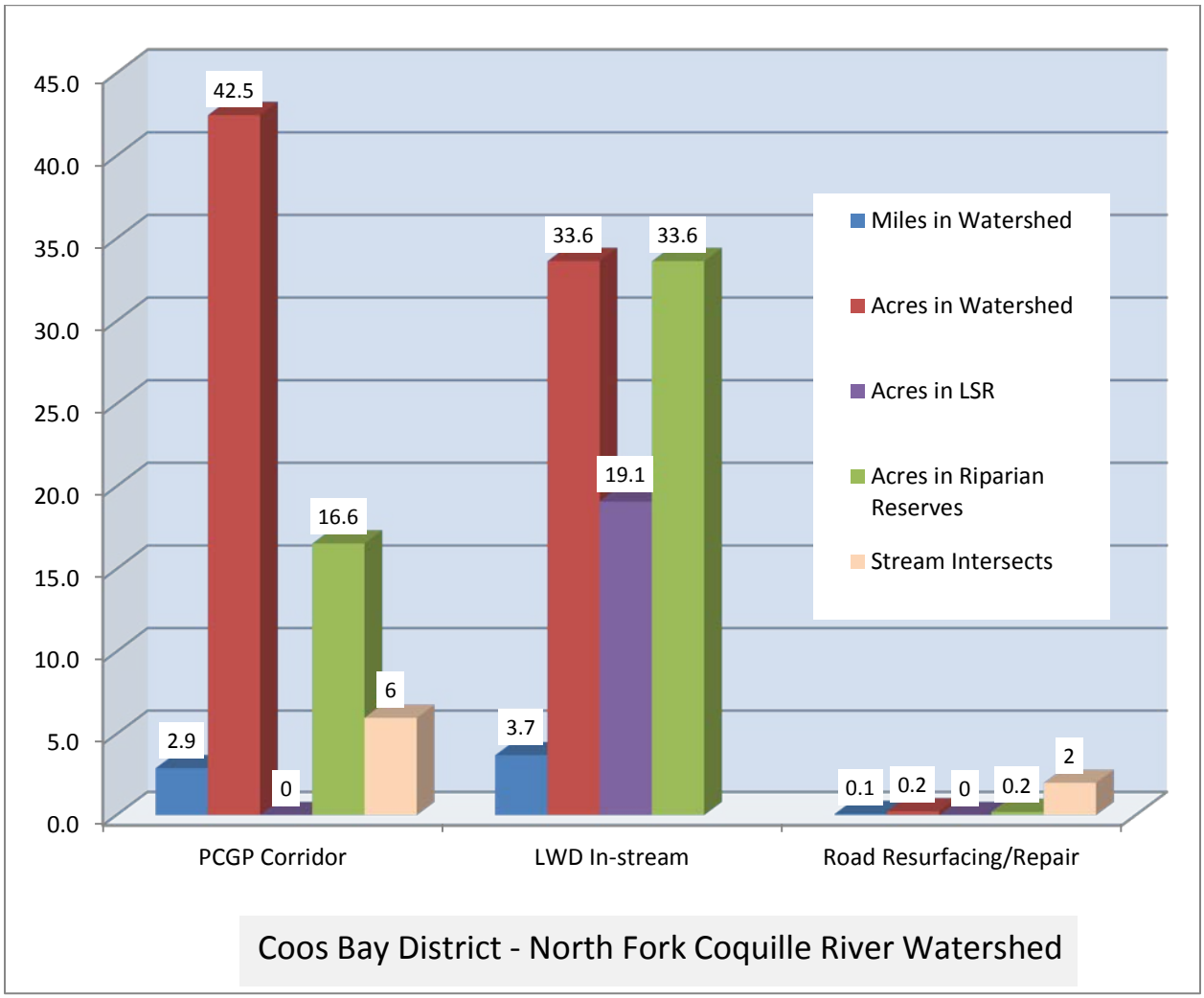


Figure 3-1b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the North Fork Coquille River Watershed

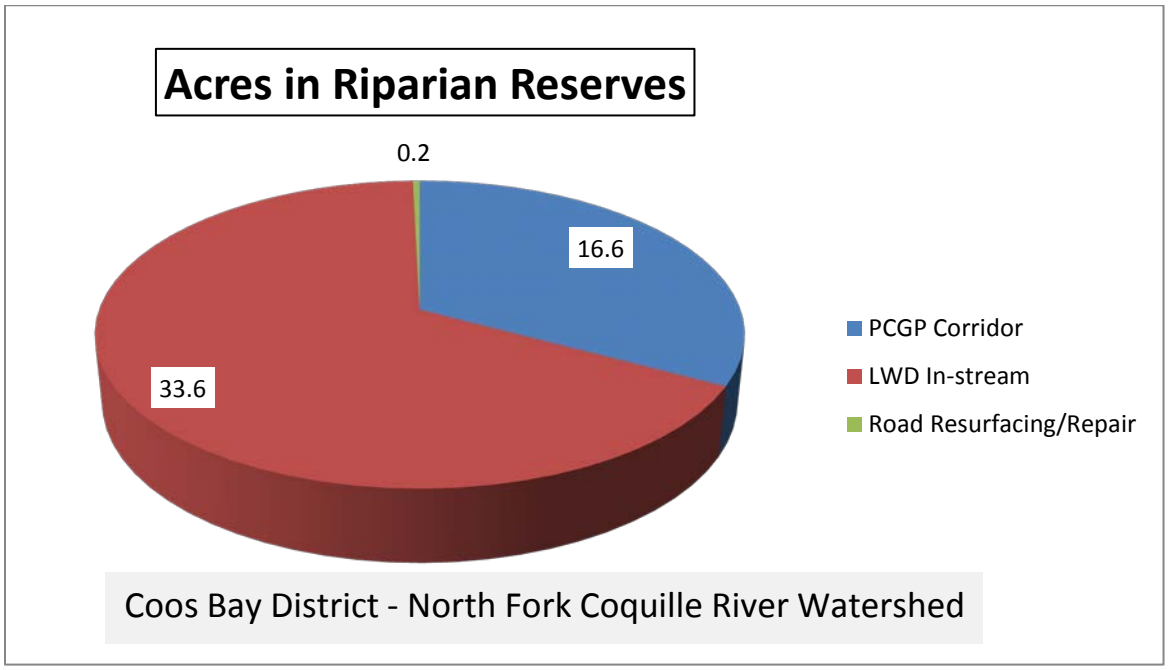


TABLE 3-2a

Mitigation Actions Proposed in the East Fork Coquille River Watershed on the BLM Coos Bay District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Coos Bay BLM	East Fork Coquille River	Reallocation of Matrix Lands to LSR	Land Re-Allocation from Matrix to LSR	LSR Reallocation and Land Acquisition	This action contributes to the "neutral to beneficial" standard for new developments in mapped and unmapped LSRs by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the Project. The action also compensates for the removal of occupied MAMU habitat and suitable NSO owl habitat. In addition, the selected parcel reduces the potential edge effects caused by management of matrix lands adjacent to occupied MAMU sites by reallocating the entire parcel to LSR.	180	acres
Coos Bay BLM	East Fork Coquille River	Aquatic and Riparian Habitat	LWD In-stream	Yankee Run In-stream Large Wood Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project corridor. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.7	miles
Coos Bay BLM	East Fork Coquille River	Fire suppression	Suppression Capacity	Heli-Pond Construction	High intensity fire has been identified as the single factor most impacting LSOG forest habitats on federal lands in the area of the NWFP. Project construction would require removal of both mature and developing stands and would increase fire suppression options however the corridor also provides a fuel break. Within this watershed, there is an 18+ mile gap between helicopter accessible waterholes. Quick response time is imperative for successful control in wildfire situations during initial attack. Most water sources in these watersheds are low in the	2	ea.

TABLE 3-2a

Mitigation Actions Proposed in the East Fork Coquille River Watershed on the BLM Coos Bay District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					drainage and accessible only by truck. Heli-ponds at these locations would enable a 2-3 mile radius for aerial application. Fire control is necessary to protect LSRs and T&E species habitat should a wildfire occur.		
Coos Bay BLM	East Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing - Yankee Run Spurs, Yankee Run Mainline, and South Fork Elk Creek	Road-related sediment has negatively impacted this watershed. The effects of the Project would be similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed. Surfacing the BLM roads which are parallel to Yankee Run Creek and South Fork Elk Creek would reduce if not eliminate road - related sediment input to habitat for Coho salmon and, steelhead and cutthroat trout from these locations.	5.5	miles

TABLE 3-2b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Coos Bay District-East Fork Coquille Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	2.8	43.7	21.7	4.5	2
LWD In-stream	2.7	25.0	2.8	25.0	
Road Resurfacing/Repair	5.5	13.3	0.8	8.1	29

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on a 75' wide treatment area.
Road Resurfacing/Repair acres based on a 20' wide treatment area.

Figure 3-2a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the East Fork Coquille River Watershed

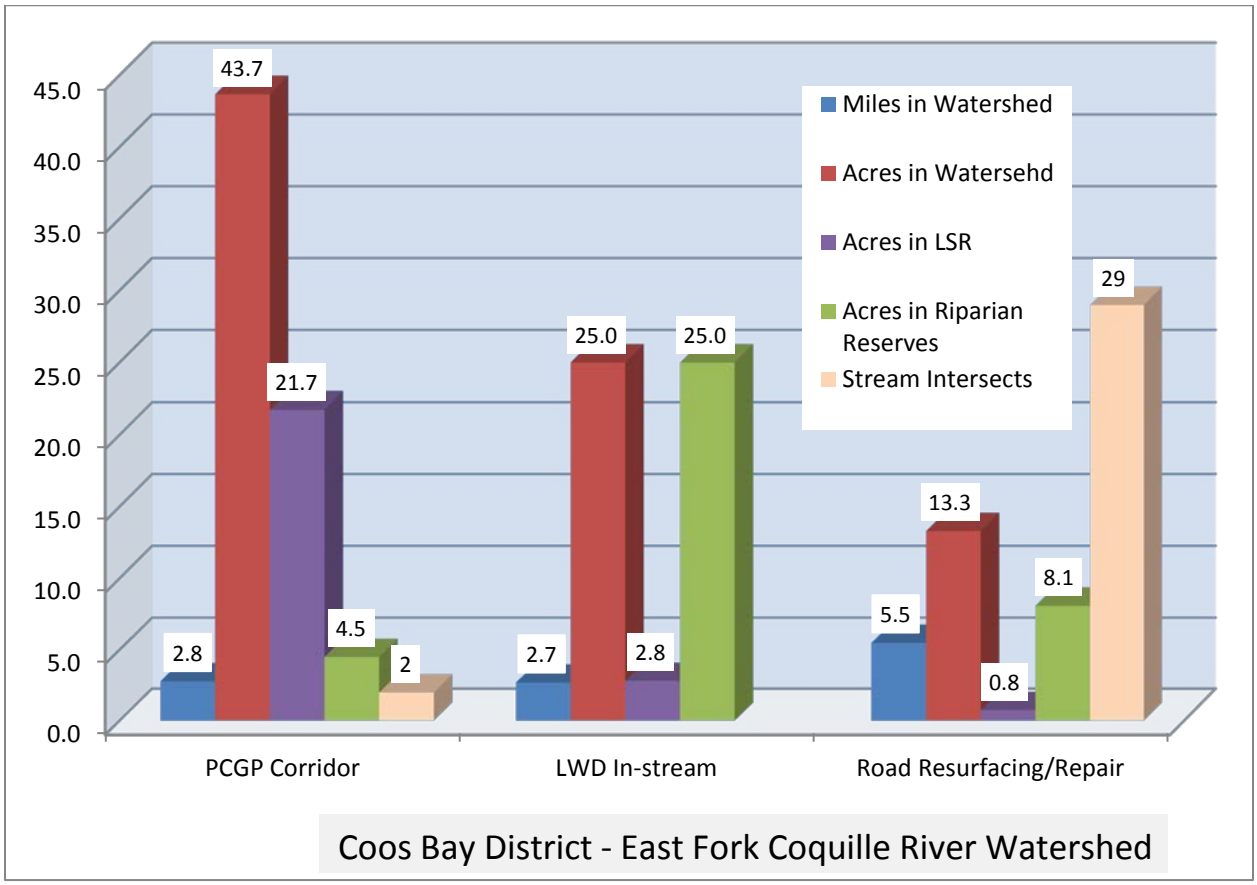


Figure 3-2b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the East Fork Coquille River Watershed

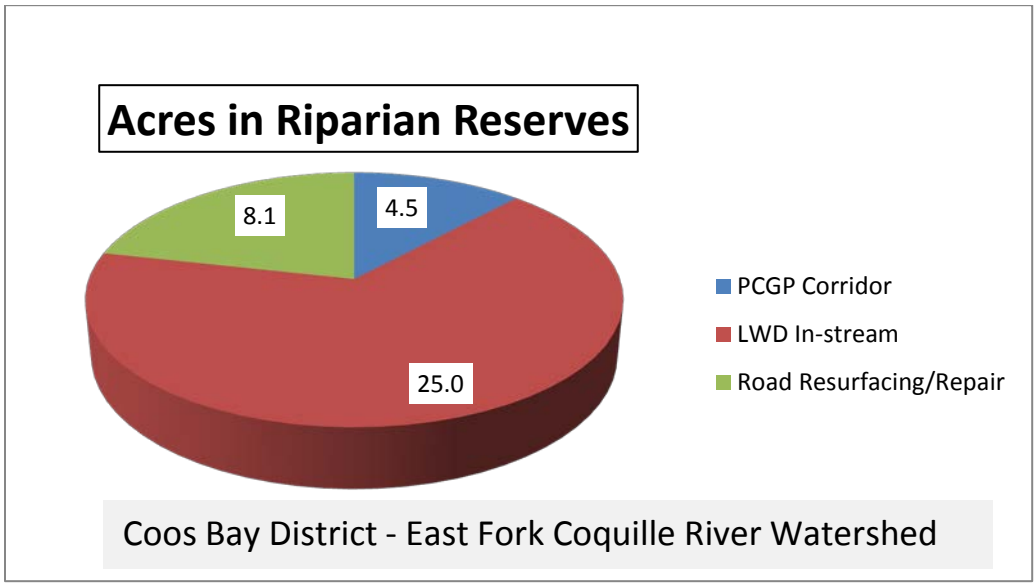


Figure 3-2c. Comparison of PCGP Impacts and Offsite Mitigation Actions in LSR in the East Fork Coquille River Watershed

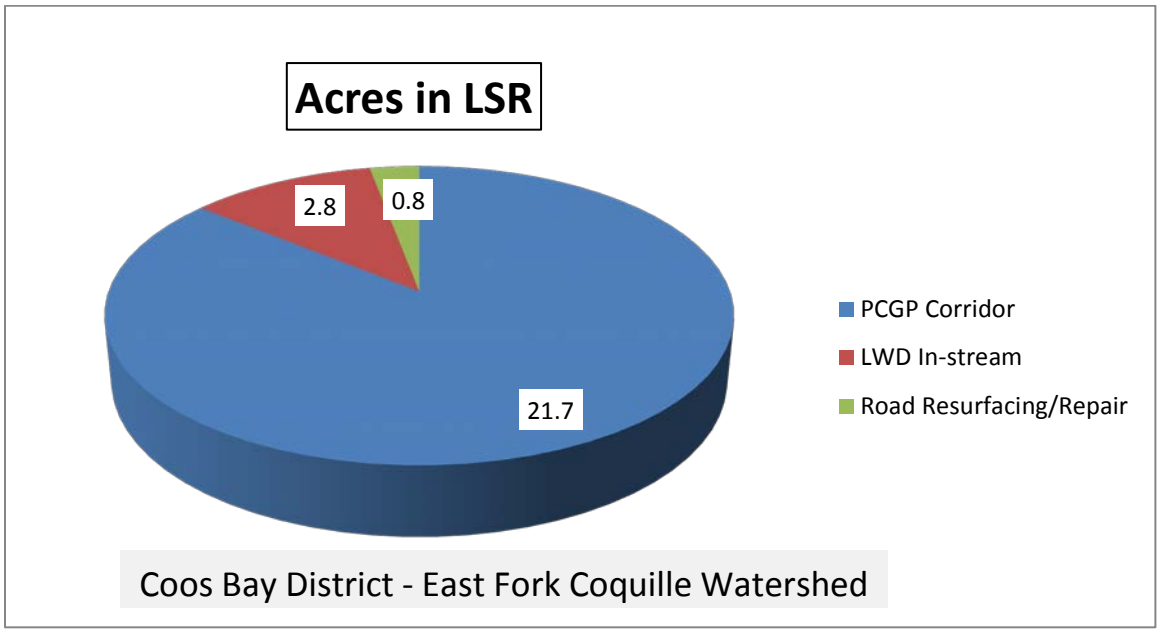


TABLE 3-3a

Mitigation Actions Proposed in the Middle Fork Coquille River Watershed on the BLM Coos Bay and Roseburg Districts

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Coos Bay BLM	Middle Fork Coquille River	Reallocation of Matrix Lands to LSR	Land Re-Allocation from Matrix to LSR	Coos Bay BLM	This action contributes to the "neutral to beneficial" standard for new developments in mapped and unmapped LSRs by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the Project. The action also compensates for the removal of occupied MAMU habitat and suitable NSO habitat. In addition, the selected parcel reduces the potential edge effects caused by management of matrix lands adjacent to occupied MAMU sites by reallocating the entire parcel to LSR.	207	acres
Coos Bay BLM	Middle Fork Coquille River	Aquatic and Riparian Habitat	LWD In-stream	Upper Rock Creek In-stream LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. There are approximately 7.3 miles of Project corridor and 9 stream crossings in this watershed. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.1	miles
Coos Bay BLM	Middle Fork Coquille River	Fire suppression	Suppression Capacity	Heli-Pond Construction	High intensity fire has been identified as the single factor most impacting LSOG forest habitats on federal lands in the area of the NWFP. Construction of the Project and associated activities removes both mature and developing stands and would increase fire suppression complexity, however the corridor also provides a fuel break. Within this watershed, there is an 18+ mile gap between helicopter accessible waterholes. Quick response time is imperative for successful control in wildfire	1	ea.

TABLE 3-3a

Mitigation Actions Proposed in the Middle Fork Coquille River Watershed on the BLM Coos Bay and Roseburg Districts

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					situations during initial attack. Most water sources in this watershed are low in the drainage and accessible only by truck. Heli-ponds at these locations would enable a 2-3 mile radius for aerial application. Fire control is necessary to protect LSRs and T&E species habitat should a wildfire occur.		
Coos Bay BLM	Middle Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing - Fall Creek System and Bridge Approach paving - Sandy & Jones Creek Roads	Road-related sediment has negatively impacted this watershed. There are approximately 7.3 miles of Project corridor and 9 stream crossings in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Surfacing the BLM road which is parallel to Fall Creek and paving the bridge approach on the Sandy and Jones Creek Roads would reduce if not eliminate sediment input to Coho salmon, and steelhead and cutthroat trout habitat from these locations.	0.9	miles
Roseburg BLM	Middle Fork Coquille River	Aquatic and Riparian Habitat	Fish Passage	Loveseat Creek Culvert Removal	Man-made barriers to fish passage have negatively affected access to habitat in this watershed. The culvert at this location is a fish barrier to resident fish. Removing the culvert and associated road fill would extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the Project corridor. Sediment introductions to the stream network would also cease.	1	project
Roseburg BLM	Middle Fork Coquille River	Aquatic and Riparian Habitat	LWD In-stream	Middle Fork Coquille and Twelvemile Creek In-stream LWD Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project corridor. There are approximately 7.3 miles of Project corridor and 9 stream crossings in this watershed. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key	2.6	miles

TABLE 3-3a

Mitigation Actions Proposed in the Middle Fork Coquille River Watershed on the BLM Coos Bay and Roseburg Districts

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat.		
Roseburg BLM	Middle Fork Coquille River	Road Sediment Reduction	Road Drainage and Surface Enhancement	Camas Mountain Road Drainage and Surface Enhancement	Road-related sediment and stream network extension from ditch-lines have negatively impacted this watershed. There are approximately 7.3 miles of Project corridor and 9 stream crossings in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Roads in this watershed are a source of chronic sediment delivery to fish bearing streams. Two BLM roads (9.1 and 9.2) currently show signs of water rutting and stream network extension. Storm-proofing and blocking the road would reduce the potential for sediment-laden water to be carried off the road surface and into the ditch where it could be transmitted to the stream network.	3.5	miles

TABLE 3-3b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Coos Bay District Middle Fork Coquille Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	6.8	123.7	46.9	15.8	9
LWD In-stream	4.7	42.7	4.4	42.7	
Road Resurfacing/Repair	4.4	10.7	1.5	2.8	10

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on a 75' wide treatment area.
Road Resurfacing/Repair acres based on a 20' wide treatment area.

Figure 3-3a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Middle Fork Coquille River Watershed

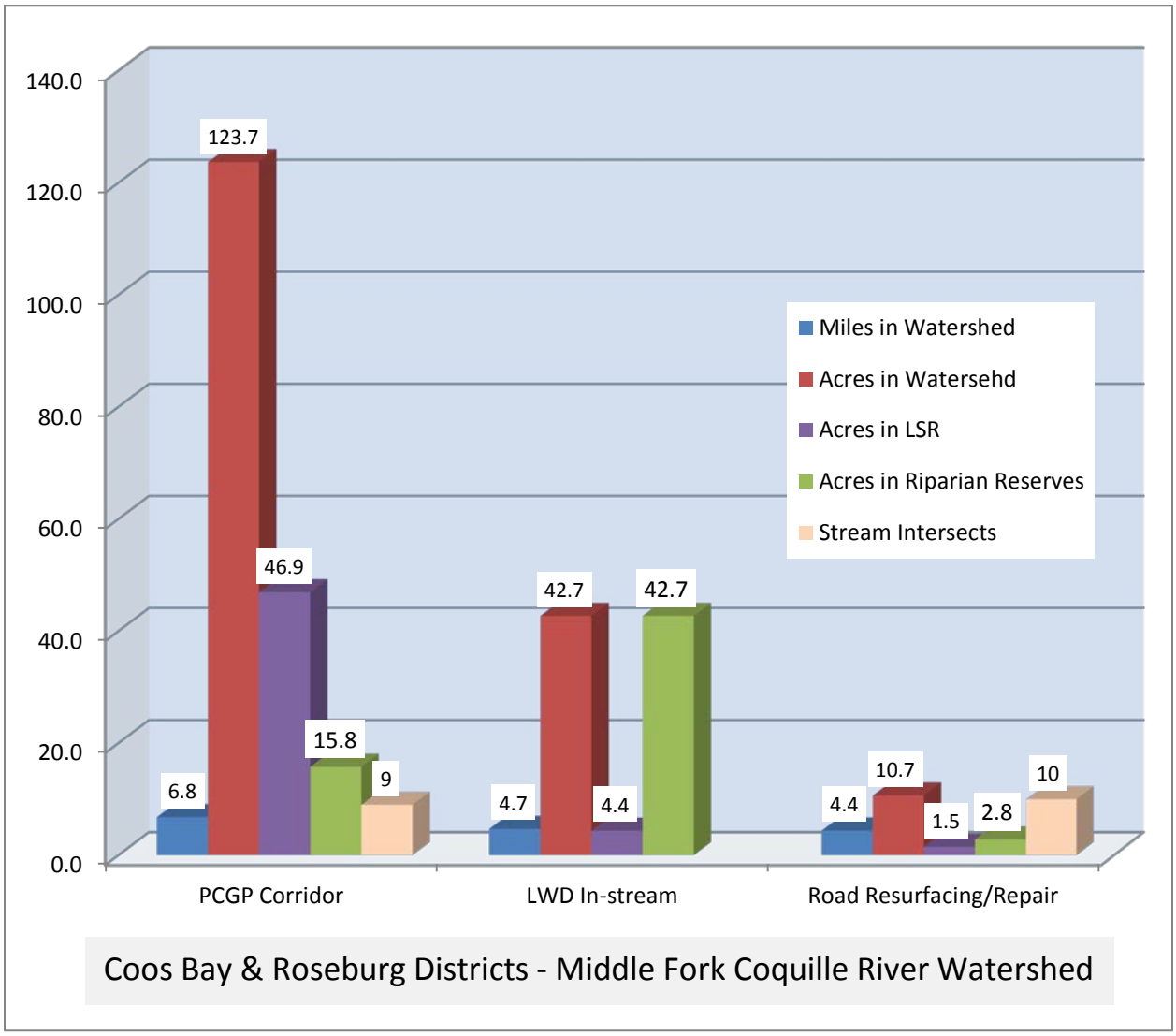


Figure 3-3b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Middle Fork Coquille Watershed

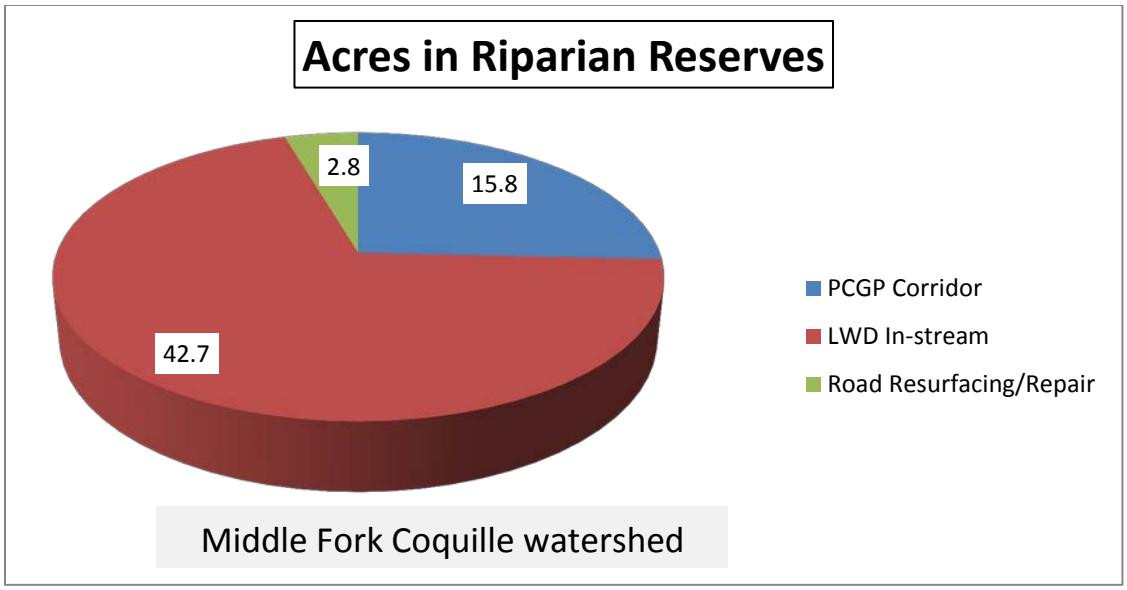


Figure 3-3c. Comparison of PCGP Impacts and Offsite Mitigation Actions in LSR in the Middle Fork Coquille Watershed

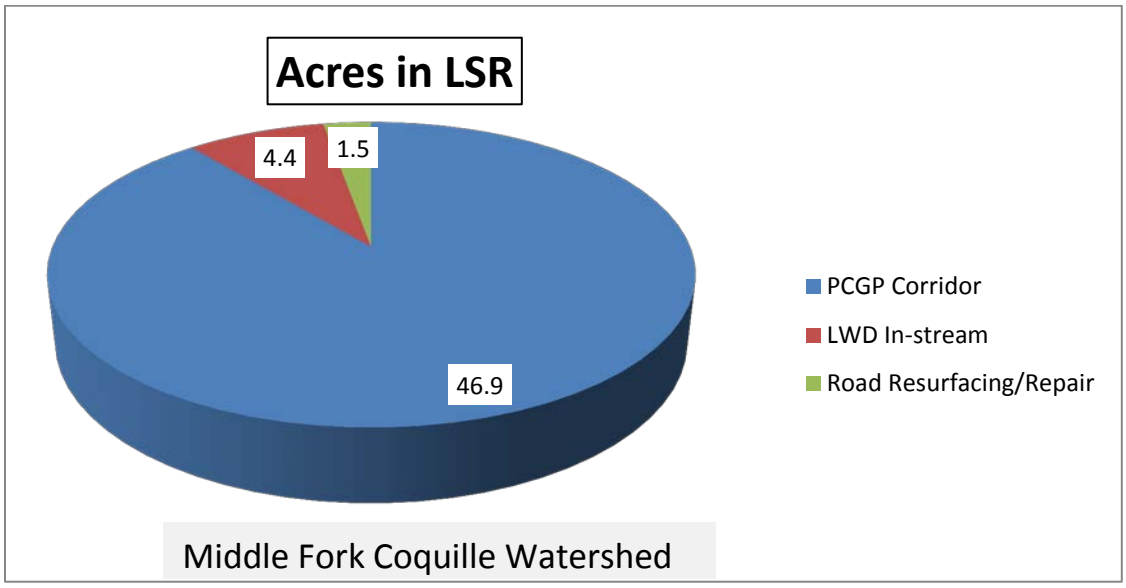


TABLE 3-4a

Mitigation Actions Proposed in the Olalla-Lookingglass Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Roseburg BLM	Olalla-Lookingglass	Reallocation of Matrix Lands to LSR	Land Re-Allocation from Matrix to LSR	Roseburg BLM	This action contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the LSR land allocation to offset the long-term loss of acres of acres and habitat from the construction and operation of the Project. In addition to impacts to Mapped LSR, this action compensates for impacts to 3 unmapped LSRs (KOACs).	409	acres
Roseburg BLM	Olalla-Lookingglass	Aquatic and Riparian Habitat	LWD In-stream	Olalla Creek In-stream LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project corridor. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	1.2	miles
Roseburg BLM	Olalla-Lookingglass	Road Sediment Reduction	Road Stabilization	Olalla Tie Road Renovation	Sediment from roads is a primary concern in this watershed. Roads in this watershed are a source of chronic sediment delivery to fish bearing streams. Additionally, there are several landslides crossing the road which need to be stabilized. Stabilizing these conditions would reduce the delivery of road-related sediments to channels.	1	project

TABLE 3-4b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Roseburg District Olalla-Lookingglass Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	1.3	24.5	4.3	0.0	0
LWD In-stream	1.2	7.3	6.7	7.3	
Road Stabilization	0.3	0.9	0.9	0.9	2

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on a 50' wide treatment area.
Road Stabilization acres based on a 30' wide treatment area.

Figure 3-4a. Comparison of PCGP Impacts and Offsite Mitigation in the Olalla-Lookingglass Watershed

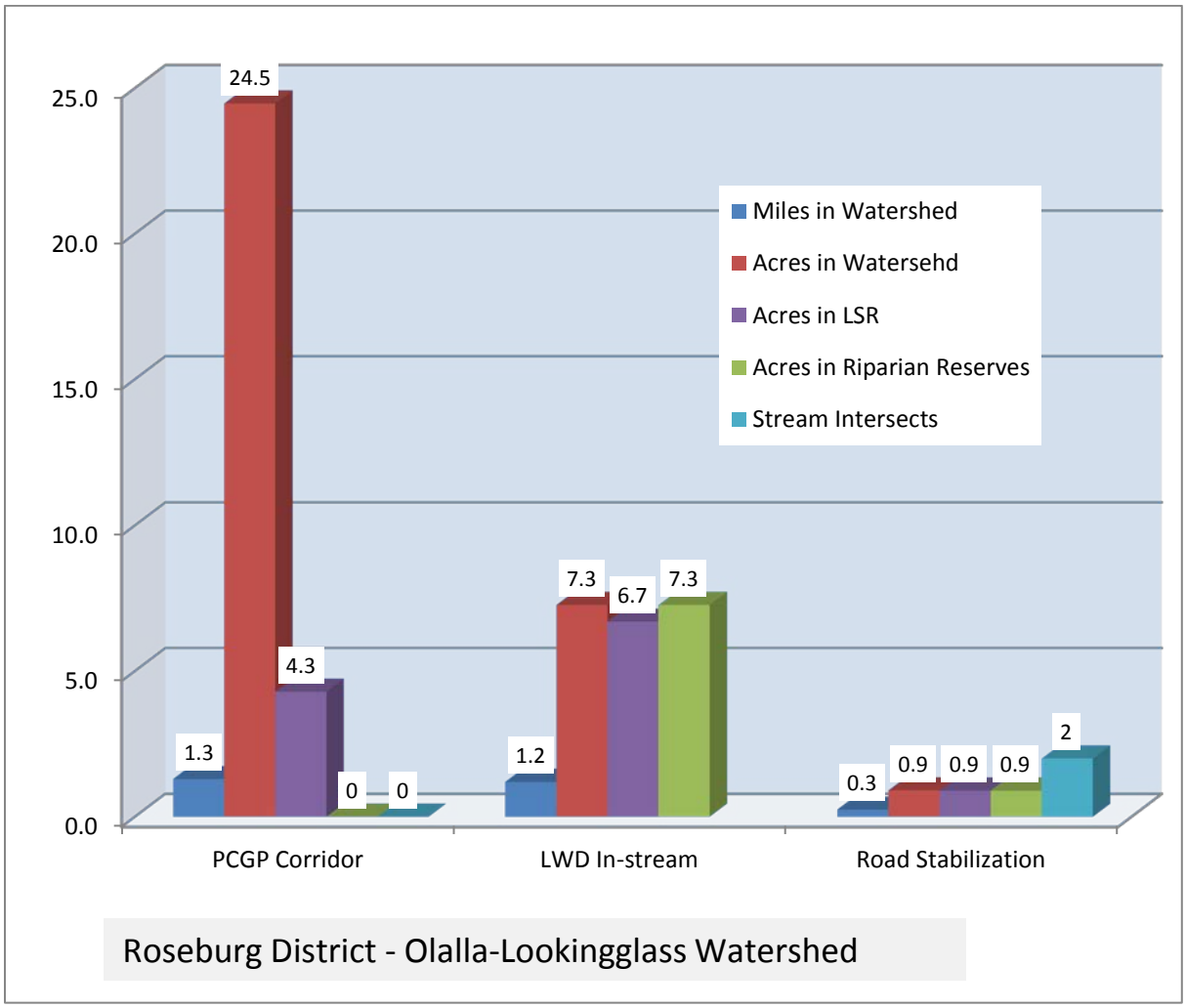


Figure 3-4b. Comparison of PCGP Impacts and Offsite Mitigation in LSR in the Olalla-Lookingglass Watershed

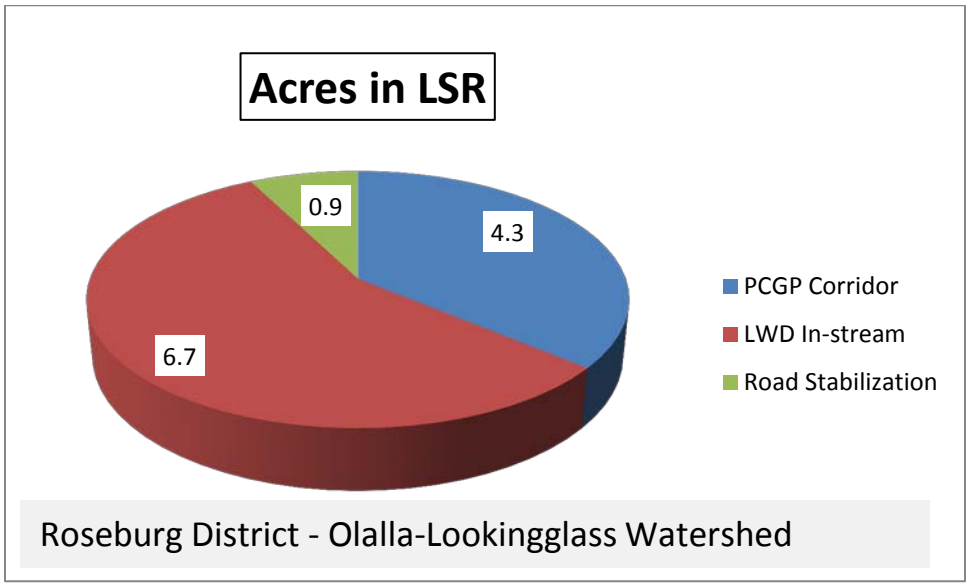


TABLE 3-5a

Mitigation Actions Proposed in the Clark Branch South Umpqua Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Roseburg BLM	Clark Branch South Umpqua	Aquatic and Riparian Habitat	Fish Passage	Rice Creek Culvert Replacements	Man-made barriers to fish passage have negatively affected access to habitat in this watershed. Both culverts are undersized and obstruct anadromous and resident fish passage. Replacing the culverts with ones properly sized for the stream would allow for proper fish passage along with reducing the risk for culverts plugging and causing road fill failures.	2	sites
Roseburg BLM	Clark Branch South Umpqua	Road Sediment Reduction	Road Drainage - Culvert Replacement	East Fork Willis Creek Tributary Culvert Replacement	Sediment is one of the primary water quality problems in this watershed. WAs prepared by BLM clearly indicate that the sediment turbidity habitat indicator is at risk or more likely not functioning properly. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Culvert is plugged, old, undersized, shot-gunned, and eroding road fill. Culvert has poor alignment with the stream at the outlet. Replacing the culvert with a properly sized one would reduce the risk of road fill failure.	1	project
Roseburg BLM	Clark Branch South Umpqua	Road Sediment Reduction	Road Drainage - Culvert Replacement	Judd Creek Culvert Removal	Sediment is one of the primary water quality problems in this watershed. WAs prepared by BLM clearly indicate that the sediment turbidity habitat indicator is at risk or more likely not functioning properly. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. This culvert is undersized and has a large amount of road fill associated with it. Pulling the culvert and fill material and storm-proofing the road would prevent a plugged culvert. A plugged culvert could cause the road fill to fail which could deliver sediment downstream to fish bearing reaches. The road is blocked by a landslide just beyond so access would not be lost. Access to the stream crossing is gradually being lost due to soil slumping and vegetation growth.	1	project

TABLE 3-5b **Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/**					
BLM Roseburg District Clarks Branch South Umpqua Watershed	**Miles in Watershed**	**Acres in Watershed**	**Acres in LSR**	**Acres in Riparian Reserves**	**Stream Intersects**
PCGP Corridor	0.6	11.3	0.0	0.1	0
Fish Passage		0.4	0.0	0.4	2
Culvert Replacement		0.4	0.0	0.4	2

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: Fish Passage and Culvert Replacement acres based on an estimate of 0.2 acres/site

Figure 3-5. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Clarks Branch South Umpqua Watershed

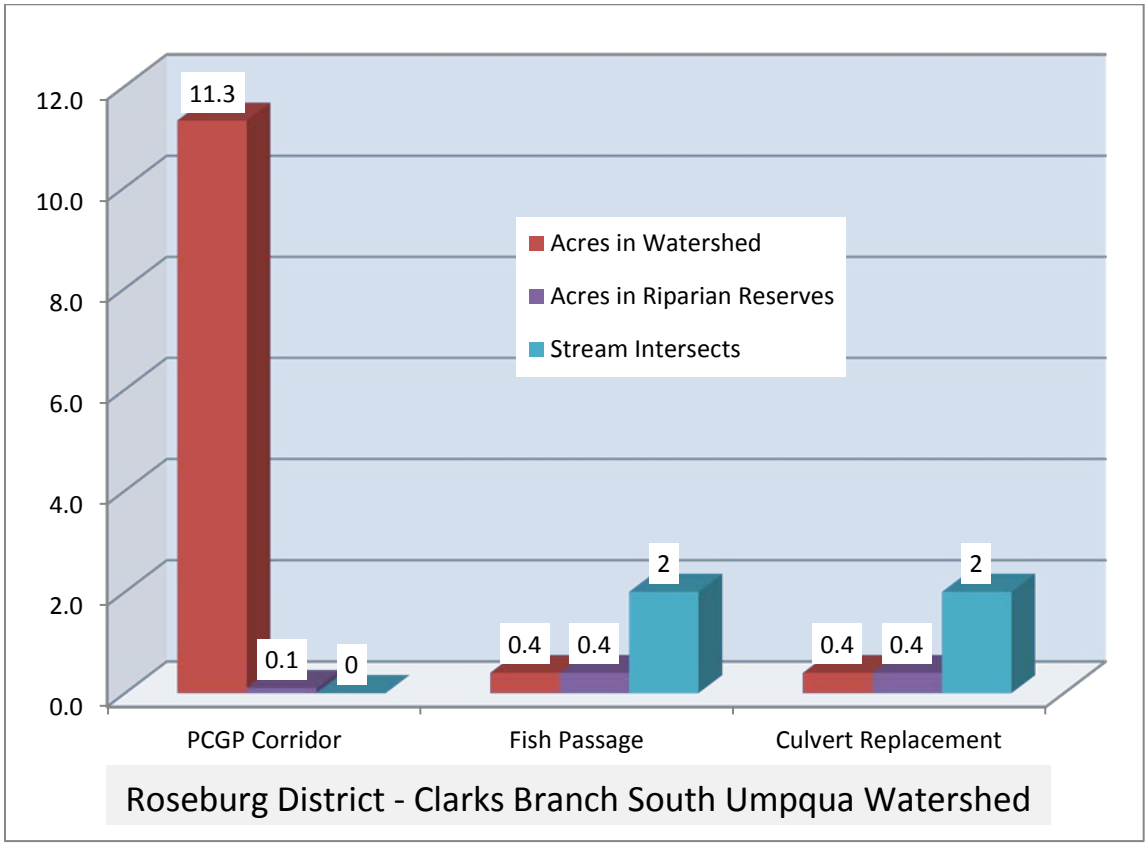


TABLE 3-6a

Mitigation Actions Proposed in the Myrtle Creek Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Roseburg BLM	Myrtle Creek	Aquatic and Riparian Habitat	Fish Passage	Slide Creek Culvert Replacement	Man-made barriers to fish passage have negatively affected access to habitat in this watershed. Culvert is perched, undersized, and a fish barrier for anadromous and resident fish. Replacing a fish barrier culvert with one that would pass adult and juvenile salmonids at a range of flows would extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. In addition, undersized culverts are at risk of failure due to small size and age. This could result in the culvert plugging which could cause road fill to enter into the stream network.	1	project
Roseburg BLM	Myrtle Creek.	Road Sediment Reduction	Road Drainage and Surface Enhancement	Ben Branch Road Drainage and Surface Enhancement	Sediment in streams is a limiting factor in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Roads in this watershed are a source of chronic sediment delivery to fish bearing streams. Surfacing and drainage repair would reduce sediment delivery to fish bearing streams.	1.0	miles
Roseburg BLM	Myrtle Creek.	Road Sediment Reduction	Road Stabilization	South Myrtle Hill Slide Repair	Sediment in streams is a limiting factor in this watershed. There are approximately 3.4 miles of Project corridor in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Stabilizing the failure would prevent future sediment delivery and catastrophic slope failure.	1	project

TABLE 3-6b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Roseburg District Myrtle Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	2.5	86.9	1.1	4.2	0
Fish Passage		0.2	0.0	0.2	1
Road Resurfacing	1.0	2.4	0.0	1.4	6
Road Stabilization	0.3	0.9	0.0	0.9	1

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: Fish Passage acres based on an estimate of 0.2 acres/site
Road Resurfacing/Stabilization acres based on a 30' treatment area

Figure 3-6a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Myrtle Creek Watershed

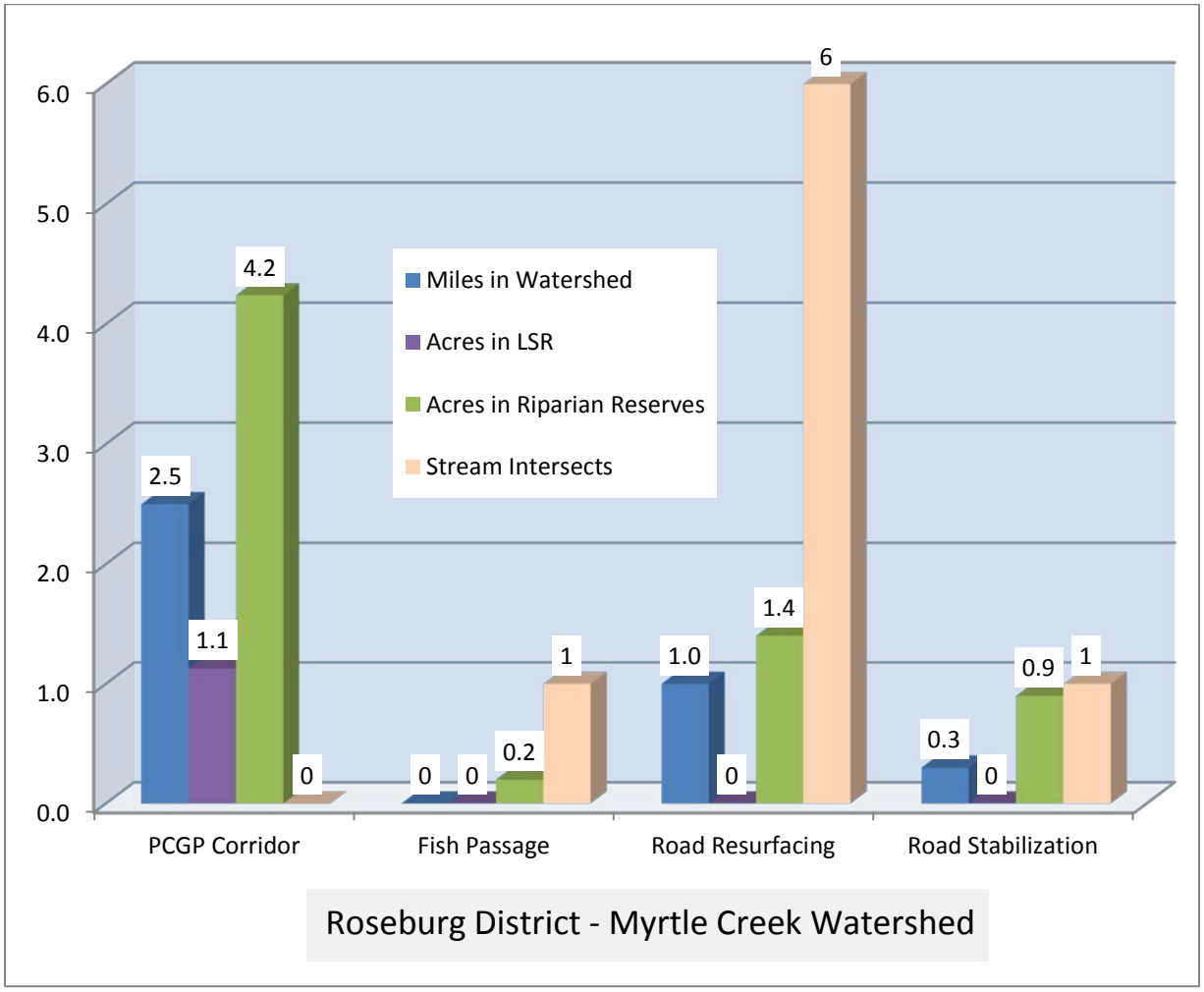


Figure 3-6b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Myrtle Creek Watershed

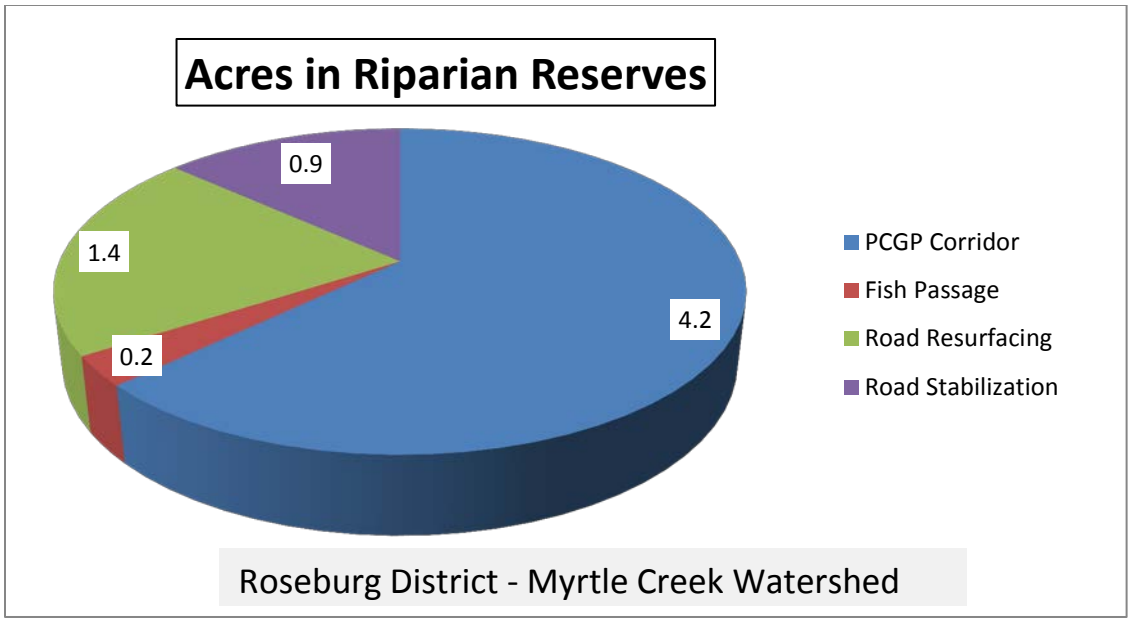


TABLE 3-7a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Roseburg BLM	Days Creek. South Umpqua	Aquatic and Riparian Habitat	Fish Passage	Beal Creek Culvert Replacement	Man-made barriers to fish passage have negatively affected access to aquatic habitat in this watershed. Both culverts are undersized and obstruct anadromous and resident fish passage. Replacing the culverts with ones properly sized for the stream would allow for proper fish passage along with reducing the risk for culverts plugging and causing road fill failures.	2	sites
Roseburg BLM	Days Creek. South Umpqua	Aquatic and Riparian Habitat	LWD In-stream	Days Creek In-stream LWD	The South Umpqua River watershed is a Tier 1 Key Watershed. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. There are approximately 6.23 miles of Project corridor and 3 stream crossings in this watershed. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	0.4	miles
Roseburg BLM	Days Creek. South Umpqua	Aquatic and Riparian Habitat	LWD In-stream	West Fork Canyon	The South Umpqua River watershed is a Tier 1 Key Watershed. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. There are approximately 6.23 miles of Project corridor and 3 stream crossings in this watershed. Implementation of the Project would result in the removal of LWD from the Riparian	0.8	miles

TABLE 3-7a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.		
Roseburg BLM	Days Creek. South Umpqua	Fire suppression	Suppression Capacity	Dry Hydrants	By installing dry hydrants, the water source is disturbed the one time but there are several advantages. Fire vehicles would not need to be really close to the water to fill, decreasing risk of contamination, and they can fill out of some water sources that would otherwise need to be modified for use. Areas that have had restoration work for fish populations could still be safety accessed for fire suppression. Over all, better water sources would improve suppression success and therefore help protect natural resources.	6	sites
Roseburg BLM	Days Creek. South Umpqua	Road Sediment Reduction	Road storm-proofing	31-4-3.2 Road Storm-proofing	The South Umpqua River watershed is a Tier 1 Key Watershed. Sediment is likely the most limiting factor to aquatic function in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. If culverts fail, substantial sediment could be transported to Shively Creek. Removing culverts would prevent crossing failures that deposit fine road sediments in stream channels. This project should occur before road becomes too overgrown for heavy equipment access.	1	project
Roseburg BLM	Days Creek. South Umpqua	Road Sediment Reduction	Road Drainage and Surface	South Umpqua Road	The South Umpqua River watershed is a Tier 1 Key Watershed. There are	10	miles

TABLE 3-7a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the BLM Roseburg District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
			Enhancement	Drainage and Surface Enhancement	approximately 6.23 miles of Project corridor and 3 stream crossings in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Sediment is likely the most limiting factor to aquatic function in this watershed. Roads in this watershed are a source of chronic sediment delivery to fish bearing streams. Surfacing and drainage repair would reduce sediment delivery to fish bearing streams.		
Roseburg BLM	Days Creek. South Umpqua	Stand Density Fuel Break	Fuels Reduction	Days Creek South Umpqua Hazardous Fuel Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project and associated activities removes both mature and developing stands and would increase fire suppression options however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This project is part of the Days Creek to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.	1000	acres

TABLE 3-7b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Roseburg District Days Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	6.6	186.6	57.5	8.9	1
Fish Passage		0.2	0.0	0.2	1
Hazardous Fuels Reduction		1000.0	305.0	78.0	
Road Resurfacing	10.0	24.2	15.8	3.2	14
LWD In-stream	1.2	7.3	0.0	7.3	1

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: Fish Passage acres based on an estimate of 0.2 acres/site
Road Resurfacing/Stabilization acres based on a 20' treatment area
Hazardous Fuels Reduction Acres in Riparian Reserves is estimated

Figure 3-7a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Days Creek South Umpqua Watershed

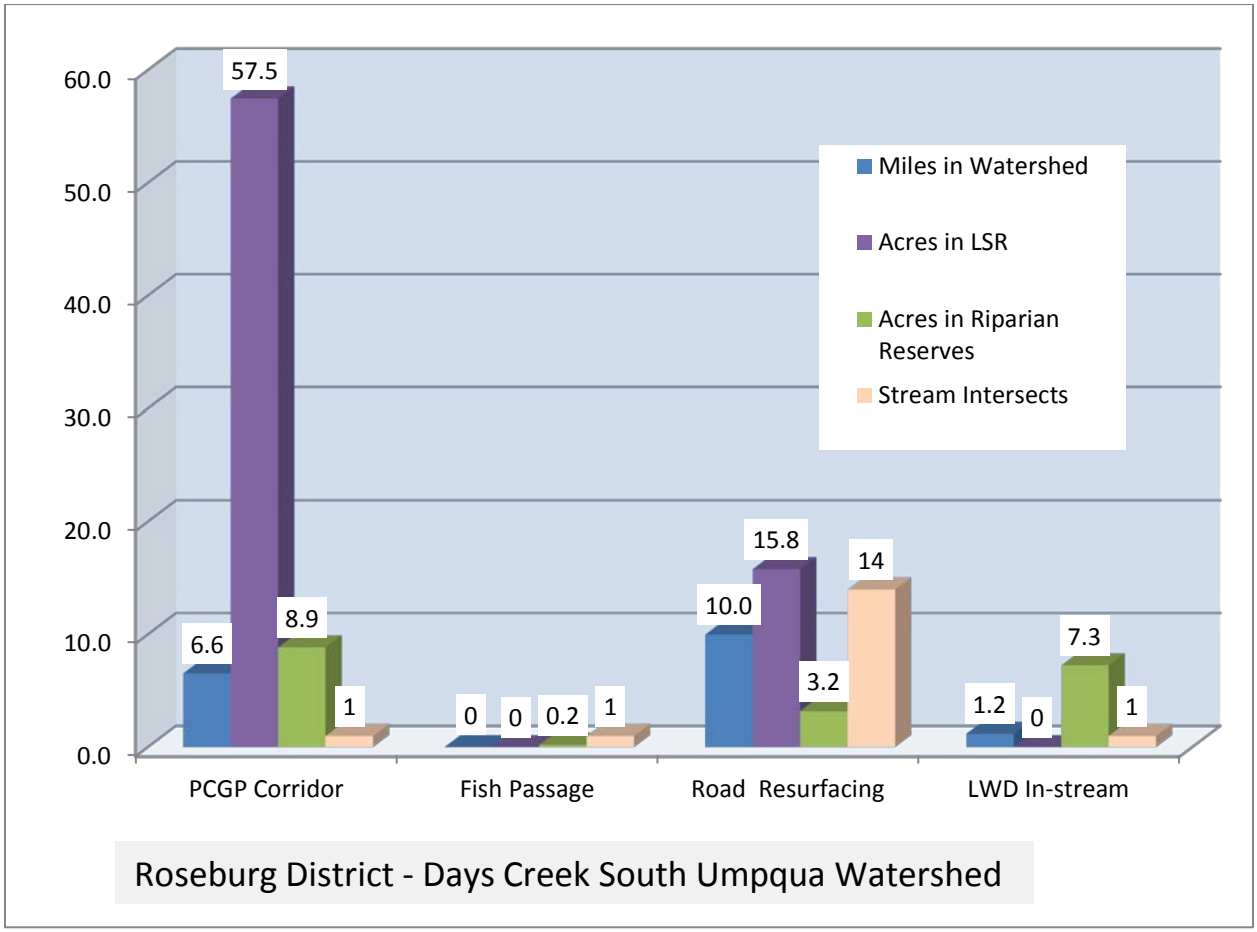


Figure 3-7b. Comparison of PCGP Impacts and Offsite Mitigation Actions in LSR in the Days Creek South Umpqua Watershed

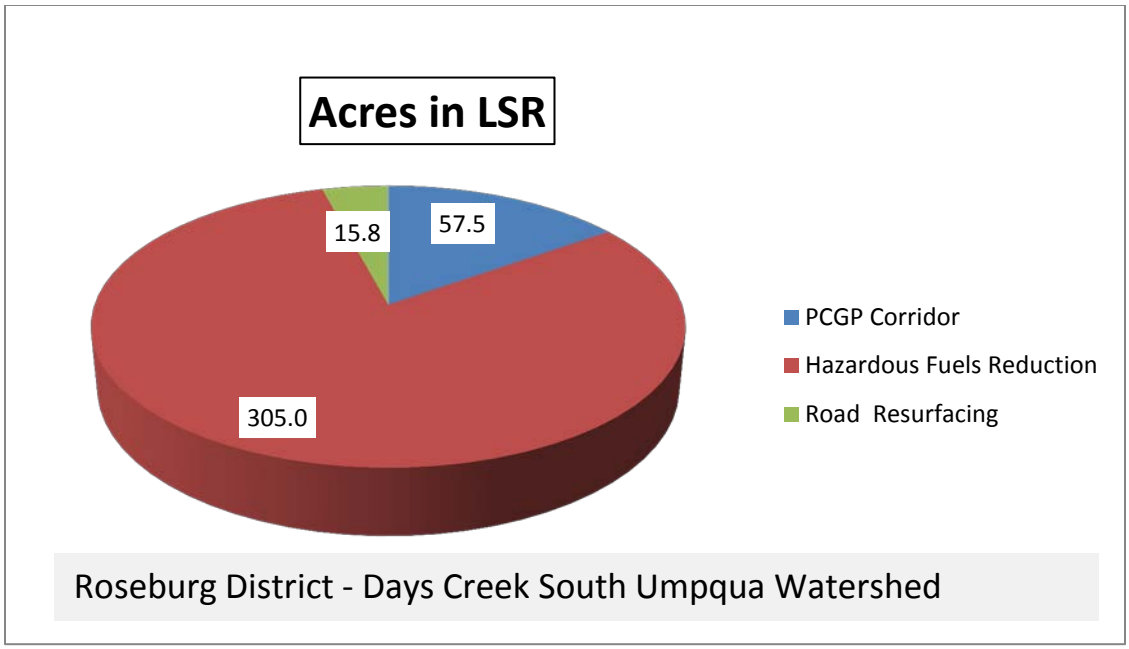


TABLE 3-8a

Mitigation Actions Proposed in the Trail Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Trail Creek.	Aquatic and Riparian Habitat	LWD In-stream	Trail Creek LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.6	miles

TABLE 3-8a

Mitigation Actions Proposed in the Trail Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Trail Creek.	Fire suppression	Suppression Capacity	Trail Creek Pump Chance	Construction of the Project would increase fire suppression complexity in the watershed. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	8	sites
Medford BLM	Trail Creek.	Road Sediment Reduction	Road storm-proofing	Trail Creek Road Storm-proofing	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including possible impacts to flow and sediment regimes. Storm-proofing improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	4.3	miles
Medford BLM	Trail Creek.	Road Sediment Reduction	Road Decommissioning	Trail Creek Road Decommissioning	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity and by reducing road density.	2.7	miles
Medford BLM	Trail Creek.	Road Sediment Reduction	Road Surfacing	Trail Creek Road Resurface	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	16.3	miles

TABLE 3-8a

Mitigation Actions Proposed in the Trail Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Trail Creek.	Stand Density Fuel Break	Fuels Reduction	Trail Creek Fuel Hazard Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.	687	acres
Medford BLM	Trail Creek.	Stand Density Fuel Break	Fuels Reduction	Trail Creek. Fuels Hazard Maintenance	This provides a mechanism for maintenance of fuel breaks over time for the life of the project.	687	acres

TABLE 3-8b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Medford District Trail Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	3.9	74.2	0.0	5.1	2
Hazardous Fuels Reduction	0.0	687.0	0.0	78.0	0
Road Decommissioning	2.7	6.5	0.0	2.0	9
Road Resurfacing - Storm-proofing	20.6	49.9	0.0	8.5	39
LWD In-stream	2.6	15.8	0.0	15.8	0

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on an estimate of a 50' wide treatment area
Road Resurfacing/Stabilization acres based on a 20' treatment area

Figure 3-8a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Trail Creek Watershed

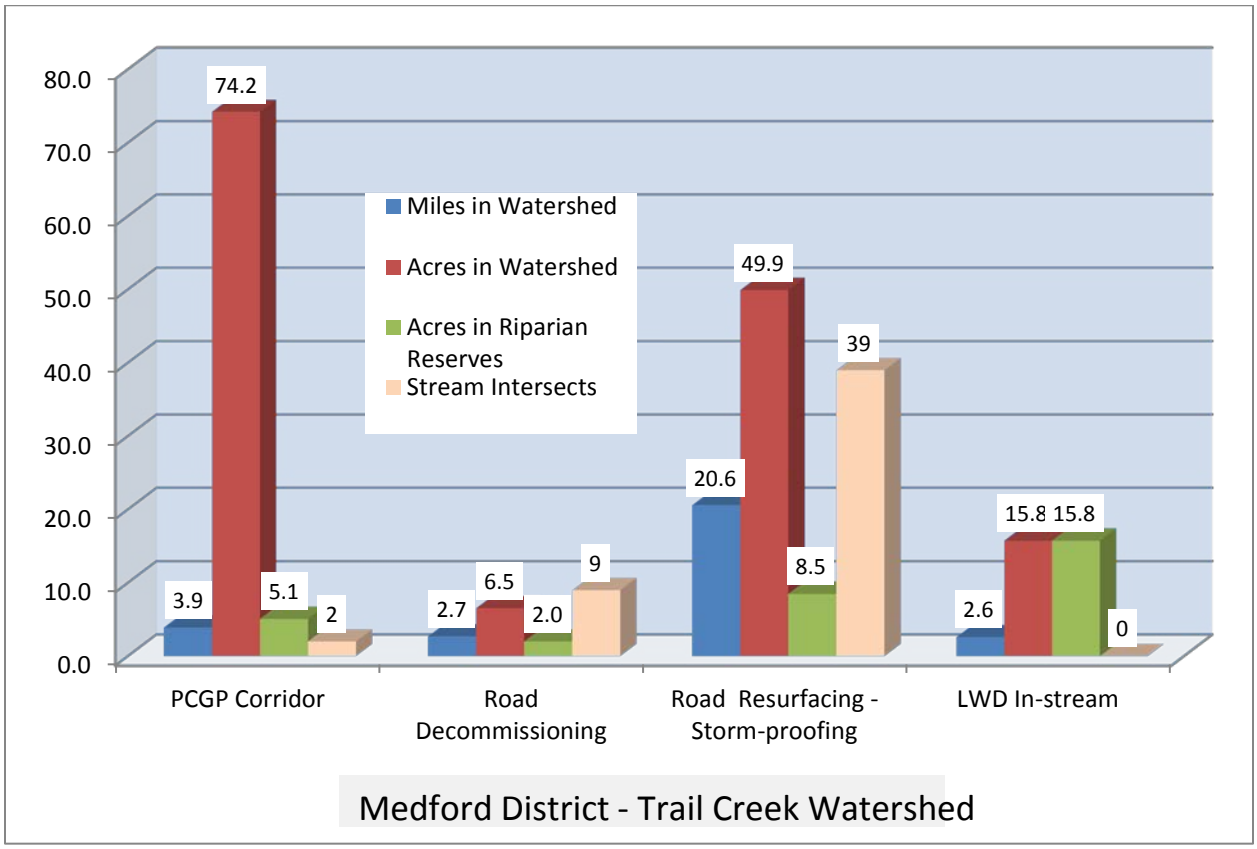


Figure 3-8b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Trail Creek Watershed

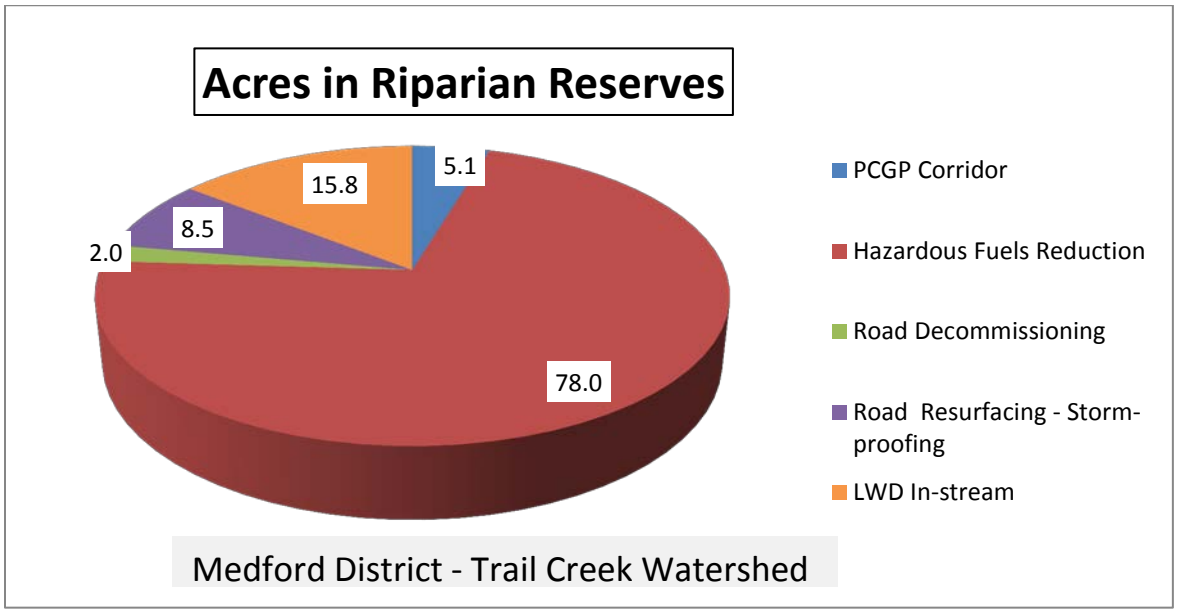


TABLE 3-9a

Mitigation Actions Proposed in the Shady Cove-Rogue River Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Shady Cove Rogue River	Aquatic and Riparian Habitat	LWD In-stream	Shady Cove LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.5	miles
Medford BLM	Shady Cove Rogue River	Road Sediment Reduction	Road Drainage and Surface Enhancement	Shady Cove Road Improvement	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	1.0	mile
Medford BLM	Shady Cove Rogue River	Road Sediment Reduction	Road Surfacing	Shady Cove Road Resurface	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	1.5	miles
Medford BLM	Shady Cove Rogue River	Stand Density Fuel Break	Fuels Reduction	Shady Cove Fuel Hazard Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels	866	acres

TABLE 3-9a

Mitigation Actions Proposed in the Shady Cove-Rogue River Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.		
Medford BLM	Shady Cove Rogue River	Stand Density Fuel Break	Fuels Reduction	Shady Cove Fuel Hazard Maintenance	This provides a mechanism for maintenance of fuel breaks over time for the life of the Project.	866	acres

TABLE 3-9b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Medford District Shady Cove Rogue River Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	4.4	75.5	0.0	4.8	7
Hazardous Fuels Reduction	0.0	866.0	0.0	206.0	0
Road Resurfacing - Improvement	2.5	6.1	0.0	0.7	3
LWD In-stream	2.5	15.2	0.0	15.2	0

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on an estimate of a 50' wide treatment area
Road Resurfacing - Improvement acres based on a 20' treatment area

Figure 3-9a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Shady Cove Rogue River Watershed

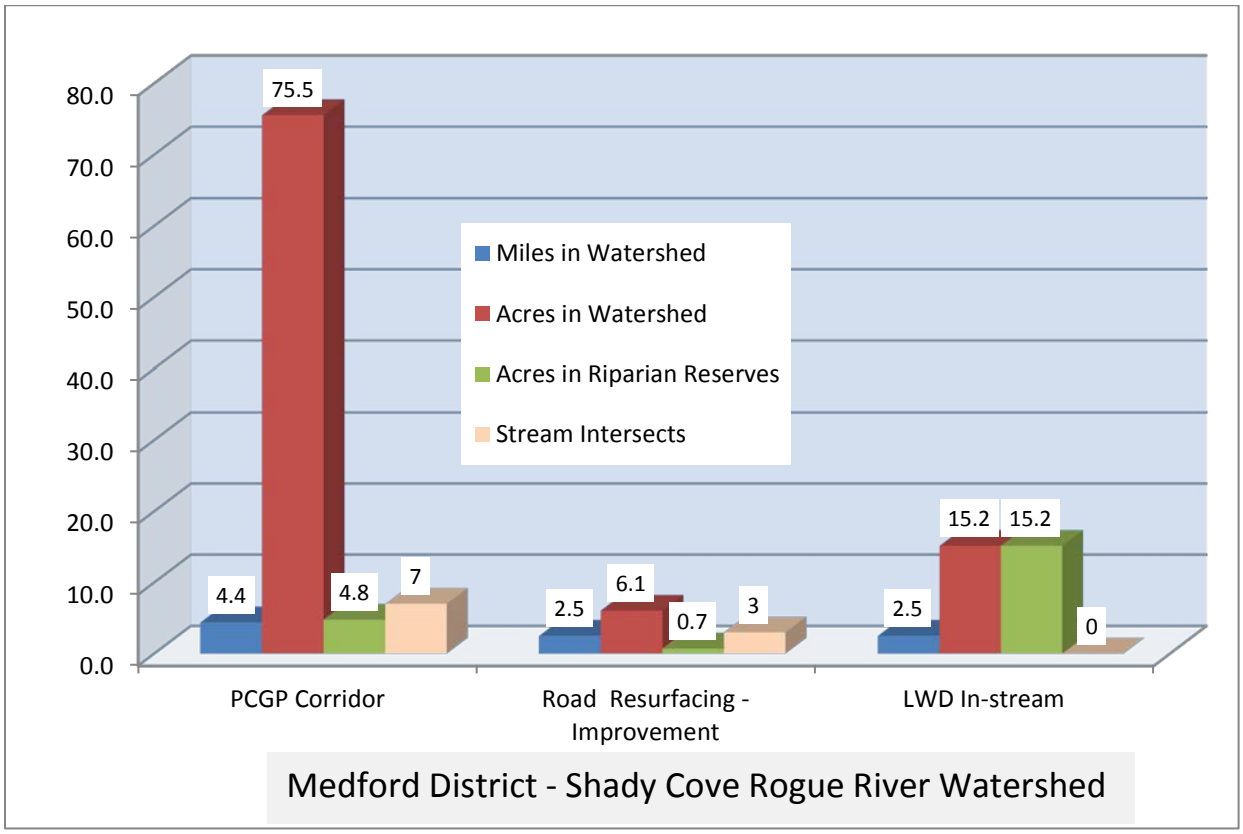


Figure 3-9b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Shady Cove Rogue River Watershed

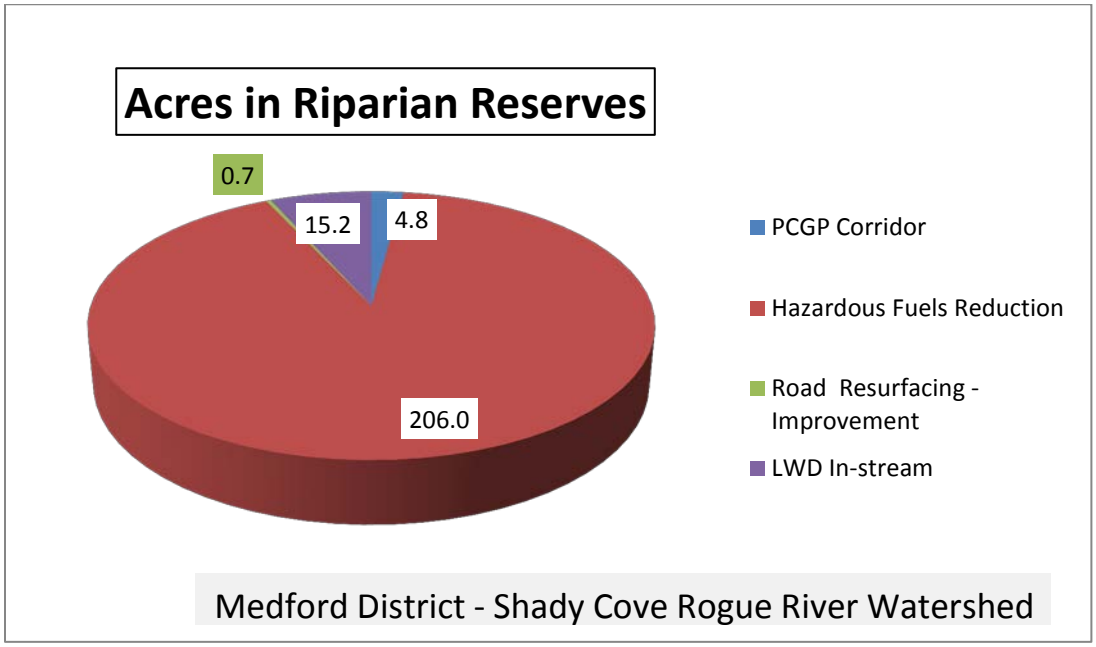


TABLE 3-10a

Mitigation Actions Proposed in the Big Butte Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Big Butte Creek.	Fire suppression	Suppression Capacity	Big Butte Creek Pump Chance	Construction of the Project would increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	1	sites
Medford BLM	Big Butte Creek.	Road Sediment Reduction	Road storm--proofing	Big Butte Creek. Road Storm-proofing	Sediment was identified by the Upper Rogue Watershed Council as a factor that limited aquatic habitat in this watershed. The effects of the Project are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	6.4	miles
Medford BLM	Big Butte Creek.	Terrestrial Habitat Improvement	Habitat Planting	Big Butte Creek. Fritillaria Habitat	The Project may impact habitat of Fritillaria gentneri. Out-planting to suitable habitat locations is recommended in the recovery plan for this species.	600	acres

TABLE 3-10b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Medford District Big Butte Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	0.7	11.7	0.0	6.9	4
Road Storm-proofing	6.4	15.5	0.0	2.1	10

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: Road Stormproofing acres based on a 20' wide treatment area

Figure 3-10a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Big Butte Creek Watershed

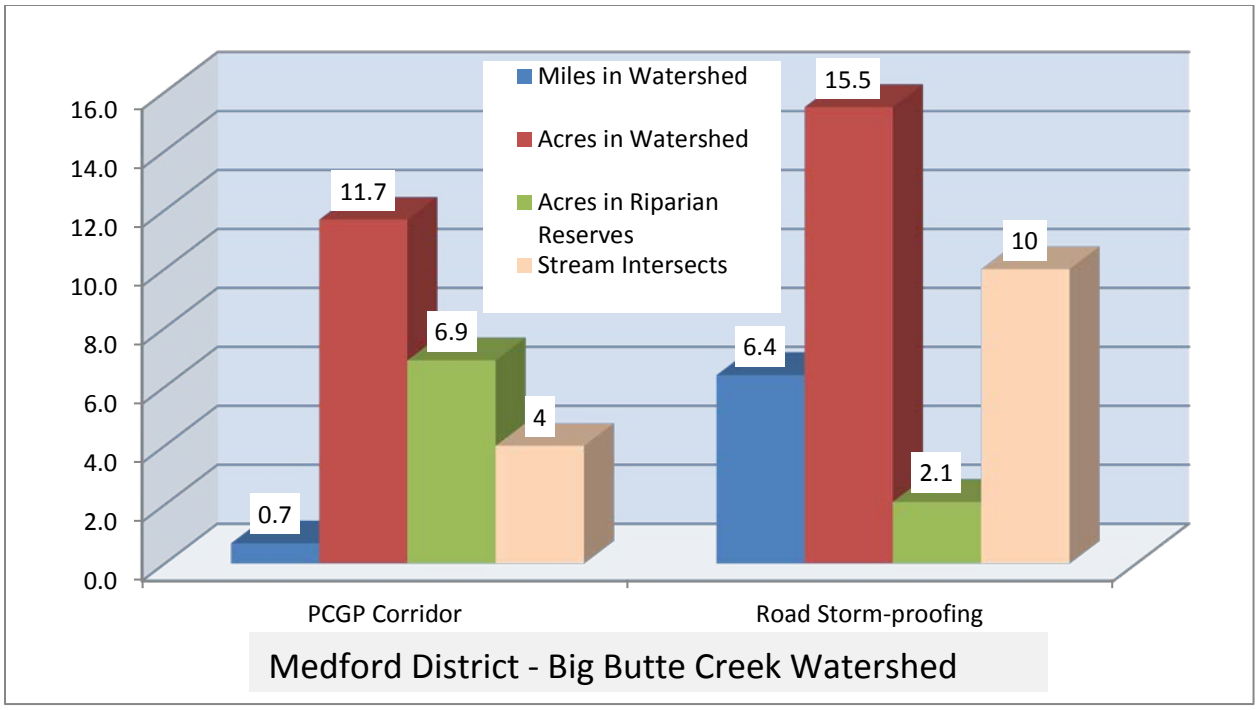


Figure 3-10b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Big Butte Creek Watershed

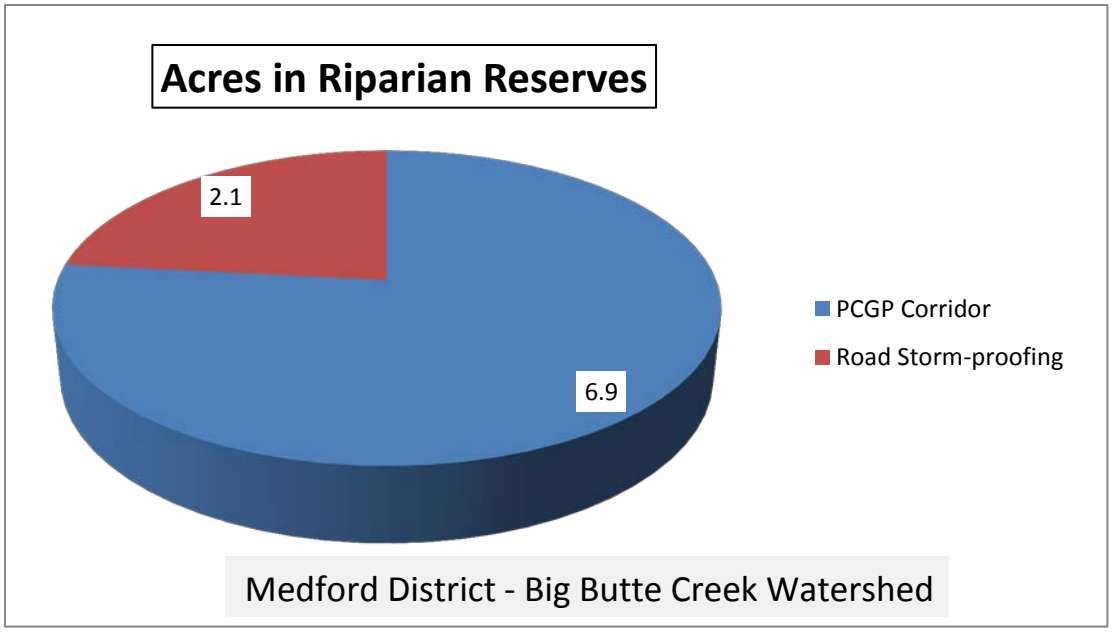


TABLE 3-11a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Medford BLM	Little Butte Creek	Aquatic and Riparian Habitat	Fish Passage	Little Butte Creek Fish Screen	Irrigation diversions have negatively impacted fisheries in Little Butte Creek watershed by causing entrapment. There is a private irrigation ditch with an unscreened diversion and associated push up dam on BLM land in the lower 1.5 miles of Lost Creek. The unscreened ditch is currently accessible to juvenile and adult fish, creating a stranding hazard with limited return access to the main channel. The push up dam is constructed at the beginning of the irrigation season and removed at the end of the season. This stream provides habitat for Coho salmon and steelhead trout; building a push up dam in Lost Creek each season disturbs the bed and banks of the channel, generates sediment and creates an unnecessary disturbance during steelhead spawning season. Creating a permanent diversion structure, possibly in the form of a boulder weir, would divert water without yearly maintenance and would provide for both upstream and downstream fish passage.	1	site
Medford BLM	Little Butte Creek	Aquatic and Riparian Habitat	LWD In-stream	Lost Creek In-stream LWD	The Little Butte Creek watershed is a Tier 1 Key Watershed. Lost Creek provides habitat for Coho salmon and steelhead trout. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Project. Implementation of the Project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel would preclude future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes	8.6	miles

TABLE 3-11a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					to the accomplishment of ACS objectives.		
Medford BLM	Little Butte Creek	Fire suppression	Suppression Capacity	Little Butte Creek Pump Chance	Construction of the Project would increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	8	sites
Medford BLM	Little Butte Creek	Road Sediment Reduction	Road Drainage and Surface Enhancement	Little Butte Creek Road Improvement	The Little Butte Creek watershed is a Tier 1 Key Watershed. Sediment has been identified by the Little Butte Creek Watershed Council as a limiting factor for aquatic habitat in this watershed. The Project has approximately 6 miles of corridor and 7 stream crossings on BLM lands in this watershed. The effects of the Project are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	3.5	miles
Medford BLM	Little Butte Creek	Road Sediment Reduction	Road Decommissioning	Little Butte Creek Road Decommissioning	The Little Butte Creek watershed is a Tier 1 Key Watershed. Sediment has been identified by the Little Butte Creek Watershed Council as a limiting factor for aquatic habitat in this watershed. There are approximately 6 miles of the Project corridor and 7 stream crossings on BLM lands in this watershed. The effects of the Project are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity by reducing road density.	13.0	miles
Medford BLM	Little Butte Creek	Road Sediment Reduction	Road Surfacing	Little Butte Creek Road Resurfacing	The Little Butte Creek watershed is a Tier 1 Key Watershed. The Project has approximately 6 miles of corridor and 7 stream crossings on BLM lands in this watershed. The effects of the Project are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-	18.3	miles

TABLE 3-11a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the BLM Medford District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					related sediment that could be delivered to stream channels.		

TABLE 3-11b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Medford District Little Butte Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	6.0	107.9	0.0	8.4	7
Road Decommissioning	13.0	31.5	0.3	3.5	16
Road Resurfacing - Improvement	21.9	52.1	0.5	11.4	52
LWD In-stream	8.6	15.2	0.4	15.2	0

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LWD In-stream acres based on an estimate of a 50' wide treatment area
Road Resurfacing - Improvement acres based on a 20' wide treatment area

Figure 3-11a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Little Butte Creek Watershed

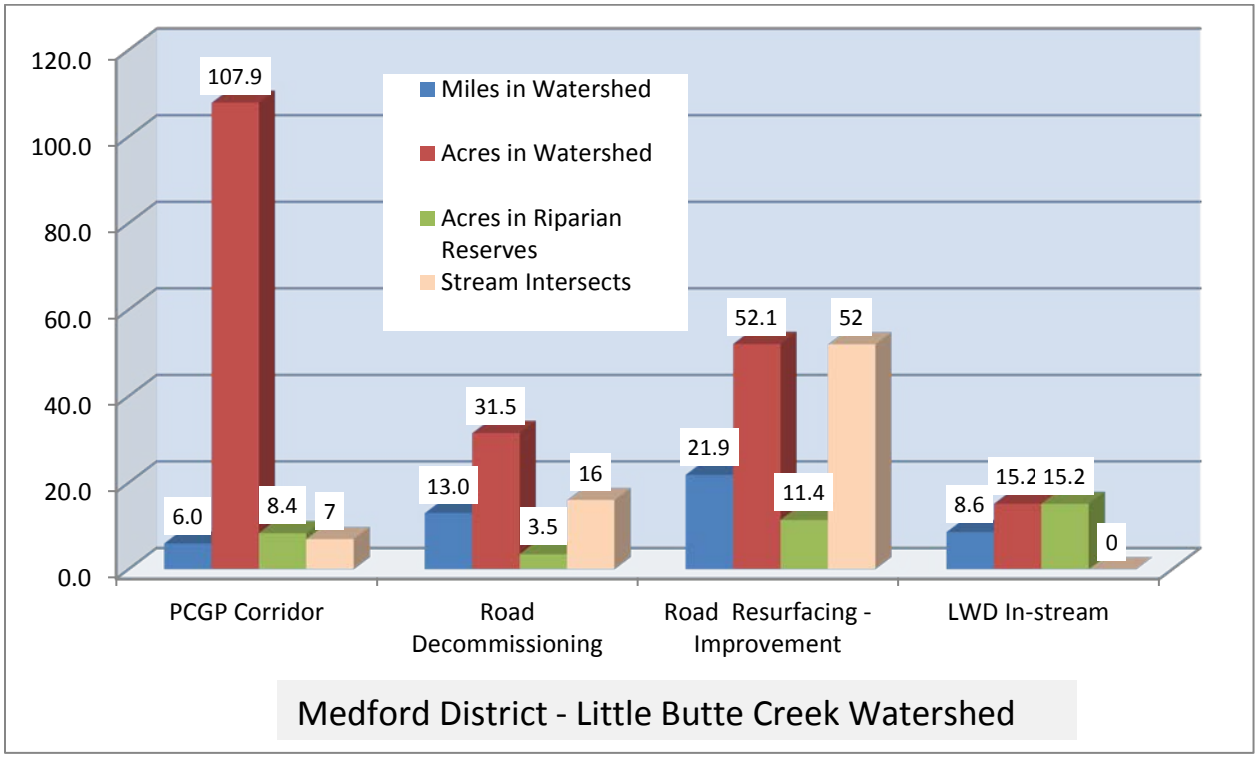


Figure 3-11b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Little Butte Creek Watershed

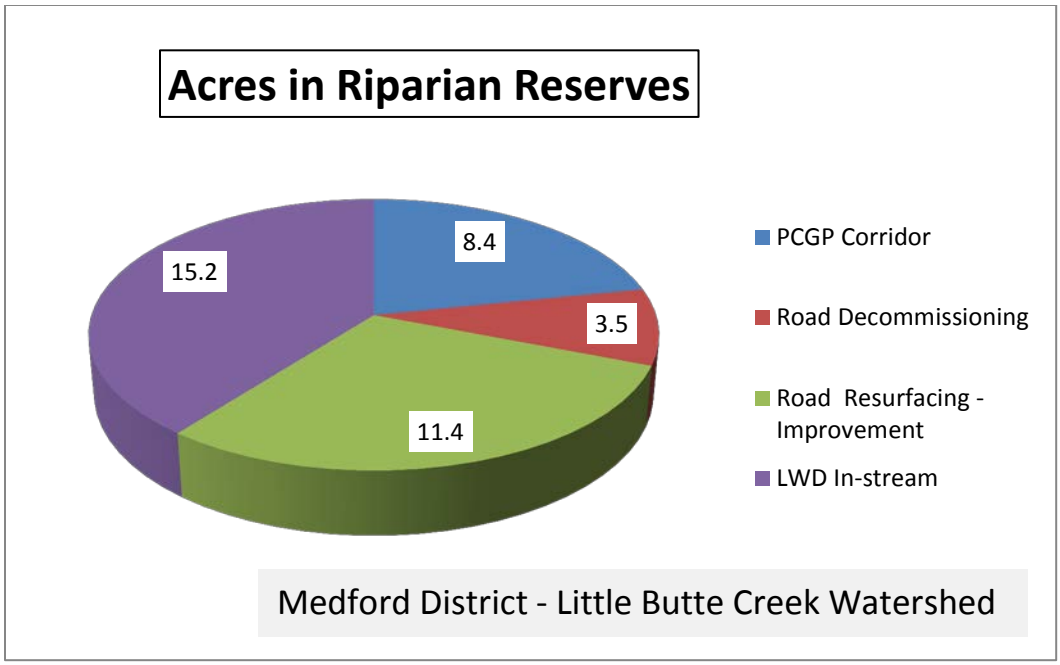


TABLE 3-12a

Mitigation Actions Proposed in the Spencer Creek Watershed on the BLM Lakeview District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Lakeview BLM	Spencer Creek	Stand Density Fuel Break	Riparian Vegetation	Upper Spencer Creek And Miners Creek LSR/Riparian treatment	The Spencer Creek watershed is a Tier 1 Key Watershed. Implementation of the Project would require removal of riparian vegetation, thereby influencing the form and function of Riparian Reserves in this watershed. This project would thin, pile and burn dense white fir understory vegetation and fall occasional trees into these stream channels to function as LWD. This would enhance forest health and diversity with these Riparian Reserve and associated LSR by restoring stand density to more natural and sustainable levels. This contributes to forest health and sustainability of riparian reserves by increasing resistance to insect and disease losses and reducing the risk of stand replacing fire. LWD in stream channels contributes to meeting water quality and TMDL targets and provides habitat for sensitive fish and invertebrate species.	6.0	miles

TABLE 3-12a

Mitigation Actions Proposed in the Spencer Creek Watershed on the BLM Lakeview District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Lakeview BLM	Spencer Creek	Stand Density Fuel Break	Riparian Vegetation	Tributary Creek Riparian Thinning	The Spencer Creek watershed is a Tier 1 Key Watershed. Implementation of the Project would require removal of riparian vegetation, thereby influencing the form and function of Riparian Reserves. Thinning would restore forest health and diversity in riparian reserves and stands near streams that are currently overstocked. Thinning would be done in a way that emulates the natural "patchiness" of disturbance events.	70	acres
Lakeview BLM	Spencer Creek	Road Sediment Reduction	Road Drainage - Culvert Replacement	Keno Access Road Repair and Culvert Replacement	The Spencer Creek watershed is a Tier 1 Key Watershed. Although BMPs and other project measures would be implemented, the Project would have road-like watershed impacts if constructed, including mobilization of sediment and possible alteration of hydrologic regimes. The existing stream crossing (culvert) is undersized in both length and diameter, therefore it ability to meet ACS objectives is minimized. The culvert underlying the existing road bed periodically causes erosion of the road prism and adjacent upland and riparian areas. Replacement of the culvert would allow stabilization of the road shoulder and reduce sediment input to Miner's Creek and ultimately into Spencer Creek. If this work is not completed, the condition would eventually lead to increased sedimentation. Replacement of this drainage structure would decrease road-related erosion, increase the hydrologic capacity of the crossing and enhance aquatic connectivity for fish and other aquatic organisms.	1	site
Lakeview BLM	Spencer Creek	Road Sediment Reduction	Road Drainage	Spencer Creek Drainage Improvements and Sediment Trap Removal	The Spencer Creek watershed is a Tier 1 Key Watershed. Although BMPs and other project measures would be implemented, the Project would have watershed impacts if constructed, including mobilization of sediment and possible alteration of hydrologic regimes. The project also uses a number of roads for access and construction. Drainage improvements and removing non-functioning cross drains and sediment traps at selected locations would benefit	15	sites

TABLE 3-12a

Mitigation Actions Proposed in the Spencer Creek Watershed on the BLM Lakeview District

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					aquatic habitat/connectivity by restoring drainage and reducing sediment transport.		
Lakeview BLM	Spencer Creek	Road Sediment Reduction	Road Closure	Spencer Creek Repair Existing Road Closure	Roads negatively impact wildlife in this watershed. Implementation of the Project would have road-like impacts on wildlife and require use of a large number of permanent and temporary roads and other access routes. Road closures (barricades) were established in the watershed to reduce road density to meet LMP objectives for both the aquatic conservation strategy and reduce impacts to wildlife. This project repairs the existing closure structures to ensure that road closures remain effective. Spencer Creek is a Tier 1 Key Watershed. Maintaining road closures also reduces sediment by keeping closed roads re-vegetated.	12	sites
Lakeview BLM	Spencer Creek	Stand Density Fuel Break	Stand Density Habitat	Upper Spencer Creek LSR Density Mgt.	Implementation of the Project would require removal of LSOG forest habitat, including critical habitat for NSO. Stand density management reduces the risk of stand replacing fire and accelerates the development of late-successional stand conditions which may benefit NSO.	270	acres

TABLE 3-12b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

BLM Lakeview District Spencer Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor	1.0	14.9	0.0	2.1	5
Riparian Thinning		70.0	11.0	70.0	
LSR Riparian Treatment	6.0	72.7	6.9	47.8	
LSR Density Management	0.0	270.0	95.0	33.0	
Road Closures				1.7	3

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: LSR Riparian Treatment acres based on an estimate of a 100' wide treatment area

Figure 3-12a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Spencer Creek Watershed

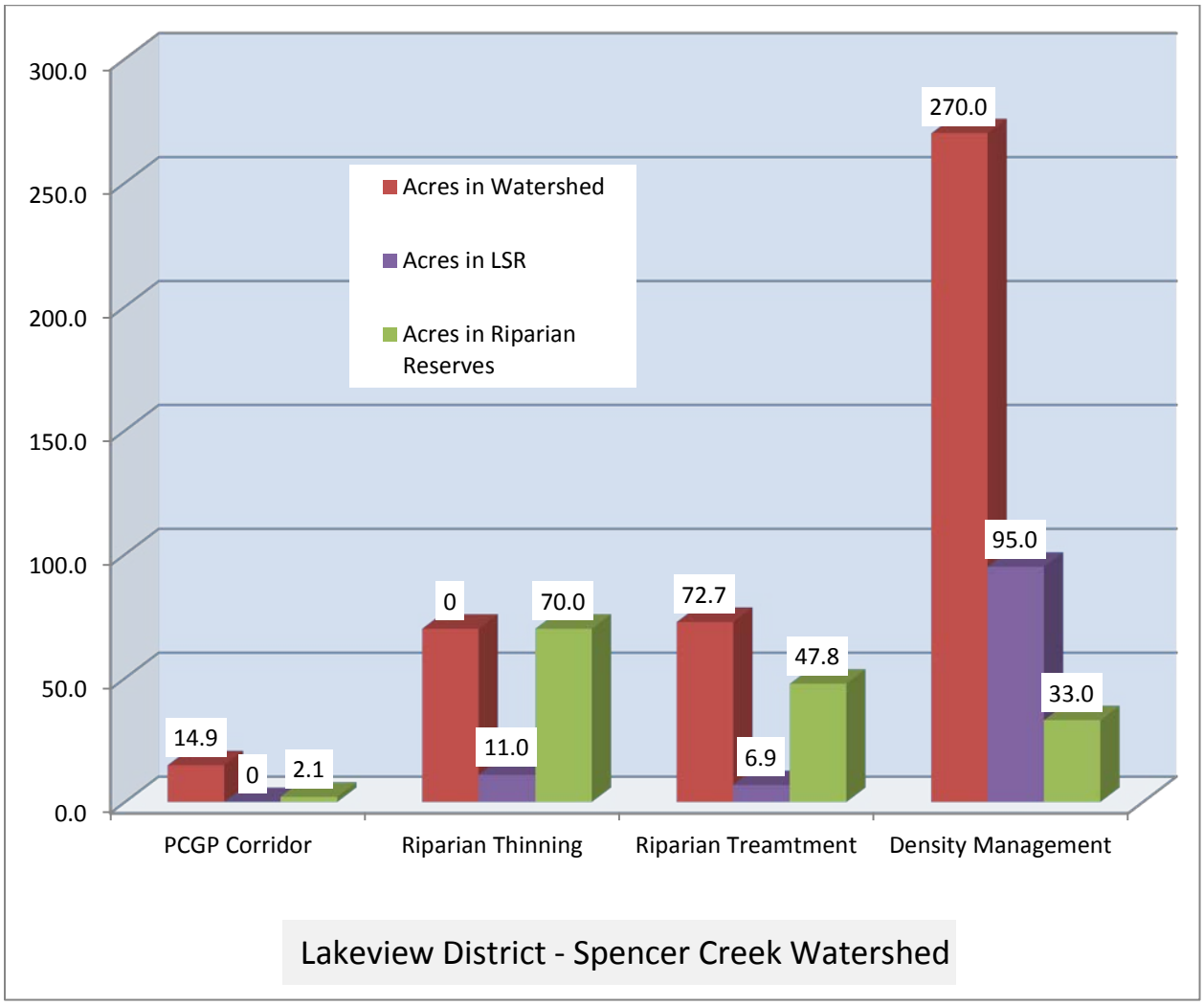
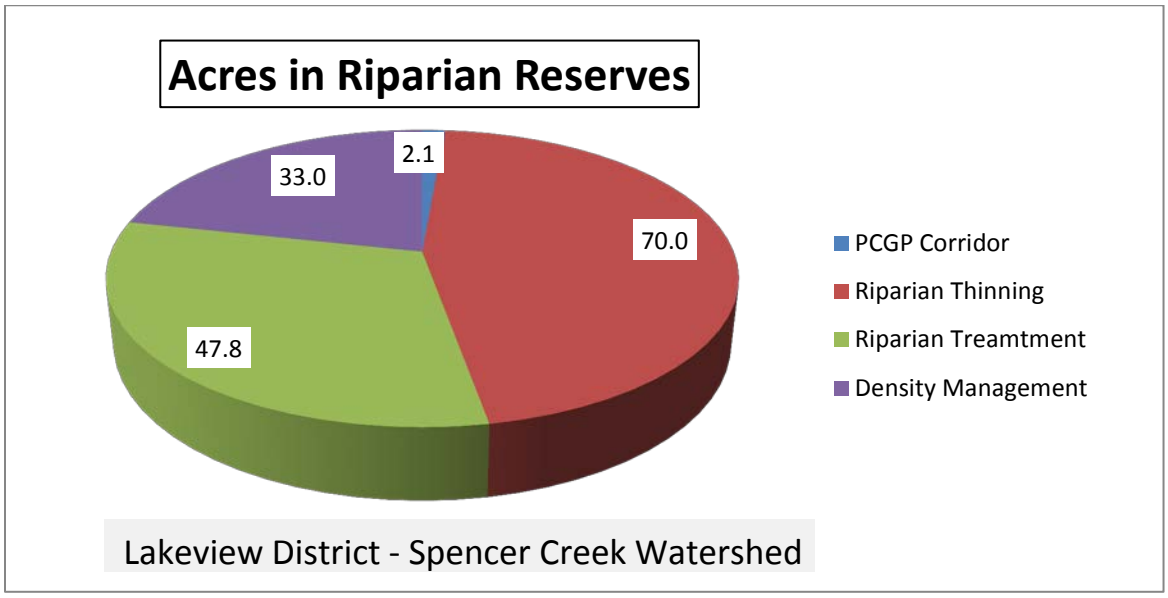


Figure 3-12b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian reserves in the Spencer Creek Watershed



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4.0 DESCRIPTION OF PROPOSED FOREST SERVICE MITIGATION ACTIONS BY FIFTH-FIELD WATERSHED

The following tables and figures describe the proposed mitigation actions by Forest Service administrative unit and fifth-field watershed. The Project impacts include the corridor, the TEWAs, and the UCSAs. Quantities are approximate estimates. Maps of the proposed mitigation actions are included in section 5 of this appendix.

TABLE 4-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Days Creek South Umpqua	Road sediment reduction	Road Closure	Days Creek South Umpqua Road Closure	Mowing and maintenance of the Project corridor, temporary road construction, and road use are direct disturbance impacts to wildlife. Road closure would mitigate some of those impacts, improve interior stand connectivity and benefit aquatic habitats over time.	0.5	Miles
Umpqua NF	Days Creek South Umpqua	Stand Density Fuel Break	Fuels Reduction	Days Creek South Umpqua Matrix Integrated Fuels Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM's Roseburg District.	150.3	Acres

TABLE 4-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Days Creek South Umpqua	Stand Density Fuel Break	Fuels Reduction	Days Creek South Umpqua LSR Integrated Fuels Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM lands.	231.5	Acres
Umpqua NF	Days Creek South Umpqua	Stand Density Fuel Break	Pre-commercial Thinning	Days Creek South Umpqua LSR Pre-commercial Thinning	The Project would cause direct impacts to existing and developing interior habitat. The Project would result in additional fragmentation and preclude the recovery of fragmented habitat for those stands adjacent to the Project corridor. Maintenance of the corridor would provide a continued vector for predators, early-seral species and non-native species. Also the project would result in a direct loss in biological services provided by attributes of mature forest for many decades past the life of the PCGP Project. Both mature stands and developing stands would be removed during Project construction. Density management of forested stands would assist in the recovery of late-seral habitat, impact from fragmentation, reduction in edge effects and enhance resilience of mature stands. Accelerating development of mature forest characteristics would shorten the impacts of those biological services loss due to the Project. Thinning of young stands is a recognized treatment within LRSs if designed to accelerate development of late-successional habitat characteristics (USDA FS; USDI BLM 1994b Pages B-11, C-11, C1-2, and C-17).	52.8	Acres

TABLE 4-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Days Creek South Umpqua	Stand Density Fuel Break	Under-burn	Days Creek South Umpqua LSR Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of the PCGP Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with LSOG habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable habitat late-seral forest. The proposed ridge line pipeline route intersects an area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation action would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.	125	Acres

TABLE 4-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Days Creek South Umpqua	Stand Density Fuel Break	Under-burn	Days Creek South Umpqua Matrix Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with late-successional habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable LSOG habitat. The proposed ridge line pipeline route intersects an area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.	102	Acres

TABLE 4-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Days Creek South Umpqua	Terrestrial Habitat Improvement	Snag Creation	Days Creek South Umpqua LSR Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project right-of-way. The project prevents development of large snags during the life of the project and for decades after. Project construction would result in loss of snag habitat on approximately 775 acres.. This project would add to those cumulative impacts. As snags are a critical component of LSRs and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Umpqua NF LMP. Replacement would be immediate though there would be a 10-year delay as snag decay develops. Snag Management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels are based on the Forest's Plant Association Guidelines. .	31.8	Acres
Umpqua NF	Days Creek South Umpqua	Terrestrial Habitat Improvement	Snag Creation	Days Creek South Umpqua Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the pipeline right-of-way. The project prevents development of large snags during the life of the project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres.. Data relies on information from the Cow Creek WA, an adjacent watershed which suggests the watershed is far below historic levels of snag habitat due to past management actions. This project would add to those cumulative impacts. As snags are a critical component of LSRs and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Forests' LMP. Replacement would be immediate though there would be a 10-year delay as snag decay develops. Snag management levels are based on the Forest's Plant Association Guidelines.	15.7	Acres

TABLE 4-1b **Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/**			
Umpqua NF-Days Creek South Umpqua Watershed	**Acres in Watershed**	**Acres in LSR**	**Snag Acres**
PCGP Corridor Impacts	74.1	31.4	21.2
Hazardous Fuels Reduction	381.8	231.5	
Under-burning	227.0	125.0	
Pre-commercial Thinning	52.8	52.8	
Snag Creation	47.5	31.8	47.5

a/ PCGP Impacts Data Source: 2013 PCGP License Application and USFS GIS files
b/ Offsite Mitigation Actions Data Source: USFS GIS files

Figure 4-1a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Days Creek South Umpqua Watershed

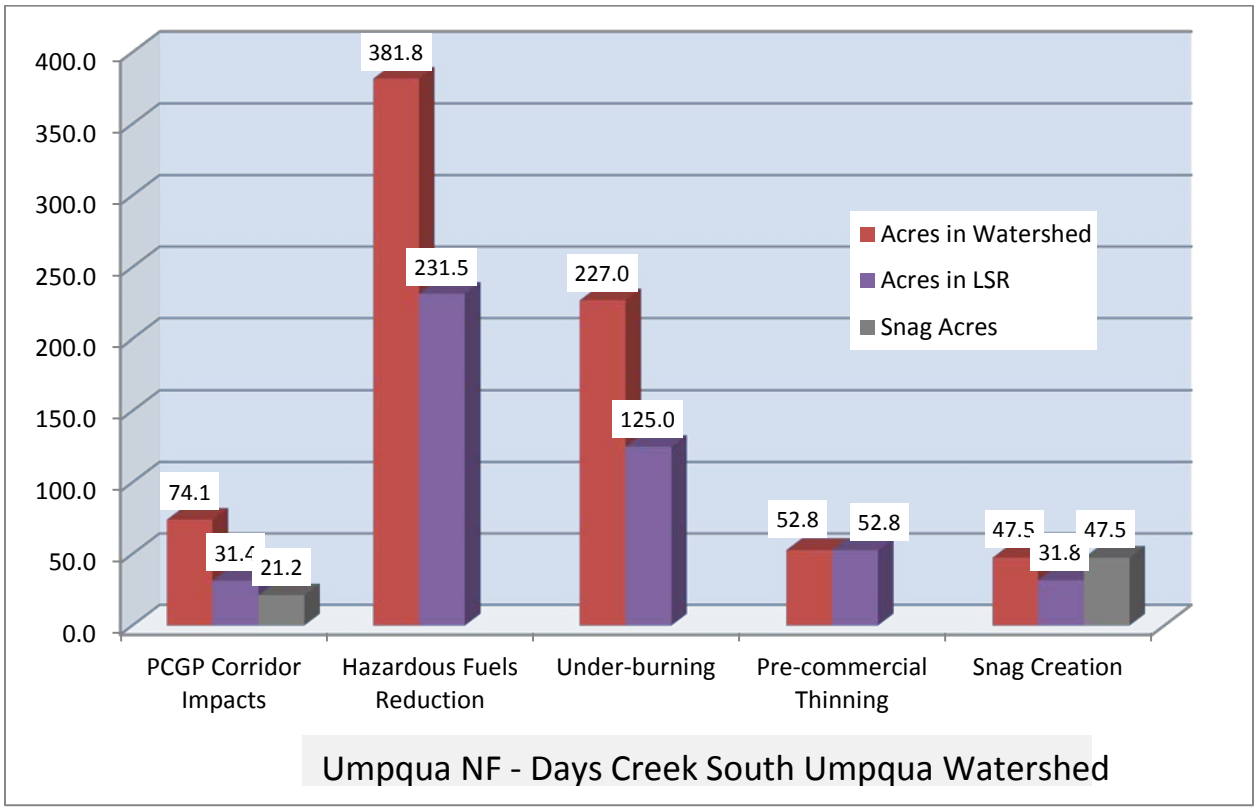


Figure 4-1b. Comparison of PCGP Impacts and Offsite Mitigation Actions within LSR in the Days Creek South Umpqua Watershed

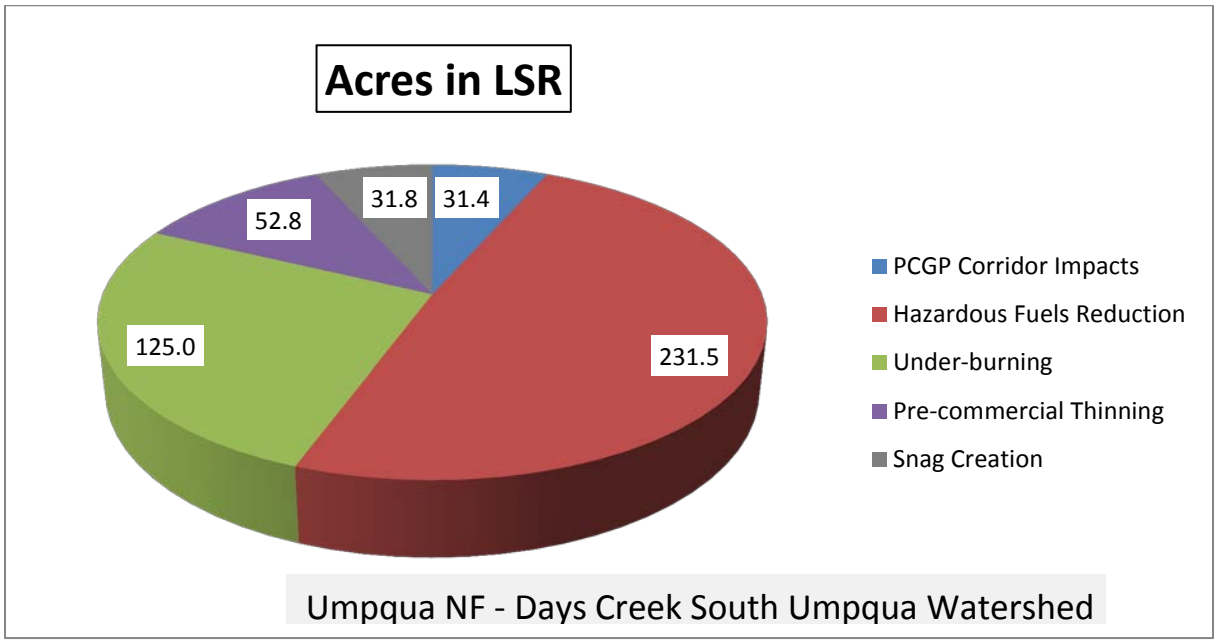


TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Elk Creek South Umpqua	Aquatic and Riparian Habitat	Fish Passage	Elk Creek Fish Passage Culverts	Restoring stream crossings reconnects aquatic habitats in this watershed by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting as a mitigation which would help offset the impact of shade removal where the Project affects streams and riparian areas.	3	Sites
Umpqua NF	Elk Creek South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	Sediment has been identified as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including possible impacts to flow and sediment regimes. Storm-proofing improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	1.6	Miles
Umpqua NF	Elk Creek South Umpqua	Road sediment reduction	Road Closure	Elk Creek Road Close	Close roads and remove culverts and treat weeds Mowing and maintenance of pipeline corridor, temporary road construction, and road use are direct disturbance impacts to wildlife. Road closure would mitigate some of those impacts, improve interior stand connectivity and benefit aquatic habitats over time.	2.8	Miles
Umpqua NF	Elk Creek South Umpqua	Road sediment reduction	Road Decommissioning	Elk Creek Road Decommissioning	A construction corridor 75-95 feet wide with additional work areas would be cleared. Of this, width, a 30-foot wide portion of the corridor would be maintained in early successional habitat. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation. This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Decommissioning and planting selected roads in conjunction with pre-commercial thinning treatments (see other	2.8	Miles

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					mitigations) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in Riparian Reserves reduces sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9 (USDA FS; USDI BLM 1994b page C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement within the Project corridor.		
Umpqua NF	Elk Creek South Umpqua	Stand Density Fuel Break	Fuels Reduction	Elk Creek LSR Integrated fuels	High intensity fire has been identified as the single factor most impacting LSOG forest habitats on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM lands.	896.6	Acres
Umpqua NF	Elk Creek South Umpqua	Stand Density Fuel Break	Fuels Reduction	Elk Creek Matrix Integrated Fuels Reduction	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change.	170.3	Acres

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed ridge line pipeline route intersects and area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of LSOG habitat. This mitigation provides multiple resources values for the LSR, NFS, adjacent private landowners and public. This segment is part of the Days Creek to Shady Cove fuel break and ties in with similar projects on BLM lands.		
Umpqua NF	Elk Creek South Umpqua	Stand Density Fuel Break	Pre-commercial Thinning	Elk Creek LSR Pre-commercial thinning	There would be direct impacts to existing interior, developing interior habitat. The Project would result in additional fragmentation and preclude the recovery of fragmented habitat for those stands adjacent to the corridor. Maintenance of Project corridor would provide a continued vector for predators, early-seral species and non-native species. Also the Project would result in a direct loss in biological services provided by mature forest characteristics for many decades past the life of the Project. Both mature stands and developing stands would be removed during Project construction. Density management of forested stands would assist in the recovery of late-seral habitat, impact from fragmentation, reduction in edge effects and enhance resilience of mature stands. Accelerating development of mature forest characteristics would shorten the impacts of those biological services loss due to Project construction.	368.3	Acres

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					Thinning of young stands is a recognized treatment within LRSs if designed to accelerate development of late-successional habitat characteristics (USDA FS; USDI BLM 1994b Pages B-11, C-11, C1-2, and C-17).		
Umpqua NF	Elk Creek South Umpqua	Stand Density Fuel Break	Under-burn	Elk Creek LSR Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the Project. The proposed mitigation is centered on the ecological values associated with LSOG habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable LSOG forest habitat. The proposed ridge line pipeline route intersects an area that has had reoccurring lighting	472	Acres

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.		
Umpqua NF	Elk Creek South Umpqua	Stand Density Fuel Break	Under-burn	Elk Creek Matrix Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with late-successional habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable LSOG forest habitat. The proposed ridge line pipeline	115	Acres

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					route intersects an area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.		
Umpqua NF	Elk Creek South Umpqua	Terrestrial Habitat Improvement	LWD Upland Placement	Elk Creek LSR LWD Placement	Mitigate for the loss of recruitment of LWD to adjacent stands and within the Project corridor zone. The Project would forgo the development of LWD for the life of the Project and for decades after. LWD is a critical component of Mature Forest ecosystems. LWD replacement would partially mitigate for the barrier effect of the corridor by creating structure across the corridor for use by small wildlife species. Placement in wood deficient areas adjacent to the corridor allows for scattering of stockpiled wood, reducing localized fuel loads while improving habitat in deficient stands. Larger logs maintain moisture longer and are less likely to be fully consumed by fire. Managing for the proposed levels provide for a greater assurance of species abundance (DecAID) (Marcot et. al. 2002). Acres that can be treated are necessarily limited by material available from the corridor.	102	Acres
Umpqua NF	Elk Creek South Umpqua	Terrestrial Habitat Improvement	Noxious Weed Treatment	Elk Creek Meadow Noxious Weeds	Mitigate impacts to unique habitats (e.g., meadows) impacted by the Project. There would be loss of forest habitat buffering the unique habitats and disruption to soil horizons enhancing the opportunities for non-native plant species.	105.5	Acres
Umpqua NF	Elk Creek South Umpqua	Terrestrial Habitat Improvement	Noxious Weed Treatment	Elk Creek Roadside Noxious Weeds	Mitigate impacts to unique habitats (e.g., meadows) impacted by the Project. There would be loss of forest habitat buffering the unique habitats and disruption to soil horizons enhancing the opportunities for non-native plant species.	6.7	Miles
Umpqua	Elk Creek	Terrestrial	Snag Creation	Elk Creek LSR	Mitigate immediate and future	66.3	Acres

TABLE 4-2a

Mitigation Actions Proposed in the Elk Creek South Umpqua Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
NF	South Umpqua	Habitat Improvement		Snag Creation	impacts to snag habitat from the clearing of the Project corridor. The Project prevents development of large snags during the life of the Project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres. Data relies on the Cow Creek WA prepared for an adjacent watershed which suggests the watershed is far below historic levels of snag habitat due to past management actions. This project would add to those cumulative impacts. As snags are a critical component of LSR and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Forests' LMP. Replacement would be immediate though there would be a 10-year delay as snag decay develops. Snag Management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels are based on the Forest's Plant Association Guidelines.		
Umpqua NF	Elk Creek South Umpqua	Terrestrial Habitat Improvement	Snag Creation	Elk Creek Matrix Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project corridor. The project prevents development of large snags during the life of the Project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres of Project. This project would add to those cumulative impacts. Snag requirements are specifically outlined in the Umpqua NF LMP. Replacement would be immediate though there would be a 10 year delay as snag decay develops. Snag management levels are based on the Forest's Plant Association Guidelines.	13.2	Acres

TABLE 4-2b **Comparison of PCGP Impacts and Offsite Mitigation Actions** a/ b/			
Umpqua NF-Elk Creek South Umpqua Watershed	**Acres in Watershed**	**Acres in LSR**	**Snag Acres**
PCGP Corridor Impacts	32.5	21.5	32.5
Hazardous Fuels Reduction	1066.9	896.6	
Under-burning	587.0	472.0	
Road Decommissioning	17.0		
LWD Placement	102.0	102.0	
Pre-commercial Thinning	368.3	368.3	
Sang Creation	69.5	66.3	69.5

a/ PCGP Impacts Data Source: 2013 PCGP License Application and USFS GIS files
b/ Offsite Mitigation Actions Data Source: USFS GIS files

Figure 4-2a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Elk Creek South Umpqua Watershed

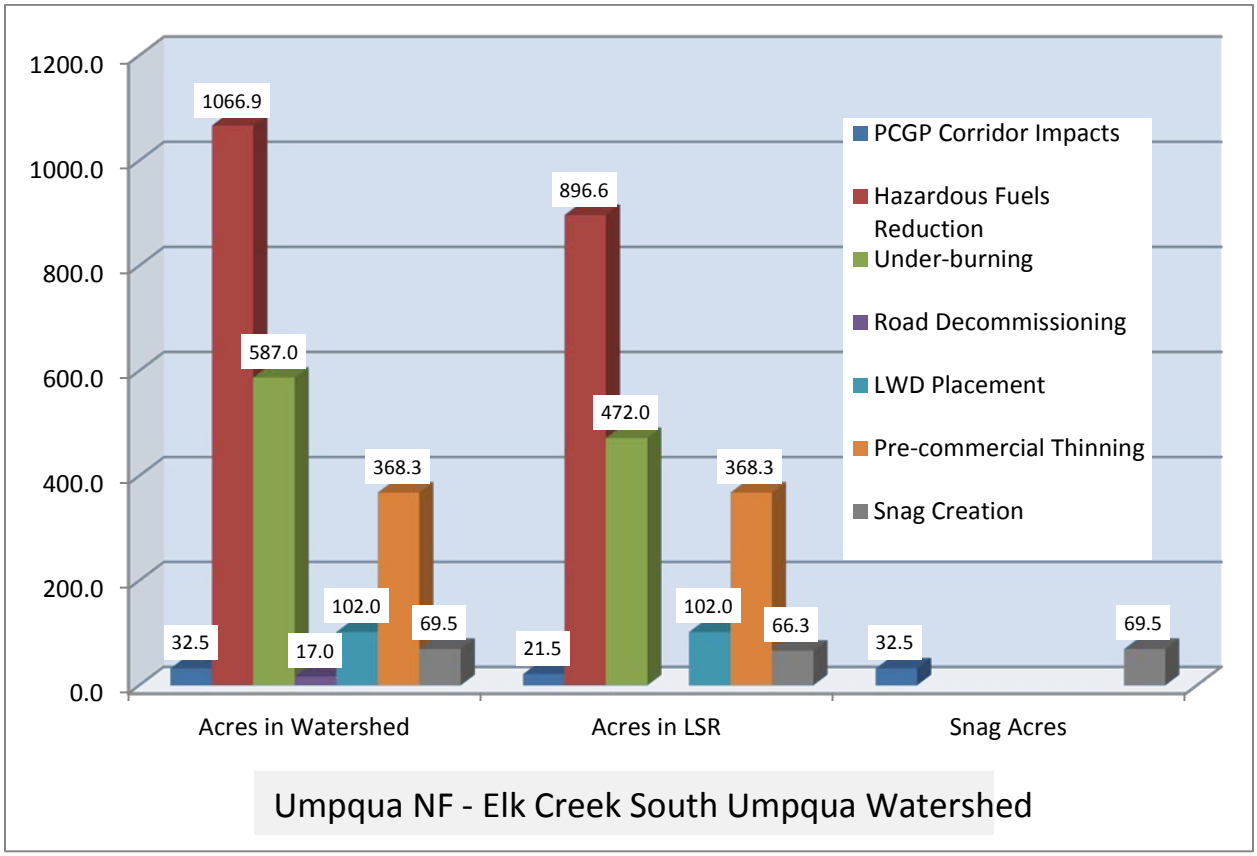


Figure 4-2b. Comparison of PCGP Impacts and Offsite Mitigation Actions within LSR in the Elk Creek South Umpqua Watershed

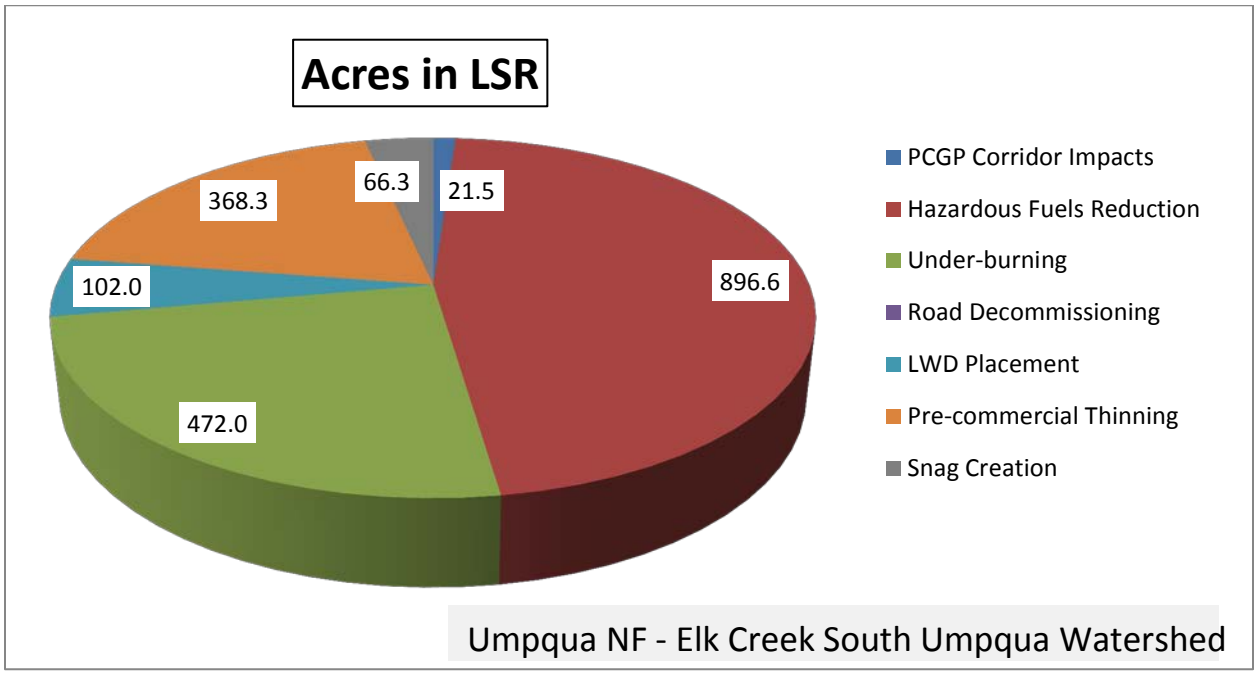


TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Upper Cow Creek	Aquatic and Riparian Habitat	Fish Passage	Upper Cow Creek Fish Passage Culverts	Restoring stream crossings in this watershed reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting intended to offset Project impacts associated with shade removal.	4	Site
Umpqua NF	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	Close roads, remove culverts, and treat weeds Mowing and maintenance of Project corridor, temporary road construction, and road use are direct disturbance impacts to wildlife. Road closure would mitigate some of those impacts, improve interior stand connectivity and benefit aquatic habitats over time.	2.6	Miles
Umpqua NF	Upper Cow Creek	Road sediment reduction	Road Decommissioning	Upper Cow Creek Road Decommissioning	A construction corridor 75-95 wide with additional work areas would be cleared. Of this, a 30-foot wide route along the corridor would be maintained in early successional habitat. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation. This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Decommissioning and planting selected roads in conjunction with pre-commercial thinning treatments (see other mitigation actions) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in Riparian Reserves sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9 (USDA FS; USDI BLM 1994b page C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement	4.3	Miles

TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					within the pipeline corridor.		
Umpqua NF	Upper Cow Creek	Stand Density Fuel Break	Fuels Reduction	Upper Cow Creek LSR Integrated Fuels Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM lands.	971.9	Acres
Umpqua NF	Upper Cow Creek	Stand Density Fuel Break	Fuels Reduction	Upper Cow Creek Matrix Integrated Fuels Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM lands.	606.1	Acres
Umpqua NF	Upper Cow Creek	Stand Density Fuel Break	Under-burn	Upper Cow Creek LSR Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would	531	Acres

TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the Project. The proposed mitigation is centered on the ecological values associated with late-successional habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable LSOG habitat. The proposed ridge line pipeline route intersects an area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the LSOG habitat forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.		
Umpqua NF	Upper Cow Creek	Stand Density Fuel Break	Under-burn	Upper Cow Creek Matrix Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire.	410	Acres

TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					Density management in younger stands would accelerate development of LSOG habitat. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with late-successional habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable LSOG habitat. The proposed ridge line pipeline route intersects and area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.		
Umpqua NF	Upper Cow Creek	Terrestrial Habitat Improvement	LWD Upland Placement	Upper Cow Creek LSR LWD Placement	Mitigate for the loss of recruitment of LWD to adjacent stands and within the Project corridor. The Project would forgo the development of LWD for the life of the Project and for decades after. LWD is a critical component of Mature Forest ecosystems. Replacement of	61.6	Acres

TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					LWD would partially mitigate for the barrier effect of the corridor by creating structure across the corridor for use by small wildlife species. Placement in wood deficient areas adjacent to the corridor allows for scattering of stockpiled wood, reducing localized fuel loads while improving habitat in deficient stands. Larger logs maintain moisture longer and are less likely to be fully consumed by fire. Managing for the proposed levels provide for a greater assurance of species abundance (DecAID) (Marcot et. al. 2002). Acres that can be treated are necessarily limited by material available from the corridor.		
Umpqua NF	Upper Cow Creek	Terrestrial Habitat Improvement	Noxious Weed Treatment	Upper Cow Creek Meadow Noxious Weeds	Mitigate impacts to unique habitats (e.g., meadows) impacted by the Project. There would be loss of forest habitat buffering the unique habitats and disruption to soil horizons enhancing the opportunities for non-native plant species.	21.3	Acres
Umpqua NF	Upper Cow Creek	Terrestrial Habitat Improvement	Snag Creation	Upper Cow Creek LSR Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project corridor. The Project prevents development of large snags during the life of the Project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres. Data relies on the Cow Creek WA which suggests this watershed is far below historic levels of snag habitat due of past management actions. This Project would add to those cumulative impacts. As snags are a critical component of LSRs and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Umpqua NF LMP. Replacement would be immediate though there would be a 10 year delay as snag decay develops. Snag Management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels are based	91.1	Acres

TABLE 4-3a

Mitigation Actions Proposed in the Upper Cow Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					on the Forest's Plant Association Guidelines.		
Umpqua NF	Upper Cow Creek	Terrestrial Habitat Improvement	Snag Creation	Upper Cow Creek Matrix Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project corridor. The Project prevents development of large snags during the life of the project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres. Data relies on the Cow Creek WA which suggests this watershed is far below historic levels of snag habitat due of past management actions. This Project would add to those cumulative impacts. Snag requirements are specifically outlined in the Umpqua NF LMP. Replacement would be immediate though there would be a 10 year delay as snag decay develops. Snag management levels are based on the Forest's Plant Association Guidelines.	13.8	Acres
Umpqua NF	Upper Cow Creek	Reallocation of Matrix Lands to LSR	Reallocation of Matrix to LSR	LSR 223 Addition	This action contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the LSR land allocation to offset the long-term loss of acres of habitat from the construction and operation of the Project.	588	Acres

TABLE 4-3b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

Umpqua NF Upper Cow Creek Watershed	**Miles in Watershed**	**Acres in Watershed**	**Acres in LSR**	**Acres in Riparian Reserves**
PCGP Corridor	4.4	75.5	38.6	10.7
Road Decommissioning	4.3	10.4	1.9	0.2
Road Closures	2.6	6.3	0.5	0.7
Hazardous Fuels Reduction		1578.0	971.9	235.6
Under-burning		941.0	531.0	140.5
LWD Placement		61.6	61.6	4.9
Snag Creation		104.9	91.1	0.0

a/ PCGP Impacts Data Source: 2013 PCGP License Application and USFS GIS files
b/ Offsite Mitigation Actions Data Source: USFS GIS files
Note: Road Decommissioning/closure acres based on a 20' wide treatment area
Under-burning acres in in Riparian Reserves is an estimate

Figure 4-3a. Comparison of PCGP Impacts and Offsite Aquatic Mitigation Actions in the Upper Cow Creek Watershed

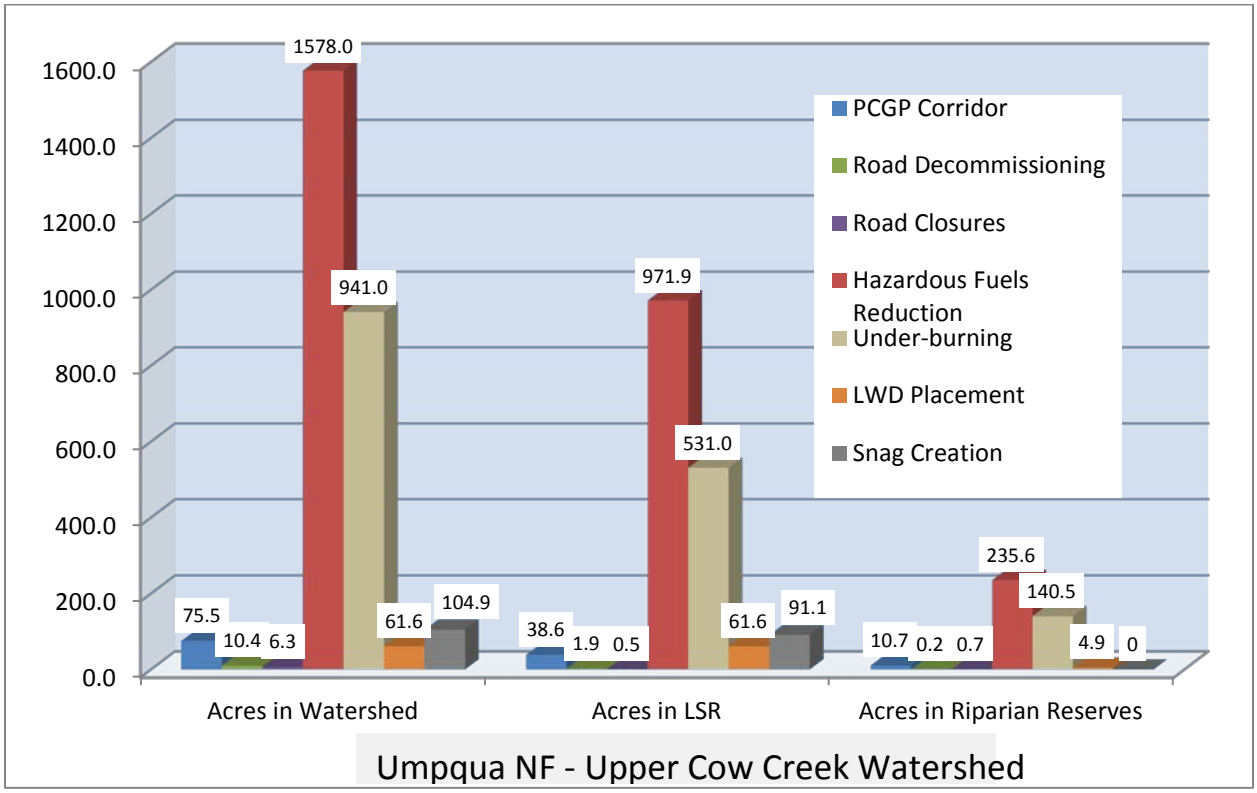


Figure 4-3b. Comparison of PCGP Impacts and Offsite Mitigation Actions within LSR in the Upper Cow Creek Watershed

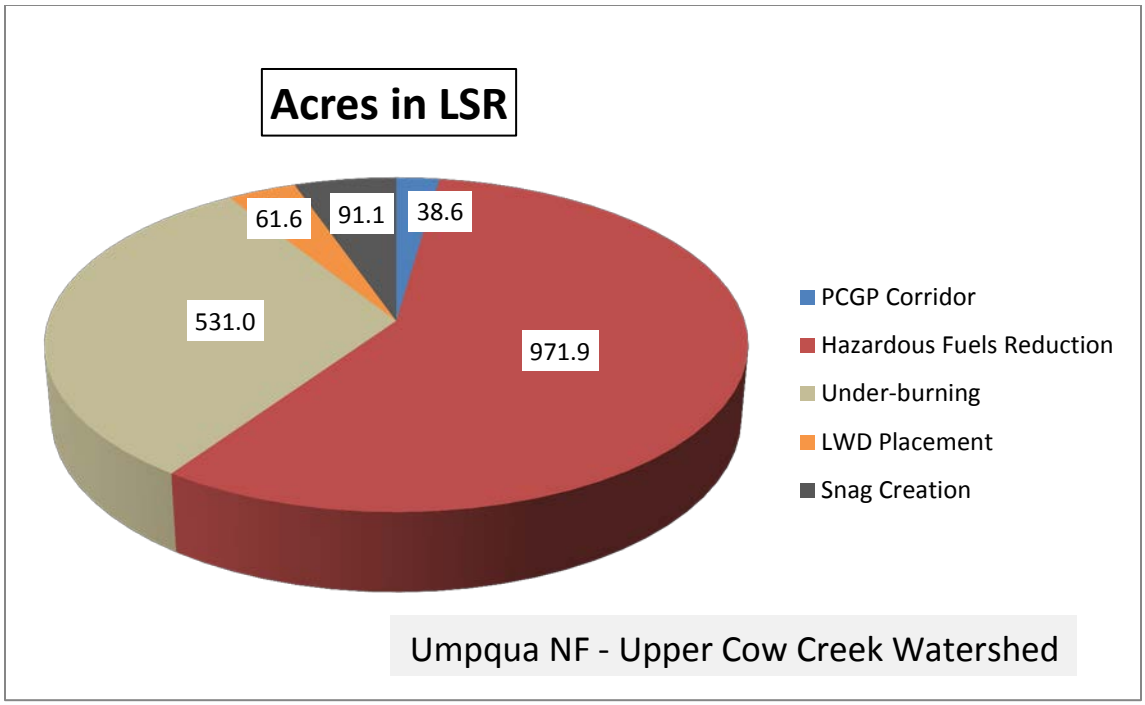


Figure 4-3c. Comparison of PCGP Impacts and Offsite Mitigation Actions within Riparian Reserves in the Upper Cow Creek Watershed

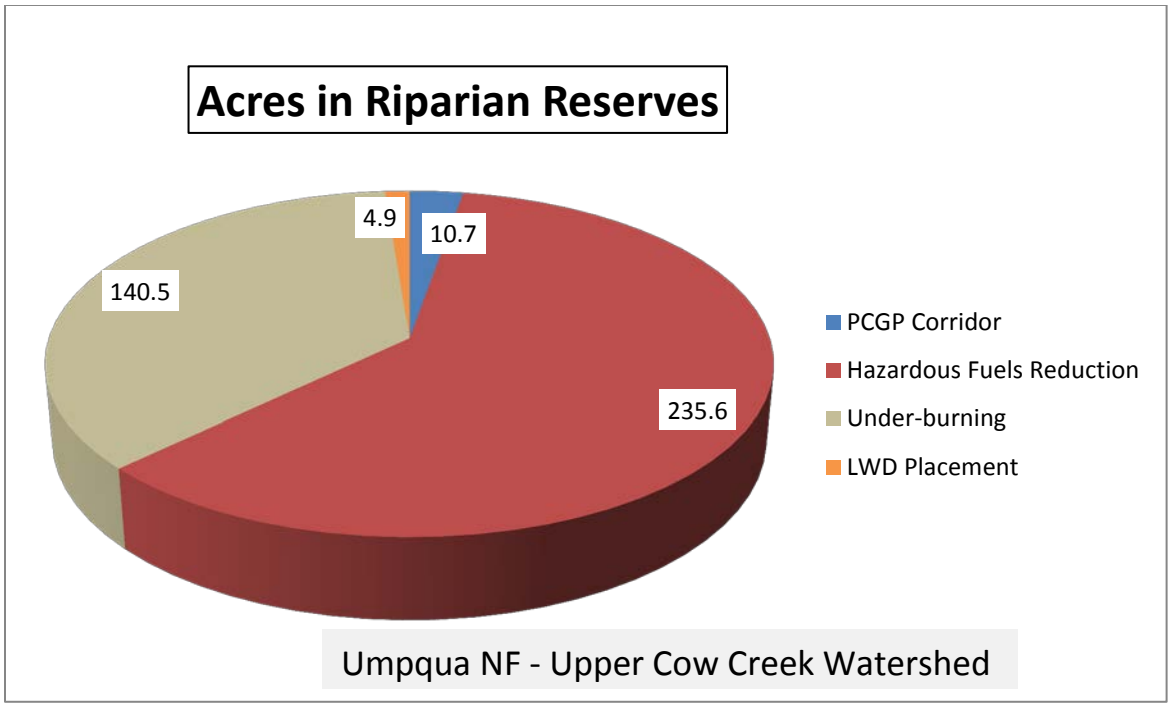


TABLE 4-4a

Mitigation Actions Proposed in the Trail Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Umpqua NF	Trail Creek	Road sediment reduction	Road Decommissioning	Trail Creek Road Decommissioning	A construction corridor 75-95 wide with additional work areas would be cleared. Of this, a 30-foot wide route along the Project corridor would be maintained in early successional habitat. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation. This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Decommissioning and planting selected roads in conjunction with pre commercial thinning treatments (see other mitigations) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in riparian reduces sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9 (USDA FS; USDI BLM 1994b page C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement within the construction corridor.	1.1	Miles
Umpqua NF	Trail Creek	Road sediment reduction	Road Storm-proofing	Trail Creek Storm-proofing	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in this watershed. The effects of the Project are similar to a road, including possible impacts to flow and sediment regimes. Storm-proofing improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	0.5	Miles
Umpqua NF	Trail Creek	Stand Density Fuel Break	Fuels Reduction	Trail Creek Matrix Integrated Fuels Reduction	High intensity fire has been identified as the single factor most impacting LSOG forest habitat on federal lands in the area of the NWFP. Construction of the Project removes both mature and developing stands and would	414.2	Acres

TABLE 4-4a

Mitigation Actions Proposed in the Trail Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					increase fire suppression complexity however the corridor also provides a fuel break. Fuels reduction adjacent to the corridor would increase the effectiveness of the corridor as a fuel break. Fuels reduction would lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on BLM lands.		
Umpqua NF	Trail Creek	Stand Density Fuel Break	Under-burn	Trail Creek Matrix Under-burn	Both mature stands and developing stands would be removed during Project construction. Impacts to mature and developing stands would exceed the life of this Project by many decades. Density management would increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands would accelerate development of LSOG habitat . Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG habitat is essentially a permanent loss that cannot be replaced. Young stands would take 70 years to develop into LSOG habitat so this is not a 1-1 replacement. LSRAs have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to be treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with LSOG habitat. The values to associated species, many other ecosystem goods and services components such as micro-organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to	280	Acres

TABLE 4-4a

Mitigation Actions Proposed in the Trail Creek Watershed on the Umpqua NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					establish appropriate level of mitigation for the loss of irreplaceable LSOG habitat. The proposed ridge line pipeline route intersects and area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation would assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, NFS lands, adjacent private landowners and public.		
Umpqua NF	Trail Creek	Terrestrial Habitat Improvement	Snag Creation	Trail Creek Matrix Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project corridor. The Project prevents development of large snags during the life of the Project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres. This project would add to those cumulative impacts. As snags are a critical component of LSRs and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Rogue River NF LMP. Replacement would be immediate though there would be a 10 year delay as snag decay develops. Snag Management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels are based on the Forest's Plant Association Guidelines.	108.6	Acres

TABLE 4-4b **Comparison of PCGP Impacts and Offsite Mitigation Actions** a/ b/				
Umpqua NF-Trail Creek Watershed	**Miles in Watershed**	**Acres in Watershed**	**Acres in Riparian Reserves**	**Acres in LSR**
PCGP Corridor Impacts	2.1	50.2	0.0	0.0
Hazardous Fuels Reduction		414.2	148.0	0.0
Snag Creation		108.6	0.0	0.0
Road Sediment Reduction	1.6	3.9	0.2	0.0

a/ PCGP Impacts Data Source: 2013 PCGP License Application and USFS GIS files
b/ Offsite Mitigation Actions Data Source: USFS GIS files
Note: Road Sediment Reduction acres based on an estimate of a 20' wide treatment area

Figure 4-4. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Trail Creek watershed

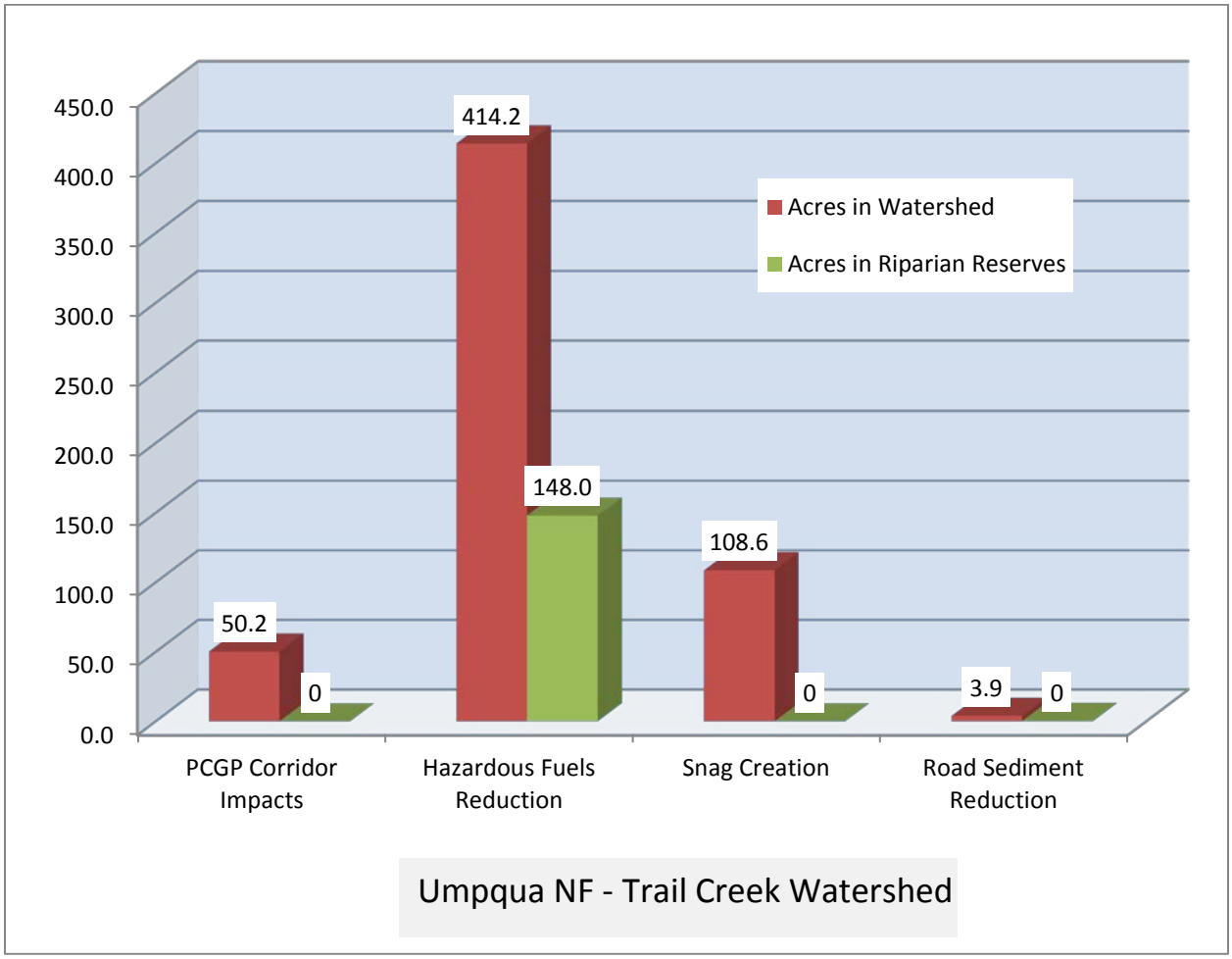


TABLE 4-5

Mitigation Actions Proposed in the Big Butte Creek Watershed on the Rogue River NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
RRNF	Big Butte Creek	Reallocation of Matrix Lands to LSR	Reallocation of Matrix to LSR	LSR 227 Addition	This action contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the LSR land allocation to offset the long-term loss of acres of acres and habitat from the construction and operation of the Project.	512	Acres

TABLE 4-6a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the Rogue River NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Rogue River NF	Little Butte Creek	Aquatic and Riparian Habitat	LWD In-stream	SF Little Butte Creek LWD	Over the last century, many streams with high aquatic habitat potential have become simplified, and therefore, have a reduced capacity to provide quality habitat. Riparian stands have decreased health and vigor, resulting in increased time to develop large tree structure for wildlife, stream shade, and future in-stream LWD. Placement of LWD in streams adds structural complexity to aquatic systems, traps fine sediments and can contribute to reductions in stream temperatures over time.	1.5	Mile
Rogue River NF	Little Butte Creek	Aquatic and Riparian Habitat	Stream Crossing Repair	Little Butte Creek Stream Crossing Decommissioning	Restoring stream crossings in this watershed reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting intended to offset Project impacts associated with shade removal.	32	Sites
Rogue River NF	Little Butte Creek	Road sediment reduction	Road Decommissioning	Little Butte Creek Road Decommissioning	A construction corridor 75-95 wide with additional work areas would be cleared. Of this, a 30-foot wide route along the Project corridor would be maintained in early successional habitat. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation.	53.2	Miles

TABLE 4-6a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the Rogue River NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Decommissioning and planting selected roads in conjunction with pre-commercial thinning treatments (see other mitigations) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in Riparian Reserves reduces sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9. The Little Butte Creek watershed is a Key Watershed and road reduction is a major objective (USDA FS; USDI BLM 1994b page C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement within the construction corridor.		
Rogue River NF	Little Butte Creek	Stand Density Fuel Break	Pre-commercial Thinning	Little Butte Cr LSR Pre-commercial Thin	There would be direct impacts to existing interior, developing interior habitat. The Project would result in additional fragmentation and preclude the recovery of fragmented habitat for those stands adjacent to the pipeline corridor. Maintenance of Project corridor would provide a continued vector for predators, early-seral species and non-native species. Also the Project would result in a direct loss in biological services provided by mature forest characteristics for many decades past the life of this project. Both mature stands and developing stands would be removed during Project construction. Density management of forested stands would assist in the recovery of late-seral habitat, impact from fragmentation, reduction in edge effects and enhance resilience of mature stands. Accelerating development of mature forest characteristics would shorten the impacts of those biological services loss due to Project construction. Thinning of young stands is a recognized	617.8	Acres

TABLE 4-6a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the Rogue River NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					treatment within LRSs if designed to accelerate development of late-successional habitat characteristics (USDA FS; USDI BLM 1994b Pages B-11, C-11, C1-2, and C-17).		
Rogue River NF	Little Butte Creek	Terrestrial Habitat Improvement	Habitat Planting	Little Butte Creek Mardon Skipper Butterfly	The Dead Indian Plateau region is one of three known sites for Mardon Skipper butterflies in the world. This region also encompasses a known site for Short-horned Grasshoppers. Both species are on the Forest's Sensitive Species list. The Project would require a permanent open corridor that provides a unique opportunity to develop habitat for these skippers and grasshoppers. Planting the corridor with plants preferred by these Sensitive Species has the potential to increase the habitat and local range for these two species. Rehabilitation of disturbed sites is required under various BMP guidelines. Use of specific plant species has no additional problems. Results would be immediate in stabilizing the local habitat.	20	Acres
Rogue River NF	Little Butte Creek	Terrestrial Habitat Improvement	LWD Upland Placement	Little Butte Creek LSR LWD Placement	Mitigate for the loss of recruitment of LWD to adjacent stands and within the Project corridor. The Project would forgo the development of LWD for the life of the Project and for decades after. LWD is a critical component of Mature Forest ecosystems. Replacement of LWD would partially mitigate for the barrier effect of the corridor by creating structure across the corridor for use by small wildlife species. Placement in wood deficient areas adjacent to the corridor allows for scattering of stockpiled wood, reducing localized fuel loads while improving habitat in deficient stands. Larger logs maintain moisture longer and are less likely to be fully consumed by fire. Managing for the proposed levels provide for a greater assurance of species abundance (DecAID) (Marcot et. al. 2002). Acres that can be treated are necessarily limited	306	Acres

TABLE 4-6a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the Rogue River NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					by material available from the corridor.		
Rogue River NF	Little Butte Creek	Terrestrial Habitat Improvement	Snag Creation	Little Butte Creek LSR Snag Creation	Mitigate immediate and future impacts to snag habitat from the clearing of the Project corridor. The Project prevents development of large snags during the life of the project and for decades after. Corridor construction would result in loss of snag habitat on approximately 775 acres. This project would add to those cumulative impacts. As snags are a critical component of LSRs and NSO habitat, replacement is needed. Snag requirements are specifically outlined in the Rogue River NF LMP. There would be a 10 year delay as snag decay develops. Snag management is required in the Forests' LMP (4-20), with levels set under the various management directions. Snag Management is discussed in the NWFP for LSRs on pages C-14 and 15 (USDA FS; USDI BLM 1994b). Snag management levels are based on the Forest's Plant Association Guidelines. Snags are also discussed in the South Cascades LSRA, chapter 3 (USDA FS; USDI BLM 1998a).	622	Acres
Rogue River NF	Little Butte Creek	Reallocation of Matrix Lands to LSR	Reallocation of Matrix to LSR	LSR 227 Addition	This action contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the LSR land allocation to offset the long-term loss of acres of acres and habitat from the construction and operation of the Project.	12	Acres

TABLE 4-6b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

Rogue River NF-Little Butte Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves
PCGP Corridor Impacts	13.7	279.5	279.5	8.7
LWD In-stream	1.5	9.1	9.1	9.1
Road Decommissioning	53.2	129.0	129.0	9.4
Pre-commercial Thinning		617.8	617.8	59.0
LWD Placement		306.0	306.0	7.1
Snag Creation		622.0	622.0	89.7

a/ PCGP Impacts Data Source: 2013 PCGP License Application and USFS GIS files
b/ Offsite Mitigation Actions Data Source: USFS GIS files
Note: LWD In-stream acres based on an estimate of a 50' wide treatment area
Road Decommissioning acres based on as estimate of a 20' wide treatment area

Figure 4-6a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Little Butte Creek Watershed

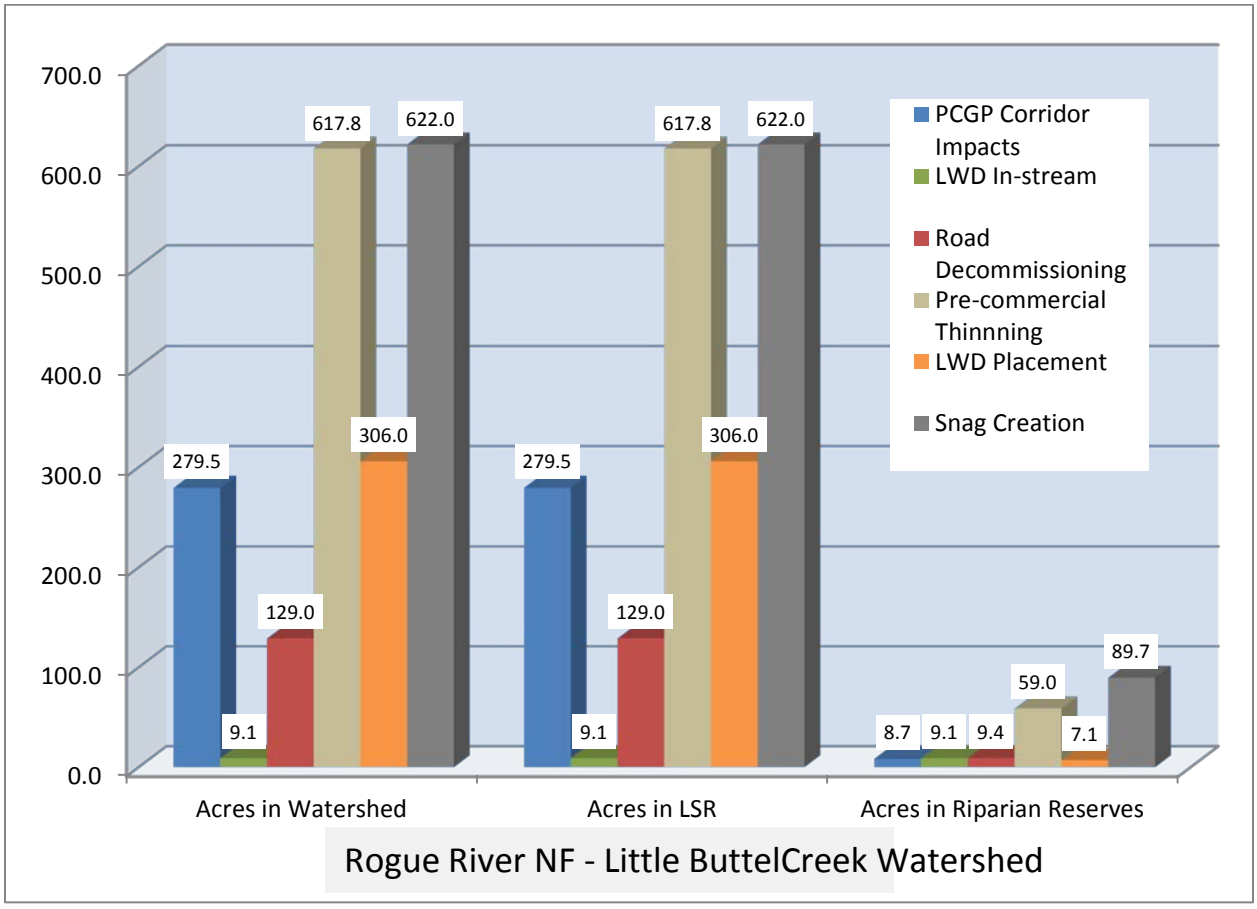


Figure 4-6b. Comparison of PCGP Impacts and Offsite Mitigation Actions in LSR within the Little Butte Creek Watershed

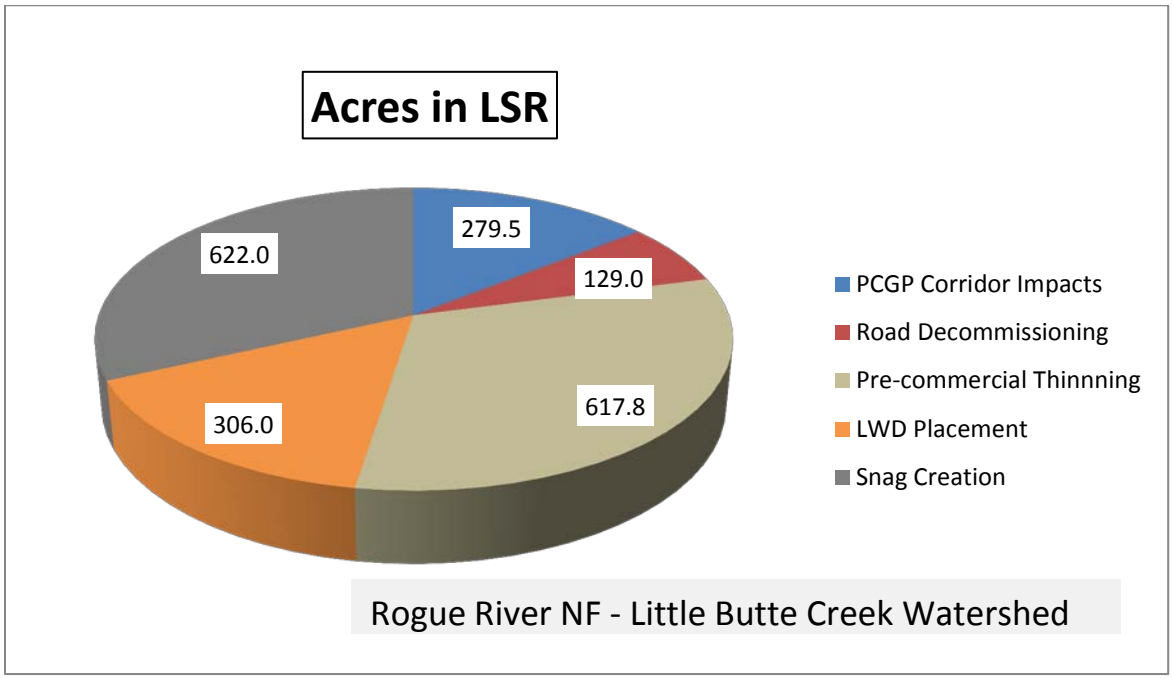


Figure 4-6c. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves within the Little Butte Creek Watershed

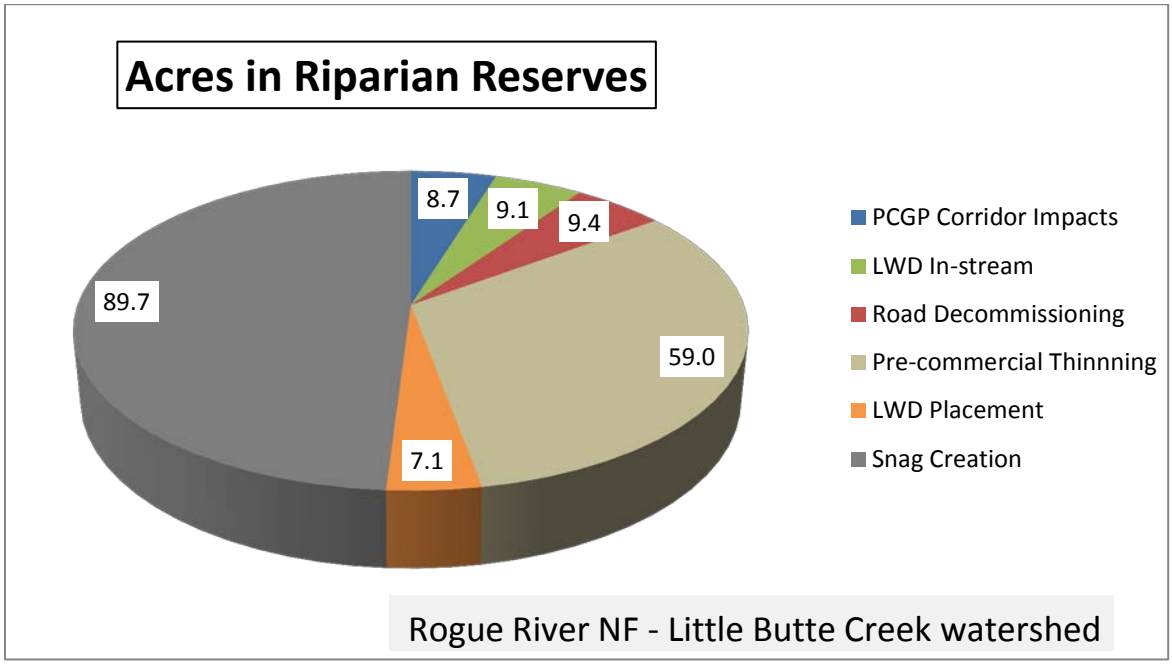


TABLE 4-7a

Mitigation Actions Proposed in the Spencer Creek Watershed on the Winema NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
Winema NF	Spencer Creek	Aquatic and Riparian Habitat	Riparian Planting	Spencer Creek Riparian Planting	This action is directed at the reach of Spencer Creek just upstream of Buck Lake. This is a meadow site that has lost streamside vegetation and has compacted soils. There is an overall need to restore health and vigor to riparian stands by maintaining and improving Riparian Reserves and associated riparian and aquatic habitat. Shade provided by the plantings would contribute to moderating water temperatures in Spencer Creek. Root strength provided by new vegetation would increase bank stability, decrease erosion and sediment depositions to Spencer Creek and provide habitat for species that use riparian habitats.	0.5	Mile
Winema NF	Spencer Creek	Aquatic and Riparian Habitat	Fencing	Spencer Creek Fencing	This fence would serve to divide the Buck Indian Allotment into two pastures on either side of Clover Creek Road. This fence would keep cattle from grazing newly re-vegetated areas in the Project corridor, including areas where the corridor crosses Spencer Creek, thus helping to ensure that erosion control and re-vegetation objectives are met. It would also serve to separate anticipated increased cattle grazing of the corridor from the road; greatly reducing a safety hazard for vehicles traveling the Clover Creek Road. This fence would require 7-9 cattle guard crossings for Forest Roads intersecting the fence	6.4	Miles
Winema NF	Spencer Creek	Aquatic and Riparian Habitat	LWD In-stream	Spencer Creek In-stream LWD	Over the last century, many streams with high aquatic habitat potential have become simplified, and therefore, have a reduced capacity to provide quality habitat. Riparian stands have decreased health and vigor, resulting in increased time to develop large tree structure for wildlife, stream shade, and future in-stream wood. Placement of LWD in streams adds structural complexity to aquatic systems, traps fine sediments and can contribute to reductions in stream temperatures over time. The BLM completed placement of LWD on 3 miles of Spencer Creek below this reach in 2013.	1.0	Mile

TABLE 4-7a

Mitigation Actions Proposed in the Spencer Creek Watershed on the Winema NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					Addition of this segment of Spencer Creek would complete the stream rehabilitation on the reach of Spencer Creek that would be affected by the Project. Logs from the Project corridor would be used for the project. An estimated 75 pieces of LWD are needed. A helicopter would be used to place the logs.		
Winema NF	Spencer Creek	Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Ford Hardening and Interpretive Sign	The Project corridor would cross Spencer Creek upstream of Buck Lake. This crossing is at the uppermost reach of the perennial portion of Spencer Creek which is occupied by redband trout, a sensitive species. Both NMFS and ODF&W recognize that Spencer Creek provided historical habitat for Federally listed Southern Oregon/Northern California Coast Coho salmon. Additionally, in the event that fish passage is reestablished as part of the FERC relicensing process for the Klamath River hydropower project, steelhead are expected to re-colonize Spencer Creek. Improving habitat quality by hardening an existing low-water ford across Spencer Creek provides the opportunity to be pro-active in providing quality habitat for SONC Coho, mitigating for any detrimental effects to other SONC Coho habitats, while improving habitat for redband trout and other aquatic species. Spencer Creek appears on the Oregon DEQ 303(d) list as water quality impaired from increased sedimentation. Improvements at this location would immediately benefit all downstream aquatic habitats and the species associated with those habitats. This includes interpretive signage.	1	Site
Winema NF	Spencer Creek	Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Stream Crossing Decommissioning	Removing and/or decommissioning stream crossings in this watershed reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting intended to offset Project	25	Sites

TABLE 4-7a

Mitigation Actions Proposed in the Spencer Creek Watershed on the Winema NF

Admin Unit	Watershed	Mitigation Group	Project Type	Project Name	Project Rationale	Quantity	Unit
					impacts associated with shade removal.		
Winema NF	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	A construction corridor 75-95 wide with additional work areas would be cleared. Of this, a 30-foot wide route along the pipeline route would be maintained in early successional habitat. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation. This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Decommissioning and planting selected roads in conjunction with pre-commercial thinning treatments (see other mitigations) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in riparian reduces sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9 (USDA FS; USDI BLM 1994b page C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement within the Project corridor.	21.4	Miles
Winema NF	Spencer Creek	Visuals	Stand Density Reduction	Clover Creek Visual Mgt.	The Project corridor would create a hard line along the timbered edge of the corridor that does not fit with the visual objectives for the Clover Creek Road or the Dead Indian Memorial Highway. Thinning and fuels treatments can be used to soften the edge to a more natural appearing texture by restoring stand density to more natural levels and creating small openings that are consistent with landscape. Thinning of commercial sized material may be accomplished with a commercial timber sale. The mitigation is intended to supplement funding for the non-commercial part of that work for visual purposes that could not otherwise be accomplished.	113.5	Acres

TABLE 4-7b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

Winema NF-Spencer Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian Reserves	Stream Intersects
PCGP Corridor Impacts	6.1	92.8	0.0	7.0	5.0
LWD In-stream	1.0	6.0	0.0	6.0	
Road Decommissioning	21.4	52.0	23.5	7.5	25.0
Riparian Planting	0.5	3.0	0.0	3.0	

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM GIS files
b/ Offsite Mitigation Actions Data Source: BLM GIS files
Notes: Road Decommissioning acres based on an estimate of a 20' wide treatment area
LWD In-stream acres based on an estimate of a 50' wide treatment area

Figure 4-7a. Comparison of PCGP Impacts and Offsite Mitigation Actions in the Spencer Creek Watershed

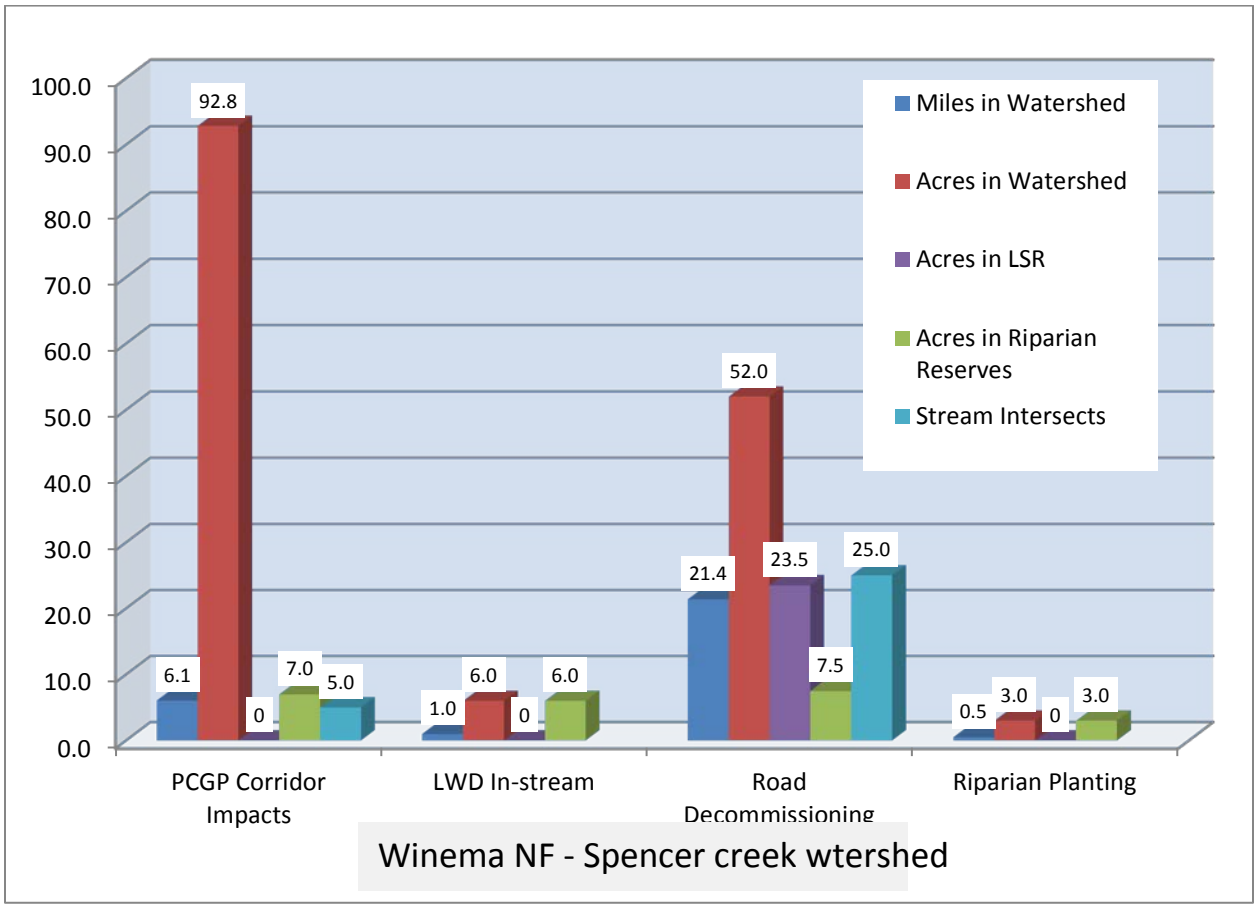
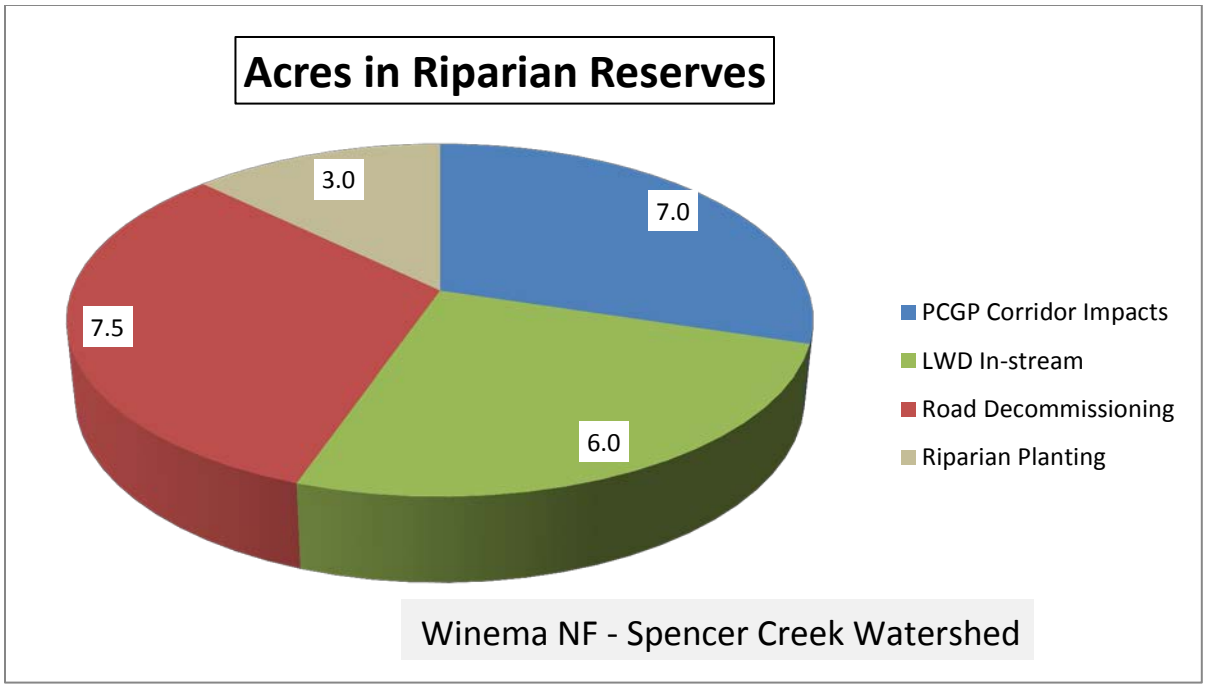


Figure 4-7b. Comparison of PCGP Impacts and Offsite Mitigation Actions in Riparian Reserves in the Spencer Creek Watershed



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5.0 SUMMARY OF TOTAL MITIGATION IN FIFTH-FIELD WATERSHEDS WHERE BOTH THE BLM AND FOREST SERVICE PROPOSE MITIGATION ACTIONS

There are several fifth-field watersheds crossed by the proposed Project that contain both BLM and Forest Service administered lands. The proposed mitigation actions by administrative unit are described in Sections 3 and 4 above including the rationale for each action. This section summarizes the total mitigation actions in fifth-field watersheds where both the BLM and Forest Service have proposed off-site mitigation actions. The Project impacts include the corridor, the TEWAs, and the UCSA. A more detailed description of each action by administrative unit is included in Sections 3 and 4 above. The fifth-field watersheds where both the BLM and Forest Service have proposed off-site mitigation actions include the Days Creek, Trail Creek, Little Butte Creek and Spencer Creek watersheds.

TABLE 5-1a

Mitigation Actions Proposed in the Days Creek South Umpqua Watershed on the BLM Roseburg District and the Umpqua NF

Admin Unit	Mitigation Group	Project Type	Project Name	Quantity	Unit
Roseburg BLM	Aquatic and Riparian Habitat	Fish Passage	Beal Creek Culvert Replacement	2	sites
Roseburg BLM	Aquatic and Riparian Habitat	LWD In-stream	Days Creek In-stream LWD	0.4	miles
Roseburg BLM	Aquatic and Riparian Habitat	LWD In-stream	West Fork Canyon	0.8	miles
Roseburg BLM	Fire suppression	Suppression Capacity	Dry Hydrants	6	sites
Roseburg BLM	Road Sediment Reduction	Road storm-proofing	31-4-3.2 Road Storm-proofing	1	project
Roseburg BLM	Road Sediment Reduction	Road Drainage and Surface Enhancement	South Umpqua Road Drainage and Surface Enhancement	10	miles
Roseburg BLM and Umpqua NF	Stand Density Fuel Break	Fuels Reduction	Days Creek South Umpqua Hazardous Fuel Reduction with approximately 232 acres in LSR	1382	acres
Umpqua NF	Road sediment reduction	Road Closure	Days Creek South Umpqua Road Closure	0.5	Miles
Umpqua NF	Stand Density Fuel Break	Pre-commercial Thinning	Days Creek South Umpqua LSR Pre-commercial Thinning	52.8	Acres
Umpqua NF	Stand Density Fuel Break	Under-burn	Days Creek South Umpqua LSR Under-burn	125	Acres
Umpqua NF	Stand Density Fuel Break	Under-burn	Days Creek South Umpqua Matrix Under-burn	102	Acres

TABLE 5-1b **Comparison of PCGP Impacts and Offsite Mitigation Actions** a/ b/				
Days Creek South Umpqua Watershed	**Miles in Watershed**	**Acres in Watershed**	**Acres in LSR**	**Acres in Riparian reserves**
PCGP Corridor Impacts	8.1	260.7	88.9	8.9
Stand Density Fuel Break		1536.6	661.5	222.0
Aquatic and Riparian Habitat	1.2	7.3	0.0	7.3
Road Sediment Reduction	10.5	25.5	15.8	3.2

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM/USFS GIS files
b/ Offsite Mitigation Actions Data Source: BLM and Forest Service GIS files
Note: Aquatic and Riparian Habitat acres based on an estimate of a 50' wide treatment area
Road Sediment Reduction acres based on an estimate of a 20' wide treatment area

Figure 5-1a. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in the Days Creek South Umpqua Watershed

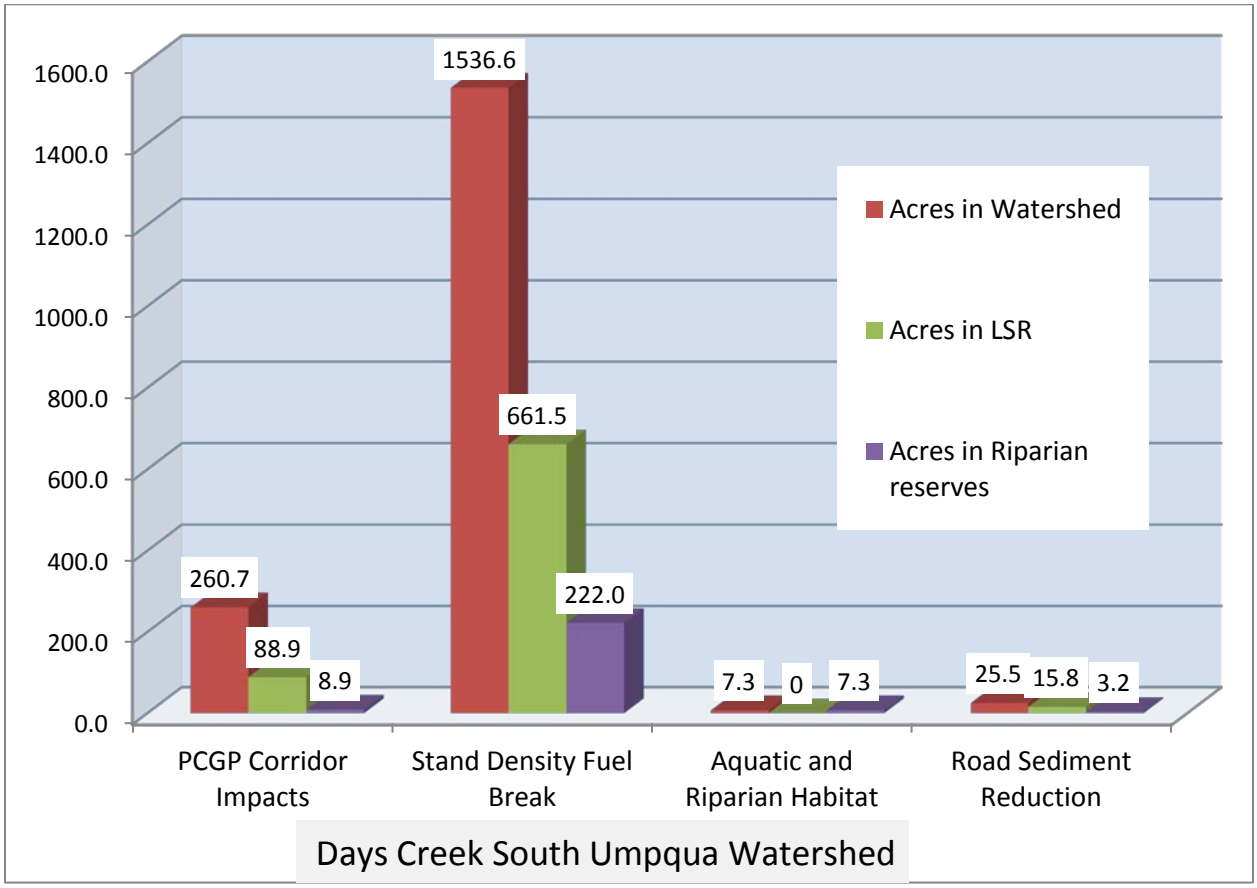


Figure 5-1b. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in LSR in the Days Creek South Umpqua Watershed

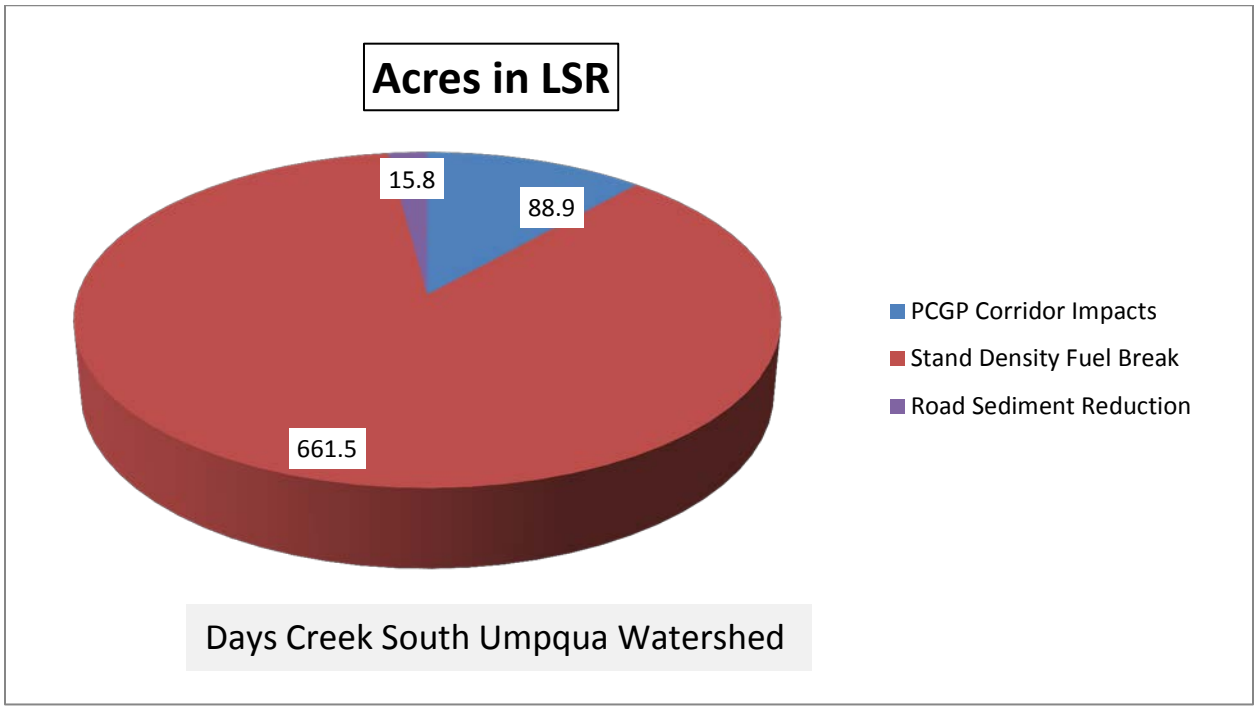


Figure 5-1c. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in Riparian Reserves in the Days Creek South Umpqua Watershed

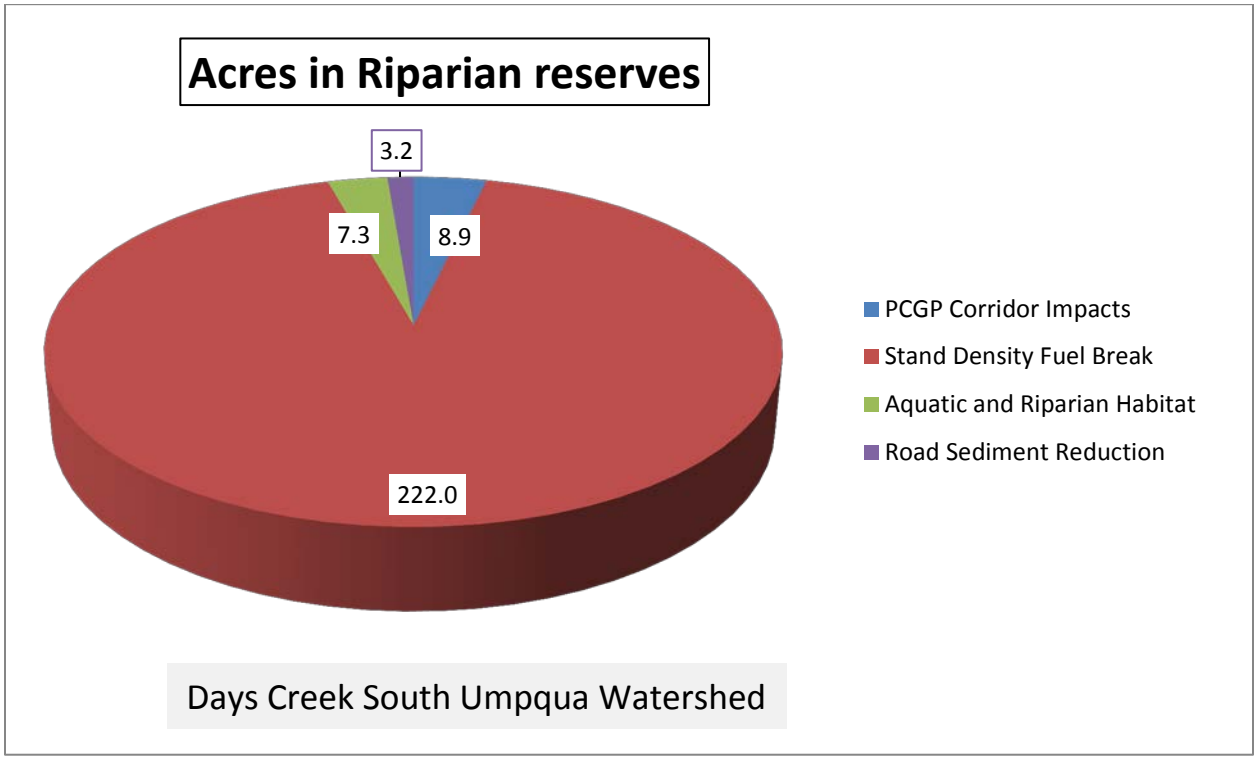


TABLE 5-2a

Mitigation Actions Proposed in the Trail Creek Watershed on the BLM Medford District and the Umpqua NF

Admin Unit	Mitigation Group	Project Type	Project Name	Quantity	Unit
Medford BLM	Aquatic and Riparian Habitat	LWD In-stream	Trail Creek LWD	2.6	miles
Medford BLM	Fire suppression	Suppression Capacity	Trail Creek Pump Chance	8	sites
Medford BLM and Umpqua NF	Road Sediment Reduction	Road storm- proofing	Trail Creek Road Storm-proofing	4.8	miles
Medford BLM and Umpqua NF	Road Sediment Reduction	Road Decommissioning	Trail Creek Road Decommissioning	3.8	miles
Medford BLM	Road Sediment Reduction	Road Surfacing	Trail Creek Road Resurface	16.3	miles
Medford BLM and Umpqua NF	Stand Density Fuel Break	Fuels Reduction	Trail Creek Fuel Hazard Reduction	1101.2	acres
Medford BLM	Stand Density Fuel Break	fuels Reduction	Trail Creek Fuels Hazard Maintenance	687	acres
Umpqua NF	Stand Density Fuel Break	Under-burn	Trail Creek Matrix Under-burn	280	Acres
Umpqua NF	Terrestrial Habitat Improvement	Snag Creation	Trail Creek Matrix Snag Creation	108.6	Acres

TABLE 5-2b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

Trail Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian reserves
PCGP Corridor Impacts	6.0	124.4	0.0	5.1
Stand Density Fuel Break		1381.2	0.0	226.0
Aquatic and Riparian Habitat	2.6	15.8	0.0	15.8
Terrestrial Habitat Improvement		108.6	0.0	0.0
Road Sediment Reduction	24.9	60.4	0.0	10.7

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM/USFS GIS files
b/ Offsite Mitigation Actions Data Source: BLM and Forest Service GIS files
Note: Aquatic and Riparian Habitat acres based on an estimate of a 50' wide treatment area
Road Sediment Reduction acres based on an estimate of a 20' wide treatment area

Figure 5-2a. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in the Trail Creek Watershed

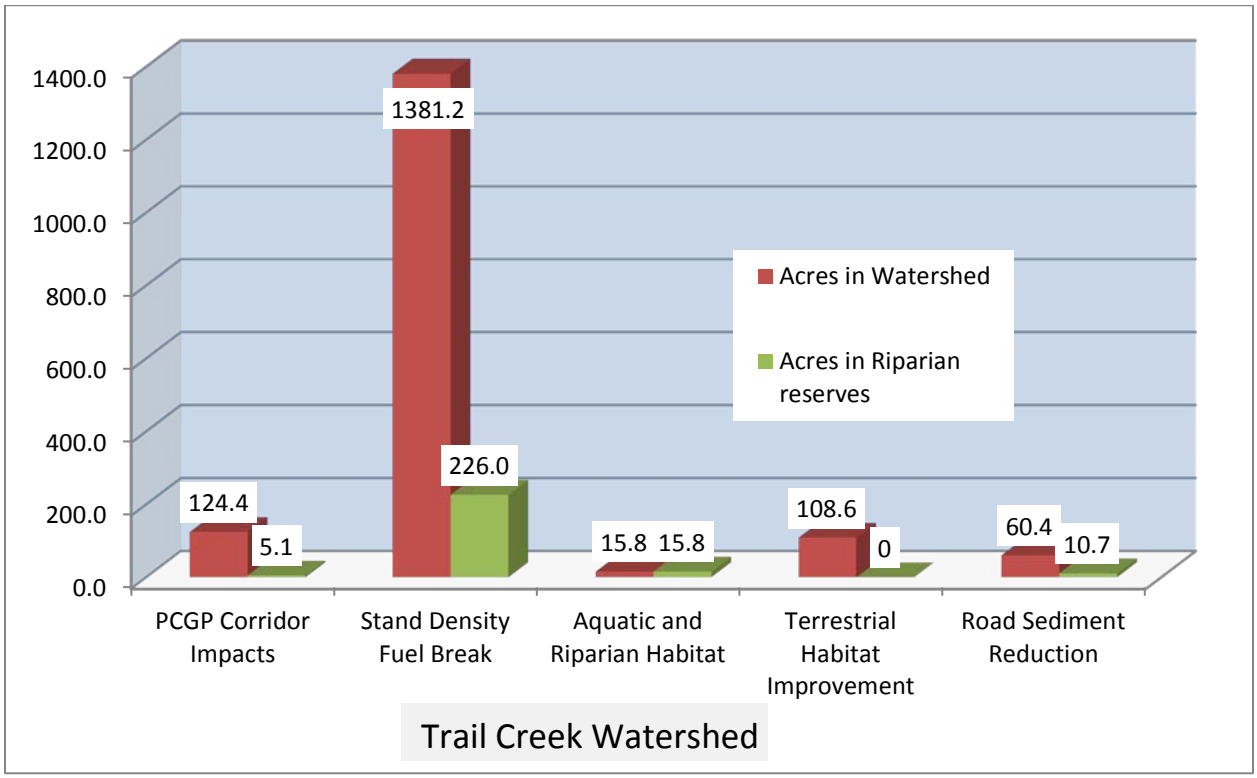


Figure 5-2b. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in Riparian Reserves in the Trail Creek Watershed

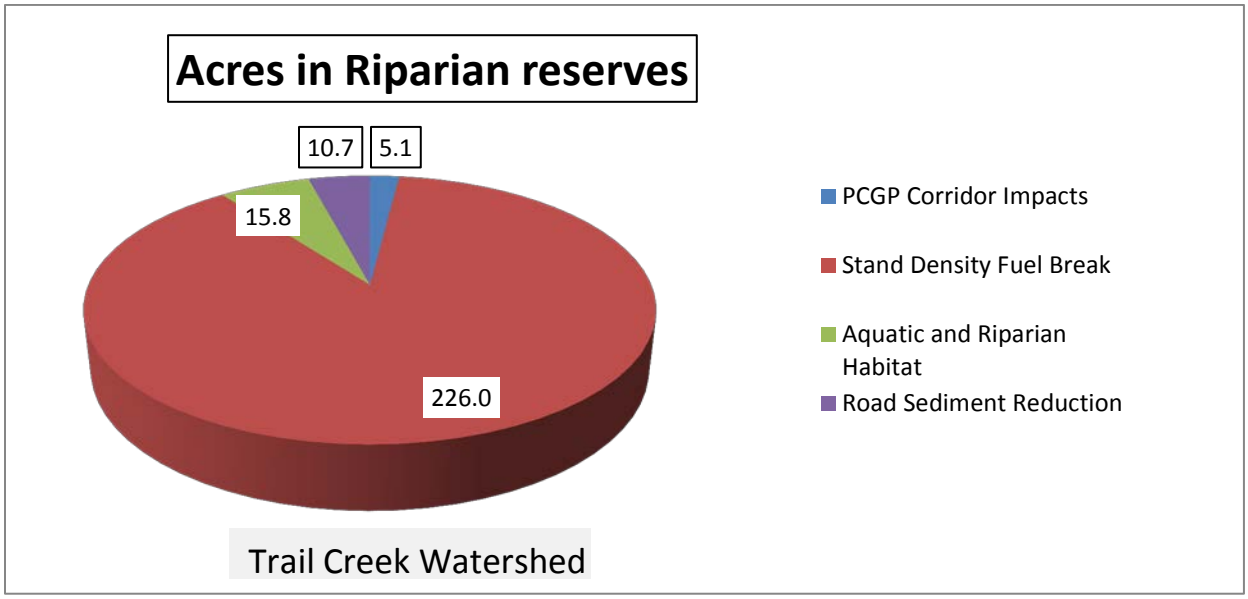


TABLE 5-3a

Mitigation Actions Proposed in the Little Butte Creek Watershed on the BLM Medford District and the Rogue River NF

Admin Unit	Mitigation Group	Project Type	Project Name	Quantity	Unit
Medford BLM	Aquatic and Riparian Habitat	Fish Passage	Little Butte Creek Fish Screen	1	site
Medford BLM and Rogue River NF	Aquatic and Riparian Habitat	LWD In-stream	Lost Creek and Little Butte Creek In-stream LWD	10.1	miles
Medford BLM	Fire suppression	Suppression Capacity	Little Butte Creek Pump Chance	8	sites
Medford BLM	Road Sediment Reduction	Road Drainage and Surface Enhancement	Little Butte Creek Road Improvement	3.5	miles
Medford BLM and Rogue River NF	Road Sediment Reduction	Road Decommissioning	Little Butte Creek Road Decommissioning	66.2	miles
Medford BLM	Road Sediment Reduction	Road Surfacing	Little Butte Creek Road Resurfacing Ashland Resource Area and Butte Falls Resource Area	18.3	miles
Rogue River NF	Aquatic and Riparian Habitat	Stream Crossing Repair	Little Butte Creek Stream Crossing Decommissioning	32	Sites
Rogue River NF	Stand Density Fuel Break	Pre-commercial Thinning	Little Butte Cr LSR Pre-commercial Thin	617.8	Acres
Rogue River NF	Terrestrial Habitat Improvement	Habitat Planting	Little Butte Creek Mardon Skipper Butterfly	20	Acres
Rogue River NF	Terrestrial Habitat Improvement	LWD Upland Placement	Little Butte Creek LSR LWD Placement	306	Acres
Rogue River NF	Terrestrial Habitat Improvement	Snag Creation	Little Butte Creek LSR Snag Creation	622	Acres
Rogue River NF	Reallocation of Matrix Lands to LSR	Reallocation of Matrix to LSR	LSR 227 Addition	12	Acres

TABLE 5-3b

Comparison of PCGP Impacts and Offsite Mitigation Actions a/ b/

Little Butte Creek Watershed	Miles in Watershed	Acres in Watershed	Acres in LSR	Acres in Riparian reserves
PCGP Corridor Impacts	19.7	387.4	279.5	17.1
Stand Density Fuel Break		617.8	617.8	59.0
Aquatic and Riparian Habitat	10.1	61.2	9.1	61.2
Terrestrial Habitat Improvement		948.0	928.0	96.8
Road Sediment Reduction	88.0	213.3	129.0	24.9

a/ Data Source: 2013 PCGP License Application and BLM/USFS GIS files
b/ Data Source: BLM and Forest Service GIS files
Aquatic and Riparian Habitat acres based on an estimate of a 50' wide treatment area
Road Sediment Reduction acres based on an estimate of a 20' wide treatment area

Figure 5-3a. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in the Little Butte Creek Watershed

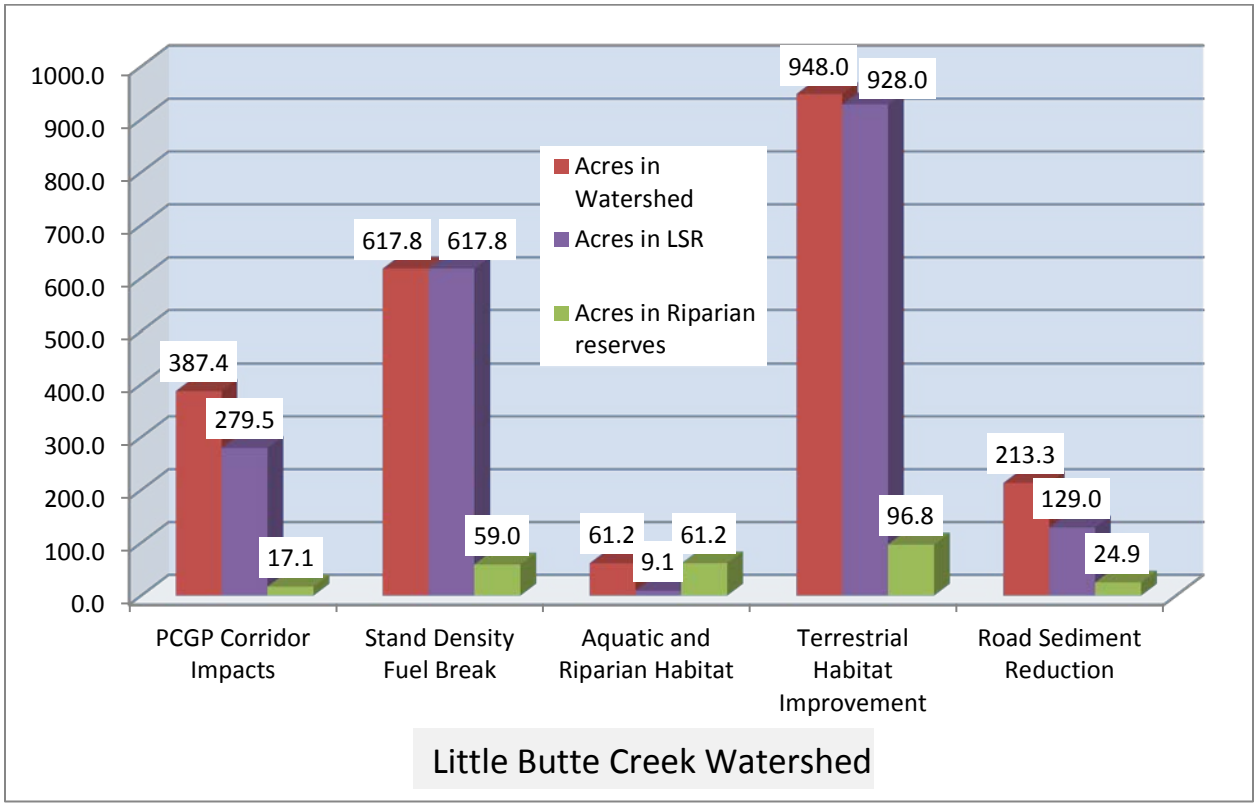


Figure 5-3b. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in LSR in the Little Butte Creek Watershed

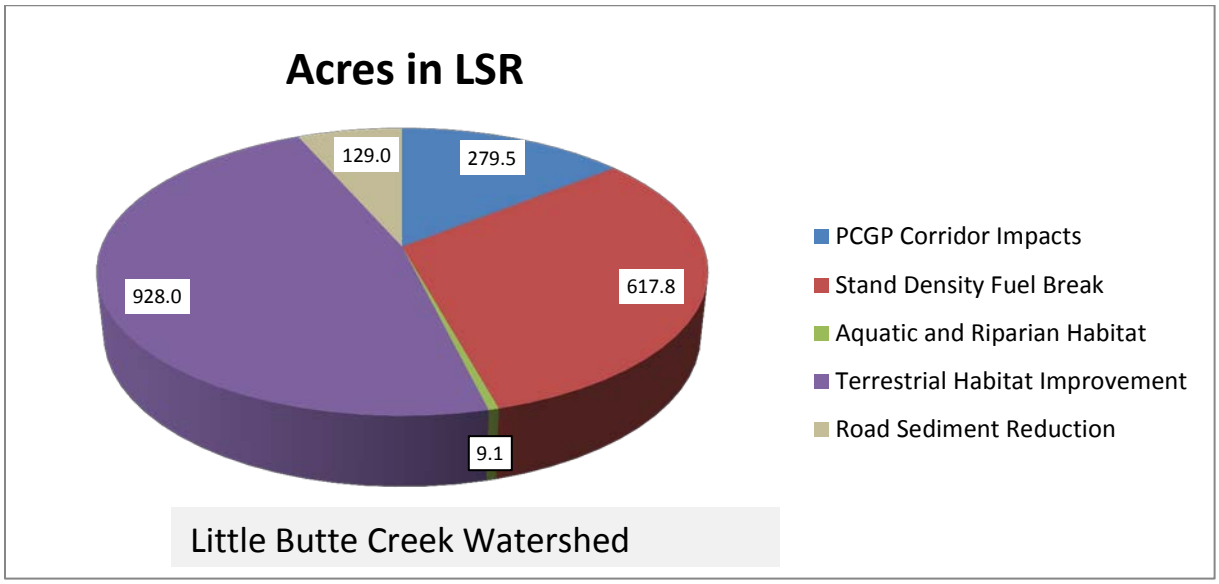


Figure 5-3c. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in Riparian Reserves in the Little Butte Creek Watershed

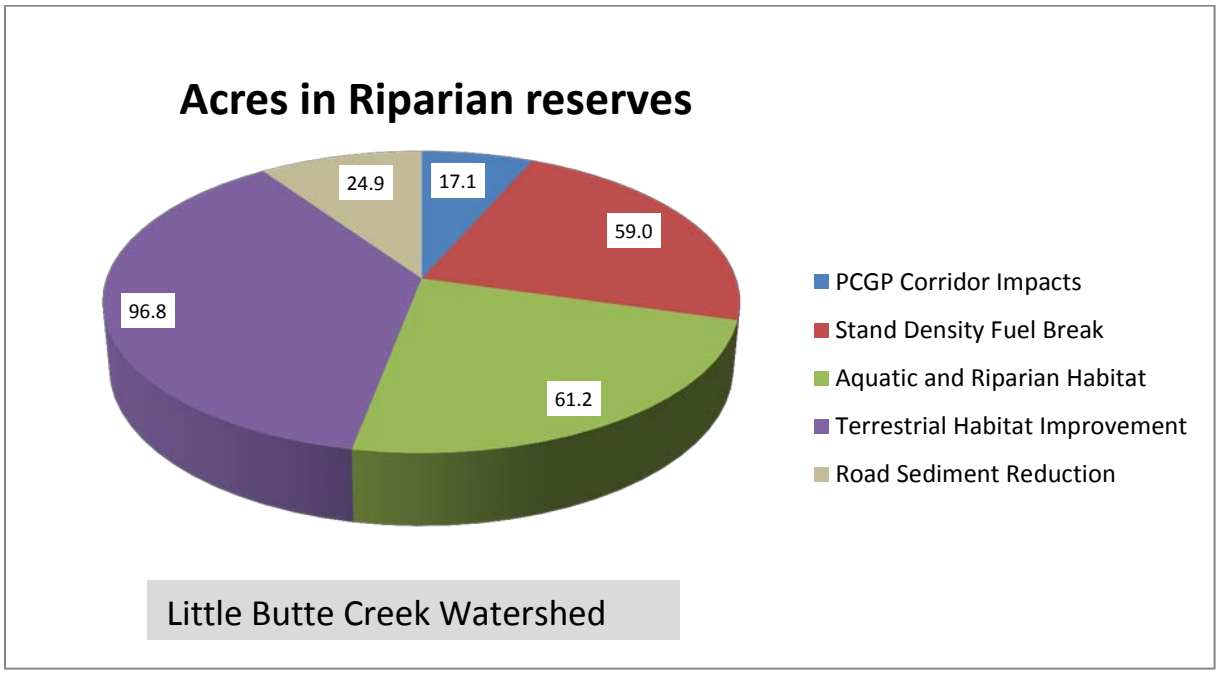


TABLE 5-4a

Mitigation Actions Proposed in the Spencer Creek Watershed on the BLM Lakeview District and the Winema NF

Admin Unit	Mitigation Group	Project Type	Project Name	Quantity	Unit
Lakeview BLM	Stand Density Fuel Break	Riparian Vegetation	Upper Spencer Creek And Miners Creek LSR/Riparian treatment	6.0	miles
Lakeview BLM	Stand Density Fuel Break	Riparian Vegetation	Tributary Creek Riparian Thinning	70	acres
Lakeview BLM	Road Sediment Reduction	Road Drainage - Culvert Replacement	Keno Access Road Repair and Culvert Replacement	1	site
Lakeview BLM	Road Sediment Reduction	Road Drainage	Spencer Creek Drainage Improvements and Sediment Trap Removal	15	sites
Lakeview BLM	Road Sediment Reduction	Road Closure	Spencer Creek Repair Existing Road Closure	12	sites
Lakeview BLM	Stand Density Fuel Break	Stand Density Habitat	Upper Spencer Creek LSR Density Mgt.	270	acres
Winema NF	Aquatic and Riparian Habitat	Riparian Planting	Spencer Creek Riparian Planting	0.5	Mile
Winema NF	Aquatic and Riparian Habitat	Fencing	Spencer Creek Fencing	6.4	Miles
Winema NF	Aquatic and Riparian Habitat	LWD In-stream	Spencer Creek In-stream LWD	1.0	Mile
Winema NF	Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Ford Hardening and Interpretive Sign	1	Site
Winema NF	Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Stream Crossing Decommissioning	25	Sites
Winema NF	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	21.4	Miles
Winema NF	Visuals	Stand Density Reduction	Clover Creek Visual Mgt.	113.5	Acres

TABLE 5-4b **Comparison of PCGP Impacts and Offsite Mitigation Actions** a/ b/				
Spencer Creek Watershed	**Miles in Watershed**	**Acres in Watershed**	**Acres in LSR**	**Acres in Riparian reserves**
PCGP Corridor Impacts	7.1	107.7	0.0	9.1
Stand Density Fuel Break		412.7	112.9	150.8
Aquatic and Riparian Habitat	1.5	9.1	0.0	9.1
Road Sediment Reduction	21.4	53.7	23.5	9.2

a/ PCGP Impacts Data Source: 2013 PCGP License Application and BLM/USFS GIS files
b/ Offsite Mitigation Actions Data Source: BLM and Forest Service GIS files
Note: Aquatic and Riparian Habitat acres based on an estimate of a 50' wide treatment area
Road Sediment Reduction acres based on an estimate of a 20' wide treatment area

Figure 5-4a. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in the Spencer Creek Watershed

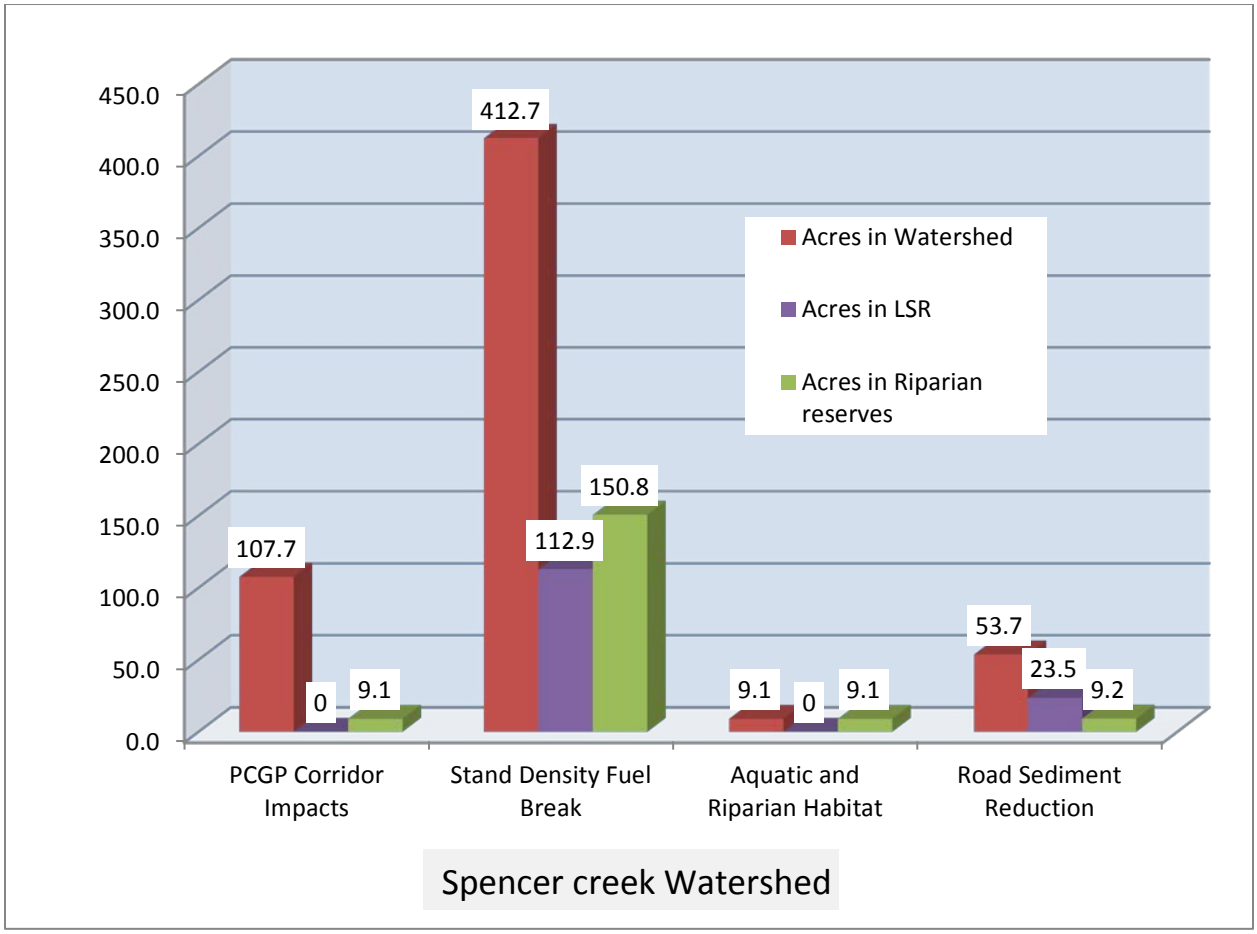
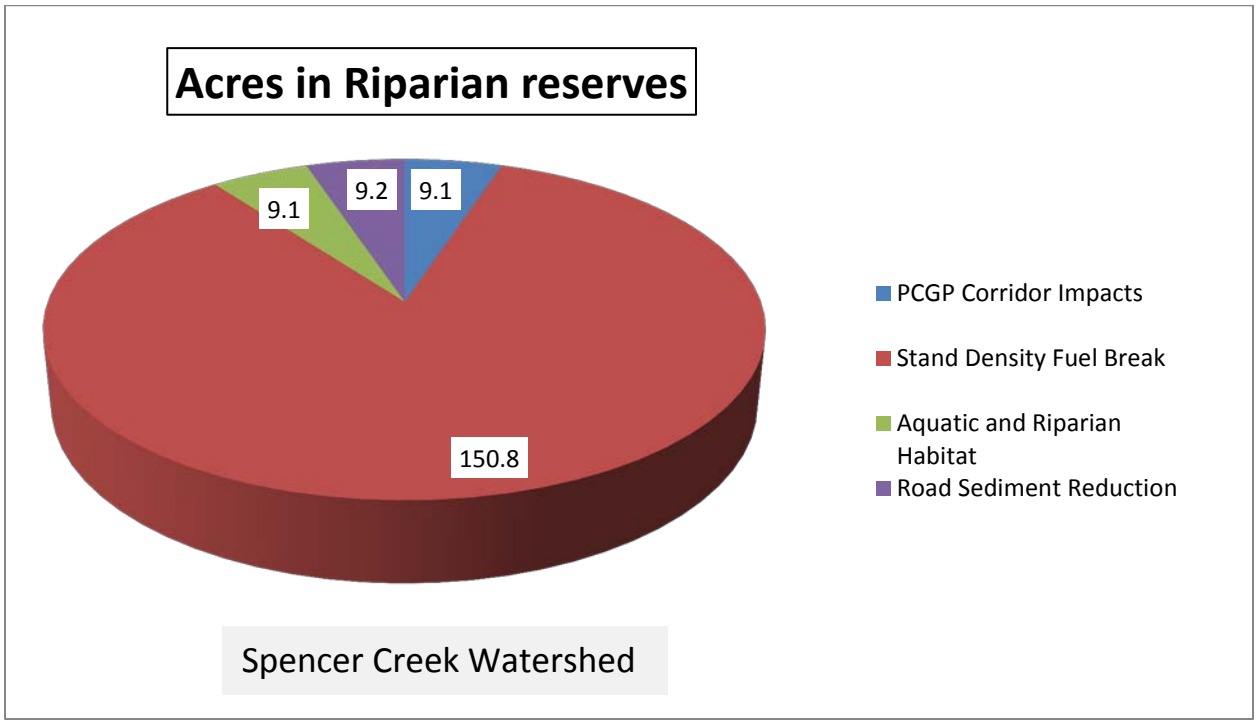


Figure 5-4b. Comparison of PCGP Impacts and Offsite Mitigation Actions by Mitigation Group in Riparian Reserves in the Spencer Creek Watershed



6.0 MAPS OF MITIGATION ACTIONS FOR EACH ADMINISTRATIVE UNIT OF THE BLM AND FOREST SERVICE

Figure 6-1. Map of Mitigation Actions on the BLM Coos Bay District

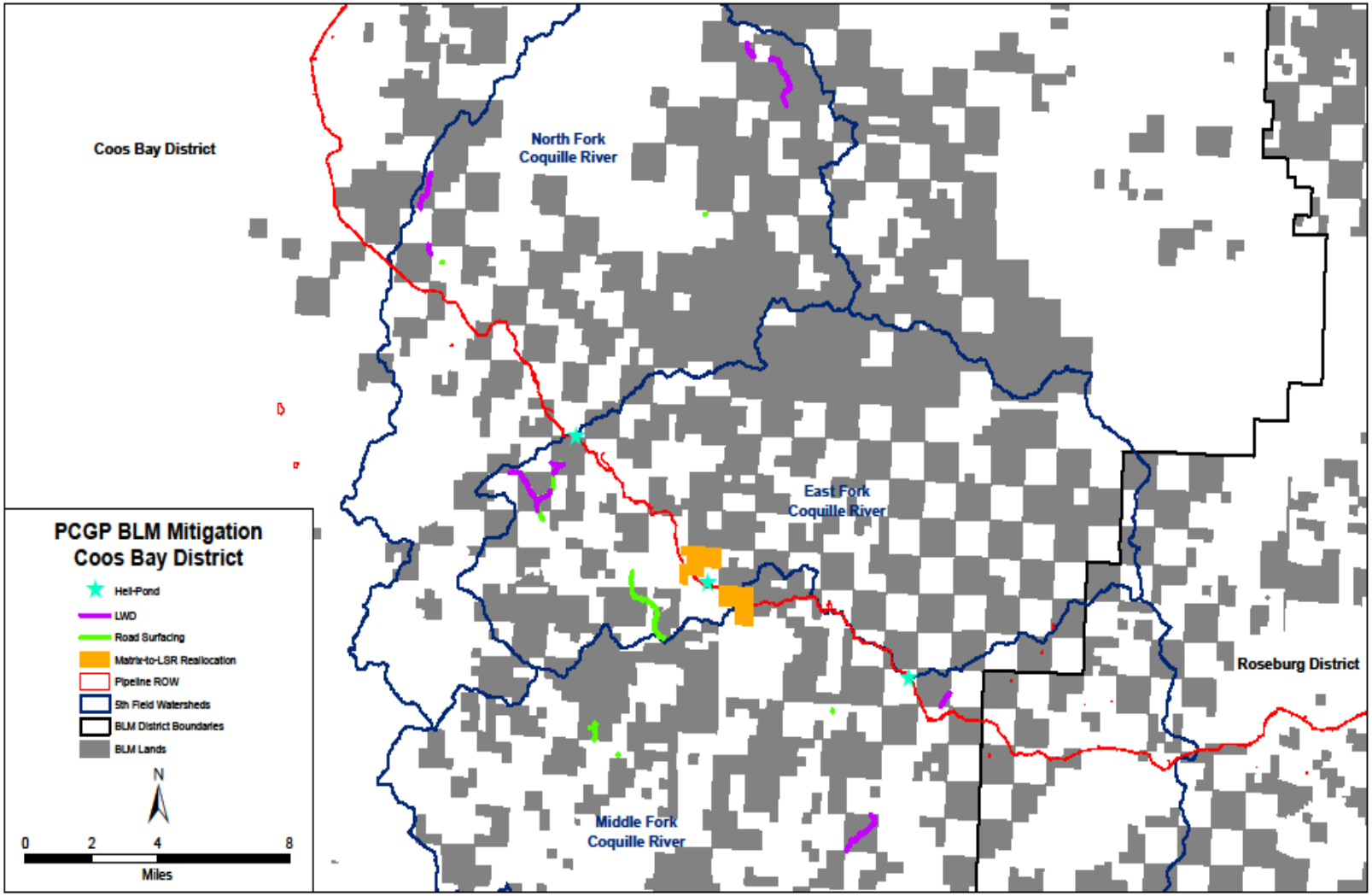


Figure 6-2. Map of Mitigation Actions on the BLM Roseburg District

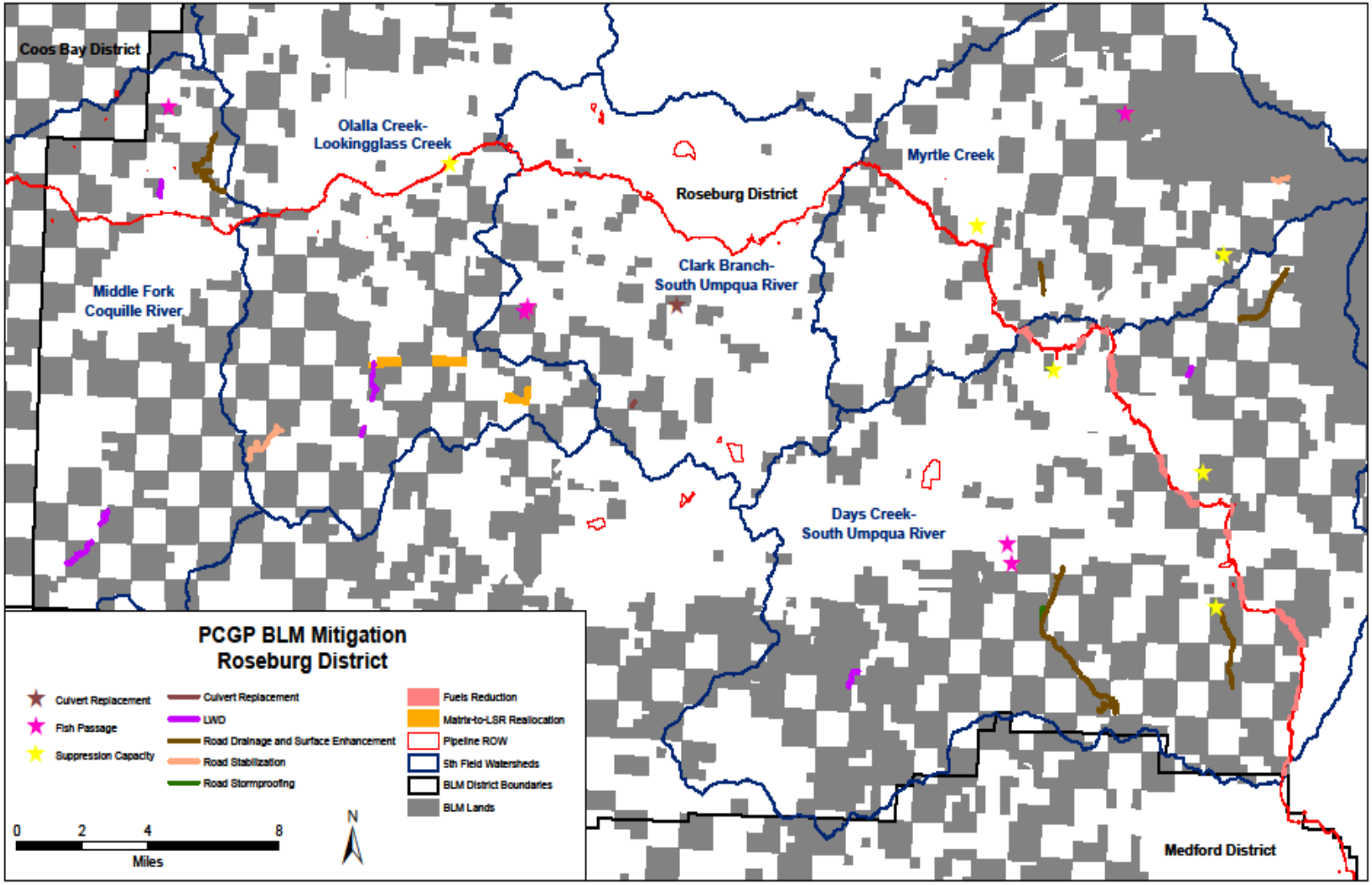


Figure 6-3. Map of Mitigation Actions on the BLM Medford District

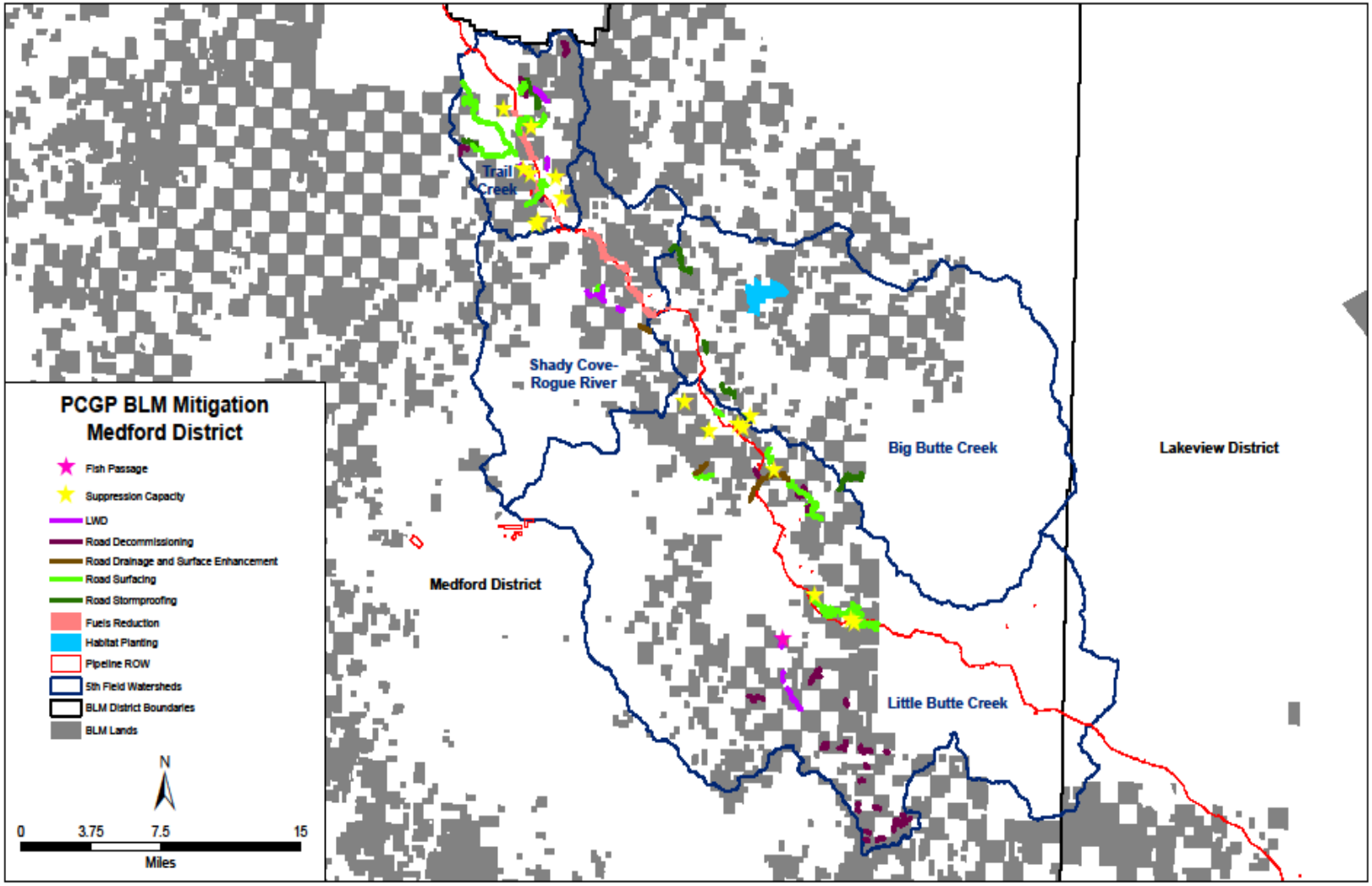


Figure 6-4. Map of Mitigation Actions on the BLM Lakeview District

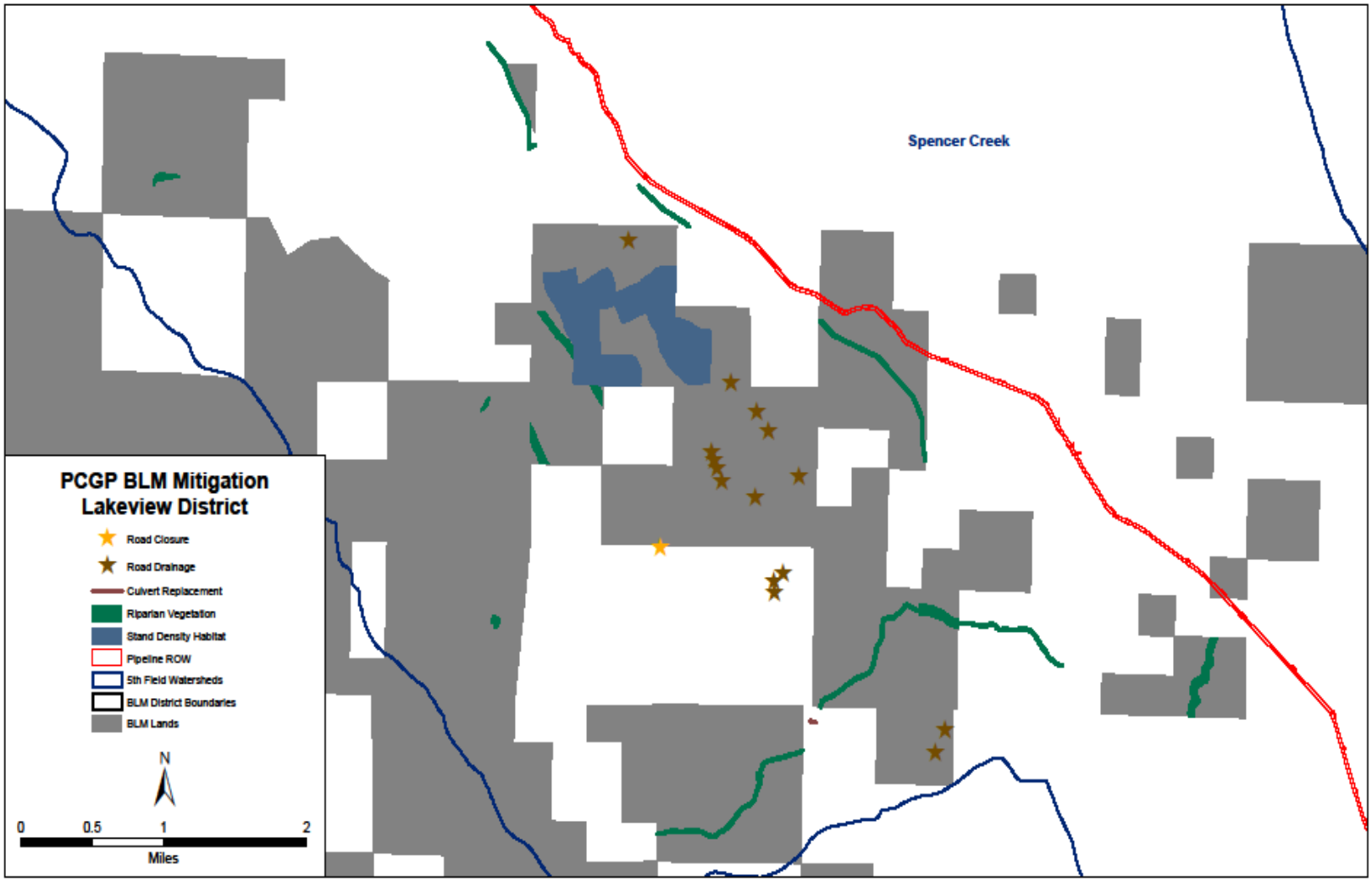


Figure 6-5. Map of Mitigation Actions on the Umpqua National Forest

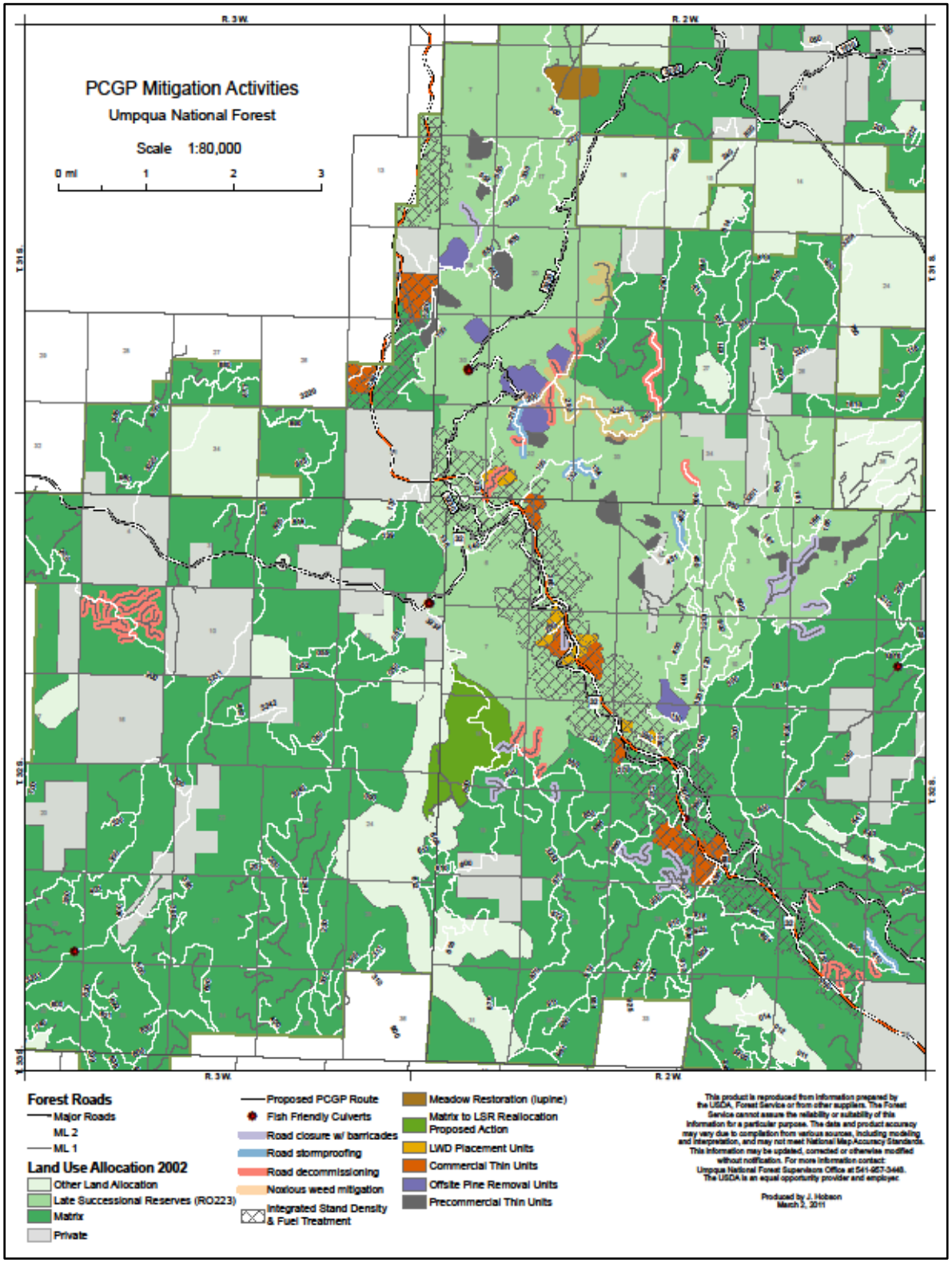


Figure 6-6. Map of Snag Creation Mitigation Actions on the Umpqua National Forest

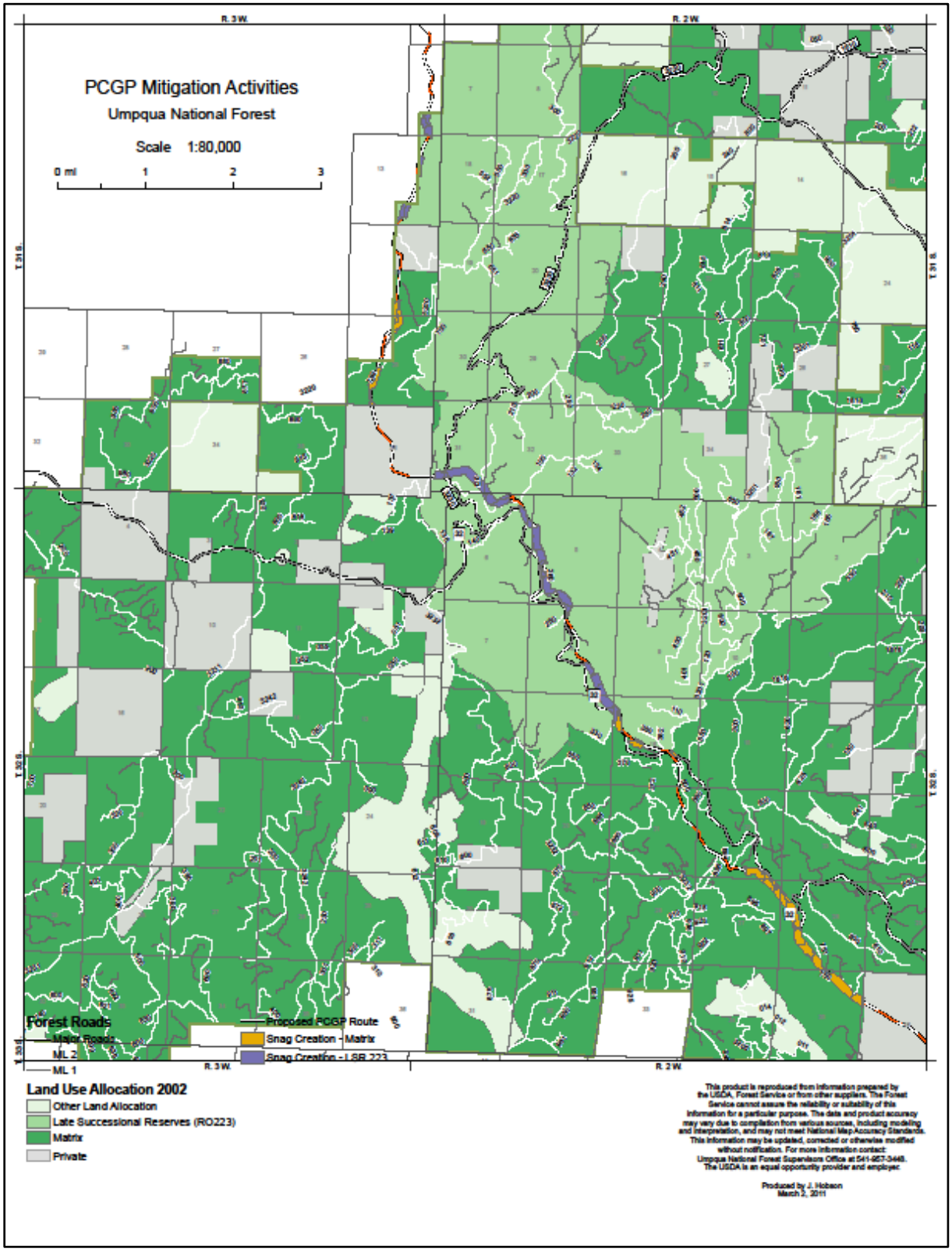


Figure 6-7. Map of Mitigation Actions on the Rogue River National Forest

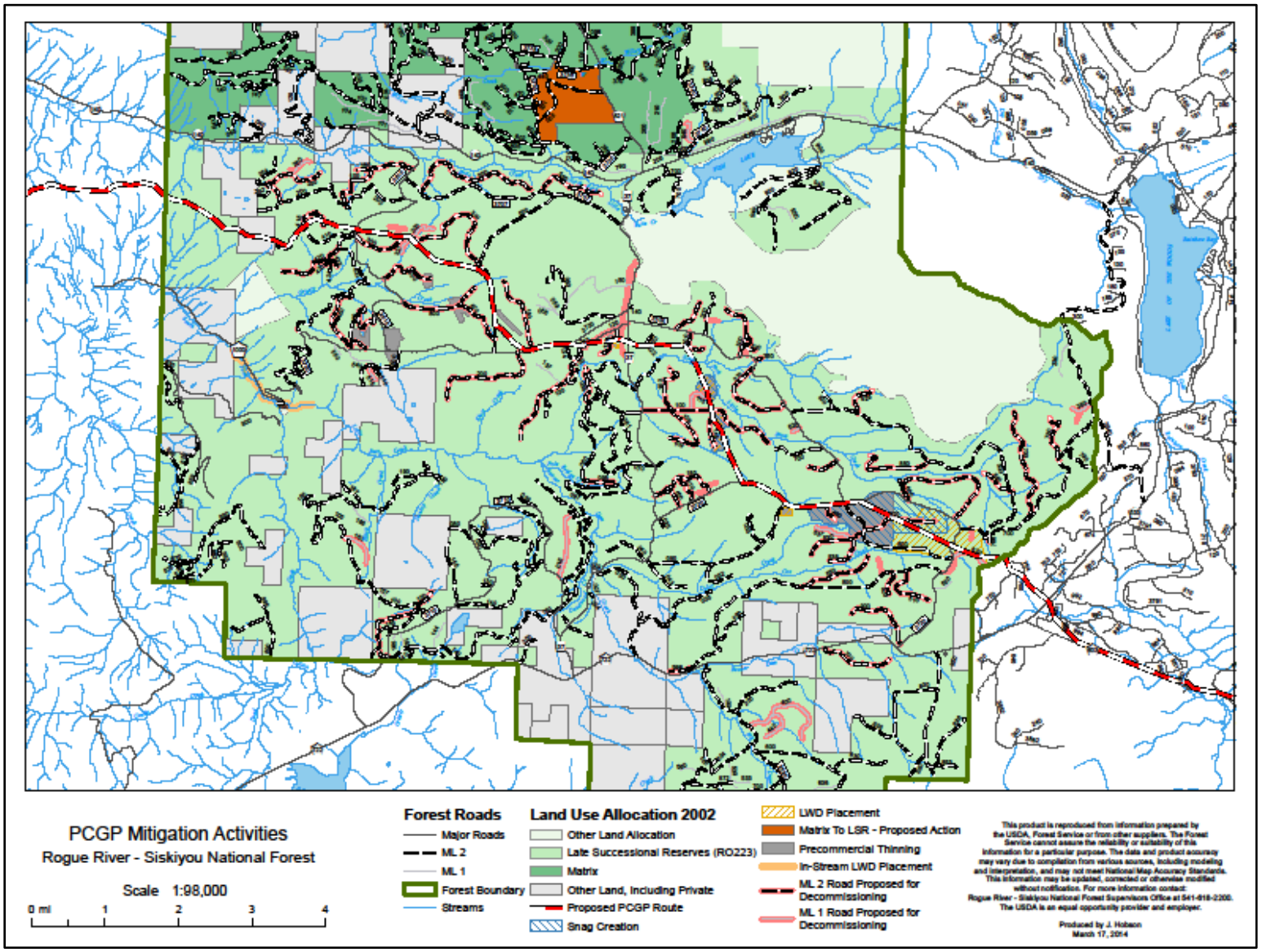


Figure 6-8. Map of Mitigation Actions on the Winema National Forest

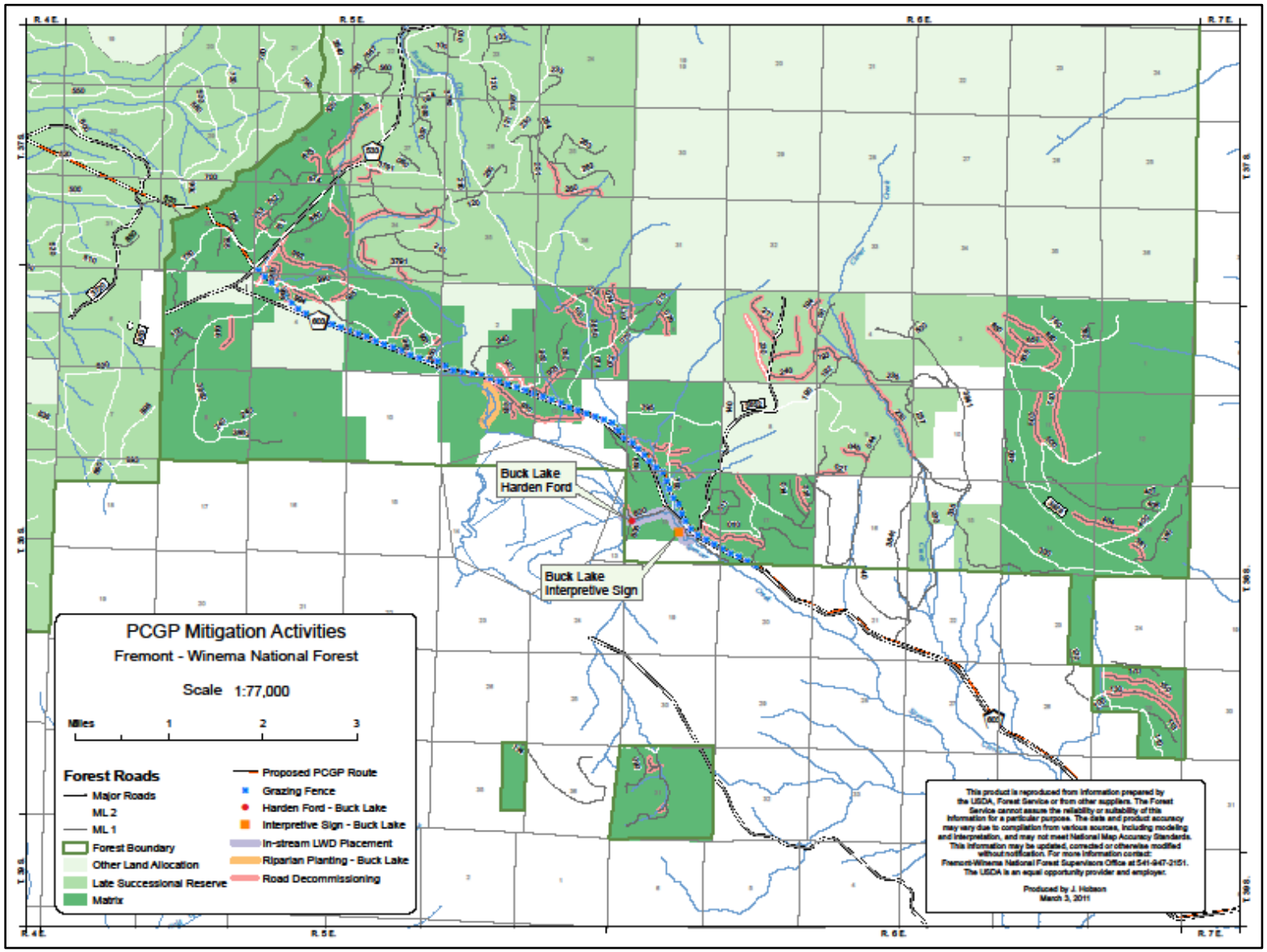
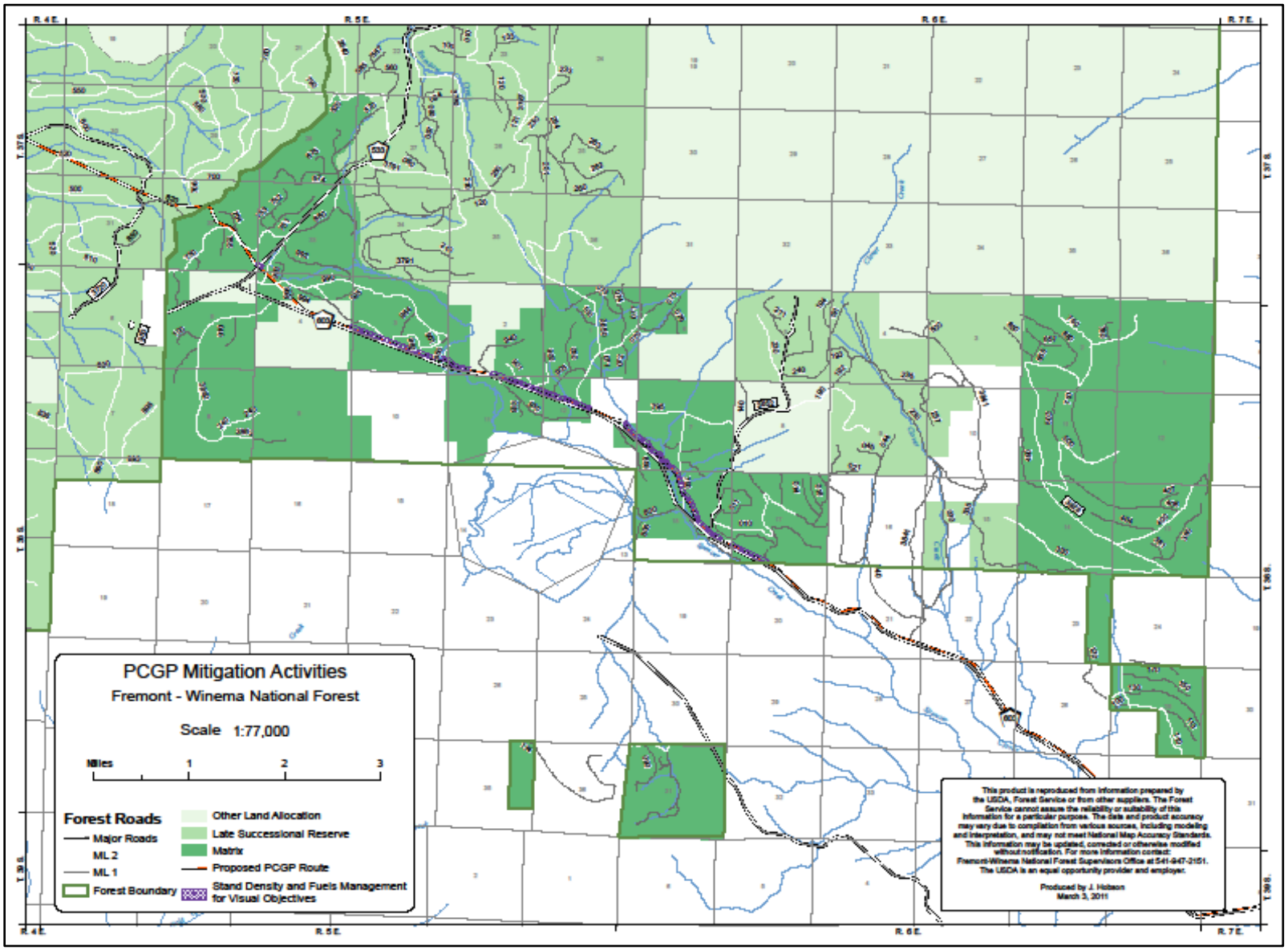


Figure 6-9. Map of Visual Mitigation Actions on the Winema National Forest



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8.0 ATTACHMENTS

Attachment 1

BLM Mitigation Summary v.2

BLM Mitigation Summary

Introduction and Background

This document provides a summary of proposed BLM mitigation projects associated with the Pacific Connector Gas Pipeline. These projects were developed by BLM staff and approved by BLM Line Officers in a meeting on March 21, 2012. This analysis was developed by North State Resources and reviewed by the BLM. Its intended purpose is to provide context and information for completion of an Agreement in Principle between the Pacific Connector LLC and the BLM for off-site mitigations associated with the Pacific Connector Gas Pipeline Project. The policy framework for off-site mitigations by proponents of projects is provided by the BLM Offsite Mitigation Policy found in Appendix A.

Proposed mitigation projects are intended to be responsive to Resource Management Plan (RMP) objectives that include:

- Compliance with the Aquatic Conservation Strategy of the Northwest Forest Plan
- Habitat for T&E species including northern spotted owls, marbled murrelets and coho salmon
- Mitigation of impacts on Late Successional Reserves
- Specific resource issues as they occur by watershed

Offsite mitigation is a supplemental mitigation to address important issues or land management plan objectives that cannot be acceptably mitigated on-site. This document is organized by watershed, with a brief description of watershed issues and proposed mitigations. Watershed issues and conditions were extracted from agency assessments and local knowledge of the area.

Table 1-1 and associated chart show the miles by watershed by land management agency for both BLM and FS lands. NFS lands are included because the BLM and Forest Service jointly manage several watersheds.

Mitigation Groups

Aquatic Restoration

Aquatic restorations are aimed accomplishing objectives of the Aquatic Conservation Strategy (ACS) and offsetting project impacts at the watershed scale. Proposed projects are located in the 5th field watersheds where the PCGP occurs but because of the checkerboard nature of BLM ownerships, feasible projects may not be located in the same subwatersheds as the project.

LWD Instream

Placement of LWD in streams adds structural complexity to aquatic systems by creating pools and riffles, trapping fine sediments and can contribute to reductions in stream temperatures over time (Tippery, Jones et al. 2010) This is responsive to Aquatic Conservation Strategy objectives 2, 3, 4 and 5.

Road Surfacing and Drainage Repair

Road surfacing reduces sediment by capping existing fine textured sediments in the running surface of a gravel road with coarser rock or by paving. Paving all but eliminates traffic-generated sediments. Drainage repair reestablishes out-sloping, cross-drains and in some cases ditchlines to ditch-relief culverts. These actions have the effect of getting water off the road before it can enter streamcourses. This mitigation is responsive to ACS objectives 2, 3, 4 and 5 and Standards and Guidelines for Key Watersheds (USDA FS and USDI BLM 1994b p. B-11, C-7)

Road Decommissioning

Decommissioning roads can substantially reduce sediment delivery to streams (Madej 2000; Keppeler, Cafferata et al. 2007). Proposed road decommissioning will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from road-related surface erosion in the watershed where the impacts from the PCGP occur. This mitigation is responsive to ACS objectives 2, 3, 4 and 5 and Standards and Guidelines for Key Watersheds (USDA FS and USDI BLM 1994b p. B-11, C-7)

Fish Passage Culvert Replacement

Old culverts may block fish passage either by poor design or by failure over time. Removing these blockages and replacing them with fish-friendly designs can allow fish and other aquatic organisms to access previously unavailable habitat. This is responsive to ACS Objectives 1, 2, 3 and 9.(USDA FS and USDI BLM 2012)

Reallocation of Matrix Lands to Late Successional Reserves / Acquisition of Matrix Lands

The primary mitigation for the effects of the PCGP corridor on the Late Successional Reserve land allocation is to replace those acres of LSR in the corridor with additional acres of late-successional and old-growth habitat that are currently outside of the LSR to ensure that there are as many effective acres managed for LSR after the project as there were before the project. This is accomplished by the reallocation of land from the matrix land allocation to the LSR land allocation through a plan amendment. Reallocation of matrix lands to LSR also contributes to ACS objectives and may benefit Survey and Manage species over time by providing additional habitat that is managed to create LSOG stand conditions over time. Since the land reallocated to LSR comes out of the O&C matrix timber base, there is a need to replace those lands with other timber-producing lands to meet the BLM policy of no net loss of O&C lands. It is expected these lands would be acquired by the applicant and provided to the BLM to be managed as part of the O&C timber base.

Terrestrial Restoration

Terrestrial restoration projects are generally directed at mitigating direct and indirect effects of the Pacific Connector on late-successional and old-growth habitats and on reducing the risk of stand replacing fire.

Fire Protection

High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Fire control is necessary to protect Late Successional Reserves and endangered species habitat should a wildfire occur. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity however the corridor also provides a fuel break. Quick response time is imperative for successful control in wildfire situations during initial attack. Pump chance developments and helicopter dipping ponds provide readily available water sources to support fire suppression efforts.

Fuels Reduction

Late Successional Reserve Assessments in SW Oregon have noted shifts from forests dominated by fire-resistant LSOG stands to fire-prone early and mid-seral forests (USDA FS, USDI BLM et al. 1998; USDS FS and USDI BLM 1999). Use of fuels reduction and stand density management are appropriate tools to reduce the risk of high intensity stand replacement fires in these forests (USDA FS and USDI BLM 1994b). Management activities that reduce the risk of natural disturbance adjacent to Known Owl Activity Centers is also appropriate (USDA FS and USDI BLM 1994b p. C-11). Extensive fuels reductions projects are planned on the Umpqua National Forest. Integrating project proposals with existing projects or planned PCGP fuel reduction mitigations on the Umpqua National Forest could result in a more effective pattern of fuels reduction. Stand density reductions in riparian zones have the dual benefit of reducing the risk of stand-replacing fire, while also accelerating the development of late successional stand conditions by accelerating growth of remaining trees.

Specialized Habitats

Fritillaria

The Pacific Connector may impact habitat of *Fritillaria gentneri.* Outplanting bulbs is consistent with the Recovery Plan for this species and would offset any possible losses from impacts to habitat.

Assumptions for Comparisons

1. Comparisons in bar graphs are absolute values and do not represent calibrated indices or relative values. They are intended to illustrate the absolute values of direct effects for the purposes of comparison unless otherwise noted. Relative values are nearly impossible to model for multiple variables because of differences in landscapes, weather patterns, historic conditions and the stochastic character of natural events. Some terrestrial project types like fuel break acres don't lend themselves to graphic comparison and are not included in bar graphs. Bar graphs, unless noted, do not show indirect effects as those vary significantly by resource. Indirect effects may far exceed the direct impact of the project.
2. The BLM corporate Riparian Reserve Layer was used to generate road improvement and stream intersects. Acres were calculated based on an assumed 30 foot road right of way within the Riparian Reserve.
3. Acres in LWD projects were based on an assumed 75 foot average width for area influenced by LWD placement in the coast range. In smaller streams in the Cascades, the width influenced is assumed to be 50 feet. In upland volcanics east of the Cascade Crest, this is assumed to be 30 feet. This is intended to reflect a degree of floodplain connectivity in the estimates of affected acres. The influenced length is assumed to be the miles of LWD placed.
4. Acres of Right of Way include construction clearing, Temporary Extra Work Areas (TEWA) and Uncleared Storage Areas (UCSA).

Figure 1--1: Pacific Connector Route

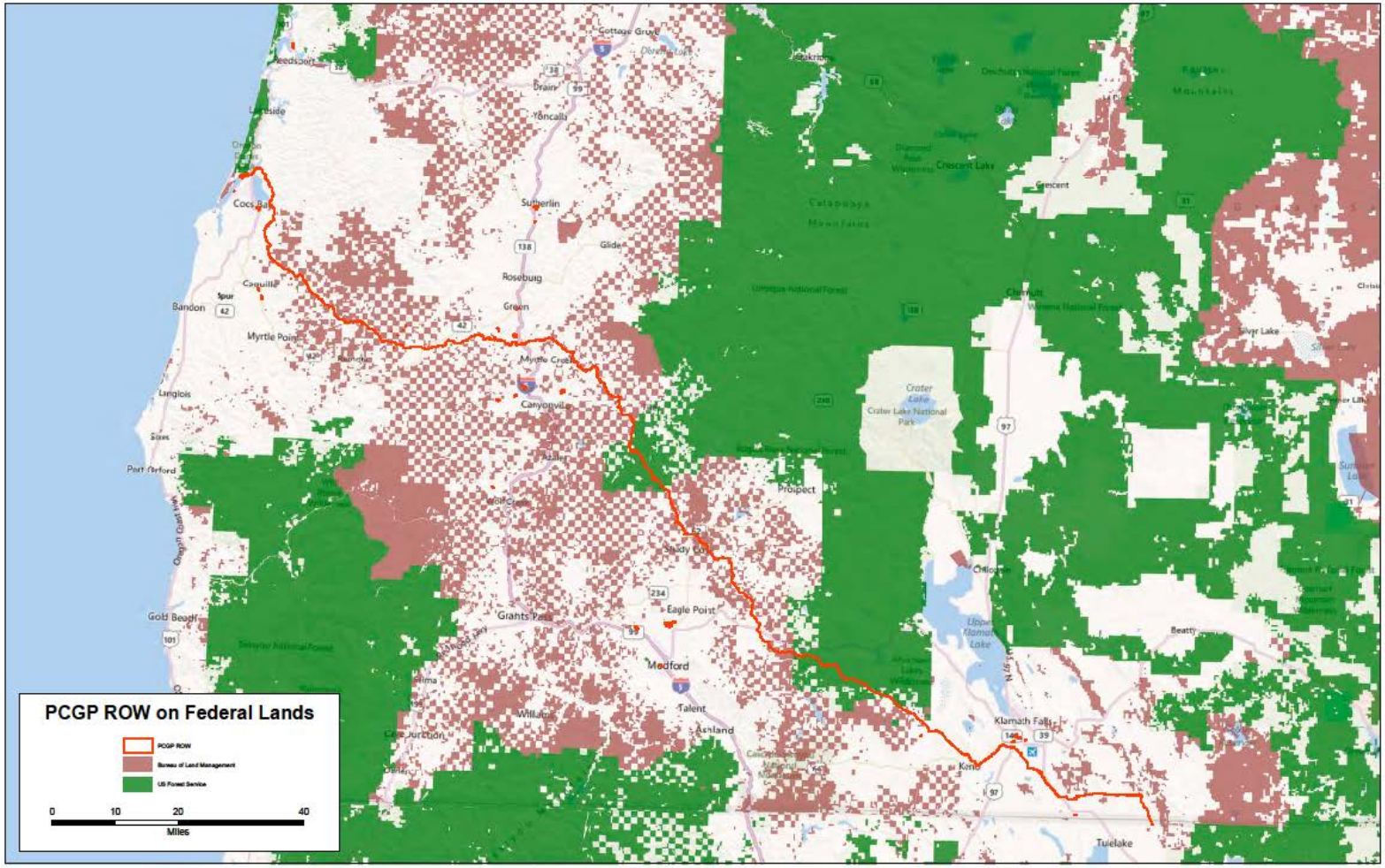


Table 1-1: Miles of PCGP by Watershed and Administrative Unit

Aquatic / Province	River Basin	Watershed	Hydrologic Unit Code	KWS	Total Miles All Owners	CB Miles	RD Miles	MD Miles	LV Miles	BLM Miles	UNF Miles	RRNF Miles	WNF Miles	FS Miles	Total Fed
	South Umpqua	Elk Creek-South Umpqua	1710030204	Yes	3.10	0.00	0.24	0.00	0.00	0.24	2.40	0.00	0.00	2.40	2.64
	South Umpqua	South Umpqua	1710030205	Yes	19.40	0.00	6.23	0.00	0.00	6.23	0.59	0.00	0.00	0.59	6.82
	South Umpqua	Upper Cow Creek	1710030206	No	5.60	0.00	0.00	0.00	0.00	0.00	4.78	0.00	0.00	4.78	4.78
	South Umpqua	MS Umpqua	1710030210	No	13.20	0.00	0.73	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.73
	South Umpqua	Myrtle Creek	1710030211	No	8.40	0.00	3.41	0.00	0.00	3.41	0.00	0.00	0.00	0.00	3.41
	Coquille	Olalla-Lookinglass	1710030212	No	8.70	0.00	1.08	0.00	0.00	1.08	0.00	0.00	0.00	0.00	1.08
	Coos	Coos Bay Frontal	1710030403	No	21.40	0.29	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.29
	Coquille	MF Coquille	1710030501	No	15.50	4.84	2.49	0.00	0.00	7.33	0.00	0.00	0.00	0.00	7.33
	Coquille	EF Coquille	1710030503	No	9.80	2.72	0.00	0.00	0.00	2.72	0.00	0.00	0.00	0.00	2.72
	Coquille	NF Coquille	1710030504	No	8.30	2.84	0.00	0.00	0.00	2.84	0.00	0.00	0.00	0.00	2.84
	Coos	Lower Coquille River	1710030505	No	2.00	0.06	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.06
	Upper Rogue	Big Butte Creek	1710030704	No	5.30	0.00	0.00	0.67	0.00	0.67	0.00	0.00	0.00	0.00	0.67

Table 1-1: Miles of PCGP by Watershed and Administrative Unit

Aquatic / Province	River Basin	Watershed	Hydrologic Unit Code	KWS	Total Miles All Owners	CB Miles	RD Miles	MD Miles	LV Miles	BLM Miles	UNF Miles	RRNF Miles	WNF Miles	FS Miles	Total Fed
	Upper Rogue	Trail Creek	1710030706	No	10.60	0.00	0.00	3.88	0.00	3.88	2.09	0.00	0.00	2.09	5.97
	Upper Rogue	Shady Cove RR	1710030707	No	7.50	0.00	0.00	4.42	0.00	4.42	0.00	0.00	0.00	0.00	4.42
	Upper Rogue	Little Butte Creek	1710030708	Yes	32.90	0.00	0.00	5.99	0.00	5.99	0.00	13.66	0.00	13.66	19.65
	Lost River	Lower Lost River	1801020409	No	25.10	0.00	0.00	0.00	0.26	0.26	0.00	0.00	0.00	0.00	0.26
	Upper Klamath	Lake Ewauna	1801020412	No	16.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Upper Klamath	Spencer Creek	1801020601	Yes	15.10	0.00	0.00	0.00	1.04	1.04	0.00	0.00	6.05	6.05	7.09
	Upper Klamath	Boyle Res.	1801020602	No	5.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total					**233.60**	**10.75**	**14.18**	**14.96**	**1.30**	**41.19**	**9.86**	**13.66**	**6.05**	**29.57**	**70.76**

Source: NSR GIS

Figure 1-2: Miles of Right of Way by Watershed and Administrative Unit

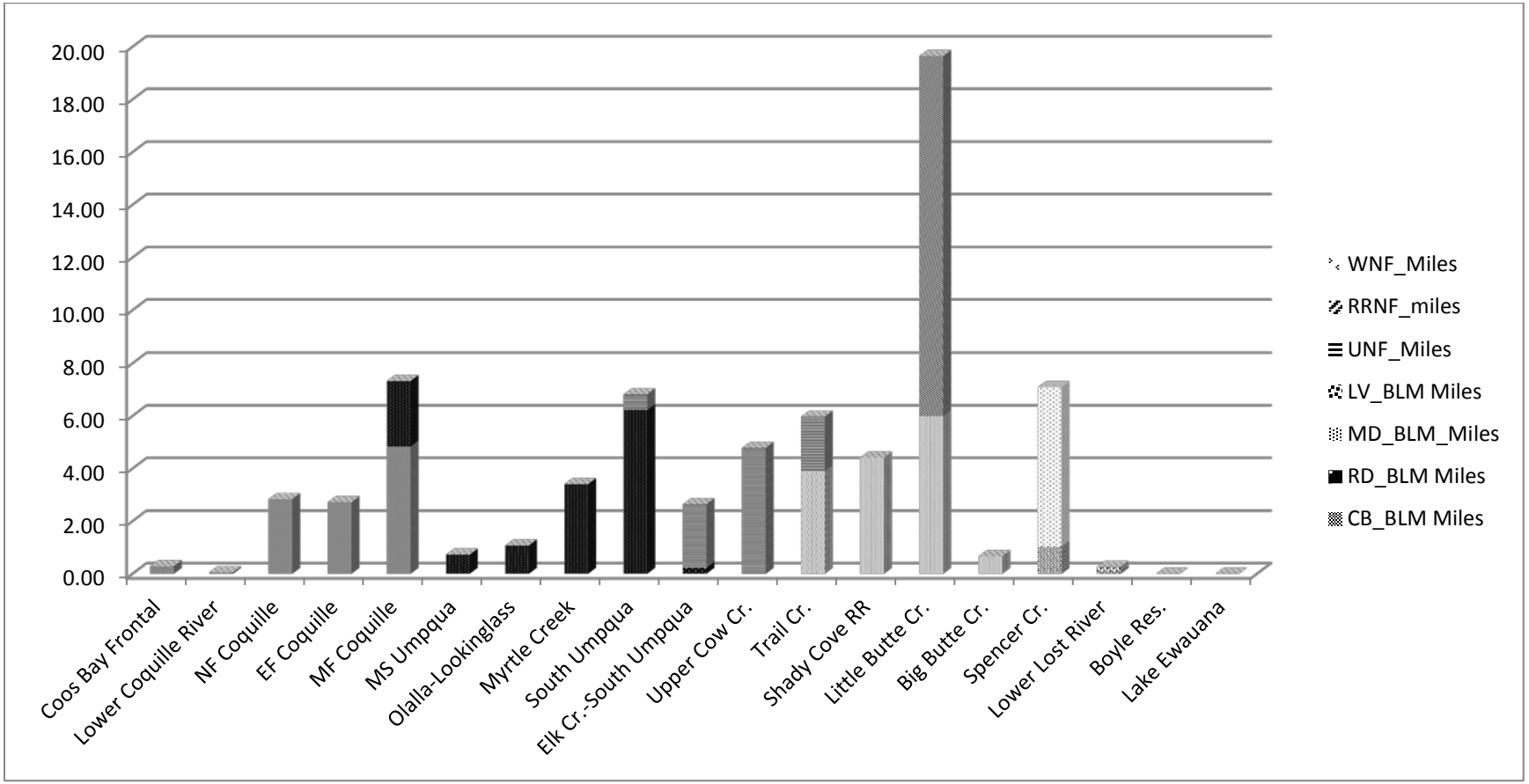
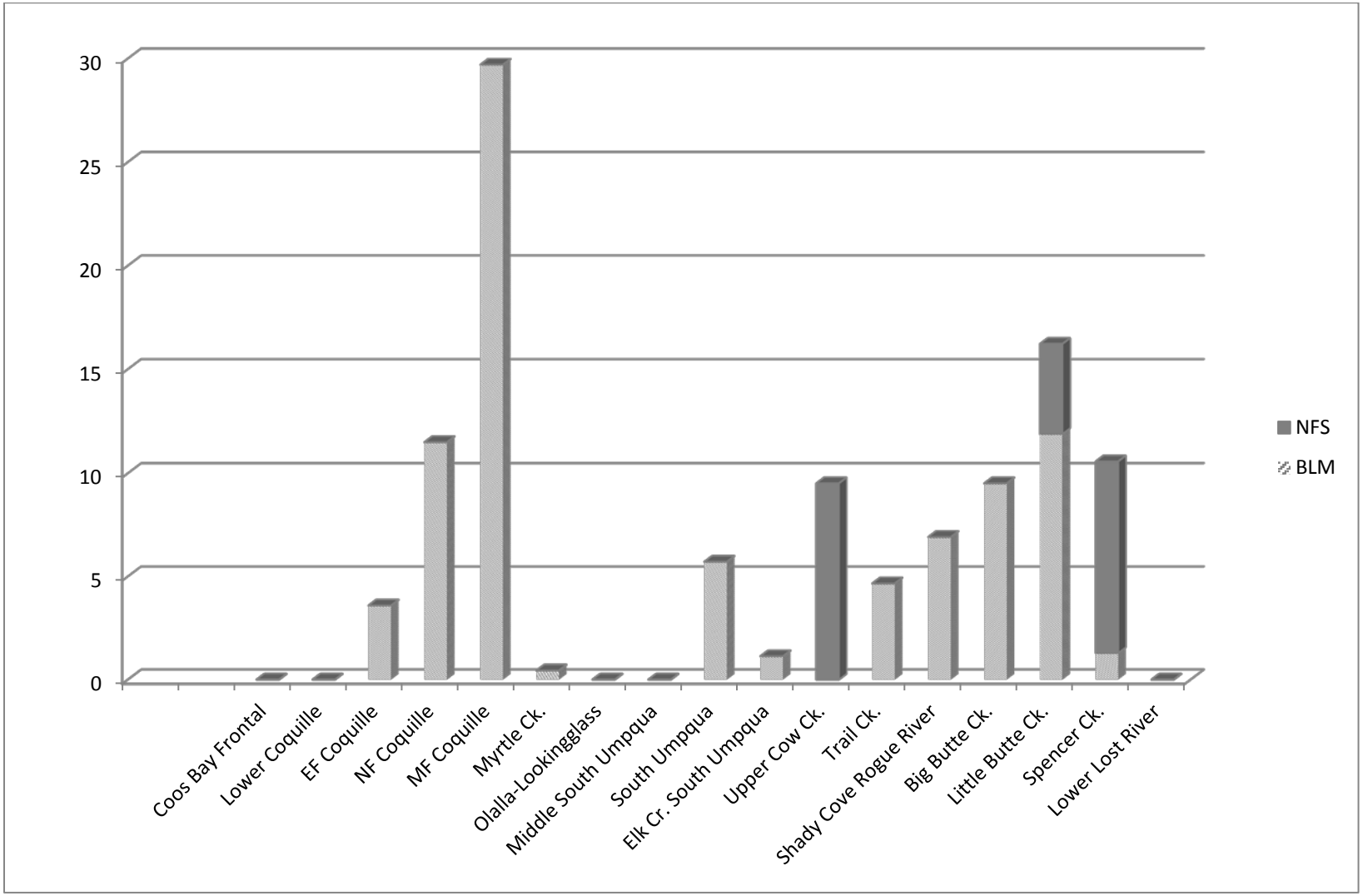


Table 0-2: Acres of Riparian Reserve Within the PCGP Right-of-Way by Watershed and Agency

	Coos Bay Frontal	Lower Coquille	EF Coquille	NF Coquille	MF Coquille	Myrtle Creek	Olalla-Lookinglass	Middle South Umpqua	South Umpqua	Elk Creek South Umpqua	Upper Cow Creek	Trail Creek	Shady Cove Rogue River	Big Butte Creek	Little Butte Creek	Spencer Creek	Lower Lost River	Total
BLM	0	0	3.59	11.5	29.7	0.44	0	0	5.71	1.13	0	4.66	6.91	9.51	11.9	1.29	0	86.34
FS	0	0	0	0	0	0	0	0		0	9.51	0	0	0	4.32	9.28	0	23.11
Total	0	0	3.59	11.5	29.7	0.44	0	0	5.71	1.13	9.51	4.66	6.91	9.51	16.22	10.57	0	109.45

Source: NSR GIS with FERC WWBC Resource Report—(Rerun to show Corridor plus TEWA and UC)

Figure 1-3: Riparian Reserve Acres within Right of Way by Ownership



BLM Fifth Field Watersheds Crossed by the PCGP

Coos Bay Frontal

R/W Miles in Watershed	0.29
R/W Acres in Watershed	4.68
Stream Channels Crossed	0
Riparian Reserve Acres in R/W[1]	0
Late Successional Reserve Acres	0

The PCPG project crosses the Catching Slough subwatershed in the Coos Bay Frontal watershed. No offsite mitigations are anticipated in the Coos Bay Frontal watershed because of the limited extent of the PCGP corridor.

Lower Coquille River

R/W Miles in Watershed	0.06
R/W Acres in Watershed	1.59
Stream Channels Crossed	0
Riparian Reserve Acres in R/W	0
LSR Acres in R/W	0

The PCGP project crosses the Cunningham Creek subwatershed in the Lower Coquille watershed. No offsite mitigations are anticipated in the Coos Bay Frontal watershed because of the limited extent of the PCGP corridor.

North Fork Coquille

R/W Miles in Watershed	2.84			
R/W Acres in Watershed	39.97			
Stream Channels Crossed	Perennial	Intermittent	Wetland	total
	1	5	2	8
Riparian Reserve Acres in R/W	11.5			
Designated LSR Acres in R/W	0			
Unmapped MAMU LSR Acres in R/W	0			

The PCGP crosses portions of the Middle Creek and Hudson Creek subwatersheds in the North Fork Coquille watershed.

Aquatic Conditions and Issues

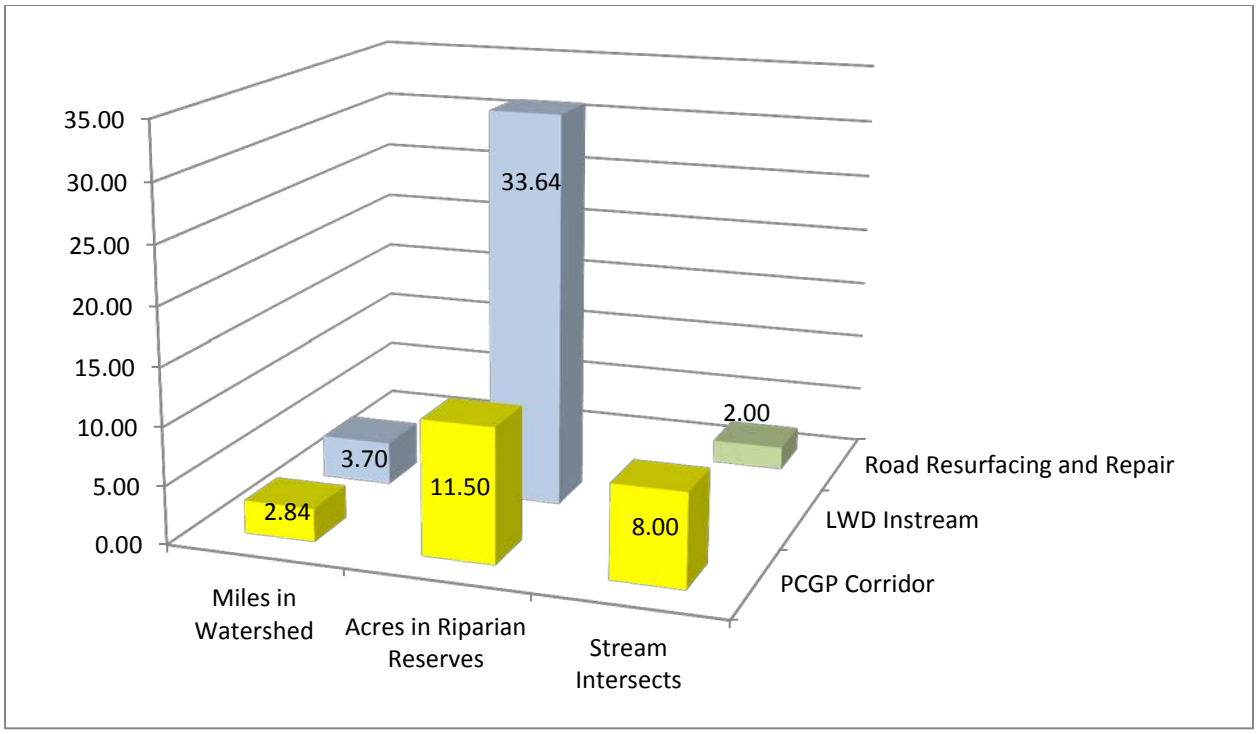
- NF Coquille is 303 (d) listed for temperatures and sediment.
- NF Coquille is “At Risk” or “Not Properly Functioning for multiple watershed indicators including temperature, spawning gravel, summer and winter rearing habitat, large wood, channel modification, .
- NF Coquille is within the range of anadromy for coho salmon.
- High road densities and road-related sediment have negatively impacted aquatic habitats.
- Disturbed soils are susceptible to significant surface erosion during heavy rainfall events
- Rapid runoff may occur because of shallow soils and limited water storage capacity.
- Loss of pool habitat for over wintering juvenile salmonids is determined to be a major limiting factor.
- Upland fine sediment sources are limiting aquatic habitat condition.

Terrestrial Conditions and Issues

- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Early and mid-seral plant communities have increased and late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
LWD instream	Aquatic Habitat	Steinnon Creek In-stream Large Wood Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	1.5	miles	$128,157
LWD instream	Aquatic Habitat	Upper North Fork Coquille In-stream Large Wood Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	2.2	miles	$270,958
Road Surfacing	Road Sediment Reduction	Bridge Approach paving - Woodward & Alder Creek Roads	Road-related sediment has negatively impacted the NF Coquille. While BMPs will be implemented, construction of the PCPG will likely cause sediment to enter stream channels and may affect aquatic habitat. Surfacing the bridge approach would reduce if not eliminate sediment input to coho, steelhead, and cutthroat habitat.	2	ea.	$43,623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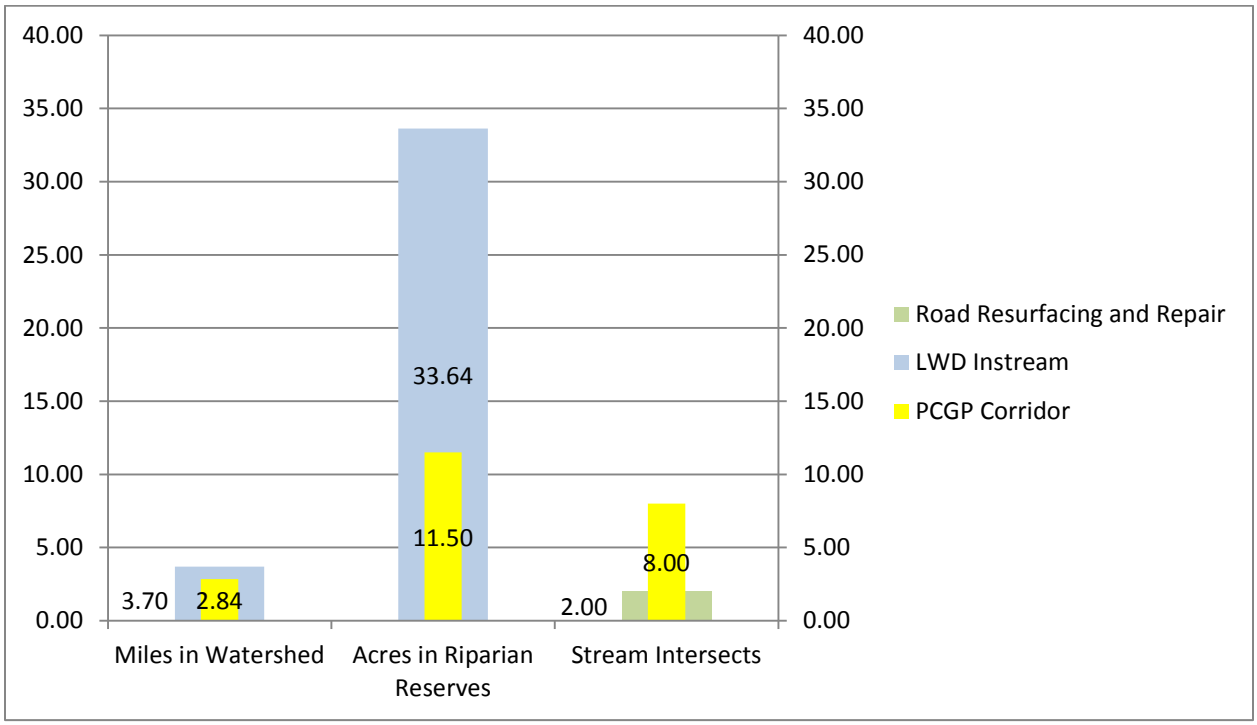
30.00
25.00
20.00
15.00
10.00
5.00
0.00
33.64
3.70
11.50
2.84
2.00
8.00
Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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2.00
8.00
Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

East Fork Coquille

R/W Miles in Watershed	2.72
R/W Acres in Watershed	45.87
Stream Channels Crossed	2 Intermittent
Riparian Reserve Acres in R/W	3.59
Designated LSR Acres in R/W	6.25
Unmapped MAMU Acres in R/W	12.91 (See LSR-Matrix discussion)

The PCGP project crosses portions of the Elk Creek, Brewster Canyon and Yankee Run subwatersheds on BLM lands in the East Fork Coquille watershed.

Aquatic Conditions and Issues:

- Mainstem is 303(d) listed for temperatures but summer temperatures in the upper watershed above Camas Creek meet the temperature standards.
- EF Coquille is “At Risk” or “Not Properly Functioning for multiple watershed indicators.
- EF Coquille is within the range of anadromy for coho salmon.
- High road densities and road-related sediment have negatively impacted aquatic habitats. There is an over-abundance of fine sediments in Weekly, **Yankee Run**, Dead Horse and Knepper Creeks. Weekly**, Elk, Yankee Run** and lower Steel Creeks are deficient in large wood.
- Disturbed soils are susceptible to surface erosion during rainfall events
- Rapid runoff may occur because of shallow soils and limited water storage capacity
- Loss of pool habitat for over wintering juvenile salmonids is a major limiting factor.

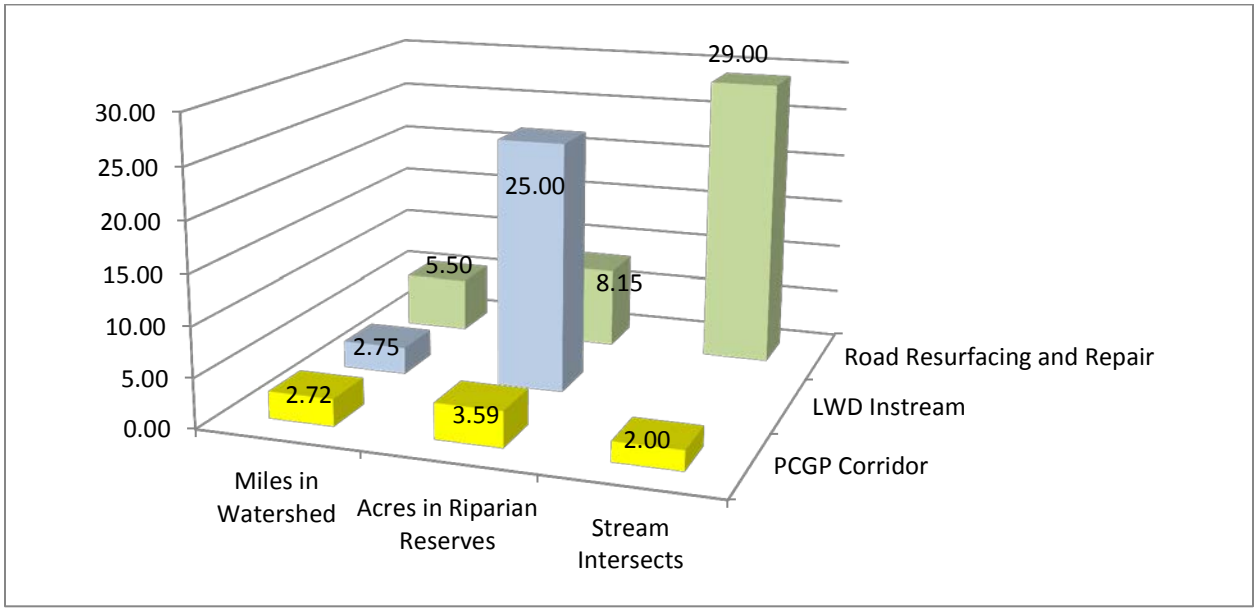
Terrestrial Conditions and Issues

- Fragmentation from past logging has substantially impacted terrestrial habitats
- The EF Coquille provides substantial MAMU habitat.
- Fire and windthrow have greatest potential impacts on marbled murrelet habitats.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Qty.	Unit	CostWithOH
Road Surfacing	Road Sediment Reduction	Road Surfacing – South Fork Elk Creek	Road-related sediment has negatively affected the EF Coquille. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed. Surfacing the BLM road which is parallel to the South Fork Elk Creek would reduce if not eliminate sediment input to adjacent Chinook, coho, steelhead, and cutthroat habitat.	2.6	miles	$1,038,170
Road Surfacing	Road Sediment Reduction	Road Surfacing – Yankee Run Mainline	Road-related sediment has negatively impacted the EF Coquille. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed. Surfacing the BLM road which is parallel to Yankee Run Creek would reduce if not eliminate road-related sediment input to coho, steelhead, and cutthroat habitat.	2	miles	$785,332
Road Surfacing	Road Sediment Reduction	Road Surfacing – Yankee Run Spurs	Road-related sediment has negatively impacted the EF Coquille. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed. Surfacing the BLM road which is parallel to Yankee Run Creek would reduce if not eliminate road – related sediment input to coho, steelhead, and cutthroat habitat.	0.9	miles	$410,999
LWD instream	Aquatic Habitat	Yankee Run In-stream Large Wood Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	2.75	miles	$261,296

Fire Suppression	Fire suppression	Heli-Pond construction	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity; however, the corridor also provides a fuel break. Within the East/Middle Fork watersheds, there is an 18+ mile gap between helicopter accessible waterholes. Quick response time is imperative for successful control in wildfire situations during initial attack. Most water sources in this area are low in the drainage and accessible only by truck. Heliponds at these locations would enable a 2-3 mile radius for aerial application. Fire control is necessary to protect Late Successional Reserves and endangered species habitat should a wildfire occur.	2	ea.	$259,380
Land Re-Allocation from Matrix to LSR Non-Federal Land Acquisition	Acquisition	LSR Reallocation& Land Acquisition	This action contributes to the “neutral to beneficial” standard for new developments in mapped and unmapped LSRs by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the PCGP. The action also compensates for the removal of occupied marbled murrelet habitat and suitable RNF spotted owl habitat. In addition, the selected parcel reduces the potential edge effects caused by management of Matrix lands adjacent to occupied murrelet sites by reallocating the entire parcel to LSR.	120	acres	$0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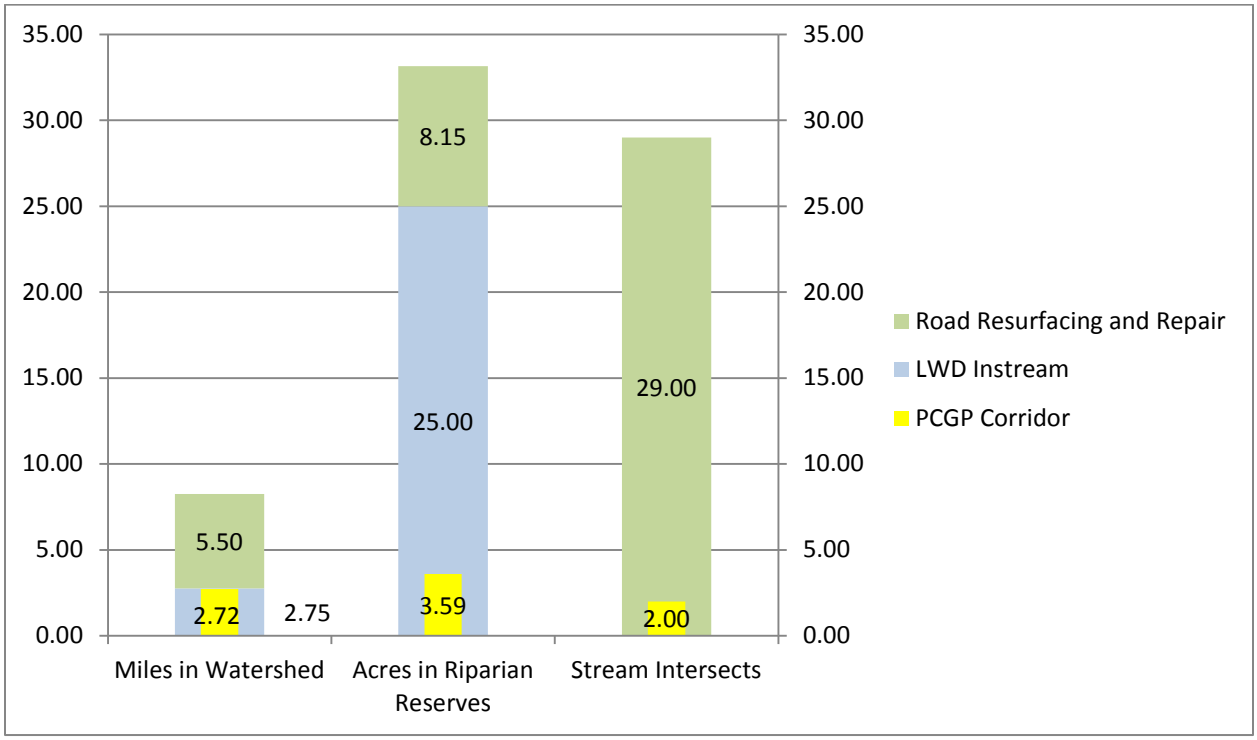
Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Middle Fork Coquille

R/W Miles in Watershed	7.34		
R/W Acres in Watershed	142.47		
Stream Channels Crossed	Perennial	Intermittent	total
	2	7	9
Riparian Reserve Acres in R/W	29.72		
Designated LSR Acres in R/W	50.88		
Unmapped MAMU LSR Acres in R/W	22.73 (See LSR-Matrix discussion)		

The PCGP project crosses portions of the Headwaters MF Coquille, Upper Rock Creek, Sandy Creek, Camas Creek, and Big Creek subwatersheds on BLM lands in the Middle Fork Coquille watershed.

Aquatic Conditions and Issues

- MF Coquille is “At Risk” or “Not Properly Functioning for multiple watershed indicators including temperature, spawning gravel, summer and winter rearing habitat, large wood, channel modification, .
- MF Coquille is within the range of anadromy for coho salmon.
- High road densities and road-related sediment have negatively impacted aquatic habitats.
- In general, the basin has a deficit of in-stream structure and channel complexity.
- Disturbed soils are susceptible to significant surface erosion during heavy rainfall events
- Rapid runoff may occur because of shallow soils and limited water storage capacity.
- Loss of pool habitat for over wintering juvenile salmonids is determined to be a major limiting factor.
- Upland fine sediment sources are limiting aquatic habitat condition.
- Replacing fish passage barriers with “fish friendly” passages, placement of LWD in appropriate stream reaches and reducing road sediment are key restoration recommendations.

Terrestrial Conditions and Issues

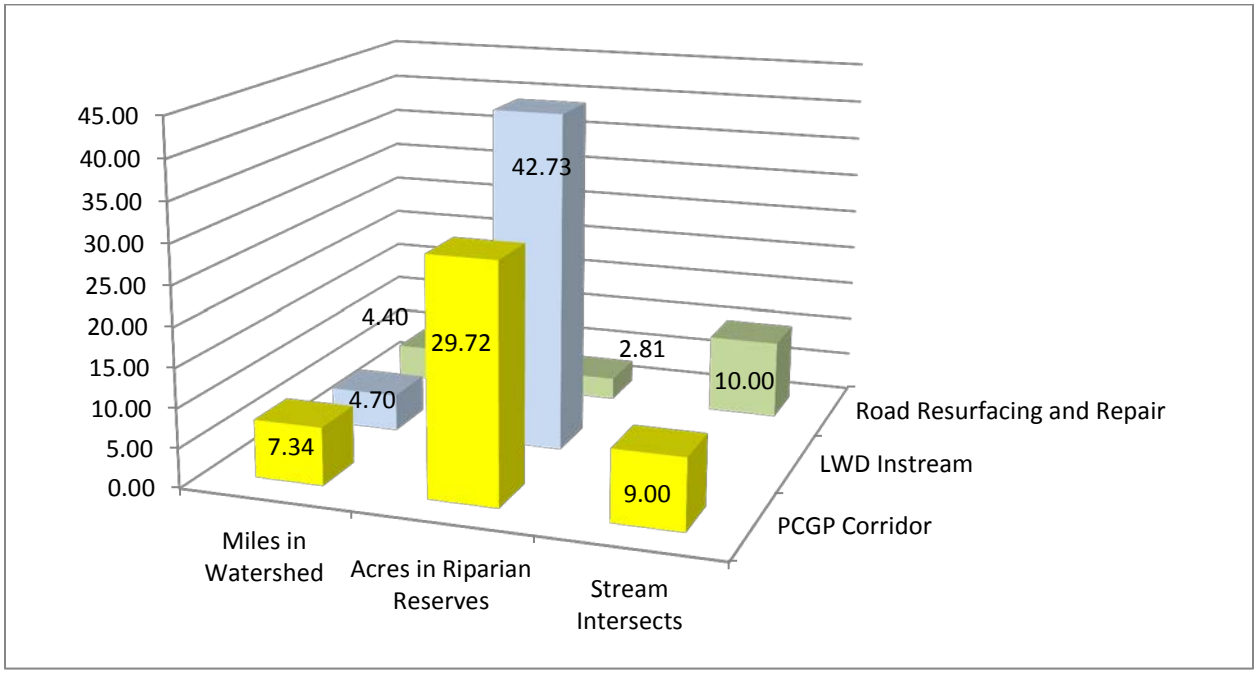
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Early and mid-seral plant communities have increased and late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fire Suppression	Fire suppression	Heli-Pond construction	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity; however the corridor also provides a fuel break. Within the East/Middle Fork watersheds, there is an 18+ mile gap between helicopter accessible waterholes. Quick response time is imperative for successful control in wildfire situations during initial attack. Most water sources in this area are low in the drainage and accessible only by truck. Heliponds at these locations would enable a 2-3 mile radius for aerial application. Fire control is necessary to protect Late Successional Reserves and endangered species habitat should a wildfire occur.	1	ea.	$129,690
Fish Passage	Fish Passage	Loveseat Creek culvert removal	Man-made barriers to fish passage have negatively affected access to habitat in the MF Coquille. The stream crossing is a fish barrier to resident fish. Removing the culvert and associated road fill will extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. Sediment introductions to the stream network would also cease.	1	project	$23,580
Land Re-Allocation from Matrix to LSR Non-Federal Land Acquisition	Acquisition	LSR Reallocation& Land Acquisition	This action contributes to the "neutral to beneficial" standard for new developments in mapped and unmapped LSRs by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the PCGP. The action also compensates for the removal of occupied marbled murrelet habitat and suitable RNF spotted owl habitat. In addition, the selected parcel reduces the potential edge effects caused by management of Matrix lands adjacent to occupied murrelet sites by reallocating the entire parcel to LSR.	330	acres	$0

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
LWD instream	Aquatic Habitat	Twelvemile Creek Large Wood and Boulder Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2	miles	$172,134
LWD instream	Aquatic Habitat	Upper Rock Creek In-stream Large Wood Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.1	miles	$222,843
LWD instream	Aquatic Habitat	Middle Fork Coquille LWD Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat.	0.6	miles	$64,845

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road Drainage and Surface Enhancement	Road Sediment Reduction	Camas Mountain Road Drainage and Surface Enhancement	Road-related sediment and stream network extension from ditchlines have negatively impacted the MF Coquille. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Roads do not meet current BMPs and are a source of chronic sediment delivery to fish bearing streams. The 9.1 and 9.2 roads currently show signs of water rutting and stream network extension. Stormproofing and blocking the road will reduce the potential for sediment-laden water to be carried off the road surface and into the ditch where it could be transmitted to the stream network.	3.5	miles	$337,194
Road Surfacing	Road Sediment Reduction	Road Surfacing -Fall Creek System	Road-related sediment has negatively impacted the MF Coquille. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Surfacing the BLM road which is parallel to Fall Creek would reduce if not eliminate sediment input to coho, steelhead, and cutthroat habitat.	0.9	miles	$347,574
Road Surfacing	Road Sediment Reduction	Bridge Approach paving -Sandy & Jones Creek Roads	Road-related sediment has negatively impacted the MF Coquille. There are approximately 7.3 miles of corridor and 9 stream crossings in the MF Coquille. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Surfacing the bridge approach would reduce if not eliminate sediment input to coho, steelhead, and cutthroat habitat from this location.	2	ea	$43,623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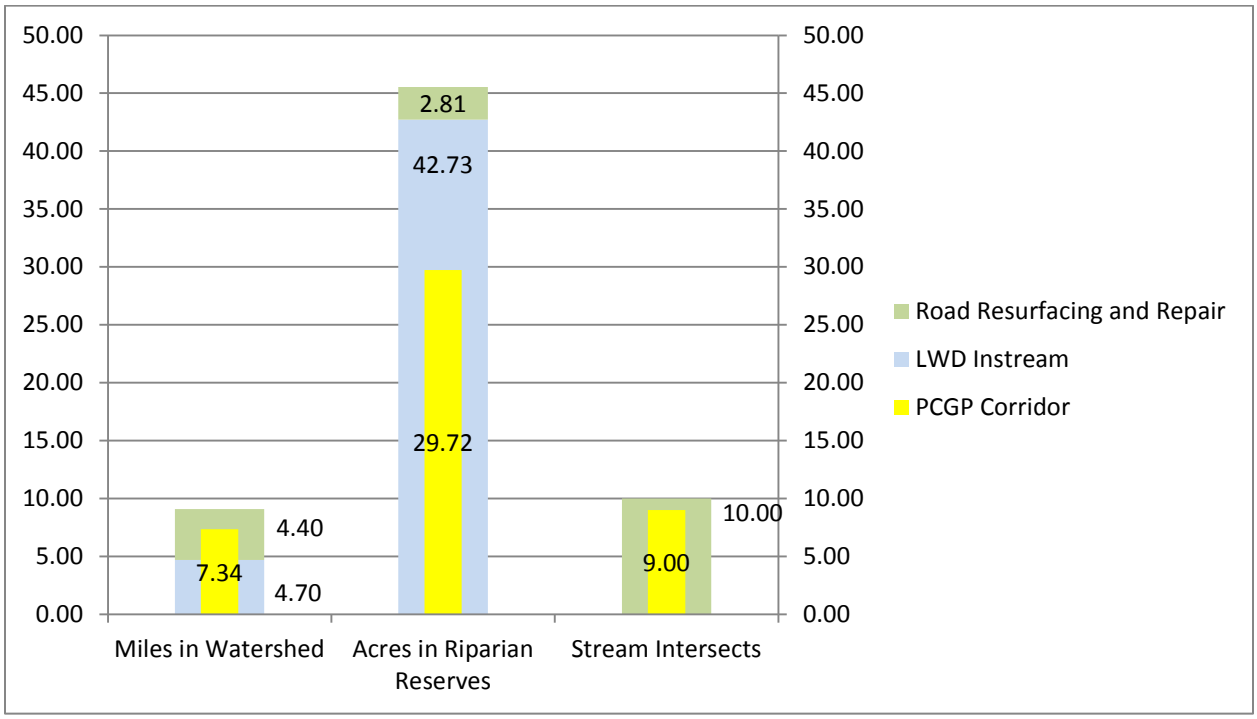
Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road Resurfacing and Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Olalla Lookingglass

R/W Miles in Watershed	1.08
R/W Acres in Watershed	21.75
Stream Channels Crossed	0
Riparian Reserves Acres ion R/W	0
Designated LSR Acres in R/W	4.24
KOAC Acres in R/W	2.51

The PCPG crosses portions of the Tenmile Creek, Berry Creek and Olalla Creek on BLM lands in the Olalla-Lookingglass watershed.

Aquatic Conditions and Issues

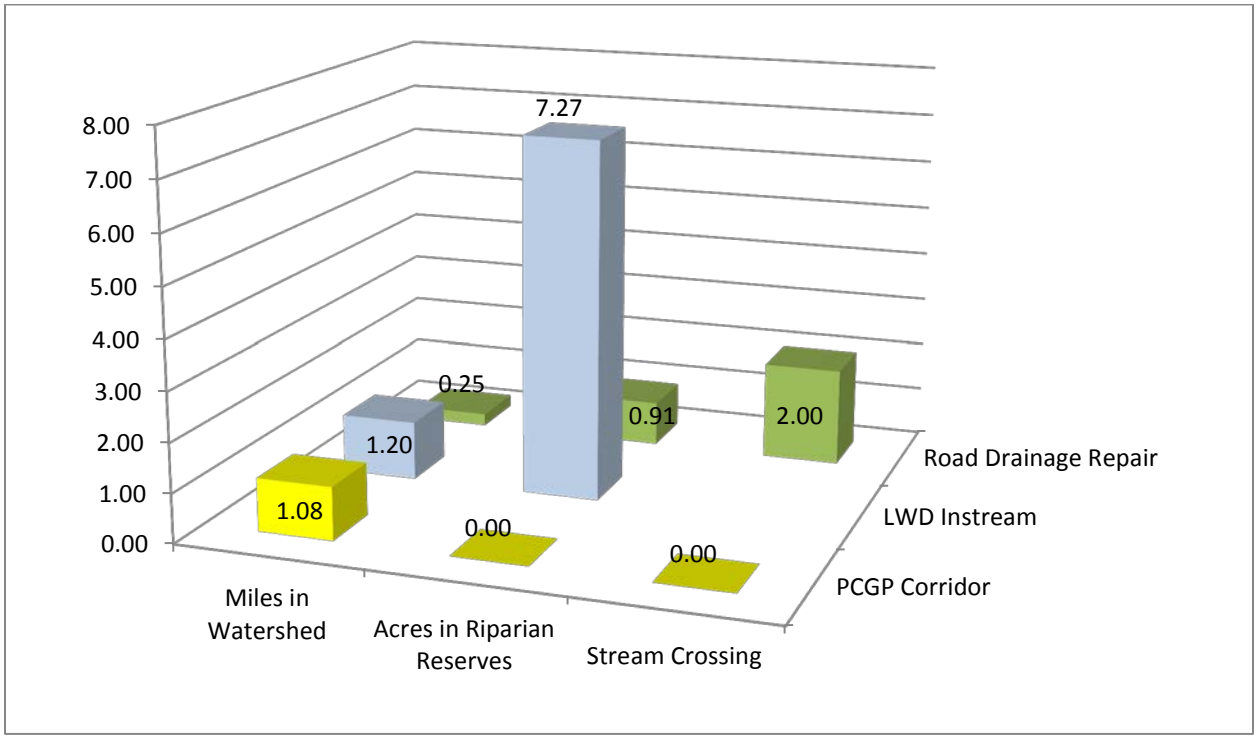
- High road densities, large numbers of stream crossings and cumulative effects of timber harvest have increased sediment and likely peak flows.
- Water quality issues include high temperatures, low flows, low dissolved oxygen and sediment issues
- Olalla Lookingglass watershed is within the range of anadromy for coho salmon.
- Road improvements that reduce road-related sediment would contribute to improving aquatic conditions in the watershed.

Terrestrial Conditions and Issues

- There are 37 spotted owl sites within the WAU. Thirty-two spotted owl sites are on BLM Administered Land. Seven spotted owl sites on BLM administered lands are protected with 100 acre activity centers (core areas).
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Early and mid-seral plant communities have increased and late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Land Re-Allocation from Matrix to LSR Non-Federal Land Acquisition	Acquisition	LSR Reallocation and Land Acquisition	This action contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the LSR land allocation to offset the long-term loss of acres of acres and habitat from the construction and operation of the PCGP. In addition to impacts to Mapped LSR, this action compensates for impacts to 3 unmapped LSRs (NSO habitat). The 409 acres of re-allocation would be a factor of 5.0 x to the 81 acres of habitat affected by the construction.	409	acres	$0
LWD instream	Aquatic Habitat	Olalla Creek Large Wood and Boulder Placement	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	1.2	miles	$126,389
Road Stabilization	Road Sediment Reduction	Olalla Tie Road Renovation	Sediment from roads is a primary concern in Olalla-Lookinglass Creek Roads do not meet current BMPs and are a source of chronic sediment delivery to fish bearing streams. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Additionally, there are several landslides crossing the road which need to be stabilized. Stabilizing these conditions would reduce the delivery of road-related sediments to channels.	1	project	$294,750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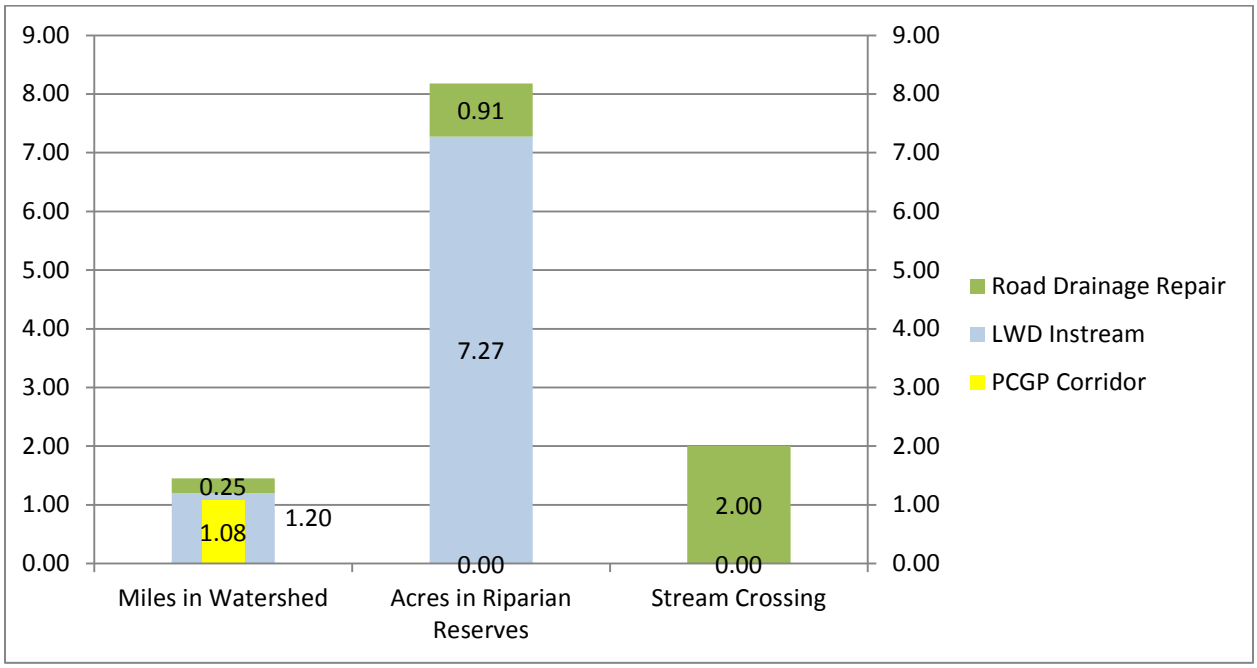
Road Drainage Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Crossing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Road Drainage Repair
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Crossing

Middle South Umpqua

R/W Miles in Watershed	0.79
R/W Acres in Watershed	15.79
Stream Channels Crossed	0
Riparian Reserve Acres in R/W	0
Late Successional Reserve Acres	0

The PCGP project crosses portions of the Rice Creek subwatershed in the Middle South Umpqua watershed.

Aquatic Conditions and Issues

- Middle South Umpqua watershed is “At Risk” or “Not Properly Functioning for multiple watershed indicators including temperature, spawning gravel, summer and winter rearing habitat, large wood, and channel modification.
- Middle South Umpqua watershed is within the range of anadromy for coho salmon.
- High road densities and road-related sediment have negatively impacted aquatic habitats.
- In general, the watershed has a deficit of in-stream structure and channel complexity.
- Replacing fish passage barriers with “fish friendly” passages and reducing road sediment are key restoration recommendations.

Terrestrial Conditions and Issues

- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Early and mid-seral plant communities have increased and late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fish Passage	Fish Passage	Rice Creek culvert replacements	Man-made barriers to fish passage have negatively affected access to habitat in the MS Umpqua. Replacing fish barrier culverts with crossings that pass adult and juvenile salmonids at a range of flows will extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. In addition, culverts are at risk of failure due to small size and age. This could result in the culvert plugging which could cause road fill to enter the stream network. Replacing fish barrier culverts with crossings that pass adult and juvenile salmonids at a range of flows will extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. In addition, culverts are at risk of failure due to small size and age. This could result in the culvert plugging which could cause road fill to enter the stream network.	2	sites	$265,275
Road Drainage	Road Sediment Reduction	East Fork Willis Creek tributary culvert replacement	Sediment is one of the primary water quality problems in the MS Umpqua. Watershed analyses clearly indicate that the sediment turbidity habitat indicator is at risk or more likely not functioning properly. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Culvert is plugged, old, undersized, shot-gunned, and eroding road fill. Culvert has poor alignment with the stream at the outlet. Replacing the culvert with a properly sized one will reduce the risk of road fill failure.	1	project	$56,592
Road Drainage	Road Sediment Reduction	Judd Creek culvert removal	Sediment is one of the primary water quality problems in the MS Umpqua. Watershed analyses clearly indicate that the sediment turbidity habitat indicator is at risk or more likely not functioning properly. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. This culvert is undersized and has a large amount of road fill associated with it. Pulling the culvert and fill material and stormproofing the road would prevent a plugged culvert. A plugged culvert could cause the road fill to fail which could deliver sediment downstream to fish bearing reaches. The road is blocked by a landslide just beyond so access would not be lost. Access to the stream crossing is gradually being lost due to soil slumping and vegetation growth.	1	project	$68,382

Myrtle Creek

R/W Miles in Watershed	3.41
R/W Acres in Watershed	114.44
Stream Channels Crossed	0
Riparian Reserve Acres in R/W	0.44
Designated LSR Acres in R/W	0
KOAC Acres in R/W	4.77

The PCGP crosses portions of the Lower South Myrtle and Lower North Myrtle subwatersheds on BLM lands in the Myrtle Creek watershed.

Aquatic Conditions and Issues

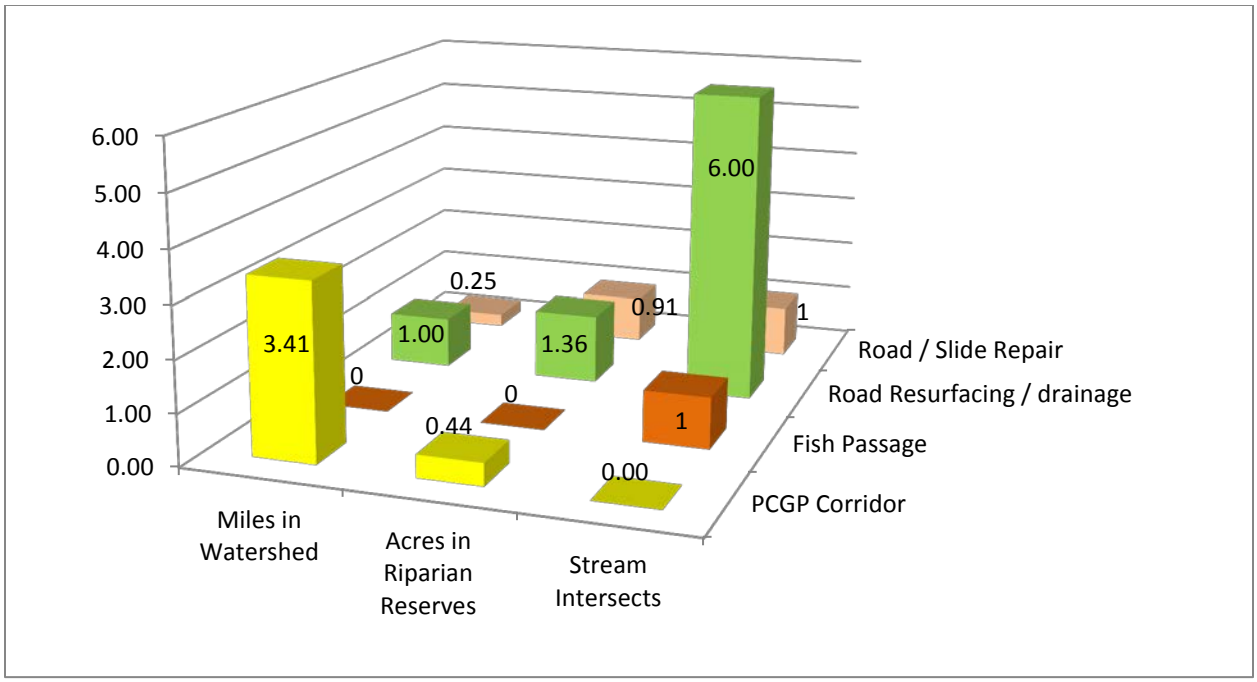
- North Myrtle Creek is on the water quality limited list for habitat modification. South Myrtle Creek and Riser Creek are on the water quality limited list for temperature. South Myrtle Creek (from the mouth to Weaver Creek) is on the water quality limited list for flow modification.
- Sediment in the streams, poor width to depth ratios, and the lack of large woody debris and pools are some of the limiting factors reported in the stream surveys conducted by ODFW.
- High road densities and road-related sediment have negatively impacted aquatic habitats. Road densities on BLM-administered land range from zero to 6.82 miles per square mile. The average road density on BLM-administered land in the WAU is 3.85 miles per square mile.

Terrestrial Conditions and Issues

- The Watershed Analysis documented 23 known spotted owl centers in the Myrtle Creek WAU.
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Early and mid-seral plant communities have increased and late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Offsite Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fish Passage	Fish Passage	Slide Creek culvert replacement	Man-made barriers to fish passage have negatively affected access to habitat in Myrtle Creek Culvert is perched, undersized, and a fish barrier for anadromous and resident fish. Replacing a fish barrier culvert with one that will pass adult and juvenile salmonids at a range of flows will extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. In addition, undersized culverts are at risk of failure due to small size and age. This could result in the culvert plugging which could cause road fill to enter into the stream network.	1	project	$142,659
Road Stabilization	Road Sediment Reduction	South Myrtle Hill Slide Repair	Sediment in streams is a limiting factor in Myrtle Creek. There are approximately 3.4 miles of corridor in Myrtle Creek. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Stabilizing the failure will prevent future sediment delivery and catastrophic slope failure.	1	project	$271,170
Road Drainage and Surface Enhancement	Road Sediment Reduction	Ben Branch Road Drainage and Surface Enhancement	Sediment in streams is a limiting factor in Myrtle Creek. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Roads do not meet current BMPs and are a source of chronic sediment delivery to fish bearing streams. Surfacing and drainage repair would reduce sediment delivery to fish bearing streams.	1	miles	$86,657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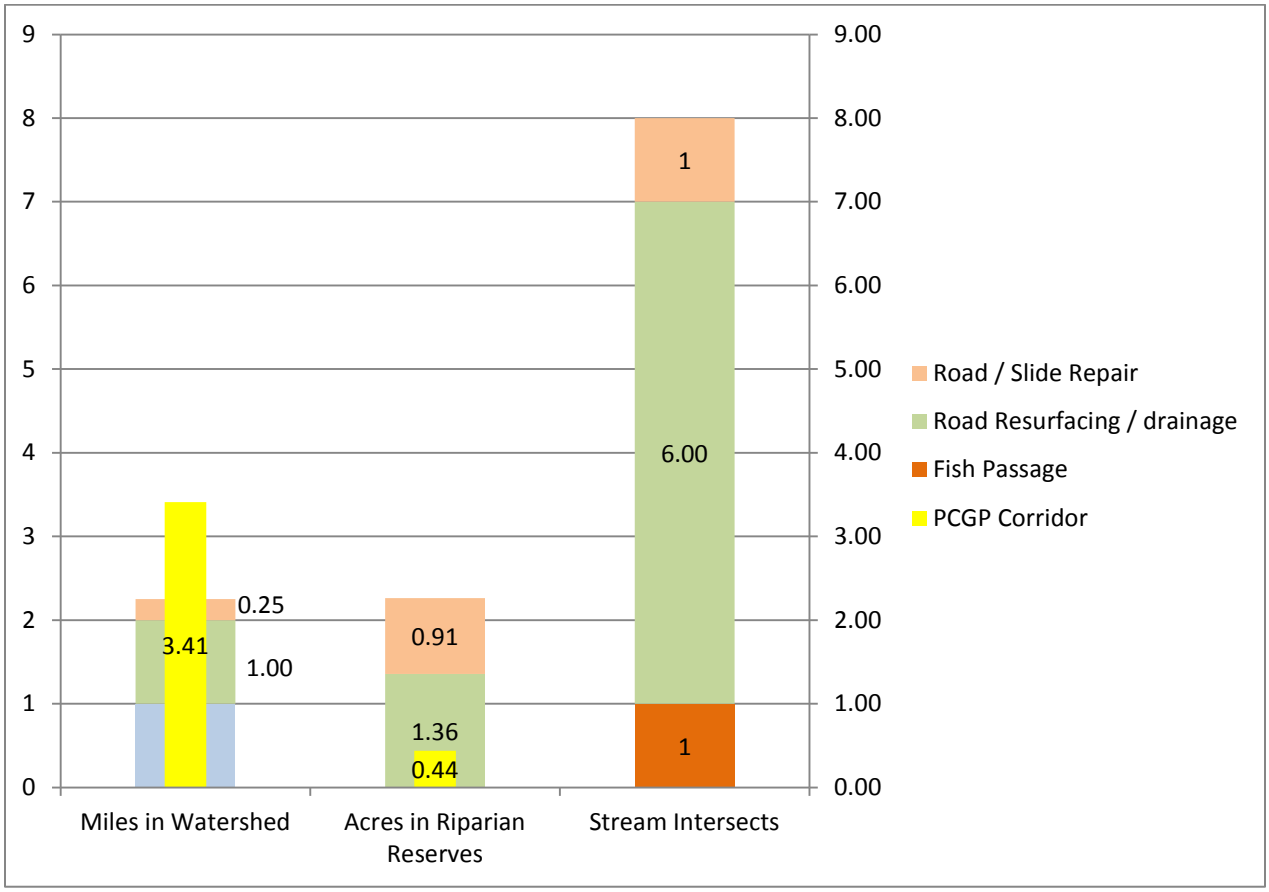
Road / Slide Repair
Road Resurfacing / drainage
Fish Passage
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road / Slide Repair
Road Resurfacing / drainage
Fish Passage
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

South Umpqua (Tier One Key Watershed)

R/W Miles in Watershed	6.25		
R/W Acres in Watershed	183.51		
Stream Channels Crossed	Intermittent	Wetland	total
	1	2	3
Riparian Reserve Acres in R/W	5.71		
Designated LSR Acres in R/W	59.96		
KOAC Acres in R/W	9.85		

The PCPG project crosses parts of the Days Creek., St. John Creek, Stouts Creek, and Corn Creek subwatersheds on BLM lands in the South Umpqua Watershed.

Aquatic Conditions and Issues

- Beals Creek, **Days Creek**, and Shively Creek were on the water quality limited list for habitat modification. Fate Creek, **Stouts Creek, and the East Fork of Stouts Creek** were on the water quality limited list for temperature. The South Umpqua River through portions of the WAU was on the water quality limited list due to toxics, flow modification, aquatic weeds or algae, bacteria, biological criteria, dissolved oxygen, sediment, pH, and temperature.
- High road densities and road-related sediment have negatively impacted aquatic habitats. Road densities on BLM-administered land range from 0.93 to 5.58 miles per square mile. The average road density on BLM-administered land in the WAU is 3.60 miles per square mile.
- Three stream reaches surveyed in the Aquatic Habitat Inventory were rated as being in good condition, 57 stream reaches were rated as being in fair condition, and 22 stream reaches were rated as being in poor condition.
- Restoration recommendations include reducing road – related sediment sources, adding LWD to stream courses, and providing fish passage.

Terrestrial Conditions and Issues

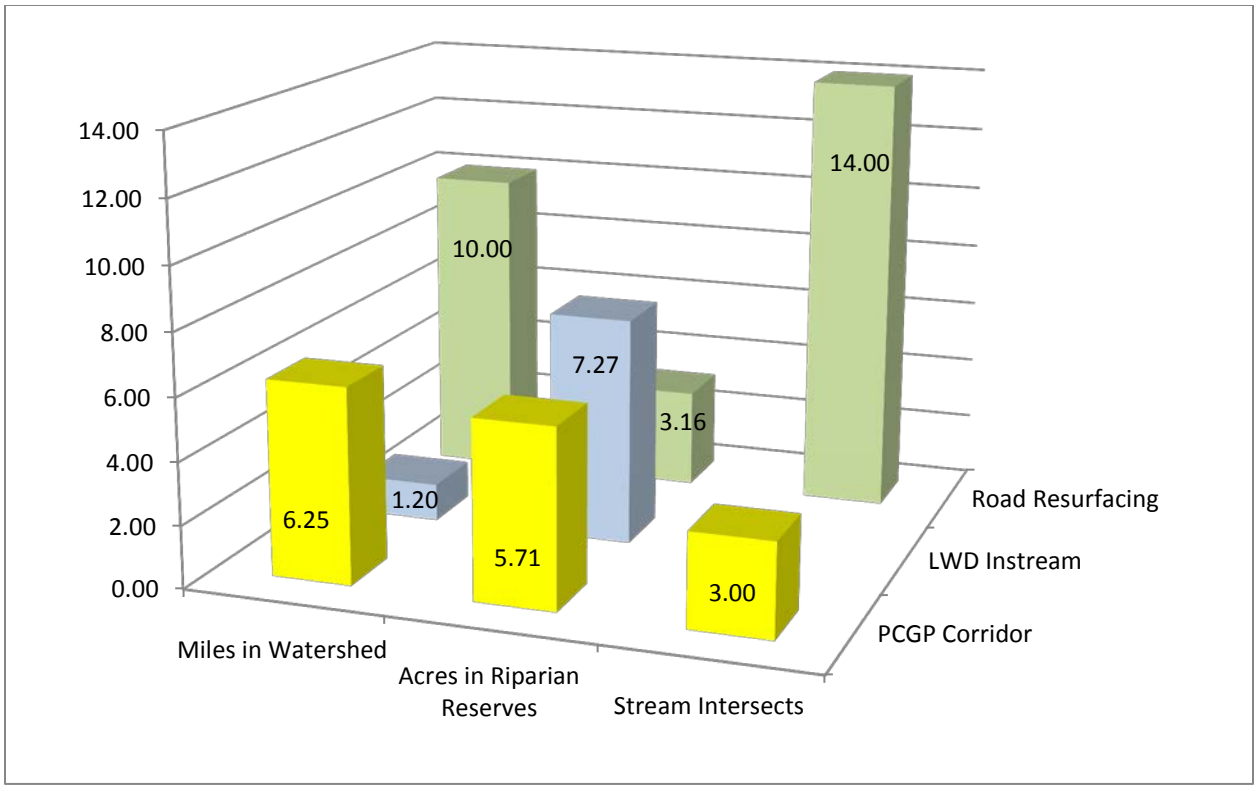
- The South Umpqua WA noted there are 79 known spotted owl centers in the South Umpqua WAU representing nest locations for 50 northern spotted owl pairs.
- WA Restoration recommendations include stand density management to accelerate development of LSOG habitats. LSRA recommendations include fuels reductions to reduce the risk of stand-replacement fire.

Proposed Offsite Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fire Suppression	Fire suppression	Dry Hydrants	By installing dry hydrants, the water source is disturbed one time but there are several advantages. Fire vehicles will not need to be really close to the water to fill, decreasing risk of contamination, and they can fill out of some water sources that would otherwise need to be modified for use. Areas that have had restoration work for fish populations could still be safely accessed for fire suppression. Over all, better water sources will improve suppression success and therefore help protect natural resources.	6	sites	$19,571
Fish Passage	Fish Passage	Beal Creek culvert replacement	Man-made barriers to fish passage have negatively affected access to habitat in the South Umpqua. Both culverts are undersized and obstruct anadromous and resident fish passage. Replacing the culverts with ones properly sized for the stream will allow for proper fish passage along with reducing the risk for culverts plugging and causing road fill failures.	2	sites	$236,979
Fuels Reduction	Stand Density Fuel Break	Hazardous Fuel Reduction	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity; however, the corridor also provides a fuel break. Fuels reduction adjacent to the corridor will increase the effectiveness of the corridor as a fuel break. Fuels reduction will lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Days Creek to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.	1000	acres	$1,196,685

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
LWD instream	Aquatic Habitat	West Fork Canyon Creek Large Wood and Boulder Placement	The South Umpqua River is a Tier 1 Key Watershed. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 6.23 miles of corridor and 3 stream crossings in the South Umpqua. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	0.8	miles	$85,831
LWD instream	Aquatic Habitat	Days Creek Large Wood and Boulder Placement	The South Umpqua River is a Tier 1 Key Watershed. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 6.23 miles of corridor and 3 stream crossings in the South Umpqua. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves, associated aquatic and riparian habitat, and contributes to the accomplishment of ACS objectives.	0.4	miles	$43,623
Road Drainage and Surface Enhancement	Road Sediment Reduction	South Umpqua Road Drainage and Surface Enhancement	The South Umpqua River is a Tier 1 Key Watershed. There are approximately 6.23 miles of corridor and 3 stream crossings in the South Umpqua. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Sediment is likely the most limiting factor to aquatic function in the S. Umpqua Basin. Roads do not meet current BMPs and are a source of chronic sediment delivery to fish bearing streams. Surfacing and drainage repair would reduce sediment delivery to fish bearing streams.	10	miles	$781,677

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road storm-proofing	Road Sediment Reduction	31-4-3.2 Road storm proofing	The South Umpqua River is a Tier 1 Key Watershed. Sediment is likely the most limiting factor to aquatic function in the South Umpqua Basin. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. If culverts fail, substantial sediment could be transported to Shively Creek. Removing culverts will prevent crossing failures that deposit fine road sediments in stream channels. Project should occur before road becomes too overgrown for heavy equipment access.	1	project	$8,843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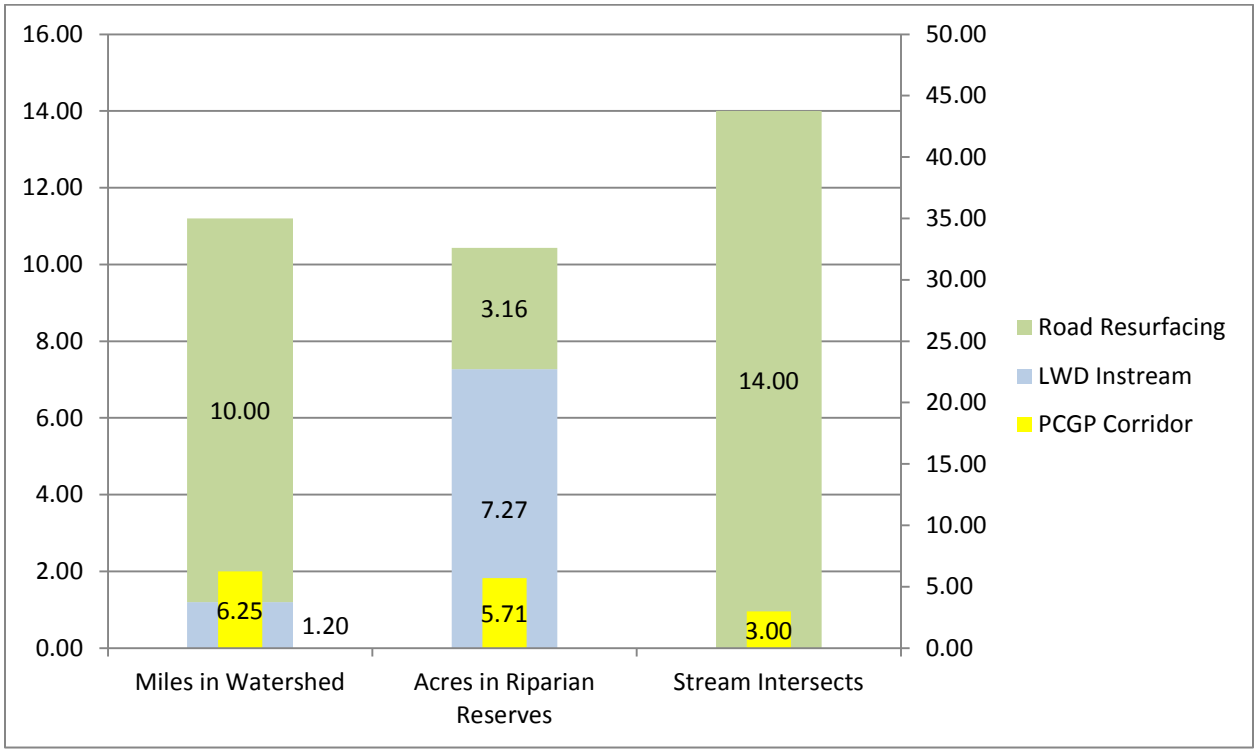
Road Resurfacing
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road Resurfacing
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Elk Creek South Umpqua (Tier One Key Watershed)

R/W Miles in Watershed	0.24
R/W Acres in Watershed	4.78
Stream Channels Crossed	2 wetlands
Riparian Reserve Acres in R/W	1.13
Designated LSR Acres in R/W	4.78

The PCGP project crosses portions of the Lower Elk Creek subwatershed on BLM lands in the Elk Creek-South Umpqua watershed. No off-site mitigations are proposed in the Elk-Creek South Umpqua watershed because of the limited extent of the PCGP corridor in the watershed.

Trail Creek

R/W Miles in Watershed	3.88		
R/W Acres in Watershed	76.72		
Stream Channels Crossed	Perennial	Intermittent	total
	1	1	2
Riparian Reserve Acres in R/W	4.66		
Late Successional Reserve Acres	0		

The PCPG project crosses parts of the West Fork, Trail Creek and Upper Trail Creek subwatersheds on BLM lands in the Trail Creek watershed.

Aquatic Conditions and Issues

- Road-related sediment has degraded aquatic habitats in Trail Creek. Road decommissioning, stormproofing and surfacing would contribute to reducing road-related sediments in aquatic systems.
- Stream restoration projects within the current extent of fish-bearing streams could be implemented where they meet the following criteria: 1) one or more improvable habitat components (e.g., temperature**, large woody debris,** or substrate) are currently limiting to aquatic habitat quality; 2) predisposing factors (e.g., hydrologic responsiveness, sedimentation, flows and geomorphology) will allow for aquatic habitat improvement; and 3) habitat improvements can practically be realized and persist over time. Generally, the ability of fish-bearing streams in the Trail Creek watershed to meet these criteria decreases with elevation. Efforts should be focused in the East and West Forks of Trail Creek rather than the mainstem.

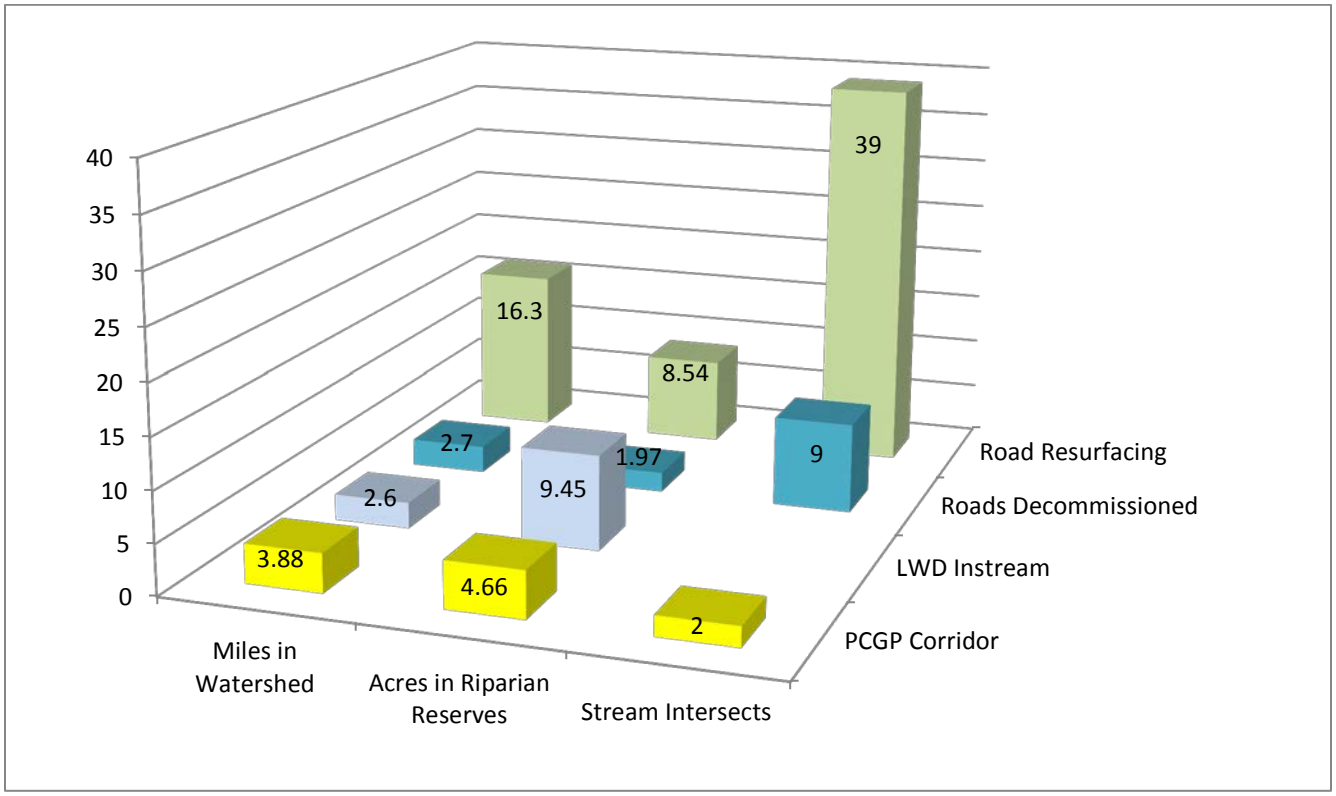
Terrestrial Conditions and Issues

- Risk of stand – stand replacing fire and attendant impacts on LSOG forest habitats, riparian reserves and aquatic ecosystems is a significant issue in the Trail Creek watershed.
- LSOG habitats are limited in this watershed.
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Less fire resistant early and mid-seral plant communities have increased and more fire resistant late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Offsite Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit
Fire Suppression	Fire suppression	Trail Creek Pump Chance	Construction of the pipeline and associated activities will increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	8	sites
Fuels Reduction	Stand Density Fuel Break	Trail Creek Fuel Hazard Reduction	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity; however, the corridor also provides a fuel break. Fuels reduction adjacent to the corridor will increase the effectiveness of the corridor as a fuel break. Fuels reduction will lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.	687	acres
fuels Reduction	Stand Density Fuel Break	Trail Creek Fuels Hazard Maintenance	This provides a mechanism for maintenance of fuel breaks over time for the life of the project.	687	acres
LWD instream	Aquatic Habitat	Trail Creek LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.6	miles
Road Decommissioning	Road Sediment Reduction	Trail Creek Road Decommissioning	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in Trail Creek. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity and by reducing road density.	2.7	miles

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit
Road storm-proofing	Road Sediment Reduction	Trail Creek Road Stormproofing	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in Trail Creek. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Stormproofing improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	4.3	miles
Road Surfacing	Road Sediment Reduction	Trail Creek Road Resurface	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in Trail Creek. The effects of the PCGP are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	16.3	miles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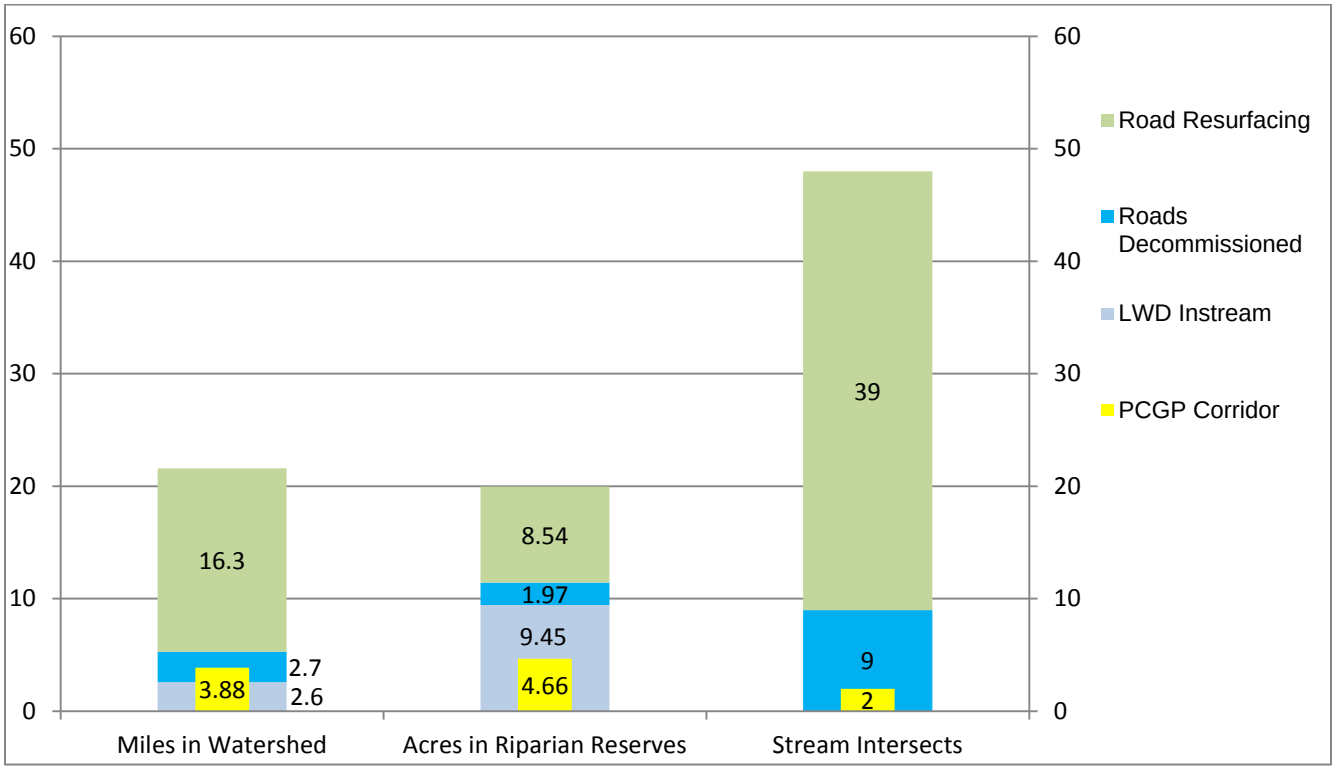
Road Resurfacing
Roads Decommissioned
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Shady Cove - Rogue River

R/W Miles in Watershed	4.42		
R/W Acres in Watershed	80.27		
Stream Channels Crossed	Perennial	Intermittent	total
	0	4	4
Riparian Reserve Acres in R/W	6.91		
Late Successional Reserve Acres	0		

The PCGP project crosses portions of the Indian Creek and Brush Creek subwatersheds on BLM lands in the Shady Cove – Rogue River Watershed.

Aquatic Conditions and Issues

- Road-related sediment has degraded aquatic habitats in Shady Cove – Rogue River watershed. Road decommissioning, stormproofing and surfacing would contribute to reducing road-related sediments in aquatic systems.
- The Brush Creek-Rogue River and Indian Creek-Rogue River have the highest acreage of highly erodible soils in the Watershed. Further, approximately 76 percent of the entire Brush Creek-Rogue River subwatershed is composed of highly erodible soils (USDI BLM 2012).
- Northern California/Southern Oregon Coho salmon are present in the Indian Creek subwatershed.
- Stream temperature has not been identified as a limiting factor for water quality.
- Indian Creek is 303 (d) listed for DO impairment.
- Steelhead are present in the Brush Creek and Indian Creek subwatersheds.
- Peak flows have likely increased as a result of roads and timber harvest.

Terrestrial Conditions and Issues

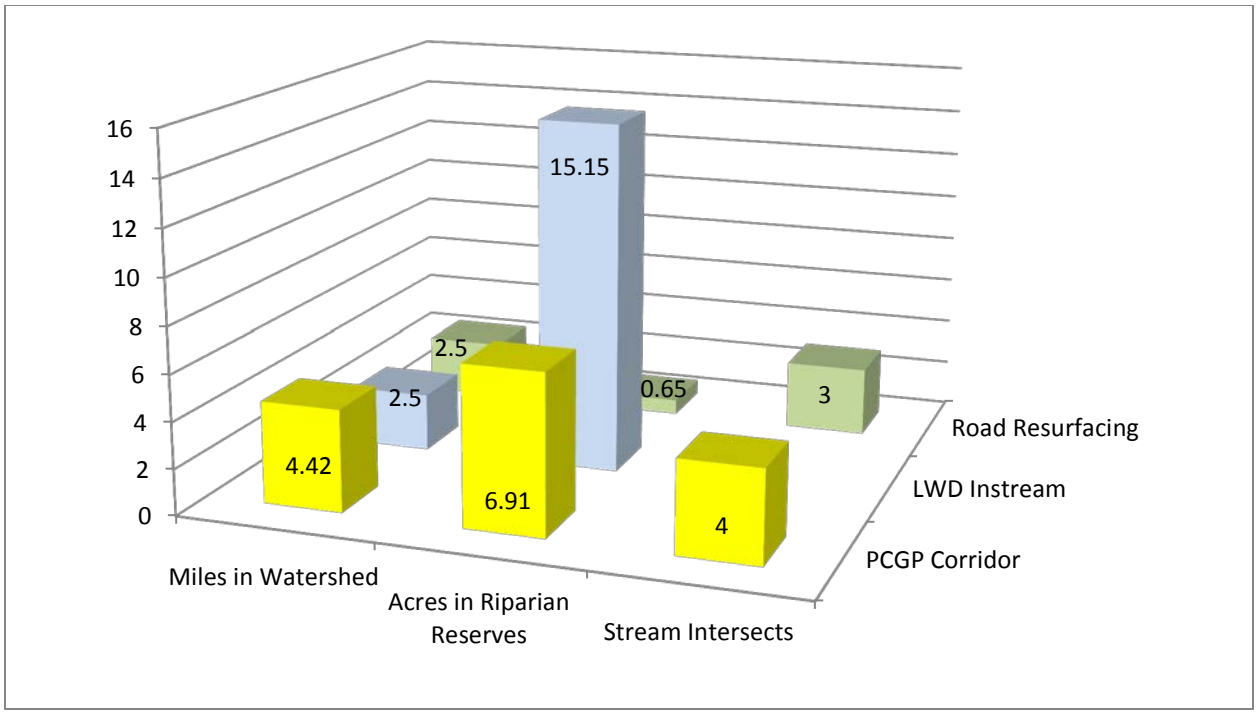
- Risk of stand – stand replacing fire and attendant impacts on LSOG forest habitats, riparian reserves and aquatic ecosystems is a significant issue in the Shady Cove-Rogue River watershed.
- LSOG habitats are limited in this watershed.
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Less fire resistant early and mid-seral plant communities have increased and more fire resistant late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

The Rogue Basin Coordinating Council (2006) assessment identified barriers, water temperature, and water quantity as the most significant aquatic limiting factors (Priority One) in the Upper Rogue WCA. Channel modification, large wood, pool-to-riffle ratio, sediment, stream habitat complexity (Priority Two), and gravel substrate (Priority Three) were also identified as limiting aquatic habitat quality in the Upper Rogue WCA. Similarly, fire risk, roads, and seral stage deficiencies were the most significant terrestrial limiting factors (Priority One), while riparian shade and wood sources (Priority Two) needed for large woody debris recruitment were limiting terrestrial components for salmonid habitats in the WCA (USDI BLM 2012).

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fuels Reduction	Stand Density Fuel Break	Shady Cove Fuel Hazard Reduction	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the NWFP. Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity; however, the corridor also provides a fuel break. Fuels reduction adjacent to the corridor will increase the effectiveness of the corridor as a fuel break. Fuels reduction will lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. This segment is part of the Milo to Shady Cove fuel break and ties in with similar projects on the Umpqua NF.	866	acres	$1,115,452
Fuels Reduction	Stand Density Fuel Break	Shady Cove Fuel Hazard Maintenance	This provides a mechanism for maintenance of fuel breaks over time for the life of the project.	866	acres	$377,775
LWD instream	Aquatic Habitat	Shady Cove LWD	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	2.5	miles	$170,218

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road Drainage and Surface Enhancement	Road Sediment Reduction	Shady Cove Road Improvement	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in Upper Rogue. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	1	mile	$9,727
Road Surfacing	Road Sediment Reduction	Shady Cove Road Resurface	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in the Upper Rogue. The effects of the PCGP are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	1.5	miles	$38,907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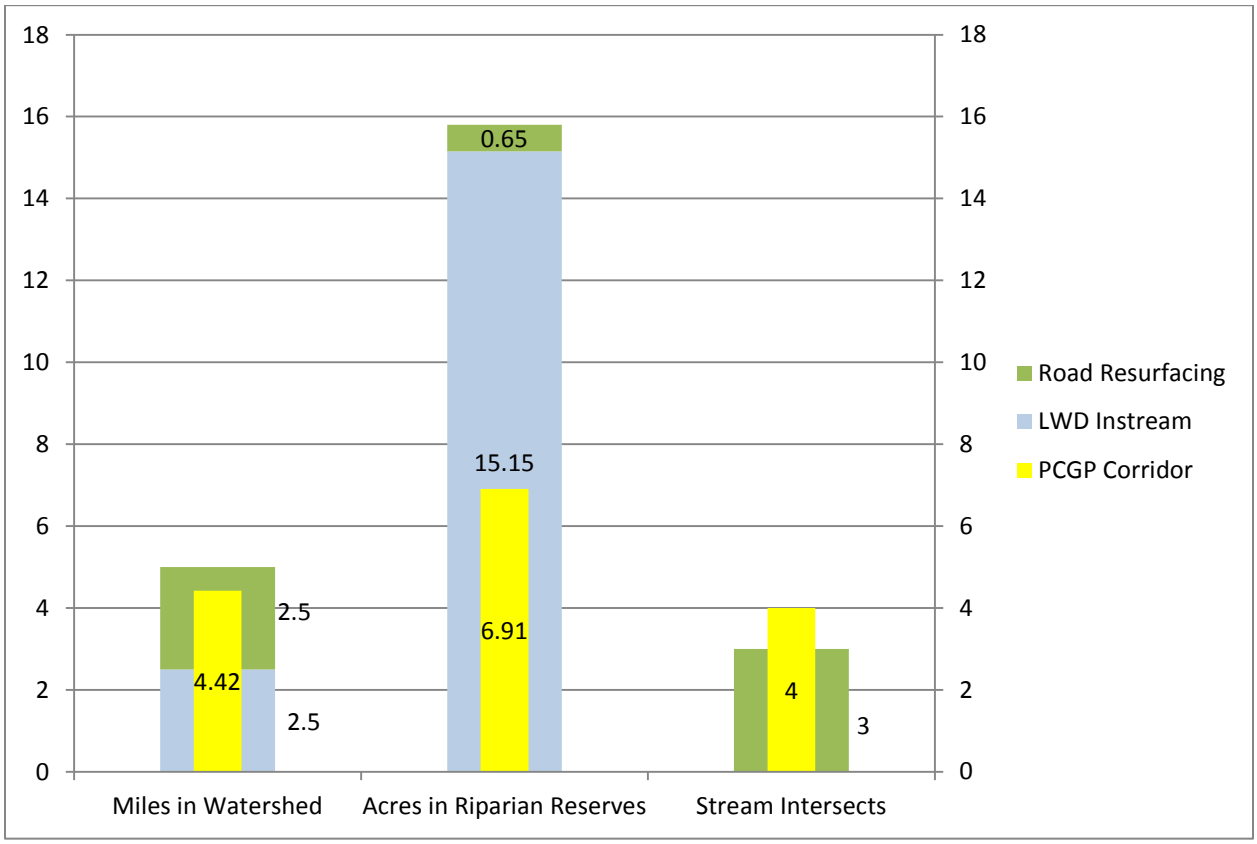
Road Resurfacing
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road Resurfacing
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Big Butte Creek

R/W Miles in Watershed	0.67		
R/W Acres in Watershed	9.59		
Stream Channels Crossed	Perennial	Intermittent	total
	1	1	2
Riparian Reserve Acres in R/W	7.39		
Late Successional Reserve Acres	0		

The PCGP project crosses portions of the McNeil Creek subwatershed on BLM lands in the Big Butte Creek watershed.

Aquatic Conditions and Issues

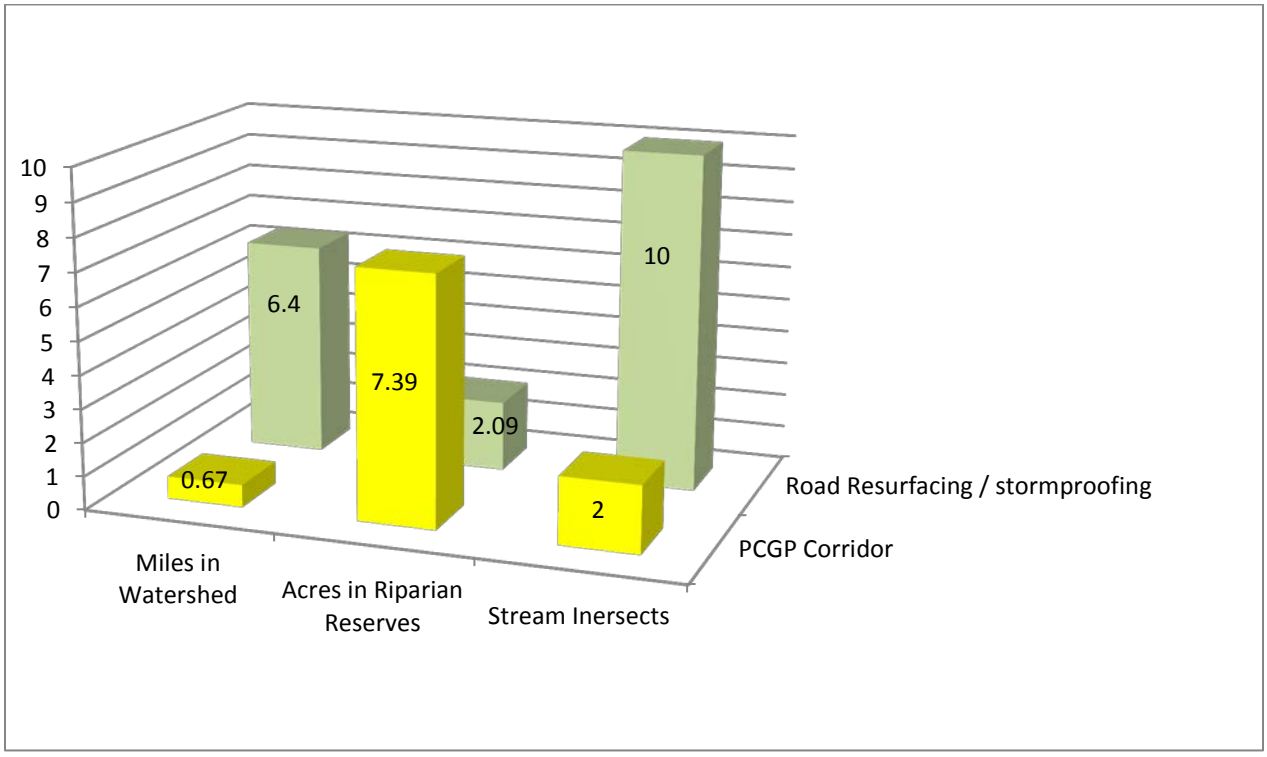
- Road-related sediment has degraded aquatic habitats in Big Butte Creek. Road decommissioning, stormproofing and surfacing would contribute to reducing road-related sediments in aquatic systems.
- Northern California/Southern Oregon Coho salmon (*Oncorhynchus kisutch*), a species listed as threatened under the Endangered Species Act (May 1997) are present in Big Butte, North and South Forks Big Butte, McNeil, Neil, Jackass, and Dog Creeks for a total of 37.2 miles.
- Summer and winter steelhead (*O. mykiss*) use a total of 53.9 miles of habitat in Big Butte, North and South Forks Big Butte, Crowfoot, McNeil, Neil, Camp, and the lower reaches of Jackass, Eighty Acre, Dog, Clark, Box, and Vine Creeks./
- LWD is deficient in many stream reaches.
- Peak flows have likely increased as a result of roads and timber harvest.

Terrestrial Conditions and Issues

- Risk of stand – stand replacing fire and attendant impacts on LSOG forest habitats, riparian reserves and aquatic ecosystems is a significant issue in the Big Butte Creek watershed.
- LSOG habitats are limited in this watershed.
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Less fire resistant early and mid-seral plant communities have increased and more fire resistant late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Habitat Improvement	Terrestrial Habitat Imp.	Big Butte Creek Fritillaria Habitat	The PCGP may impact habitat of Fritillaria gentneri. Outplanting to suitable habitat locations is recommended in the recovery plan.	600	acres	$15,563
Fire Suppression	Fire suppression	Big Butte Creek Pump Chance	Construction of the pipeline and associated activities will increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	1	sites	$7,781
Road Surfacing	Road Sediment Reduction	Big Butte Creek Road stormproofing	Sediment was identified by the Upper Rogue Watershed Council as a factor that limited aquatic habitat in Big Butte Creek. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	6.4	miles	$249,005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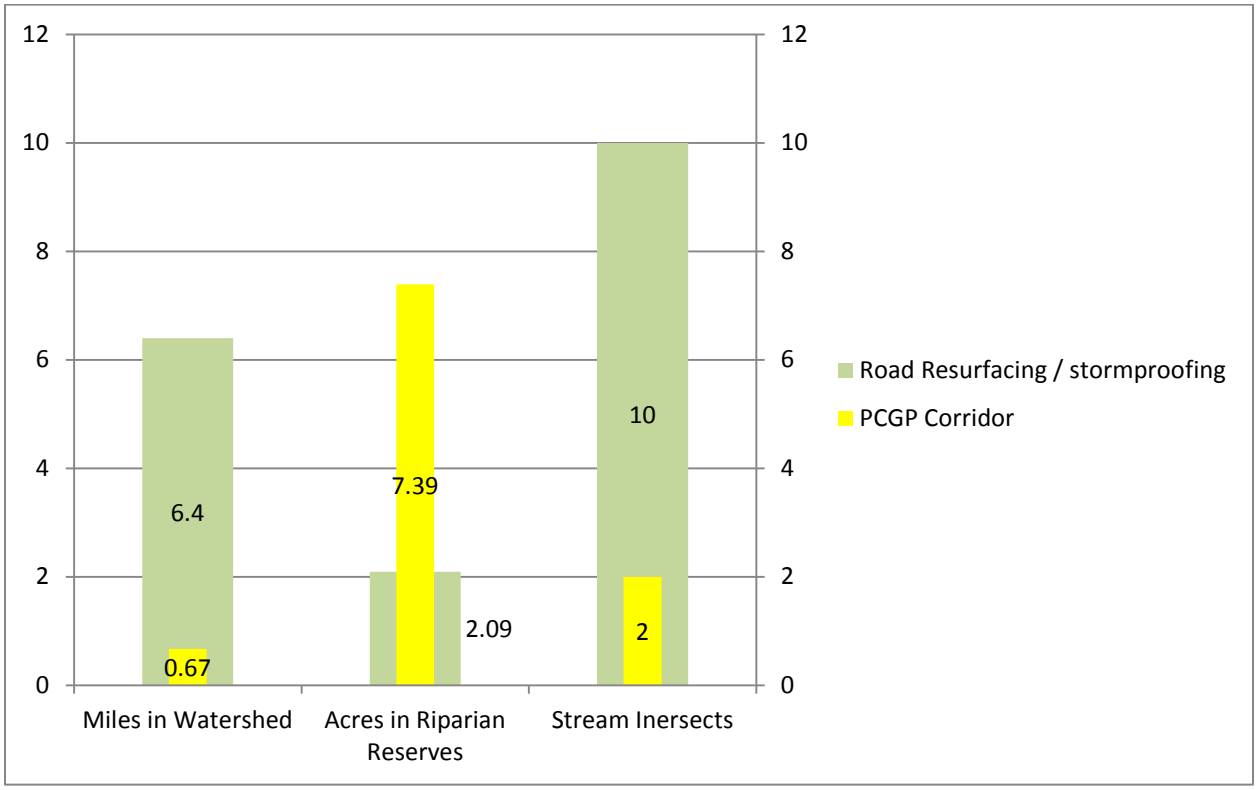
Road Resurfacing / stormproofing
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Inersects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Road Resurfacing / stormproofing
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Inersects

Little Butte Creek (Tier One Key Watershed)

R/W Miles in Watershed	5.99		
R/W Acres in Watershed	113.78		
Stream Channels or Wetlands Crossed	Intermittent	Wetland	total
	1	1	2
Riparian Reserve Acres in R/W	7.99		
Late Successional Reserve Acres	0		

The PCGP crosses portions of the Lick Creek, Salt Creek, Lower North Fork and Lower South Fork Little Butte Creek subwatersheds on BLM Lands in the Little Butte Creek watershed.

Aquatic Conditions and Issues

- Road-related sediment has degraded aquatic habitats in Little Butte Creek. Road decommissioning, stormproofing and surfacing would contribute to reducing road-related sediments in aquatic systems.
- Northern California/Southern Oregon Coho salmon (*Oncorhynchus kisutch*), a species listed as threatened under the Endangered Species Act (May 1997) are present in Little Butte Creek.
- Chinook salmon, steelhead, cutthroat trout and Pacific lamprey are also found in Little Butte Creek
- High temperatures, habitat modification and sediment are key aquatic issues.

Terrestrial Conditions and Issues

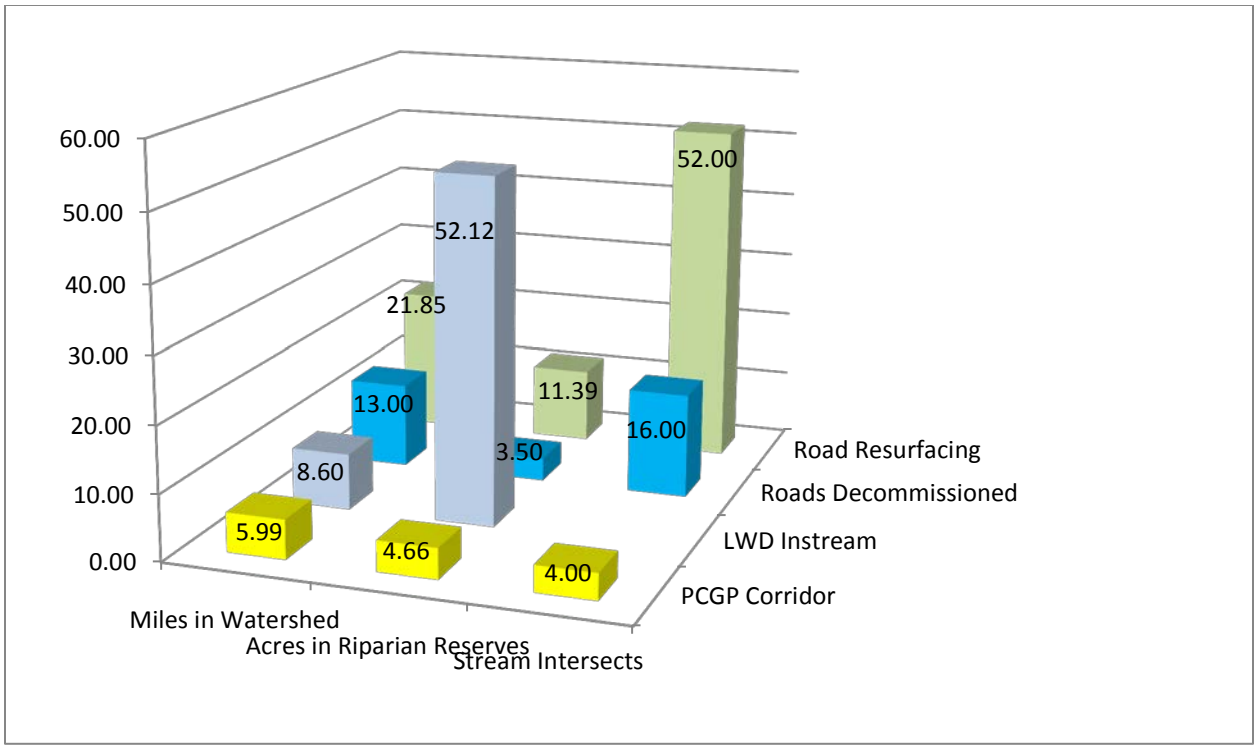
- Risk of stand – stand replacing fire and attendant impacts on LSOG forest habitats, riparian reserves and aquatic ecosystems is a significant issue in the Little Butte Creek watershed.
- Fragmentation from past logging has substantially impacted terrestrial habitats.
- Less fire resistant early and mid-seral plant communities have increased and more fire resistant late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Fire Suppression	Fire suppression	Little Butte Creek Pump Chance	Construction of the pipeline and associated activities will increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.	8	sites	$62,251
Fish Passage	Fish Passage	Little Butte Creek Fish Screen	Irrigation diversions have negatively impacted fisheries in Little Butte Creek by causing entrapment. There is a private irrigation ditch with an unscreened diversion and associated push up dam on BLM land in the lower 1.5 miles of Lost Creek. The unscreened ditch is currently accessible to juvenile and adult fish, creating a stranding hazard with limited return access to the main channel. The push up dam is constructed at the beginning of the irrigation season and removed at the end of the season. This stream is considered coho critical habitat and building a push up dam in the creek each season disturbs gravels, generates sediment and creates an unnecessary disturbance during steelhead spawning season. Creating a permanent diversion structure, possibly in the form of a boulder weir, would divert water without yearly maintenance and would provide for both upstream and downstream fish passage.	1	site	$162,113
LWD instream	Aquatic Habitat	Little Butte Creek LWD	Little Butte Creek is a Tier One, Key Watershed. Lost Creek provides habitat for Coho Salmon. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. Implementation of the PCGP project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing large woody debris at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term impacts from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of ACS objectives.	8.6	miles	$626,108

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road Decommissioning	Road Sediment Reduction	Little Butte Creek Road Decommissioning Butte Falls RA	Little Butte Creek is a Tier One, Key Watershed. Sediment has been identified by the LBC Watershed Council as a limiting factor for aquatic habitat in Little Butte Creek. There are approximately 6 miles of the PCGP corridor and 7 stream crossings on BLM lands in LBC. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity by reducing road density.	2.4	miles	$61,001
Road Decommissioning	Road Sediment Reduction	Little Butte Creek Road Decommissioning Ashland RA	Little Butte Creek is a Tier One, Key Watershed. Sediment has been identified by the LBC Watershed Council as a limiting factor for aquatic habitat in Little Butte Creek. There are approximately 6 miles of the PCGP corridor and 7 stream crossings on BLM lands in LBC. The effects of the PCGP are similar to a road, including habitat fragmentation and potential impacts to flow and sediment regimes. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity by reducing road density.	10.6	miles	$343,679
Road Drainage and Surface Enhancement	Road Sediment Reduction	Little Butte Creek Road Improvement	Little Butte Creek is a Tier 1 Key Watershed. Sediment has been identified by the LBC Watershed Council as a limiting factor for aquatic habitat in Little Butte Creek. The PCGP has approximately 6 miles of corridor and 7 stream crossings on BLM lands in the LBC 5th field watershed. The effects of the PCGP are similar to a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.	3.5	miles	$283,667
Road Surfacing	Road Sediment Reduction	Little Butte Creek Road Resurfacing	Little Butte Creek is a Tier One, Key Watershed. The PCGP has approximately 6 miles of corridor and 7 stream crossings on BLM lands in the LBC 5th field watershed. The effects of the PCGP are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	9.35	miles	$563,503

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road Surfacing	Road Sediment Reduction	Little Butte Creek Road Resurface	Little Butte Creek is a Tier One, Key Watershed. The PCGP has approximately 6 miles of corridor and 7 stream crossings on BLM lands in the LBC 5th field watershed. The effects of the PCGP are similar to a road, including the potential for sediment mobilization and transport. Road improvement efforts (resurfacing) help restore hydrologic and reduce road-related sediment that could be delivered to stream channels.	9	miles	$350,163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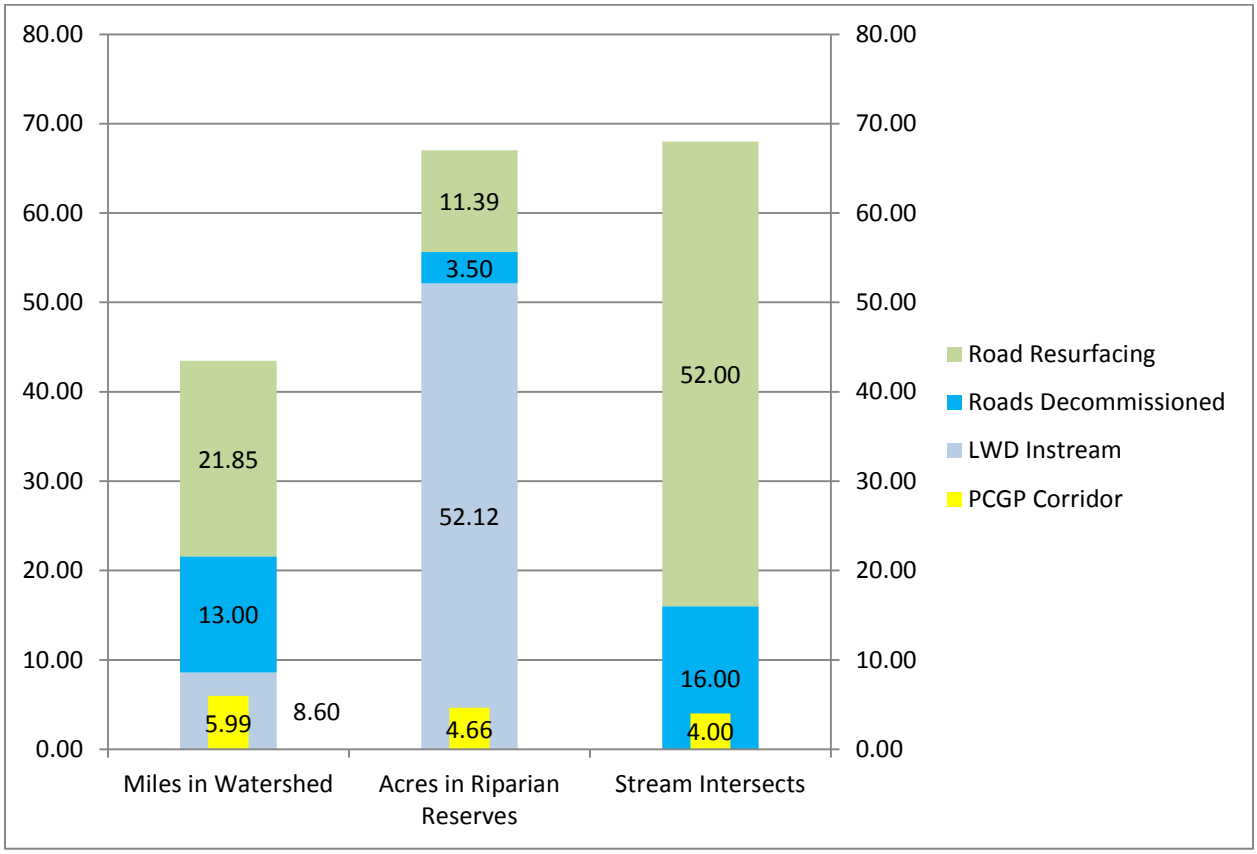
Road Resurfacing
Roads Decommissioned
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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Road Resurfacing
Roads Decommissioned
LWD Instream
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

Spencer Creek (Tier One Key Watershed)

R/W Miles in Watershed	1.04
R/W Acres in Watershed	13.69
Stream Channels Crossed	1 Intermittent.
Riparian Reserve Acres in R/W	1.29
Late Successional Reserve Acres	0

The PCGP project crosses portions of the Uppers Spencer Creek and Clover Creek subwatersheds on BLM lands in the Spencer Creek watershed.

Aquatic Conditions and Issues

- Road-related sediment has degraded aquatic habitats in Spencer Creek. Road decommissioning, stormproofing and surfacing would contribute to reducing road-related sediments in aquatic systems.
- High temperatures, habitat modification and sediment are key aquatic issues.

Terrestrial Conditions and Issues

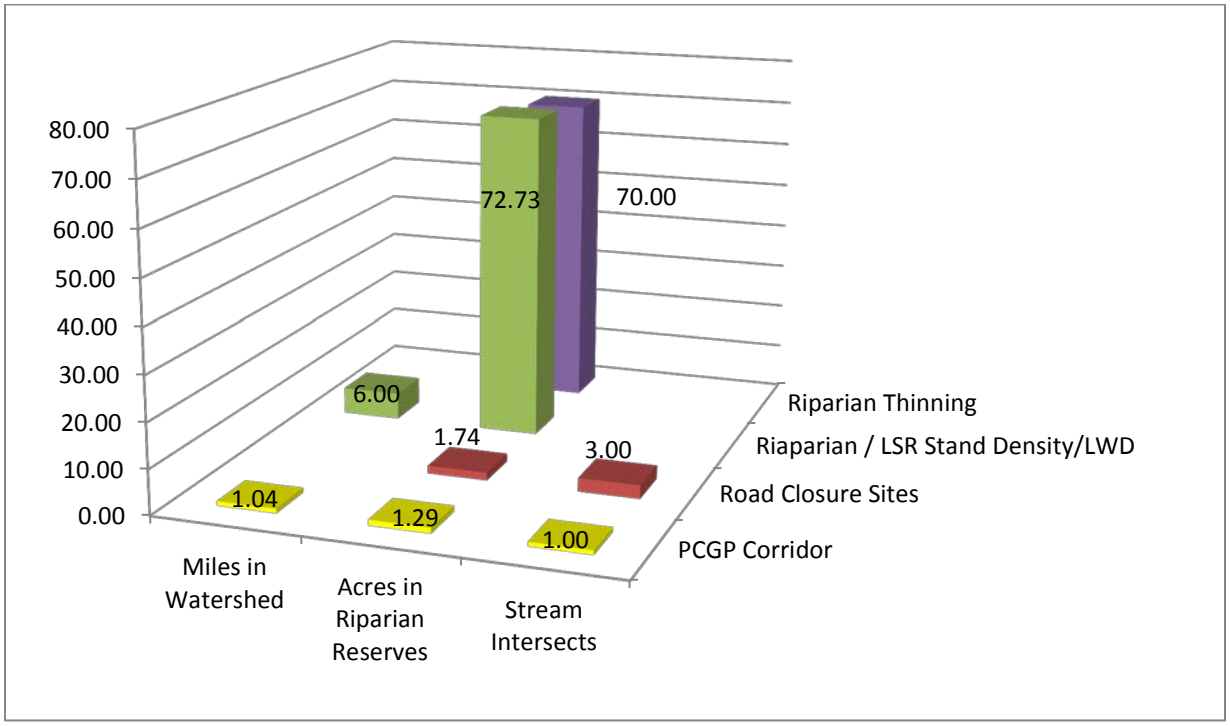
- Risk of stand – stand replacing fire and attendant impacts on LSOG forest habitats, riparian reserves and aquatic ecosystems is a significant issue in the Spencer Creek watershed.
- Fragmentation from past logging and high road densities have impacted terrestrial habitats.
- Less fire resistant early and mid-seral plant communities have increased and more fire resistant late-successional-old-growth stands have decreased relative to the historic conditions.

Proposed Off-Site Mitigations

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Riparian Vegetation	Riparian Stand Density	Tributary Creek Riparian Thinning	Spencer Creek is a Tier One, Key Watershed. Implementation of the PCGP project would require removal of riparian vegetation, thereby influencing the form and function of Riparian Reserves. Thinning would restore forest health and diversity in riparian reserves and stands near streams that are currently overstocked. Thinning would be done in a way that emulates the natural “patchiness” of disturbance events.	70	acres	$44,802

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Riparian Vegetation	Riparian Stand Density	Upper Spencer Creek LSR/Riparian treatment	Spencer Creek is a Tier One, Key Watershed. Implementation of the PCGP project would require removal of riparian vegetation, thereby influencing the form and function of Riparian Reserves. This project would thin, pile and burn dense white fir understory vegetation and fall occasional trees into the stream channel for LWD. This would enhance forest health and diversity with the LSR/Riparian Reserve by restoring stand density to more natural and sustainable levels. This contributes to forest health and sustainability of riparian reserves by increasing resistance to insect and disease losses and reducing the risk of stand replacing fire. LWD in stream channels contributes to meeting water quality and TMDL targets and provides habitat for sensitive fish and invertebrate species.	3	miles	$51,876
Riparian Vegetation	Riparian Stand Density	Miners Creek LSR, Riparian Treatment	Spencer Creek is a Tier One, Key Watershed. Implementation of the PCGP project would require removal of riparian vegetation, thereby influencing the form and function of Riparian Reserves. This project would thin, pile and burn dense white fir understory vegetation and fall occasional trees into the stream channel for LWD. This would enhance forest health and diversity with the LSR/Riparian Reserve by restoring stand density to more natural and sustainable levels. This contributes to forest health and sustainability of riparian reserves by increasing resistance to insect and disease losses and reducing the risk of stand replacing fire. LWD in stream channels contributes to meeting water quality and TMDL targets and provides habitat for sensitive fish and invertebrate species.	3	miles	$51,876
Road Closure	Road Sediment Reduction	Spencer Creek Repair Existing Road Closure	Roads negatively impact wildlife. Implementation of the PCGP project would have road-like impacts on wildlife and require use of a large number of permanent and temporary roads and other access routes. Road closures (barricades) were established in the watershed to reduce road density to meet Resource Management Plan objectives for both the aquatic conservation strategy and reduce impacts to wildlife. This project repairs the existing closure structures to ensure that road closures remain effective. Spencer Creek is a Tier One, Key Watershed. Maintaining road closures also reduces sediment by keeping closed roads revegetated.	12	sites	$10,012

ProjType	MitGroup	Project Name	ProjectRationale	Quantity	Unit	CostWithOH
Road Drainage	Road Sediment Reduction	Spencer Creek Drainage Improvements and Sediment Trap Removal	Spencer Creek is a Tier One, Key Watershed. Although BMP's and other project measures would be implemented, the PCGP would have road-like watershed impacts if constructed, including mobilization of sediment and possible alteration of hydrologic regimes. The project also uses a number of roads for access and construction. Drainage improvements and removing non-functioning cross drains and sediment traps at selected locations would benefit aquatic habitat/connectivity by restoring drainage and reducing sediment transport.	15	sites	$5,895
Road Drainage	Road Sediment Reduction	Keno Access Road Repair and Culvert Replacement	Spencer Creek is a Tier One, Key Watershed. Although BMP's and other project measures would be implemented, the PCGP would have road-like watershed impacts if constructed, including mobilization of sediment and possible alteration of hydrologic regimes. The existing stream crossing (culvert) is undersized in both length and diameter, therefore it ability to meet ACS objectives is minimized. The culvert underlying the existing road bed periodically causes erosion of the road prism and adjacent upland and riparian areas. Replacement of the culvert will allow stabilization of the road shoulder and reduce sediment input to Miner's creek and its contribution of sediment to Spencer creek. If this work is not completed, the condition will eventually lead to increased sedimentation. Replacement of this drainage structure will decrease road-related erosion, increase the hydrologic capacity of the crossing and enhance aquatic connectivity for fish and other aquatic organisms.	1	site	$42,444
Stand Density Habitat	Terrestrial Habitat Imp.	Upper Spencer Creek LSR Density Mgt.	Implementation of the PCGP project would require removal of late-successional habitat, including critical habitat for northern spotted owls. Stand density management reduces the risk of stand replacing fire and accelerates the development of late-successional stand conditions which may benefit northern spotted owls.	270	acres	$31,835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1.04
1.29
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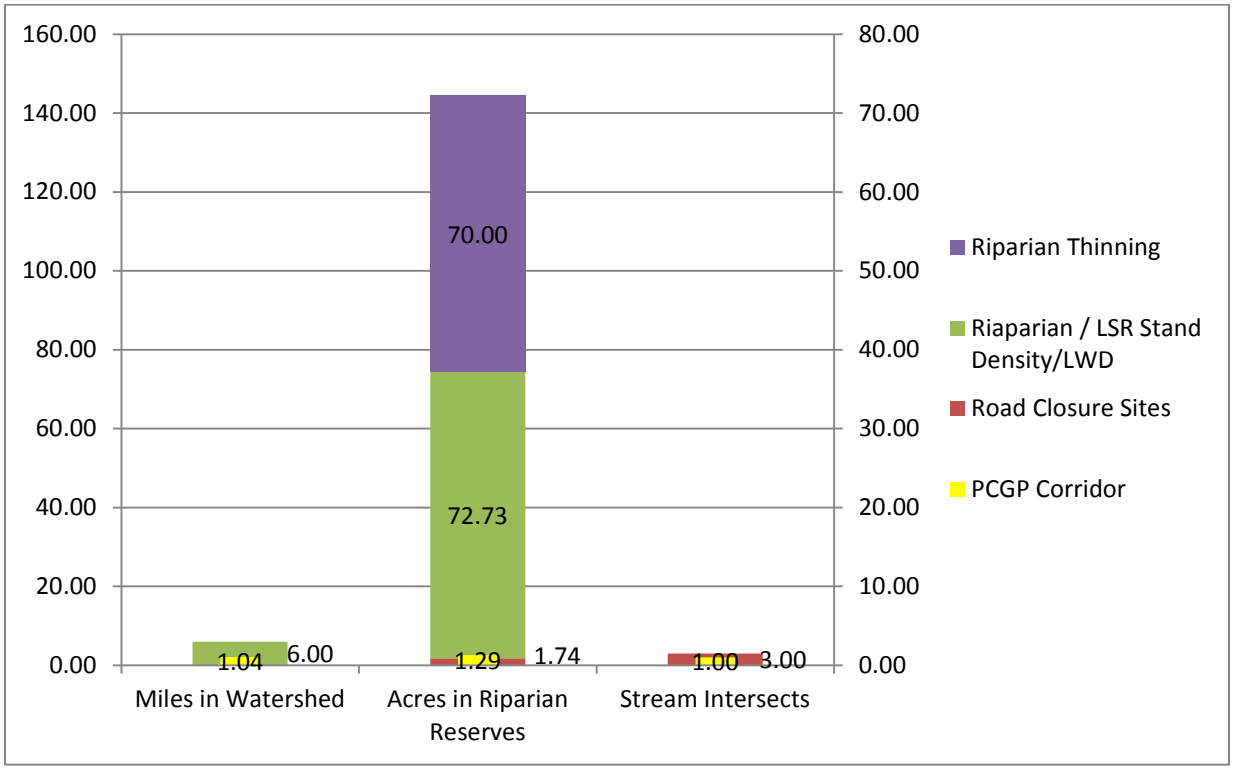
Riparian Thinning
Riaparian / LSR Stand Density/LWD
Road Closure Sites
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects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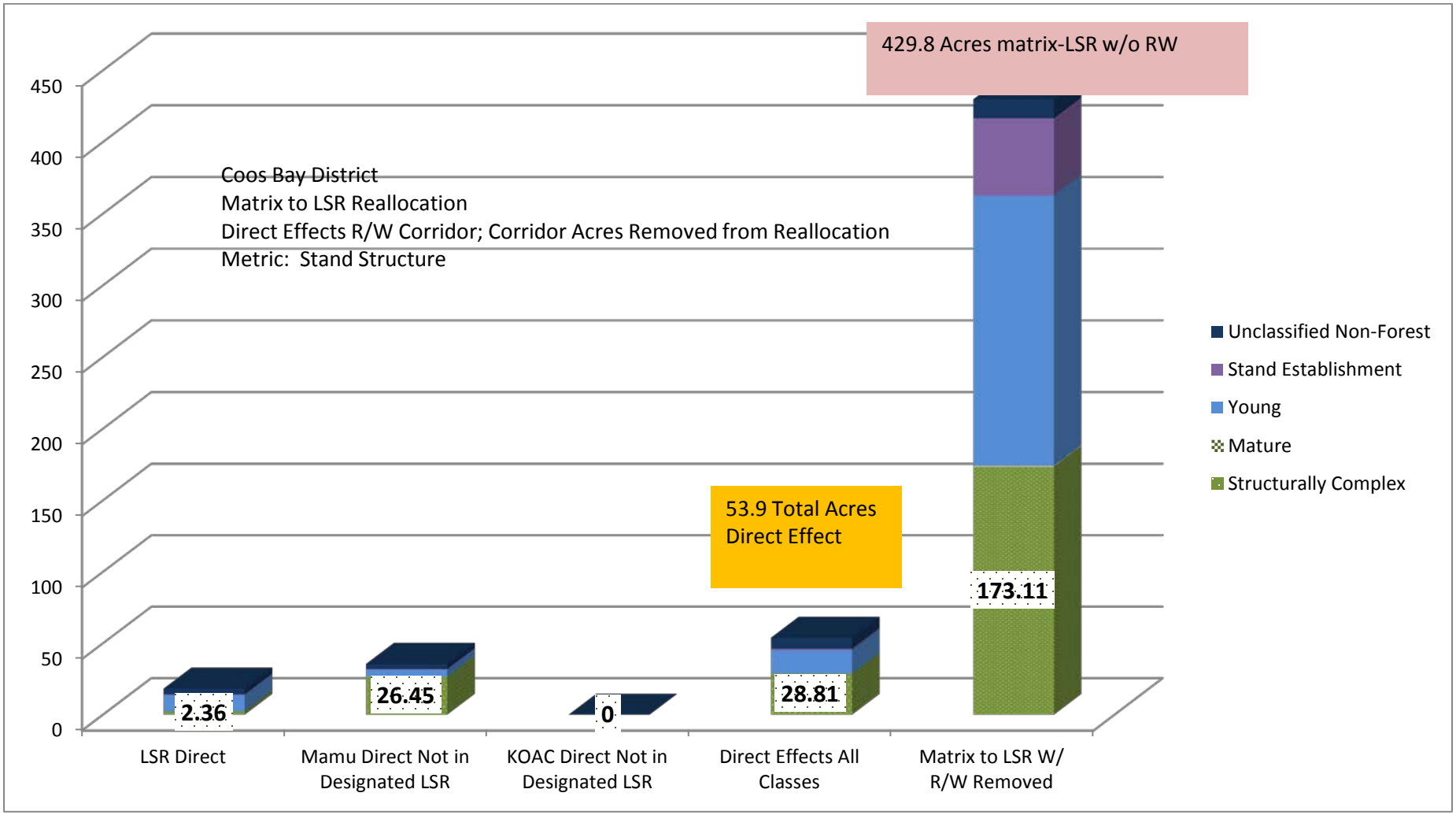
70.00
72.73
1.04
6.00
1.29
1.74
1.00
3.00
Riparian Thinning
Riaparian / LSR Stand Density/LWD
Road Closure Sites
PCGP Corridor
Miles in Watershed
Acres in Riparian Reserves
Stream Intersects

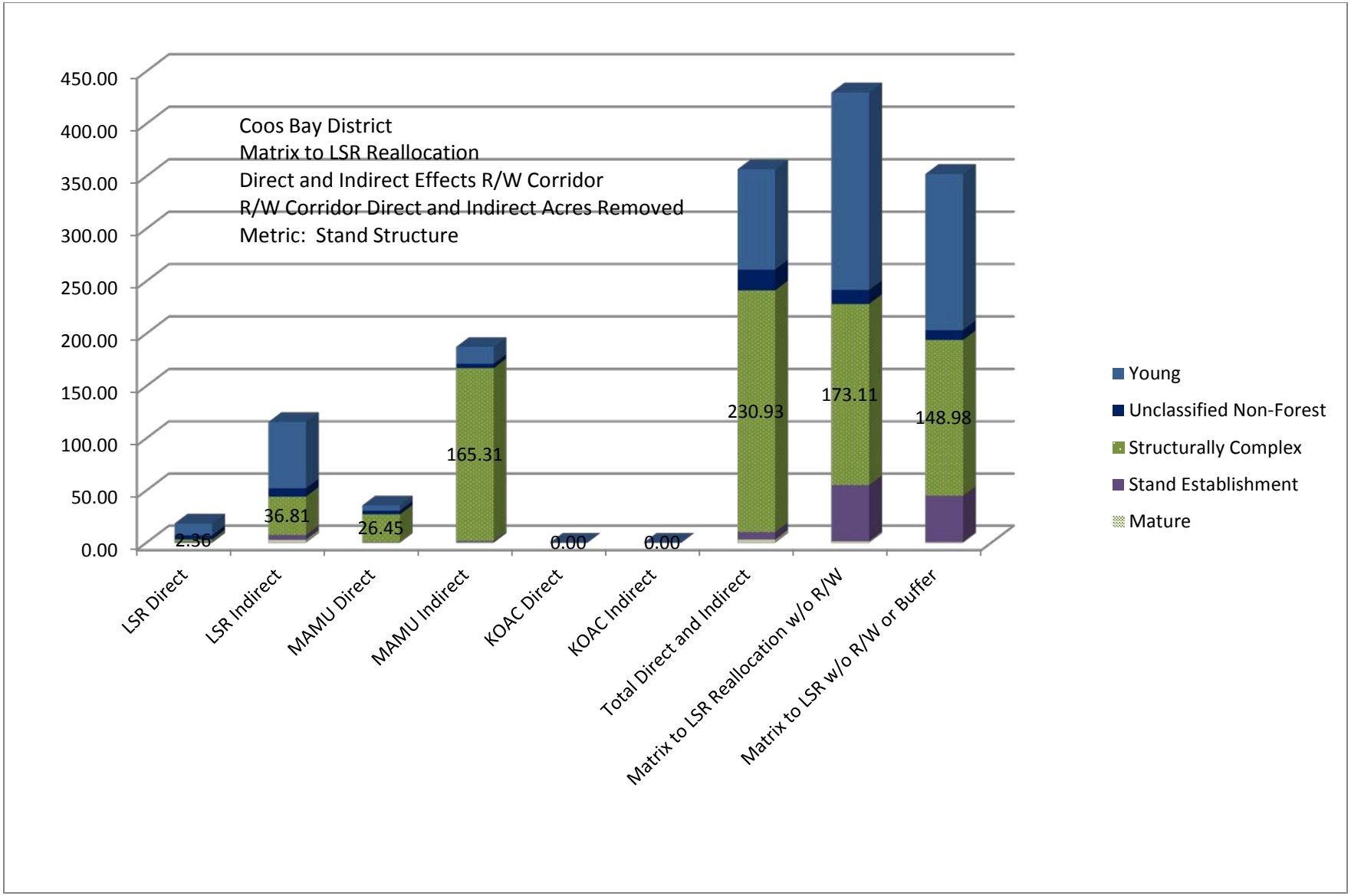
Lower Lost River

R/W Miles in Watershed	0.26
R/W Acres in Watershed	3.54
Stream Channels Crossed	0
Riparian Reserve Acres in R/W	0
Late Successional Reserve Acres	0

The PCGP crosses portions of the Anderson-Rose Diversion Dam subwatershed on BLM lands in the Lower Lost River watershed. No off-site mitigations are proposed in the Elk-Creek South Umpqua watershed because of the limited extent of the PCGP corridor in the watershed.

Reallocation of Matrix Lands to Late Successional Reserve

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Matrix to LSR Reallocation
Direct and Indirect Effects R/W Corridor
R/W Corridor Direct and Indirect Acres Removed
Metric: Stand Structure
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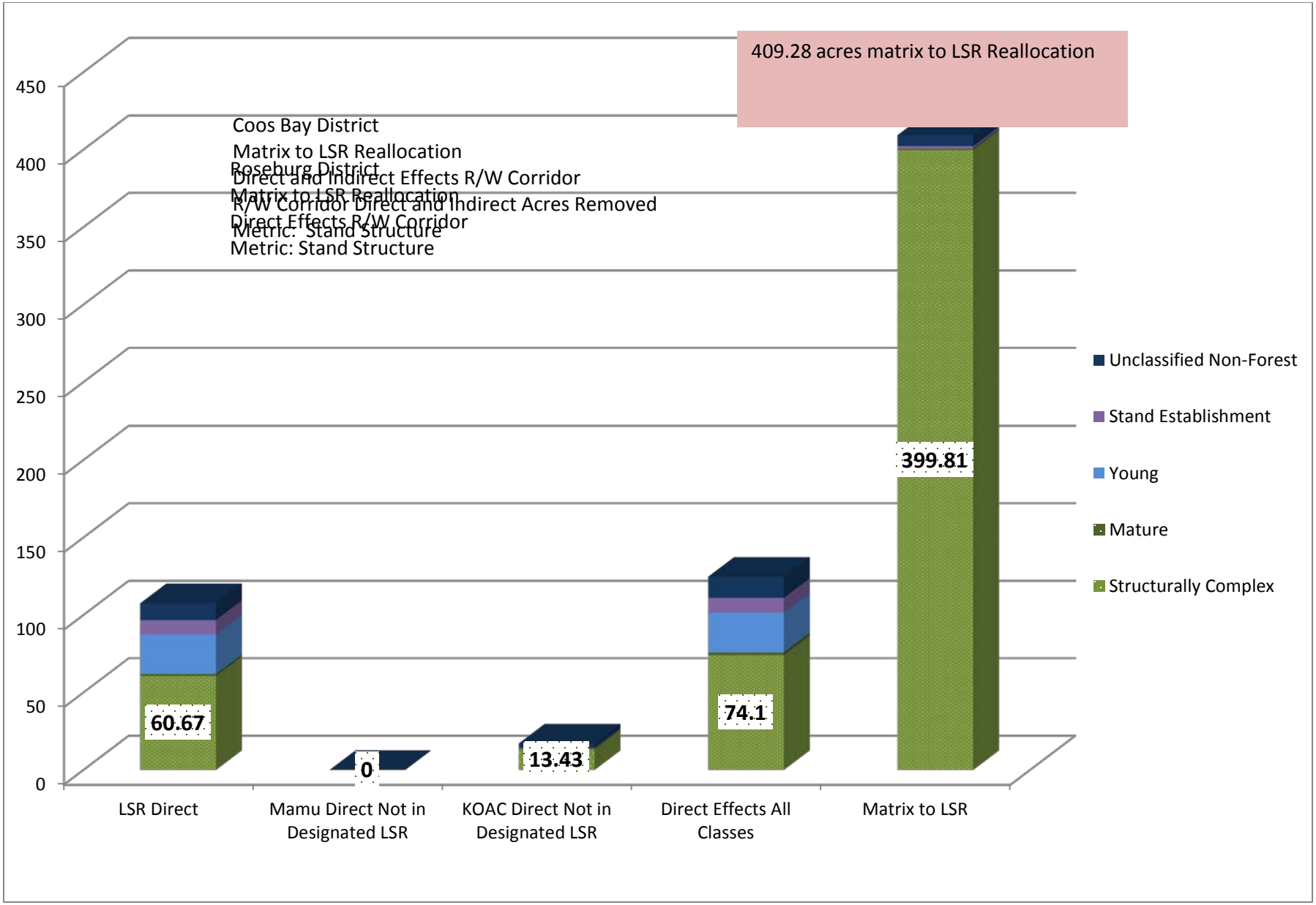
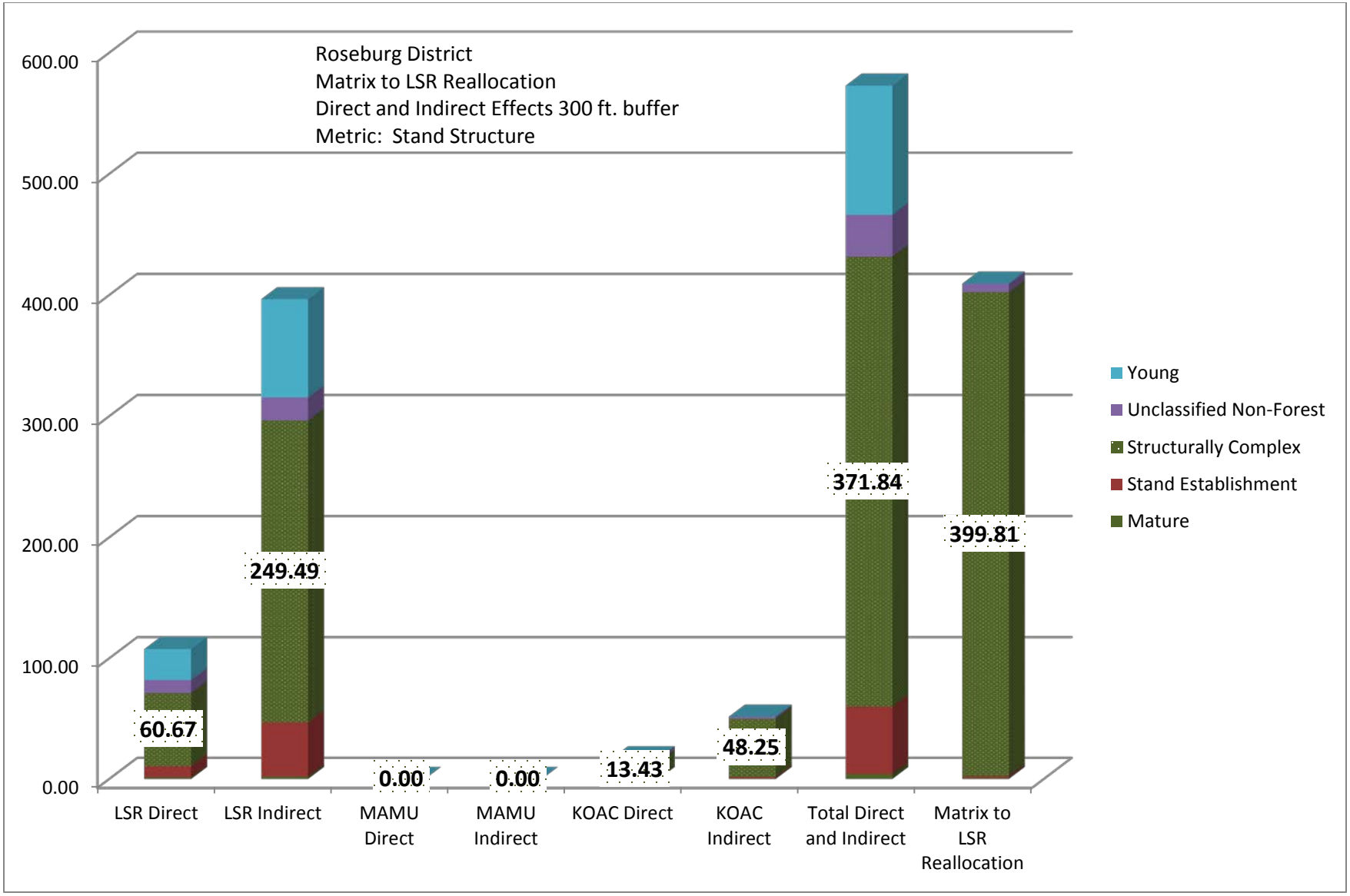
300.00
250.00
200.00
150.00
100.00
50.00
0.00
2.36
36.81
26.45
165.31
0.00
0.00
230.93
173.11
148.98
LSR Direct
LSR Indirect
MAMU Direct
MAMU Indirect
KOAC Direct
KOAC Indirect
Total Direct and Indirect
Matrix to LSR Reallocation w/o R/W
Matrix to LSR w/o R/W or Buffer
Young
Unclassified Non-Forest
Structurally Complex
Stand Establishment
Mature


409.28 acres matrix to LSR Reallocation
Coos Bay District
Matrix to LSR Reallocation
Roseburg District
Direct and Indirect Effects R/W Corridor
Matrix to LSR Reallocation
R/W Corridor Direct and Indirect Acres Removed
Direct Effects R/W Corridor
Metric: Stand Structure
Metric: Stand Structure
450
400
350
300
250
200
150
100
50
0
60.67
0
13.43
74.1
399.81
LSR Direct
Mamu Direct Not in Designated LSR
KOAC Direct Not in Designated LSR
Direct Effects All Classes
Matrix to LSR
Unclassified Non-Forest
Stand Establishment
Young
Mature
Structurally Complex


Roseburg District
Matrix to LSR Reallocation
Direct and Indirect Effects 300 ft. buffer
Metric: Stand Structure
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300.00
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60.67
249.49
0.00
0.00
13.43
48.25
371.84
399.81
LSR Direct
LSR Indirect
MAMU Direct
MAMU Indirect
KOAC Direct
KOAC Indirect
Total Direct and Indirect
Matrix to LSR Reallocation
Young
Unclassified Non-Forest
Structurally Complex
Stand Establishment
Mature

Appendix A – BLM Offsite Mitigation Policy

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT
National

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240
www.blm.gov

September 30, 2008

In Reply Refer To:
1740/1790 (310/230) P

EMS TRANSMISSION 10/03/2008
Instruction Memorandum No. 2008-204
Expires: 09/30/2009

To: All State Directors

From: Director

Subject: Offsite Mitigation

Program Areas: All Resource Programs

Purpose: This Instruction Memorandum (IM) outlines policy for the use of offsite mitigation for authorizations issued by the Bureau of Land Management (BLM). This IM replaces IM WO-2005-069 *Interim Offsite Compensatory Mitigation for Oil, Gas, Geothermal and Energy Rights-of-Way Authorizations* (February 1, 2005).

Policy/Action: Offsite mitigation consists of compensating for resource impacts by replacing or providing substitute resources or habitat at a different location than the project area. Offsite mitigation is supplemental to onsite mitigation and is used to enhance the BLM's ability to fulfill its mission of providing multiple uses on the public lands, while ensuring its resource management objectives are met. In making decisions that are within its discretion (taking into account statutes, regulations, and contractual/property rights of the requester), the BLM has an obligation to approve only land use authorizations that are consistent with its mission and objectives. This may mean that the BLM may be unable to permit certain land use authorizations without appropriate mitigation measures. Onsite mitigation alone may not always be possible or sufficient, though often resources are present offsite that can offer suitable compensation for remaining onsite impacts. Consequently, offsite mitigation may be an effective management tool to ensure appropriate land use authorizations.

In order to ensure a sufficient relationship between offsite mitigation and the BLM's mission to manage the public lands, offsite mitigation may be used only when the BLM can demonstrate that the proposed mitigation is reasonably necessary to accomplish an authorized BLM purpose.

When proposed offsite mitigation is geographically distant from the project area, and particularly when it occurs on non-Federal land, the connection to resources for which the BLM is responsible should be clear.

Offsite mitigation may be offered voluntarily by a project proponent, incorporated into the project proposal, and approved by the BLM as a condition of the permit authorization. In certain other cases, the BLM may find it necessary to advise the applicant that the project proposal cannot be approved without additional onsite modification or additional mitigation, including offsite mitigation. There may be a need for offsite mitigation when:

1. Impacts of the proposal cannot be mitigated to an acceptable level onsite; and
2. It is expected that the proposed land use authorization as submitted would not be in compliance with law or regulations or consistent with land use plan decisions or other important resource objectives.

Early in the authorization/approval process, the BLM and the applicant should discuss mitigation

References

Keppeler, E. T., P. H. Cafferata, et al. (2007). State forest road 600 : a riparian road decommissioning case study in Jackson Demonstration State Forest. Sacramento, CA, State of California, the Resources Agency, California Dept. of Forestry & Fire Protection.

Madej, M. (2000). "Erosion and sediment delivery following removal of forest roads." U.S. Geological Survey Western Ecological Research Center.

Tippery, S., K. K. Jones, et al. (2010). Effectiveness Monitoring Report for the Western Oregon Stream Restoration Program, 1999-2008. O. D. o. F. a. Wildlife. Salem, OR.

USDA FS and USDI BLM (1994b). Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl, U. S. Forest Service and U. S. Bureau of Land Management, Portland, Oregon.

USDA FS and USDI BLM (2012). Northwest Foreset Plan - The first 15 years (1994-2008): watershed condition status and trends**:** 155.

USDA FS, USDI BLM, et al. (1998). South Cascades Late Successional Reserve Assessment.

USDI BLM (2012). Shady Cove - Rogue River PCGP Project - Specific Watershed Analysis

USDS FS and USDI BLM (1999). South Umpqua / Galesville LSR Assessemnt (LSR RO 223).

Attachment 2

FS Supplemental Mitigation Report 3_1_11v12

3-2-11 mdh

Reply To: 2670
Subject: Mitigation Plan, Pacific Connector Gas Pipeline
To: Randy Miller

Forest Service interdisciplinary teams developed PCGP mitigation plans for each national forest on the PCGP corridor based on the respective Forest Plan, the recommendations of the 2008 and draft (2010) northern spotted owl recovery plans, applicable Late Successional Reserve Assessments (LSRA) and 5th field Watershed Analyses (WA) for watersheds where impacts of the pipeline project occur. Team members used common sense, professional judgment and knowledge of the affected landscapes to develop these measures.

Central themes emerged on each landscape that drove the design of mitigation measures.

- On the Winema National Forest in Spencer Creek, a Tier 1 Key Watershed, current conditions include high road densities, sediment in streams and high stream temperatures (USDA FS WNF 1995 Executive Summary). Desired conditions include reduced road densities and achievement of Aquatic Conservation Strategy (ACS) objectives (USDA-FS_WNF_LRMP 1990; USDA FS; USDI BLM 1994b). The primary objective of proposed mitigations is to improve aquatic conditions in Spencer Creek by decommissioning roads and restoring aquatic habitats. Riparian plantings and in-stream log placement are also planned to further reduce sediment and stream temperature.
- On the Rogue River National Forest in Little Butte Creek, a Tier 1 Key Watershed that also includes part of Late Successional Reserve 227, current conditions include high road densities, high stand densities, sediment delivery to stream systems from roads and high stream temperatures (USDA FS; USDI BLM 1997; USDA FS; USDI BLM; USDI FWS 1998). Desired conditions include reduced stand densities, development of late-successional stand characteristics in LSR 227 and achievement of ACS objectives (USDA-FS: RRNF LRMP 1990; USDA FS; USDI BLM 1994b). Mitigations in Little Butte Creek are intended to reduce road densities by decommissioning roads, accelerate the development of interior stand conditions by accelerating stand development and restoring LS stand characteristics and restore aquatic systems.
- On the Umpqua National Forest, current conditions include high stand densities and the threat of stand replacing fire in LSR 223, fragmented habitats, sediment delivery to stream systems from roads, blockages of fish passage by roads and the presence of non-native invasive species (UNF 1995; UNF 1995b; USDA FS; USDI BLM; USDI FWS 1998; BLM 1999). Desired conditions include reduced risk of stand-replacement fire in LS habitats, reduction of fragmentation, restoration of native species and achievement of ACS objectives , ,(USDA-FS: UNF LRMP 1990; USDA FS; USDI BLM 1994b; UNF 1995; UNF 1995b; USDA FS; USDI BLM; USDI FWS 1998). Mitigation measures are intended to reduce the risk of catastrophic fire by integrated stand density reduction and fuels management projects that build off of the PCGP corridor, provide fish passage at key stream crossings, restore native plant species by eliminating non-native invasives and reduce road-related sediment delivery to streams.

The original mitigation plans was filed with FERC as part of the PCGP's application for this project and considered in the FERC FEIS. FERC made implementation of the mitigation plan a condition of the certificate of public convenience and necessity issued December 17, 2009. Additionally, Pacific Connector has signed, and filed with FERC, an Agreement in Principle to guarantee funding of these projects. A central provision of the mitigation plan is that it is to remain adaptable to new information and changed conditions.

Draft Working Paper

3-2-11 mdh

Since the mitigation plan was filed with FERC, the Forest Service has added additional mitigations on the Winema National Forest and corrected inconsistencies in road closures and coarse woody debris placement on the Rogue River and Winema National Forests. These are minor changes within the scope of the original plan and Agreement in Principle. The amended mitigation plan for the PCGP is shown in Table 1 which has been previously provided. A supplemental analysis of changes in the mitigation plan on each national forest is attached. GIS shape files are available for each mitigation proposal for additional analysis if needed. .

Forest Plans of the Umpqua, Rogue River and Winema National Forests were amended by the Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, otherwise known the Northwest Forest Plan (NWFP). Standards and Guidelines for new developments in Late Successional Reserves (USDA FS; USDI BLM 1994b p. C-17) make provisions for pipeline corridors but require that projects "minimize or mitigate" impacts so that the new development is neutral to beneficial with respect to LSR habitats. With respect to riparian and aquatic habitats, Standards and Guidelines for Lands, LH-4 for activities other than surface water developments (USDA FS; USDI BLM 1994b p. C-37) direct agencies, to "issue leases, permits, rights-of-way, and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy (ACS) objectives". In determining consistency with the ACS and other forest plan compliance issues, decision-makers may consider the effects of other present and *reasonably foreseeable* future actions on watershed conditions[1]. The Forest Service considers these mitigations to be reasonably foreseeable because they were filed by the applicant with FERC, are a condition of the FERC certificate, have a committed source of funding and are consistent with their respective Land and Resource Management Plans and other agency mid-level planning documents. The attached analysis supplements the FERC FEIS for the purposes of Forest Service decision making, and focuses on supporting evaluations of Forest Plan consistency by the Forest Service.

Please contact Rob Cox (541-767-5042), lead biologist for the PCGP project on the Rogue River, Umpqua and Winema National Forests or Wes Yamamoto (541-825-3150), project lead for the national forests if you have questions.

Attachment: Supplemental Mitigation Report

Draft Working Paper

[1] 1950 memo dated 5/22/2007

Table 1: FS Amended Mitigation Plan

Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treat-ments in 50 year Period	Resource Benefit	Rationale
Roads	**Key Watersheds**: Reduce existing system and nonsystem road mileage. There will be no net increase in the amount of roads in Key Watersheds. (ROD C-7) **Soil Productivity**: maintain and enhance soil productivity and soil stability. (UNF IV-67; RR 4-1)) **Wildlife:** To provide for present and future habitat needs of wildlife species Contribute to the recovery of all threatened or endangered species (UNF IV-39, RR 4-2) **Water Quality**: maintain or enhance water quantity, quality, and timing of streamflow (UNF IV-59, RR 4-1) **Fisheries:** protect, maintain and, where appropriate, enhance the productivity of fish habitat (UNF IV-33, RR 4-2).	Decommission/ obliterate roads, barricade road entrance w/permanent landscape structures (berms, boulders, etc.), remove culverts, restore drainage, recontour roadbed to original slope, large wood placement, and seed/plant.	Umpqua National Forest, LSR 222, 223	7.6 Miles	1	LSR, Northern Spotted Owl, Pacific fisher, other late-successional habitat dependent species, riparian habitat, aquatics, SONC Coho, Steelhead, soil productivity	Some natural-surface roads have poor drainage that can lead to erosion and increased sediment in nearby streams. Road maintenance or obliteration is needed to improve drainage and to reduce chronic sediment input to the stream systems. The objective of road decommissioning for this project is to accelerate the revegetation of the decommissioned road with trees. This mitigation also offsets the impacts of soil compaction and displacement within the construction right-of-way by reducing compaction in the decommissioned roadbeds. This will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from surface erosion. A 30-50 foot wide route along the pipeline route will be maintained in early successional habitat. In addition a construction zone of 100 foot width or wider will be cut through mature forest, setting back development of mature forest habitat by one or more centuries. This strip of land, in a forested ecosystem, provides a barrier for movement of small animals between the remaining forest blocks and degrades neighboring habitat through edge effects and fragmentation. This is of special concern in riparian ecosystems where movement of wildlife species is concentrated. Planting selected roads in conjunction with precommercial thinning treatments (see other mitigations) would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years. Removal of culverts and roadbeds in riparian reduces sedimentation to the waters. This mitigation meets ACS objectives 2, 4, 5, 8 & 9. Little Butte Creek and Spencer Creek are Key Watersheds and road reduction is a major objective (NWFP ROD C-7). Note that this would be most effective if done in conjunction with the thinning proposed. This mitigation also offsets the impacts of soil compaction and displacement within the construction R/W.
			Little Butte Creek Key Watershed, Rogue River-Siskiyou LSR 227 (road closures proposed intersect 32 streams and include 1 fish bearing stream, 1 perennial non-fish bearing stream and 30 intermittent streams. Proposal decommissions 6.7 miles of roads in riparian reserves and will allow restoration of riparian vegetation on approximately 14.3 acres of riparian vegetation.)	53.2 Miles (Reduced from 54.5 miles)	1		
			Spencer Creek Key Watershed, Winema National Forest (Proposed road closures intersect 25 intermittent streams. Proposal decommissions 5.3 miles of roads in riparian reserves and will allow restoration of approximately 12.8 acres of riparian vegetation)	21.4 miles (new mitigation)	1		
		Close roads with barricades and remove culverts; revegetate, outslope road prism but do not obliterate.	Umpqua NF	5.4 Miles	1	Wildlife sensitive to disturbance, improves aquatic and terrestrial connectivity.	Close roads and remove culverts and treat weeds Mowing and maintenance of pipeline corridor, temporary road construction, and road use are direct disturbance impacts to wildlife. Road closure will mitigate some of those impacts, improve interior stand connectivity and benefit aquatic habitats over time.
		Road stormproofing	Umpqua NF	2.17 miles	1		Replacing culverts with hardened low water crossing (drain dips), fill removal, outsloping and erosion control on disturbed areas

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Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treatments in 50 year Period	Resource Benefit	Rationale
Stand Density and Fuels Management	**Late Successional Reserves:** Late-Successional Reserves are to be managed to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl. These reserves are designed to maintain a functional, interacting, late-successional and old-growth forest ecosystem. (ROD, C-11) **Matrix Lands**: Most timber harvest and other silvicultural activities would be conducted in that portion of the matrix with suitable forest lands, according to standards and guidelines. (ROD, C-39) Efficient production of wood fiber to satisfy National needs and benefit local economies (UNF IV-42, RR 4-2) **ACS Objectives** 1,2, 5, 8.	Integrated Stand Density and Fuels Treatments: Commercial Thin, Precommercial Thin, Fuels Treatments adjacent to Pipeline corridor Removal of offsite pine in old plantations.	Umpqua LSR 223	2081 Acres Vegetation Rx with 1128 acres of underburns (Includes 350 acres of offsite pine removal)	1 Vegetation treatment, 3 underburns	Late successional and old growth dependent species and forest ecosystems. Timber production on Matrix Lands.	Both mature stands and developing stands will be removed during pipeline construction. Impacts to mature and developing stands will exceed the life of this project by many decades. Density management will increase longevity of existing mature stands by reducing losses from disease, insects and fire. Density management in younger stands will accelerate development of LSOG. Associated fuel reductions reduce risk of loss to fire and reduce potential fire size and intensity. Biological resources are not compensated by land allocation change. Removal of LSOG is essentially a permanent loss that cannot be replaced. Young stands will take 70 years to develop into LSOG so this is not a 1-1 replacement. LSR Assessments have identified the importance of density management to control losses to stand replacing fire. In order to effectively offset permanent loss, entire stands need to treated so habitat over time becomes contiguous and is in proximity of the project. The proposed mitigation is centered on the ecological values associated with late-successional habitat. The values to associated species, many other ecosystem goods and services components such as micro organisms, soils and vegetative cover inter act to purify air and water, regulate the climate and recycle nutrients and wastes is very complex to establish appropriate level of mitigation for the loss of irreplaceable habitat late-seral forest. The proposed ridge line pipeline route intersects and area that has had reoccurring lighting strikes and has potential for stand replacement fires. This mitigation will assist in protection and restoration of the late-seral forest values. This mitigation provides multiple resources values for the LSR, Forest, adjacent private landowners and public.
			Umpqua NF Matrix	1341 Acres Vegetation Rx with 1000 Acres of underburns (increased from 907 Acres)			
		Precommercial thin young harvest plantations in a single entry to create a pattern and spacing that will accelerate development of mature forest characteristics. These stands are in LSR but are not adjacent to the pipeline and are in addition to acres above.	Rogue River-Siskiyou NF LSR 227.	600 Acres	1 (staggered over a period of 3 years)	LSR, Northern Spotted Owl, Pacific fisher, other late-successional habitat dependent species	There will be direct impacts to existing interior, developing interior habitat. The project will result in additional fragmentation and preclude the recovery of fragmented habitat for those stands adjacent to the pipeline corridor. Maintenance of pipeline corridor will provide a continued vector for predators, early-seral species and non-native species. Also the project will result in a direct loss in biological services provided by mature forest characteristics for many decades past the life of this project. Both mature stands and developing stands will be removed during pipeline construction. Density management of forested stands will assist in the recovery of late-seral habitat, impact from fragmentation, reduction in edge effects and enhance resilience of mature stands. Accelerating development of mature forest characteristics will shorten the impacts of those biological services loss due to pipeline construction. Thinning of young stands is a recognized treatment within LRSs if designed to accelerate development of late-successional habitat characteristics (NWFP ROD C-12). ROD Pages B-11 ACS Objectives , C-11 and C-17.
			Umpqua NF LSR 223	425 Acres (in addition to Fuel Break Project Above)			

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Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treat ments in 50 year Period	Resource Benefit	Rationale
Upland Terrestrial	**Late Successional Reserves**: managed to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl. (ROD C-11) **Long Term Soil Productivity**: Maintain or improve soil site productivity in all resource management activities Rehabilitate degraded land to a productive state. (RR 4-1, UNF IV-67) **Wildlife:** To provide for present and future habitat needs of wildlife species Contribute to the recovery of all threatened or endangered species (UNF IV-39, RR 4-2) **Biological Diversity:** Maintain viable representation of native plant and animal species, and biological communities. (UNF IV-36, RR 4-2)	Within LSR manage snags densities at 16/acre > 10.0 in, of which 8/acre > 20 in dbh. within the Matrix manage snag densities at 4/acre >20 in dbh. to mitigate loss of current and future sang habitat from removal large trees and snags within the construction clearing zone and the removal of adjacent hazard trees for the life of this project. Managing for this level of snag habitat provide for a greater assurance of associated species abundances within the LSR and Matrix (DecAID). ROD C-C11 and C-40	Umpqua NF LSR 223	175 Acres	1	LSR, Northern Spotted Owl, Pacific fisher, other late-successional habitat dependent species. Matrix benefits all snag dependent species.	Mitigate immediate and future impacts to snag habitat from the clearing of the pipeline right-of-way. The project prevents development of large snags during the life of the project and for decades after. Corridor construction will result in loss of snag habitat on approximately 775 acres of corridor construction (includes safety zone buffer). Data relies on the Cow Creek Watershed Analysis which suggests the watershed is far below historic levels of snag habitat due of past management actions. This project will add to those cumulative impacts. As snags are a critical component of LSR spotted owl habitat, replacement is needed. Snag requirements are specifically outlined in the Forests' LRMPs and NWFP. Forests require analysis and mitigation under most management activities. Replacement would be immediate though there would be a 10 year delay as snag decay develops. Snag management is required in the RRNF LRMP (4-20), with levels set under the various management directions. Snag Management is discussed in the NWFP for LSRs on C-14 and 15 of the ROD (items 4 and 7). Snag management levels are based on the Forest's Plant Association Guidelines. Snags are also discussed in the South Cascades LSR Assessment (Chap. 3).
			Rogue River-Siskiyou NF LSR 227	600 Acres	1		
			Umpqua NF Matrix	175 Acres	1		
		Manage Logs (Coarse woody material) within the pipeline corridor and in adjacent stands that have a deficiency in down wood due to past management.	Umpqua NF LSR 223	100-200 Acres (Reduced from 350 Acres)	1	LSR, Northern Spotted Owl, Pacific fisher, other late-successional habitat dependent species	Mitigate for the loss of recruitment of large down wood to adjacent stands and within the construction clearing zone. The project will forgo the development of large down wood for the life of the project and for decades after. Downed wood is a critical component of Mature Forest ecosystems. Large wood replacement will partially mitigate for the barrier effect of the corridor by creating structure across the corridor for use by small wildlife species. Placement in wood deficient areas adjacent to the corridor allows for scattering of stockpiled wood, reducing localized fuel loads while improving habitat in deficient stands. Larger logs maintain moisture longer and are less likely to be fully consumed by fire. Managing for the proposed levels provide for a greater assurance of species abundance (DecAID). ROD C-11. Acres that can be treated are necessarily limited by material available from the corridor.
			Rogue River-Siskiyou NF LSR 227	200-400 Acres (Reduced from 600 Acres)	1		
		Treatment of noxious weeds, planting of native species, treatment of encroaching conifers and burning,	Umpqua NF Unique and Mosaic Habitats and Roadside Nox Weeds	120 Acres meadow restoration, 6.7 miles of roadside weeds.	1	Native plant and wildlife communities.	Mitigate impacts to Unique habitats impacted by the project, There will be loss of forest habitat buffering the unique habitats and disruption to soil horizons enhancing the opportunities for non native plant species.
		Planting at specific sites to grasses that benefit Mardon Skippers and Elderberry to benefit Short-horned Grasshopper.	Rogue River-Siskiyou NF LSR 227	20 Acres	1	Mardon Skipper Butterflies and short horned grasshoppers	The Dead Indian Plateau region is one of three known sites for Mardon Skipper butterflies in the world. It is also adjacent to a known site for Short-horned Grasshoppers. Both species are on the Forest's Sensitive Species list. The pipeline requirement of a permanent open corridor provides a unique opportunity to develop habitat for these skippers and grasshoppers. Planting the corridor with plants preferred by these Sensitive Species has the potential to increase the habitat and local range for these two species. Rehabilitation of disturbed sites is required under various BMP guidelines. Use of specific plant species has no additional problems. Results would be immediate in stabilizing the local habitat and location would be in the pipeline.

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Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treatments in 50 year Period	Resource Benefit	Rationale
Wetlands Aquatic	**Riparian Areas**: Maintain or enhance the Characteristics of riparian areas, wildlife habitat, and fish habitat near or within riparian ecosystems (WIN 4-6). Riparian area management is designed to protect soil, water, wetland, floodplain, wildlife, and fish and resource values associated with riparian vegetative communities; maintain or improve water quality, wildlife habitat and fish habitat near or within riparian ecosystems (WIN 4-136, 139; RR 4-2; UNF IV-59) **Fisheries:** protect, maintain and, where appropriate, enhance the productivity of fish habitat to provide for populations of resident and anadromous fish (UNF IV-43; RR 4-2). High standards of water quality in terms of temperature, turbidity, and bank stability for fisheries (WIN 4-6, 4-139). **Aquatic ecosystems**: restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands... maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. (NWFP ROD B-9) **ACS objectives** 1, 2, 3, 4, 5, 8	Repair Stream Crossing	Winema NF, Spencer Creek	1 project	1	Fisheries and aquatic habitats	Mitigation-Indirect: The proposed pipeline will cross Spencer Creek upstream of Buck Lake. This ford is at the uppermost reach of the perennial portion of Spencer Creek which is occupied by redband trout. Spencer Creek has been identified by NMFS through the FERC re-licensing process for the Klamath River hydro facilities, as habitat for Federally listed Southern Oregon/Northern California Coast Coho salmon. Additionally, once fish passage is provided through the Klamath River hydro facilities, steelhead will re-colonize Spencer Creek. The pipeline crosses SONC Coho habitats at other locations in other watersheds along the proposed pipeline route, possibly impairing habitat quality or reducing available habitat. Improving habitat quality at Spencer Creek provides the opportunity to be pro-active in providing quality habitat for SONC Coho, mitigating for any detrimental effects to other SONC Coho habitats, while improving habitat for redband trout and other aquatic species. Spencer Creek appears on the Oregon DEQ 303(d) list as water quality impaired from increased sedimentation. Improvements at this location will immediately benefit all downstream aquatic habitats and the species associated with those habitats.
			Rogue River NF, Little Butte Creek	32 Stream crossings (see notes in road decommissioning)	1		Restoring stream crossings reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting as a mitigation which will help offset the impact of shade removal at pipeline R/W crossings.
		Stream Simulator Culverts Placement; Remove existing culverts and replace with stream simulator culverts	Umpqua National Forest	5 crossings	1	Fisheries, aquatic biota and connectivity	Restoring stream crossings reconnects aquatic habitats by allowing the passage of aquatic biota and restoring riparian vegetation. Over time, these actions reduce sediment and restore shade. Restoration of these crossings includes riparian planting as a mitigation which will help offset the impact of shade removal at pipeline R/W crossings.
		In-Stream Large Woody Debris Placement	Winema NF, Spencer Creek (new project)	1 mile	1	Fisheries and aquatic habitats	Over the last century, many streams with high aquatic habitat potential have become simplified, and therefore, have a reduced capacity to provide quality habitat. Riparian stands have decreased health and vigor, resulting in increased time to develop large tree structure for wildlife, stream shade, and future instream wood. Placement of LWD in streams adds structural complexity to aquatic systems, traps fine sediments and can contribute to reductions in stream temperatures over time. The BLM completed placement last year on 3 miles of Spencer Creek below this reach. Addition of this segment would complete the stream rehabilitation on the reach of Spencer Creek where the project occurs. Logs from the PCGP Right of Way will be used for the project. An estimated 75 pieces are needed. A helicopter will be used to place the logs.
			Rogue River NF, SF Little Butte Creek (new project)	1 mile	1		
		Riparian Planting	Winema NF, Spencer Creek (new project)	0.5 miles	1	Riparian vegetation and habitats	Spencer Creek just upstream of Buck Lake. This is a meadow site that has lost streamside vegetation and has compacted soils. There is an overall need to restore health and vigor to riparian stands by maintaining and improving riparian reserve habitat. Shade provided by the plantings will contribute to moderating water temperatures in Spencer Creek. Root strength provided by new vegetation will increase bank stability, decrease erosion and sediment depositions to Spencer Creek and provide habitat for species that use riparian habitats.

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Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treatments in 50 year Period	Resource Benefit	Rationale
Grazing	**Riparian Areas:** Maintain or enhance the Characteristics of riparian areas, wildlife habitat, and fish habitat near or within riparian ecosystems. (WIN 4-6). Water bodies, stream courses, and wetlands, their riparian vegetation, and the immediately adjacent upland areas will be managed to stabilize stream channels: prevent soil erosion: and maintain or improve water quality, fish habitat, recreation opportunities, and riparian/ wetland habitat for dependent fish and wildlife species and dependent aquatic species. (WIN 4-16) Riparian area management is designed to protect soil, water, wetland, floodplain, wildlife, and fish resource values associated with riparian vegetative communities (WIN 4-136); maintain or improve riparian areas associated with Class I, II and III streams and with lakes (WIN 4-139) **ACS Objectives: 3, 4, 5, 8, 9**	Fence construction and cattle guards	Fremont-Winema NF, Clover Creek Road. Buck-Indian Allotment	6.4 Miles	1	Wetland and aquatic habitats. Visual resources, public safety.	This fence would serve to divide the Buck Indian Allotment into pastures north and south at Clover Creek Road. This fence would keep cattle from grazing newly revegetated areas in the Right of Way corridor, including areas where the corridor crosses Spencer Creek, thus helping to ensure that erosion control and revegetation objectives are met. It will also serve to separate anticipated increased cattle grazing of the ROW from the highway; greatly reducing a safety hazard for vehicles traveling the Clover Creek road. This fence would require 7-9 cattle guard crossings for Forest Roads intersecting the fence

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Miti-gation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treatments in 50 year Period	Resource Benefit	Rationale
Visuals	**Winema NF:** Provide attractive. visually pleasing settings, emphasizing appearance of areas seen from major travel .routes,-use areas, and bodies of water (LRMP 4-13) **Foreground Retention:** The primary emphasis for this intensity is to retain the natural-appearing condition of the foreground areas. The retention visual quality objective means that activities may only repeat whatever form, line, color, and texture are frequently found in the characteristic landscape. Changes in their qualities--such as size, amount, intensity, direction, and pattern-may not be evident (WIN MA 3A, LRMP 4-103, RR MA 6A, LRMP 4-72). **Foreground Partial Retention:** The goal is to provide attractive scenery that is slightly altered from a natural condition as viewed in the foreground . Activities may repeat or introduce form, line, color, or texture common or uncommon to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, and pattern must remain visually subordinate to the visual strength of the characteristic landscape (MA 3B; LRMP 4-107, RR MA 6B, LRMP 4-86).	Stand density and fuels treatments for visual purposes on 50-500 foot wide area (Avg. 300) feet wide for length of corridor along Clover Creek Road (estimated 110 Acres).	Winema National Forest, Clover Creek Road	Estimated 110 acres-50-500 foot wide zone along the timbered edge of the PCGP corridor on the Clover Creek Rd.	1	Soften the visual effect of the hard edge created along the timbered boundary of the PCGP along the Clover Creek Road.	The PCGP will create a hard line along the timbered edge of the corridor that does not fit with the visual objectives for the Clover Creek Road or the Dead Indian Memorial Highway. Thinning and fuels treatments can be used to soften the edge to a more natural appearing texture by restoring stand density to more natural levels and creating small openings that are consistent with landscape. Thinning of commercial sized material will be accomplished with a commercial timber sale. The mitigation is intended to supplement funding for the non-commercial part of that work for visual purposes that could not otherwise be accomplished.
		Note that extensive mitigations are proposed within the PCGP Corridor for visual purposes at the PCGP crossing of the Big Elk Road and the Pacific Crest Trail on the Rogue River NF, and at the Dead Indian Memorial Highway crossing and along the Clover Creek Road on the Winema NF. These mitigations occur within the PCGP corridor and part of the Aesthetic Management Plan for the project, so they are not included as part of the Mitigation Plan or funding for activities that occur outside of the PCGP Corridor.					

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Winema National Forest

Forest Plan Objectives and Watershed Analysis Recommendations

This report adopts and supplements the existing FERC mitigation plan found in Appendix L of the FERC FEIS for the Winema National Forest to support Forest Service decision making. Land allocations affected by the PCPG are shown in Table 2, below.

Table 2: Land Allocations Affected by the PCGP, Winema NF

LSR	Matrix	Riparian Reserves
0	6.09	0.08 Miles
Source: FERC FEIS Table 4.7.4.2-1, page 4.7-72		

Spencer Creek is a Tier 1 Key Watershed in the NWFP. Reduction of road density is a Standard and Guideline (S&G) for Key Watersheds (USDA FS; USDI BLM 1994b p. C-7) Watershed restoration recommendations are found in the Spencer Creek Watershed Analysis (WA) (1995). The Spencer Creek WA noted that road density in the watershed is negatively affecting wildlife habitat (USDA FS WNF 1995 p. 4.3). The Spencer Creek WA also noted that road density, stream temperature, fine sediment and low flows negatively impacted aquatic habitats in Spencer Creek(USDA FS WNF 1995 Executive Summary). After the FERC FEIS was released, the Winema National Forest completed their forest travel management planning process. This served as a catalyst to reexamine mitigation proposals associated with the PCGP in the Spencer Creek drainage. The following changes in the mitigation plan for the PCGP were developed after reviewing the FERC FEIS, Travel Management recommendations and the recommendations of the Spencer Creek WA.

Proposed Mitigation Actions

Table 3 displays the relationship between the PCGP impacts and proposed mitigations.

Table 3: Relationship between PCGP Environmental Consequences and Proposed Mitigations

PCGP Environmental Consequences[1]	Off-Site Mitigation (not in the PCGP Corridor)
Wildlife habitat impacts: fragmentation and edge effects created by corridor (Direct and indirect effects)	Decommission roads to reduce road density. Reestablish native vegetation to reestablish wildlife habitat.
Watershed impacts: Loss of LWD and riparian vegetation at stream crossings, potential sediment transport into aquatic systems, residual soil displacement and compaction. (Direct and indirect effects)	Replant riparian vegetation, Instream LWD and boulder project, Fencing to keep cattle out of corridor and adjacent streams, Harden ford at Buck Lake, Decommission roads to reduce soil compaction and erosion in watershed
Visual impact: corridor edge along major travel routes (Direct effect)	Soften edge by manipulating stand density and creating small openings typical of landscape.
1: Source: FERC FEIS Chpt. 4, Environmental Consequences on Federal Lands, various sections	

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The following changes in the mitigation plan for the PCGP are intended to address objectives of the Winema NF LRMP as amended and the Spencer Creek WA. Maps of the project areas are attached (See Figure 1 and 2).

Riparian Plantings:
This is a meadow site along a .77 kilometer reach of Spencer Creek just upstream of Buck Lake (T38S R5E sec 11) that has lost streamside vegetation and has compacted soils. There is an overall need to restore health and vigor to riparian stands by maintaining and improving riparian reserve habitat. Shade provided by the plantings will contribute to moderating water temperatures in Spencer Creek. Root strength provided by new vegetation will increase bank stability, decrease erosion and sediment depositions to Spencer Creek and provide habitat for species that use riparian habitats. This is responsive to Aquatic Conservation Strategy objectives 3, 4, 5, 8 and 9.

In-Stream Large Woody Debris Placement:
Over the last century, a 1mile reach of Spencer Creek (T38S R6E sec 18) with high aquatic habitat potential has become simplified, and therefore, has a reduced capacity to provide quality habitat. Riparian stands have decreased health and vigor, resulting in increased time to develop large tree structure for wildlife, stream shade, and future instream wood. Placement of LWD in streams adds structural complexity to aquatic systems, traps fine sediments and can contribute to reductions in stream temperatures over time (Tippery, Jones et al. 2010). The BLM completed placement last year on 3 miles of Spencer Creek below this reach. Addition of this segment would complete the stream rehabilitation on the reach of Spencer Creek where the project occurs. Logs from the PCGP Right of Way will be used for the project. An estimated 75 pieces are needed. A helicopter will be used to place the logs. This is responsive to Aquatic Conservation Strategy objectives 2, 3, 4 and 5.

Interpretive sign placed at the dispersed campsite below Buck Lake:
Continued recreational dam building occurs at this location resulting in negative impacts to stream morphology and riparian habitat impacting fish and the only known Upper Klamath Basin population of Giant Pacific Salamander. There is a need to educate the public as to the detrimental effects of this dam building action and this would best be served by installation of an informational sign to reach those parties utilizing the site.

Stand Density Reduction:
The PCGP along the Clover Creek Road will create a hard visual "edge" against the timbered side of the corridor. This mitigation project would soften the edge effect by thinning the stand edge at widths varying from 50-500 feet and creating small openings consistent with the surrounding landscape. Approximately 110 acres will be thinned along the timbered edge of the corridor to reduce the visual impact of the project.

Road Obliterations in the Spencer Creek Watershed:
Reduction in road density is a central recommendation of the Spencer Creek WA. The objective of road decommissioning for this project is to reduce road density and accelerate the revegetation of the decommissioned roads with trees to reduce negative impacts of roads on wildlife habitat and aquatic environments. Some natural-surface roads have poor drainage that can lead to erosion and increased

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sediment in nearby streams (Trombulak and Frissell 2000). Road obliteration can improve drainage and to reduce chronic sediment input to the stream systems (Madej 2000; Switalski, Bissonette et al. 2004; Tippery, Jones et al. 2010). This mitigation also offsets the impacts of soil compaction and displacement within the construction right-of-way by reducing compaction in the decommissioned roadbeds. Table 4 below compares miles of roads decommissioned with impacts of the PCGP corridor on riparian reserves, acres in degraded soil condition and number of stream crossings. Likely benefits of road decommissioning include increased infiltration of precipitation, reduced surface runoff, and reduced sediment production from surface erosion (Switalski, Bissonette et al. 2004). Where roads are decommissioned within riparian areas, riparian vegetation may be reestablished. Approximately 5.2 miles or 12.6 acres of proposed decommissioning occur within riparian reserves.

Approximately 29.3 miles of roads are currently open that can be decommissioned. Table 5 below shows the reduction in road density associated with implementation of the proposed mitigation plan. Road densities decrease at all scales with this mitigation. The greatest reductions in road density occur within ¼ mile of the PCGP corridor, showing that mitigations are associated with the impact of the project. Although an extensive erosion control plan and best management practices are incorporated in the PCGP, it is likely that 20-30% (15-25 acres) of the 78 acres cleared in the R/W and Temporary Extra Work Areas (TEWAs) on the Winema NF will remain in a degraded soil condition upon completion of the project because of displacement and residual compaction, thus necessitating some form of mitigation (FERC 2009 p. 4.2-29). These effects are similar to those created by a road so decommissioning roads is a logical mitigation for these impacts. Impacts of roads on watershed values are well documented (Trombulak and Frissell 2000; Switalski, Bissonette et al. 2004). Decommissioning roads can substantially reduce sediment delivery to streams (Madej 2000; Keppeler, Cafferata et al. 2007). The proposed road decommissioning will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from road-related surface erosion in the watershed where the impacts from the PCGP occur.

Assuming a 20 foot average road width, 29.3 miles of proposed road decommissioning will revegetate approximately 71 acres (29.3*5280*20/43560=52 Acres) that are currently native road surfaces in the Spencer Creek Watershed. A comparison of project watershed impacts and corresponding mitigations is shown in Table 4 below. This mitigation is responsive to ACS objectives 2, 3, 4 and 5 and Standards and Guidelines for Key Watersheds (USDA FS; USDI BLM 1994b p. B-11, C-7).

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Table 4: Comparison of PCGP Effects and Proposed Road Decommissioning: Spencer Creek Tier 1 Key Watershed

Winema NF	Miles in Watershed	Miles in Riparian Reserves	Acres in Degraded Soil Condition / Acres Restored	Stream Crossing
PCGP Corridor	6.09[1]	0.08[1]	15-25 degraded[2]	1 Class II[3] 5 Class IV
Roads Decommissioned[4]	29.3	5.20	71 Restored	25 Class IV

Sources:
1. FERC FEIS Table 4.7.4.2-1, page 4.7-72
2. FERC 2009, p 4.2-29
3. FERC 2009, Table G-4, page G-29
4. USFS GIS Analysis, (See Appendix)

Comparison of PCGP Effects and Proposed Road Decommissioning: Spencer Creek Tier 1 Key Watershed

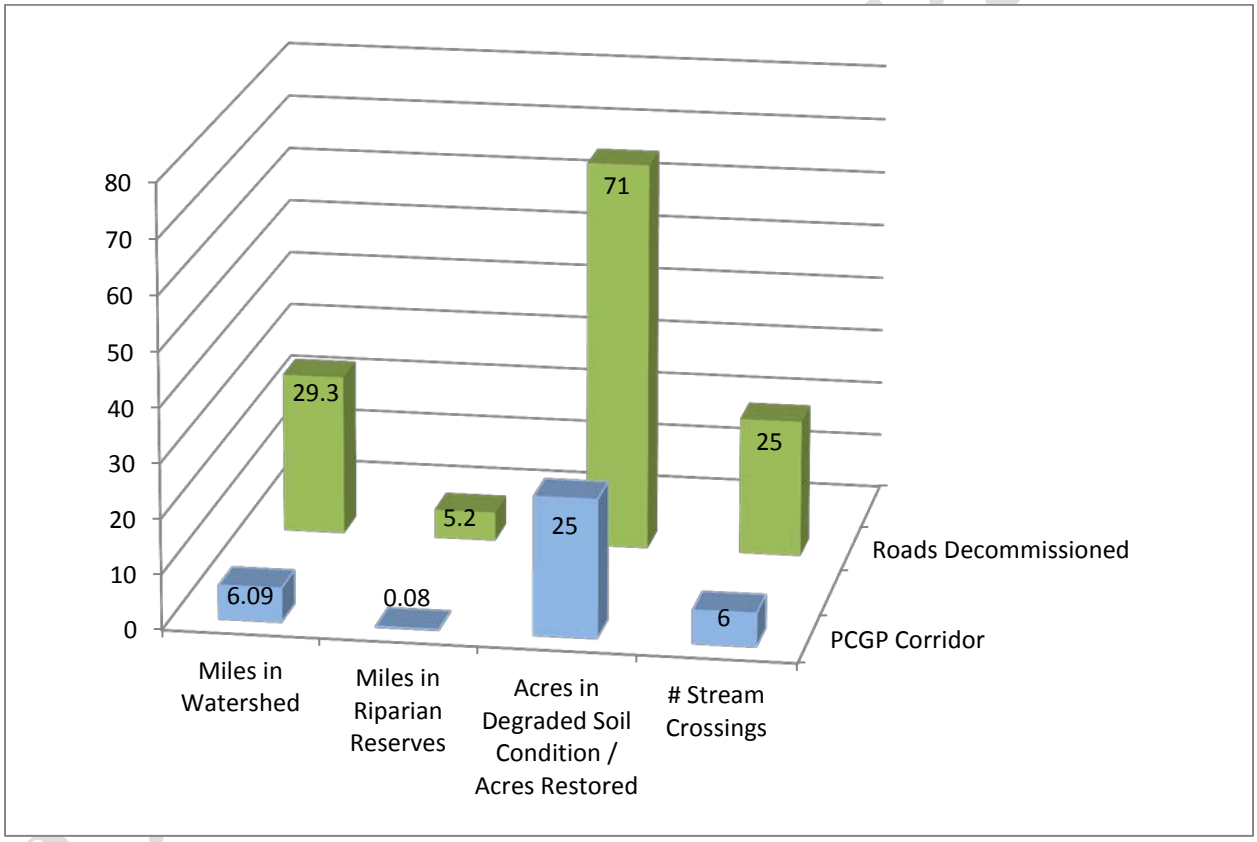
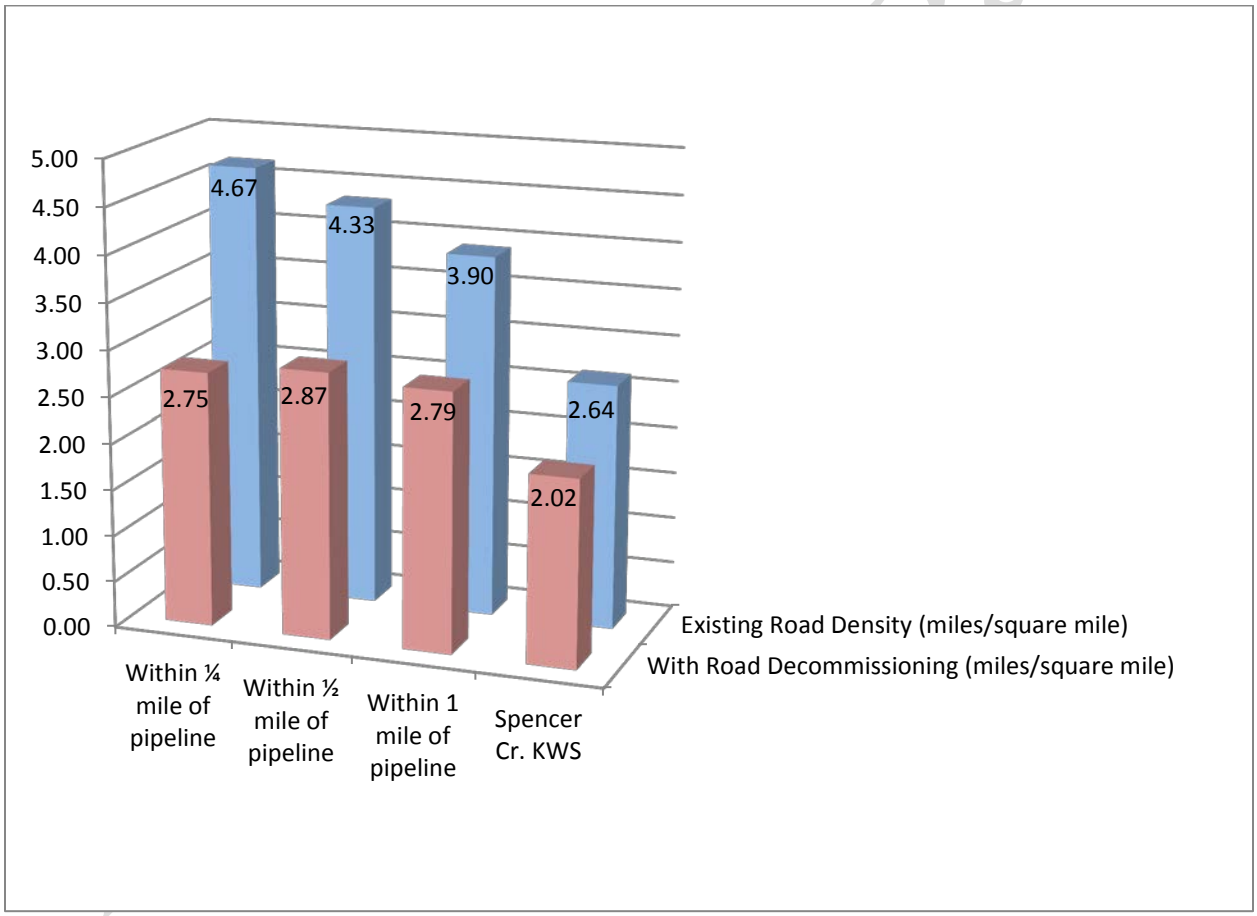


Table 5: Change in Road Density with Implementation of Mitigation Plan: WNF Spencer Creek Tier 1 Key Watershed

Winema NF	Current Condition (miles/square mile)	With Road Decommissioning (miles/square mile)	Change in Road Density with Decommissioning (miles/square mile)
All Roads, Spencer Cr. KWS (NFS only)	2.64	2.02	-0.62
Within 1 Mile of Corridor	3.9	2.79	-1.11
Within 1/2 mile of Corridor	4.33	2.87	-1.46
Within 1/4 mile of Corridor	4.67	2.75	-1.92
Source: FS GIS Analysis, Road Density Analysis,(See Appendix)			

Change in Road Density with Implementation of Mitigation Plan: WNF Spencer Creek Tier 1 Key Watershed



The following mitigations are a part of the FERC FEIS record, and are included here for reference.

Fencing

Construct allotment fencing along the south side of the ROW through Forest Service administered lands (approx. 6.4 miles). This fence would serve to divide the Buck Indian Allotment into pastures north and south at Clover Creek Road. This fence would keep cattle from grazing newly revegetated areas in the Right of Way corridor, including areas where the corridor crosses Spencer Creek, thus helping to ensure that erosion control and revegetation objectives are met. It will also serve to separate anticipated increased cattle grazing of the ROW from the highway; greatly reducing a safety hazard for vehicles traveling the Clover Creek road. This fence would require 7-9 cattle guard crossings for Forest Roads intersecting the fence. This is responsive to ACS Objectives 3, 4, 5 and 8.

Harden the ford at the crossing below Buck Lake:

Stream crossing improvements would improve aquatic habitat/connectivity and reduce sedimentation. The road accessing this location has been closed on the BLM and USFS. The private landowner and cattle cross the ford to access pasture from private land. The raw, unstable banks at this crossing allow fine sediments to enter the stream. This ford needs to be hardened and the banks re-vegetated and protected from grazing. The USFS side from the upper Spencer Creek dispersed campground needs more boulders or method of blocking 4-wheelers. Over time, these measures will reduce sediment contributions to Spencer Creek from these sites. This is responsive to ACS Objectives 2, 3 and 5.

Stand density and fuels reduction to achieve visual objectives:

The PCGP will create a hard line along the timbered edge of the corridor that does not fit with the visual objectives for the Clover Creek Road or the Dead Indian Memorial Highway (USDA-FS: RRNF LRMP 1990 p. 4-103). Thinning and fuels treatments can be used to soften the edge to a more natural appearing texture by restoring stand density to more natural levels and creating small openings that are consistent with landscape (Mattson 2009). Thinning of commercial sized material will be accomplished with a commercial timber sale. The mitigation is intended to supplement funding for the non-commercial part of that work for visual purposes that could not otherwise be accomplished or would not otherwise be required. An estimated 110 acres in a variable width strip 50-500 feet wide along the east side of the corridor would be treated in this manner.

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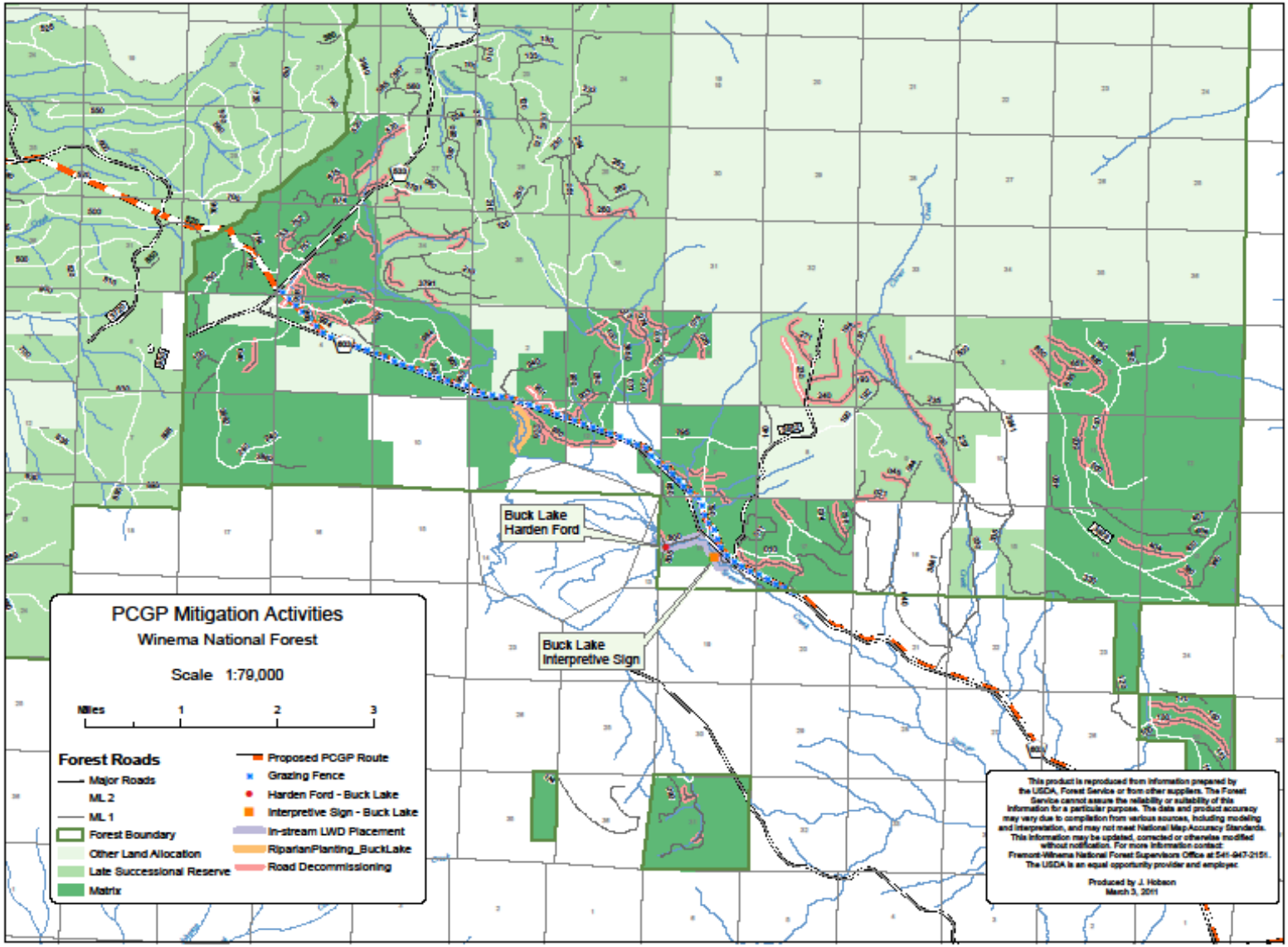
Figure 1: PCGP Mitigation Plan, Winema NF



Rogue River National Forest

Forest Plan Objectives, Late Successional Reserve Assessment Recommendations and Watershed Analysis Recommendations

This report adopts and supplements the existing FERC mitigation plan found in Appendix L of the FERC FEIS for the Rogue River National Forest for the purposes of Forest Service decision making. The PCGP Corridor on the Rogue River National Forest lies entirely within LSR 227 and crosses two Riparian Reserves (See Table 6).

Table 6: Land Allocations Affected by the PCGP, Rogue River NF

LSR	Matrix	Riparian Reserves
13.58 miles	0.0	0.25 Miles
Source: FERC FEIS Table 4.7.4.2-1, page 4.7-72		

The LRMP objective for the LSR land allocation is to protect and enhance conditions of late-successional and old-growth forest ecosystems which serve as habitat for late-successional and old-growth related species including the northern spotted owl (USDA FS; USDI BLM 1994b p. C-9). Late Successional Reserves are designed to maintain a functional, interacting, late-successional and old-growth forest ecosystem (USDA FS; USDI BLM 1994b p. C-11). New developments in LSRs such as pipelines are permitted by the Forest Plan where impacts can be minimized and mitigated (USDA FS; USDI BLM 1994b p. C-17). This report, in combination with the analysis in Appendix L of the FERC FEIS provides information for agency decision makers to determine whether project effects have been mitigated within the LSR land allocation.

Two mid-level analyses provide additional management recommendations for the Little Butte Creek watershed and the LSR land allocation. The Little Butte Creek Watershed Analysis provides information for aquatic and watershed restoration (USDA FS; USDI BLM 1997). The South Cascades Late Successional Reserve Assessment provides recommendations for management of vegetation to achieve the objectives of the LSR land allocation (USDA FS; USDI BLM; USDI FWS 1998).

Proposed Mitigation Actions

Portions of the Little Butte Creek watershed have high road densities that have negatively affected watershed condition and wildlife habitat (USDA FS; USDI BLM 1997). Key issues identified in the WA for aquatic habitats include temperature, habitat modification and sedimentation. Restoration recommendations to address these conditions include road decommissioning, riparian planting and thinning and instream projects that contribute to habitat complexity (USDA FS; USDI BLM 1997 Executive Summary, p. 10) Reduction in road density was identified as a method to improve watershed conditions (USDA FS; USDI BLM 1997 p. 182, 191, 205, Appendix F, K). High priority areas identified in the WA and proximity to the effects of the PCGP corridor were used to develop road decommissioning proposals.

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The South Cascades Late Successional Reserve Assessment (1998) estimated that LSR 227 was approximately 16% late-successional or old-growth (LSOG) habitat at the time of the assessment, but had the capacity to be 75% late seral (USDA FS; USDI BLM; USDI FWS 1998 p. 51, p. 113). In order to achieve that objective, the assessment recommended a number of stand -level activities to accelerate the development of late-successional stand conditions including young stand thinning, creation of snags and recruitment of large woody debris (USDA FS; USDI BLM; USDI FWS 1998 p. 189-194).

Table 7 displays the relationship between PCGP effects and proposed mitigations.

Table 7: Relationship between project effects and mitigations

PCGP Environmental Consequences[1]	Off-Site Mitigation, not in the PCGP Corridor
Impact to the LSR land allocation	Reallocate matrix lands to LSR
Wildlife habitat impacts: Loss of LSOG and snag habitat in corridor, fragmentation and edge effects created by corridor (Direct and indirect effects)	Accelerate development of LSOG habitats by thinning young stands, creating snags, and placing LWD in adjacent stands. Accelerate development of interior stand habitat to reduce edge and fragmentation by decommissioning roads, revegetating decommissioned roads, precommercial thinning young stands
Watershed impacts: Loss of LWD and riparian vegetation at stream crossings, potential sediment transport into aquatic systems, residual soil displacement and compaction. (Direct and indirect effects)	Instream LWD and boulder project, Decommission roads to reduce soil compaction and erosion in watershed
1: Source: FERC FEIS Chpt. 4, Environmental Consequences on Federal Lands, various sections	

The following changes in the mitigation plan for the RRNF are intended to be responsive to these issues. Maps of the project areas are attached. See Figure 3:

Road Decommissioning:
The purpose of road decommissioning as mitigation for the PCGP is to offset potential watershed effects from construction and to reduce impacts on wildlife habitat from edge effects and fragmentation associated with the PCGP corridor. After the FERC FEIS was filed, the RRNF completed a Forest-wide transportation planning project to identify roads that are necessary for the Forest's designated transportation system. As a result of that decision and other access considerations, minor changes in the roads proposed for decommissioning were needed. The total number of miles proposed for decommissioning decreased by 1.3 miles from 54.5 miles to 53.2 miles. The number of stream crossings on roads proposed to be decommissioned increased slightly from 29 to 32 (See Table 9, below). Miles of roads proposed to be decommissioned in Riparian Reserves increased from 5.7 to 6.7 miles (USDA FS 2011). Current road density in LSR 227 is 3.3 miles per square mile. With the proposed road decommissioning, that would be reduced to 2.5 miles per square mile, a 24% reduction in road density measured in miles of road per square mile of LSR. Reduction in road density within ¼, ½ and 1 mile of the pipeline corridor are shown in the Table 9 (USDA FS 2011) . Roads proposed for decommissioning are shown in Figure 4, below.

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Road Decommissioning Effects on Watershed Values**:** Although an extensive erosion control plan and best management practices are incorporated in the PCGP, it is likely that 20-30% (60-90 acres) of the 203 acres cleared in the R/W and TEWAs on the Rogue River NF will remain in a degraded soil condition upon completion of the project because of displacement and residual compaction, thus necessitating some form of mitigation (FERC 2009 p. 4.2-29). These effects are similar to those caused by a road, making road decommissioning an appropriate mitigation. Impacts of roads on watershed values are well documented (Trombulak and Frissell 2000; Switalski, Bissonette et al. 2004). Decommissioning roads can substantially reduce sediment delivery to streams (Madej 2000; Keppeler, Cafferata et al. 2007). The proposed road decommissioning will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from road-related surface erosion in the watershed where the impacts from the PCGP occur. Assuming a 20 foot average road width, 53.2 miles of proposed road decommissioning will revegetate approximately 130 acres (53.2*5280*20/43560=130 Acres) that are currently native road surfaces in the Little Butte Creek Watershed. A comparison of project watershed impacts and corresponding mitigations is shown in Table 7 below.

Riparian Restoration**:** The PCGP crosses 1 intermittent and 1 perennial stream on the Rogue River National Forest affecting approximately 0.25 miles and 3 acres of riparian vegetation (FERC 2009 Table G-4, Table 4.7.4.2-1, page 4.7-72). Decommissioning roads in Riparian Reserves and at stream intersections has the effect of restoring connectivity within aquatic ecosystems and allowing riparian vegetation to become reestablished in riparian areas now occupied by road beds (Switalski, Bissonette et al. 2004). Approximately 6.72 miles with of proposed road decommissioning will occur in Riparian Reserves. A total of 32 stream crossings as shown in Table 10 below will be restored by proposed road decommissioning. As vegetation becomes reestablished at these crossings, it is expected that road-related sediment transport to aquatic ecosystems will be reduced (Madej 2000; Keppeler, Cafferata et al. 2007). This also supports ACS objectives 2, 3, 4, and 5, in the Little Butte Creek Key Watershed by reducing compaction and by revegetating approximately 14.3 acres of decommissioned roadbeds within Riparian Reserves.[2]

Table 8: Stream Crossings in Decommissioned Roads by Subwatershed and Stream Class, Little Butte Creek

6th Field Subwatershed	Class II	Class III	Class IV
Beaver Dam Subwatershed		1	7
Middle South Fork Subwatershed			6
Upper North Fork Subwatershed			8
Upper South Fork Subwatershed	1		9
Total	1	1	30
Source: USFS GIS, (See Appendix)			

[2] Assumes a 20 foot average road width.

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Table 9: Comparison of PCGP Effects and Proposed Road Decommissioning: Little Butte Creek Tier 1 Key Watershed

Rogue River NF	Miles in Watershed	Miles in Riparian Reserves	Acres in Riparian Reserves	Acres in Degraded Soil Condition / Acres Restored	Stream Crossing
PCGP Corridor	13.58[1]	0.25[1]	3[1]	60-90 degraded[2]	1 Class II[3] 1 Class IV
Proposed Decommissioned Roads[4]	53.2	6.72	14.3	130 Restored	1 Class II, 1 Class III 29 Class IV

Sources:
1. FERC FEIS Table 4.7.4.2-1, page 4.7-72
2. FERC FEIS, p 4.2-29
3. FERC FEIS, Table G-4, page G-29
4. USFS GIS Analysis, (See Appendix)

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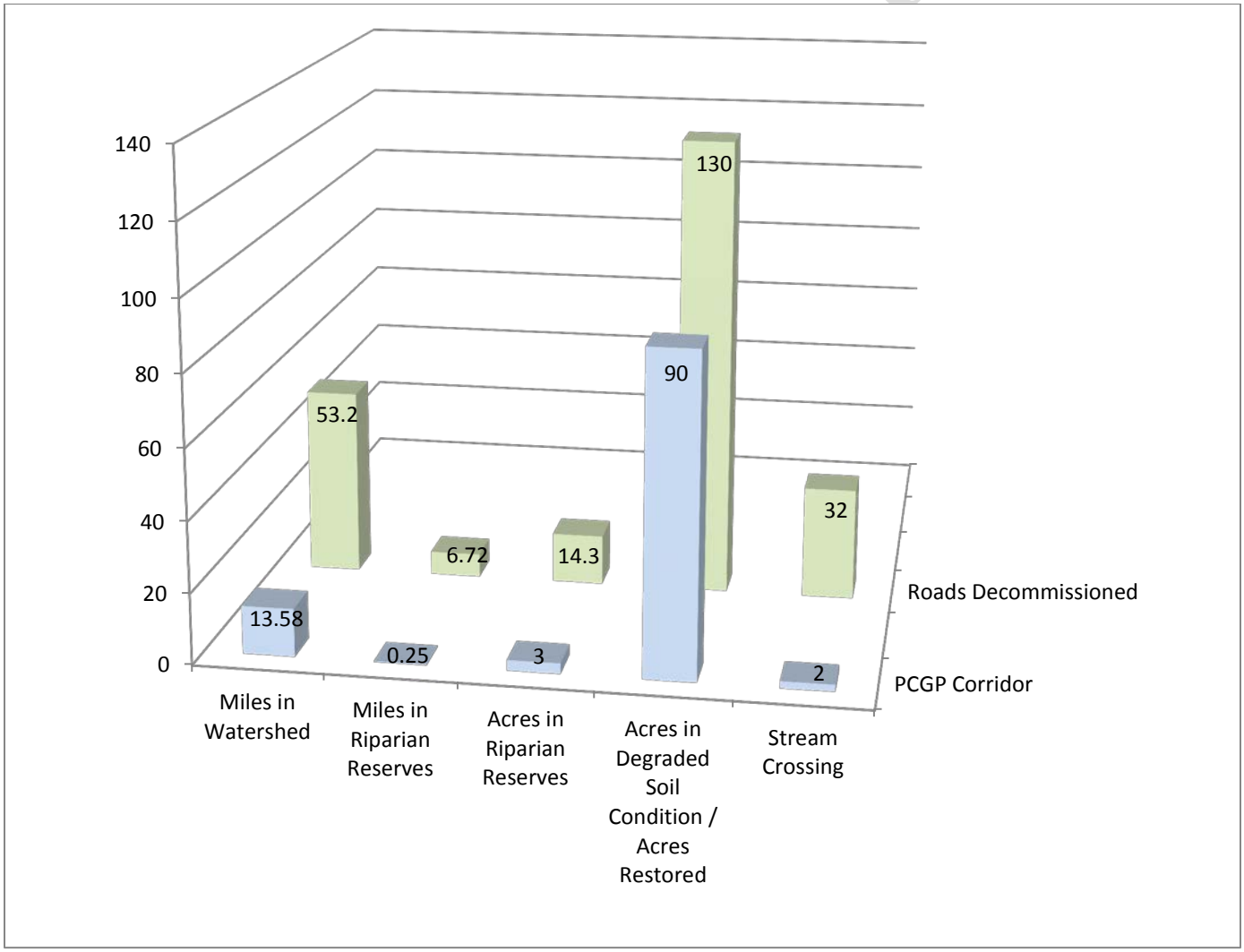
Comparison of PCGP Effects and Proposed Road Decommissioning: Little Butte Creek Tier 1 Key Watershed



Road Decommissioning Effects on Wildlife Habitats: Although the PCGP has been routed to avoid key wildlife habitats as much as possible, the project will create edge effects that may impact interior stand microclimates and cause habitat fragmentation with LSR 227 that cannot be avoided (FERC 2009 p. 4.4-41).

Edge: Edge is the effect of an opening on microclimate in adjacent stand (Hunter Jr. 1990; Chen, Franklin et al. 1993). Edge effect introduced by roads is highly variable and depends on aspect, road width, vegetation crossed and other variables. Edge effects are greatest when there is a high contrast in structure and composition between a newly created opening and the adjacent landscape (Harper, Macdonald et al. 2005 p. 768). Thus, edge effects are greatest when they impact interior stand habitats of older trees and least when the new opening is similar to the surrounding landscape such as adjacent to an existing road or in a recent clearcut

Decommissioning roads with appropriate restoration measures would presumably reverse edge and habitat fragmentation caused by existing roads and create habitat for a variety of animals (Switalski, Bissonette et al. 2004). The effect of edge reduction by road decommissioning is highly variable for the same reasons described for the edge effects created by constructing a road. Agency field experience has shown that road decommissioning reduces edge effect over time by revegetating road surfaces and eliminating road corridors. Revegetating selected roads in conjunction with density management proposed for adjacent plantations would block up forested habitat and reduce edge effects and fragmentation in a period of about 40 years as planted trees became pole sized (5-9 inches DBH and 20-40 feet tall). Published data on rate and pattern of edge reduction associated with decommissioning roads is not available (Baker 2011) but a comparison of the predicted beneficial effect of road decommissioning to edge effects associated with the PCGP corridor is useful, even if based on assumptions.[3] Using an assumed edge reduction of over time of 50 feet on each side of the road, decommissioning roads would reduce existing road-related edge effects on an estimated 640 acres (53.2*5280*100/43560)

Liner edge provides another measurement of edge effect. Approximately 13.58 miles of the PCGP corridor are located within LSR 227, creating 27.16 miles of new edge within LSR 227. Proposed road decommissioning will revegetate 53.2 miles of roads, removing approximately 106.4 miles of existing edge.

Fragmentation: Fragmentation can be described in several different contexts. Fragmentation in the context of impacts on the LSR land allocation is the process of reducing the size and connectivity of stands that compose a forest (USDA FS; USDI BLM 1994c Glossary, p. 7). The conversion of large tracts of old-growth forest to small, isolated forest patches with large edge areas can create changes in microclimate, vegetation species, and predator-prey dynamics (FERC 2010 p. 4-204). An assessment of fragmentation was conducted by FERC, but that assessment was not specific to LSR 227 with respect to patch size (FERC 2010 p. 4-198).

To provide an indication of the effects of the PCPG corridor and proposed road decommissioning on fragmentation, the Forest Service conducted a stand-level analysis considering stands that fell within 100

[3] This approach is consistent with CEQ Regulations for NEPA, 40 CFR 1508.22

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meters of the proposed pipeline corridor. All stands that overlapped the 100 meter buffer were included in the analysis out to the stand edges beyond the buffer. The only changes examined in this analysis were natural growth and development of trees and the off-site mitigation activities. Natural events, such as wildfire and storms, were not modeled because of their stochastic nature and the relatively limited size of the analysis area. Within the modeled stands, it was assumed there would be no forest management harvest activities during the 60 years modeled beyond activities already planned. Future management activities would need to be consistent with the existing forest plan at the time the project is implemented.

Construction of the pipeline will result in the fragmentation of mature forest in LSR 227, and will increase the fragmentation index (ratio of edge: acres) in modeled stands (those within 100 meters of the pipeline) by about 1%.[4] After 60 years, normal stand growth will reduce this ratio by about 3%. With implementation of proposed road decommissioning the ratio of edge: acres will decrease about 34%. A decrease in the ratio of edge to opening means that patch sizes of forested areas has increased. LSR 227 currently has 1,445 patches of mature forest greater than 1 acre in size that lie within 100 meters of the edge of the PCGP corridor Pipeline construction increases fragmentation slightly by passing through and dividing eight of these patches, with a net increase of 5 patches. The current average patch size throughout the LSR is approximately 7 acres, and this is not projected to change within the next 60 years. With the proposed road decommissioning and road closures, the size of patches within 100 meters of the pipeline will increase to an average of 14.5 acres within 60 years. This is consistent with a reduction in the edge to opening ratio discussed above.

In terms of interior patches (mature forest areas that are at least one acre in size and at least 300 feet from a hard edge) there are currently 779 interior patches in LSR 227. Eight of these (about 1% of the interior patches) would be fragmented by the pipeline corridor. In 60 years, interior patches are projected to increase to 856 interior patches – a 9% increase from the current condition. With the proposed road decommissioning, the number of interior patches will increase by about 16% to 927, and the average size of the patches will increase from about 6.5 acres to 13.9 acres – about a 50% increase in size. (USDA FS; RRNF 2010)

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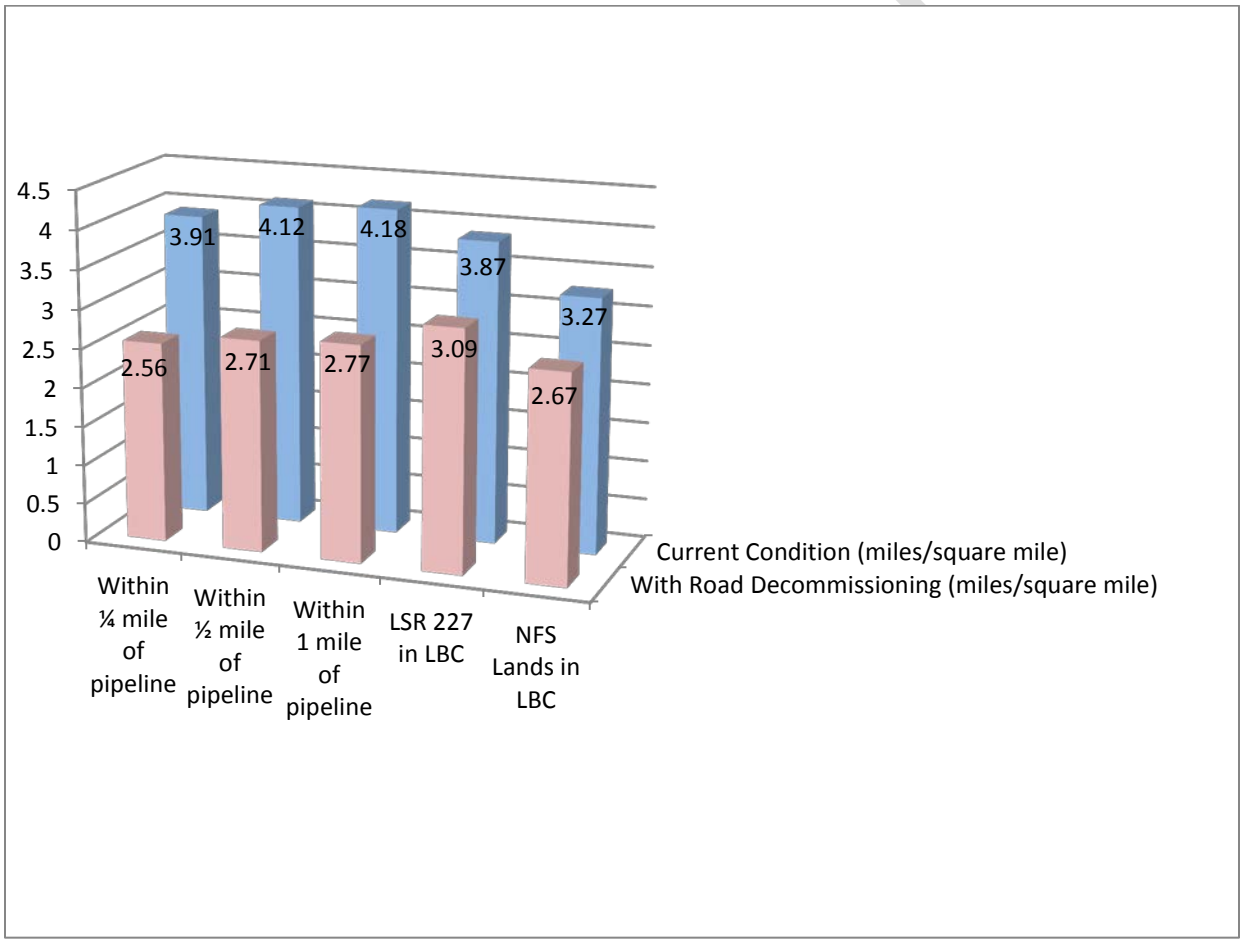
[4] Changes in edge: area ratios are more meaningful as relative numbers rather than absolute values, so percentages are used to express changes in values.

Table 10: Change in Road Density with Implementation of Mitigation Plan: RRNF, LSR 227 in Little Butte Creek Tier 1 Key Watershed

Rogue River NF	Current Condition (miles/square mile)	With Road Decommissioning (miles/square mile)	Change in Road Density with Decommissioning (miles/square mile)
NFS Lands in LBC KWS	3.27	2.67	-0.6
LSR 227 in LBC KWS	3.87	3.09	-0.78
Within 1 mile of pipeline	4.18	2.77	-1.41
Within ½ mile of pipeline	4.12	2.71	-1.41
Within ¼ mile of pipeline	3.91	2.56	-1.35
Source: USFS GIS Analysis, (See Appendix)			

Change in Road Density with Implementation of Mitigation Plan: RRNF, LSR 227 in Little Butte Creek Tier 1 Key Watershed



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Summary comparison of project effects or current condition and effect of proposed road decommissioning mitigation

	Road Density, LSR 227, miles / square mile[1]			Linear Miles of Edge				
PCGP Effect / Current Condition	3.87 (Current Condition)			27.16 miles created edge				
With Proposed Road Decom-missioning	3.09			106.4 miles edge removed				

Source:
1. **USFS GIS, Decommissioning Analysis (See Appendix)**
2. **FERC FEIS Table 4.7.4.2-1, page 4.7-72**
3. **FERC FEIS, Table G-4, page**

Table XX below provides a summary comparison Direct and indirect edge effects compared to effects of proposed mitigations are compared in Table XX below

RRNF, LSR 227	LSOG Acres	Total Acres, all age classes	Miles of Edge Created	Miles	
Direct Effects	67[1]	203[1]	13.58		
Indirect Effects-	874[2]				

Sources:
1. Table 2.1-1a, CMP, page L3-15, CMP
2. TABLE 4.3.5.3-13, page 4-206, FERC BA, 2010

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Large Woody Debris (LWD

The purpose of placing LWD in old harvest units is to meet forest plan objectives for LSR. The primary management objective of LSR is to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl (USDA FS; USDI BLM 1994b p. C-11). The South Cascades LSRA described a desired condition that includes LWD

ADD RECOVERY PLAN ACTIONS

WHEN WRITING ABOUT UMPQUA, HIGHLIGHT THAT ROAD DECOM NOT THAT BIG AN OBJECTIVE BECAUSE PART OF THE LAND IS MATRIX, AND NOT KEY WATERSHED.

LWD projects are necessarily limited by the number of pieces available from the corridor. The original proposal was based on preliminary estimates of available LWD from the corridor and did not account for pieces needed for corridor rehabilitation. As a result, the original proposal overestimated the acres that could be treated. Because of uncertainty in the number of pieces available projected treatment area is revised from 600 acres to an estimated range of 200-400 acres. Also, an instream project has been added which further reduced the number of pieces available for terrestrial LWD projects. Proposed LWD terrestrial units are shown in Figure 4, below.

In-stream Large Woody Debris, South Fork, Little Butte Creek:

This is a new mitigation project. Over the last century, many streams with high aquatic habitat potential have become simplified, and therefore, have a reduced capacity to provide quality habitat. Riparian stands have decreased health and vigor, resulting in increased time to develop large tree structure for wildlife, stream shade, and future instream wood. Placement of LWD in streams adds structural complexity to aquatic systems, traps fine sediments and can contribute to reductions in stream temperatures over time (Tippery, Jones et al. 2010). The proposed instream LWD project is shown in Figure 4, below.

Developed an Alternative Matrix to LSR Reallocation:

In response to scoping comments, an alternative matrix to LSR land allocation change has been developed that better matches the quality of habitat impacted by the PCGP. See Figure 3 below.

The purpose of this mitigation is to ensure that the Forest Plan objectives for Late Successional Reserve land allocation are achieved by adding acres from the matrix land allocation to LSR 227 to replace LSR acres impacted in the PCGP corridor. The Proposed Action would reallocate approximately 595 acres from matrix to LSR as shown in Figure 3 below. Scoping comments on the Proposed Action suggested that the matrix lands proposed for reallocation were of a lower quality habitat than that in the PCGP corridor and thus, may not adequately offset impacts to the LSR land allocation. In response to the scoping comments, the Forest Service developed an alternative proposal shown in Figure 3 that would reallocate approximately 512 acres from matrix to LSR. This alternative was developed to better represent types of habitat impacted in LSR 227 by the PCGP corridor. The Proposed Action and Alternative 1 are shown together in Figure 3 and compared in Tables 6, 7 and 8, below.

Compared to the Proposed Action, Alternative 1:

- Provides more contiguous habitat with fewer openings and less non-suitable habitat than the Proposed Action (See Figure 3 below).

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- Provides 50 more acres of NSO suitable habitat than the Proposed Action as shown in Table 7, below.
- Provides 63 more acres of LSOG than the Proposed Action as shown in Table 6 Additionally, as shown in Table 6, the old growth component of the LSOG age class has substantially more acres in Alternative 1 than in the Proposed Action.

Based on Tables 6, 7 and 8, Alternative 1 clearly provides larger amounts of higher quality habitat than the Proposed Action to replace habitat lost in the PCGP corridor.

When acres reallocated from matrix to LSR are compared to the acres removed in the LSR by the PCGP, the Proposed Action reallocates approximately 2.5 times more acres from matrix to LSR than are cleared by the PCPP; Alternative 1 reallocates approximately 3 times more acres to LSR than are cleared. When impacts to NSO habitat in LSR are considered, the Proposed Action reallocates approximately 4 times more suitable NSO habitat to LSR than is removed by the PCPG; Alternative 1 reallocates approximately 4.7 times more suitable NSO habitat to LSR than is removed by the PCGP corridor. When impacts to LSOG in LSR are considered, the Proposed Action reallocates approximately 4 times as many acres to LSR as are removed by the PCGP; Alternative 1 reallocates approximately 5 times as many acres of LSOG to LSR as are removed by the PCGP(see Table 8, below).

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Figure 2: Proposed Action and Alternative Matrix to LSR Land Reallocation, Rogue River NF

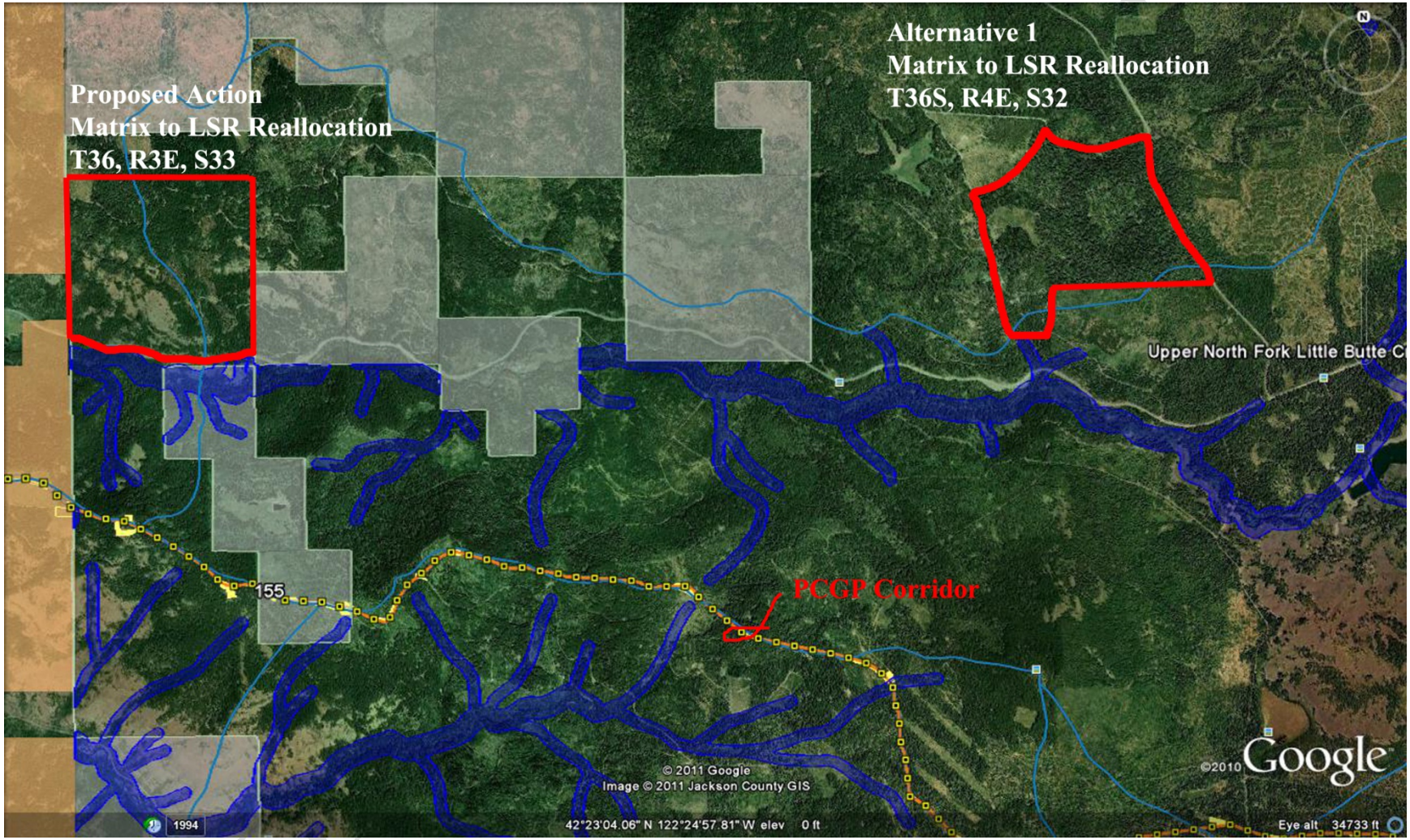

Table 11: Age Class Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227

Rogue River NF	Total Late Successional and Old Growth (80+yrs)	Mid-Seral (40-80 yrs)	Regenerating Shelterwood and plantations (5-40 yrs)	Regenerating Forested Burned Area (0-40 yrs)	Open Meadow Habitat or non-forest	Total All Age Classes
Reallocation of Matrix to LSR Proposed Action (acres)[1]	270	0	53	155	115	593
Reallocation of Matrix to LSR Alternative 1 (Acres)[1]	333	0	179	0	0	512
Acres of Vegetation Cleared in LSR by PCGP Corridor (acres)[2]	67	10	90	0	36	203

Sources:
1. Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion (See Appendix)
2. FERC FEIS Appendix L, Table 2.1-1a

Age Class Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227

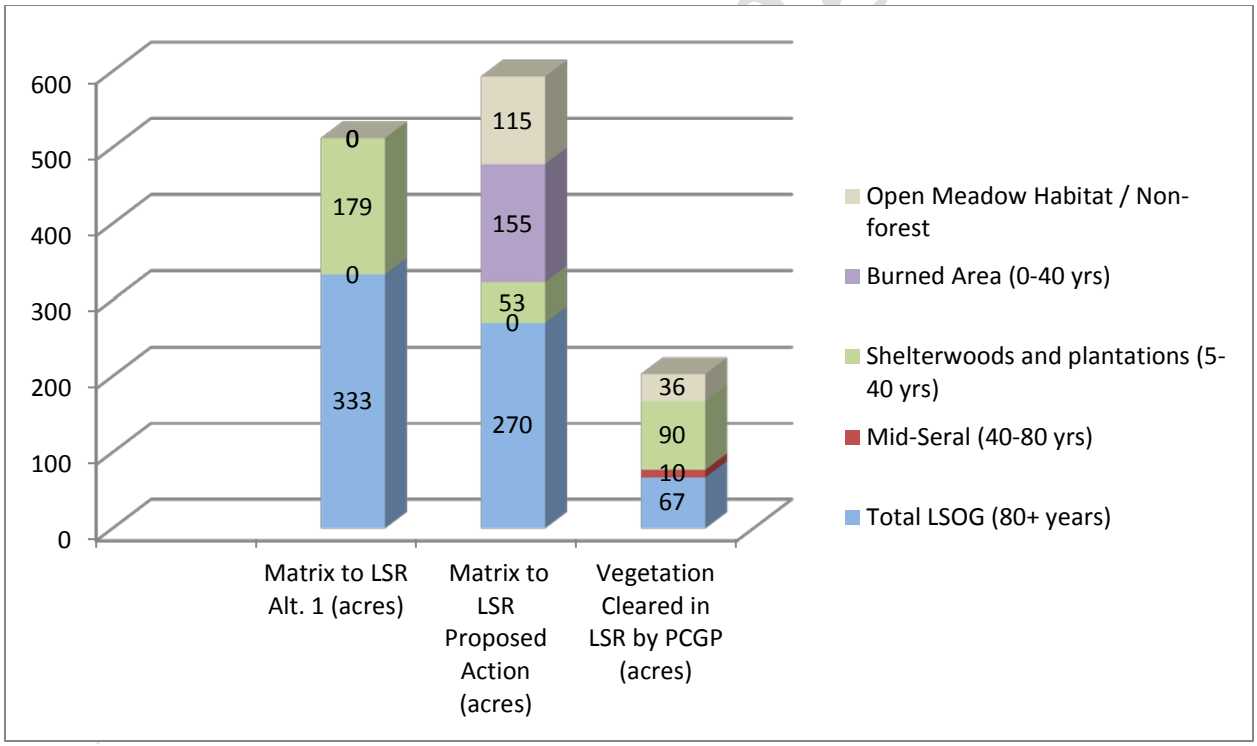

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Table 12: NSO Habitat Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227

				NSO Habitat Type
Rogue River NF	**Suitable**	**Dispersal Only**	**Non-Suitable/ Capable but not currently suitable[3]**	**Total Acres**
Alternative 1 Reallocation of Matrix to LSR (Acres) [1]	**320**	**13**	**179**	**512**
Proposed Action Reallocation of Matrix to LSR (Acres) [1]	**270**	**0**	**323**	**593**
Habitat Cleared in PCGP Corridor and TEWAs[2] (LSR Acres)	**68**	**62**	**73**	**203**

Sources:

1. **Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion (See Appendix)**
2. **FERC Biological Assessment, Table 4.3.5.3-14, page 4-204. LSR 227, West Cascades Physiographic Provinces**
3. **In this comparison, the Forest Service lumped capable but not currently suitable and non-suitable habitat for simplicity of comparison with matrix to LSR reallocation. See Cox, 2010, in the appendix for a breakdown of acres.**

NSO Habitat Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227

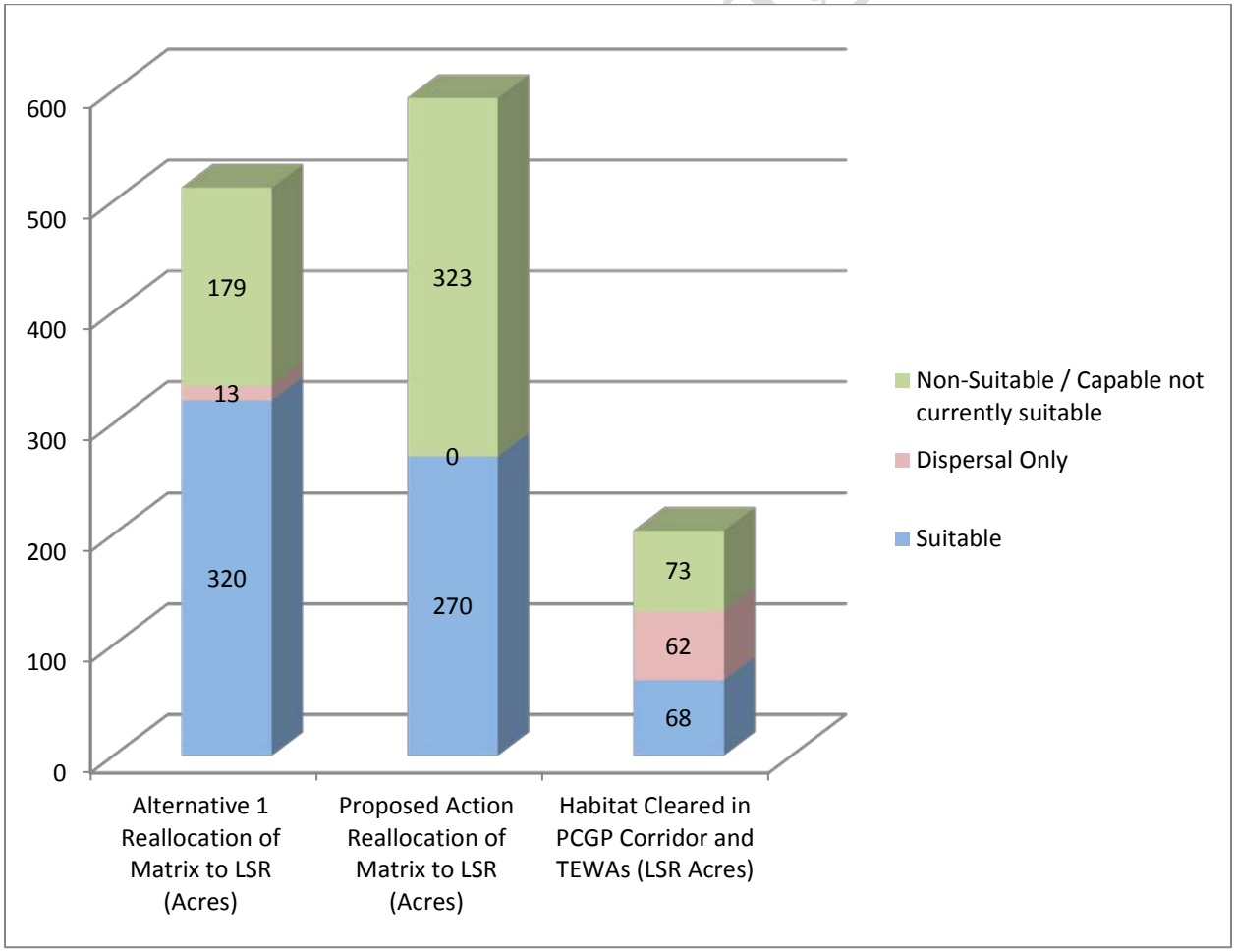
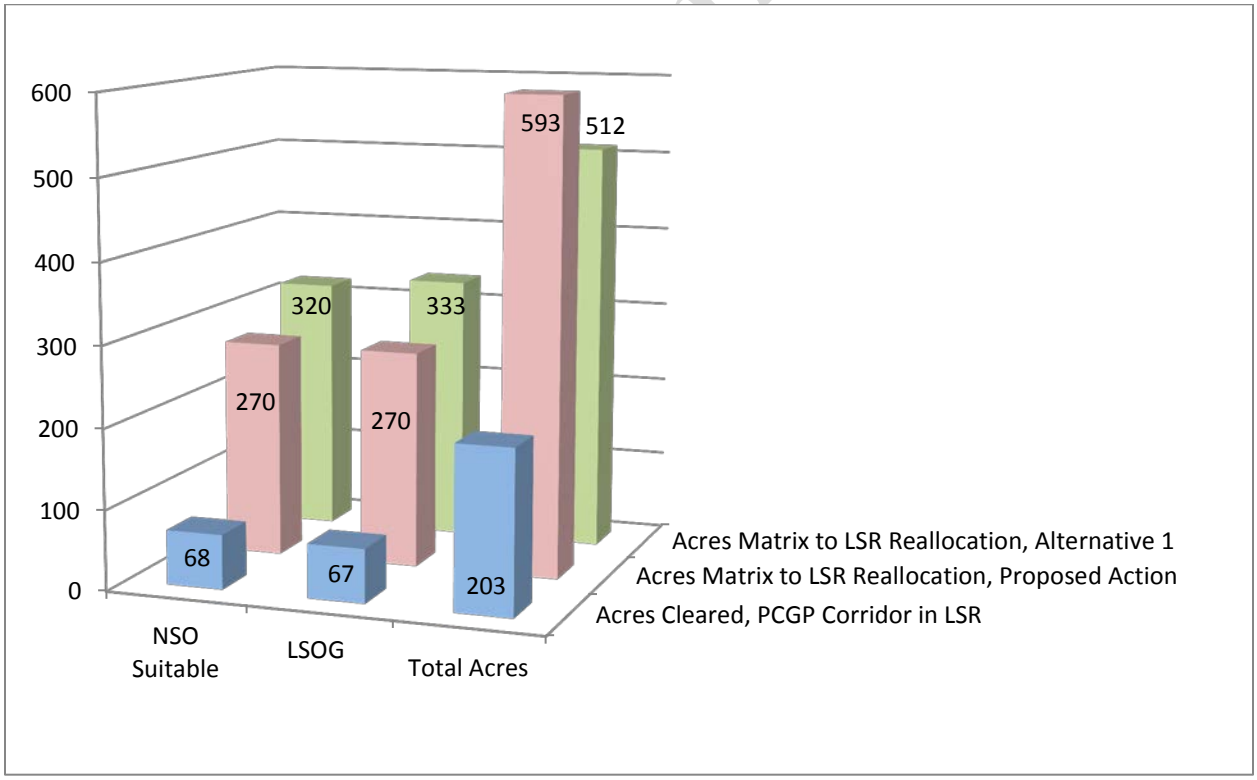


Table 13: Summary, NSO Suitable Habitat and LSOG: Comparison of Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227

Rogue River NF	NSO Suitable Acres	LSOG Acres (80 Years+)	Total Acres
Acres Cleared, PCGP Corridor in LSR	68[1]	67[2]	203[2]
Matrix to LSR Reallocation, Proposed Action[3]	270 (Ratio acres reallocated to LSR NSO Suitable acres cleared: 4.0:1)	270 (Ratio acres reallocated to LSR LSOG acres cleared: 4.0:1)	593 (Ratio acres reallocated to total LSR acres cleared 2.9:1)
Matrix to LSR Reallocation, Alternative 1[3]	320 (Ratio acres reallocated to LSR NSO Suitable acres cleared: 4.7:1)	333 (Ratio acres reallocated to LSR LSOG acres cleared: 5.0:1)	512 (Ratio acres reallocated to total LSR acres cleared 2.5:1)

Sources:
1. FERC Biological Assessment, Table 4.3.5.3-14, page 4-204. LSR 227, West Cascades Physiographic Provinces
2. FERC FEIS Appendix L, Table 2.1-1a
3. Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion (See Appendix)

Summary, NSO Suitable Habitat and LSOG: Comparison of Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 227



Road Decommissioning (53.2 miles)

See Figure XX below for a map of proposed decommissioning projects.
Upland Terrestrial Restoration

Stand density (600 Acres): Precommercial thinning is proposed for overstocked plantations to accelerate the development of late-successional and old-growth forest characteristics in LSR 227. Managing stand density will increase growth rates, decrease susceptibility to stand replacing fire and diversify stand structure in otherwise relatively homogenous stands. This accelerated development will also reduce fragmentation and reduce edge effects and will help maintain the ability of these stands to respond to changed environmental conditions from either natural or human-caused disturbances. All 600 acres are within 0.5 miles of the pipeline right-of-way. Placing the off-site mitigation activities close to the actual pipeline corridor increases their effectiveness by impacting lands within, or near, the home ranges of individual animals and species impacted by the pipeline habitat changes. As the mitigations address ecological processes like edge effect, placing the mitigation within or near the edge impacts increases the effectiveness of the mitigation by restoring ecosystem structures and processes on some of the acres also impacted by the pipeline. Thinning young stands will, over time reduce existing edge effects. There is no precise way to estimate this edge effect reduction with available date since stands are at many different age classes, perimeters and and canopy closures. The estimated perimeter of the units proposed for thinning is approximately 3.0 miles. Assuming some edge reduction within 100 of the edge of these units, density management would reduce edge effects over time by an estimated 36 acres(3*5280*100/43560).

Fuels treatments for the slash generated by stand density management are decided on a case-by-case basis and rely on slash loading information as well as proximity to roads and other factors. Slash treatments may be as simple as lop and scatter to get the fuels in contact with the ground for more rapid decomposition, or they may involve piling and burning or removal of slash from the site.
Snag Creation (600 acres): Snag creation is proposed as a mitigation to replace snags lost in the pipeline right-of-way for habitat for cavity-nesting birds and denning sites for mammals (bats, bears, fishers, etc.). Snags will be lost from the pipeline corridor to facilitate pipeline construction or to mitigate safety hazards for construction workers.

Approximately 1200 snags will be created by blasting tops from live trees (preferably trees with existing decay that makes them more suitable for cavity-nesting birds and/or as denning sites) or by inoculating living trees with heart rot decay fungi. Sites selected for snag creation will be within ½ mile of the pipeline right-of-way to develop snag habitat within (or near) the home ranges of cavity excavators being displaced by the pipeline corridor. Sites will be in mid-successional stands or around the edges of early successional stands that are currently deficient in snags as defined by Plant Association Group for Cascade White Fir forests. Stand data for these plant associations (which is an indication of undisturbed forest snag levels) shows that these stands have an average of about four snags/acre in the 11-20 inch diameter range and an additional four snags/acre greater than 20 inches in diameter.

If the tree diameters in the stands prevent snag creation in the >20” diameter size class, additional snags in the smaller size class (11-20” diameter) will be created to make up for the deficit. For sites bordering

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early successional stands, snags will be created within 100 yards of the stand boundary at the same trees/acre levels described above.

Large Woody Debris Placement in Plantations: Large wood placement in plantations is proposed to accelerate the development of late-successional and old-growth characteristics by restoring this habitat component to plantations where large woody debris (LWD) is lacking. Any wood used in this mitigation will come from the PCGP corridor. No additional trees outside the corridor will be harvested to provide large woody debris, so this mitigation is necessarily limited by the amount of LWD that can be provided from the corridor. LWD used in this mitigation will be staged at appropriate locations and placed with a helicopter. The standard for this mitigation is provided by the RRNF Plan and is noted for both soils productivity and wildlife habitat in numerous citations:

"At a minimum, a "moderate" amount of LWD will be left after project completion. The moderate range is 10-20 pieces of Class I and II logs and all Class III, IV and V logs…

The first priority in restoration with respect to LWD is to ensure that that the PCGP corridor itself meets Forest Plan standards after construction is completed. After LWD standards within the corridor have been met, any additional LWD would be available for placement in adjacent units identified below.

Large wood will be placed in plantations that are also receiving stand density management treatment. The large wood will be from trees cut from the pipeline corridor. Sites selected for down woody material placement will be within ½ mile of the pipeline right-of-way. As with the other off-site mitigations, placement of the mitigation activities close to the pipeline corridor can benefit species that are impacted by the vegetation changes within the corridor and will make these mitigations more effective. Sites will be in early successional stands that are currently deficient in downed wood (as defined by Plant Association Group for Cascade White Fir forests).

The large wood placement piece count / acre is expected to vary to account for some of the range in variability found across the landscape. For 11-20" diameter logs treatments will average about 10 pieces on each treated acre but densities will vary from 8 to 33 logs/acre. For 20"+ diameter logs an average of 5 pieces will be placed on each treated acre, but densities will vary from 3-12 logs/acre. Logs will be approximately 40' in length, and the specified diameter (11-20" and 20+") refers to the stem diameter at the midpoint of the 40' log.

Table XX below describes the proposed placement of CWD material. Unit numbers correspond to the attached map for CWD placement. Because piece counts of available wood are uncertain and highly variable a precise prediction of treatable acres cannot be made. With the limitations of available information, approximately 200 - 400 acres could be treated. Target numbers in Table XX below are upper bounds. Any increase in LWD in areas where LWD is deficient will be beneficial. If additional pieces of LWD and funds are available, additional units shown in Figure XX below may be treated.

Table 14: LWD Placement Objectives

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Unit Name	Prescription Level	Potential Acres	Existing 11-20" diameter logs/ac	Target 11-20" logs/ac 40'	Existing 20"+ diameter logs/ac	Target 20+" logs/ac 40'
CWD 13	**1.5**	**10**	**0.0**	**24.9**	**0**	**9.0**
CWD 15a	**1.0**	**340.0**	**8.7**	**16.6**	**5.1**	**6.0**
CWD 15b	**2.0**	**48**	**8.7**	**33.2**	**5.1**	**12.0**
Totals		**398**				

Comparison of total direct and indirect effects of project and mitigations on edge effects:
Acres of direct and indirect effects of the PCGP and the acres of direct and indirect effects of various mitigations as related to edge effect are shown in Table XX below. For the purposes of this comparison, indirect effects of the corridor are modeled by age class of vegetation and an associated estimate of edge effects. There is no precise method for predicting indirect effects so assumptions used for presenting this information follow.

- Indirect effects for LSOG (67 acres in corridor) are estimated to extend 600 feet on each side of the corridor. LSOG (80 years +) trees range from 100 to 180 feet depending on age. An average of 150 feet, or 4 tree heights is used for each side of the corridor.
- Indirect effects for mid-seral vegetation (10 acres in corridor) are estimated to extend 200 feet each side of the corridor. Mid seral trees are 80-100 feet tall, so this is approximately 2 tree heights each side of the corridor.
- Estimates of indirect effects in early seral or non-forested (126 acres) areas are estimated to extend 50 feet each side of the corridor.
- Indirect effects of road decommissioning are estimated to extend 50 feet each side of the decommissioned road in all vegetation classes.
- The indirect effect of stand density management is estimated to extend 100 feet from the perimeter of the unit in all vegetation classes.
- Indirect effects of other mitigations are not considered to reduce edge in this comparison.
- Using these assumptions, combined direct and indirect effects of the project and proposed mitigations are shown in Table XX below.

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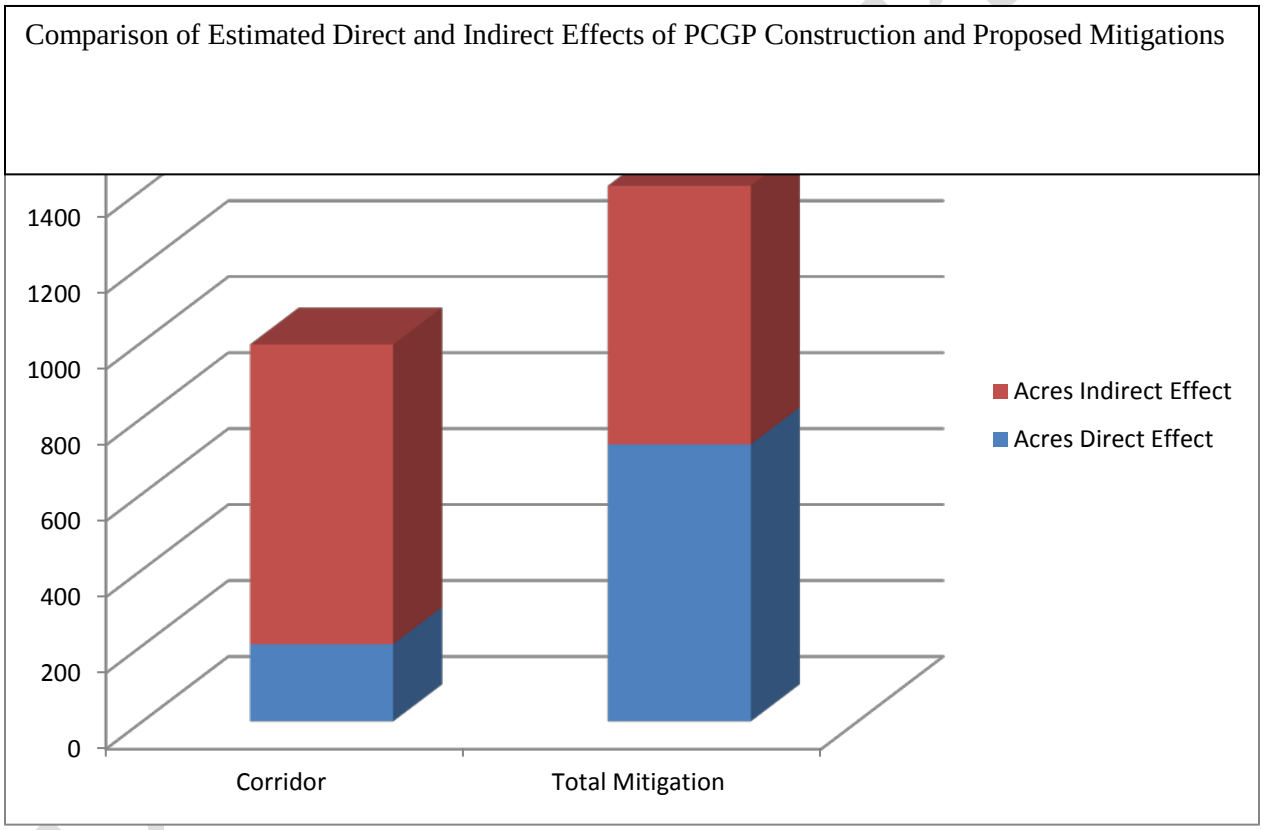
Table 15: Comparison of Estimated Direct and Indirect Effects of PCGP Construction and Proposed Mitigations

Rogue River NF	Acres Direct Effect	Acres Indirect Effect	Total
Corridor	**203**	**789**	**992**
Road Decommissioning	**129**	**645**	**774**
Stand Density Mgt. and other Terrestrial Mitigations.	**600**	**36**	**636**
Total Mitigation	**729**	**681**	**1410**
Sources: FERC FEIS Table 2.1-1a, USFS Estimates of Direct and Indirect Effects. (See Appendix)			



Rogue River NF	Acres Direct Effect[1]	Acres Indirect Effect[1]	Total
Corridor	**219**	**874**	**992**
Road Decommissioning[2]	**129**	**645**	**774**
Stand Density Mgt and other terrestrial mitigations[2]	**600**	**36**	**636**
Total Mitigation Acres	**729**	**681**	**1410**

Sources:
1. **FERC FEIS Table 4.6.1.2-14**
2. **USFS Estimates of Direct and Indirect Effects. (See Appendix)**

Comparison of Direct and Indirect Effects of PCPG Construction and Proposed Mitigations

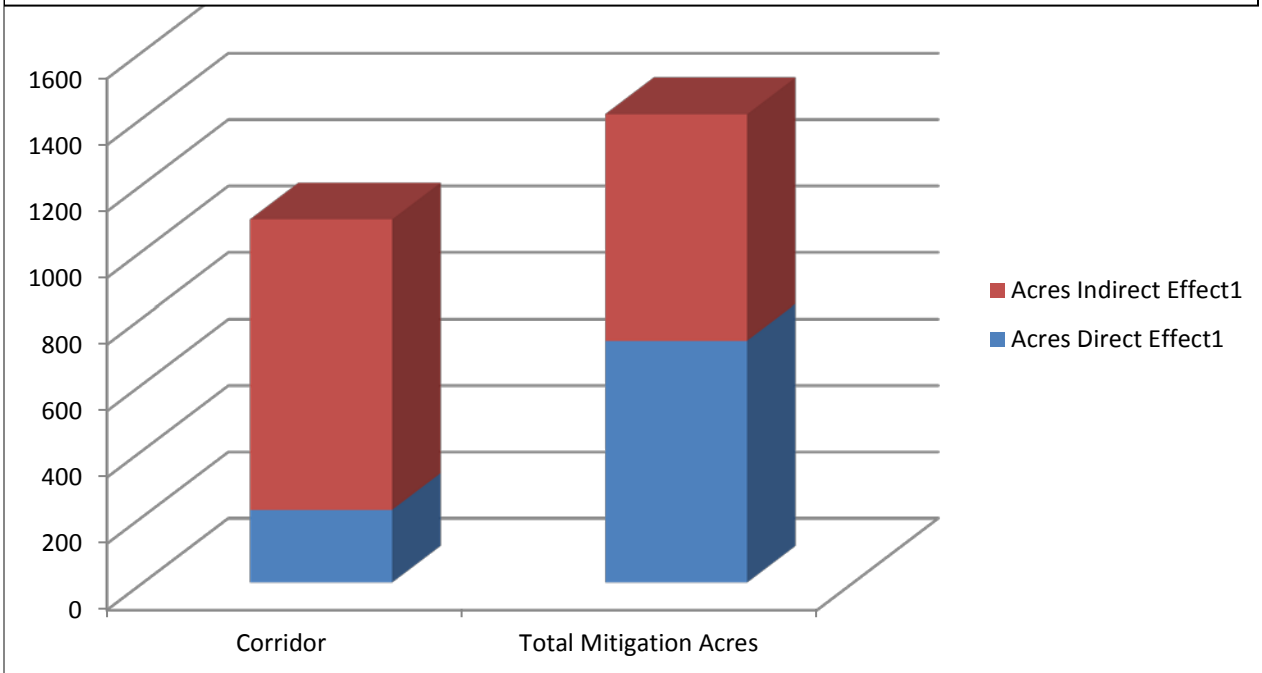
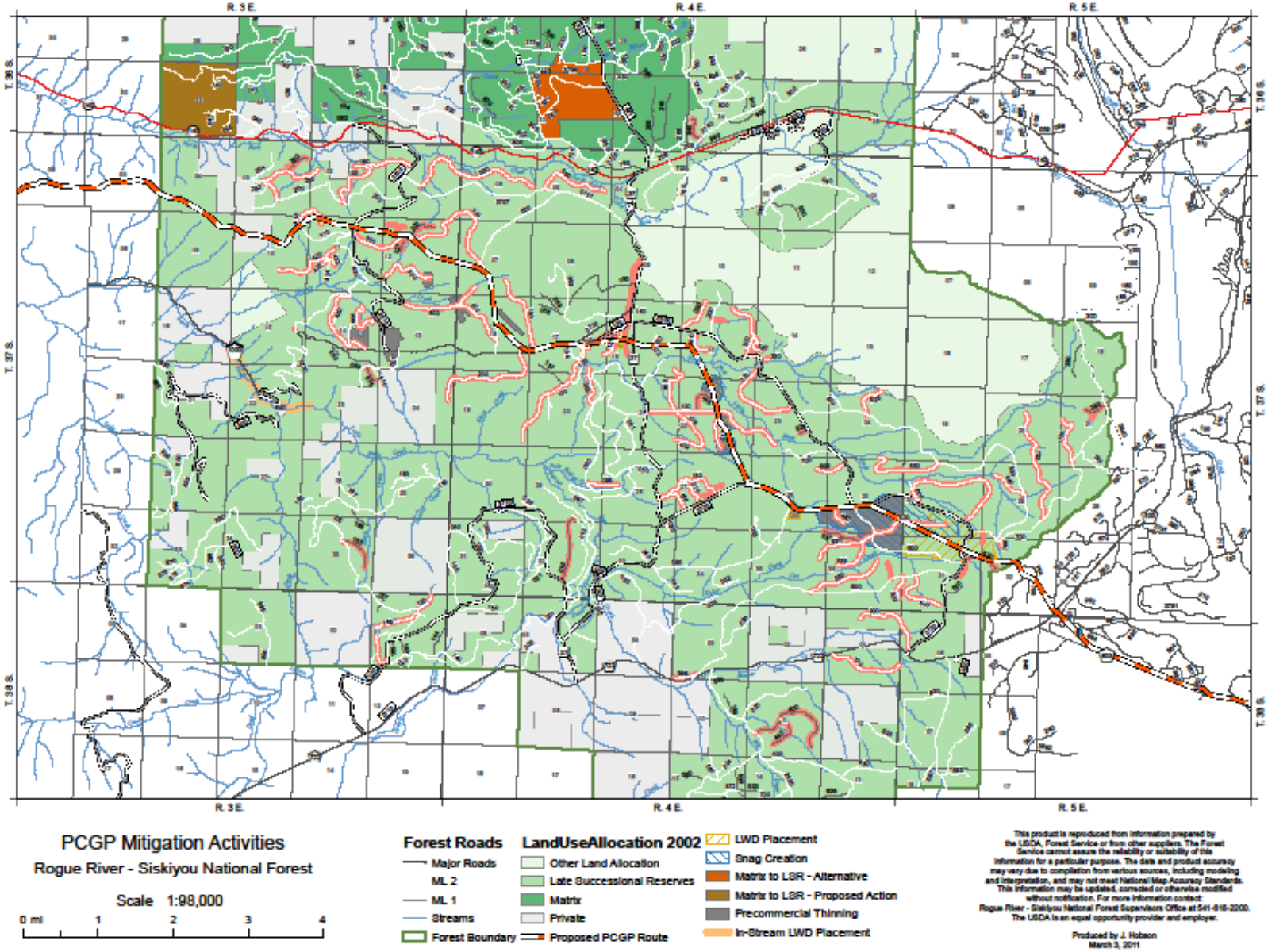


Figure 3: Proposed Mitigation Activities, Rogue River NF



Umpqua National Forest

Introduction: This report adopts and supplements the existing FERC mitigation plan for the Umpqua National Forest found in Appendix L of the FERC FEIS for the purposes of Forest Service decision making. . Land allocations crossed by the PCGP are shown below.

Table 16: Land Allocations Affected by PCGP, Umpqua National Forest

LSR	Matrix	Riparian Reserves	Total
5.89 Miles	5.33 Mile	0.55 Miles	11.77 Miles
Source: FERC FEIS Table 4.7.4.2-1, page 4.7-72			

Modifications to the Mitigation Plan Filed with FERC

Since the FERC FEIS was filed, the Forest Service has revised estimates of large woody debris (LWD) to be placed in units. LWD projects are necessarily limited by the number of pieces available from the corridor. The original proposal overestimated the pieces available and did not account for pieces needed for corridor rehabilitation resulting in more acres proposed than could be treated. Treatable acres decreased from 350 acres in LSR 223 to 100-200 acres based on more accurate estimates of available pieces and pieces needed for LWD rehabilitation within the corridor. No other changes have occurred to the Mitigation Plan filed in the FERC FEIS, however supplemental analysis information is provided in this report for the purposes of Forest Service decision making.

Large Woody Debris Placement in Plantations (100-200 acres)

The first priority in restoration with respect to LWD is to ensure that that the PCGP corridor itself meets Forest Plan standards after construction is completed. After LWD standards within the corridor have been met, any additional LWD would be available for placement in adjacent units indentified below. LWD placement in plantations is proposed to accelerate the development of late-successional and old-growth characteristics by restoring this habitat component to plantations where LWD is lacking. Log placement will occur on an estimated 100-200 acres within LSR 223. Units where LWD may be placed are shown in Figure XX below (Map needs to be clarified for reduced area). Large wood will be placed in plantations that are also receiving stand density management treatment. The large wood will be from trees cut from the pipeline corridor. No additional trees outside the corridor will be harvested to provide large woody debris, so this mitigation is necessarily limited by the amount of LWD that can be provided from the corridor. LWD used in this mitigation will be staged at appropriate locations and placed with a helicopter. Sites selected for down woody material placement will be within ½ mile of the pipeline right-of-way. As with the other off-site mitigations, placement of the mitigation activities close to the pipeline corridor can benefit species that are impacted by the vegetation changes within the corridor and will make these mitigations more effective. Sites will be in early and mid seral stands that are currently deficient in downed wood (as defined by DecAID, Southwest Oregon Mixed Conifer-Hardwood Forest, Larger Trees). The large wood placement piece count / acre is expected to vary to account for some of the range

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in variability found across the landscape. The DecAid model outputs recommend managing for approximately 7% cover. Down wood levels for LSRs will be managed for piece sizes between 8 to 60 inches in diameter in all diameter classes to provide habitat for all species. Larger logs maintain moisture longer and are less likely to be fully consumed by fire.

Supplemental Mitigation Analysis

The remainder of this report supplements the FERC FEIS mitigation analysis for the purposes of Forest Service Decision making.

Reallocation of Matrix Lands to LSR

The primary management objective of the Late Successional Reserve land allocation is to protect and enhance conditions of late-successional and old-growth forest ecosystems which serve as habitat for late-successional and old-growth related species including the northern spotted owl (NWFP ROD p. C-9). Late Successional Reserves are designed to maintain a functional, interacting, late-successional and old-growth forest ecosystem (NWFP ROD p. C-11). Mitigation activities were developed to meet the Standards and Guidelines for Multiple-Use Activities (Developments) (ROD p. C-17) which states "New development proposals that address public needs or provide significant public benefits, such as powerlines, pipelines, reservoirs, recreation sites, or other public works projects … may be approved when adverse effects can be minimized and mitigated.

The primary mitigation for the effects of the PCGP corridor on the Late Successional Reserve land allocation is to replace those acres of LSR in the corridor with additional acres of late-successional and old-growth habitat that are currently outside of the LSR. This is accomplished by the reallocation of land from the matrix land allocation to the LSR land allocation.

Figure XX shows the proposed matrix to LSR reallocation on the Umpqua National Forest. Table yy and Figure ZZ show the acres by vegetation age class in the proposed matrix to LSR land allocation compared to acres impacted by the PCGP corridor.

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Figure 4: Proposed Matrix to LSR Reallocation, Umpqua NF

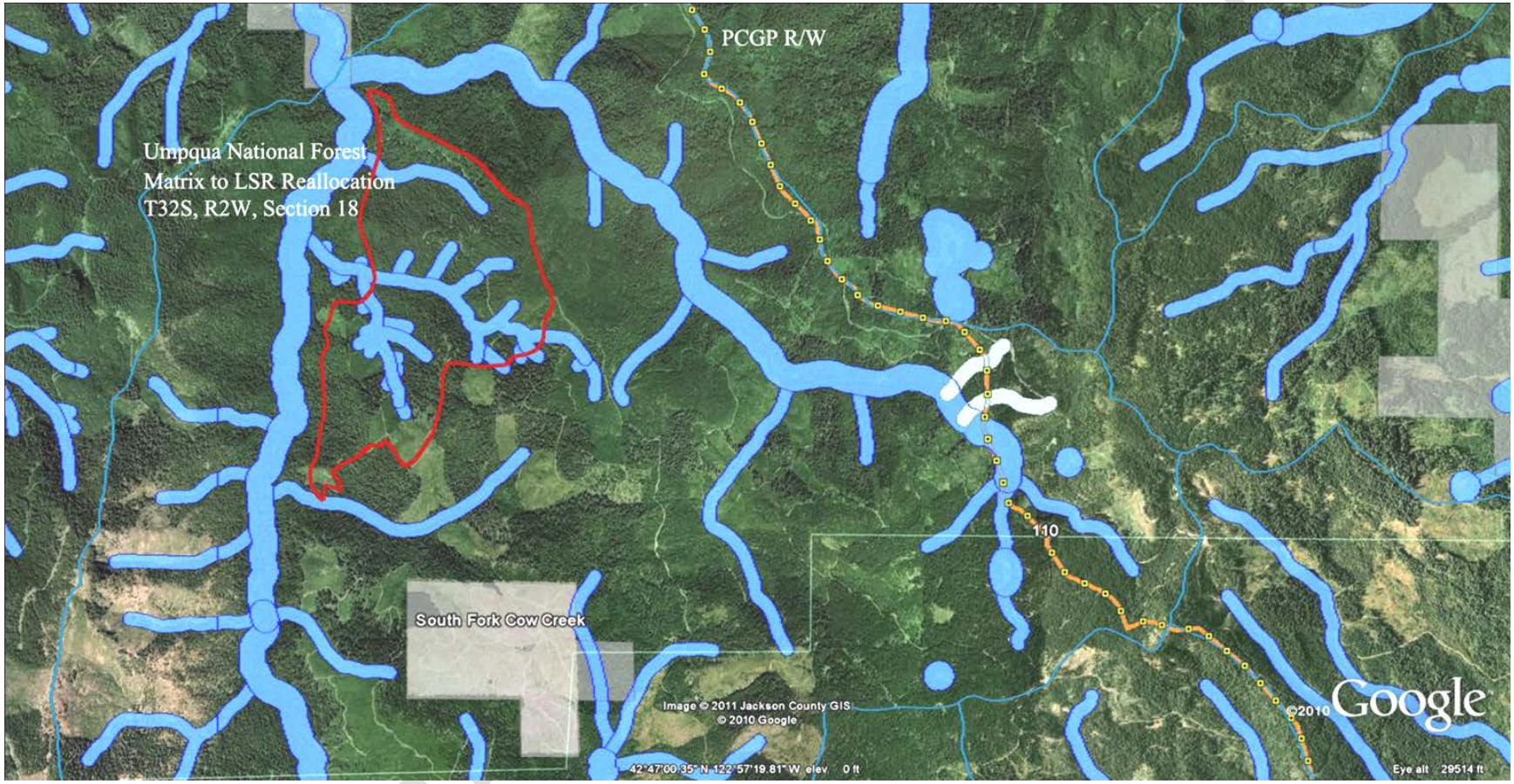

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Table 17: Age Class Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223

Umpqua NF	Total Late Successional and Old Growth (80+ yrs)	Mid-Seral (40-80 yrs)	Regenerating Plantation (5-40 yrs)	Other Habitat	Total All Age Classes
Reallocation of Matrix to LSR Proposed Action (acres)[1]	431	99	58	0	588
LSR Cleared in PCGP Corridor and TEWAs (acres)[2]	45	6	15	9	75

Sources:
1. Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion (see Appendix)
2. FERC FEIS Appendix L, Table 2.1-1a

Age Class Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223

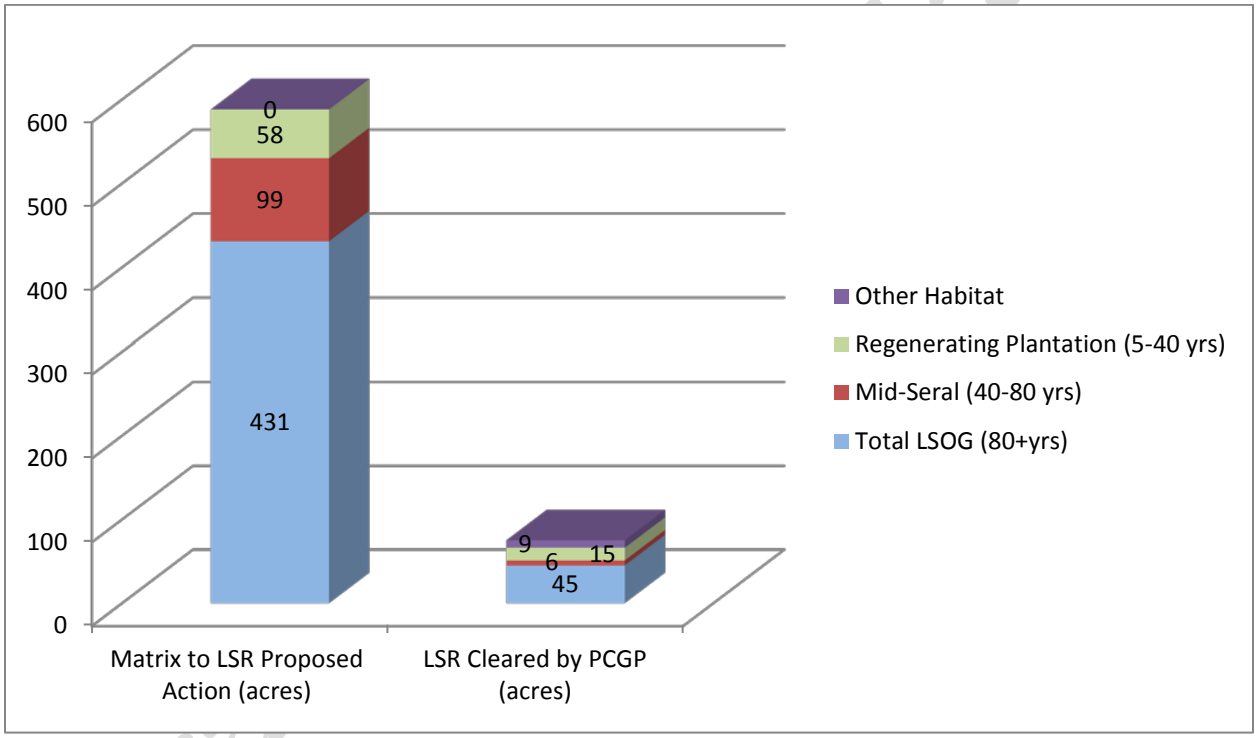

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Table 18: NSO Habitat Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223

			NSO Habitat Type	
Umpqua NF	**Suitable**	**Dispersal Only**	**Non-Suitable/ Capable but not currently suitable[3]**	**Total Acres**
Proposed Action (Acres) [1]	**431**	**99**	**58**	**588**
Habitat Cleared in PCGP Corridor and TEWAs (Acres) [2]	**47**	**17**	**10**	**74**

Sources:

1. Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion
2. FERC Biological Assessment, Table 4.3.5.3-14, page 4-204.
3. In this comparison, the Forest Service lumped capable but not currently suitable and non-suitable habitat for simplicity of comparison with matrix to LSR reallocation. See Cox, 2010, in the appendix for a breakdown of acres.

NSO Habitat Comparison: Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223

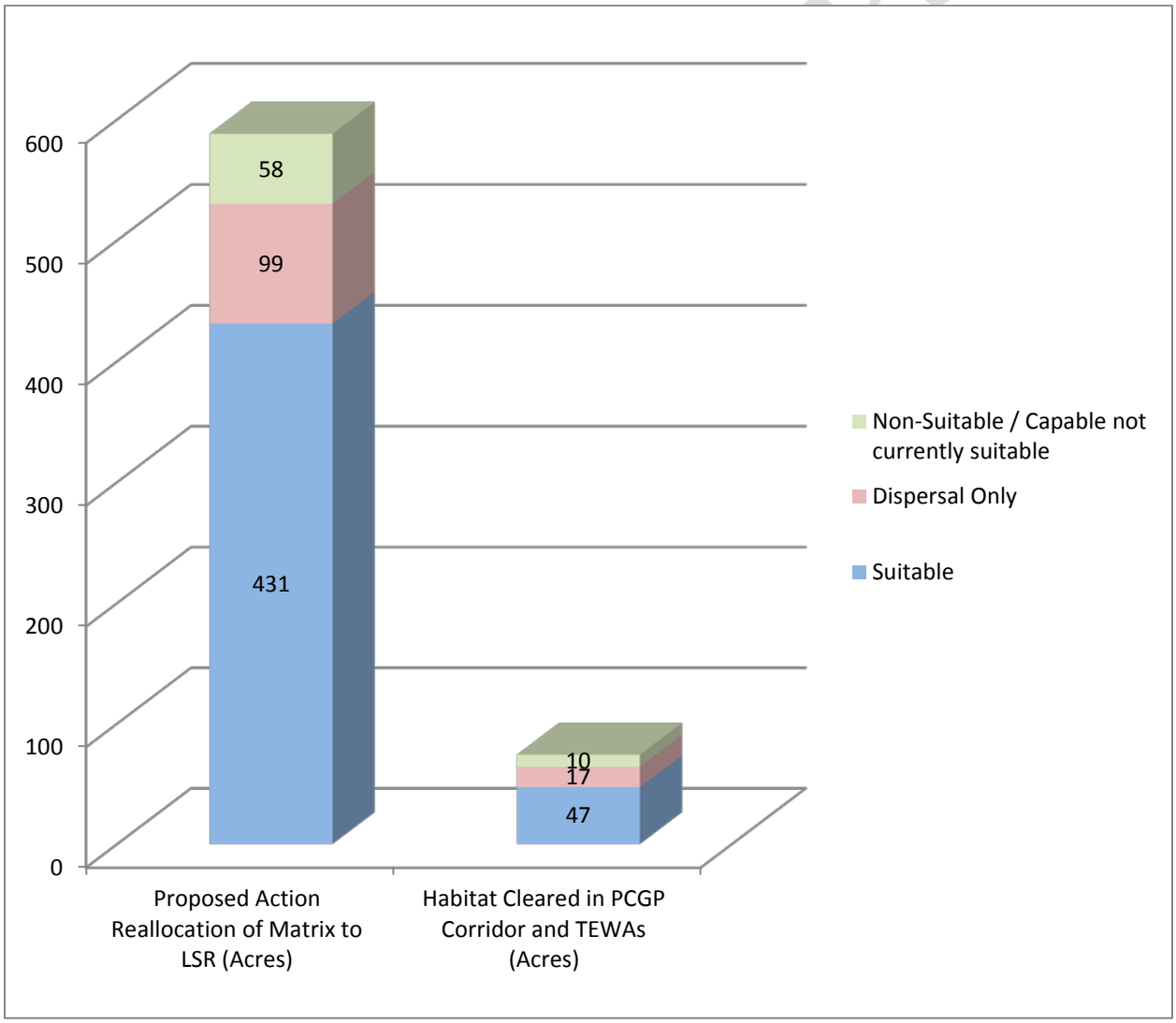


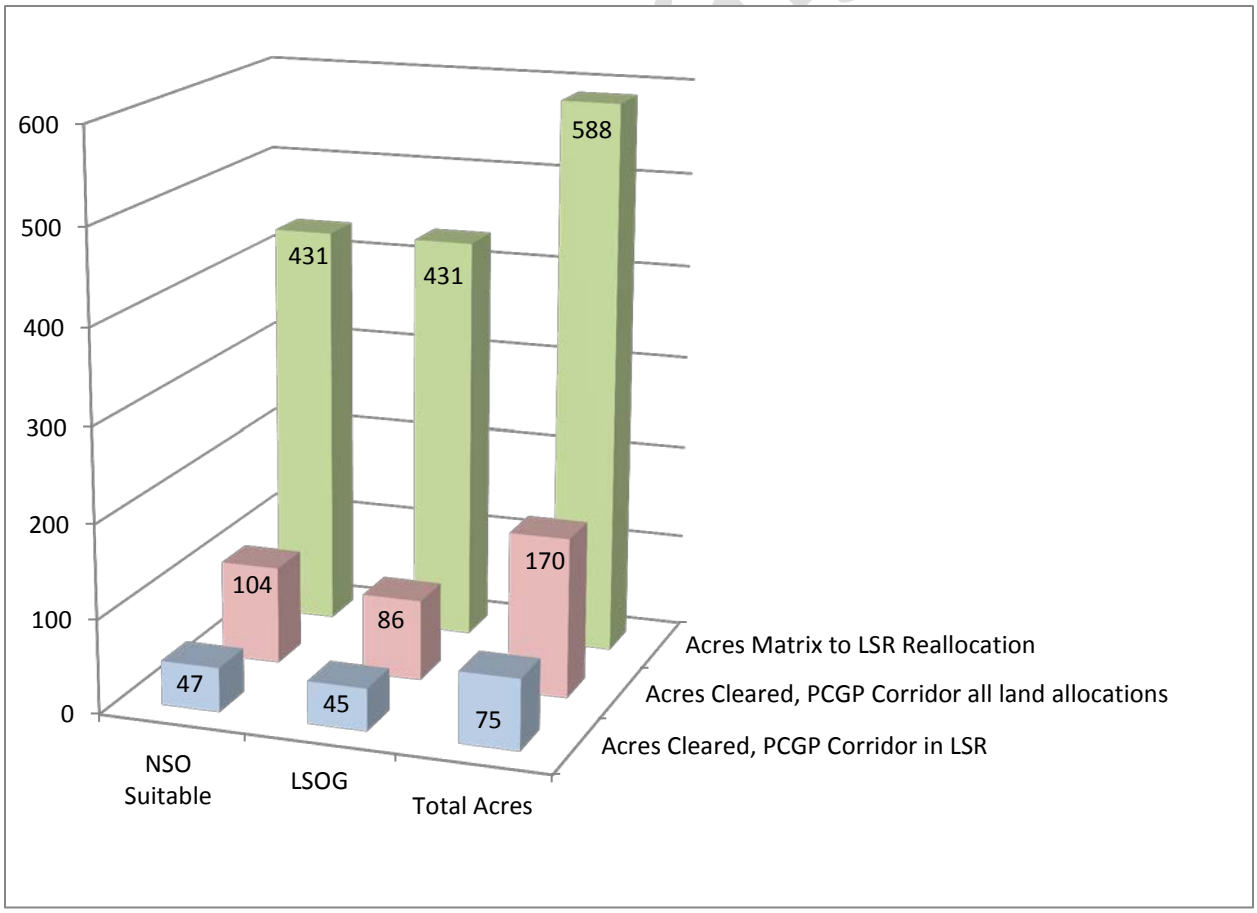
Table 19: Summary, NSO Suitable Habitat and LSOG: Comparison of Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223

Umpqua NF	NSO Suitable Acres	LSOG Acres (80 years +)	Total Acres
Acres Cleared, PCGP Corridor in LSR	47[2]	45[1]	75[1]
Acres Cleared, PCGP Corridor and TEWAs, all land allocations	104[4]	86[4]	170[5]
Acres Matrix to LSR Reallocation, Proposed Action[3]	431 (Ratio acres reallocated to LSR NSO Suitable acres cleared: 9.2:1)	431 (Ratio acres reallocated to LSR LSOG acres cleared, 9.6:1)	588 Ratio acres reallocated to total LSR acres cleared: 7.84:1)

Sources:

1. FERC FEIS Table 2.1-1A, Appendix L,
2. FERC Biological Assessment, Table 4.3.5.3-14, page 4-208. LSR 227, West Cascades Physiographic Provinces
3. Cox, 2010. Age Class and NSO Habitat Acre Summary, Matrix to LSR Conversion (See Appendix)
4. FERC Biological Assessment, CMP Table 3.1-1a, page CMP-39
5. FERC FEIS, Table 4.4.4.4-2, page 4.4, Construction R/W and TEWAs

Summary, NSO Suitable Habitat and LSOG: Comparison of Matrix to LSR Reallocation vs. Acres Cleared by the PCGP in LSR 223



Offsite Mitigations

Direct and indirect effects of the PCGP corridor are described in the FERC FEIS and BA. Estimated acres affected by direct and indirect effects are shown in Table XX below. For the purposes of this discussion, indirect effects of the corridor are modeled by age class of vegetation and an associated estimate of edge effects. Indirect effects for LSOG (67 acres) are estimated to extend 600 feet on each side of the corridor. Indirect effects for mid-seral vegetation (10 acres) are estimated to extend 200 feet each side of the corridor. In order to offset the direct and indirect effects associated with the corridor on matrix, LSR and Riparian Reserve land allocations, offsite mitigations have also been developed by the Forest Service. These mitigations accomplish address by the direct and indirect effects of the PCGP corridor by:

- Accelerating development of larger trees by precommercial thinning young stands.
- Replacing constituent elements of habitat by placing LWD in units and creating snags.
- Reducing the risk of stand-replacing fire by stand density management, commercial thinning and fuels reduction treatments.
- Reducing habitat fragmentation by decommissioning roads and accelerating the development of interior stand conditions by stand density management
- Reducing the effects of roads on aquatic habitats by stormproofing selected roads
- Providing fish passage where passage is currently blocked by culverts.

The additional off-site mitigations will also increase the effectiveness of the late-successional old-growth habitat added to LSR 223 by improving the quantity, quality and distribution of high-quality late successional habitat as discussed in this report. The off-site mitigations associated with LSR are consistent with the Late Successional Reserve Assessment for LSR 223 and have been presented to the Late Successional Reserve Working Group that provides oversight for vegetation management in LSRs.

Road Decommissioning and Stormproofing

Road decommissioning (7.6 miles) will assist in mitigating the detrimental soil conditions from displacement and compaction that may be present on the pipeline right-of-way after the completion of pipeline construction by restoring soil conditions within off-site decommissioned roadbeds. This will increase infiltration of precipitation, reduce surface runoff, and reduce sediment production from surface erosion within the watershed. Roads proposed for decommissioning are do not significantly reduce road density because they are located in different watersheds.

Riparian Restoration. 10.7 miles of road decommissioning will occur in Riparian Reserves. This will support riparian restoration in the South Umpqua Key Watershed by reducing compaction and by revegetating approximately 25.9 acres of decommissioned roadbeds within Riparian Reserves. Additionally there will be five-stream simulation culvert replacing existing barrel shaped culverts, posing aquatic barriers, thus enhancing aquatic connectivity for approximately 11.3 miles within the South Umpqua River system

Stand Density Management: Stand density management is proposed in early and mid seral Douglas-fir or ponderosa pine plantations that were planted to maximize timber volume and quality. The purpose of the mitigation is to increase growth, health, and vigor of the leave trees remaining in the stands; restore stand density, species diversity, and structural diversity to those considered characteristic under a natural disturbance regime by enhancing and accelerating those physical and biological services for associated

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flora and fauna. Additionally, provide biomass for local energy, if marketable; and meet Forest Plan objectives for both the Matrix and Late-Successional Reserve 223 land allocations.
Table XX below displays the acres of density management activities occurring in each land allocation

Table 20: Integrated Stand Density Prescriptions by Land Allocation, Umpqua NF

Treatment Type	LSR 223 Acres	Matrix Acres	Riparian Reserve Acres
PCT	**377**	**40**	**42**
Off-Site Pine Restoration	**398**		**15**
Commercial Thinning	**138**	**406**	**35**
Total	**913**	**446**	**92**
(Source: USFS GIS, Hobson 2010)			

Fuel Break (LSR 223 2,284.6 acres Matrix 1,873 acres)
The purpose of the mitigation is to increase growth, health, and vigor of the leave trees remaining in the stands; restore stand density, species diversity, and structural diversity to those considered characteristic under a natural disturbance regime and to control the spread and intensity of wildfire within forested stands prone to fire activity (USDA 2003 Umpqua). Fuels treatments are decided on a case-by-case basis and rely on fuel loading information as well as proximity to roads and other factors. Slash treatments may be as simple as lop and scatter to get the fuels in contact with the ground for more rapid decomposition, or they may involve piling, burning or removal of fuel from the site for biomass energy.
These mitigations actions will improve the quantity, quality and distribution of late-successional habitat within LSR 223 (2,284 acres) and Matrix (1,873 acres) land allocations by ??????.

Upland Terrestrial (1,200 acres)

Snag Creation (175 acres LSR 223 and 175 acres Matrix)

Snag creation is proposed as a mitigation to replace snags lost in the pipeline right-of-way for habitat for cavity-nesting birds and denning sites for mammals (bats, bears, fishers, etc.). Snags will be lost from the pipeline corridor to facilitate pipeline construction, mitigate safety hazards for construction workers and from the removal of live trees that would have contributed to future snag habitat.

Approximately 6,300 snags (4,200 within LSR223 and 2,100 within Matrix) will be created by blasting tops from live trees (preferably trees with existing decay that makes them more suitable for cavity-nesting birds and/or as denning sites) or by inoculating living trees with heart rot decay fungi. Sites selected for snag creation will be within ½ mile of the pipeline right-of-way to develop snag habitat within (or near) the home ranges of cavity excavators being displaced by the pipeline corridor. Sites will be in mid and late seral stands.
The current direction is to manage coarse wood levels on a landscape perspective, use land allocation as a consideration on where levels of coarse may occur overtime. DecAID (a tool for managing snags, partially dead trees, and down wood for biodiversity in forests of Washington and Oregon) is a summary of the best available data on dead wood in Pacific Northwest ecosystems.

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http://wwwnotes.fs.fed.us:81/pnw/DecAID/DecAID.nsf It too, provides guidance for managing levels of coarse woody debris. To use DecAID, planning areas should be sufficiently large to encompass the range of variation in wildlife habitat types and structural conditions and as a rule-of-thumb; suggest that planning areas be at least 20 square miles in size (12,800 acres). Generally, 6th-field watershed (Cow Creek watershed) is appropriate scale to use for DecAID. A reasonable objective is to manage for a range of conditions within the area, balancing areas with high densities of dead wood with moderate and low-density areas (Marcot et al. 2005). The reference conditions, as described in the Cow Creek Watershed analysis, estimated the watershed structural condition. As indicated in the Cow Creek WA there are two seral stage that fall below historical structural conditions: establishment and late seral. Both these seral stages have the highest levels of large coarse wood while the other seral stage represents the lower levels of coarse wood. With approximately 70% of the watershed experiencing intensive timber harvest management retaining on an average less than 2 sang per acre, (Table 16, Cow Creek WA) this indicate a need for high levels of snags within the watershed.

Wildlife and inventory data summarized in the DecAID Advisor can be applied to management and planning decisions at a range of spatial scales and geographic extents. The calculated tolerance levels (80%, 50%, 30 %) for wildlife data can be applied to stand-level management. However, it is not advise that a particular tolerance level be applied to all stands across a landscape. Rather, decisions about how to distribute different levels of dead wood across a landscape can be guided by the distribution information from unharvested plots. Without gathering additional data on current coarse wood levels and assuming that private lands will be manage at the lowest tolerance level of coarse wood. for wildlife and forest species. The current density of snag levels within the Cow Creek WA range from 0 to 7 snags per acre (Table 16, Cow Creek WA). Looking at the percent (70%) of the area that have low or no snag density it seem that we should be managing at higher density where possible at this time. Considering the land allocations the location of the size of the project we should be managing for high and moderate sang densities on this project. The project should manage at the 80% tolerance level in LSR and 50% tolerance level for Matrix land allocation. However, most of the proposed pipeline is located along ridge tops that is prone to fire disturbance within moderate severity fire regime (USDA 2003 Umpqua). Considering fuels it is appropriate to manage at lower density of small snags and down wood in both tolerance levels.

Within LSR manage snags densities at 16/acre > 10.0 in, of which 8/acre are > 20 in dbh.

In Matrix manage snag densities at 8/acre > 10.0 in, of which 4/acre are > 20 in dbh.

Within the Matrix allocation, manage for down wood at about 3.6% cover

Weeds 6.73 miles
Soils disturbed during pipeline construction and proposed mitigation activities have the potential to disperse and generate potential seedbeds for noxious weeds. The proposed treatment along 6.73 miles roads with LSR 223 will assist in mitigating potential adverse habitat impacts.

Meadow Restoration 123 acres

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Mitigate impacts to Unique habitats impacted by the project, There will be loss of forest habitat buffering the unique habitats and disruption to soil horizons within those habitats. These actions will result in adverse impact to native flora, fauna, and enhancing the opportunities for evasion of non-native plant species. These impacts cannot be fully mitigated on site, therefore restoration activities such as: burning, removal of encroaching conifers and noxious control will be applied to a 123 acre unique habitat located in both Matrix (43 acres) and LSR 223 (80 acres)

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Data Synopsis

Changes in road density[5] resulting from implementation of road decommissioning mitigations

Spencer Creek Tier 1 Key Watershed, Winema National Forest
Little Butte Creek Tier 1 Key Watershed, Rogue River National Forest

Data Abstract: Data is derived from a GIS analysis by the FS using shape files from the updated mitigation plan dated 3/09/11 and FS transportation layer data. Tables 1 and 2 show changes in road density in Spencer Creek and Little Butte Creek Tier 1 Key Watersheds (KWS) that would result from implementation of the proposed road decommissioning that is part of the mitigation plan for the PCGP. Road densities are calculated for NFS roads on NFS lands. Spencer Cr. KWS all roads density is for all land allocations in the Spencer Cr. watershed. Little Butte Cr. KWS all roads density is shown for both the LSR portion of Little Butte Cr. KWS and as a summary for all land allocations in Little Butte Creek. Distances of ¼, ½ and 1 mile from the PCGP corridor are included to show relative comparisons of the effect of proposed road decommissioning in proximity to the effect of the PCGP corridor.

Comparison of effects of road decommissioning[6] and impacts of the PCGP corridor

Spencer Creek Tier 1 Key Watershed
Little Butte Creek Tier 1 Key Watershed

Data Abstract: Data is derived from the FERC FEIS and Biological Assessment and Forest Service GIS data in shape files dated 3/09/11 as noted in the tables. Data comparisons are as follows:

- **Miles in Watershed** compares the miles of the PCGP corridor in the watershed to the miles of roads that are proposed to be decommissioned. This information is important because decommissioning roads help offset the unavoidable watershed effects of the PCGP corridor. This provides a relative comparison of impact of the project to benefits of proposed road decommissioning.
- **Miles in Riparian Reserves** compares the miles of the PCGP corridor that occur in Riparian Reserves to miles of roads proposed to be decommissioned in Riparian Reserves. This information is important because it allows a comparison of riparian vegetation and habitat that will be impacted by the PCGP to the riparian vegetation and habitat where restoration can occur as part of road decommissioning.

[5] NFS lands only
[6] NFS lands only

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- **Acres in Degraded Soil Condition** compares estimated acres that will be displaced or compacted within the PCGP corridor to the estimated acres of existing roads where degraded soil conditions will be restored by decommissioning existing roads. This information is important because degraded soil conditions can adversely affect watershed functions such as sediment routing and infiltration. This provides a relative comparison of the estimated adversely impacted soil conditions to the potential restoration accomplished in proposed road decommissioning.
- **Stream Crossings** compares the number of stream crossed by the PCGP to the number of stream crossings in decommissioned roads. This is important because most watershed – road interactions occur at or near stream crossings. This provides a relative comparison of the potential watershed effects associated with stream crossings in the PCPG corridor and the potential watershed benefits associated with decommissioning roads where they intersect streams.

Spencer Creek and Little Butte Creek are both Tier 1 Key Watersheds in the NWFP.

Reallocation of matrix lands to LSR

Rogue River NF 227

- **Comparison of age classes of PCGP corridor to proposed matrix to LSR Reallocation**
- **Comparison of NSO habitat cleared in PCGP corridor to proposed matrix to LSR Reallocation**
- **Summary comparison PCGP corridor acres cleared to LSOG and NSO Suitable habitat**

Umpqua NF LSR 223

- **Comparison of age classes of PCGP corridor to proposed matrix to LSR Reallocation**
- **Comparison of NSO habitat cleared in PCGP corridor to proposed matrix to LSR Reallocation**
- **Summary comparison PCGP corridor acres cleared to LSOG and NSO Suitable habitat**

Data Abstract: Information concerning age classes and NSO habitat types in the PCGP corridor was derived from the FERC FEIS or Biological Assessment as noted. Information concerning age class and NSO habitat on matrix lands proposed for reallocation from matrix to LSR was derived from field verification of aerial photo and GIS analysis by the Forest Service. PCGP acres represent the area in the right of way corridor and the temporary extra work areas cleared as part of construction. On the Rogue River NF, an alternative matrix to LSR comparison was developed in response to public scoping comments so tables show both the proposed action and an alternative.

Presented in Order of Appearance

Cox, 2010
FERC FEIS, Table 2.1-1a
FERC FEIS Table 4.3.5.3-14
FS GIS Analysis of Mitigation Acres

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Matrix to LSR Habitat (Source: USFS GIS, Cox 2010)

RRS- Age Class - Sec 32 - New Alternative (512 Acres total)

Age Class	Acres
Old Growth (175 + years)	320
Late successional (80 to 175 years)	13
Shelter Wood Regenerating (5 to 40 years)	157
Regenerating (5 to 40 years)	22

Northern Spotted Owl Habitat - Sec 32 - New alternative

Habitat Type	Acres
Suitable	320
Dispersal	13
Non-suitable	179
Capable Northern Spotted Owl Habitat	512

RRS- Age Class - Sec 33 - Proposed Action (593 Acres)

Age Class	Acres
Old Growth (175 + years)	21
Late successional (80 to 175 years)	249
Shelter Wood Regenerating (5 to 40 years)	45
Regenerating (5 to 40 years) Plantation	8
Regenerating (5 to 40 years) Forested burned area	155
Open meadow habitat	115

RRNF Northern Spotted Owl Habitat - Sec 33 - Proposed Action

Habitat Type	Acres
Suitable	270
Dispersal	0
Non-suitable	323
Capable Northern Spotted Owl Habitat	478

Umpqua- Age Class – Proposed Action (588 Acres)

Age Class	Acres
Old Growth (175 + years)	134
Late successional (80 to 175 years)	297
Med seral (40 to 80 years)	99
Regenerating (5 to 40 years)	58

Northern Spotted Owl Habitat – Proposed Action

Habitat Type	Acres
Suitable	431
Dispersal	99
Non-suitable	58
Capable Northern Spotted Owl Habitat	588

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Table 2.1-1a.
Total Terrestrial Habitat (acres) Affected/Removed[1] by Construction of the Proposed Action within Late Successional Reserves

LSR ID (Total Acres)[2]	Federal Jurisdiction	Forested Habitat [3]					Other Habitat [3]				Total LSR Impact (acres)
		Late Successional – Old Growth Forest	Mid-Seral Forest	Regenerating Forest	Clearcut Forest	Total	Forested Wetland	Unaltered Habitat	Altered Habitat	Total	
RO 261 (70,611 acres)	Coos Bay BLM	0.89	4.98	9.88	0	15.75	0	0	1.42	1.42	**17.17**
	Roseburg BLM	4.59	4.36	8.44	0.06	17.45	0	0	1.64	1.64	**19.09**
	RO 261 Total	**5.48**	**9.34**	**18.32**	**0.06**	**33.20**	**0**	**0**	**3.06**	**3.06**	**36.26**
RO 223 (66,173 acres)	Roseburg BLM	28.96	0.38	11.49	0	40.83	0.29	0.08	2.13	2.50	**43.33**
	Umpqua N.F.	44.89	5.74	15.07	0	65.70	0	0	8.94	8.94	**74.64**
	RO 223 Total	**73.85**	**6.12**	**26.56**	**0**	**106.53**	**0.29**	**0.08**	**11.07**	**11.44**	**117.97**
RO 227 (101,600 acres)	Rogue River – Siskiyou N.F.	67.40	10.36	79.74	9.87	167.37	0	14.27	21.52	35.79	**203.16**
	RO 227 Total	**67.4**	**10.36**	**79.74**	**9.87**	**167.37**	**0**	**14.27**	**21.52**	**35.79**	**203.16**
All LSR Units (238,384 acres)	Coos Bay BLM	0.89	4.98	9.88	0	15.75	0	0	1.42	1.42	**17.17**
	Roseburg BLM	33.55	4.74	19.93	0.06	58.28	0.29	0.08	3.77	4.14	**62.42**
	Umpqua N.F.	44.89	5.74	15.07	0	65.70	0	0	8.94	8.94	**74.64**
	Rogue River – Siskiyou N.F	67.40	10.36	79.74	9.87	167.37	0	14.27	21.52	35.79	**203.16**
	Overall Total	**146.73**	**25.82**	**124.62**	**9.93**	**307.10**	**0.29**	**14.35**	**35.65**	**50.29**	**357.39**

[1] Project components considered in calculation of habitat "Removed": PCGP construction right-of-way, temporary extra work areas, aboveground facilities, and permanent and temporary access roads (PAR, TAR).
[2] Overall Total Acres within each LSR were obtained from the following Late Successional Reserve Assessments: BLM and Forest Service, 1998 (RO 261); BLM and Forest Service, 1999 (RO 223); and FWS et al., 1998 (RO 227).
[3] Habitat Types within Late Successional Reserves generally categorized as: Late Successional (Mature) or Old Growth Forest (coniferous, deciduous, mixed ≥80 years old); Mid-Seral Forests (coniferous, deciduous, mixed ≥40 but ≤80 years old); Regenerating Forest (coniferous, deciduous, mixed ≥5 but ≤40 years old); Clearcut Forests; Wetland Forested, Unaltered Nonforested Habitat (grasslands, sagebrush, shrublands), and Altered Habitats (urban, industrial, residential, roads, utility corridors, quarries).

TABLE 4.3.5.3-14

Summary of Suitable, Dispersal, Capable, and Non-Suitable Habitat by Physiographic Province Impacted within NWFP Late-Successional Reserves (LSR) (Table Q5 in Appendix Q)

Land Owner	NWFP LSR (overlap with CHU)	Suitable Habitat a/		Dispersal Habitat b/		*Dispersal Only Habitat c/*		Capable Habitat d/		Non-Suitable Habitat e/		Total Acres h/	
		Removed f/	Modified g/	Removed f/	Modified g/	*Removed f/*	*Modified g/*	Removed f/	Modified g/	Removed f/	Modified g/	Removed f/	Modified g/
Coast Range Physiographic Province													
Coos Bay BLM	RO 261	0.89	0.00	12.42	0.90	*13.31*	*0.90*	2.44	0.17	1.42	0.02	17.17	1.08
Roseburg BLM	RO 261	4.08	8.35	7.68	6.77	*11.76*	*15.12*	2.82	1.85	1.86	0.53	16.44	17.50
Klamath Mountains Physiographic Province													
Roseburg BLM	RO 261	0.54	0.78	4.85	0.14	*5.39*	*17.05*	2.17	0.03	0.59	0.00	8.15	0.95
Roseburg BLM	RO 223	29.47	12.99	11.09	3.14	*40.56*	*16.13*	1.11	0.29	2.31	0.09	43.97	16.51
Umpqua N.F.	RO 223 (OR-14)	46.82	18.28	17.65	0.84	*64.47*	*19.12*	0.70	0.39	9.02	0.00	74.19	19.51
Umpqua N.F.	RO 223	0.58	2.33	0.00	0.00	*0.58*	*2.33*	0.0	0.00	0.00	0.00	0.58	2.33
West Cascades Physiographic Province													
Rogue River – Siskiyou N.F.	RO 227 (OR-17)	68.29	35.04	62.63	24.99	*130.92*	*60.03*	36.75	9.06	35.99	3.20	203.66	72.29
East Cascades Physiographic Province													
Rogue River – Siskiyou N.F.	RO 227 (OR-17)	2.18	0.90	0.98	0.28	*3.16*	*1.18*	0.00	0.00	0.00	0.00	3.16	1.18
Overall Total													
Overall Total		**152.85**	**78.67**	**117.30**	**37.06**	***270.15***	***131.86***	**45.99**	**11.79**	**51.19**	**3.84**	**367.32**	**131.35**

a/ Suitable Habitat: Forest stands used by NSO for nesting, roosting, and foraging (conifer dominated, 80+ years, multi-storied, sufficient snags and LWD, canopy closure > 60%). This was determined using the BioMapper model described in Section 4.2.5.2 (Habitat subsection) that included mid-seral, late successional, and old-growth coniferous forest PLUS coniferous forest habitat determined to be 80 years within the project area but not included in the model (all late successional and old-growth within the range of the spotted owl).

b/ Dispersal Only Habitat (only includes dispersal habitat not located in suitable habitat): support owl movement across landscape but lack structural characteristics to support nesting (conifer and mixed mature conifer-hardwood, canopy cover ≥ 40%, average dbh ≥ 11 inches). This was determined using the GNN model described in Section 4.2.5.2, Habitat subsection where all forested habitat (coniferous, mixed coniferous/deciduous, and deciduous) occurs within the project area but did not include recent clearcut areas.

c/ Total Dispersal Habitat (includes dispersal habitat that coincides with suitable habitat): support owl movement across landscape but lack structural characteristics to support nesting (conifer and mixed mature conifer-hardwood, canopy cover ≥ 40%, average dbh ≥ 11 inches). The acres within this column are not included in the Total Acres since they are included in Suitable and Dispersal Only.

d/ Capable Habitat: not currently spotted owl habitat (see # 3 and #4) but have the potential to become habitat in the future and includes recent clearcuts, as well as other regenerating and mid-seral forested habitat (plus all seral stages of deciduous forest) not included within the suitable habitat or dispersal habitat models.

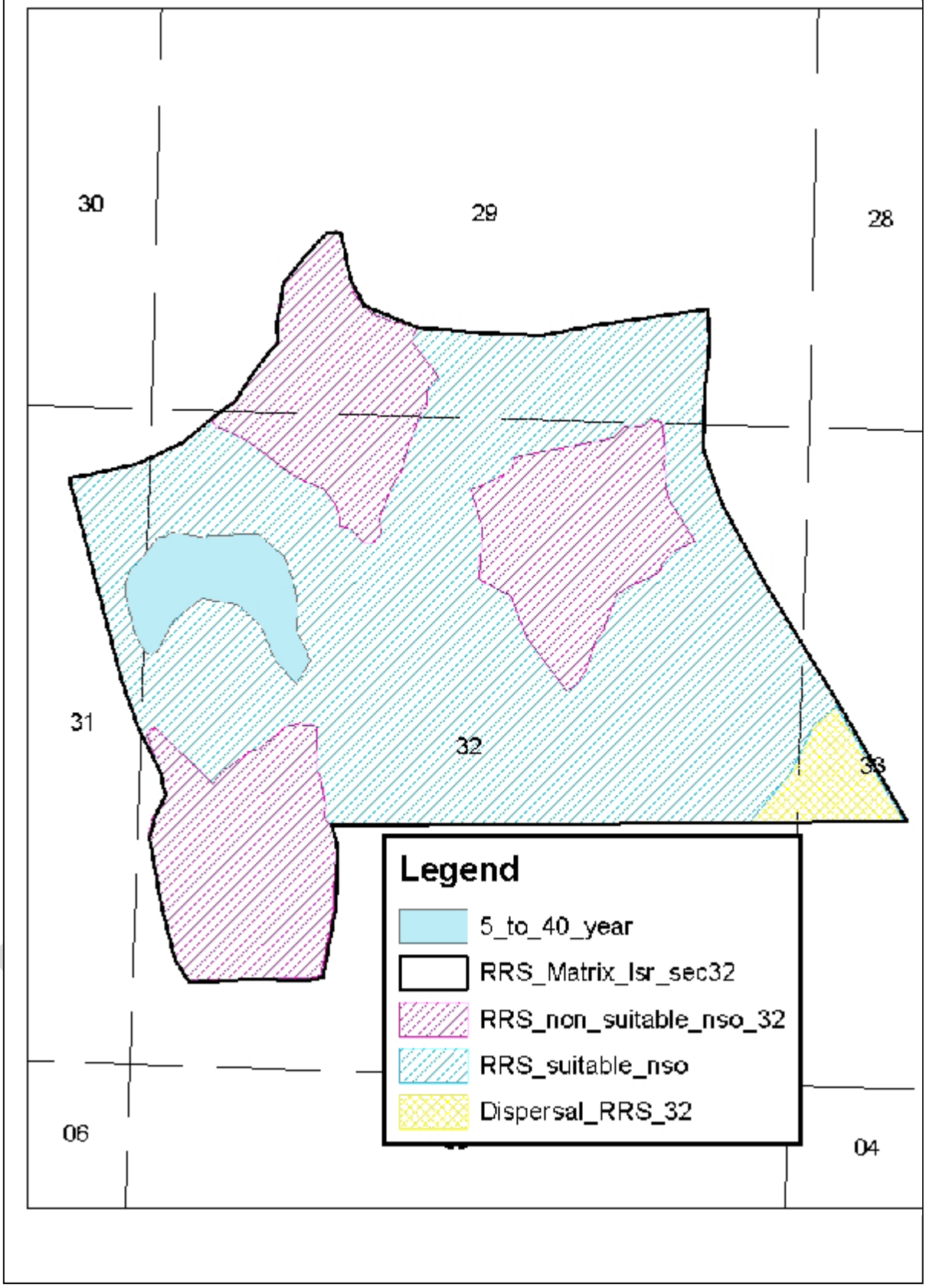
e/ Noncapable Habitat: areas such as lakes, rivers, rock outcroppings, roads

f/ Project components considered in calculation of habitat "Removed": Pacific Connector pipeline construction right-of-way, temporary extra work areas, aboveground facilities, permanent and temporary access roads (PAR, TAR), pipe storage yards.

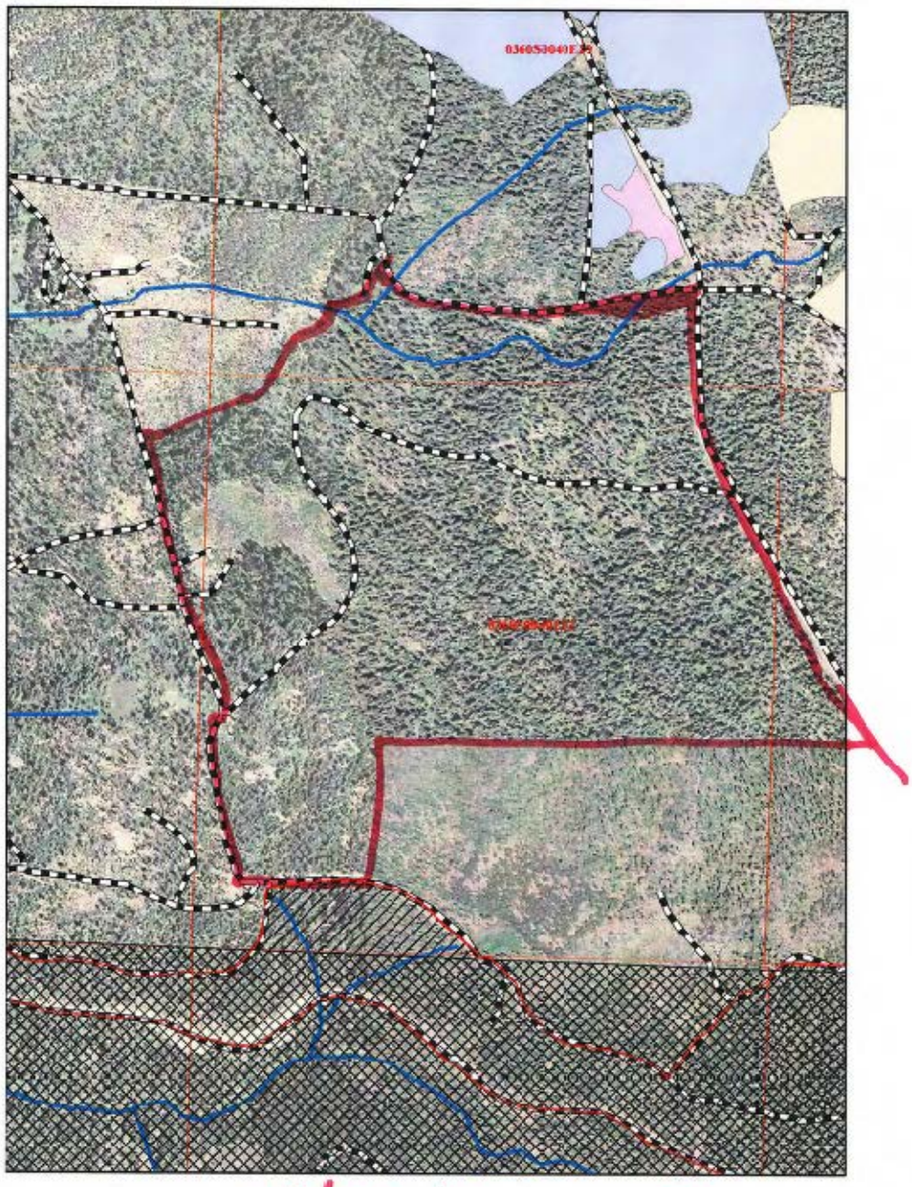
g/ Project components considered in calculation of habitat "Modified": Pacific Connector pipeline uncleared storage areas (UCSAs) described in Section 3.3.3.2 of the Project Description and will not be cleared of trees during construction. These areas will be used to store forest slash, stumps and dead and downed log materials that will be removed and scattered across the right-of-way after construction during restoration and are considered as temporary insignificant habitat modifications.

h/ Total Acres includes only the removed and modified columns within Suitable NRF, Dispersal Only, Capable, and Non-Capable Habitat.

NSO Habitat, Alternative 1

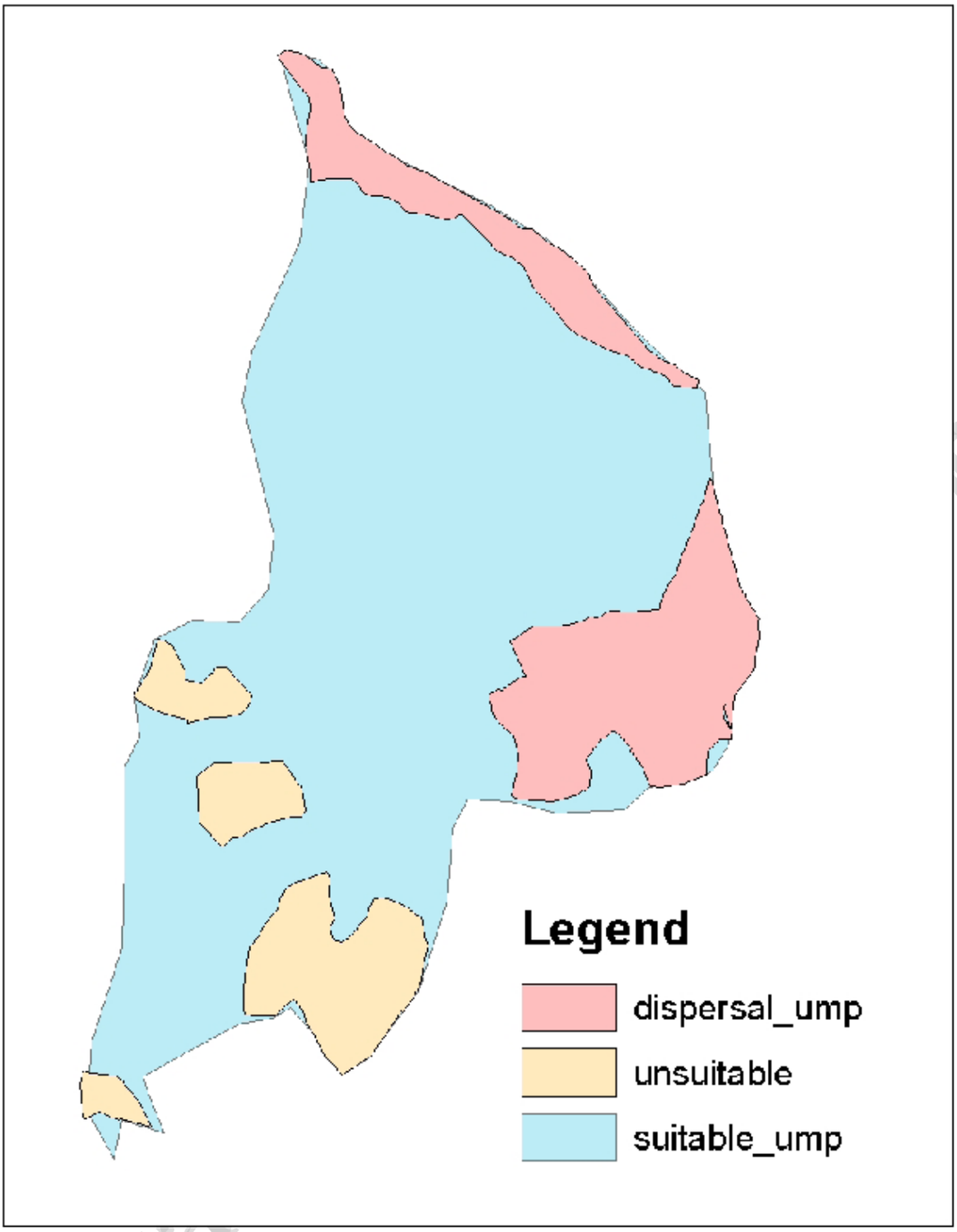


Rogue River Alternative 1 Boundary



01/12/4 7/21/10

Umpqua National Forest Proposed Action, NSO Habitat



USFS GIS Analysis, Road Decommissioning

RRS NF – Little Butte Creek Road Decom analysis 030911 final				
Riparian Reserves				
Watershed	Miles	GIS Acres		
Little Butte Creek	6.73	14.3155		
Stream Crossings	Class	Frequency		
	II	1		
	III	1		
	IV	30		
PCGP Buffers	Total Acres	Total miles NFS Roads	Road Density -- all roads	Road Density -- less proposed Decommissioned roads
Rogue River NF LBC 5th field watershed 030911 Final				
1/4 mile buffer	4,335.20			
All roads		26.50	3.91	
Road_Decom_052810.xlsx (Calibrated)		9.16		
37207XX-A (0.06812)				
37207XX-B (0.088)				
Roads less decommissioned		17.34		2.56
1/2 mile buffer	8,695.90			
All roads		56.00	4.12	
Road_Decom_052810.xlsx (Calibrated)		19.24		
37207XX-A (0.1546)				
37207XX-B (0.1546)				
Roads less decommissioned		36.76		2.71
1 mile buffer	16,709.20			
All roads		109.10	4.18	
Road_Decom_052810.xlsx (Calibrated)		36.86		
37207XX-A (0.1545)				
37207XX-B (0.1545)				
Roads less decommissioned		72.24		2.77
All NFS Roads, LSR 227 in LBC	44,028.21	266.05	3.87	
Mile decommissioned LSR 227 in LBC		53.50		3.09
All NFS Roads, NFS Lands LBC	57,234.02	292.19	3.27	
Miles decommissioned LBC		53.50		2.67

Winema NF, Spencer Creek WS- Road Decom analysis 030911 Final			
Stream Crossings			
Stream Class	**Frequency**		
Intermittent	25		
Riparian Reserves			
Miles	GIS Acres		
5.276	12.7868		
Spencer Creek WS Road Density, 030911 update			
PCGP Buffers	Total Acres	Total NFSR Miles	Road Density
1/4 mile buffer	1854.20		
NFSR roads		13.53	4.67
Decom Roads		5.56	
Roads less decom		7.97	2.75
1/2 mile buffer	3448.21		
NFSR roads		23.34	4.33
Decom Roads		7.86	
Roads less decom		15.48	2.87
1 mile buffer	6317.58		
NFSR roads		38.52	3.90
Decom Roads		10.95	
Roads less decom		27.57	2.79
All NFS Lands, Spencer Cr. KWS	22284.1	91.85	2.64
Decom Roads		21.45	
Roads less Decom		70.40	2.02

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Umpqua Mitigation Acres (Source: USFS GIS Data)						
Fuel Break						
HU_10_NAME	Acres	LSR	Matrix	Rip. Res.	Admin. Withdrawn	Other
Days Creek-South Umpqua River	449.02	254.17	194.81			0.00
Elk Creek	1183.04	953.91	229.14	101.74		0.00
Trail Creek	566.86		566.86	46.82		0.00
Upper Cow Creek	1922.68	1076.60	846.08	235.53		
Matrix - LSR						
HU_10_NAME	Acres					
Upper Cow Creek	585.04	2.33	580.31	130.24	2.40	
Commercial Thin						
HU_10_NAME	Acres					
Days Creek-South Umpqua River	170.95		170.94			0.00
Elk Creek	94.84	93.28	1.56	2.20		
Trail Creek	0.45		0.45			
Upper Cow Creek	277.72	47.81	229.92	32.39		
Log Placement						
HU_10_NAME	Acres					
Days Creek-South Umpqua River	4.66		4.66			
Elk Creek	289.74	263.27	26.47	17.05		
Trail Creek	13.92		13.92			
Upper Cow Creek	235.73	101.21	134.52	5.65		
Meadow Restore						
HU_10_NAME	Acres	LSR	Matrix	Rip. Res.	Admin. Withdrawn	Other
Days Creek-South Umpqua River	22.72	22.72				
Elk Creek	100.58	57.36	43.22	4.97		
LSR PCT						
HU_10_NAME	Acres					
Days Creek-South Umpqua River	53.86	53.48	0.38			
Elk Creek	363.04	323.57	37.44	42.27		2.03

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Offsite Pine						
HU_10_NAME	Acres					
Days Creek-South Umpqua River	59.40	58.14				1.26
Elk Creek	338.43	338.36	0.07	15.48		
Roads						
Weeds						
HU_10_NAME	Miles					
Elk Creek	6.73	6.22	0.51			
Stormproofing						
HU_10_NAME	Miles					
Elk Creek	1.59	1.59				
Trail Creek	0.58		0.58			

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Road Decommissioning						
HU_10_NAME	Miles					
Days Creek-South Umpqua River	0.45	0.45				
Dumont Creek-South Umpqua River	3.16	3.16		0.28		
Elk Creek	4.65	3.47	1.09	0.32		0.10
Evans Creek	0.02		0.02			
Trail Creek	1.75		1.75	0.11		
Upper Cow Creek	4.44	0.77	3.68	0.17		

*****Note the total mileage for the layer representing road decommissioning was adjusted - the old total mileage was 14.72 miles and the new total mileage is 14.47 miles.

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USFS GIS Analysis

RRS NF – Little Butte Stream Crossings on Decommissioned Roads 030911 Final				
Riparian Reserves				
Watershed	**Miles**	**GIS Acres**		
Little Butte Creek	6.7252	14.3155		
Little Butte Creek Watershed Stream Crossing – Decommissioned Road Intersects 030911 Final				Stream Crossings
Beaver Dam Creek Subwatershed Class 4				7
Beaver Dam Creek Subwatershed Class 3				1
Middle South Fork Little Butte Creek Subwatershed Class 4				6
Upper North Fork Little Butte Creek Subwatershed Class 4				8
Upper South Fork Little Butte Creek Subwatershed Class 4				9
Upper South Fork Little Butte Creek Subwatershed Class 2				1
Total				32
RRS NF – Little Butte Creek Road Density Analysis 030911 final	Total Acres	Total miles	Road Density -- all roads	Road Density -- less proposed Decommissioned roads
Rogue River NF LBC 5th field watershed 030911 Final				
1/4 mile buffer	4335.2			
All roads		26.50	3.91	
Road_Decom_052810.xlsx (Calibrated)		9.16		
37207XX-A (0.06812)				
37207XX-B (0.088)				
Roads less decommissioned		17.34		2.56
1/2 mile buffer	8695.9			
All roads		56.00	4.12	
Road_Decom_052810.xlsx (Calibrated)		19.24		
37207XX-A (0.1546)				
37207XX-B (0.1546)				
Roads less decommissioned		36.76		2.71
1 mile buffer	16709.2			
All roads		109.10	4.18	
Road_Decom_052810.xlsx (Calibrated)		36.86		
37207XX-A (0.1545)				
37207XX-B (0.1545)				
Roads less decommissioned		72.24		2.77

Winema NF, Spencer Creek WS- Stream Crossings on Decommissioned Roads 030911 Final		
Stream Crossings		
Stream Class	**Frequency**	
Intermittent	25	
Riparian Reserves		
Miles	GIS Acres	
5.276	12.7868	

Spencer Creek WS Road Density Analysis 030911 Final			
PCGP Buffers	Total Acres	Total Miles	Road Density
1/4 mile buffer	4814.05		
All roads		30.31	4.03
Decom Roads		5.60	
Roads less decom		24.71	3.28
1/2 mile buffer	9616.36		
All roads		42.41	2.82
Decom Roads		7.90	
Roads less decom		34.51	2.30
1 mile buffer	19230.40		
All roads		62.87	2.09
Decom Roads		11.00	
Roads less decom		51.86	1.73

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FRAGMENTATION ANALYSIS REPORT
PACIFIC GAS PIPELINE

Rogue-River – Siskiyou National Forest
Draft 2/24/10

BACKGROUND

The proposed Pacific Gas Pipeline crosses the Rogue River – Siskiyou National Forest through LSR 227 on the Dead Indian Plateau. This land base is currently managed as part of the High Cascades Ranger District.

The original Pipeline EIS was approved by FERC in the winter of 2009-2010, with initial construction planned for 2010. Prior to construction the Rogue River – Siskiyou National Forest needs to amend several aspects of its Forest Plan to allow this type of activity to occur within the LSR. One of the larger issues of allowing pipeline construction is loss of spotted owl habitat within a Late Successional Reserve (LSR) and the fragmentation and degradation of the remaining habitat by creating a linear opening across the LSR. One of the proposed mitigations for this habitat loss/degradation is the closing and replanting of old roads. Over a long period of time these revegetated roads will grow into forest, eliminating edge and reducing habitat degradation through edge effects.

This analysis is designed to measure changes in fragmentation (both positive and negative) from development of the pipeline, planting of the pipeline work corridor, and planting of closed roads. Therefore, the area of analysis is the entire LSR, since the roads are scattered over much of the LSR land base. Because the long term changes modeled at 60 years from treatment include stand development across the forested landscape, there is no way to separate out the impacts specific to the proposed management activities. For this reason a separate model run was done looking at only those stands adjacent to the pipeline and the proposed road closures. The analysis does not include the lands proposed for conversion from Matrix to LSR along the north edge of the LSR.

The LSR Assessment and Northwest Forest Plan do not directly address fragmentation. Fragmentation is implicit in the discussions of dispersal and spotted owl habitat quality. Fragmentation is an integral part of habitat quality for spotted owls, affecting prey base, as well as stand structure for both nesting and foraging (Carey et al. 1992). It also affects the ability of young birds to disperse and access suitable breeding habitat sites. Fragmentation is directly discussed in Thomas et al. 1990, which formed the scientific basis for the Northwest Forest Plan.

ASSUMPTIONS

- Because this is LSR there will be no further regeneration cutting or road building. Any forest habitat treatments will be precommercial or commercial thinning that will not result in downgrading of spotted owl habitat.
- This analysis only looks at fragmentation of Mature Forest habitat since that is the management objective for LSR.
- Pure pine stands are not suitable Northern Spotted owl Habitat (Carey 1985).
- Roads and water diversion canals cause hard edge effect and fragmentation of mature forest habitats.
- Hard edge ceases to exist when a neighboring stand reaches 60 feet in height. Generally 60 year conifer stands in the affected region have achieved canopy height approaching that of the general forest.
- Edge effects extend 300 feet into a stand from a hard edge. This assumption is simply for modeling purposes. In fact edge effects vary based on orientation of the edge, the ecological factor being measured; variation is stand size on both sides of the edge; and other factors. Chen et al. (1995) found climatic edge effects ranged from 30 to >240 meters into a mature forest stand. Chen et al. (1992) also found vegetation responses to edge ranged from 16 to 137 meters into the stand. Increasing or decreasing the assumed edge distance will still demonstrate the impacts of the management activities, with the degree of change increasing or decreasing. 300 feet was selected as an average for environmental factors.

DEFINITIONS

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CORE AREA – That portion of a patch that is not impacted by hard edge effect, based on model assumptions. The minimum acreage for an individual patch is 1 acre.

EDGE EFFECT – Forest edge effect results primarily from differences in wind and light intensity and quality reaching a forest patch that alter microclimate and disturbance rates (Harper et al. 2005). Edge effects also include changes in humidity, seed dispersal, colonization, predator access and other ecological functions that differ between neighboring habitats.

- Hard edge occurs when two neighboring stands differ greatly in height, allowing wind, light and other environmental factors to penetrate into the taller (older) stand.
- Soft edge occurs when stands are similar in age or height but differ greatly in composition, allowing for seed dispersal, species movement and other ecological functions unique to one stand to penetrate partially into the other stand.
- This analysis will only look at Hard Edge.

FRAGMENTATION – The process of reducing size and connectivity of stands that compose a forest. Fragmentation of spotted owl habitat occurs when portions of the suitable habitat become isolated from neighboring suitable habitat through the creation of open landscapes (clearing, fire, etc) or development of unsuitable habitat types (pine stand development). Fragmentation also occurs within a stand when habitat is lost through development of large openings or when unsuitable openings or habitats encroach into the stand along the edges.

LANDSCAPE – For purposes of this analysis the landscape is the LSR 227 as it contains a number of spotted owl home ranges and is the management area being impacted by the pipeline.

LATE SUCCESSIONAL FOREST – Forest seral stages which include Mature and Old Growth classes (USDA FS & USDI BLM. 1994).

MATURE FOREST – Fir and mixed conifer forest with an average DBH of 21” and canopy closure >60%. The definition used will depend on the data available in the timber stand layer.

NORTHERN SPOTTED OWL HABITAT – The forest vegetation with the age class, species of trees, structure, sufficient area, and adequate food source to meet some or all of the life needs of the northern spotted owl.

OLD GROWTH FOREST – A forest stand usually at least 180-220 years old with moderate to high canopy closure; a multi species canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old and decaying wood (decadence); numerous large snags; and heavy accumulation of wood, including large logs on the ground.

PATCH – A single contiguous block of forests that provided for one or more of the survival needs of the northern spotted owl (nesting, roosting and/or foraging). Areas within the patch may provide for single or multiple needs while other portions of the patch meet different needs. Minimum acreage for a patch is 1 acre.

PIPELINE CORRIDOR – The 30 foot width of the maintained pipeline corridor and the additional cleared width of the corridor from the construction activity needs. This is estimated at 100 feet total width within the segment being analyzed, due to the flat nature of the landscape. The construction strip will be reforested, resulting in the narrower 30 foot width of corridor after approximately 40 years.

EDGE EFFECT – The alteration of habitat characteristics within a stand from a neighboring stand. For example, creation of an open area adjacent to mature forest allows wind and light to penetrate into the mature stand, altering the plant species mix along the edge. Edge effect varies in distance depending on orientation of the respective stands (is the opening on the south or north face of the mature stand), impact being measured (light, wind, seed dispersal…), stand condition (dense forest, thinned…) and other factors. For analysis purposes a set distance of 300 feet into the stand is used as an average.

STEPS IN THE ANALYSIS

Measures to be Compared –

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Patch

- Number of isolated patches of mature forest
- Total acres of Mature forest
- Average patch size of Mature Forest
- Average distance between patches

Core

- Number of isolated patches of Mature forest cores greater than 1 acre
- Total acres of Mature forest core in patches greater than 1 acre
- Average patch size of Mature Forest cores greater than 1 acre

Edge

- Total edge length around Mature forest patches
- Average edge length around Mature forest patches
- An index of fragmentation that is Avg. Edge/Avg. patch acres

ANALYSIS AREA - The LSR is the basic landscape being analyzed. This landscape will be buffered out to the nearest hard edge break for all stands along the boundary of the LSR for determining edge effects.

CURRENT FRAGMENTATION
Current fragmentation within this LSR comes from natural landscape patterns (lava beds and meadows primarily), past timber harvest, replanting to pine to prevent frost problems, road and canal construction, the damming of Fish Lake, and management on private land inholdings.

POST PIPELINE FRAGMENTATION
Fragmentation within the LSR will increase due to the development of the pipeline corridor as it passes through conifer forested stands of a variety of ages.

60 YEAR FRAGMENTATION
Fragmentation is predicted to be reduced after 60 years due to revegetation of closed roads through mitigation, revegetation of the construction strip along the pipeline, and maturation of historic clearcuts and shelterwoods across the LSR. Treatment of the Big Elk pine stands will be designed to convert to mixed conifer. These stands will therefore convert from Dispersal habitat only to Dispersal or potentially Foraging habitat.

Additional stands will grow into Mature Forest.

The steps taken in the GIS analysis are described in Appendix A.

RESULTS

The results of the GIS run are shown below for the three analysis periods. An additional run was done at 60 years for just those stands adjacent to the pipeline corridor and the roads proposed for closure to show the specific impacts of those actions.

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LSR 227 Fragmentation Analysis

	Current Conditions	Following Pipeline Construction	60 years out following road closures	60 years out following road closures, Stands adj. to pipeline and mitigation road closures
Patch Metrics				
Number of Isolated patches of mature forest:	1445	1450	1501	298
Total acres of Mature forest:	12,373.53	12,350.60	12,773.1	4555.001
Total acres of Mature forest (patches)	9,994.69	9,976.04	10,218.6	4191.96
Average patch size of Mature forest:	6.92	6.88	6.81	14.07
Average distance between patches:				
Core Metrics				
Number of isolated patches of Mature forest cores greater than 1 acre	779	771	901	155
Total acres of Mature forest core in patches greater than 1 acre	5076.27	5013.82	5990.87	2839.52
Average patch size (acres) of Mature Forest cores greater than 1 acre	6.52	6.5	6.65	18.32
Edge Metrics				
Total edge length (ft) around Mature forest patches	596,667.54	605,267.45	533,811.61	157549.103
Average edge length (ft) around Mature forest patches	202.95	203.86	205.63	263.46

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An index of fragmentation that is Avg. Edge/ Avg. patch acres	29.32803468	29.63081395	30.19530103	18.7249467

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The LSR currently includes 1,445 patches of mature forest greater than 1 acre in size. Construction of the pipeline results in slightly greater fragmentation by passing through and dividing some patches so that there is a net increase of 5 patches. After 60 years the number of patches across the landscape increases to 1,501, as numerous stands age and develop the characteristics of a mature forest. At the full landscape scale the development of these small, new patches result in the average patch size actually decreasing over 60 years from 6.92 to 6.1 acres. The patch sizes immediately adjacent to the pipeline and decommissioned roads increase to an average of 14 acres. As this is more than twice the average patch size and the opposite trend in average change across the LSR, the benefit of road closures on fragmentation are clearly shown.

Generically speaking, as patches increase in size the amount of edge around the patch increases at a much slower rate. For this reason the formula of Edge/Acres is a good measure of fragmentation. This index shows a decrease in Fragmentation from 33.67 currently to 31.12 in 60 years. This is a 9% reduction in fragmentation across the landscape. For the stands immediately adjacent to the pipeline and decommissioned roads this fragmentation index falls to 18.7, a 36% reduction over the LSR average.

Because of edge effects, an isolated 1 acre patch of Mature Forest has little real value as spotted owl habitat. For this reason we also looked at interior patches– 1 acre or larger blocks of Mature Forest that were 300 feet or more from a hard edge. Currently the forest has 779 of these interior patches. Eight of these interior patches would be fragmented by the pipeline corridor. Route realignments such as Big Elk avoided XX interior patches. With the maturation of harvested stands, the planted portion of the pipeline and planted segments of decommissioned roads, the number of cores increases to 901. This represents more than a 14% increase in the number of core areas across the landscape and a greater than 16% increase in total acres of Mature Forest within these patches. The average patch size of the cores also increases slightly. The average patch size of these cores increases only slightly to 6.65 acres from 6.5 acres. Core areas adjacent to the management activities increase in size to 18 acres. As the pipeline will remain as an edge creating feature after 60 years, this near tripling of acres in the adjacent cores is entirely attributable to the road decommissioning efforts.

CONCLUSIONS

Decommissioning of roads results in greatly reduced fragmentation in the stands immediately adjacent to the roads and a 9% decrease in fragmentation across the landscape, in conjunction with the aging of all stands across that landscape. In the 60 year interval modeled, none of the decommissioned roads will convert to mature forest; they simply grow tall enough to eliminate light and wind related edges along the boundaries of existing mature forest stands. The doubling in size of patches adjacent to management activities indicates that the timber growth in these road beds eliminate the barrier effect for forest dependant small animals and shade dependant plant species, allowing dispersal across these current gaps. Overall stand fragmentation is greatly reduced in the areas immediately adjacent to these roads and measurably reduced across the entire LSR.

Draft Working Paper

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Draft Working Paper

Appendix A
Fragmentation Analysis Workflow

Jeremy Hobson

Patches

To identify patches of mature forest, I used the following selection criteria on the GNN layer:
CANCOV ≥ 60, QMDA_DOM ≥ 53.34 (21")
I overlaid the Mature Forest layer with fragmentation features and erased the intersecting area from the mature forest layer, resulting in the creation of the patches layer.

Current conditions

To calculate patch metrics, I selected the grid representing mature forest (as described above) and erased features with fragmentation effects, including:
Roads (all roads, 30' buffer)
Canals (60' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Timber stands less than 40 years of age (identified from activities database; used activities polygons and selected all those polygons with cutting activities since 1973)

Conditions following pipeline construction

To calculate patch metrics, I selected the grid representing mature forest (as described above) and erased features with fragmentation effects, including:
Roads (all roads, 30' buffer)
Canals (60' buffer)
Pipeline corridor (100' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Timber stands less than 40 years of age (identified from activities database; used activities polygons and selected all those polygons with cutting activities since 1973)

Conditions 60 years out after road closures

To calculate patch metrics, I selected the grid representing mature forest (as described above) and erased features with fragmentation effects, including:
Roads (all roads, less decommissioned roads, 30' buffer)
Canals (60' buffer)
Pipeline corridor (30' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)

Core

The calculation of Core metrics was accomplished by overlapping the fragmentation features with the mature forest selection, and erasing mature forest where overlapping occurred. Fragmentation feature edges were buffered 300.

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Current Conditions

To represent core areas, the mature forest layer will need to be buffered into 300' by the fragmentation edges, including:
Roads (all roads, 30' buffer)
Canals (60' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Timber stands less than 40 years of age (identified from activities database; used activities polygons and selected all those polygons with cutting activities since 1973)

Conditions following pipeline construction

To represent core areas, the mature forest layer will need to be buffered into 300' by the fragmentation edges, including:
Roads (all roads, 30' buffer)
Canals (60' buffer)
Pipeline (100' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Timber stands less than 40 years of age (identified from activities database)

Conditions 60 years out after road closures

To represent core areas, the mature forest layer will need to be buffered into 300' by the fragmentation edges, including:
Roads (all roads with decommissioned roads removed, 30' buffer)
Canals (60' buffer)
Pipeline (30' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)

Edge

To calculate edge metrics, I intersected fragmentation features (as listed below) with the mature forest layer; only those overlapping regions were identified as imposing an edge effect and were included in the metrics. The mature forest layer was selected on to identify all patches (areas > = 1 acre) and all edges intersecting these features were identified and included in the metrics – therefore, edges associated with mature forest areas less than 1 acre were not included in the metrics.

Current Conditions

Edge will occur where mature forest patches intersect the following features:
Roads (all roads, 30' buffer)
Canals (60' buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Edges of timber stands, less than 40 years of age (identified from activities database)

Conditions following pipeline construction

Edge will occur where mature forest patches intersect the following features:
Roads (all roads, 30' buffer)

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Pipeline corridor (100’ buffer)
Canals (60’ buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)
Edges of timber stands, less than 40 years of age (identified from activities database)

Conditions 60 years out after road closures

Edge will occur where mature forest patches intersect the following features:
Pipeline corridor (30’ buffer)
Roads (All roads with decommissioned roads removed, 30’ buffer)
Canals (60’ buffer)
Waterbodies
Wetlands
Non-forested vegetation polygon layer
Non-forested habitat derived from the veg_gnn layer (CANCOV = 0)

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Draft Working Paper

Appendix F-2

Amendment to the Draft Compensatory Mitigation Plan

Pam Barnes
Project Manager – Business Development
Phone: (801) 584-6857
FAX: (801) 584-7764

Williams Pacific Connector
Gas Operator
P.O. Box 58900
Salt Lake City, UT 84158-0900

August 13, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Pacific Connector Pipeline, LP
Docket No. CP13-492

Dear Ms. Bose:

Williams Pacific Connector Gas Operator, LLC, acting as the Engineering, Procurement and Construction Management contractor, on behalf of Pacific Connector Gas Pipeline LP, submits information to amend the Draft Compensatory Mitigation Plan, Appendix O to the Applicant Prepared Draft Biological Assessment. The revision replaces the Agreement in Principle - Compensatory Mitigation for ESA Impacts (AIP) document filed on June 19, 2015. The U.S. Fish & Wildlife Service has informed Williams Pacific Connector Gas Operator, LLC that they are retracting the AIP.

Respectfully submitted,

/s/ Pam Barnes

Pam Barnes

Attachments

cc: Paul Friedman
Randy Miller

Pacific Connector Gas Pipeline Project—Project Mitigation Proposal to FERC—
Compensatory Mitigation for ESA Impacts

Williams Pacific Connector Gas Operator, LLC, on behalf of Pacific Connector Gas Pipeline L.P. (Pacific Connector, or Project) submits the following proposal to the Federal Energy Regulatory Commission (FERC) staff and requests that FERC staff include the proposal as a supplement to the Proposed Action in FERC's Biological Assessment (BA) and also requests that these proposed mitigation actions be evaluated in the Final Environmental Impact Statement (FEIS) for the Project.

Mitigation Proposal

Pacific Connector considered the habitat categories, definitions mitigation concepts and compensatory ratios presented in the U.S. Fish and Wildlife Service's Revised Conservation Framework (Conservation Framework) for the Northern Spotted Owl and Marbled Murrelet (U.S. Fish and Wildlife Service (Service), 2014) when drafting the Compensatory Mitigation Plan (CMP) appended to the BA. Within the draft CMP, Pacific Connector is not in agreement with the Service-recommended mitigation ratios or area of effects to be considered for mitigation that are included in the Conservation Framework. Also, Pacific Connector proposed a different mitigation concept to compensate for direct effects to Marbled Murrelet (MAMU) within the Project area. Mitigation concepts presented in the draft CMP include:

- Acquisition of MAMU and Northern Spotted Owl (NSO) habitat within the range of the MAMU (MAMU Inland Zones 1 and 2) for habitat to be removed by the PCGP Project, considering different mitigation ratios than those presented in the Conservation Framework (Tables 7 and 9, draft CMP);

- Application of Forest Service (FS) and Bureau of Land Management (BLM) mitigation projects accepted by Pacific Connector are intended to compensate for:

    - NSO habitat removed outside of the range of MAMU, including high quality habitat (nesting, roosting, and foraging (NRF) habitat, and High NRF habitat);

    - FS and BLM mitigation projects also are intended to provide mitigation for other indirect habitat effects (forest fragmentation and edge effects within 100 meters of habitat removal).

To ensure a net conservation benefit to the species consistent with Pacific Connector's discussion filed with FERC staff on May 23, 2015. Pacific Connector proposes two alternative mitigation approaches below that replace the current draft CMP. Option One is Pacific Connector's revised proposal presented in the draft CMP, which applies the Service's mitigation ratios presented in the Conservation Framework only to MAMU suitable and NSO

High NRF / NRF removed. An alternative proposal, "Option Two," features Service-recommended mitigation ratios applied to an expanded area of affect (habitat removed and other indirect effects out 100 meters from habitat removal) and a more prominent role for the Service in the acquisition and preservation of NSO and MAMU habitat. The options differ chiefly in the amount of NSO and MAMU habitat affected by the Project that would be included in the calculation of necessary habitat acquisition acres using the Service's mitigation ratios to result in a net benefit to NSO and MAMU. Their other components are identical, and are described as "Common Components" following the descriptions of Conservation Program Options One and Two. Pacific Connector will implement Option Two preferentially, provided that it can be implemented at the cost figures it stipulates as total cost for acquisition of conservation habitat.

Pacific Connector also proposes revised measures described below would be utilized to offset and minimize the significance of other direct and indirect adverse effects of the Project to NSO and MAMU, and to three federally-listed plant species (Applegate's milkvetch, Kincaid's lupine, and Gentner's fritillary) that are not fully avoidable through other actions incorporated into the Project.

Implementation of the following measures is contingent upon the Project receiving necessary authorizations to construct the Project, including a Biological Opinion (BO) from the Service under the consultation requirements of section 7(a)(2) of the Endangered Species Act (ESA.)

NSO and MAMU Mitigation -- Conservation Program Option One

To address habitat removal impacts to NSO and MAMU, Pacific Connector would do the following: Develop a Conservation Program to achieve protection of larger parcels of MAMU and NSO habitat currently in nonfederal ownership, and long-term management of those parcels for the benefit of the species. Based on currently best available information about baseline ecological conditions, the location, design, construction and implementation of the Project, and about likely associated impacts from the Project, Pacific Connector has examined a variety of habitat and landownership scenarios for their potential to adequately offset the impacts.

Pacific Connector would achieve protection of approximately 2,700 acres of older forest habitat occurring on private lands (where it is generally easy to satisfy basic mitigation principles and standards.) Approximately 400 acres of that should be predominantly highest quality suitable habitat (High NRF and Suitable) to compensate for removal of approximately 46 acres of high quality habitat in the range of the MAMU. The other 2,300 acres would target late seral forest containing NRF/High NRF habitat to compensate for removal of approximately 520 acres of other NSO NRF / High NRF habitat removed within and outside the MAMU Range, with the exception of NSO NRF / High NRF habitat that overlaps MAMU Suitable habitat (included in the first Habitat Category). To meaningfully offset impacts, the habitat should occur as contiguously as possible—either in a single large block or in no more than 2-3 mid-size blocks occurring within a relatively small landscape area or where a parcel fills a gap in an existing protected land allocation of Critical Habitat.

Pacific Connector would utilize the services and expertise of a Conservation Program Fund

Manager as necessary to address acquisition support, procedural and management issues related to Pacific Connector's commitment to acquire parcels of MAMU and NSO habitat for management and conservation.

NSO and MAMU Mitigation -- Conservation Program Option Two

To address impacts to NSO and MAMU, Pacific Connector would do the following:

A. Develop a Conservation Program to achieve protection of larger parcels of MAMU and NSO habitat currently in nonfederal ownership, and long-term management of those parcels for the benefit of the species. Based on currently best available information about baseline ecological conditions, the location, design, construction and implementation of the Project, and about likely associated impacts from the Project, the Service has examined a variety of habitat and landownership scenarios for their potential to adequately offset the impacts. The Service has advised Pacific Connector that the Conservation Program should result in one of (or a combination of) three biological/habitat scenarios being achieved —

(1) Protection of approximately 4,800 acres of older forest habitat occurring on private lands (where it is generally easy to satisfy basic mitigation principles and standards.) That acreage should be predominantly highest quality suitable habitat (High NRF and Suitable), but could include up to 20% NRF. To meaningfully offset impacts, the habitat should occur as contiguously as possible—either in a single large block or in no more than 2-3 mid-size blocks occurring within a relatively small landscape area or where a parcel fills a gap in an existing protected land allocation of Critical Habitat.

(2) Protection of approximately 7,700-acres consisting primarily of lower quality (i.e. NRF) suitable habitat on private lands and occurring as contiguously as possible--either in a single large block or in no more than 2-3 mid-size blocks occurring within a relatively small landscape area or where a parcel fills a gap in an existing protected land allocation of Critical Habitat.

(3) Protection of older and structurally advanced forest habitat occurring on state lands in the form of 10,000-15,000-acres of NRF and 2,000-5,000-acres of "almost-NRF", or some functionally equivalent mix of habitats, most of which would occur in large patches (with some smaller and/or dispersed patches) and within a relatively contiguous 15,000-25,000- acres segment of state land.

The Service has further advised Pacific Connector that, in light of the baseline ecological conditions and relative conservation importance of various landownerships, the most practicable and, from a conservation perspective, preferred, outcome of the Conservation Program is protection of older and structurally advanced forests occurring primarily on state lands (in the form of currently suitable and nearly suitable NSO habitat mostly in large patches and within a relatively contiguous segment of the state land) but also including several hundred acres of MAMU Suitable habitat currently in private ownership.

B. Fund the Conservation Program as follows—

(1) $45 million for the habitat protection discussed above, including for acreage of non-habitat necessary to address legal, procedural, and management issues that would otherwise preclude acquisition of the targeted higher quality habitats;

(2) $4.5 million for long-term management of the protected lands and associated NSO and MAMU populations; and

(3) additional funds necessary for transactional due diligence, such as boundary survey(s), appraisal(s), services and expertise of the Conservation Program Fund Manager and other transaction costs associated with the acquisitions and/or conservation easements (however, any purchase option payments would be accounted against the $45 million noted above).

The funding amounts identified above take into consideration information provided to Pacific Connector by the Service about the likely costs associated with achieving the biological/habitat-based scenarios described in A. The Service developed that information in consultation with The Conservation Fund (TCF)[1] and the Oregon Departments of Forestry and State Lands. Based on that information and additional information developed independently by the Project, Pacific Connector believes this funding would allow the Conservation Program to achieve the habitat outcomes identified by the Service.

Common Components

The following components would be included as a compliment to either of Conservation Program Option One or Two:

1. **To carry out and fund the Conservation Program (Option One or Two), Pacific Connector would do the following:**

A. Ensure that the Conservation Program includes the following provisions—

(1) Purchase of conservation easement(s) and, as necessary, fee-title interests, would be the means by which the above habitats and acres would be protected. The conservation easements would result in protection-in-perpetuity of these lands, allowing only for management actions necessary to preserve the status of currently suitable habitats and, where appropriate, to expedite and enhance the attainment of suitability in currently unsuitable habitats. Management actions occurring on the latter

[1] TCF is a national charitable organization with a mission to conserve America's most important lands and water resources through a partnership approach with public and private interests to achieve sustainable solutions that balance economic growth with environmental protection. TCF has experience implementing regulatory and voluntary mitigation projects, court approved consent decrees, natural resources damage assessments, habitat restoration plans, supplemental environmental projects, and other forms of legal settlements.

should not adversely affect the former. Conservation easement would not necessarily preclude income-generation from management actions on some of the currently unsuitable habitats provided the actions are consistent with the above conditions and the resulting income is utilized to support long-term management of conservation easement lands and associated NSO and MAMU populations.

(2) Long-term management plan(s) would be developed to identify the specific actions necessary to satisfy the provisions of the conservation easements.

(3) Ownership of conservation easements and, if applicable, fee-title, would be transferred to an appropriate, Service-approved conservation-focused land management entity(s) for the purposes of long term oversight and implementation of the conservation easement and management plan.

(4) Decision authority regarding the specific lands protected, dispersal of funds to protect those lands, and the long-term management and ownership of those lands would not reside with Pacific Connector, but would be vested in a) a Service-approved Conservation Program Fund Manager (an appropriate land trust or similar entity) for the purposes of receiving, managing and dispersing Conservation Program funds to undertake and complete fee-title and conservation easement acquisitions, including preliminary due diligence and ensuring final ownership as described in 1.A(1); and b) the Service for the purposes of providing direction, guidance and oversight, including final right-of-approval, to any projects proposed by the Conservation Program Fund Manager (or any other party) for the Conservation Program, and to the activities of the Conservation Program Fund Manager related to those projects, in order to ensure adequate Conservation Program outcomes.

B. Contribute $197,400 (plus administrative overhead cost, not to exceed 40%) to support the barred owl management program in a manner identified by the Service[2].

C. Contribute $350,000 (plus administrative overhead cost, not to exceed 40%) to support a program, identified by the Service, to reduce MAMU nest predation[3].

D. Decision-making and receipt and management of funds for 1.B and 1.C would be vested as described for the Conservation Program, except that, at the discretion of the Service, funds may be provided directly by Pacific Connector to the applicable action entities rather than a third-party fund manager or, if a fund manager is utilized, might be different than the Conservation Program Fund Manager.

E. Provide separate funding to BLM and Forest Service, and/or undertake other actions directed by those agencies, for the implementation of those agencies' Compensatory Mitigation Plan Actions (CMPAs) as described in FERC's DEIS for the Project, or as otherwise modified by BLM and Forest Service to achieve similar ecological outcomes.

[2,3] The amount of funding and the recipient activities identified in 1.D and 1.E derive directly from Service suggestions about how to offset certain disturbance- and disruption-related impacts from the Project.

The Service, BLM and Forest Service have coordinated to ensure that the CMPAs would be a substantial source of measures to offset impacts of the Project to NSO and MAMU. In the absence of the CMPAs, the Conservation Program and other actions described above would need to be supplemented.

2. **To address impacts to ESA-listed plants, Pacific Connector would do the following:**

   A. Fund conservation easements/land acquisition and third party management and maintenance for ESA-listed plants, as identified by the Service, including at least $39,108 for Applegate's milkvetch, at least $48,500 for Kincaid's lupine, and at least $47,400 for Gentner's fritillary. (Estimates provided here are for conservation easements; if acquisition was necessary to secure these parcels the cost would be roughly double.)

   B. Contribute a combined $114,940 for additional third party acquisition or research, as identified by the Service, in place of the salvage BMP for both Applegate's milkvetch and Kincaid's lupine.

   C. Contribute $20,000 to the work of a Service-approved conservation entity in place of the second year of surveys and the associated avoidance and minimization BMPs for Gentner's fritillary.

   D. Contribute $24,500 to the work of a Service-approved conservation entity in place of the second year of the seed collection BMP for Applegate's milkvetch and Kincaid's lupine.

   E. Decision-making and receipt and management of funds for 2.A-D would be vested as described for the Conservation Program, except that, at the discretion of the Service, funds may be provided directly by Pacific Connector to applicable action entities rather than a third-party fund manager or, if a fund manager is utilized, might be different than the Conservation Program Fund Manager.

3. **To further implement the measures described in items 1 and 2, above, Pacific Connector would do the following:**

   A. Funding for items 1.A-E and 2.A-E would be placed into a non-wasting, interest-bearing bank account(s) no later than 30-days after receipt of a Notice to Proceed with construction of the Project, and thereby be available to the parties that would be authorized to disperse funds necessary to identify, develop, and implement the described conservation actions.

   B. Develop formal agreements with the Service (and other parties, as necessary) that further specify the roles and responsibilities of each party. In particular, these agreements would describe the disposition of funds provided by Pacific Connector into specific accounts and/or to specific recipients, and expectations and intent regarding use of the funds/accounts, including the roles of various parties in associated decision-making. Any agreements between the Project and other parties which might be necessary to implement this proposal (e.g. a Conservation Program Fund Manager) would be subject to advance review and

approval by the Service or, if preferred by the Service, would include the Service as a party to the agreement (in addition to an agreement(s) directly between the Service and Pacific Connector.)

C. Pacific Connector would collaborate with the Service during the ongoing review of the Project under the ESA and NEPA to better determine the types of agreements and potential parties that may be applicable. Pacific Connector would defer to the Service regarding the most appropriate time (relative to the ongoing regulatory reviews) to draft and finalize such agreements.

Pacific Connector believes the both options are reasonable, but notes additionally with respect to Option Two that: a) the actions included in the proposal directly adhere to specific suggestions and guidance from the Service; b) the Service has suggested to Pacific Connector that such actions would (in conjunction with a wide range of other conservation measures included in the Project) adequately offset and minimize the significance of applicable direct and indirect adverse effects of the Project to the subject species, and; c) the specific funding amounts described were developed in consideration of information from the Service and other knowledgeable sources about likely costs of the actions.

Pacific Connector assumes that if FERC incorporates this proposal into the BA and retains discretion over associated measures, the Service's BO will be informed by this proposal and by the factors described in the preceding paragraph that indicate the adequacy of the proposal. However, Pacific Connector also realizes that, while these will all inform the BO, they do not predetermine an outcome of the BO. An outcome can be reached only after full analysis (under both ESA and NEPA) of the Project’s final locations, activities and impacts to listed species, and associated reassessment of actions, funding, and other information incorporated in this proposal. If new information and analyses lead the Service to conclude the actions, funding or other aspects of this proposal will not satisfy the requirements of section 7(a)(2) of the ESA, Pacific Connector will work with the Service and FERC to appropriately revise the proposal.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish and Wildlife Office
2600 SE 98th Avenue, Suite 100
Portland, Oregon 97266
Phone: (503) 231-6179 FAX: (503) 231-6195

Reply To: 7432.0040
File Name: AIP withdrawal.doc
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TAILS: 01EOFW00-2015-F-0109
Doc Type: F

AUG 13 2015

Mr. Randy Miller
Environmental Manager, Pacific Connector Pipeline Project
Williams Pipeline Company
295 Chipeta Way
Salt Lake City, Utah 84108

Dear Mr. Miller:

In accordance with discussions between the parties, the U.S. Fish and Wildlife Service hereby withdraws from the Agreement in Principle for Compensatory Mitigation for Impacts, Pacific Connector Gas Pipeline Project, dated June 10, 2015.

Sincerely,

Paul Henson

Paul Henson, Ph.D.
State Supervisor

Printed on 100 percent chlorine-free/100 percent post-consumer content recycled paper

APPENDIX G

Soils Association Descriptions

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SITKA SPRUCE BELT (MLRA-4A) – MPs 1.47R TO 19.22

The Sitka Spruce Belt is a relatively long and narrow zone running north-south along the coast. In the project area, it includes the greater Coos Bay area and the hills and valleys just to the east and south. Most of this part of the Major Land Resource Area (MLRA) has an elevation of 50 to 300 feet. The coastal area around the mouth of floodplains along the major rivers near the coast is flat, but inland areas are very hilly. The area is highly dissected by numerous perennial rivers and creeks which commonly flow into estuaries. The average annual precipitation is 50 to 90 inches. Precipitation is evenly distributed throughout fall, winter, and spring, but summers are cool and dry. Snowfall accumulation is rare. This area lies within the coastal fog belt zone, and heavy fogs are common in summer. The average annual temperature is 45 to 55 degrees Fahrenheit (°F). The freeze-free period ranges from 220 to 365 days in most of this area. Most of MLRA 4A near the project area consists of privately owned residential land, small farms and ranches, or forests. Timber production is the major industry (NRCS 2006). The two major soils associations crossed by the project in this MLRA are described below.

Nehalem-Duneland-Bullards (s6398)

The Nehalem-Duneland-Bullards soil association is crossed by 1.2 percent of the pipeline route length. The dominant soil mapping units which are crossed by the Project in soils association s6398 are: Coquille silt loam (map unit 12, 1.75 miles); Templeton silt loam, 30 to 50 percent slopes (map unit 54E, 0.42 mile); and Templeton silt loam, 0 to 30 percent slopes (map unit 54D, 0.30 mile). Five other soil mapping units are crossed by the Pacific Connector pipeline with individual crossing lengths ranging from 0.02 to 0.13 mile.

Coquille soils are susceptible to soil compaction, have a year-round high water table (0 to greater than 6 feet deep), are a hydric soil and prime farmland (farmland of statewide importance). Templeton soils have a paralithic contact with siltstone between 40 and 60 inches deep and are susceptible to soil compaction. Templeton silt loam has steep slopes (30 to 50 percent) which makes it susceptible to water erosion and gives it a potential for reclamation sensitivity. The mean annual precipitation in this soil association is 70 to 90 inches.

Tolovana-Templeton-Salander-Reedsport-Fendall (s6399)

The Tolovana-Templeton-Salander-Reedsport-Fendall soil association is crossed by 7.1 percent of the pipeline route length. The dominant soil mapping units which are crossed by the Project in soils association s6399 are: Geisel silt loam, 12 to 30 percent slopes (map unit 26D, 2.56 miles); Preacher-Bohannon loams, 30 to 60 percent slopes (map unit 46E, 2.05 miles); Templeton silt loam, 30 to 50 percent slopes (map unit 54E, 0.77 miles); and Templeton silt loam, 0 to 30 percent slopes (map unit 54D, 0.86 mile). Fifteen other soil mapping units are crossed by the Project with individual crossing lengths ranging from 0.04 to 0.56 mile. All of the soil map units crossed in this soils association are susceptible to soil compaction. Geisel soils have a paralithic contact with siltstone at 40 to 60 inches which rates them as having reclamation sensitivity. The Geisel soil map unit is designated as a farmland of statewide importance. Preacher-Bohannon loams are susceptible to water erosion due to the steep slopes and are

designated as having a reclamation sensitivity rating. Templeton soils have a paralithic contact with siltstone between 40 and 60 inches deep and a reclamation sensitivity potential. Templeton silt loam has steep slopes (30 to 50 percent) which makes it susceptible to water erosion and gives it a potential for reclamation sensitivity. The mean annual precipitation in this soil association is 65 to 80 inches.

NORTHERN PACIFIC COAST RANGE, FOOTHILLS, AND VALLEYS (MLRA-1) – MPs 19.22 TO 47.16

The North Pacific Coast Range, Foothills and Valleys MLRA encompasses the Coast Range of Oregon in the project area, which is centered about on the Coos and Douglas County line. Most of the MLRA consists of hills and low mountains with gentle to steep slopes. Elevations near the project area range from 300 to almost 3,000 feet. The valleys are mostly narrow and of small extent. The MLRA receives an average annual precipitation of 60 to 100 inches, which is evenly distributed throughout fall, winter, and spring. Summers are usually dry and warm, but hot days are rare. Winters are cool and snow and freezing temperatures are common only at higher elevations. In most of this area, snow falls only a few days each year. The average annual temperature is 40 to 55°F. The average freeze-free period in this area ranges between 150 to 280 days and decreases with elevation. Most of the area is densely forested, and timber production is the major industry. Recreation and wildlife habitat also are important land uses (NRCS 2006). The major soil resource concerns are water erosion due to steep slopes, erodible soils and high rainfall. The erosion hazard is considerable if plant cover is removed. Surface compaction and sedimentation of streams are also soil resource concerns. Mass movement in the form of landslides and slips is a serious problem and a major source of sediment in the rivers. The three soils associations crossed by the project area are described below.

Peavine-Olyic-Melby-Honeygrove-Blachly (s6396)

The Peavine-Olvic-Melby-Honeygrove-Blachly soil association is crossed by 4.5 percent of the pipeline route length. The dominant soil mapping units which are crossed by the Project in soils association s6396 are: Honeygrove silty clay loam, 30 to 50 percent slopes (map unit 30E, 3.17 miles); Honeygrove silty clay loam, 3 to 30 percent slopes (map unit 30D, 2.62 miles); Preacher-Blachly association, 12 to 30 percent slopes (map unit 44D, 1.45 miles); and Preacher-Blachly association, 30 to 60 percent slopes (map unit 44E, 1.33 miles). All of the soil map units crossed in this soils association are susceptible to soil compaction. Honeygrove and Blachly soils have greater than 40 percent clay in the control section which classifies them as having a reclamation sensitivity rating. Map units 30 E and 44E have slopes greater than 30 percent which increases water erosion potential and rates them as having reclamation sensitivity. Landforms are typified by uneven, step-like benches caused by sliding and slumping. The mean annual precipitation ranges from about 75 to 100 inches.

Nekoma-Meda-Kirkendall-Eilertsen (s6402)

The Nekoma-Meda-Kirkendall-Eilertsen soil association is crossed by 0.9 percent of the pipeline route length. The dominant soil mapping units which are crossed by the proposed Project in soils association s6402 are: Chismore silt loam, 3 to 7 percent slopes (map unit 10B, 0.79 mile); and Pyburn silty clay, 0 to 8 percent slopes (map unit 47B, 0.28 mile). Soils in both map units are prime farmland (farmland of statewide importance). Pyburn soils have greater than 40

percent clay in the control section which causes these soils have a reclamation sensitivity rating. Pyburn soils are hydric soils. Chismore soils have a high water table from November through March that ranges in depth from 1.5 to greater than 6.0 feet. Pyburn soils have a high water table from October through May that ranges from the surface to greater than 6.0 feet. The average annual precipitation of this association is about 75 inches.

Bohannon-Preacher (s6395)

The Bohannon-Preacher association (s6395) is crossed by the Pacific Connector pipeline in both Coos (14.38 miles) and Douglas (1.49 miles) Counties (7.0 percent of the pipeline route length). The mean annual precipitation is 80 to 95 inches. The dominant soil mapping units which are crossed by the proposed Project in soils association s6395 are: Preacher-Bohannon loams, 3 to 30 percent slopes (map unit 46D, 2.72 miles); Preacher-Blachly-Digger association, 30 to 60 percent slopes (map unit 45E, 2.43 miles); Preacher-Blachly association, 12 to 30 percent slopes (map unit 44D, 1.57 miles); Remote-Digger-Preacher complex, 30 to 50 percent slopes (map unit 50E, 1.56 miles). Ten other soil map units are crossed in this association with individual lengths ranging from 0.05 to 1.10 miles with similar soils and varying slope ranges. All of the dominant soil map units in this association are susceptible to soil compaction. Preacher-Blachly-Digger (45E) and Remote-Digger-Preacher (50E) have steep slopes that increase the potential for water erosion. Remote-Digger-Preacher (50E) is characterized by large stones. Preacher-Bohannon (46D), Preacher-Blachly-Digger (45E), and Remote-Digger-Preacher soil map units have a paralithic contact with sandstone within 20 to 60 inches, and have a potential for reclamation sensitivity.

The dominant soil mapping unit from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) which is crossed by the proposed Pacific Connector pipeline in soils association OR068 is Digger-Bohannon complex, 3 to 30 percent slopes (map unit 57E, 0.95 mile). Soils in this map unit are limited by large stones and are susceptible to compaction. The revegetation potential is low.

Siskiyou-Trinity Area (MLRA-5) – MPs 47.16 to 168.0

Siskiyou-Trinity Area is the largest MLRA crossed by the Project and it encompasses the three national forests (Umpqua, Rogue River-Siskiyou and portions of the Fremont-Winema), spanning portions of the Klamath Mountain and Cascade west physiographic provinces (crossing 1.8 percent of the pipeline route length). The Siskiyou-Trinity Area receives an average annual precipitation of 40 to 60 inches, with the high precipitation ranges occurring in the mountains. Precipitation is low in summer but is evenly distributed throughout the rest of the year. Summers are warm with an average temperature of 67°F. Winters are cool with snow and freezing temperatures common at higher elevations. The average seasonal snowfall ranges from 10 to 70 inches, varying dramatically depending on the year. During most winters, one or two storms bring strong and sometimes damaging winds. In some years, the accompanying heavy rains cause serious flooding (NRCS 2006).

The Pacific Connector pipeline will cross through the northern section of MLRA-5, crossing on the west the Klamath Mountains section of the Pacific Border Province of the Pacific Mountain System between Highway 42 near Camas Valley (MP 47.16) and Highway 62 near Trail Oregon (MP 122.6). This section consists of an uplifted and eroded peneplain on very hard rocks.

Numerous higher peaks are in scattered areas throughout this mountainous region. The Middle Cascade Mountains Section of the Cascade-Sierra Mountains Province of the Pacific Mountain System is also crossed within this MLRA-5 between about Highway 62 near Trail Oregon (MP 122.6) and Dead Indian Memorial Highway (MP 164.48). This section is an area of steep mountainous terrain with generally accordant summits interspersed with higher volcanic cones (NRCS 2006).

Elevation in the project area ranges from about 600 feet at the Umpqua River crossing north of Myrtle Creek to 5,300 feet at the crest of the Cascades. The freeze-free period averages 240 days and ranges from 110 to 365 days. Shorter freeze-free periods occur at the higher elevations. Most of this area is in coniferous forests that are important for wood products, wildlife habitat and recreation. Irrigated pasture, hay crops and livestock are grown in the valleys where water is available. Because of steep slopes, erodible soils and high rainfall, the major soil resource concern is erosion. The erosion hazard is considerable if plant cover is removed. Mass movement in the form of landslides and slips is a serious problem and a major source of sediment in the rivers (NRCS 2006).

The 13 soil associations crossed by the project within MLRA-5 are described below.

Windygap-Larmine-Bellpine-Bateman-Atring (s6410)

The Windygap-Larmine-Bellpine-Bateman-Atring soil association is crossed by 1.8 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the Pacific Connector pipeline in soils association s6410 are: Windygap clay loam, 12 to 30 percent slopes (map unit 263E, 0.83 mile); Windygap clay loam, 2 to 12 percent slopes (map unit 263C, 0.71 mile); and McNabb-Windygap complex, 3 to 30 percent slopes (map unit 152E, 0.66 mile). All three of these soil map units are characterized by large stones, greater than 40 percent clay in the control section, and are susceptible to soil compaction, which rates them as having reclamation sensitivity potential. However, these soils are also designated as prime farmlands. Twelve other soil map units are crossed by the PCGP Project within this association with individual lengths ranging from 0.03 to 0.48 mile. The mean annual precipitation of this association is about 45 to 50 inches. Slopes are 2 to 75 percent.

Wapato-Waldo-McAlpin-Cove-Bashaw (s6408)

The Wapato-Waldo-McAlpin-Cove-Bashaw soil association is crossed by 2.0 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the Pacific Connector pipeline in soils association s6408 are: Windygap clay loam, 2 to 12 percent slopes (map unit 263C, 0.54 mile); Windygap clay loam, 12 to 30 percent slopes (map unit 263E, 0.54 mile); and Windygap silt loam, 12 to 30 percent slopes (map unit 262E, 0.52 mile). Sixteen other soil map units are crossed within this association ranging in individual length from 0.03 to 0.32 mile. These soils are characterized by a paralithic contact with weathered siltstone within 40 to 60 inches, greater than 40 percent clay in the control section, and are susceptible to compaction.

These characteristics rate these soils as having reclamation sensitivity potential. However, each of these dominant soil map units is listed as prime farmland. The mean annual precipitation is about 45 to 50 inches.

Otwin-Oatman (s6397)

The Otwin-Oatman soil association is crossed by 1.4 percent of the pipeline route length in this MLRA (it is also crossed in another MLRA). The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the proposed Pacific Connector pipeline in soils association s6397 are: Conser silty clay loam, 0 to 3 percent slopes (map unit 44A, 0.61 mile); Veneta loam, 0 to 12 percent slopes (map unit 255C, 0.56 mile); Josephine-Speaker complex, 30 to 60 percent slopes (map unit 117F, 0.38 mile); and Windygap-Bellpine complex, 30 to 60 percent north slopes (map unit 265F, 0.34 mile). Twelve other soil map units are crossed within this association with individual lengths ranging from 0.04 to 0.25 mile.

The Conser, Veneta, and Windygap-Bellpine map units have greater than 40 percent clay in the control section, are susceptible to soil compaction, and have reclamation sensitivity potential. Conser soils are hydric and have a water table within 6 feet of the surface from November through May. The Veneta soil has a water table within 4 to 6 feet of the surface from November through May. Conser and Veneta soils are listed as prime farmland. The Josephine-Speaker complex and Windygap-Bellpine complex are characterized by steep slopes which increase the water erosion potential, have a paralithic contact with weathered sandstone or metasedimentary rock within 20 to 60 inches, are susceptible to soil compaction, and have a reclamation sensitivity rating. The mean annual precipitation is about 40 inches.

Vermisa-Vannoy-Josephine-Beekman (s6360)

The Vermisa-Vannoy-Josephine-Beekman soil association is crossed by 13.1 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the proposed Pacific Connector pipeline in soils association s6360 in MLRA 2 are: Speaker-Beekman-Josephine complex, 60 to 90 percent north slopes (map unit 228G, 1.26 miles); Josephine-Speaker complex, 30 to 60 percent north slopes (map unit 116F, 1.68 miles); Speaker-Nonpareil complex, 30 to 60 percent slopes (map unit 230F, 1.08 miles); Debenger-Brader complex, 12 to 30 percent slopes (map unit 51E, 0.80 mile); Oakland-Nonpareil-Sutherlin complex, 30 to 60 percent slopes (map unit 174F, 0.78 mile); and Speaker loam, 30 to 60 percent south slopes (map unit 227F, 0.72 mile). Twenty seven other soil map units are crossed by this association with individual lengths ranging from 0.01 to 0.62 mile. All of the dominant soil map units are susceptible to soil compaction and have a reclamation sensitivity rating.

The Speaker-Beekman-Josephine, Josephine-Speaker, Speaker-Nonpareil, Oakland-Nonpareil-Sutherlin, and Speaker loam map units have steep slopes and water erosion potential. Beekman soils have a lithic contact with sedimentary rock at 20 to 40 inches. Brader and Nonpareil and soils have a paralithic contact with weathered sandstone at 10 to 20 inches. Debenger, Oakland, and Speaker soils have a paralithic contact with weathered sandstone at 20 to 40 inches. Josephine soils have a paralithic contact with weathered metasedimentary rock at 40 to 60 inches. Sutherlin soils are very deep and have a water table at 1.5 to 3.0 feet from November

through April. The Debenger-Brader complex map unit is listed as prime farmland (farmland of statewide importance).

Ruch-Medford (s6385)

The Ruch-Medford soil association is crossed by 36.0 percent of the pipeline route length in this MLRA. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the proposed Pacific Connector pipeline in soils association s6385 are: Sutherline silt loam, 3 to 12 percent slopes (map unit 235C, 0.39 mile); Coburg silty clay loam, 0 to 5 percent slopes (map unit 42B, 0.27 mile); and Fordice very cobbly loam, 0 to 12 percent slopes (map unit 82C, 0.19 mile). Six other soil map units are crossed within this association with individual lengths ranging from 0.04 to 0.09 mile. Sutherlin and Coburg soils have greater than 40 percent clay in the control section, are susceptible to soil compaction, and are listed as prime farmland. However, because of the high clay content and the soils susceptibility to compaction these soils have a reclamation sensitivity rating. Sutherlin soils have a water table at 1.5 to 3.0 feet from November through April. Coburg soils have a water table at 1.5 to greater than 6 feet from November through May. Fordice soils have large stones, giving this soil a reclamation sensitivity rating. The mean annual precipitation of the association ranges between 25 and 40 inches.

Lettia-Kanid-Atring-Acker (s6382)

The Lettia-Kanid-Atring-Acker soil association is crossed by 3.4 percent of the pipeline route length. This STATSGO soil association occurs in both the Douglas County Soil Survey Area and in the Umpqua National Forest Soil Resource Inventory. The average annual precipitation is about 45 inches. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the Pacific Connector pipeline in soils association s6382 are: Acker-Norling complex, 30 to 60 percent north slopes (map unit 5F, 0.94 mile); Dumont gravelly loam, 12 to 30 percent slopes (map unit 69E, 0.78 mile); Sharpshooter loam, 30 to 60 percent north slopes (map unit 220F, 0.47 mile); Sweetbriar silty clay loam, 3 to 30 percent slopes (map unit 239E, 0.44 mile); and Buckeye loam, 2 to 20 percent slopes (map unit 30D, 0.43 mile). Thirteen other soil map units are crossed in this association with individual lengths ranging from 0.01 to 0.38 mile.

All of the dominant soil map units are susceptible to soil compaction. Acker-Norling map unit is characterized by steep slopes that increase the water erosion potential, large stones, a paralithic contact with metavolcanic rock at 20 to 60 inches, and reclamation sensitivity potential. Dumont soils have greater than 40 percent clay in the control section, a reclamation sensitivity characteristic. Sharpshooter soils have steep slopes that increase the water erosion potential, a paralithic contact with schist at 40 to 60 inches; and a reclamation sensitivity rating. Sweetbriar soils have greater than 40 percent clay in the control section and reclamation sensitivity potential. Buckeye soils have a lithic contact with greenstone at 20 to 40 inches, greater than 40 percent clay in the control section, providing a reclamation sensitivity rating. Dumont, Sweetbriar, and Buckeye soils are prime farmland (farmland of statewide importance).

The dominant soil mapping units from the Soil Resource Inventory of Umpqua National Forest, Oregon (Forest Service 1976) crossed by the proposed Pacific Connector pipeline in soils association s6382 are: map unit 712 (0.23 mile); map unit 62 (0.47 mile); and map unit 25 (0.42

mile). Six other soil map units are crossed in this association with individual lengths ranging from 0.01 to 0.23 mile. Map unit 47 is characterized by steep slopes, large stones, a lithic contact with tuffs and breccia at 3 to 8 feet, susceptibility to compaction, and a reclamation sensitivity rating. Map unit 62 is characterized by steep slopes, wind and water erosion potential, a lithic contact with granite at 3 to 6 feet, susceptible to soil compaction, and is rated as having reclamation sensitivity. Map unit 25 is characterized by landslides on steep slopes, hydric soils and water tables associated with sag ponds, and landslides with reclamation sensitivity.

Rock outcrop-Pearsoll-Dubakella-Cornutt (s6377)

The Rock outcrop-Pearsoll-Dubakella-Cornutt soil association is crossed by 0.5 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Douglas County Area, Oregon (NRCS 2004) crossed by the proposed Pacific Connector pipeline in soils association s6377 are: Hilltish very gravelly sandy loam, 60 to 90 percent north slopes (map unit 95G, 0.57 mile); and Hilltish very gravelly sandy loam, 60 to 90 percent south slopes (map unit 96G, 0.29 mile). Four other soil map units are crossed within this association with individual lengths ranging from 0.01 to 0.14 mile. Hilltish soils are characterized by steep slopes that increase the potential for water erosion, large stones, a lithic contact with conglomerate at 20 to 40 inches, susceptibility to soil compaction, and a reclamation sensitivity rating. The mean annual precipitation of the association is about 30 inches.

Tethrick-Tallowbox-Siskyou-Shefflein (s6383)

This STATSGO soil association occurs in both the Douglas County Soil Survey Area and in the Umpqua National Forest Soil Resource Inventory; and is crossed by 3.6 percent of the pipeline route length. The annual precipitation is 32 to 45 inches. The dominant soil mapping units from the Soil Survey of Douglas County are: Lettia-Beal-Zing complex, 30 to 60 percent south slopes (map unit 138F, 1.57 miles); Sharpshooter loam, 30 to 60 percent south slopes (map unit 221F, 0.47 mile); Lettia-Beal-Zing complex, 30 to 60 percent north slopes (map unit 137F, 0.39 mile); and Acker-Norling complex, 30 to 60 percent south slopes (map unit 6F, 0.36 mile). Six other soil map units are crossed within this association with individual lengths ranging from 0.06 to 0.26 mile. All of the dominant soil map units have steep slopes that lead to severe water erosion potential, susceptibility to soil compaction and reclamation sensitivity potential. Lettia soils have a paralithic contact with granodiorite at 40 to 60 inches. Sharpshooter soils have a paralithic contact with weathered schist at 40 to 60 inches. Norling soils have a paralithic contact with metavolcanic rock at 20 to 40 inches.

Beal and Zing soils have a water table from 2 to greater than 6 feet from November through May. The dominant soil mapping units from the Soil Resource Inventory of Umpqua National Forest, Oregon (USFS 1976) crossed by the proposed Project in soils association s6383 are: map unit 812 (2.16 miles); and map unit 621 (1.32 mile). Three other soil map units are crossed within this association with individual lengths ranging from 0.17 to 0.20 mile. Both of the dominant soil map units have steep slopes, are susceptible to wind and water erosion, have large stones, and have reclamation sensitivity potential. Map unit 812 has a lithic contact with serpentine at 3 to 6 feet. Map unit 621 has a lithic contact with granite at 3 to 8 feet.

Thistleburn-Telemon-Scaredman-Mellowmoon-Lempira-Illahee (s6390)

The dominant soil mapping units from the Soil Resource Inventory of Umpqua National Forest, Oregon (Forest Service 1976) crossed by the Pacific Connector pipeline in soils association s6390 are: map unit 723 (1.98 miles); map unit 712 (1.07 miles); and map unit 421 (0.78 mile) (crossed by 2.2 percent of the pipeline route length). Four other soil map units are crossed within this association with individual lengths ranging from 0.15 to 0.46 mile. Each of the dominant map units have steep slopes, large stones, and are susceptible to soil compaction. Map unit 723 has a lithic contact with schist at 3 to 6 feet. Map unit 712 has a lithic contact with schist at 3 to 8 feet. Map unit 621 has a lithic contact with tuffs at 3 to 8 feet. The mean annual precipitation is 60 to 70 inches.

Straight-Geppert-Freezener-Dumont (s6381)

This STATSGO soil association occurs in both the Jackson County Soil Survey Area and in the Umpqua National Forest Soil Resource Inventory (crossed by 2.6 percent of the pipeline route length). The mean annual precipitation ranges from 43 to 50 inches. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the Pacific Connector pipeline in soils association s6381 are: McNull loam, 12 to 35 percent north slopes (map unit 114E, 0.68 mile); Straight extremely gravelly loam, 12 to 35 percent north slopes (map unit 182E, 0.62 mile); Freezner gravelly loam, 12 to 35 percent slopes (map unit 64E, 0.56 mile); and McNull loam, 35 to 60 percent north slopes (map unit 114G, 0.53 mile). Twelve other soil map units are crossed within this association with individual lengths ranging from 0.02 to 0.48 mile. Each of the dominant soil map units has steep slopes, is susceptible to soil compaction, and has a reclamation sensitivity rating. McNull and Straight soils have a lithic contact with andesite at 20 to 40 inches. McNull soils in map unit 114G are susceptible to water erosion. The Straight soil is hydric. The Freezner soil is prime farmland (farmland of statewide importance).

The dominant soil mapping unit from the Soil Resource Inventory of Umpqua National Forest, Oregon (Forest Service 1976) crossed by the proposed Project in soils association s6381 is map unit 222 (1.14 miles). Map units 421 (0.27 mile) and 42 (0.01 mile) are also crossed within this association. Map unit 222 has steep slopes, a lithic contact with tuffs and breccia at 3 to 8 feet and a reclamation sensitivity rating.

McNull-Medco-McMullin (s6380 and s6386)

The McNull-Medco-McMullin soil association is crossed by 15.5 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the Pacific Connector pipeline in soils association s6380 and s6386 are: Medco-McMullin complex, 12 to 50 percent slopes (map unit 125F, 4.04 miles); McMullin-Rock Outcrop, 3 to 35 percent slopes (map unit 113E, 3.95 miles); McMullin-McNull gravelly loams, 35 to 60 percent slopes (map unit 111G, 2.65 miles); Mcmullin-Medco Complex, 15-50 percent slopes (map unit 112F, 2.05 miles); McNull loam, 12 to 35 percent north slopes (map unit 114E, 2.24 miles); and McNull-Medco complex, 12 to 50 percent slopes (map unit 118E, 2.37 miles). Thirty-four other map units are crossed within this association with individual lengths ranging from 0.06 to 1.88 miles. Each of the dominant soil map units has steep slopes, is susceptible to soil compaction, and has reclamation sensitivity potential. McNull, Medco, and Carney soils have greater than 40 percent clay in the control section. McNull and Medco soils

have large stones. Carney soils have a paralithic contact with weathered sandstone at 20 to 40 inches. McMullin soils have a lithic contact at 12 to 20 inches. McNull soils have a lithic contact with fractured andesite at 12 to 20 inches. McNull soils have a paralithic contact with fractured andesite at 20 to 40 inches. Medco soils have a paralithic contact with weathered tuff at 20 to 40 inches. Medco soils have a water table at 0.5 to 1.6 feet from December through March. Carney soils have a water table at 3 to 3.5 feet from December through April. Carney soils are prime farmland (farmland of statewide importance). This association has a mean annual precipitation of about 30 to 35 inches.

Tatouche-Pinehurst-Farva-Bybee Farva-Tatouche-Bybee (s6384)

This STATSGO soil association occurs in both the Jackson County Soil Survey Area and in the Rogue River-Siskiyou National Forest (crossed by 5.9 percent of the pipeline route length). The mean annual precipitation ranges from 40 to 43 inches. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the Pacific Connector pipeline in soils association s6384 are Farva very cobbly loam, 3 to 12 percent slopes (map unit 56C, 0.73 mile); Tatouche gravelly loam 12 to 35 percent slopes (map unit 191 E, 0.52 mile); Farva very cobbly loam, 35 to 65 percent slopes (map unit 57G, 0.65 mile); Farva very cobbly loam, 12 to 35 percent slopes (map unit 57E, 0.43 mile); and Freezner gravelly loam, 12 to 35 percent slopes (map unit 64E, 0.43 mile). Four other map units are crossed within this association with individual lengths ranging from 0.05 to 0.33 mile. Farva soils have large stones, a paralithic contact with partially weathered andesite at 20 to 40 inches, and have reclamation sensitivity potential. Farva soils in map units 57E and 57G have steep slopes. Farva soils in map unit 57G have potential for water erosion due to the steep slopes. Freezner soils have steep slopes, are susceptible to compaction, and thus are rated as having reclamation sensitivity, but are considered farmlands of statewide importance.

The following STATSGO description for soil association s6384 is provided for areas crossed by the PCGP Project within the Rogue River-Siskiyou National Forest between MPs 158.30 and 168.0 (9.7 miles). In this area the Rogue River National Forest Soil Resource Inventory was used to characterize soil properties (Forest Service 1977). The Farva series consists of moderately deep, well drained soils formed in colluvium weathered from andesite, tuffs, basalts and breccias found on mountains at 3,600 to 6,100 feet. The Tatouche series consists of deep, well-drained soils that formed in clayey colluvium weathered from tuff, breccia, and andesite. Tatouche soils are on mountain slopes. The Bybee series consists of deep, somewhat poorly drained soils that formed in clayey colluvium weathered from andesite, volcanic tuffs and breccias. Bybee soils are found on mountains. The mean annual precipitation is about 40 to 43 inches, on slopes of 3 to 70 percent.

Klamath and Shasta Valleys and Basins (MLRA-21) – MPs 168.0 to 228.13

The proposed pipeline passes through the Klamath and Shasta Valleys and Basins MLRA on the east side of the Cascade Mountains in the Klamath Basin. Most of this section of the project area is approximately 4,000 feet in elevation. As described by NRCS (2006), this area is in a transition zone between the Basin and Range Province to the southeast and the Cascades and Klamath Basins to the west. The area receives an average annual precipitation of 20 to 30 inches, with dry summers. Average temperature for summer is in the mid 60 degrees F range. The winter is in the mid-50°F range. Snowfall accounts for 30 percent of the moisture in the

valleys. Average freeze-free period is 70 to 140 days, decreasing with elevation. Most of the land crossed in the Klamath Basin is in agricultural production including irrigated potatoes, grain, seed crops, hay or pastures. Rangelands are grazed and trees are harvested for lumber in forested areas. The major soil resource concerns are wind erosion, water erosion, maintenance of productivity of the soils, conservation of soil moisture and the quality of irrigation water. The hazard of water erosion is slight in most of the basin areas but can be high in the steeper areas if the surface is bare. In some areas where soils are coarsely textured the hazard of wind erosion can be high, especially when the surface is disturbed during the period of highest wind velocities typically in spring or early summer (NRCS 2006). The eight soil associations crossed in this MLRA are summarized below.

Oatman-Otwin (s6387)

The Oatman-Otwin soil association is crossed by 2.9 percent of the pipeline route length in this MLRA (it is also crossed in another MLRA). This STATSGO soil association occurs in both the Jackson County Soil Survey Area and in the Fremont-Winema National Forest in Klamath County. The mean annual precipitation for this association ranges between 35 and 40 inches. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the proposed Pacific Connector pipeline in soils association s6387 is: Oatman cobbly loam, depressional, 0 to 12 percent slopes (map unit 137C, 2.96 miles); Two other soil map units are crossed in this association with individual lengths of 0.12 and 0.05 mile. Oatman soil has large stones, is susceptible to soil compaction, and has a reclamation sensitivity potential.

The following STATSGO description for soil association s6387 is provided for areas crossed by the Pacific Connector pipeline within the Fremont-Winema National Forest between MPs 168.00 and 171.6 (3.6 miles). In this area the Winema National Forest Soil Resource Inventory was used to characterize soil properties (Forest Service 1979).

The Oatman series consists of very deep, well-drained soils on plateaus and hillslopes. These soils formed in colluvium and residuum derived dominantly from andesite and volcanic ash (SCS 1993). The Otwin series consists of moderately deep, well-drained soils that formed in colluvium and residuum weathered from andesite and volcanic ash. Otwin soils are found on plateaus. The Hoxie series consists of deep, poorly drained soils that formed in lacustrine material with an influence of volcanic ash in the surface. Hoxie soils are in flat basins. The Hoxie soils are in Buck Lake and were avoided by incorporating the Clover Creek Road Alternative into the preferred alignment (see Resource Report 10). The mean annual precipitation for this association ranges between 35 and 40 inches. Slopes are 0 to 65 percent.

Woodcock-Pokegema-Royst (s6388)

The Woodcock-Pokegema-Royst soil association is crossed by 2.4 percent of the pipeline route length. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the Pacific Connector pipeline in soils association s6388 is Pokegema-Woodcock, 1 to 12 percent slopes (map unit 147C, 2.52 miles). Three other soil map units (two of the units are steep units of Pokegema and Woodcock soils) are crossed in this association with individual lengths ranging from 0.11 to 0.29 mile. Pokegema soils have a paralithic contact with partially weathered andesite at 40 to 60 inches. This soil map unit is susceptible to soil

compaction and has a reclamation sensitivity rating. The mean annual precipitation for this association ranges from about 20 to 30 inches.

Sheld-Pinehurst-Greystoke-Bly (s656)

This STATSGO soil association occurs in both the Jackson County Soil Survey Area and in the Klamath County Soil Survey Area (crossed by 4.2 percent of the pipeline route length). This mapping unit has a mean annual precipitation range between 25 to 37 inches. The dominant soil mapping units from the Soil Survey of Jackson County Area, Oregon (SCS 1993) crossed by the proposed PCGP Project in soils association s656 are: Bly-Royst complex, 1 to 12 percent slopes (map unit 13C, 3.09 miles); Pinejurst-Greystoke complex, 1 to 12 percent slopes (map unit 145C, 3.47 miles); and Greystoke-Pinehurst complex, 12 to 35 percent slopes (map unit 80E, 1.35 mile). Five other soil map units are crossed in this association with individual lengths ranging from 0.04 to 0.67 mile. Each of the dominant soil map units has large stones, is susceptible to soil compaction, and is rated as having reclamation sensitivity potential. The Royst soil has a lithic contact with andesite at 20 to 40 inches. The Greystoke soil has a paralithic contact with weathered andesite at 40 to 60 inches.

The Greystoke-Pinehurst map unit (80E) has steep slopes. The Bly-Royst complex is listed as prime farmland (farmland of statewide importance). The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon Southern Part (SCS 1985) crossed by the proposed PCGP Project in soils association s656 is Greystoke-Pinehurst complex, 12 to 35 percent slopes (map unit 98E, 0.56 mile).

Two other soil map units are crossed in this association with individual lengths of 0.05 and 0.33 mile. The Greystoke-Pinehurst map unit has steep slopes, potential for water erosion, large stones, susceptibility to soil compaction, and potential for reclamation sensitivity.

Lorella-Deven-Bieber-Adinot (s542)

The Lorella-Deven-Bieber-Adinot soil association is crossed by 0.9 percent of the pipeline route length. The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon, Southern Part (SCS 1985) crossed by the Project in soils association s542 are: Fordney loamy fine sand, 2 to 20 percent slopes (map unit 19C, 0.39 mile); and Woodcock association, south (map unit 82E, 0.36 mile). Seven other soil map units are crossed in this association with individual lengths ranging from 0.02 to 0.25 mile. Each of the dominant soils is susceptible to compaction. Fordney soils are considered as prime farmland, if irrigated. Lorella soils have steep slopes that increase water erosion potential, have large stones, a lithic contact with volcanic tuff at 10 to 20 inches, and are classed as having reclamation sensitivity. Woodcock soils have steep slopes, large stones, and are listed as farmland of statewide importance. Average annual precipitation is 18 to 23 inches.

Tulebasin-Malin-Lather-Capjac (s1150)

The Tulebasin-Malin-Lather-Capiac soil association is crossed by 3.1 percent of the pipeline route length. The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon, Southern Part (SCS 1985) crossed by the proposed PCGP Project in soils association s1150 are: Laki-Henley loams (map unit 40, 1.76 miles); Malin clay loam (map unit 53, 0.95 miles); Zuman silt loam (map unit 91, 0.82 mile); Deter clay loam (map unit 17A, 0.71 mile); and Scherrard

clay loam (map unit 70, 0.52 mile). Ten other soil map units are crossed in this association with individual lengths ranging from 0.01 to 0.50 mile.

Each of the dominant soil map units is susceptible to soil compaction. Henley soils have a duripan (4 to 50 inches thick) at 10 to 20 inches. Scherrard soils have a duripan (4 to 24 inches thick) at 20 to 40 inches. The Laki-Henley, Malin, Zuman, and Scherrard map units have saline/sodic conditions and have reclamation sensitivity. The Laki-Henley, Malin, Zuman, and Scherrard soil map units have water tables from the surface to greater than 6 feet from January through December and are listed as prime farmland (farmland of statewide importance). Deter soils are listed as prime farmland if irrigated. Average annual precipitation is 10 to 14 inches.

Poe-Pit-Malin-Laki-Henley (s6357)

The Poe-Pit-Malin-Laki-Henley soil association is crossed by 1.2 percent of the pipeline route length. The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon, Southern Part (SCS 1985) crossed by the PCGP Project in soils association s6357 are: Henley-Laki loams (map unit 28, 1.11 miles); and Laki loams (map unit 38, 0.53 mile). Six other soil map units are crossed in this association with individual lengths ranging from 0.01 to 0.25 mile. Henley soils have a duripan (4 to 50 inches thick) at 10 to 20 inches. Soils in both map units are saline/sodic, are susceptible to soil compaction, and have reclamation sensitivity potential. Henley soils have a water table at 1 to greater than 6 feet from January through December. Laki soils have a water table at 3 to greater than 6 feet from March through August. Both map units are listed as prime farmland (farmland of statewide importance). The average annual precipitation is 10 to 14 inches.

Fordney-Calimus (s6356)

The Fordney-Calimus soil association is crossed by 8.8 percent of the pipeline route length. The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon Southern Part (SCS 1985) crossed by the PCGP Project in soils association s6356 are: Fordney loamy fine sand, 0 to 2 percent slopes (map unit 19A, 3.21 miles); Modoc fine sandy loam, 0 to 2 percent slopes (map unit 58A, 2.94 miles); Calimus loam, 5 to 15 percent slopes (map unit 7C, 1.52 miles); Fordney loamy fine sand, 2 to 20 percent slopes (map unit 19C, 1.89 miles); Calimus loam 0 to 2 percent slopes (map unit 7A, 1.08 miles); and Lorella very stony loam, 2 to 35 percent slopes (map unit 50E, 0.89 mile). Twenty-eight other soil map units are crossed in this association with individual lengths ranging from 0.02 to 1.08 miles. All of the dominant soil map units are susceptible to soil compaction. Modoc soils have a duripan at 20 to 40 inches. Lorella soils have a lithic contact with volcanic tuff at 10 to 20 inches. Fordney, Modoc, and Lorella soils are classed as having reclamation sensitivity because of their shallow restrictive layer or coarse textures. However, the Fordney, Modoc, and Calimus (0 to 2 percent) soils are listed as prime farmland if irrigated. Calimus, 5 to 15 percent slopes, is listed as prime farmland (farmland of statewide importance). The average annual precipitation is 10 to 14 inches.

Stukel-Salisbury-Lorella-Fiddler-Dehlinger-Capona (s6355)

The Stukel-Salisbury-Lorella-Fiddler-Dehlinger-Capona soil association is crossed by 2.2 percent of the pipeline route length. The dominant soil mapping unit from the Soil Survey of Klamath County, Oregon Southern Part (SCS 1985) crossed by the proposed PCGP Project in

soils association s6355 are: Lorella very stony loam, 2 to 35 percent south slopes (map unit 50E, 3.45 miles); Calimus loam, 5 to 15 percent slopes (map unit 7C, 0.58 mile); and Lorella-Calimus association, steep north slopes (map unit 51E, 0.30 mile). Six other soil map units are crossed in this association with individual lengths ranging from 0.05 to 0.24 mile. Lorella soils have steep slopes, water erosion potential, large stones, a lithic contact with volcanic tuff at 10 to 20 inches, have greater than 40 percent clay in the control section, and are rated as having reclamation sensitivity. Calimus and Lorella soils are susceptible to compaction. Calimus soils are listed as farmland of statewide importance. The average annual precipitation is 10 to 14 inches.

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