Appendix J

Greater Sage-grouse Habitat Equivalency Analysis

Compliance with Applicable Greater Sage-grouse Polices and Applicant Proposed Mitigation

J.1 Introduction

The TransWest Express Transmission Line Project (Project) has been developed through the coordination of two separate co-lead agencies; the Bureau of Land Management (BLM) and Western Area Power Administration (Western). Western is not mandated with management of public lands and therefore does not currently have statutory regulations or policies regarding the management of greater sage-grouse. The BLM and other cooperating land management agencies, are currently participating in developing policy revisions and updates, or have recently updated policies and guidelines regarding the management of greater sage-grouse within the Project area. These policy updates are in response to on-going declines of the species across its range, agency responsibilities for sage-grouse conservation, and the March 2010 U.S. Fish and Wildlife Services' 12 Month Findings for Petitions to List the Greater Sage-grouse as Threatened or Endangered under the Endangered Species Act (75 FR 13910-14014). Several of these policy and regulation updates have been initiated or completed since the Applicant (TransWest Express LLC) submitted an amended *Application for Transportation and Utility Systems and Facilities on Federal Lands* (BLM Standard Form 299) in September of 2008.

The BLM and Western have collaborated with cooperating agencies to prepare this EIS in accordance with current relevant law, regulation, policies, and plans that guide agency decisions which have potential to impact greater sage-grouse and its habitat. This appendix provides information on the planning process undertaken by the Applicant, BLM, Western, and cooperating agencies to prepare the EIS and develop the project in compliance with applicable law, regulation, policies, and plans regarding greater sage-grouse.

The co-lead agencies and cooperators have collaborated to develop a *Framework for Sage-grouse Impacts Analysis for the TransWest Express Transmission Project* (2013; Exhibit J1) as the initial step to address potential impacts to greater sage-grouse during the development of the EIS. The framework outlines the approach to the greater sage-grouse impact analysis and mitigation required for the project and encourages the selection of an action alternative that would be consistent with agency missions and goals pertaining to sage-grouse conservation. The framework also was developed to facilitate relevant cooperating agency decisions and evaluation of compliance with applicable plans and policies that are not subject to National Environmental Policy Act review and not addressed in the EIS.

J.2 Applicable Greater Sage-grouse Policies and Plans

J.2.1 Federal

J.2.1.1 Bureau of Land Management Washington Office Instruction Memorandum 2012-043 Greater Sage-Grouse Interim Management Policies and Procedures

On December 22, 2011, BLM issued Washington Office (WO) Instruction Memorandum (IM) BLM IM 2012-043 which identifies policies and procedures that are to be applied to on-going and proposed BLM activities within areas identified as PPH and PGH. The purpose of the WO-IM 2012-043 is to promote sustainable greater sage-grouse populations and conserve greater sage-grouse habitat while

BLM develops and decides how to best incorporate long-term conservation measures for greater sage-grouse into applicable land-use plans. The IM policies and procedures apply to BLM actions in greater sage-grouse preliminary priority habitat (PPH) and preliminary general habitat (PGH), which are identified by the state wildlife agencies. (Note: The conservation policies and procedures described in the IM do not apply in areas where a state and/or local regulatory mechanism has been developed for the conservation of the greater sage-grouse in coordination and concurrence with the FWS, and the state sage-grouse plan has subsequently been adopted by the BLM through the issuance of a state level BLM Instruction Memorandum). The WO-IM 2012-043 prescribes specific procedures for pending and future right-of-way applications in PPH and PGH. The Notice of Intent to prepare an EIS for the Project was published in the Federal Register on January 4, 2011, and therefore these procedures are applicable to the Project.

WO IM 2012-043 procedures for pending and future right-of-way applications in preliminary priority habitat include:

- Conduct pre-application meetings for all new right-of-way proposals consistent with the right-of way regulations (43 Code of Federal Regulations [CFR] 2804.10) and consistent with current renewable energy right-of-way policy guidance (WO-IM-2011-061, issued February 7, 2011).
- For pending applications, assess the impact of the proposed right-of-way on greater sage-grouse and its habitat, and implement the following:
  - Ensure that reasonable alternatives for siting the right-of-way outside of the PPH or within a BLM-designated utility corridor are considered and analyzed in compliance with the National Environmental Policy Act; and
  - Identify technically feasible best management practices, conditions, etc. (e.g., siting, burying powerlines) that may be implemented in order to eliminate or minimize impacts.
- For rights-of-way where the total project disturbance from the right-of-way and any connected action is less than 1 linear mile, or 2 acres of disturbance, develop mitigation measures related to construction, maintenance, operation, and reclamation activities that, as determined in cooperation with the respective state wildlife agency, would cumulatively maintain or enhance greater sage-grouse habitat.
- For right-of-way applications where the total project disturbance from the right-of-way and any connected action is greater than 1 linear mile or 2 acres of disturbance, it is BLM policy that where a field office determines that it is appropriate to authorize a right-of-way, the following process must be followed:
  - The BLM will document the reasons for its determination and require the right-of-way holder to implement measures to minimize impacts on sage-grouse habitat.
  - In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008-204, Off-site Mitigation). When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of greater sage-grouse and its habitat.
  - Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed right-of-way and mitigation measures would cumulatively maintain or enhance greater sage-grouse habitat, the proposed right-of-way decision must be

forwarded to the appropriate BLM State Director, State Wildlife Agency Director, and FWS representative for their review. If this group is unable to agree on the appropriate mitigation for the proposed right-of-way, then the proposed decision must be forwarded to the Greater Sage-Grouse National Policy Team with the addition of the State Wildlife Agency Director, when appropriate, for its review. If the National Policy Team and the State Wildlife Agency Director are unable to agree on the appropriate mitigation for the proposed right-of-way, the National Policy Team will coordinate with and brief the BLM Director for a final decision in absence of consensus.

Although the Project crosses four western states that have existing occupied greater sage-grouse range, current Project alternatives do not cross any areas of occupied greater sage-grouse habitat in Nevada. The remaining three states crossed by the Project (Wyoming, Colorado, and Utah) all have statewide sage-grouse management plans and are participating with BLM and U.S. Forest Service (USFS) in the ongoing amendments of BLM resource management plans (RMPs) and USFS land and resource management plans (LRMPs) and interim management of sage-grouse as follows:

- Wyoming has established a state regulatory mechanism for the conservation of the sage-grouse and the BLM has adopted this state strategy through the issuance of BLM IM WY 2012-019; therefore, PPH and PGH will not be designated in Wyoming. The Wyoming Core Areas have been adopted by the BLM.
- Colorado has developed PPH and PGH that focus conservation efforts on the most important habitat for the species and provide a biological basis for land use recommendations under BLM WO IM 2012-043 and is participating with the BLM in the ongoing amendments of RMPs in Colorado.
- Utah has developed a state regulatory mechanism for the conservation of sage-grouse that could be adopted by the FWS and BLM in place of the conservation measures identified in the IM and has not designated PPH and PGH. However, BLM has not adopted the state regulatory mechanism at this time. For the purposes of identifying PPH and PGH, BLM considers the Utah Division of Wildlife Resources (UDWR) occupied sage-grouse habitat layer to be synonymous with PPH in the Utah; no PGH has been identified.

J.2.1.2 U.S. Forest Service Interim Recommendations for Greater Sage-grouse and Greater Sage-grouse Habitat

On October 12, 2012 the USFS issued Interim Recommendations for Greater Sage-Grouse and Greater Sage-Grouse Habitat. Similar to BLM WO IM 2012-043, the USFS Interim Recommendations provide conservation policies and procedures for greater sage-grouse that are to be applied on National Forest System land until USFS LRMPs are amended to include sage-grouse conservation measures. Additionally, USFS seeks to promote consistency with BLM management of sage-grouse on BLM-administered lands under BLM WO IM 2012-043. The USFS Interim Recommendations for Greater Sage-Grouse and Greater Sage-Grouse Habitat recommendations for non-recreational special use proposals including power lines direct the USFS to:

- Within 3 kilometers of sage-grouse habitat, avoid authorizing placement of overhead power lines or other tall structures that provide perch sites for raptors;
- Determine, in coordination with the respective state wildlife agency, whether a proposal that may affect sage-grouse or sage-grouse habitats would likely have more than minor adverse effects on sage-grouse or sage-grouse habitat.

- If the proposed use likely would have more than minor adverse effects on sage-grouse habitat:
  - Consider feasible alternatives for siting the use outside of sage-grouse habitat; and
  - Identify technically feasible best management practices such as siting overhead power lines or other tall structures to avoid or minimize impacts on sage-grouse or sage-grouse habitats.
- In consultation with the state wildlife agency, develop mitigation measures for construction, maintenance, operation, and reclamation of the proposed use that minimize impacts on sage-grouse habitat.

J.2.1.3 BLM Resource Management Plans and USFS Land and Resource Management Plans

Many BLM RMPs and USFS LRMPs contain land-use restrictions to promote sage-grouse conservation (e.g., limitations on development activities near sage-grouse leks). Restrictions identified in applicable plans are detailed in EIS Appendix C, (Tables C.3-4 through C.3-28) and have been considered in the analysis presented in Chapter 3. BLM and USFS are currently preparing amendments and EISs for applicable RMPs and LRMPs in Wyoming, Colorado, and Utah to include additional sage-grouse conservation measures. The BLM and USFS amendments of applicable land-use plans are anticipated to be complete prior to the Record of Decision for the Project. If an action alternative is selected, the Project would be developed in compliance with the conservation measures in applicable BLM RMPs and USFS LRMPs.

J.2.2 State

J.2.2.1 Wyoming

The Governor of Wyoming issued Executive Order 2011-5 in June 2011. Executive Order 2011-5 replaced previous executive orders pertaining to sage-grouse in Wyoming and established a state regulatory mechanism to protect sage-grouse and sage-grouse habitat. The Executive Order established Core Population Areas and focuses conservation efforts in these areas including limits on the density of surface disturbance and restrictions on surface occupancy and seasonal use (EIS Appendix C, Tables C.3-1 and C.3-2). Additionally, the Executive Order established new transmission line corridors through the Core Population Areas and implemented restrictions on development of new transmission lines within core areas outside of the established corridors.

In addition to Executive Order 2011-5, the Wyoming Game and Fish Commission adopted the Wyoming Greater Sage-grouse Conservation Plan in 2003. The plan was developed to maintain and improve sage-grouse habitats in Wyoming, provide for coordinated management across jurisdictional or ownership boundaries, and develop the statewide support necessary to assure the survival of Wyoming's sage-grouse populations. The plan is intended to be used as guidance regarding sage-grouse management by state and federal agencies in Wyoming and the Wyoming Game and Fish Commission has sought agreements with federal agencies to implement the plan.

J.2.2.2 Colorado

The Colorado Greater Sage-grouse Steering Committee published the Colorado Greater Sage-grouse Conservation Plan in 2008. The purpose of the plan is to facilitate the conservation of sage-grouse and their habitats in Colorado by supporting goals that, if achieved, would facilitate the recovery of the species and result in its removal from the state’s species of concern list. Guidelines for sage-grouse

protection from population and habitat disturbance were developed as a part of the plan. Colorado Parks and Wildlife works collaboratively with federal, state, and local agencies as well as local working groups to implement the recommendations included in the plan.

The Colorado Department of Natural Resources is working collaboratively with BLM during the ongoing amendment of BLM RMPs to include sage-grouse conservation measures and is providing information to the USFWS for consideration in its development of a listing decision for the species. This work includes the identification of sage-grouse PPH and PGH in the state as well as preparation of “The Colorado Package,” a compilation of accomplishments and ongoing actions to promote sage-grouse conservation based on the strategies identified in the 2008 Colorado Greater Sage-grouse Conservation Plan.

J.2.2.3 Utah

The Governor of Utah approved the Conservation Plan for Greater Sage-grouse in Utah in April 2013. In March of 2015, the Governor signed Executive Order EO/2015/002, which requires state agencies whose operations affect greater sage-grouse to implement the conservation plan in coordination with the Utah Public Lands Policy Coordination Office, Office of the Governor. This executive order also outlines specific direction for each of the applicable state agencies to work with federal agencies to identify and act upon continuing conservation needs of the species, coordinate with the UDWR on activities within designated sage-grouse management areas (SGMAs), and work with existing Local Working Groups on habitat enhancements, monitoring, and on-going planning relative to greater sage-grouse populations and habitat. The 2013 conservation plan is designed to eliminate the threats facing sage-grouse while balancing the economic and social needs of the residents of Utah by establishing incentive-based conservation programs for private, local government, and School and Institutional Trust Lands Administration lands and regulatory programs on other state- and federally managed lands. To achieve this goal, the plan establishes SGMAs and implements management protocols in these areas. Management provisions in sage-grouse management areas include seasonal and spatial restrictions on development activities, limits on extent of new cumulative permanent disturbance, and special provisions for electric transmission lines. Additionally, the UDWR published the Utah Greater Sage-grouse Management Plan in 2009. The plan identifies threats and issues affecting sage-grouse management in Utah as well as goals, objectives, and strategies intended to guide UDWR, local working groups, and land managers efforts to protect, maintain, and improve sage-grouse populations and habitats and balance their management with other resource uses.

J.2.3 Local

J.2.3.1 Local Area Working Groups

The Project could cross sage-grouse habitats in the boundaries of ten sage-grouse local working groups; six in Utah (Uinta Basin, Strawberry Valley, Castle Country, West Desert, Parker Mountain, and Southwest Desert), three in Colorado (Northwest Colorado, Piceance/Parachute/Roan Creek, and Pinon Mesa), and one in Wyoming (South-central Wyoming). Each local working group has prepared a conservation plan to assess the status of local populations, to provide guidance and recommendations to meet objectives for maintaining sage-grouse populations and improving habitat, and to promote incorporation of local knowledge and local participation in larger efforts to promote conservation of sage-grouse.

J.3 Project Coordination and Actions to Comply with Applicable Plans and Policies

Greater sage-grouse and sage-grouse habitats are widespread in many of the landscapes crossed by the alternative routes in Wyoming, Colorado, and Utah. As the co-lead agencies, BLM and Western, in coordination with cooperating agencies, acknowledged that developing alternative routes that completely avoid greater sage-grouse and sage-grouse habitat would not be feasible. Agency collaboration with the Applicant to identify feasible strategies to avoid, minimize, and compensate for the potential effects of the Project on greater sage-grouse pursuant to the plans and policies described in Section J.2 has been ongoing throughout the development of the EIS.

J.3.1 Avoidance of Greater Sage-grouse Habitat through Project Siting

The co-lead agencies worked with the cooperating agencies and the Applicant to avoid and minimize potential effects on greater sage-grouse by identifying and eliminating or modifying alternative routes that would have substantially greater effects on sage-grouse or sage-grouse habitat compared to other alternative routes considered.

J.3.1.1 Routes Eliminated from Further Consideration

Transmission line alternative routes and segments included in the Applicant's Application for Transportation and Utility Systems and Facilities on Federal Lands were systematically screened and analyzed using the methods described in EIS Section 2.3.2. Alternative routes that would entail substantially higher impacts on sage-grouse and sage-grouse habitat compared to other alternative routes were eliminated from further consideration in the EIS. Alternative routes and segments that were eliminated from further consideration at least in part due to their impacts on sage-grouse and sage-grouse habitats include:

Wyoming

- Segment 200 (Western Wyoming Alternative Variation) was removed because of multiple resources concerns including the level of potential impacts to the South Rock Springs Core management area.

Colorado

- Segment 80, southwest of Baggs, Wyoming was removed at the request of the BLM Little Snake Field Office because of impacts to important greater-sage grouse populations.

J.3.1.2 Alignment Revisions and Local Route Variations

The BLM, cooperating agencies, and the Applicant worked collaboratively to refine the alternative routes analyzed in the EIS, as practicable, to avoid or minimize effects on sage-grouse and important sage-grouse habitats. These refinements included local adjustments to the alternative routes to locate them outside of designated sage-grouse habitat or in habitats of lower value to sage-grouse and development of local route variations that would avoid important sage-grouse habitats. Segments that were refined and local route variations that were developed at least in part to reduce potential effects on sage-grouse and sage-grouse habitats include:

Wyoming

- DEIS Segments 115, 115.05, 115.07, 115.10 were added at the request of the BLM Rawlins Field Office to avoid impacts to sage grouse habitat.
- DEIS Segments 150 and 160 were added in response to scoping and cooperator comments and provide bi-directional crossover options among all three alternatives. The alternative

connector offers routing flexibility to avoid environmental issues expressed by the Western Resource Advocates and the Coalition of Local Governments.

Colorado

- DEIS Segment 180 was shifted slightly to the east to avoid greater sage-grouse PPH and to address public preference for an alignment in the Sevenmile Ridge area.
- DEIS Segment 186 was added at the request of the BLM Little Snake River field office.

Utah

- DEIS Segments 218, 219.1, 219.2, 219.3, 219.4, 219.5 were developed to address BLM Utah concerns over greater sage-grouse habitat.

J.3.1.3 Alternative Corridor Refinement

Throughout the development of the EIS, the co-lead agencies have collaborated with the applicant to refine the regional analysis corridors in order to avoid and minimize the potential for impacts to greater sage-grouse. **Figures J-1**, **J-2**, and **J-3 (Exhibit J3)** display the results of the corridor refinement process with regards to areas of occupied greater sage-grouse habitat potentially crossed by the Project. **Table J-1** provides information on the various areas of greater sage-grouse habitat potentially crossed by the project during each phase of the EIS process.

Table J-1 Summary of the Acreages of Greater Sage-grouse Habitats crossed by the Public Scoping, DEIS, and FEIS Analysis Corridors.

Habitat Type	Public Scoping Corridors (acres)	Draft EIS Corridors (acres)	Percent Change from Scoping	Final EIS Corridors (acres)	Percent Change from DEIS
Wyoming Core	69,698	26,109	-63	1,971	-92
Colorado PPH	193,385	144,937	-25	17,139	-88
Colorado PGH	152,239	149,406	-2	23,410	-84
Utah Occupied	196,101	218,598	+11	57,204	-74
Utah Brood-rearing	179,109	166,891	-7	44,984	-73
Utah Winter	146,700	151,595	+3	41,566	-73

J.3.2 Development of Offsite Mitigation

Despite removing and modifying alternative routes and segments that would have comparatively higher impacts on sage-grouse and implementing additional onsite mitigation, the co-leads and cooperating agencies anticipate that implementation of any of the alternative routes analyzed in the EIS would result in residual impacts on sage-grouse and sage-grouse habitat (refer to EIS Section 3.8.6). The residual impacts would not be consistent with the objectives for sage-grouse and sage-grouse habitat management identified in applicable agency plans and policies (Section J.2). In accordance with BLM WO IM 2013-142 and other cooperating agency policies pertaining to offsite mitigation, BLM, the cooperating agencies, and the Applicant are working collaboratively to develop appropriate offsite mitigation that could be implemented to facilitate reasonable development of the Project consistent with applicable agency plans and policies pertaining to greater sage-grouse. To facilitate this collaboration, the Applicant has convened a group of sage-grouse biologists from the BLM and cooperating agencies (the Habitat Equivalency Analysis [HEA] Technical Advisory Group) to provide input and guidance for developing the Applicant's Sage-grouse Mitigation Plan, including the

HEA (refer to EIS Section 3.8.6). The methods used in development of the Applicant's Sage-grouse Mitigation Plan, including the HEA and the types of offsite mitigation being considered are described in the Project's Plan of Development (Appendix K, TransWest Express Transmission Project Greater Sage-grouse Mitigation Plan), which is attached to this EIS as **Appendix D**.

Exhibit J1

Framework for Sage-grouse Impacts Analysis for the TransWest Express Transmission Project
2013

(1) Evaluation of Direct and Indirect Impacts - This portion of the overall Greater Sage-Grouse (hereafter sage-grouse) Impacts Assessment Framework addresses project-related habitat impacts that bear directly on listing factors considered by the U.S. Fish and Wildlife Service (FWS) when evaluating the need to provide full listing protection under the Endangered Species Act (ESA).

A starting point for this analysis is a thorough review of the threats assessment/five factor analysis that FWS conducted as part of the March 23, 2010 (75 FR 13910), listing of the sage-grouse as a Candidate under ESA. An evaluation of all potential threats to sage-grouse and sage-grouse habitat from the transmission line should be conducted incorporating the latest available scientific information—most of which is referenced in the FR notice itself.

Of particular importance is the synthesis evaluation of all potential threats of the project that operate cumulatively to impact sage-grouse populations and habitat in a way that is not adequately evaluated by examining threats independently. The direct, indirect and cumulative impacts analysis for the project should consider the FR notice cumulative threats assessment summary as an example of how to fully analyze impacts associated with the proposed project. Reference to additional scientific information published since the issuance of the FR notice is available on the FWS website and should be incorporated into the analysis: all available scientific information should be used in the direct, indirect and cumulative impacts analysis.

An analysis of sage-grouse populations that attend leks within 18km of the project is a critical component of an indirect impacts analysis for the species. Sage-grouse that attend leks up to 18km from the project may be indirectly affected by the loss of habitat functionality during other seasons of the year (Connelly et.al. 2000). The construction of a transmission project or other linear facility may pose additional hindrance of seasonal migration patterns or avoidance of important seasonal habitats once used extensively by local sage-grouse populations. Qualitative and quantitative measures of habitat change must be considered in describing the potential impacts of the project. In the context of managing a species that requires such a large landscape of habitats to meet their life-cycle needs, and the nature of the proposed disturbance, it is reasonable to make some assumptive predictions about the relative impacts within 18km.

(2) Addressing Direct Loss of Birds - This piece of the overall Greater Sage-Grouse Impacts Assessment Framework is an important contribution to the rangewide jeopardy analysis conducted as part of the informal conferencing process for this Candidate species. Additionally, addressing impacts to populations provides key information needed for completing any potential future formal Section 7 consultation that would be required if the sage-grouse is ultimately listed under ESA during project development, thereby significantly streamlining this process.

FWS is actively working on this issue as it relates to rangewide sage-grouse conservation. There are two ways that the project proponent is expected to help resolve this concern:

a) Work closely with FWS and State Agency Biologists to develop an approach to address loss of birds from project-related impacts and their replacement;

b) Contribute financially to research projects that have been designed specifically to address this issue.

(3) Mitigation - Until an impacts analysis has been conducted in coordination with agency biologists—leading to an adequate understanding of impacts to sage-grouse populations and habitat—the issue of mitigation will not be addressed. However, when discussion and evaluation of mitigation does begin, it is with the understanding that mitigation ratios across state lines will remain the same. That is, a bird in Wyoming is equivalent to one in Colorado or Utah; an acre of nesting habitat in Colorado is worth as much in Wyoming and Utah; etc.

The Habitat Equivalency Analysis, described below, provides a standardized basis to determine a one-to-one ratio for habitat services lost/ habitat services mitigated. However, biological factors may provide a valid basis for adjusting the minimal mitigation ratio beyond one-to-one. Three such factors include: (a) the best available scientific information regarding the relative value of sage-grouse populations contributing to long-term species viability across the species' range points to the relative importance of central and southwestern ID, central and northwestern NV, eastern OR, and the state of WY; (b) regarding individual birds, hens have a much higher biological value, in terms of contribution to populations, than males; and (c) localized habitats of high ecological value including (but not limited to) those serving key functions in demographic, genetic, or seasonal connectivity, important wintering areas, or leks.

Habitat Equivalency Analysis (HEA) - HEA is a method of quantifying the permanent or interim loss of habitat services from project-related impacts. HEA provides a scientific-based, peer-reviewed method of scaling compensatory mitigation requirements, and has been used by federal regulatory agencies including the FWS and National Oceanic and Atmospheric Administration. The HEA is not meant to be an impacts analysis in and of itself; rather, it is a way to objectively determine quantity of project-related habitat impacts and provides the quantity and type of mitigation necessary to offset loss of habitat services as a form of output.

HEA is a process that requires close collaboration among the project proponent and State Agencies in states sustaining most of the impacts to populations and habitat (Wyoming, Colorado, and Utah) as well as FWS and BLM biologists and local working groups to ensure adequacy of analysis and a corresponding final product. Building models associated with the HEA process must be done in close coordination with agency biologists and local working groups in order to address concerns, questions, assumptions, and issues as they arise.

Agency biologists recognize the need for the incorporation of data and information the HEA models that the project proponent may not currently have. Agency biologists will work with project proponents to obtain such information to the extent they can (e.g., habitat maps; adequate vegetation data)—again, reiterating the need for an interactive approach between

the project proponent and agency biologists in order to ensure adequate completion of the HEA.

The initial starting point for evaluating direct and indirect impacts to sage-grouse habitat will be 18km either side of the proposed transmission line, addressing impacts to roughly 98% of nesting hens according the best available scientific information. Any deviation from this starting point must be supported by scientific literature: agency biologists can direct the project proponent to recently published literature on this topic which the project proponent is encouraged to use.

Calculating Density of Disturbance within Key Habitat

Once the Alternatives Analysis is complete and a preferred alternative has been selected, an additional site-specific evaluation of density of disturbance within Key Habitats/Core Areas may be conducted. The purpose of this evaluation is to evaluate opportunities to: minimize density of disturbance within Key Habitats/Core Areas that are outside the designated disturbance corridor identified in the Wyoming Governor's Executive Order 2011-5; and restore and/or enhance important sage-grouse habitat as a part of project-related mitigation. These site-specific habitat evaluations also will enable BLM to: (a) demonstrate compliance with the *Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands including Federal Mineral Estate* (IM WY-2010-012); and (b) demonstrate consistency with the *Greater Sage-Grouse Core Area Protection*, Wyoming Governor's Executive Order 2011-5. In Colorado and Utah, if density disturbance calculations are completed, they will be closely coordinated with the appropriate State and Federal agencies to ensure that each state's Key Habitat areas are appropriately identified and considered in the Density Disturbance Calculation (DDC).

The overall goal of a Sage-Grouse Key Habitat/Core Area Strategy is to limit the density and duration of disturbances and restrict activities within Key Habitats/Core Areas sufficient to ensure the long-term conservation and management of sage-grouse within each state. To this end, the DDC is a tool designed to measure habitat loss within the Key Habitat/Core Area. In particular, in Wyoming, it is used to determine—in terms of management actions— how the project-related disturbance can be limited to no more than 5% loss of habitat and result in no more than an average of one disturbance per 640 acres.

Step 1: Determination of leks that will be used in the site-specific evaluation:
Place a four-mile boundary around the outer project boundary (as defined by the proposed area of disturbance related to the project, i.e., Right of Way width, or similar). All occupied and undetermined sage-grouse leks located within four miles of the outer boundary of the project, and within Key Habitat/Core Areas, the will be considered in the DDC.

Step 2: Determine the DDC area size and configuration:
A four-mile boundary placed around the perimeter of each lek identified in Step 1 and the area within the boundary of the leks, plus the four-mile project boundary, creates the DDC area for the project.

Step 3: Density of disturbance habitat evaluation:
Disturbance will be evaluated for the DDC area as a whole, as well as for individual leks within the DDC area. Any portion of the DDC that falls outside Key Habitat/Core Area will be removed from this portion of the evaluation for Wyoming to maintain consistency with the provisions in Wyoming Executive Order 2011-5.

<u>Disturbance Calculation</u>: Total acres of "disturbance" within the DDC area will be determined through an evaluation of:

a. Existing and Proposed disturbance—sage-grouse habitat that is disturbed by existing anthropogenic features or activities (e.g., transmission lines, distribution lines, wind

development, oil/gas wells/facilities, active mine areas, geothermal, communication towers, pipelines, paved and improved roads, and others) and wildfire, including the full ROW width of the proposed action;

b. Approved permits (i.e., any state or Federal permits providing approval for on the ground actions) for projects not yet implemented or constructed.

Habitat Disturbance Evaluation: In Wyoming, for projects that will result in disturbance of more than 5% of the DDC area, it may be advantageous for the project proponent to map the full extent of sage-grouse habitat within the DDC area in order to reduce this percentage. If this is done, it will be conducted to identify:

a. "Suitable Habitat" and "Marginal Habitat" using BLM's Habitat Assessment Framework (HAF) and unsuitable habitats within the DDC area
b. Sage-grouse evidence of use of suitable habitats (seasonal use, densities based on best available information)
c. Priority restoration areas (which could reduce the existing disturbances to below the 5% threshold) for example:
    i) Areas where plug and abandon activities on retired oil and gas wells will eliminate disturbance
    ii) Areas where old reclamation has not produced suitable habitat
d. Areas of invasive species
e. Lands where other conservation assurances are in place (e.g., CCAA, easements, habitat contract, etc.)

Step 4: Determination of existing and allowable suitable habitat disturbance:
Acres of disturbance within suitable habitat divided by the total suitable habitat within the DDC area, multiplied by 100, equals the percent of disturbed suitable habitat within the DDC area. In Wyoming, subtracting the percentage of existing disturbed suitable habitat from 5% equals new allowable suitable habitat disturbance until plant regeneration or reclamation reduces acres of disturbed habitat within the DDC area.

Exhibit J2

See the TransWest Express Transmission Project Plan of Development (Appendix K, Greater Sage-grouse Mitigation Plan)

Attached as Final EIS Appendix D

Exhibit J3

(Figures)

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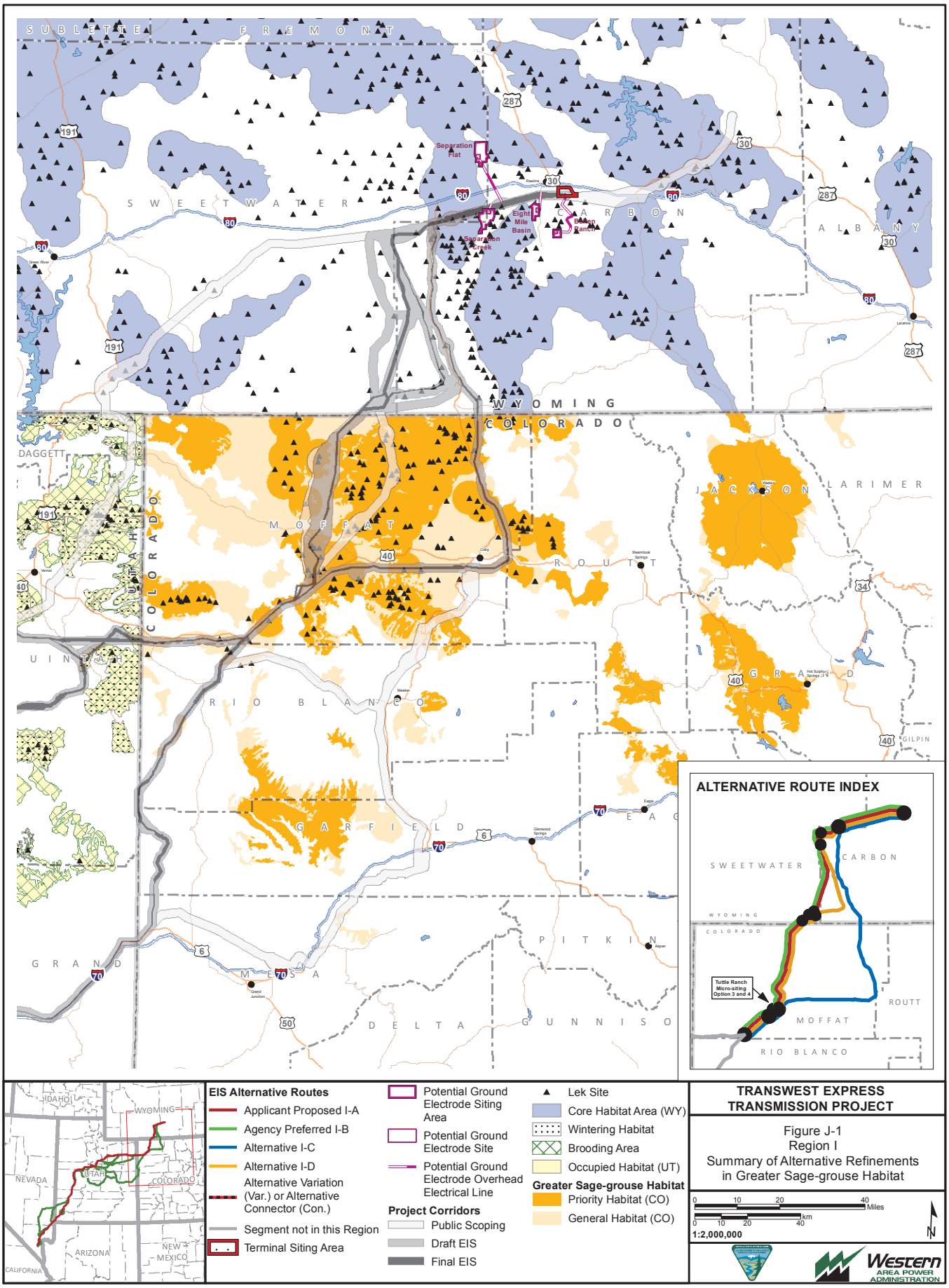

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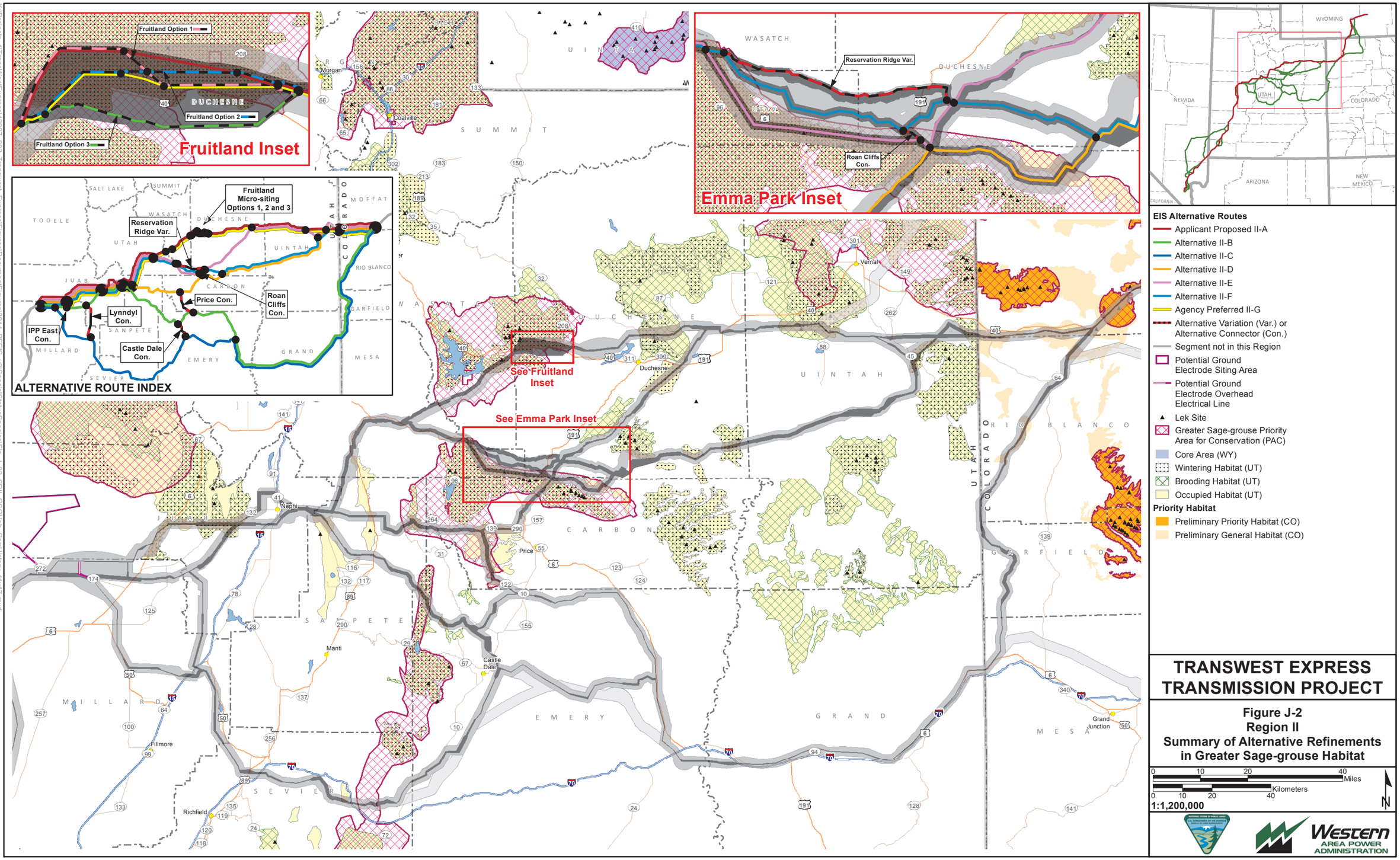

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure J-2
Region II
Summary of Alternative Refinements in Greater Sage-grouse Habitat

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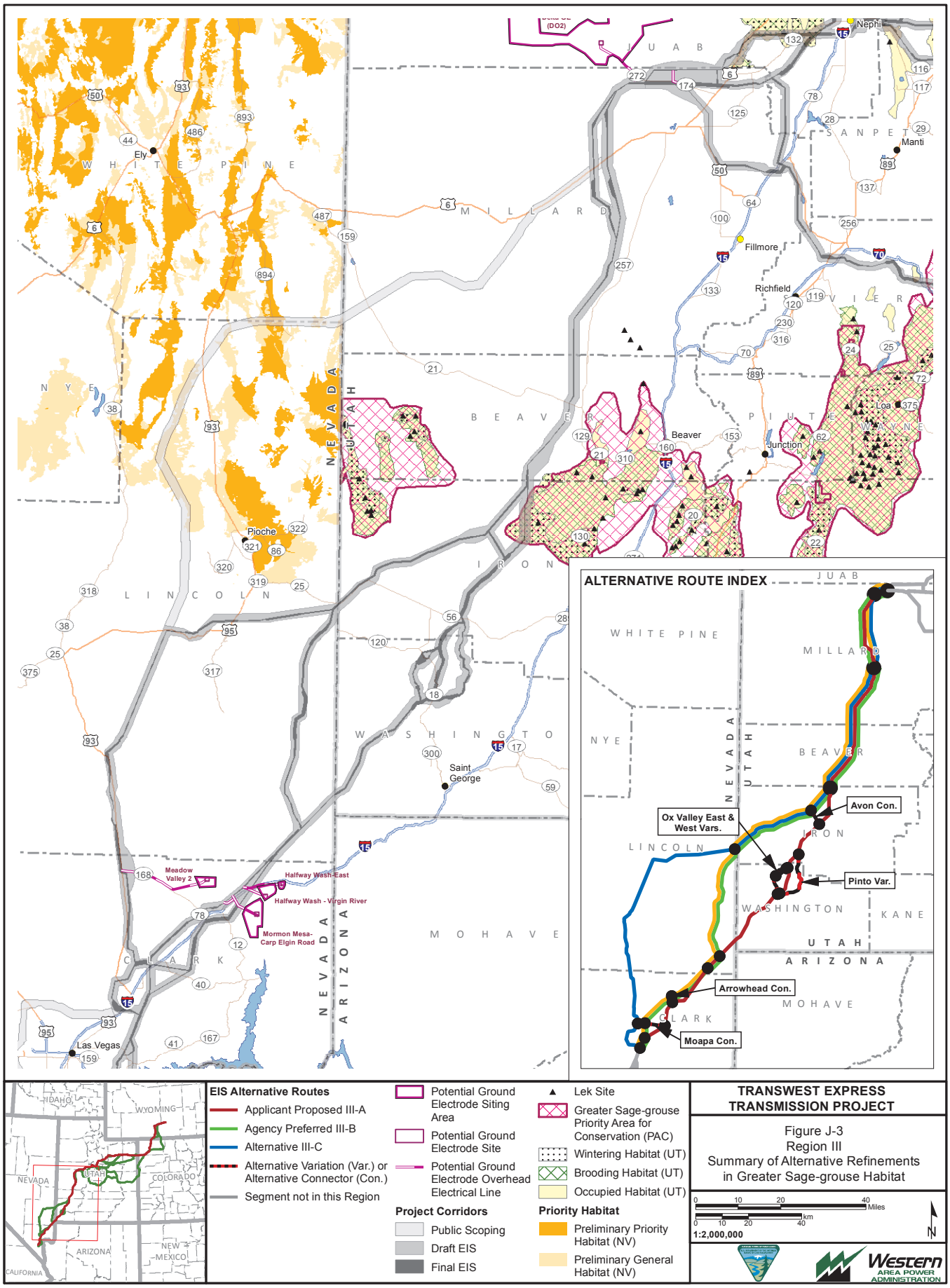

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