

C.6 Hazards and Public Safety

This section provides an analysis of hazards and public safety impacts associated with the construction and operation of the proposed action (Project) and alternatives. Specifically, this section addresses the handling and use of hazardous materials and the potential for environmental contamination to the public. For a discussion of wildland fire hazards, refer to Section C.13. Additionally, the analysis of air quality is provided in Section C.2.

C.6.1 Affected Environment

With respect to hazardous materials and public safety, the study area is defined as 0.5-mile buffer area surrounding the Reservoir, sediment disposal sites, and sediment disposal haul routes. Because the Project would not transport significant quantities of hazardous materials (as discussed further in Section C.6.4), this study area boundary defines the disturbance area limits and geographic extent of Project-related activities with respect to risk of upset.

C.6.1.1 Hazardous Materials

Definition

Hazardous materials are generally substances that by their nature and reactivity have the capacity to cause harm or health hazards during normal exposure, accidental release, or other mishap. Hazardous materials are characterized as being toxic, corrosive, flammable, reactive, an irritant, or strong sensitizers. The term “hazardous substances” encompasses chemicals regulated by both the United States Department of Transportation’s (DOT) “hazardous materials” regulations and the U.S. Environmental Protection Agency’s (USEPA) “hazardous waste” regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to impact public health and the environment. A designation of “acutely” or “extremely” hazardous refers to specific listed chemicals and quantities.

Hazardous substances are defined by State and federal regulations to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in CERCLA Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Hazardous Material Sites

The Littlerock Dam and Reservoir are located on Little Rock Creek below the confluence of Santiago Canyon in the ANF. With the exception of the Littlerock Resort concession area, the area surrounding the dam and reservoir consists of natural land and is void of industrial, commercial, and residential development. Currently, motorized boats are not allowed within the Reservoir. When the Reservoir water level

is lowered for beneficial drinking water use, off-highway vehicle (OHV) use of the Reservoir bottom occurs. However, fuel or vehicle oils are not regularly stored or utilized within the Reservoir.

Existing and past land use activities at and near the sediment disposal sites and along the sediment disposal haul routes are potential indicators of hazardous material storage and use. For example, many industrial sites, historic and current, have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground tanks in commercial and rural areas, contaminated surface runoff from polluted sites, orchards, and contaminated groundwater plumes. A review of the following environmental databases was completed for the study area:

- Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) databases (USEPA, 2014)
- Statewide Cortese list, which contains the following (CalEPA, 2014):
 - List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database.
 - List of Leaking Underground Storage Tank Sites by County and Fiscal Year from State Water Resources Control Board (SWRCB) GeoTracker database.
 - List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
 - List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB. NOTE: This list contains many sites that do not concern the discharge of wastes that are hazardous materials. Therefore, any site within Palmdale was reviewed for applicability.
 - List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The review of these databases indicates there are no known active hazardous waste sites within 0.5 miles of the Reservoir, sediment disposal sites, or sediment disposal haul routes.

Construction Related-Hazardous Materials

Excavation and disposal of accumulated sediments, construction of the grade control structure, and maintenance and improvement of haul route roadways would involve the operation of heavy machinery and construction vehicles. The operation of these vehicles and machinery could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants.

Reservoir Sediment

For this analysis, soil that is excavated from a site containing hazardous materials would be considered to be a hazardous waste if it exceeded specific CCR Title 22 criteria, or, on National Forest System lands, if it exceeded criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials is performed; it may also be required if certain other activities are proposed. Contaminated soil exceeding regulatory limits for construction backfill would require onsite treatment or transport to offsite processing facilities. Contaminated soil removed from the construction area must be transported according to State and federal regulations and be replaced by imported soil approved for backfill.

Both sediments and fish tissue from Littlerock Reservoir were sampled on August 4, 2014. The detailed results of these tests are provided in Appendix D. Fifteen samples, including 11 sediment samples and 4

fish tissue samples, were collected and analyzed for the presence of mercury, chlorinated pesticides, and PCB congeners. For chlorinated pesticides (including DDT), no analyte was detected at or above the method detection limit (MDL). For PCB congeners, one analyte (PCB138) was detected in three of the 11 samples. However, the amount of PCB138 that was detected is extremely small. The three sample results range from 1.1 to 1.9 parts per billion (ppb). The MDL for this analyte is 1.0 ppb, and the reporting limit (RL) is 5.0 ppb. All 11 sediment samples tested positive for the presence of mercury. Mercury was analyzed as total mercury (Hg), and the element was not speciated in this analysis. Therefore, it is unknown what percentage of this mercury is organic mercury versus methylmercury. The sample results range from 0.0032 to 0.0213 parts per million (ppm). The Agency for Toxic Substances and Disease Registry reports that normal levels of mercury in soil range from 0.02 to 0.625 ppm (ATSDR, 1999). All but one of the sediment sample results fall below the lower value of this range, and the one result that falls within this range lies at the extreme lower end of the range. The sampling results show that the sediment in Littlerock Reservoir is mostly free of contaminants, and that in cases where a contaminant was detected, the level of contamination is extremely low.

C.6.1.2 Littlerock Dam

Littlerock Dam is a concrete gravity dam, approximately 170 feet high from foundation to crest, and spans 576 feet across the canyon, forming the Reservoir. In 1994, the last major renovation of the dam was completed, which involved strengthening the downstream face with roller-compacted concrete.

C.6.1.3 Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. The City of Palmdale and the entire Project area is located entirely within areas designated as "suspected endemic" for Valley Fever (CDC, 2014).

Persons exposed to airborne *C. immitis* arthrospores may become infected with Valley Fever. Construction workers, agricultural workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever. The resulting infection is most likely to have no symptoms or present with mild cold like symptoms, but it can cause flu like symptoms, or in rare cases (one percent) cause a disseminated form of the disease that can cause severe disabling illness or death.

C.6.2 Regulatory Framework

This section provides an overview of the regulatory framework for hazards and public safety. Table C.6-1 provides a list of plans and policies that are applicable to hazards and public safety, and includes a discussion of the Project's consistency with each plan or policy.

C.6.2.1 U.S. Environmental Protection Agency (EPA)

- **Federal Toxic Substances Control Act, Resource Conservation and Recovery Act (RCRA), Hazardous and Solid Waste Act (HSWA).** The Federal Toxic Substances Control Act (1976) and RCRA (1976) established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the HSWA, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).** Congress enacted CERCLA, commonly known as Superfund, on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986.

C.6.2.2 State of California

- **California Hazardous Waste Control Law (HWCL).** The HWCL is administered by CalEPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the EPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.
- **Hazardous Material Worker Safety.** The California Occupational Safety and Health Administration (CA OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CA OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

C.6.3.3 Local

- **Los Angeles County Fire Department.** The County of Los Angeles Fire Department, Health Hazardous Materials Division is the agency responsible for regulating and monitoring hazardous material use and storage in unincorporated and most incorporated areas of Los Angeles County. Its mission is to protect the public health and the environment throughout Los Angeles County from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes through coordinated efforts of inspections, emergency response, enforcement, and site mitigation oversight (LACFD, 2014). Emergency response to a hazardous materials spill within the City of Palmdale would be handled by the Los Angeles County Fire Department.

- **Los Angeles County General Plan.** Both the approved General Plan (1974) and public review draft of the 2035 General Plan (2014) were reviewed for hazards and safety goals and policies applicable to the Project (County of Los Angeles 1974 and 2014a). Neither version of the General Plan contains applicable goals or policies pertaining to hazardous materials or public safety related to the Project.
- **City of Palmdale General Plan.** A review of the Palmdale General Plan Safety and Environmental Resources Elements identified the following applicant General Plan policies related to Project hazards and public safety (City of Palmdale, 1994):
 - Policy S2.1.1: Evaluate potential hazards associated with rupture of the California Aqueduct, to ensure that development in areas threatened with inundation are designed to minimize the threat to life and property.
 - Policy S2.1.2: Evaluate the potential for inundation from failure of the Lake Palmdale or Littlerock dams when reviewing development proposals within potential inundation areas.
 - Policy S2.3.3: Require that soils containing toxic or hazardous substances be cleaned up to the satisfaction of the agency having jurisdiction, prior to the granting of any permits for new development.
 - Policy S2.3.4: Restrict or prohibit land uses and activities that generate excessive amounts of hazardous materials or wastes that cannot be properly maintained or disposed.
 - Policy ER6.2.2: In the Little Rock Wash area, address environmental concerns related to: (6) Public safety.

Table C.6-1. Consistency with Applicable Hazard-Related Plans and Policies		
Plan/Policy	Consistency	Explanation
City of Palmdale General Plan – Safety Element		
Policy S2.1.1: Evaluate potential hazards associated with rupture of the California Aqueduct, to ensure that development in areas threatened with inundation are designed to minimize the threat to life and property.	Yes	The Project will not place any structures within an area that would be subject to inundation following rupture of the California Aqueduct. There would be no threat to life or property.
Policy S2.1.2: Evaluate the potential for inundation from failure of the Lake Palmdale or Littlerock dams when reviewing development proposals within potential inundation areas.	Yes	The Project will not place any structures within an area that would be subject to inundation following failure of the Lake Palmdale or Littlerock dams. There would be no threat to life or property.
Policy S2.3.3: Require that soils containing toxic or hazardous substances be cleaned up to the satisfaction of the agency having jurisdiction, prior to the granting of any permits for new development.	Yes	No soils containing toxic or hazardous substances were discovered during pre-construction sampling. Any contaminated soil that is discovered during construction of the Project would be removed and transported to an appropriate hazardous waste disposal facility.
Policy S2.3.4: Restrict or prohibit land uses and activities that generate excessive amounts of hazardous materials or wastes that cannot be properly maintained or disposed.	Yes	The Project would not generate excessive amounts of hazardous materials or wastes.
City of Palmdale General Plan – Environmental Resources Element		
Policy ER6.2.2: In the Little Rock Wash area, address environmental concerns related to: 6. Public safety	Yes	Environmental concerns related to public safety within the Little Rock Wash area are addressed in Section C.6.4.1.

Source: USFS, 2005; City of Palmdale 1994

C.6.3 Issues Identified During Scoping

Table C.6-2 below provides a list of hazard and public safety issues raised during the public scoping period for the EIS/EIR [see Appendix E (Summary of Scoping Process)]. Issues are listed by agency or members of the public providing comment. The table also includes a brief discussion the applicability of each issue to the environmental analysis and where that issue is addressed in the EIS/EIR.

Table C.6-2. Scoping Issues Relevant to Hazards and Public Safety	
Comment	Consideration in the EIS/EIR
Lahontan Regional Water Quality Control Board	
Prior to any dredging or sediment disturbing activities in Little Rock Creek and Little Rock Reservoir, soils must be sampled and characterized so that proper handling and disposal methods can be adequately evaluated. Recommend that soils be analyzed for heavy metals (Title 22, CCR), PCBs, volatile organic compounds, and total petroleum hydrocarbons (gas and diesel ranges).	Both sediments and fish tissue from Little Rock Reservoir were sampled on August 4, 2014. Fifteen samples, including 11 sediment samples and 4 fish tissue samples, were collected and analyzed for the presence of mercury, chlorinated pesticides, and PCB congeners. VOCs and total petroleum hydrocarbons were not analyzed. The sampling results show that the sediment in Little Rock Reservoir is mostly free of contaminants, and that in cases where a contaminant was detected, the level of contamination is extremely low.
Public Comments	
Concern that communities surrounding the proposed sediment deposit sites will be exposed to Coccidioidomycosis (San Joaquin Valley Fever) following major dust events, and that residents will be subject to unhealthy levels of dust inhalation.	The potential Project impacts related to San Joaquin Valley Fever are discussed in Section C.6.4.1. It is not anticipated that the Project would result in adverse effects related to San Joaquin Valley Fever.

C.6.4 Environmental Consequences

Significance Criteria. The following significance criteria for hazards and public safety were derived from applicable local, State, and federal regulations to protect public health and the environment and review of Project activities within a rural area possibly prone to wildfires. Impacts of the Project or alternatives would be considered significant and would require mitigation if:

- Criterion HAZ1: Create an adverse hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Criterion HAZ2: Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Impact Assessment Methodology. In order to assess the potential for released hazardous materials to affect the public, this analysis identifies the types and required use of hazardous materials during all Project activities. This analysis was conducted by examining the choice and amount of chemicals to be used, the manner in which the Project requires use of the chemicals, the manner by which they would be transported to the site, and the way in which they will be used and stored on site.

Engineering and administrative controls concerning the use of hazardous materials are included as part of the Project. Engineering controls are physical or mechanical systems, such as storage tanks or automatic shut-off valves, that can prevent the spill of hazardous material from occurring, or that can either limit the spill to a small amount or confine it to a small area. Administrative controls are the rules and procedures that workers at the facility must follow that would help to prevent accidents or to keep them small if they do occur. Both engineering and administrative controls can act as methods of prevention or as methods of response and minimization. In both cases, the goal is to contain any spill and

prevent a spill from moving off-site and causing harm to the public. Because the Reservoir serves as both a public drinking supply and recreation area, this analysis considers any hazardous material used during Project activities as having potential to impact public health if not transported, stored, used, or contained during a spill properly. As described in Section C.6.2, the Superfund Amendments and Reauthorization Act (SARA), which amends the Comprehensive Environmental Response and Liability Act, governs hazardous substances. SARA provides regulations primarily for planning, reporting, and notification concerning hazardous substances.

C.6.4.1 Proposed Action/Project

The hazards and public safety impacts of the Project are discussed below under subheadings corresponding to each significance criterion. For each criterion, the analysis determines whether implementation of the Project would result in adverse impacts.

Direct and Indirect Effects Analysis

Create an adverse hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Criterion HAZ1)

Impact HAZ-1: Hazardous material use and transport may result in spills that contaminate Reservoir water or groundwater, or endanger public health.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (which react violently with water) are examples of reactive materials.

The principal environmental impact involving hazardous waste associated with the Project would be related to the potential mobilization of contaminants resulting in exposure of workers and the general public (i.e., excavation and handling of contaminated soil). Hazardous materials in the construction area may require special handling as toxic substances and hazardous waste can create an exposure risk to workers and the general public due to spills or upset or from excavation and transport.

Active hazardous waste sites greater than 0.25 miles from the project site would have a low potential to cause contamination at the site. Subsurface migration of contaminants within the unsaturated soil zone is predominantly vertically downward and is not likely to migrate horizontally. Although no known contaminated sites with potential to impact the Project were identified in this review, it is possible that other contaminated sites could be discovered during construction of the Project. Soil contamination may be encountered where no sites are currently designated or identified. Existing contamination of soils may exist in the project area due to unauthorized dumping or historic unreported hazardous materials spills. However, pre-construction analysis of sediment within Littlerock Reservoir has shown that the level of existing contamination is very low.

Activities and operations that use or manage hazardous or potentially hazardous substances could create a hazardous situation if release of these substances occurs. Individual circumstances, including the type of substance, quantity used or managed, and the nature of the activities and operations, affect the probable frequency and severity of consequences from a hazardous situation. During construction, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored on-site. There is potential for accidental incidents involving release of gasoline, diesel fuel, oil, hydraulic fluid, and lubricants from vehicles or other equipment or the release of solvents, adhesives, or cleaning chemicals from construction activities. Improperly maintained equipment could leak fluids during operation and while parked. Spills and leaks of hazardous materials during construction activities could potentially result in soil, groundwater, or surface water contamination. PWD and ANF plan to minimize, avoid, and/or clean up any unforeseen spill of hazardous materials by ensuring construction would be performed in accordance with PWD's Construction Storm Water Pollution Prevention Plan (SWPPP). Additionally, the preparation of a Spill Response Plan under SPC WQ-1 (refer to Appendix A) would further reduce the potential for any adverse impact to water quality.

SPCs Applicable to Impact HAZ-1

SPC WQ-1 (Prepare Spill Response Plan)

CEQA Significance Conclusion

The potential for hazardous materials to enter any waterbody would be reduced through implementation of SPC WQ-1. Impact would be less than significant (Class III).

Cause detrimental effects on the public health or well-being of the majority of the surrounding population (Criterion HAZ2)

Impact HAZ-2: Project activities would result in Littlerock Dam safety or degradation issues.

The Project would involve excavation and grading activities to remove accumulated sediment from Littlerock Reservoir. If improperly designed or executed, these activities could result in unstable soil and slopes, and could adversely impact the strength or stability of Littlerock Dam. However, implementation of Standard Project Commitments would ensure that excavation and grading activities would not adversely impact the strength or stability of Littlerock Dam. A design level geotechnical investigation would be performed prior to construction and would include evaluation of slope stability issues in areas of planned grading and excavation, and provide recommendations for development of grading and excavation plans. Based on the results of the geotechnical investigations, appropriate support and protection measures would be designed and implemented to maintain the stability of slopes adjacent to work areas during and after construction. No bedrock would be excavated and the structural integrity of Littlerock Dam would not be adversely affected. The topography of the reservoir bottom would be returned to 1992 conditions, and the overall weight of material held behind Littlerock Dam would be reduced through Project activities. This reduction in sediment stored behind the dam would reduce the pressure placed on the dam in the event of seismically induced liquefaction. With implementation of Standard Project Commitments, this impact would be negligible.

CEQA Significance Conclusion

Any potential impacts to hazards related to dam failure or instability would be minor and are considered less than significant (Class III).

Impact HAZ-3: Project activities would increase exposure of the public to Valley Fever.

Soil disturbance can result in fugitive dust that could mobilize the spores that cause Valley Fever. The Project would require a large amount of earthmoving; however, much of this would be the movement of sediments that are often submerged below the surface of the Littlerock Reservoir or saturated with water along the active Littlerock Stream, which due to being submerged or saturated for long periods of time would not be subject to *C. immitis* fungal growth. So, while there may be some limited potential for the *C. immitis* fungus to exist in the Project excavation area and the sediment storage areas, the risk of the Project activities causing Valley Fever infection is considered low due to the characteristics of the sediment being excavated at the project site, the distance of receptors from the Project excavation site and sediment storage areas, and the implementation of required Antelope Valley Air Quality Management District (AVAQMD) Rule 403 fugitive dust control requirements and additional project commitments (see Appendix A) that would substantially reduce fugitive dust emissions.

SPCs Applicable to Impact HAZ-3

SPC AQ-2 (Fugitive Dust Controls)

CEQA Significance Conclusion

Conformance with existing air quality regulations and implementation of SPC AQ-2 ensures less than significant impacts (Class III).

Impact HAZ-4: Project activities would expose the public to unsafe levels of mercury in fish caught for human consumption.

As discussed in Section B.2.3.2, during the first year of sediment removal, all water will be diverted from the Reservoir in order to strand non-native fish. A qualified biologist will supervise this activity and be available to inspect for any native reptiles or amphibians. If present, these species will be collected and relocated to upstream areas. Fish carcasses will be immediately collected and disposed in an approved landfill accepting such waste to ensure no adverse odor is created and to prevent other species of wildlife from consuming the fish. Prior to each subsequent annual sediment removal period, after water has been diverted from the Reservoir, a biologist will determine if any invasive fish species are present and will assess the need for additional fish removals.

Excavation and grading activities could mobilize mercury that is bound to buried sediment. This exposed and disturbed mercury could enter the water column and eventually bioaccumulate up the food chain. Under current conditions, fish within Littlerock Reservoir have been found with elevated levels of mercury. In some cases, these levels exceed safe consumption thresholds, resulting in a fish consumption advisory issued for Littlerock Reservoir (LRWQCB, 2014). Although it is possible that Project activities could exacerbate the existing level of mercury contamination in fish, pre-construction sediment test results show very low levels of mercury in the soil. Additionally, excavation and grading activities would occur during the dry season when the reservoir is closed to the public. No disturbed sediment would enter Little Rock Creek or Little Rock Wash. The Project would not change operation protocol for Littlerock Reservoir (including drawdown and release schedules), nor would the Project change any fish stocking practices or alter any upstream or downstream habitat. Any Project impacts related to exposure of the public to unsafe levels of mercury in fish caught for human consumption would be negligible.

CEQA Significance Conclusion

Sediment disturbing activities would not expose the public to mercury levels in fish or increase mercury levels within the Reservoir, resulting in less than significant impacts (Class III).

Impact HAZ-5: Project activities would result in unsafe highway conditions or increase the frequency of traffic accidents.

Excavation and removal of accumulated sediment from Little Rock Reservoir would involve the operation of 16 large dump trucks between the hours of 7:00 a.m. and 7:00 p.m. This increase in large vehicle traffic could lead to unsafe highway conditions or an increase in the frequency of traffic accidents. However, the roadways between Little Rock Reservoir and the potential sediment disposal sites are lightly traveled and large vehicles are common in the area due to existing mining operations. Implementation of Standard Project Commitments, including a traffic control plan and flagmen at key intersections, would further reduce the magnitude of this impact. Hazard impacts related to unsafe traffic conditions would be minor.

SPCs Applicable to Impact HAZ-5

SPC TRA-1 (Prepare Traffic Control Plan)

CEQA Significance Conclusion

Any potential impacts to hazards related to unsafe traffic conditions would be reduced through the implementation of SCP TRA-1, resulting in less than significant impacts (Class III).

C.6.4.2 Alternative 1: Reduced Sediment Removal Intensity Alternative

Direct and Indirect Effects Analysis

Create an adverse hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Criterion HAZ1)

Impact HAZ-1: Hazardous material use and transport may result in spills that contaminate Reservoir water or groundwater, or endanger public health.

Project activities under this alternative related to Impact HAZ-1 would be very similar to those described under the Project. The only difference is that fewer disposal trucks would be utilized, but over a longer period each season for a greater number of years. Fewer workers would be exposed to risks associated with hazardous materials, but over a longer period of time. These risks would remain the same as under the Project, and would be minor.

SPCs Applicable to Impact HAZ-1

SPC WQ-1 (Prepare Spill Response Plan)

CEQA Significance Conclusion

Impacts for Alternative 1 are the same as those described for the Project, less than significant (Class III).

Cause detrimental effects on the public health or well-being of the majority of the surrounding population (Criterion HAZ2)

Impact HAZ-2: Project activities would result in Littlerock Dam safety or degradation issues.

Project activities under this alternative related to Impact HAZ-2 would be very similar to those described under the Project. The only difference is that fewer disposal trucks would be utilized, but over a longer period each season for a greater number of years. As described above in Section C.6.4.1, a design level geotechnical investigation would be performed prior to construction. Implementation of recommendations from the geotechnical investigation would ensure that soils and slopes in the Project area remain stable and that the structural integrity of Littlerock Dam is not compromised. The risks associated with dam instability or failure would remain the same as under the Project, and would be minor. Impact HAZ-2 impacts and CEQA significance for Alternative 1 are the same as those described for the Project. See Section C.6.4.1.

CEQA Significance Conclusion

Impacts for Alternative 1 are the same as those described for the Project, less than significant (Class III).

Impact HAZ-3: Project activities would increase exposure of the public to Valley Fever.

Project activities under this alternative related to Impact HAZ-3 would be very similar to those described under the Project. The only difference is that fewer disposal trucks would be utilized, but over a longer period each season for a greater number of years. As described above in Section C.6.4.1, the sediment contained in Littlerock Reservoir is not conducive to fungal growth associated with Valley Fever, and sensitive receptors are not located near the excavation and disposal sites. The risks associated with exposure of the public to Valley Fever would remain the same as under the Project, and would be minor. Impact HAZ-3 impacts and CEQA significance for Alternative 1 are the same as those described for the Project. See Section C.6.4.1.

SPCs Applicable to Impact HAZ-3

SPC AQ-2 (Fugitive Dust Controls)

CEQA Significance Conclusion

Conformance with existing air quality regulations and implementation of SPC AQ-2 would ensure that impacts for Alternative 1 are the same as those described for the Project, less than significant (Class III).

Impact HAZ-4: Project activities would expose the public to unsafe levels of mercury in fish caught for human consumption.

Project activities under this alternative related to Impact HAZ-4 would be very similar to those described under the Project. The only difference is that fewer disposal trucks would be utilized, but over a longer period each season for a greater number of years. As described above in Section C.6.4.1, the sediment in Littlerock Reservoir contains very low levels of mercury, and no sediment would enter Little Rock Wash or any other downstream receiving water. The risks associated with increased exposure of the public to fish with high levels of mercury would remain the same as under the Project, and would be minor. Impact HAZ-4 impacts and CEQA significance for Alternative 1 are the same as those described for the Project. See Section C.6.4.1.

CEQA Significance Conclusion

Impacts for Alternative 1 are the same as those described for the Project, less than significant (Class III).

Impact HAZ-5: Project activities would result in unsafe highway conditions or increase the frequency of traffic accidents.

Project activities under this alternative related to Impact HAZ-5 would be very similar to those described under the Project. The only difference is that fewer disposal trucks would be utilized, but over a longer period each season for a greater number of years. This reduced number of dump trucks could lead to a slight reduction in overall traffic impacts, including unsafe highway conditions. The risks associated with unsafe highway conditions would remain the same as under the Project, and would be minor. Impact HAZ-5 impacts and CEQA significance for Alternative 1 are the same as those described for the Project. See Section C.6.4.1.

SPCs Applicable to Impact HAZ-5

SPC TRA-1 (Prepare Traffic Control Plan)

CEQA Significance Conclusion

Impacts for Alternative 1 are the same as those described for the Project, less than significant (Class III).

C.6.4.3 Alternative 2: No Action/No Project Alternative

Direct and Indirect Effects Analysis

Under the No Action Alternative, sediment removal activities would not occur and sediment would continue to accumulate upstream of Littlerock Dam at the annual average rate of 38,000 cubic yards per year, reducing the capacity of the Reservoir by approximately 23.6 acre-feet annually. This lost capacity could be addressed either by breaching the dam and allowing the natural flow of Little Rock Creek to overtop the dam, or by demolishing the dam and removing approximately 2.8 million cubic yards of sediment and dam concrete.

During demolition and excavation, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored on-site. There is potential for accidental incidents involving release of gasoline, diesel fuel, oil, hydraulic fluid, and lubricants from vehicles or other equipment or the release of solvents, adhesives, or cleaning chemicals from construction activities. Improperly maintained equipment could leak fluids during operation and while parked. Spills and leaks of hazardous materials during construction activities could potentially result in soil, groundwater, or surface water contamination. Standard project commitments regarding the handling, disposal, and spill response for hazardous materials under this project are unknown. Therefore, this alternative could result in a direct and adverse impact.

Project activities under this alternative related to Impact HAZ-3 would be similar to those described under the Project. If Littlerock Dam were demolished under this alternative, a large amount of sediment would need to be excavated. However, as described above in Section C.6.4.1, the sediment contained in Littlerock Reservoir is not conducive to fungal growth associated with Valley Fever, and sensitive receptors are not located near the excavation site. Additionally, under either No Action Alternative scenario, Littlerock Reservoir would likely cease to support a fish population, and the public would not be exposed to unsafe levels of mercury in fish caught for human consumption.

Project activities under this alternative related to Impact HAZ-5 would be similar to those described under the Project. Demolition of Littlerock Dam and excavation of the accumulated sediment would require a much larger number of truck trips. However, those truck trips are not expected to substantially change the overall highway safety conditions, especially considering the existing conditions, including active mining operations in the area. The risks associated with unsafe highway conditions would remain the same as under the Project, and would be minor.

CEQA Significance Conclusion

The impact under HAZ-1 and HAZ-2 would be significant and unavoidable (Class I). Impacts for HAZ-3 are the same as those described for the Project, less than significant (Class III). No impact would occur under HAZ-4. Impacts associated with HAZ-5 are considered less than significant with the implementation of traffic control measures similar to SPC TRA-1 (under a No Project scenario which required removal of the dam).

C.6.5 Impact Significance Summary

Impacts HAZ-1 through HAZ-5 for the Project and Alternative 1 are adverse, but not significant (Class III). Under the No Action Alternative, Impacts HAZ-1 and HAZ-2 would be significant and unavoidable (Class I). Table C.6-3 summarizes impact significance.

Table C.6-3. Summary of Impacts and Mitigation Measures – Hazards and Public Safety					
Impact	Impact Significance				Mitigation Measures/SPC
	Proposed Action	Alt. 1	Alt. 2: No Action	NFS Lands ¹	
HAZ-1: Hazardous material use and transport may result in spills that contaminate Reservoir water or groundwater, or endanger public health	Class III	Class III	Class I	Yes	SPC WQ-1 (Prepare Spill Response Plan)
HAZ-2: Project activities would result in Littlerock Dam safety or degradation issues	Class III	Class III	Class I	Yes	None
HAZ-3: Project activities would increase exposure of the public to Valley Fever	Class III	Class III	Class III	No	SPC AQ-2 (Fugitive Dust Controls)
HAZ-4: Project activities would expose the public to unsafe levels of mercury in fish caught for human consumption	Class III	Class III	No Impact	Yes	None
HAZ-5: Project activities would result in unsafe highway conditions or increase the frequency of traffic accidents	Class III	Class III	Class III	No	SPC TRA-1 (Prepare Traffic Control Plan)

Notes:

1 - Indicates whether this impact is applicable to National Forest System lands.