

Draft Environmental Assessment

Los Alamos County  
Reservoir Road Project  
HMGP-DR-4199-NM Project #26

Los Alamos County, New Mexico

*August 2019*



**U.S. Department of Homeland Security**  
**Federal Emergency Management Agency**  
Region 6  
800 North Loop 288  
Denton, TX 76209

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## Acronyms

APE	area of potential effects
BA	biological assessment
BE	biological evaluation
BMP	best management practices
BOPA	beginning of project
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
dB	decibel
DOE	Department of Energy
EA	Environmental Assessment
EO	Executive Order
EOPA	end of project
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
HMGP	Hazard Mitigation Grant Program
LANL	Los Alamos National Laboratory
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMAC	New Mexico Administrative Code
NMCRIS	New Mexico Cultural Resource Information System
NMDHSEM	New Mexico Department of Homeland Security and Emergency Management
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMPIF	New Mexico Partners in Flight
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PIF	Partners in Flight
project	Reservoir Road Rehabilitation
SFNF	Santa Fe National Forest
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
the County	Los Alamos County
U.S.C.	United States Code
USACE	US Army Corps of Engineers
USEPA	US Environmental Protection Agency
USFS	US Forest Service

# 1. Introduction

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Los Alamos County (LAC or the County) has applied for and is eligible for funding under the Federal Emergency Management Act's (FEMA's) Hazardous Mitigation Grant Program (HGMP) in order to mitigate future flood damage to Reservoir Road in Los Alamos, Los Alamos County, New Mexico. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. This Environmental Assessment has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 Code of Federal Regulations Parts 1500-1508), and FEMA's procedures for implementing NEPA (FEMA Instruction 108-1-1). The purpose of this EA is to analyze the potential environmental impacts of the County's proposed Reservoir Road project. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact.

Reservoir Road is a relatively unimproved service road used as access for maintenance of the reservoir and for stocking fish in the reservoir by the New Mexico Department of Game and Fish (NMDGF). The road is closed to public vehicular traffic from the intersection with West Road but is used for pedestrian and bicycle access to Santa Fe National Forest (SFNF) trails above the reservoir. The construction of the Los Alamos Canyon Reservoir Non-Potable Water Line Installation Project was completed in May 2018. The 10-inch water line from the reservoir to Los Alamos supplies non-potable water for irrigation use by the County. The previous pipeline alignment was located within the channel and was destroyed by flooding following the Las Conchas Fire. The new water line is located within the Reservoir Road prism and is vulnerable to damage if the road is damaged by flooding. The proposed Improvements to Reservoir Road would protect the route for the water line as well as allow vehicular access to the reservoir for reservoir maintenance, water line maintenance, fish-stocking activities, and pedestrian and bicycle access to SFNF trails above the reservoir.

## 2. Purpose and Need

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Through the Hazard Mitigation Grant Program (HMGP), FEMA provides grants to states and local governments to implement long-term hazard mitigation measures. The purpose of HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (Public Law 93-288).

Two major wildland fires have burned through and around the Los Alamos Canyon area in Los Alamos County, New Mexico in the past 20 years—the Cerro Grande Fire in 2000 and the Las Conchas Fire in 2011. The loss of the natural vegetative cover caused by these fires combined with the region's steep terrain has resulted in numerous high-intensity high-velocity water runoffs through Los Alamos Canyon after seasonal monsoon rains and spring snowmelt. Reservoir Road has been damaged by the increased intensity and velocity these seasonal runoffs and needs repaired. In addition, the new purple pipe is located under Reservoir Road within the road's prism and is highly susceptible to being damaged or failing should a future flood scour the road prism and expose the pipe. Both the purple pipe and the road need better protection from scouring and other damage that is likely to occur during a flood event. The

purpose of the proposed action is to undertake the actions necessary to stabilize prism of Reservoir Road to better protect both the road and the purple pipe from damage and/or failure during a future flood event. The proposed action may also have a tertiary recreational benefit of providing a reliable pedestrian and bicycle route to access the reservoir and the Santa Fe National Forest above it.

## 3. Alternatives

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### 3.1 Alternative One: No Action

Under this alternative, no action would be taken to rehabilitate Reservoir Road. Flood waters flowing through Los Alamos Canyon would likely continue to damage Reservoir Road and the newly constructed water pipeline. If the road is further damaged, maintenance crews would not be able to safely access the reservoir and pipeline and NMDGF would not be able to safely stock it. While closed to public motorized vehicular access, the road serves as pedestrian and bicycle access to the popular Los Alamos Canyon trail on the SFNF. If the road is further damaged, pedestrian and bicycle access to the SFNF would be limited and unsafe.

### 3.2 Alternative Two: Proposed Action

The County proposes to rehabilitate the road connecting Los Alamos Canyon Reservoir to West Road. The proposed project has been designed to protect the road and the underlying water pipeline from potential damage by runoff generated by a 100-year flood within Los Alamos Canyon.

The proposed project is located within Los Alamos County, approximately 100 feet from the southwestern corner of the town limits of Los Alamos, New Mexico. The project area is bounded on the west by Los Alamos County Reservoir (beginning of project area [BOPA], 35.8835, -106.3537) and on the east by West Road (end of project area [EOPA], 35.8803, -106.3310), occurring in the SFNF on lands administered by the US Forest Service (USFS) and within the limits of Los Alamos National Laboratory (LANL) on lands administered by the Department of Energy (DOE) (see Appendix A, Map A-1). Los Alamos County retains a 40-foot-wide easement for the road surface between the reservoir and West Road. The area surrounding the project is generally undeveloped.

Improvements to the road would span the entire length from the reservoir to the locked gate at West Road and would comprise four components (SFE 2018) (see Appendix A):

1. **Site preparation** – This would include appropriate signage to inform the public of the project and to warn drivers on West Road of construction activities and traffic-related issues, installation of temporary erosion control structures, and cleaning of an existing culvert. A staging area for equipment storage (1.2 acres) would be sited near the BOPA (see Appendix A, Map A-2). The road edge and the road embankment—from the reservoir to the West Road entrance gate—would be excavated and shaped to support installation of gabion and riprap slope protection (see Appendix A). All equipment, except chainsaws that would be refueled at the staging area or on Reservoir Road, would be refueled and maintained off-site. After completion of the project, the staging area would be revegetated to New Mexico Department of Transportation standards

(NMDOT 2014) with modifications provided by USFS (SFE 2018). This work would occur within the County’s road easement.

2. **Installation of approximately 3,964 feet of gabion retaining walls, 299 feet of riprap slope protection along the road, each built to NMDOT standards (NMDOT 2014), and a concrete low-water crossing located approximately 1,500 feet from BOPA and 1,100 feet from the EOPA (see Table 3-1; Appendix A; SFE 2018)** – The low-water crossing would be rebar-reinforced structural concrete with a compacted base, sloped to maintain downstream surface water flow. Construction of the low-water crossing would take approximately 30 days and would be completed by the end of June or initiated after September. If possible, construction of the low-water crossing would occur when the channel is clear of water. If not, water would be diverted during construction with a sandbag dam for water retention (less than 24 inches deep) upstream and pumped across the crossing. The dam would be removed, and water flow would be reestablished after construction has been completed. Installation of the gabion and riprap slope protection as well as the low-water crossing would occur within the 40-foot-wide road easement. Vegetation next to the road where gabion retaining walls and riprap slope protection would be installed would be cleared by hand. This work would occur within the County’s road easement.
3. **Vegetation clearing of fire and safety hazards where they occur along the road and where they cross the channel bottom** – Fallen trees that span the channel would be cut so that only the portion of the tree over the channel would be removed and the remainder of the tree would be left in place. Cut wood would be cleared from the channel by hand—no heavy equipment would be used. Standing dead trees that present a safety hazard would be removed and taken off-site by truck. This work would occur wherever the flow in the channel would be obstructed by fallen trees and would occur as needed within the County’s road easement.
4. **Restoring the road** – The road surface is currently 12 feet wide and is composed of compacted material that has been dredged from the reservoir. The existing surface would be graded and shaped along the edge and crowned with bar ditches to provide adequate drainage. This work would occur within the County’s road easement.

**Table 3-1. Footprint of Reservoir Road Rehabilitation Project Components**

<b>Improvement</b>	<b>Area (acres)</b>	<b>Existing Disturbance (acres)</b>	<b>New Disturbance (acres)</b>
Staging Area (temporary)	1.2	0	1.2
Gabion Retaining Wall	0.5	0	0.5
Riprap Slope Protection	0.1	0	0.1
Low Water Crossing	0.3	0.3	0
Road Restoration	2.0	2.0	0
<b>Total</b>	<b>4.1</b>	<b>2.3</b>	<b>1.8</b>

The total footprint of all permanent components of the project would be approximately 2.9 acres. Construction would begin in April 2020 and would continue through June 2020. The contractor responsible for construction would develop a Stormwater Pollution Prevention Plan (SWPPP) and obtain a stormwater Construction General Permit (CGP) from the U.S. Environmental Protection Agency

(USEPA) under the National Pollutant Discharge Elimination System (NPDES). Mitigation measures and proposed construction best management practices (BMPs) are listed in Table 4-6.

### **3.3 Alternatives Considered and Dismissed**

In addition to the No Action Alternative and the Proposed Action, the County considered four additional alternatives for the project.

For the first alternative, grading was initially considered within the channel to improve the efficiency of the channel and to restore the channel capacity in the more vulnerable stretches of Reservoir Road. This alternative was eliminated from further consideration because of the additional permitting requirements, cost, and potential impacts associated with mobilizing the equipment that would be required to perform the earthwork.

The second alternative involved installing a metal grate over the Los Alamos Canyon at the project's low-water crossing. This alternative was eliminated from further consideration because the US Army Corps of Engineers (USACE) generally considers these to be inappropriate for mountain sites (Allen 2018).

The third and fourth alternatives involved installing wooden-post vanes and rock and boulder vanes, respectively, in the channel to restore channel flows. The process of driving post vanes into the channel was problematic because of near surface rock. However, these options were eliminated from further consideration because of the additional permitting requirements, cost, and potential impacts associated with mobilizing the equipment that would be required to perform the earthwork.

## **4. Affected Environment and Potential Impacts**

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### **4.1 Physical Resources**

#### ***4.1.1 Geology, Soils, and Seismicity***

**Geology** – The proposed project is located in Los Alamos Canyon, one of the southeasterly-trending steep-sided canyons that characterize the Pajarito Plateau on the eastern slope of the Jemez Mountains in north-central New Mexico, in the western part of the Española Basin, one of several basins in the southerly-trending Rio Grande rift. The Jemez Mountains are the remnants of a massive volcano that became active approximately 16 million years ago. Volcanic eruptions approximately 8.5 and 1.5 million years ago deposited thick lava flows, surge ash, and fall ash, which together, with sedimentary deposits, formed the soils and distinct plateaus around the Jemez Mountains (Self et al. 1996). The geology of Los Alamos Canyon represents some of the most dramatic volcanic activity in the state, including exposures of lava flows and sequences of volcanoclastic sediments cut by subsequent erosion, runoff, and base flow (Kempter et al. 2002). The modern Los Alamos Canyon drainage likely developed along the contact of the Bandelier Tuff (rhyolite ash flow and falls, pumice and breccia, some welded), and alluvium derived from the Tschicoma Formation (latite, quartz latite, and pyroxene andesite flows; some tuffs) (Self et al. 1996). The highest cliffs along the north side of the canyon, at west end of the project area, comprise silicic to intermediate volcanic rocks of the more stable and less erodible Tschicoma Formation (NMBGMR 2017).

**Soils** – Within the project area, there are seven mapped soil types (NRCS 2017). The south-facing slopes are predominantly Vitrandic Udorthents-Rock outcrop complex, frigid, 25 to 120 percent slopes along the upper section of the canyon, Vitrandic Ustorthents, moderately deep-Rock outcrop complex, frigid, 40 to 120 percent slopes along the middle portion, and Rock outcrop and Totavi loamy sand, 0 to 5 percent slopes along the lower section. Starting from the west end of the project area, more than half of the north-facing slopes are underlain by Litag family, very cobbly sandy loam, 40 to 80 percent slopes. This is followed by a small section of Totavi-Jemez-Rock outcrop association, 0 to 15 percent slopes, while the lowest section of canyon is mainly Rock outcrop.

Soils in Los Alamos Canyon were affected by the Cerro Grande Fire in 2000 and the Las Conchas Fire in 2011. The Cerro Grande Fire burned approximately 64 percent of the drainage basin upstream of the dam and reservoir. Approximately 9.8 feet of sediment were deposited in Los Alamos Reservoir during the first year following the Cerro Grande fire, compared to about 0.7 feet in the prior 57 years (Malmon et al. 2007). Roughly 60 percent of the Los Alamos Canyon watershed experienced high to moderate intensity burns during the Las Conchas fire (McKenna 2016). Afterward, runoff from the burn area repeatedly inundated the reservoir and the canyon below the reservoir, depositing alluvium composed of a mixture of pumice, quartz, and ash. Alluvium dredged from the reservoir has been used to construct and repair Reservoir Road. These construction and repair efforts have resulted in a road surface that ranges from 0 to 24 inches above the channel bottom.

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (Public Law 97-98, December 22, 1981) with the purpose of minimizing the impact of federal programs on the permanent conversion, either directly or indirectly, of important farmland to non-agricultural uses (NRCS 2012). Based on soil characteristics data compiled by the Natural Resource Conservation Service (NRCS) National Cooperative Soil Survey Program, the FPPA designates farmland as prime, unique, statewide or locally important. No soils within the project area are designated as prime, unique, or statewide or locally important farm or forestland by the NRCS.

**Seismicity** – Several north-to-south trending faults related to the Pajarito fault zone cut across Los Alamos canyon (Kempton et al. 2002). The Pajarito fault zone has accumulated approximately 650 feet of down-to-the-east movement of the Tshirege Member of the Bandelier Tuff Formation, with the youngest seismic event occurring between 1500 and 2,500 years ago (McCalpin 2005). The national seismic hazard maps for the coterminous United States indicate that the proposed project is located within an area of moderate seismic hazard (Petersen et al. 2014).

### **Alternative One: No Action**

No adverse impacts to geology or seismicity would be anticipated with the No Action Alternative, since the project would not be implemented. However, without rehabilitation of Reservoir Road, soils in the road prism would continue to be eroded by floodwaters with the potential for substantial sediment transport down Los Alamos Canyon.

### **Alternative Two: Proposed Action**

Under the Proposed Action alternative, impacts to geology and seismicity are not anticipated.

Impacts to approximately 4.1 acres of soils within the project area could occur as part of the Proposed Action, which includes disturbance from excavation activity and soil compaction to construct improvements to Reservoir Road (Table 3-1). Proposed erosion and sediment control measures would include, but are not limited to, temporary berms and swales, silt fencing, sediment basins and traps, and erosion-control matting. The engineering specifications of the Proposed Action, including gabions, riprap slope protection, and stabilized low-water crossing, would result in long-term beneficial impacts after construction by reducing erosion and transport of soils and sediment from the road prism. The contractor would obtain permit coverage under the USEPA NPDES CGP and prepare and implement a SWPPP. The County would also coordinate with and obtain any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) and/or any Section 401 Water Quality Certification and any Section 402 NPDES Stormwater Runoff Permit from the State prior to initiating work. The County must comply with all conditions of the required permit(s) and certifications. With regard to the Section 404 permit, it is anticipated that proposed action would be covered under Nationwide Permit (NWP) 14 for activities required for the improvement of linear transportation projects. No long-term negative impacts to soils are expected under the Proposed Action.

#### ***4.1.2 Air Quality and Climate Change***

The Clean Air Act (CAA) has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants. These standards include maximum concentrations of sulfur dioxide (SO<sub>2</sub>), particulate matter with a diameter less than or equal to 10 micrometers (PM<sub>10</sub>) and 2.5 micrometers (PM<sub>2.5</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), and lead (Pb). The USEPA has designated specific areas as NAAQS attainment or non-attainment areas. Non-attainment areas are areas that do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the quality standard for a pollutant. States must meet the federal NAAQS limits, but they may also set limits less than the federal level, as well as list limits for other air pollutants not on the NAAQS list. The State of New Mexico has issued its own air quality limits for total suspended particles and sulfur compounds and lowered the federal limits for carbon monoxide and nitrogen dioxide under Title 20, Chapter 2, Part 3 of the State Environmental Protection laws to minimize greenhouse gasses associated with climate change. Based on these current federal and state air quality standards, the project area is in attainment (USEPA 2018, NMED 2018a).

#### **Alternative One: No Action**

No impacts to air quality or climate change would be anticipated with the No Action Alternative, since no construction would take place.

#### **Alternative Two: Proposed Action**

Rehabilitating Reservoir Road would result in short-term air quality impacts, primarily associated with particulates, volatile organics, nitrogen oxides (NO<sub>x</sub>), carbon dioxide (CO<sub>2</sub>), and CO. Dust control techniques, such as covering or treating disturbed areas with dust suppression techniques, sprinkling, and other dust abatement controls will be implemented during construction to minimize impacts. Vehicle running times on site will be kept to a minimum and engines will be properly maintained. During construction, the equipment used would include excavating machinery and chainsaws and trucks with

trailers to haul equipment and debris. This equipment would burn hydrocarbon fuels, which would result in a temporary incremental increase in greenhouse gas emissions. However, all machinery used will be properly maintained to limit the amount of greenhouse gas emissions that are emitted from vehicles and construction equipment. Air pollution from motorized construction equipment and dust dissemination would discontinue at the completion of the construction and reclamation of the project. No long-term negative impacts to air quality are expected under the Proposed Action.

## **4.2 Water Resources**

The project is located along Los Alamos Canyon, an ephemeral stream that drains into the Rio Grande above the Cochiti Reservoir. Los Alamos Canyon (U.S. Geological Survey Hydrologic Unit Code [HUC] 13020201) is within the Upper Rio Grande watershed. The Los Alamos Canyon drainage area upstream of West Road covers approximately 4,378 acres and is roughly 5 miles long from its upper basin limits on the eastern rim of Valles Caldera to the crossing at West Road. Surface water in Los Alamos Canyon occurs primarily as short-lived stream flows. The base flow in large part is the combined discharge of two small springs—one in Quemazon Canyon at an altitude of 8,660 feet, approximately 2.9 stream-miles from Los Alamos Reservoir, and the other in the main stem of Los Alamos Canyon, at an altitude of 8,000 feet, about 0.3 stream-mile upstream of the reservoir (Griggs 1964). This base flow is impounded in Los Alamos Canyon Reservoir, which was constructed in 1918 (DBSA 2017), before flowing downstream for a variable distance (depending on weather conditions) and then seeping into the subsurface. Snow melt in spring and periodic precipitation contribute the remainder of the surface water volume in Los Alamos Canyon; however, for most of the year, and for most of its length in the project area, Los Alamos Canyon is dry (Griggs 1964).

### ***4.2.1 Water Quality***

The natural geochemistry of the alluvial ground water and surface water in Los Alamos Canyon are largely determined by the local geology, which is primarily made up of the Bandelier Tuff and alluvium derived from the Tschicoma Formation (Self et al. 1996). Baseflow samples analyzed in the first pulses of runoff in Los Alamos Canyon after the 2000 Cerro Grande Fire were enriched in radionuclides from past atmospheric fallout and naturally occurring major and minor constituents and nutrients (Gallaher and Koch 2004). Concentrations of fire-related constituents declined progressively through the runoff seasons from 2000 through 2002 and were largely not evident in 2003 (Gallaher and Koch 2004). However, even by 2003, the fourth season after the fire, suspended sediment transport in downstream runoff remained about one order of magnitude higher than pre-fire conditions (Gallaher and Koch 2004). Water monitoring data in Los Alamos Canyon after the Las Conchas Fire in 2011 are not available.

The New Mexico Environment Department (NMED) is the regulatory agency responsible for compliance with water quality standards in New Mexico. The NMED's 2016 Integrated Report for CWA Sections 303(d) and 305(b) characterizes the quality of New Mexico's surface waters and identifies waters that do not meet the water quality standards and places them on the 303(d) list for the State (NMED 2016). The Los Alamos Canyon ephemeral stream that is within the project area is has not been assessed for its designated uses: livestock watering, marginal warm-water aquatic life, primary contact, and wildlife habitat (NMED 2018b).

## **Alternative One: No Action**

Under the No Action Alternative, there would be no direct impacts to water quality. There would be no temporary increase in sediment transfer downstream in Los Alamos Canyon as no construction activities would take place. Rehabilitation of the road would not be implemented. The road prism would continue to be eroded by floodwaters with the potential for continued sediment transport down Los Alamos Canyon. The existing road condition would continue to deteriorate creating unsafe travel conditions. The County would not be able to access the reservoir to maintain it.

## **Alternative Two: Proposed Action**

Direct impacts to the Los Alamos Canyon ephemeral stream from the Proposed Action would include the potential for sediment transport from construction of the low-water crossing and the installation of gabion structures during excavation of the road edge. The contractor responsible for construction would develop a Stormwater Pollution Prevention Plan (SWPPP) and obtain a stormwater Construction General Permit (CGP) from the U.S. Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES). Measures taken during site preparation, such as the installation of temporary erosion control structures, would protect water quality during earth-disturbing activities. Construction in the canyon channel would be initiated when the channel is dry. If a rainfall event should occur and water is present in the channel, water would be diverted during construction with a sandbag dam for water retention (less than 24 inches deep) upstream and pumped across the crossing. The dam would be removed, and water flow would be reestablished after construction has been completed. Tree removal activities are not expected to impact water quality as no work would be conducted in the channel except for dead and standing trees. Potential impacts could result from contaminants spilled or drained into water bodies. However, storage of fuel and refueling within 50 feet of the channel bottom would be prohibited. All equipment would be checked for leaks and repaired prior to entering the work area. Under the Proposed Action, stabilizing the drainage crossing and installing adequate road drainage features (e.g., crowning, ditching, road base) would reduce the potential for erosion over the long term. Removal of standing dead trees would make the road safer to travel. No long-term negative impacts to water quality are expected under the Proposed Action.

### ***4.2.2 Floodplains and Wetlands***

Executive Order 11988 (Floodplain Management) requires federal agencies to limit negative impacts from, but not limited to, construction activities resulting in the destruction or modification of an area designated as a 100-year floodplain, which is a base floodplain with a 1.0 percent chance of flooding in any given year. Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. Each federal agency must provide opportunity for public review of the Proposed Action. To satisfy the policy requirements set forth in EO 11988, EO 11990, FEMA published 44 CFR Part 9, which sets forth an Eight-Step Decision-Making Process to evaluate projects with the potential to affect wetland resources and areas within a designated 100-year floodplain.

This eight-step process is applied to the proposed Los Alamos County Reservoir Road Project. The proposed project area is within the 100-year floodplain of the Los Alamos Canyon Watershed.

***Step 1 Determine if the proposed action is located in the Base Floodplain and Wetland.***

The proposed project is within an area that is unmapped by FEMA. A floodplain assessment was performed by LANL for Reservoir Road in 2017 in anticipation of replacement of the water line—which is located within the road prism— from the Los Alamos Canyon Reservoir to the Town of Los Alamos. The LANL assessment (2017) and the construction plans for the proposed project (SFE 2018) indicate that the portion of Reservoir Road to be impacted by the proposed project lies mostly within the 100-year floodplain (see Appendix A). The proposed staging area is outside of the 100-year floodplain.

The reach of Los Alamos Canyon from the reservoir past the Diamond Drive bridge is classified as Freshwater Forested/Shrub Wetland by the U.S. Fish and Wildlife Services (USFWS) Wetlands Mapper, which is based on analysis of aerial imagery (USFWS 2017). In October 2017, Ecosphere Environmental Services, Inc. (Ecosphere) conducted a 100 percent pedestrian survey of the project area, investigating the presence of potential waters of the U.S. and special aquatic sites, including wetlands. The project area does not contain any perennial water sources, springs, or seeps. Surface water is present for brief periods (from a few days to a few weeks) during the growing season in Los Alamos Canyon, but the water table usually lies well below the ground surface for most of the season. Based on USACE wetland criteria that have specific hydrology, vegetation, and soil characteristic requirements, Ecosphere determined that no potential wetlands occur within the proposed project area, and therefore, wetlands have not been evaluated through the eight-step process.

***Step 2 Early public notice (Preliminary Notice)***

Two public council meetings with the County of Los Alamos (March 22, 2016 and June 6, 2017) and one public meeting with the County Utility Board (May 17, 2017) were held which discussed the proposed project. In accordance with 44 C.F.R. Part 9, para. 9.8(b)(2), the publication of this draft environmental assessment also services to fulfill the early public notice requirement.

***Step 3 Identify and evaluate alternatives to locating in the base floodplain and wetland.***

Two alternatives were identified and evaluated under the Environmental Assessment, the No Action alternative and the Proposed Action alternative.

The No Action Alternative would result in no modification of the floodplain and would result in no impacts to the floodplain beyond those created by the existing roadway itself. These effects include ongoing erosion of the existing road surface, sediment transport and deposition of road material into the Los Alamos Canyon channel, and the subsequent alteration of floodplain processes.

The Los Alamos Canyon is long and narrow and has steep cliffs that prevent relocating the Reservoir service road outside the canyon or the one-hundred year floodplain. Additionally, the pipe under the road relies on gradient flow through the canyon to deliver its water downstream. Therefore the proposed action, is contingent on the project being located within the one-hundred year floodplain, and there are no other practical action alternatives outside the floodplain.

***Step 4 Identify impacts of proposed action associated with occupancy or modification of the floodplain and wetland.***

Per 44 CFR 9.10 FEMA must consider whether the proposed action will result in an increase in the useful life of any structure or facility in question, maintain the investment at risk and exposure of lives to the flood hazard, or forego an opportunity to restore the natural and beneficial values served by floodplains or

wetlands. FEMA should specifically consider and evaluate impacts associated with modification of floodplains; additional impacts which may occur when certain types of actions may support subsequent action which have additional impacts of their own; adverse impacts of the proposed actions on lives and property and on natural and beneficial floodplain values; and these three categories of factors: flood hazard-related factors, natural values-related factors, and factors relevant to a proposed action's effects on the survival and quality of wetlands.

Per 44 CFR, natural values-related factors include, water resource values (natural moderation of floods, water quality maintenance, and ground water recharge); living resource values (fish and wildlife and biological productivity); cultural resource values (archaeological and historic sites, and open space recreation and green belts); and agricultural, aqua cultural and forestry resource values.

Direct impacts to the Los Alamos Canyon ephemeral stream from the Proposed Action would include the potential for sediment transport from construction of the low-water crossing and the installation of gabion structures during excavation of the road edge. Potential impacts could result from contaminants spilled or drained into water bodies.

The proposed ground disturbance within the floodplain that is not within the existing, elevated roadway is approximately 0.9 acre (gabions, riprap slopes, and low-water crossing; Table 3-1). Potential short-term impacts to the Los Alamos Canyon floodplain that could result from implementation of the proposed project include soil disturbance, sediment discharge, and limited vegetation loss during construction of the improvements to Reservoir Road. The proposed project would affect the Los Alamos Canyon floodplain in the long term by installing permanent structures and improvements to the existing road, which is mostly located within the floodplain, and by removing safety hazards along the road and within the channel bottom. Long-term impacts from the Proposed Action would result in a decrease in flood hazards, including decreased sediment transportation and deposition in the floodplain, a decrease in flood-caused damages to Reservoir Road and the water pipeline within the road prism, decreased cost of future repairs to Reservoir Road and other flood-related cleanup in Los Alamos Canyon, and an increased level of public safety.

***Step 5 Design or modify the proposed action to minimize threats to life and property and preserve its natural and beneficial floodplain and wetland values.***

The contractor responsible for construction would develop a Stormwater Pollution Prevention Plan (SWPPP) and obtain a stormwater Construction General Permit (CGP) from the U.S. Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES). Measures taken during site preparation, such as the installation of temporary erosion control structures, would protect water quality during earth-disturbing activities. Construction in the canyon channel would be initiated when the channel is dry. If a rainfall event should occur and water is present in the channel, water would be diverted during construction with a sandbag dam for water retention (less than 24 inches deep) upstream and pumped across the crossing. The dam would be removed, and water flow would be reestablished after construction has been completed. Tree removal activities are not expected to impact water quality as no work would be conducted in the channel except for dead and standing trees. Storage of fuel and refueling within 50 feet of the channel bottom would be prohibited. All equipment would be checked for leaks and repaired prior to entering the work area. Under the Proposed Action, stabilizing the drainage crossing and installing adequate road drainage features (e.g., crowning, ditching, road base)

would reduce the potential for erosion over the long term. Removal of standing dead trees would make the road safer to travel.

Temporary erosion and sediment control measures would serve to mitigate the impacts of sediments and erosion in the floodplain during construction. Any disturbed areas that are not within the stabilized footprint of gabions or riprap slopes would be revegetated.

The County will obtain coverage for the project by obtaining a USACE Nationwide Permit 14 – Linear Transportation Projects under Section 404 of the Clean Water Act. If it is determined the Nationwide Permit is not applicable to this project, the County will seek the appropriate Section 404 permit from USACE. The County will adhere to the conditions of the permit which seeks to minimize potential adverse impacts to the floodplains.

**Step 6 Re-evaluate the proposed action.**

No long-term negative impacts to the floodplain are expected under the Proposed Action. No impacts to lives or property associated with floodplain disturbance are anticipated. Alternatives consisting of locating the project outside the floodplain or taking “no action” are not practicable.

**Step 7 Final Notification**

For actions located in the floodplain and/or wetlands, Los Alamos County must issue a final public notice per 44 CFR Part 9.12(e) at least 15 days prior to the start of work. The final notice shall include the following: (1) A statement of why the proposed action must be located in an area affecting or affected by a floodplain or a wetland; (2) A description of all significant facts considered in making this determination; (3) A list of the alternatives considered; (4) A statement indicating whether the action conforms to applicable state and local floodplain protection standards; (5) A statement indicating how the action affects or is affected by the floodplain and/or wetland, and how mitigation is to be achieved; (6) Identification of the responsible official or organization for implementation and monitoring of the proposed action, and from whom further information can be obtained; and (7) A map of the area or a statement that such map is available for public inspection, including the location at which such map may be inspected and a telephone number to call for information.

**Step 8 Implement the action**

The proposed Los Alamos County Reservoir Road Project will be constructed in accordance with applicable floodplain development requirements, USACE permit conditions, and adhere to the grant conditions outlined this decision document and the Environmental Assessment.

## **4.3 Biological Resources**

This section provides an overview of the affected area and potential environmental effects of the No Action and Proposed Action Alternatives on special status species and wildlife within the project area. Ecosphere conducted a biological assessment and evaluation (BA/BE) of the proposed project area, *Biological Assessment and Evaluation, Los Alamos Canyon Road Rehabilitation Project* (Ecosphere 2018). The following sections summarize the information contained within that report.

### 4.3.1 Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species

Section 7 of the Endangered Species Act of 1973 (16 United States Code [U.S.C.] § 1536) requires federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of threatened, endangered, or proposed species or cause destruction or adverse modification of their critical habitats. There are six federally listed species that have the potential to occur in Los Alamos County. The project area is not within any designated or proposed USFWS critical habitat. Table 4-1 presents federally listed species with the potential to occur within the project area.

**Table 4-1. Federally Listed Species Potentially Occurring in Los Alamos County, New Mexico**

Species	Status	Analyzed in Detail	Determination of Effect
<b>Amphibians</b>			
Jemez Mountains salamander ( <i>Plethodon neomexicanus</i> )	Endangered	Yes	May affect, not likely to adversely affect
Jemez Mountains salamander	Designated Critical Habitat	No	No effect
<b>Birds</b>			
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	Threatened	Yes	May affect, not likely to adversely affect.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	Endangered	No	No effect
Yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	Threatened	No	No effect
<b>Plants</b>			
Zuni fleabane ( <i>Erigeron rhizomatus</i> )	Threatened	No	No effect
<b>Mammals</b>			
New Mexico meadow jumping mouse ( <i>Zapus hudsonius luteus</i> )	Endangered	No	No effect

Source: USFWS 2017a.

There are 45 additional special-status species that may occur in the Santa Fe National Forest and Los Alamos County, New Mexico. These special status species include:

- Animal species listed as endangered or threatened by the state of New Mexico.
- Plant species listed as endangered by the New Mexico Endangered Plant Species Act.
- Plant and animal species listed as sensitive in USFS Region 3.
- Management Indicator Species identified by the Santa Fe National Forest Management Plan, as amended.

After evaluating habitat characteristics in the project area, two federally listed species—the Mexican spotted owl (*Strix occidentalis lucida*) and the Jemez Mountains salamander (*Plethodon neomexicanus*)—and 10 additional special-status species were found to have potential habitat and thus may occur in the project area. Table 4-2 summarizes the evaluation of these species (Ecosphere 2018). USFWS provided concurrence with FEMA’s determination of “May Affect, Not Likely to Adversely Affect” for the Mexican spotted owl and Jemez Mountains salamander (USFWS 2019; Appendix C).

**Table 4-2. Status and analysis of effects of special status species with the potential to occur in Los Alamos Canyon**

<b>Common Name (Scientific Name)</b>	<b>Status*</b>	<b>Range or Habitat Requirements</b>	<b>Determination of Effect</b>
Jemez Mountains salamander ( <i>Plethodon neomexicanus</i> )	USFWS Endangered; designated critical habitat	Typically occur in or near permanent water sources with rooted, aquatic vegetation such as wet meadows, marshes, ponds, lakes, reservoirs, and slow-moving streams between 3,500 and 11,000 feet.	May affect, not likely to adversely affect
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	USFWS Threatened	Nests in caves, cliffs, or trees in steep-walled canyons of mixed conifer forests. Habitat consists of remote areas with high canopy closure and high stand diversity that is multilayered with large mature trees, downed logs, snags, and stand decadence, as indicated by the presence of mistletoe	May affect, not likely to adversely affect.
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	USFS Region 3 Sensitive Species; State of New Mexico Threatened Species	The breeding territories of peregrine falcons in New Mexico center on cliffs in wooded/forested habitats, with large "gulfs" of air nearby in which these predators can forage.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Gray vireo ( <i>Vireo vicinior</i> )	USFS Region 3 Sensitive Species; State of New Mexico Threatened Species	Found in mixed piñon-juniper, juniper sagebrush associations, and dry brushland with oak scrub woodlands.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Mourning dove ( <i>Zenaida macroura</i> )	Management Indicator Species	Management indicator for health mid and low elevation grasslands, woodlands, and ponderosa pine forest	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.

<b>Common Name (Scientific Name)</b>	<b>Status*</b>	<b>Range or Habitat Requirements</b>	<b>Determination of Effect</b>
Hairy woodpecker ( <i>Picoides villosus</i> )	Management Indicator Species	Management indicator for mature forest and woodland habitats, including ponderosa pine, mixed conifer, spruce-fir, aspen, and oak	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Spotted bat ( <i>Euderma maculatum</i> )	State of New Mexico Threatened Species	Preferred habitat is meadows in subalpine coniferous forest. Also recorded in a wide variety of habitats, from riparian, Great Basin Desert shrub, and piñon-juniper woodlands to ponderosa pine. Rocky cliffs are important for roosting. Permanent water sources are important for foraging.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Pale Townsend's big-eared bat ( <i>Corynorhinus townsendii pallescens</i> )	USFS Region 3 Sensitive Species	Occurs in a variety of habitats, including desert scrub, sagebrush, chaparral, deciduous and coniferous forests. Uses caves, rocky outcrops, abandoned mines or buildings for hibernacula.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Rocky Mountain elk ( <i>Cervus elaphus</i> )	Management Indicator Species	Management indicator for mid elevation (generally less than 9000 feet) grasslands meadows and forested areas	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Robust larkspur ( <i>Delphinium robustum</i> )	USFS Region 3 Sensitive Species	Occurs in Colfax, Rio Arriba, Sandoval, and Taos counties in New Mexico. Grows in canyon bottoms and aspen groves between 7,200 and 11,200 feet.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.
Springer's blazing star ( <i>Mentzelia springeri</i> )	USFS Region 3 Sensitive Species	Occurs in Los Alamos, Sandoval, and Santa Fe Counties in the Jemez Mountains. Found on volcanic pumice and unconsolidated pyroclastic ash in pinon-juniper woodlands and lower montane conifer forest between 7,050 and 8,050 feet.	May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability.

### **Alternative One: No Action**

Under the No Action alternative, the proposed project would not be implemented. Thus, there would be no impacts to special status species or their habitat.

## **Alternative Two: Proposed Action**

### **Jemez Mountains Salamander**

Design features within the proposed action would reduce direct and indirect impacts to the Jemez Mountains salamander within the project area. The project would commence outside of the active season for this species; therefore, impacts due to construction activity such as ground vibration and noise would be avoided. Impacts to the Jemez Mountains salamander from construction noise would be discountable, because it is highly unlikely that salamanders would be active during the construction period.

Direct impacts to Jemez Mountain salamander due to the loss of habitat would be minimized or avoided as a result of design features in the proposed action. Construction areas have been reduced in size to the smallest area practicable and have been placed outside, when possible, of the eastern third of the project area, where there is suitable habitat for this species. Large downed woody debris that does not span the creek would be left in place. Construction crews would also leave rocks and other salamander cover objects in place. Dewatering of the Los Alamos Canyon would not be necessary to construct the low-water crossing; therefore, Jemez mountains salamander habitat would not be inundated as a result of the proposed action. Larger trees with canopy cover would be left in place to provide shade. The proposed project would result in the permanent new disturbance of 0.2 acre of potential habitat, located adjacent to the Reservoir Road. A construction monitor approved by the USFWS would be present during construction. With these measures, impacts to the Jemez Mountain salamander due to alteration of habitat would be insignificant.

Construction materials used to build rip-rap structures, the concrete low water crossing, and gabion structures would be locally-sourced. Materials and machinery used during construction would be cleaned to avoid introduction of pathogens that may impact Jemez Mountain salamanders.

### **Mexican spotted owl**

The proposed project may affect, but it not likely to adversely affect Mexican spotted owls. The project would result in the permanent removal of approximately 0.8 acre of dispersal or foraging habitat located immediately adjacent to the Reservoir Road. These areas are not likely to support prey for this species due to its proximity to existing and ongoing disturbance on the road. The loss of marginal prey habitat would result in insignificant impacts to the Mexican spotted owl given the small size of the habitat loss and its marginal quality.

The removal of dead standing trees may result in the loss of perching opportunities for this species in foraging habitat; however, only dead standing trees within the 40-foot road easement would be removed. When compared to the number of perches within the Los Alamos Canyon, the loss of perches on dead trees within the easement would result in insignificant impacts to Mexican spotted owls.

The proposed project is scheduled to be completed between April and August of 2020. Project activities would be limited to daylight hours, when owls are not active. It is highly unlikely that foraging owls would be present in the project area during construction activities. Owl dispersal from natal territories would likely occur in September through March. No construction activities are scheduled to occur during this time. Noise impacts from construction would not be expected to extend into nesting or roosting areas

in the action area. For these reasons, impacts from construction activity and noise to the Mexican spotted owl are expected to be discountable.

### **American peregrine falcon**

The proposed project would not result in the loss of roosting or nesting habitat for this species. Direct impacts to this species may result in the avoidance of the project area during construction activities due to increased human activity and construction noise. These impacts would be limited to the duration of construction activities

### **Gray vireo**

The proposed project would not result in the loss of oak scrub within the project area. The removal of standing dead trees may result in the loss of perching opportunities for this species. Dead trees would only be removed within the 40-foot road easement. When compared to the available perching opportunities for gray vireos within the Los Alamos Canyon, the loss of these trees would not result in a significant loss of perches for this species. Direct impacts to this species may result in the avoidance of the project area during construction activities due to increased human activity and construction noise. These impacts would be limited to the duration of construction activities.

### **Mourning dove**

The proposed project would involve the disturbance of up to 4.1 acres of mourning dove habitat (Table 3-1) consisting of post-fire grassy areas and woodlands, 1.2 acres of which would be reclaimed following construction. Permanent disturbance would result in the loss of 0.9 acre of habitat, which is adjacent to an existing road and minimal when compared to available habitat on the forest. The project would take place during the late spring and summer, which would coincide with the nesting season for this species. A pre-construction nesting bird survey is recommended to avoid impacts to individual nesting mourning doves. This species may avoid the project or action area during construction due to increased noise or human disturbance. These impacts would be limited to the duration of construction. The proposed project may impact individual mourning doves but would not contribute to a trend toward long-term loss of habitat or viability of the population forest-wide.

### **Hairy woodpecker**

The proposed project would involve the disturbance of up to 4.1 acres of hairy woodpecker habitat (Table 3-1) consisting of post-fire grassy areas and woodlands, 1.2 acres of which would be reclaimed following construction. Permanent disturbance would result in the loss of 0.9 acre of habitat, which is adjacent to an existing road and minimal when compared to available habitat on the forest. Additionally, hazard snags would be removed within the project area, which would result in the loss of foraging and nesting habitat for this species. Design features for the project, including leaving downed woody debris and reducing the number of snags removed to the extent practicable would minimize impacts to this species. The project would take place during the late spring and summer, which would coincide with the nesting season for this species. A pre-construction nesting bird survey is recommended to avoid impacts to individual nesting hairy woodpeckers. This species may avoid the project or action area during construction due to increased noise or human disturbance. These impacts would be limited to the duration of construction.

The proposed project may impact individual hairy woodpeckers but would not contribute to a trend toward long-term loss of habitat or viability of the population forest-wide.

### **Spotted bat**

The proposed project would not result in the loss of roosting or foraging habitat for this species. Direct impacts to this species may result from disturbance due to increased human activity and construction noise. No construction activities are planned during night time, when this species would be most active and foraging within the project area. Impacts would be limited to the duration of construction.

### **Pale Townsend's big-eared bat**

The proposed project would not result in the loss of roosting or foraging habitat for this species. Direct impacts to this species may result from disturbance due to increased human activity and construction noise. No construction activities are planned during night time, when this species would be most active and foraging within the project area. Impacts would be limited to the duration of construction.

### **Rocky mountain elk**

The proposed project would involve the disturbance of up to 4.1 acres of elk habitat (Table 3-1) consisting of post-fire grassy areas and woodlands, 1.2 acres of which would be reclaimed following construction. Permanent disturbance would result in the loss of 0.9 acre of habitat, which is adjacent to an existing road and minimal when compared to available habitat on the forest. The project would take place during the late spring and summer, which is not during critical winter or calving seasons. This species may avoid the project or action area during construction due to increased noise or human disturbance. These impacts would be limited to the duration of construction. The proposed project may impact individual elk but would not contribute to a trend toward long-term loss of habitat or viability of the population forest-wide.

### **Robust larkspur**

Impacts to this species include the potential for direct mortality of individuals and modification of habitat as a result of the surface disturbance of up to 4.1 acres within the action area. Impacts also include the permanent loss of up to 0.8 acre of potential habitat for this species. The proposed action may impact individuals of this species but would not result in loss of population viability or cause a trend to federal listing or a loss of species viability range-wide.

### **Springer's blazing star**

Impacts to this species include the potential for direct mortality of individuals and modification of habitat as a result of the surface disturbance of up to 4.1 acres within the action area. Impacts also include the permanent loss of up to 0.8 acre of potential habitat for this species. The proposed action may impact individuals of this species but would not result in loss of population viability or cause a trend to federal listing or a loss of species viability range-wide.

### 4.3.2 Additional Wildlife

The Migratory Bird Treaty Act protects a variety of bird species. Data collected through breeding bird surveys coordinated by the USFWS as well as other private sector efforts have provided the basis for the Partners in Flight (PIF) organization to develop bird *Watch Lists* and the USFWS’s *Birds of Conservation Concern*. The project area contains high riparian habitat dominated by grasses and stringers of willows and is surrounded by ponderosa and mixed conifer woodlands that have been recently burned. The project and action areas are located in three potential habitat types as designated within the New Mexico PIF Conservation: ponderosa forest, mixed conifer, and montane riparian (NMPIF 2007).

According to NMPIF 2007, birds listed as a conservation priority by the NMPIF that may occur in the project area are listed in Table 4-1:

**Table 4-3. Birds listed as a Conservation Priority by the NMPIF**

Common Name (Scientific Name)	
Blue (dusky) grouse ( <i>Dendragapus obscurus</i> )	Plumbeous vireo ( <i>Vireo plumbeus</i> )
Band-tailed pigeon ( <i>Patagioenas fasciata</i> )	Warbling vireo ( <i>Vireo gilvus</i> )
Northern pygmy owl ( <i>Glaucidium gnoma</i> )	Western bluebird ( <i>Sialia mexicana</i> )
Virginia’s warbler ( <i>Oreothlypis virginiae</i> )	Mountain bluebird ( <i>Sialia currucoides</i> )
Olive-sided flycatcher ( <i>Contopus cooperi</i> )	

#### Alternative One: No Action

Under the No Action alternative, the proposed project would not be implemented. Thus, there would be no impacts to migratory birds or their habitat.

#### Alternative Two: Proposed Action

The proposed project would involve the disturbance of up to 4.1 acres of migratory bird habitat (Table 3-1) consisting of post-fire grassy areas and woodlands. 1.2 acres would be reclaimed following construction. Permanent disturbance would result in the loss of 0.9 acre of habitat, which is adjacent to an existing road and minimal when compared to available habitat in the surrounding landscape. Additionally, hazard snags would be removed within the project area, which would result in the loss of foraging and nesting habitat for migratory birds that may use them for nesting, perching, or foraging. Design features for the project, including leaving downed woody debris and reducing the number of snags removed to the extent practicable would minimize impacts. The project would take place during the late spring and summer, which would coincide with the nesting season for many migratory birds. A pre-construction nesting bird survey would be performed to avoid impacts to nesting birds. Migratory birds may avoid the

project or action area during construction due to increased noise or human disturbance. These impacts would be limited to the duration of construction.

## **4.4 Cultural Resources**

### ***4.4.1 Historic Properties and Proposed Action American Indian/Native Hawaiian/Native Alaskan Cultural/Religious Sites***

Section 106 of the National Historic Preservation Act (NHPA) requires that activities occurring on federal lands, or those that require federal permits or use federal funds, undergo a review process to consider cultural resources that are or may be eligible for listing in the National Register of Historic Places (NRHP). A search of the New Mexico Cultural Resource Information System (NMCRIS) online database was conducted prior to the beginning of fieldwork, and the SFNF was consulted to determine an adequate level of effort for the investigation. Based on preliminary consultation with project engineers, the area of potential effects (APE) for cultural resources was defined very broadly at an early stage in the design process to encompass nearly the entire canyon floor, including the entire floodplain. A records search revealed that two previously documented cultural resources intersect with the APE as defined: (1) the historic dam to the reservoir at the western end of the project area (LA 90538) and (2) a large archaeological site at the eastern end of the project corridor that lacks information in the database (LA 155814).

Okun Consulting Solutions completed a 100 percent (Class III) cultural resource survey of the Los Alamos Canyon Reservoir to West Road project area on February 8, 2018. The survey area ranged from 100 to 200 feet in total width and encompassed approximately 20 acres. The survey was conducted in accordance with all applicable rules, regulations, and agency guidelines, including Section 106 of the NHPA and its implementing regulations (36 CFR Part 800), the New Mexico Cultural Properties Protection Act (18-6A-1 through 18-6A-6 New Mexico Statutes Annotated 1978), the New Mexico Administrative Code (NMAC), and the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation.

Based on preliminary consultation with Santa Fe Forest Heritage Resource Program Manager Michael Bremer, LA 90538 has been previously determined not eligible for listing on the NRHP and did not require an update. LA 155814 could not be relocated during pedestrian survey and has either been entirely destroyed or is incorrectly plotted in the NMCRIS database. It also could not be relocated during a recent investigation. No other archaeological sites, historic buildings/structures, historic districts, isolated occurrences, or cultural resources of any kind were discovered during pedestrian survey of the APE (Okun Consulting Solutions 2018).

As part of the Section 106 formal government to government consultation process, FEMA submitted the Cultural Resources Survey Report for the Los Alamos County Reservoir Road Project to the State Historic Preservation Office (SHPO). On February 29, 2019, FEMA received concurrence from the New Mexico State Historic Preservation Officer that no historic properties would be affected by the Proposed Action (Pappas 2019, Appendix B).

The NHPA requires that federal agencies consult with tribal groups with a designate interest in their action as consulting parties to the Section 106 process, whether or not the undertakings are on tribal lands. The Proposed Action would not be implemented on any tribal lands; however, the following tribes have a designated interest in the project area, and thus were consulted with in the formal government to government consultation process: the Comanche Nation, Navajo Nation, Pueblo of Cochiti, Pueblo of Jemez, Ohkay Owingeh (a.k.a. San Juan Pueblo), Pueblo of San Ildefonso, Pueblo of Santa Clara, Pueblo of Tesuque, and the Hopi Tribe.

FEMA received a reply from the Director Rights Protection/Tribal Historic Preservation Officer (THPO) and from the Governor of the Santa Clara Pueblo on February 20, 2019 indicating that the Proposed Action will not affect properties with cultural, religious, or historical importance to the Santa Clara Pueblo (Chavarria and Chavarria, 2019, Appendix B).

### **Alternative One: No Action**

The No Action Alternative would have no impacts to historic properties.

### **Alternative Two: Proposed Action**

Due to the lack of findings in the literature and during the pedestrian survey, no impacts to historic properties are anticipated as a result of the Proposed Action. FEMA received concurrence from the New Mexico State Historic Preservation Officer that no historic properties would be affected by the Proposed Action, and Santa Clara Pueblo indicated that that the Proposed Action will not affect properties with cultural, religious, or historical importance to the Santa Clara Pueblo. In accordance with Section 106 of the NHPA and the New Mexico Cultural Properties Act (Article 18, Section 6, Subsection 11.2 (18-6-11.2), NMSA 1978, all land altering activities will be confined to the assigned project area. In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project shall be halted and the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured and access to the sensitive area restricted. If unmarked graves or human remains are present on private or state land, compliance with the New Mexico Cultural Properties Act (Article 18, Section 6, Subsection 11.2 (18-6-11.2), NMSA 1978, also known as the Unmarked Burial Statute is required. The New Mexico Department of Homeland Security and Emergency Management (NMDHSEM) will require the applicant to stop work immediately in the vicinity of the discovery. NMDHSEM will immediately notify FEMA and law enforcement agencies of the discovery, which shall notify the Office of the Medical Investigator (OMI) and the SHPO. OMI shall evaluate the remains for medicolegal significance with minimal disturbance of the remains. OMI will terminate the discovery of any non-medicolegal human remains to the SHPO, who shall proceed pursuant to the Unmarked Burial Statute and its implementing regulations found at 4.10.11 NMAC. For any questions for human remains on state or private land, contact State Archeologist, Bob Estes, (505) 827-4225, Fax (505) 827-6338, bob.estes@state.nm.us.

## 4.5 Socioeconomic Resources

### 4.5.1 Socioeconomics and Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and Council on Environmental Quality (CEQ) guidance (CEQ 1997), and states that demographic information should be used to determine whether minority and/or low-income populations that are present within the proposed project area could be disproportionately affected by the Proposed Action.

Socioeconomic data from the U.S. Census Bureau (2016a and 2016b) were reviewed to characterize economic and demographic information about the project area.

Based on the U.S. Census Bureau’s estimates, the total population for Los Alamos County in 2016 was 17,895. Table 4-4 compares Los Alamos County and state of New Mexico population and income statistics. The U.S. Census Bureau poverty threshold for a family of four (two adults and two children) in 2015 was \$24,036 (U.S. Census Bureau 2016a). The median household in Los Alamos County between 2012 and 2016 was \$105,902, which is significantly higher than the state of New Mexico median household income and significantly higher than the United States average, which was \$45,674 (U.S. Census Bureau 2016a).

**Table 4-4. Population Data for Los Alamos County and New Mexico, 2016 Estimates**

Statistic	Los Alamos County	New Mexico
Total Population	17,895	2,088,070
Median Age (years)	43.5	37.2
Median Household Income	\$105,902	\$45,674
Persons in Poverty	4%	19.8%

CEQ (1997) defines the term “minority” as persons from any of the following groups: black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. Table 4-5 provides the racial and ethnic composition in Los Alamos County, which is predominantly white (U.S. Census Bureau 2016b).

**Table 4-5. Minority Data for Los Alamos County and New Mexico, 2016 Estimates**

Race and Ethnicity	Los Alamos County	New Mexico
White	86.5%	73.5%
African American	0.5%	2.0%
Native American	1.3%	9.3%
Asian	5.9%	1.4%
Native Hawaiian and other Pacific Islander	0.1%	0.1%
Two or more races	2.4%	3.3%
Hispanic Ethnicity (any race)	16.8%	47.8%

### **Alternative One: No Action**

Impacts to the economics of Los Alamos County residents associated with the No Action Alternative include a continued risk of damage to County property and infrastructure due to flooding, with the potential for ongoing economic impacts derived from the cost of repairs.

### **Alternative Two: Proposed Action**

The Proposed Action Alternative would have a beneficial effect on the population that lives and works in the area, including low-income and minority populations, by limiting the economic impact of damaging flood events. There would be no disproportionate impacts to minority and low-income populations.

#### ***4.5.2 Noise***

Sounds that disrupt normal activities or that otherwise decrease the quality of the environment are designated as noise. Noise is a form of sound caused by pressure variations that the human ear can detect and is often defined as unwanted sound. Typical sources of noise in residential areas include local roadway traffic, aircraft, and neighborhood sources like lawnmowers, leaf blowers, etc. The unit used to describe the intensity of sound is the decibel (dB). Audible sounds range from 0 dB ("threshold of hearing") to about 140 dB ("threshold of pain") (OSHA 2013). For example, conversational speech is measured at about 55 to 60 dB whereas a band playing loud music may be as high as 110 dBA.

Existing sources of noise in Los Alamos Canyon include weather noise, such as wind, rain, and thunder, and transportation noise from the occasional vehicle used to access the road or reservoir for monitoring or maintenance.

### **Alternative One: No Action**

No noise impacts would be anticipated with the No Action Alternative, since the project would not be implemented.

### **Alternative Two: Proposed Action**

Noise levels within the project area are expected to temporarily increase due to construction activities associated with the Proposed Action (100 dB), including material transport by heavy trucks, as well as from chainsaws used to remove dead standing and fallen trees (92 to 112 dB) (OSHA 2013). Noise associated with the operation of the construction equipment would be limited to the construction period—approximately 18 weeks. To minimize the disturbances created by increased noise levels, all vehicles and construction equipment would be fitted with noise reduction devices, such as mufflers, and construction activities would be limited to daytime hours.

#### ***4.5.3 Traffic***

Access to Reservoir Road by the public is prohibited and is prevented by a locked gate. The project area is adjacent to West Road. There are no quantitative traffic data available for West Road, but it experiences limited use primarily as access from the Town of Los Alamos across Los Alamos Canyon to

Camp May Road and to Reservoir Road for maintenance and monitoring activities. Camp May Road dead-ends at Camp May, a County-operated recreational facility that is open during the summer, and the Pajarito Ski area. Daily traffic is typically light; however, there are periods of about 30 minutes to 1 hour during the morning and evening commute and at lunch when traffic increases to 10-12 cars per minute on average (Mosely 2018).

### **Alternative One: No Action**

Impacts associated with the No Action Alternative include ongoing erosion of the existing Reservoir Road surface and the subsequent risk of damage to Reservoir Road that would limit access or present a safety hazard to vehicles that use the road for maintenance and monitoring activities. Sediment transport and deposition of road material in the Los Alamos Canyon channel could reach West Road during a flood event and result in the disruption in traffic flow due to road closures and cleanup activities, and the cost of such mitigation efforts.

### **Alternative Two: Proposed Action**

Construction is expected to have a minor and temporary impact on traffic due the activity of construction vehicles and equipment and the transportation of road materials from offsite. Access to West Road, Camp May Road, and all properties in the area would be maintained during construction. No detours or road closures are expected; however, notification of detours and road closures would be made in advance to affected residents via a public service announcement in the Los Alamos Monitor. The traffic plan will incorporate appropriate signage to warn drivers of construction activities and traffic-related issues.

In the long term, the Proposed Action would benefit maintenance traffic on Reservoir Road by decreasing the safety hazard posed by the current state of the road. Additionally, erosion and the potential transport of sediment toward West Road would be decreased, which would reduce the potential of damage to West Road and subsequent disruption in traffic flow due to road closures and cleanup activities, and the cost of such mitigation efforts.

#### ***4.5.4 Public Service and Utilities***

The Los Alamos Canyon Reservoir has provided water to the Los Alamos County community since 1918 (DBSA 2017). More recently, the reservoir has been used to water parks and other public county spaces, but the Cerro Grande fire in 2000, Las Conchas fire in 2011, and subsequent flooding in 2012, 2013, and 2014 damaged the reservoir, dam, and the pipeline. The reservoir and dam were repaired, and the pipeline, which is located underground within the road prism, was replaced in early 2018, reconnected to the existing non-potable infrastructure, and the reservoir was brought back online.

### **Alternative One: No Action**

Impacts associated with the No Action Alternative include ongoing erosion of the existing Reservoir Road surface and the subsequent risk of damage to Reservoir Road and the pipeline contained within its footprint.

## **Alternative Two: Proposed Action**

The Proposed Action is not expected to impact the pipeline utility during construction activities. Coordination between Los Alamos County and the contractor retained to construct the project would be ongoing to minimize the risk of damaging the pipeline. In the long term, rehabilitation of Reservoir Road would prevent erosion that could damage the pipeline.

### ***4.5.5 Public Health and Safety***

Damage to Reservoir Road presents a safety concern to County maintenance and other permitted vehicles. Dead standing trees present a safety hazard to permitted vehicles and to bicyclists and pedestrians using Reservoir Road to access the Los Alamos Canyon Trail on the SFNF. Flash flooding could contribute sediment and debris to area waterways that can damage structures, roads, and utilities critical to the safety and well-being of citizens in and around the area.

## **Alternative One: No Action**

Adverse impacts to the public health and safety of Los Alamos under the No Action Alternative include the continued risk to public health and safety from the damaged Reservoir Road and safety hazards from dead, fallen or standing trees.

## **Alternative Two: Proposed Action**

Health and safety impacts of the Proposed Action include the risk of bodily injury to construction crews from the use of construction equipment and tools, including chainsaws, and hearing impairments from equipment noise at close range. The contractor retained to construct the project would ensure crew safety by properly training all crew members and requiring the use of personal protective equipment and maintaining all equipment in safe working condition.

Health and safety impacts also include increased traffic hazards on West Road from access to the project area by construction equipment and material transport vehicles. These impacts would be limited to the construction period—approximately 18 weeks. To mitigate this risk, the project includes installation of appropriate signage to inform the public of the project and to warn drivers on West Road of construction activities and traffic-related issues.

Under the Proposed Action, there would be beneficial impacts to public health and safety by reducing the safety hazard to County maintenance and other permitted vehicles on Reservoir Road. Removing dead standing and fallen trees would protect bicyclists and pedestrians accessing Los Alamos Canyon Trail. In general, the Proposed action would increase the safety and well-being of citizens in and around the project area.

## 4.6 Summary Table

Mitigation and BMPs are associated with the components of the Proposed Action outlined in Section 3.2 and the project conservation measures found in Section 3.2.2 of this EA. Table 4.6 summarizes the impacts and mitigations by resource.

**Table 4-6. Summary of Impacts and Mitigation**

Resource Area	Alternative 1: No Action	Alternative 2: Los Alamos County Reservoir Road Rehabilitation Project (Proposed Action)		
		Impacts	Agency Coordination/Permits	Mitigation/BMPs
Geology, Soils, and Seismicity	Continued erosion and transport of soils and sediment from the road prism	Temporary impacts to soils from construction activities. Long-term beneficial impacts to soils from proposed road improvements.	Coordination with USACE; Coverage under USACE NWP 14 (NMED-SWQB); Coverage under USEPA NPDES Storm Water Construction General Permit	<ul style="list-style-type: none"> <li>▪ Site preparation BMPs, including temporary erosion control structures including, but not limited to, temporary berms and swales, silt fencing, sediment basins and traps, and erosion-control matting. Revegetation of disturbed areas.</li> <li>▪ Stormwater Pollution Prevention Plan BMPs. Conditions of Construction General Permit.</li> </ul>
Air Quality and Climate Change	No impact	Temporary impacts during construction associated with equipment operation.	None anticipated	<ul style="list-style-type: none"> <li>▪ Dust suppression during construction if necessary and equipment maintenance offsite. Vehicle running times on site will be kept to a minimum.</li> </ul>

				Equipment will be properly maintained.
Water Quality	Continued erosion and transport of soils and sediment into the Los Alamos Canyon	Temporary impacts to water quality from construction activities. Long-term beneficial impacts to water quality from proposed road improvements.	Coordination with USACE and NMED-SWQB; Coverage under USACE NWP 14 (NMED-SWQB); Coverage under USEPA NPDES Storm Water Construction General Permit	<ul style="list-style-type: none"> <li>▪ Adherence to NWP 14 conditions</li> <li>▪ Stormwater Pollution Prevention Plan BMPs.</li> <li>▪ Conditions of Construction General Permit.</li> <li>▪ Site preparation BMPs, including temporary erosion control structures.</li> <li>▪ Revegetation of disturbed areas.</li> <li>▪ Conduct activities when Los Alamos Canyon is dry or divert water with a sandbag dam for water retention (less than 24 inches deep) upstream and pump retained water across the crossing. The dam would be removed, and water flow would be reestablished after construction has been completed.</li> <li>▪ Storage of fuel and refueling within 50 feet of the channel bottom would be prohibited.</li> <li>▪ Equipment will be properly maintained.</li> </ul>

				<ul style="list-style-type: none"> <li>▪ Permanent BMPs such as a low water crossing and gabion retaining walls.</li> </ul>
Floodplains and Wetlands	Ongoing erosion of the existing road surface, sediment transport and deposition of road material into the Los Alamos Canyon floodplain, and the subsequent alteration of floodplain processes	Temporary impacts associated with construction. Long-term beneficial impacts to the floodplains from proposed road improvements, including a decrease in flood-caused damage and an increase in public safety. No impacts to wetlands.	Coordination with FEMA	<ul style="list-style-type: none"> <li>▪ Site preparation BMPs, including temporary erosion control structures.</li> <li>▪ Revegetation of disturbed areas.</li> </ul>

Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>Jemez Mountains salamander</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat.	Coordination with USFS and USFWS	<ul style="list-style-type: none"> <li>▪ The project would commence outside of the active season for this species.</li> <li>▪ Construction areas reduced in size to the smallest area practicable and placed outside, when possible, of the eastern third of the project area, where there is suitable habitat for this species</li> <li>▪ Large downed woody debris that does not span the creek, rocks, and other salamander cover objects would be left in place.</li> <li>▪ Monitor approved by the USFWS would be present during construction.</li> <li>▪ Construction materials used to build rip-rap structures, the concrete low water crossing,</li> </ul>

				<p>and gabion structures would be locally-sourced.</p> <ul style="list-style-type: none"> <li>Materials and machinery used during construction would be cleaned to avoid introduction of pathogens that may impact Jemez Mountain salamanders.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>Mexican spotted owl</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat.	Coordination with USFS and USFWS	<ul style="list-style-type: none"> <li>Only dead standing trees within the 40-foot road easement would be removed.</li> <li>No construction activities would occur at night when owls are active.</li> <li>No construction activities would occur during owl dispersal from natal territories.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>American peregrine falcon</b>	No impact	Insignificant direct and indirect impacts due to increased human activity and construction noise.	Coordination with USFS	N/A
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>gray vireo</b>	No impact	Insignificant direct and indirect impacts due to increased human activity and construction noise.	Coordination with USFS	N/A
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>mourning dove</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat, increased human activity, and construction noise.	Coordination with USFS	<ul style="list-style-type: none"> <li>A pre-construction nesting bird survey is recommended to avoid impacts to individual nesting mourning doves.</li> </ul>

Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>hairy woodpecker</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat, increased human activity, and construction noise.	Coordination with USFS	<ul style="list-style-type: none"> <li>▪ Leave downed woody debris.</li> <li>▪ Minimize number of snags removed.</li> <li>▪ A pre-construction nesting bird survey would be performed to avoid impacts to nesting individuals.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>spotted bat</b>	No impact	Insignificant direct and indirect impacts due to increased human activity and construction noise.	Coordination with USFS	<ul style="list-style-type: none"> <li>▪ Limit construction to daylight hours.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>pale Townsend's big-eared bat</b>	No impact	Insignificant direct and indirect impacts due to increased human activity and construction noise.	Coordination with USFS	<ul style="list-style-type: none"> <li>▪ Limit construction to daylight hours.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>Rocky Mountain Elk</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat, increased human activity, and construction noise.	Coordination with USFS	<ul style="list-style-type: none"> <li>▪ Reclaim disturbed grassy areas and woodlands after construction.</li> <li>▪ Limit construction to late spring and summer to avoid critical winter or calving seasons.</li> </ul>
Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>robust larkspur</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat.	Coordination with USFS	N/A

Threatened and Endangered Species, Critical Habitat, and Additional Special Status Species – <b>Springer’s blazing star</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat.	Coordination with USFS	N/A
Additional Wildlife - <b>Birds listed as a conservation priority by the NMPIF</b>	No impact	Insignificant direct and indirect impacts due to alteration of habitat.	Coordination with USFS	<ul style="list-style-type: none"> <li>▪ Reclaim disturbed grassy areas and woodlands after construction.</li> <li>▪ Leave downed woody debris.</li> <li>▪ Minimize number of snags removed.</li> <li>▪ A pre-construction nesting bird survey would be performed to avoid impacts to nesting birds.</li> </ul>
Historic Properties and Native American Cultural and Religious Sites	No impact	None anticipated	Coordination with NM SHPO and USFS SNF Heritage Resource Program; NM SHPO Tribal Consultation List	<ul style="list-style-type: none"> <li>▪ Contractor training before construction.</li> <li>▪ Contact NM SHPO if cultural resources are encountered during construction.</li> <li>▪ Notify FEMA, State, and relevant tribes if cultural resources are encountered during construction</li> </ul>
Socioeconomics and Environmental Justice	Ongoing economic impacts derived from the cost of repairs; no disproportionate impacts to minority and low-income populations.	Long-term beneficial impacts from reduction in the economic impact of damaging flood events; no disproportionate impacts to minority and low-income populations.	None anticipated	N/A
Noise	No impact	Temporary increase in noise during construction and removal of dead standing and fallen trees.	None anticipated	<ul style="list-style-type: none"> <li>▪ Mufflers on equipment.</li> <li>▪ Conduct project activities during daylight hours.</li> </ul>

Traffic	Ongoing safety hazard to vehicles that use Reservoir Road and West Road	Temporary increase in traffic on Reservoir Road and West Road; Long-term beneficial impact to traffic from reduced safety hazards to Reservoir Road and West Road	Coordination with Los Alamos County; Traffic Plan	<ul style="list-style-type: none"> <li>▪ Notification of detours and road closures if necessary. Signage to warn drivers of construction activities and traffic-related issues.</li> </ul>
Public Service and Utilities	Adverse impacts to non-potable pipeline in Reservoir Road prism	Temporary impacts to pipeline from construction of improvements; long-term protection of pipeline	Coordination with Los Alamos County Water Utility	<ul style="list-style-type: none"> <li>▪ Coordination with Los Alamos County Water Utility to minimize risk to pipeline.</li> </ul>
Public Health and Safety	Ongoing safety hazard from current road conditions; safety hazards from dead fallen and standing trees	Temporary impacts from construction vehicle access on and off West Road. Long-term beneficial impacts from reduced safety hazards from road Reservoir Road conditions and dead standing and falling trees.	Coordination with Los Alamos County; Traffic Plan	<ul style="list-style-type: none"> <li>▪ Notification of detours and road closures if necessary.</li> <li>▪ Signage to warn drivers of construction activities and traffic-related issues.</li> </ul>

## 5. Cumulative Impacts

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Section 1508.7 of the CEQ regulations defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions.” Cumulative impacts are considered by placing seemingly isolated or insignificant direct and indirect effects of past, present, and foreseeable future projects in context with respect to overall impacts, both over time and in an area larger than that evaluated for direct and indirect effects. Cumulative effects are discussed in terms of being additive, synergistic, or reductive. In addition to the Proposed Action, the following past, present, and foreseeable future projects within the vicinity of the Los Alamos County Reservoir Road Rehabilitation project were included in the assessment of cumulative impacts:

- Ongoing maintenance and stocking of Los Alamos Reservoir

This work would result in temporary increased noise and air emissions. These impacts are not additive, synergistic, or reductive because the air emissions and noise levels would cease after maintenance and stocking activities are complete.

Cumulative effects from the Proposed Action will be long-term and will mitigate effects (stormwater flow and discharge of sediment) from significant rainfall events within Los Alamos Canyon.

## 6. Agency Coordination, Public Involvement, and Permits

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FEMA is the lead federal agency for conducting the NEPA compliance process for the proposed Road Rehabilitation Project. As the lead agency, FEMA expedites the preparation and review of NEPA documents, responds to the needs of residents surrounding the project area, meets the spirit and intent of NEPA, and complies with all NEPA provisions.

### 6.1 Agency Coordination

As part of preparing the EA, several local, state and federal agencies were consulted. Any comments or requests are identified within the EA under the applicable section. A list of the agencies consulted is included in Table 6-1.

**Table 6-1. Agency Coordination**

Agency	Contact
USFWS	Michelle Christman, Fish and Wildlife Biologist
USFWS	Susan (Mary) Pruitt, Fish and Wildlife Biologist
USACE	Kelly Allen, Regulatory Project Manager
USFS, SFNF, Española Ranger District	Sanford (Sandy) Hurlocker, District Ranger
USFS, SFNF, Heritage Resource Program	Michael Bremer, Archaeologist and Heritage Program Manager
LANL, Environmental Stewardship Group	Chuck Hathcock, Wildlife Biologist

Agency	Contact
NMDGF	Tony Jacobsen, Manager, Seven Springs Hatchery
NM Department of Homeland Security and Emergency Management	Chelsea Morganti, Mitigation Specialist
LAC Department of Public Utilities	Clay Mosely, Engineering Project Manager

## 6.2 Public Involvement

### 6.2.1 Public Notice

The public will be invited to comment on the proposed action and the Draft EA. A notice of availability to review the Draft EA will be posted in a local newspaper and on FEMA’s website <https://www.fema.gov/resource-document-library>. Additionally, the Draft EA will be made available for review for a period of 30 days at a local public facility.

### 6.2.2 Public Comments

FEMA will consider and respond to all public comments in the Final EA. If no substantive comments are received, the Draft EA will become final and a Finding of No Significant Impact will be issued for the project.

## 6.3 Permits

The agency coordination and permits that will be required under the Proposed Action are described below.

- **USEPA**– A SWPPP will need to be developed, and application for coverage under the NPDES Construction General Permit will need to be obtained prior to the start of construction.
- **USFWS**– Section 7 consultation between FEMA and USFWS was completed on June 4, 2019. FEMA submitted the Biological Assessment and Evaluation (Ecosphere 2018) and USFWS notified FEMA of concurrence with the conclusions of the BA/BE (USFWS 2019). See Appendix C.
- **USACE**– Application to the USACE for a Section 404 Nationwide Permit 14 will be made by the County.
- **SHPO** – Under Section 106 of the NHPA, FEMA initiated consultation with and submitted the Cultural Resources Survey Report for the Los Alamos County Reservoir Road Project to the State Historic Preservation Officer (SHPO). On February 29, 2019, FEMA received concurrence from the New Mexico State Historic Preservation Officer that no historic properties would be affected by the Proposed Action. See Appendix B.
- **THPO** - FEMA consulted with the Comanche Nation, Navajo Nation, Pueblo of Cochiti, Pueblo of Jemez, Ohkay Owingeh (a.k.a. San Juan Pueblo), Pueblo of San Ildefonso, Pueblo of Santa Clara, Pueblo of Tesuque, and the Hopi Tribe under Section 106 of the NHPA and submitted the Cultural Resources Survey Report for the Los Alamos County Reservoir Road Project to each of

these tribes. FEMA received a reply from the Director Rights Protection/Tribal Historic Preservation Officer (THPO) and from the Governor of the Santa Clara Pueblo on February 20, 2019 indicating that the Proposed Action will not affect properties with cultural, religious, or historical importance to the Santa Clara Pueblo. See Appendix B.

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## 8. List of Preparers

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This EA was prepared by Ecosphere Environmental Services, Inc. on behalf of FEMA and Los Alamos County.

Ecosphere staff involved in the preparation of the EA include:

- Jerusha Rawlings, Project Manager and Biologist
- Kylan Frye, Biologist
- Joey Herring, Senior Project Manager and Biologist
- Henry Colomb, GIS Specialist
- Cindy Lancaster, Technical Editor and Section 508 Specialist

FEMA staff involved in the preparation and review of the EA include:

- Kevin Jaynes, Regional Environmental Officer, FEMA Region 6
- Dorothy Cook, Senior Environmental Specialist, FEMA Region 6
- Sarah Carrino, Regional UFR Coordinator, FEMA Region 6