

**FINAL**  
**Environmental Assessment**  
**and**  
**Finding of No Significant Impact**  
**for**  
**Slope Stabilization at Trinidad Lake,**  
**Las Animas County, Colorado**

Prepared by

U.S. Army Corps of Engineers  
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**US Army Corps**  
**of Engineers®**  
**Albuquerque District**

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**Finding of No Significant Impact**  
**Slope Stabilization at Trinidad Lake,**  
**Las Animas County, Colorado**

The U.S. Army Corps of Engineers, Albuquerque District (Corps), proposes to stabilize eroding banks to protect historical property at Trinidad Lake, Las Animas County, Colorado. The Corps is undertaking the stabilization project under operations and management authority for the purpose of protecting cultural resources from damage.

If the stabilization project did not occur (No Action Alternative), cultural resource damage would result due to ongoing erosion on the steep slopes. This would not meet the project objectives of protecting cultural resources.

Alternatives considered for stabilization included various erosion protection materials: geotextile webbing filled with rock, rock rip-rap, or tied concrete block matting. The Preferred Alternative, tied concrete block matting, was selected due to its effectiveness in protecting against wave action, efficiency of installation, and lesser amount of rock required, which reduces both cost and disturbance.

This project is in compliance with the National Historic Preservation Act (54 U.S.C. 300101 *et seq.*). A memorandum of agreement between Colorado State Historic Protection Officer (SHPO) and the Corps has been executed to coordinate compliance of the planned project activities. This memorandum of agreement has been reviewed by SHPO and is currently awaiting signature by all parties.

The publicly accessible Environmental Assessment (EA) does not incorporate information which could disclose the location of sensitive historical properties. Tribes with an interest in the proposed project were provided the opportunity to comment on the full draft EA.

Work associated with the project would take place above the Ordinary High Water Mark of Trinidad Lake and no work would take place within Waters of the United States. Therefore, the project is not regulated under Section 404 of the Clean Water Act and Section 404(b)(1) analysis is not required.

The Corps has determined that the installation of the slope stabilization material will have no effect on threatened or endangered species or designated or proposed critical habitat receiving protection under the Endangered Species Act.

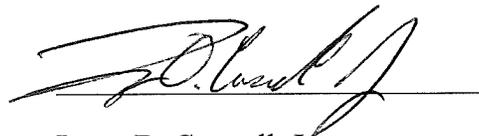
Best Management Practices that would be in place during construction to prevent environmental damage include:

- A Contaminant Prevention Plan and Spill Control Plan will be prepared for any potentially hazardous materials to be used;
- All equipment used at the site shall be inspected prior to being mobilized to the site and any equipment that is leaking or in disrepair shall be removed from the site immediately;
- Fuel, lubricants and oil would be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations;
- All equipment used in the Project shall be equipped with emission control devices to meet State and Federal standards;
- Disturbed soils and dirt or gravel roads that are close to recreation areas shall be kept wetted to suppress dust. Stockpiles of debris, soil, or other materials that could produce dust shall be watered or covered to minimize dust in recreation areas;
- An approved Burn Plan will be in place prior to any use of controlled burning to remove excess vegetation. Any burn would be conducted by a certified Burn Boss. Permits will be obtained and notifications provided to the local Fire Department and Sheriff's Department prior to any burning of vegetation;
- Waste water from construction activities shall not be allowed to enter waterways; and
- A Storm Water Pollution Prevention Plan will be prepared for the project and a Notice of Intent will be filed with the U.S. Environmental Protection Agency.

The proposed action has been fully coordinated with Federal and State agencies and Tribal governments with jurisdiction over the ecological and cultural resources of the project area. Based upon these factors, the proposed action would not have a significant effect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for the subject project.

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Date



Larry D. Caswell, Jr.  
Lieutenant Colonel, U.S. Army  
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**Appendix C:** Tribal Consultation Letters

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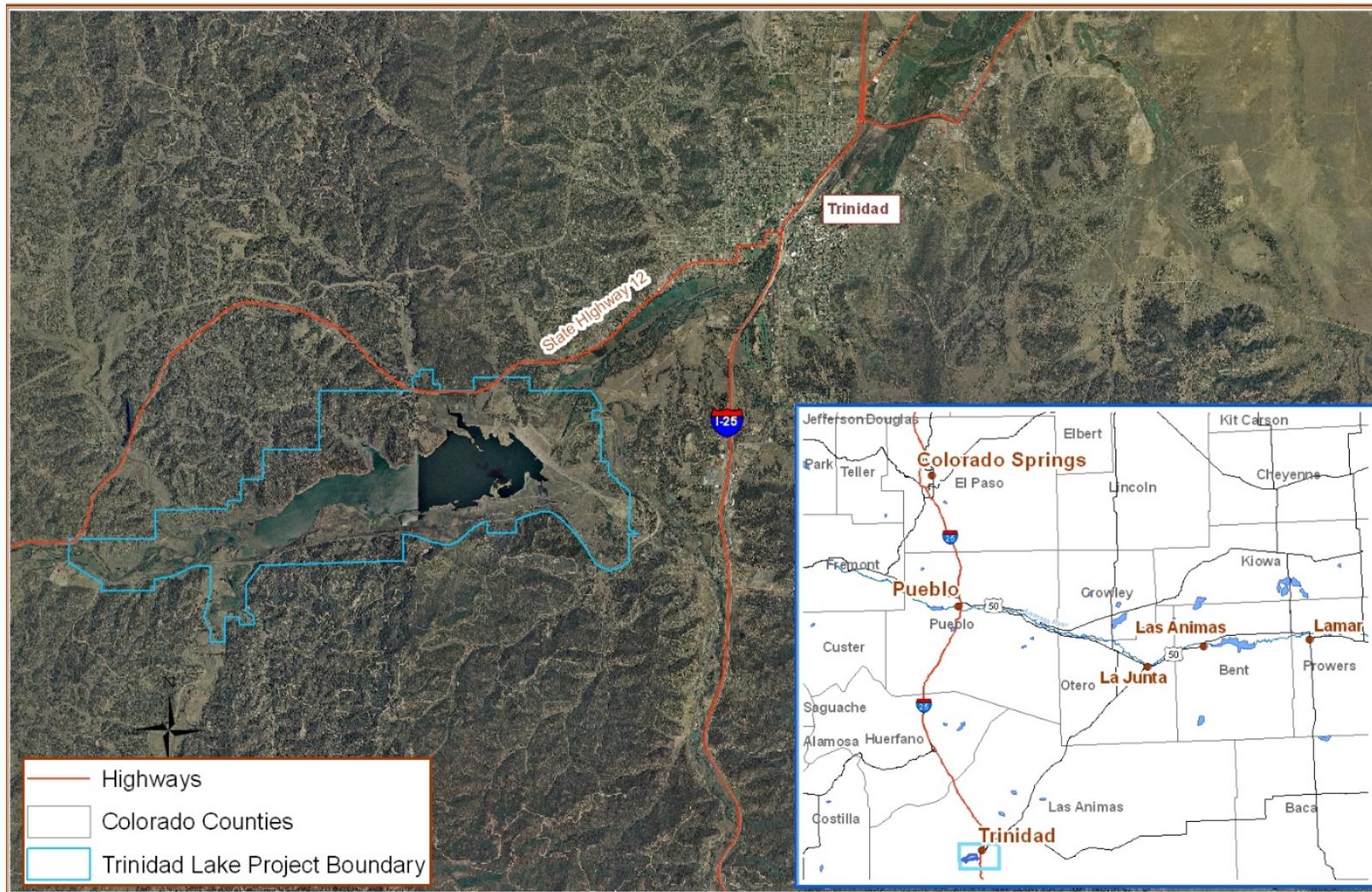
# **1 INTRODUCTION**

## **1.1 Background and Location**

This Environmental Assessment (EA) addresses impacts associated with slope stabilization at Trinidad Lake in Las Animas County, Colorado. The Trinidad Dam and Lake Project is operated and managed by the Albuquerque District of the U.S. Army Corps of Engineers (Corps) on Corps' fee-owned land. The proposed slope stabilization would be conducted under the Corps' Operations and Maintenance authority for the Trinidad Dam and Lake Project.

The lakeshore slope that would be stabilized includes remnants of an archaeological site. Due to the steep bank slopes, it has experienced continued damage from erosion. During periods of elevated reservoir storage, wave erosion has impacted the site, exposing cultural deposits. The proposed slope stabilization project would ensure that carrying out the authorized flood control and irrigation storage purposes of the Trinidad Dam and Lake Project does not adversely affect cultural resources.

Trinidad Dam and Lake Project is located three miles southwest of the town of Trinidad, Colorado (Map, Figure 1) in Township 33 South, Range 64 West, and it is shown on the USGS 7.5' Quadrangle Map Trinidad West, Colorado (37104-B5). The slope protection site is located west of the dam on the south shore of the reservoir. The Trinidad Lake Project was authorized under the Flood Control Act of 1958, Public Law 85-500, as amended. Construction of the dam was completed in 1977.



**Figure 1: Map showing general location of Trinidad Lake**

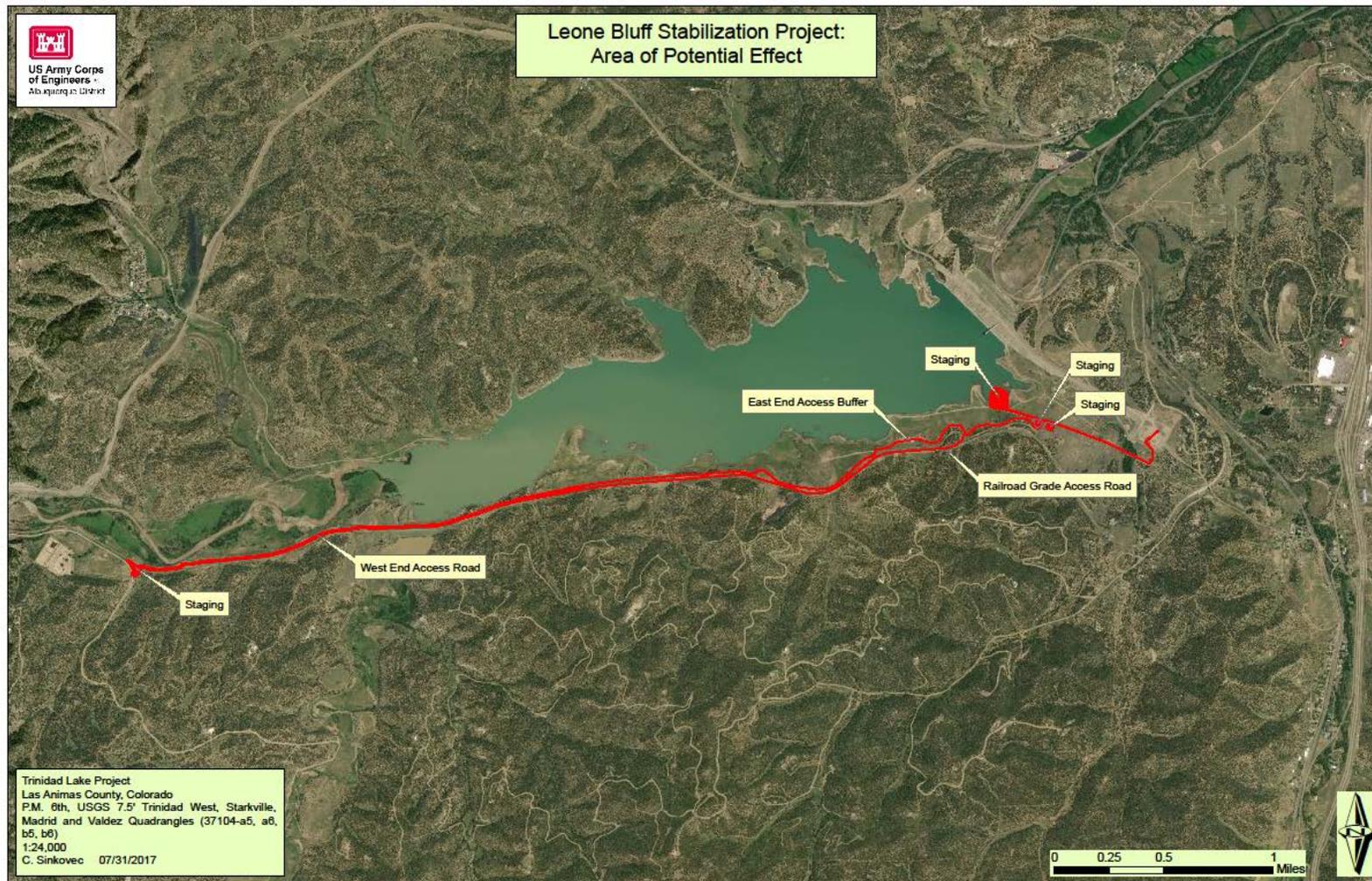


Figure 2: Map showing potential project site access and staging areas

## 1.2 Purpose and Need

Due to the steep bank slopes in the project area, an archaeological site has experienced continued damage from erosion from wave action during periods of elevated reservoir storage. The Corps gives consideration to projects to protect and preserve historic properties, such as the proposed project site. The proposed slope stabilization project would ensure that carrying out the authorized flood control and irrigation storage purposes of the Trinidad Dam Project does not further adversely affect cultural resources.

### 1.3 Regulatory Compliance

This Environmental Assessment (EA) was prepared by the Corps, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act (16 U.S.C. 470aa *et seq.*)
- Clean Water Act (33 U.S.C. 1251 *et seq.*)
- Clean Air Act (42 U.S.C. 7401 *et seq.*)
- Endangered Species Act (16 U.S.C. 1531 *et seq.*)
- Energy Independence and Security Act, P.L. 110-140, Section 438, 121 Stat. 1492, 1620
- Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*)
- Fish and Wildlife Coordination Act, 48 Stat. 401; 16 USC 661 *et. seq*
- Plant Protection Act (7 U.S.C 7701 *et seq.*)
- Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*)
- National Environmental Policy Act (42 U.S.C. 4321 *et seq.*)
- National Historic Preservation Act (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*)
- Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*)
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Part 1500 *et seq.*)
- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR Part 230; ER 200-2-2)
- Executive Order 11593, Protection and Enhancement of the Cultural Environment
- Executive Order 11988, Floodplain Management
- Executive Order 11990, Protection of Wetlands
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations
- Executive Order 13112, Invasive Species
- Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species
- Executive Order 13834, Efficient Federal Operations

This EA also reflects compliance with all applicable State and local regulations, statutes, policies, and standards for conserving the environment such as water and air quality, endangered plants and animals, and cultural resources.

## **2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action**

The project consists of slope stabilization around the remaining intact portion of the archaeological site, including capping the slopes with earthen fill and anchoring the fill using manmade erosion control matting. The purpose of the earthen fill placement is to stabilize the sides of the bluff and prevent further erosion from flooding events, thereby protecting the site's remaining cultural resources.

Access to the site would use an existing railroad grade and/or dirt roads. Either the east or west access would be selected for use. Temporary access roads would be constructed from the railroad grade out to the project site (1160 feet) and, if the east access is used, from the State Park road to the railroad grade (360 feet). Potential staging and stockpiling areas have been identified in previously disturbed sites including the old 1970s quarry (Figure 2). This former quarry would also serve as a borrow site for the earthen fill needed for the slope burial as discussed in paragraph 2.1.2 below

Construction of the proposed action would be accomplished through an Interagency Agreement with the Bureau of Land Management (BLM). Construction of the proposed action would begin in September 2018 and would continue for a duration of approximately four months.

#### **2.1.1 Site Preparation**

The site would be prepared by removing vegetation from the sides of the slope to a distance of about 30 feet. This may be done by hand or by controlled burning. Vegetation would not be removed from the intact portion of the archaeological site. Filter fabric would be placed against the exposed vertical banks and slopes below the intact portion of the site in order to keep introduced, culturally sterile fill material separate from existing archaeological features and deposits.

#### **2.1.2 Slope Burial**

The side slopes that are currently steeper than 1V:2H would be covered with culturally sterile earthen fill taken from nearby areas previously disturbed by construction of the dam. The new soil cover would be placed over the filter fabric and graded to 1V:2H to provide an adequate surface for placement of an erosion control mat that will protect the bluff from future erosive wave action. The area would be seeded before placing the erosion protection mat per manufacturer's instructions. The erosion protection, consisting of tied concrete block mat, would extend around the perimeter of the bluff outward from the top of the bluff at least 40' (Figure 3). This would protect all slopes of 1V:2H and, in addition, would protect the remaining cultural resources within the site. This erosion protection is intended to be a permanent solution to the erosion problem, but is removable should the need arise.



**Figure 3: Tied concrete block mat examples (photos courtesy of Flexamat.com)**

## 2.2 The No Action Alternative

Under the No Action Alternative, no slope stabilization would be installed. Without bank protection, the site would continue to experience normal erosion processes from water and wave action.

## 2.3 Alternatives Considered

Alternatives that were considered included:

- Geotextile webbing filled with rock
- Rock rip-rap
- Tied concrete block mat

Rock-filled geotextile would not be sufficiently durable to meet the project objective of protecting cultural resources in perpetuity. This alternative and the rip-rap alternative would provide less stability than the tied concrete block mat alternative. Both alternatives involving rock would entail hauling in large quantities of rock, for which there is no suitable local source. Therefore, these alternatives would involve more truck traffic and longer project duration than the tied concrete block mat alternative. Additionally, should the need for future archaeological investigation arise, the tied concrete block mat would be relatively easy to remove. Therefore, the alternatives involving rock were not analyzed further.

Various spatial extents of fill needed to protect the site were considered. The Proposed Action selected design balances adequate protection with minimal disturbance. The proposed aerial extent of slope protection was determined by the extent of archaeological deposits in the site. The extent of the necessary protective works were indicated by archaeological surveys, the topography of the existing site, and the areas of past wave action erosion around the perimeter of the site.

## 3 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS

The following general summary of the physical environment of Trinidad Lake is sufficient for the purposes of analyzing the impacts of the Proposed Action. Detailed information on the physical and biological environment of Trinidad Lake can be found in the Environmental Assessment and Finding of No Significant Impact for the Trinidad Lake State Park Fuels Management Project, Las Animas County, Colorado, AMEC Environment & Infrastructure, Inc. (2013) and USACE (1974).

### 3.1 Physical Environment, Geology, and Soils

#### 3.1.1 Geology

Trinidad Lake lies on the eastern flank of a broad subsidence known as the Raton Basin. The geological features of area include eroded sandstone and shale foothills dissected by several small canyons, and divided by the Purgatoire River Valley (Colorado State Parks, undated management plan). Geology underlying the site is the Upper Cretaceous Vermejo Formation,

consisting of dark gray silty and coaly shale, buff to gray carbonaceous siltstone, and sandstone beds; and coal (Johnson 1969). Neither the Proposed Action nor the No Action alternative would affect geology at the site or within the Trinidad Dam and Lake Project boundary.

### **3.1.2 Soils**

The NRCS Web Soil Survey (USDA NRCS 2018a) shows the Proposed Action area as water because it is within the reservoir conservation pool (elevation 6230 feet). Soils in the vicinity are predominantly Lorencito-Rombo-Sarcillo complex (LRT) with smaller areas of Capulin loam and Lorencito-Rombo-Trujillo complex (Figure 5). The soils that make up the LRT soil map unit are derived from slope alluvium and residuum weathered from shale and siltstone and are well drained, nonsaline to very slightly saline. The surface (A horizon) is loam, channery silty clay loam, or channery clay loam. These soils are not classified as prime farmland and do not support a unique or high quality ecological system.

Although the Proposed Action would affect soils on-site by covering them with fill and erosion protection material, this would be only a minor adverse effect. The No Action alternative would result in the adverse effect of continued erosion.



**Figure 4: Soil map**

## **3.2 Climate and Climate Change**

The climate of Las Animas County is semi-arid continental, with mild summer and cold winter temperatures. The average annual precipitation at the Trinidad climate station is 16.10 inches with 64 percent of this falling in May through September (USDA NRCS 2018b). Average annual precipitation at the Trinidad Lake station is 17.97 inches based on the 1981-2010 climate normal (Western Regional Climate Center 2018). The average temperature in winter is 31.9° F and in summer 68.2° F. Trinidad Lake experiences a strong southwestern wind flow in the spring and regional westerly winds are also common.

Climate change refers to any significant change in measures of climate lasting for an extended period such as decades or longer. “In the past 30 years, Colorado’s climate has become substantially warmer. The recent warming trend in Colorado is in step with regional and global warming that has been linked to increasing atmospheric concentrations of greenhouse gases. Annual precipitation, which has high natural variability, has not seen a statewide trend over that

period. However, some drought indicators have worsened due to the warmer temperatures.” (Lukas et al., 2014).

Colorado is expected to continue warming in the foreseeable future. Future precipitation may increase or decrease, although the risk of decreasing precipitation appears to be higher for the southern parts of the state. The future warming is projected to generally reduce Colorado’s spring snowpack, cause earlier snowmelt and runoff. Changes in the snowpack and in streamflow timing could affect reservoir operations, including flood control and storage. (Lukas et al., 2014).

Equipment used during construction of the slope stabilization project would emit greenhouse gases, but these emissions would be temporary and would not contribute to a measurable increase in regional greenhouse gas emissions. Therefore, the Proposed Action would have no effect on climate. The No-Action alternative would avoid construction and therefore would also have no effect on climate.

In a warming climate, extreme events like floods and droughts are likely to become more frequent (USEPA 2009). Increased frequency of severe weather events related to climate change may affect reservoir storage. The likely increased occurrence of extreme weather events make protecting the site all the more important.

### **3.3 Water Resources, Floodplains and Wetlands**

The area of the Proposed Action is within the conservation pool of Trinidad Lake but above the Ordinary High Water Mark (OHWM) of 6200.53 (NAVD88). All work associated with the Proposed Action would take place above the OHWM of Trinidad Lake. There are no wetlands on site or along the access route. Therefore, under Section 404 of the Clean Water Act of 1972, as amended [33 U.S.C. 1251 *et seq.*], no 404(b)(1) analysis is required.

The Proposed Action would not affect conservation storage or flood storage and would not affect the Project’s authorized purposes of flood control, irrigation storage and regulation, sediment retention, or fish and wildlife resources. There are no wetlands in the Proposed Action area. Best management practices for spill prevention would be utilized as described in Section 3.15. Therefore, there would be no effect to water resources, floodplains or wetlands from the Proposed Action. The No Action alternative would also have no effect.

### **3.4 Hydrology and Hydraulics**

#### **3.4.1 Reservoir Pertinent Data**

Trinidad Lake has widely fluctuating pool elevations. In such cases the Ordinary High Water Mark (OHWM) is determined by the 20 percent exceedance elevation, or the highest level of the reservoir 80 percent of the time. For Trinidad Lake the OHWM is 6200.53’ NAVD88. The top of the flood control pool is 6,260’ NGVD29 (6263.45’ NAVD88) and the top of the irrigation pool is 6,230’ NGVD29 (6233.4’5 NAVD88). The top of the slope in the proposed action area is approximately 6240’ NAVD88 with the base being approximately 6220’. The side slopes therefore fall within the irrigation pool elevation and its zone of wave action. The Proposed

Action and the No Action Alternative would have no effect on reservoir operation, water control, or the OHWM.

### **3.4.2 Lakeshore Protection Calculations**

A Corps hydraulic engineer performed lakeshore protection calculations for the Proposed Action based on a USDA Natural Resources Conservation Service (1979) technical bulletin to determine the extent of wave action impacting the lakeshore. The expected wave height was used to determine the recommended freeboard for protection. Normal freeboard is based on wave height at a wind velocity of 100 miles per hour, and minimum freeboard on a velocity of 50 miles per hour. These calculations were provided to the project engineer for determining the design of slope protection and are included in Appendix A.

### **3.5 Air Quality, Noise, and Aesthetics**

Air quality in the Trinidad Lake area is generally good; Las Animas County is in attainment of air quality standards (USEPA 2018). There are no air quality monitoring stations close to Trinidad, Colorado. The closest monitoring station, in Pueblo, recorded no events during which pollutants exceeded air quality thresholds in 2017.

The Proposed Action and the No Action Alternative do not involve construction of any new emission sources. During construction, temporary, minor adverse effects to air quality would result from construction vehicle emissions and dust. These would be minimized by requiring construction equipment to have emission control devices and by keeping disturbed soils and dirt or gravel roads that are close to recreation areas wetted down. There will be no long-term change in vehicle use or other sources of dust or particulates. The Proposed Action and the No Action Alternative would have no effect on air quality.

Noise is generally minimal in the undeveloped setting of Trinidad Lake. Temporary noise impacts during construction would be minimized by limiting work to daylight hours during the work week and by staging construction vehicles out at the project site to minimize driving past the State Park campground. Over the long term, there would be no new sources of noise and no change to noise levels from the Proposed Action or the No Action Alternative.

There would be a minor visual aesthetic impact from the Proposed Action. The Proposed Action site is a landmark visible to State Park visitors including boaters, campers and hikers. Visual aesthetic impacts would primarily be short-term, occurring during construction. Following installation of the erosion protection mats, vegetation would grow up between the concrete blocks over time. Nevertheless, because the area is semi-arid, the concrete blocks would be only partly obscured by vegetation. This would be an unavoidable long-term minor visual impact, detracting from the natural appearance of the slopes. The No Action Alternative would avoid this impact but would lead to increased erosion at the site, which could also be considered an aesthetic impact. Therefore, both the No Action Alternative and the Proposed Action would have minor adverse effects to visual aesthetics.

### 3.6 Vegetation Communities

Four primary native plant communities occur within the Trinidad Dam and Lake Project area: pinyon-juniper woodlands, riparian/wetlands, shrublands, and grasslands. The Proposed Action area, due to its low elevation and prior disturbance, would support grassland or shrubland if not for occasional inundation. The vegetation that currently exists on the site and surrounding areas consists primarily of short-lived and disturbance species, reflecting the site's history of inundation. Plant species included cheatgrass (*Bromus tectorum*), bindweed (*Convolvulus arvensis*), rabbitbrush (*Ericameria nauseosa*) and a few perennial grasses such as sand dropseed (*Sporobolus cryptandrus*) and blue grama (*Bouteloua gracilis*). The vegetation has been affected by changing reservoir levels and does not constitute high quality habitat.

The Proposed Action would have a minor short- and long-term adverse effect on vegetation due to construction and covering the bluff slopes with stabilization material. Effects would be minimized by requiring a Storm Water Pollution Prevention Plan (SWPPP) and seeding the project area with native grasses after construction. Over the long term, the area around the Proposed Action area is susceptible to inundation and would revert to early successional vegetation whenever this occurs. Therefore, the difference between the Proposed Action and the No Action Alternative is minimal over the long term. The No Action Alternative would have no effect on vegetation.

### 3.7 Noxious Weeds and Invasive Species

Invasive weed species that exist in the area of Proposed Action include cheatgrass (*Bromus tectorum*) and bindweed (*Convolvulus arvensis*). Additional invasive species are listed in AMEC (2013). The vegetation has been affected by changing reservoir levels that keep the plant community in an early successional stage. Seed bank for these species is already present on site and they are expected to colonize disturbed ground following construction. To limit the spread of invasive species, equipment that is brought on-site would first be cleaned with a pressure washer. Perennial grasses would be seeded as required by the SWPPP and following Colorado Parks and Wildlife (CPW) specifications.

The Proposed Action would have a minor short-term increase in invasive weeds (adverse effect) due to soil disturbance. Over the long term perennial vegetation is expected to slowly re-establish. However, whenever reservoir water surface elevation is high the vegetation in the area would be inundated and would revert to an early successional stage. The No Action Alternative would have no effect on invasive species. Species already present would continue to occur.

### 3.8 Wildlife

A list of the wildlife and fish species that are known or expected to occur at Trinidad Lake can be found in the Corps' Final Environmental Statement, Trinidad Lake Project, Purgatoire River, Colorado (USACE 1974). A more recent list appears in AMEC (2013). Mammal and herptile species at Trinidad Lake are those that commonly occupy piñon-juniper woodlands and sagebrush shrublands in the transition zone between the Great Plains and the Rocky Mountains. Herptiles include short-horned lizards, Woodhouse's toads, prairie fence lizard, bullsnake, and western terrestrial garter snake. Diverse populations of resident and migratory birds, including

shorebirds and waterfowl, frequent the area. Colorado Parks and Wildlife noted that the South Shore Trail is a highly active corridor for many species of wildlife, including turkey, deer, large herds of elk, bear and mountain lion (personal communication, C. Dreiling, CPW to D. Price, USACE, 28 Aug. 2018).

Wildlife and birds would be temporarily displaced from the area of the Proposed Action during construction and wildlife may avoid crossing the access route during the day. This would be a minor adverse effect. However, no high-quality habitat would be affected by the Proposed Action. Construction would take place outside the nesting season for migratory birds. After construction is complete, the erosion protection material can be walked on and temporary roads would be reclaimed so that wildlife use of the area would be unimpeded. Therefore, there would be no long-term effect to wildlife from the proposed project or No Action Alternative.

### 3.9 Special Status Species

Species listed by the US Fish and Wildlife Service for the Proposed Action area include the Mexican spotted owl (*Strix occidentalis lucida*), Canada lynx (*Lynx canadensis*), New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), and North American wolverine (*Gulo gulo luscus*). None of the listed species are known to occur or have potential to occur in the Proposed Action area, nor is habitat for any of these species present, and there are no designated critical habitats in the project area. Therefore, no effect to threatened or endangered species would occur from either the Proposed Action or the No Action alternative.

### 3.10 Cultural Resources

The Area of Potential Effect (APE) for this Proposed Action is 173.4 acres, and includes access roads from the east and west, staging areas, and the project area. A search of Corps records showed eight previously recorded archaeological sites within 50 meters of the proposed project APE. Three of these sites (5LA.1450, 5LA.1452, and 5LA.1522) have been destroyed and are considered not eligible to the National Register of Historic Places (NRHP), and were therefore not revisited for this project. Three sites (5LA.1099, OCA-550G, and OCA 550L) are located along the eastern access road, which was not surveyed for this project because access along this existing route needs no modification and will avoid all sites. Two sites (5LA.1211 and 5LA.1529) were revisited for this Proposed Action.

In June and August 2017, Corps archaeologists surveyed a total of 66.2 previously unsurveyed acres (43.2 block acres and 23.0 linear acres) of the APE for the Proposed Action. One new site, 5LA.13841, was discovered during the course of this survey. The eligibility of site 5LA.13841 to the NRHP is considered undetermined due to the potential for subsurface deposits at the site. Further testing is needed to determine the eligibility of 5LA.13841, and the site will be treated as though it were eligible for the purposes of this Proposed Action. No other historic properties are reported to occur in the immediate vicinity of the Proposed Action and no historic properties listed on the National Register of Historic Places occur within the Proposed Action area.

Site 5LA.13841 is located on the northwestern edge of the APE, and its location is such that it will be avoided by all Proposed Action activities. The point of access between the railroad grade on the south side of the APE and the Proposed Action area at the north end is approximately 200

meters to the east of site 5LA.13841. Trucks and heavy equipment will have no reason to go further west toward the site. The proposed quarry area for the fill required for the stabilization project is also approximately 200 meters to the northeast of the site and about 20 feet lower in elevation.

Proposed Action activities do have the potential to cause effects to historic properties 5LA.1529 and 5LA.1211. In particular, road maintenance activities could affect 5LA.1529 if protective measures are not put in place. The Corps proposes to mark the site boundaries of 5LA1529 where they intersect the road by placing t-posts with flagging on the right side of the road where the site begins, and on the left where the site ends. T-posts will be in place prior to equipment arriving on site, and will remain in place until the Proposed Action is completed and equipment is removed from the Proposed Action area.

After discussions with the Colorado State Historic Preservation Office (SHPO), it was determined that while the slope stabilization project is intended to mitigate future damage to the remaining intact portion of 5LA.1211, the proposed project nevertheless addresses an existing and ongoing **adverse effect to historic properties**. However, the No Action Alternative would result in continued erosion at the site and the resulting exposure of archaeologically sensitive materials, including human remains. The Proposed Action will avoid future adverse effects caused by erosion.

A memorandum of agreement (MOA) between SHPO and the Corps was executed to memorialize the planned project activities. The MOA has been signed by all parties. Documentation of the draft MOA is presented in Appendix B. The MOA contains the following stipulations:

#### I. SITE PREPARATION

- a. The site will be prepared by removing vegetation from the sides of the bluff to a distance of about 30 feet. This may be done by hand or by controlled burning. Vegetation will not be removed from the intact portion of 5LA1211.
- b. Filter fabric will be placed against the exposed vertical banks and slopes below the intact portion of the site in order to keep introduced, culturally sterile fill material separate from existing archaeological features and deposits.

#### II. SLOPE BURIAL

- a. Culturally sterile earthen fill will be placed over and against the filter fabric. This fill will create a 14-foot wide path to enable heavy equipment to create a 2:1 slope below the bluff top containing the intact portion of 5LA1211. The purpose of the earthen fill placement is to stabilize the sides of the bluff and prevent further erosion from flooding events, thereby protecting the site's remaining contributing elements and important data values.

b. The slope created with earthen fill will be covered with an erosion control armor, consisting of Geotextile webbing filled with rock, rock rip-rap, articulated concrete block, or concrete revetment matting. This armor is intended to be a permanent solution to the erosion problem, but is removable should the need arise.

## II. PRE-CONSTRUCTION MONITORING

Corps archaeologists will visit the site after vegetation removal to monitor for any human remains that may have been exposed during the vegetation removal process. Any human remains encountered during pre-construction monitoring will be treated according to the stipulations outlined in the Burial Plan of Action.

## III. MONITORING DURING CONSTRUCTION

a. A Corps archaeologist will be on site to monitor the site preparation activities and the initial portion of the construction work to ensure that the intact portions of the site are avoided, and in case of accidental discovery prior to fill placement.

b. Tribal monitors may be on site during construction activities.

## IV. POST-CONSTRUCTION MONITORING

a. A Corps archaeologist will monitor the stabilized site on an annual basis for five (5) years after construction is complete, to examine the site for any signs of instability, construction failure, or erosional problems, and to monitor for vandalism.

b. Corps Operations Division Engineering staff will add the stabilized site to the annual inspection checklist for the Trinidad Dam and Lake Project when construction is complete, and a District engineer will verify the condition of the stabilization measures at a minimum once every year in perpetuity. Trinidad Dam and Lake Project maintenance staff will also monitor the site on an ad-hoc basis throughout the year.

## V. REPORTING

Each year following the execution of this MOA until it expires or is terminated, the Corps shall provide all parties to this MOA a summary report by the anniversary date of the last signature to the MOA detailing work undertaken pursuant to its terms. Such report shall include a status of construction, a summary of complete stipulations, any scheduling changes proposed, any problems encountered, and any disputes and objections received in the Corps' efforts to carry out the terms of this MOA.

Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 20, 1998, and based on the State of New

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Mexico Indian Affairs Department's Native American Consultations List, American Indian tribes that have indicated they have concerns in Las Animas County were consulted regarding the proposed project during the feasibility study phase on February 14, 2017. This same list of tribes was consulted in a letter dated September 14, 2017, after survey was completed, regarding site eligibility and project effect. The September 14, 2017 letter also invited all tribes to be involved in the development of a Burial Plan of Action for the bank stabilization project. These tribes were contacted again on April 17, 2018, to inform them of the need for an MOA and to offer an update on the progress of the project and another opportunity to comment (see Appendix C). Response to the Proposed Action has been favorable, and to date, the Corps has received no indication of tribal concerns that would impact this Proposed Action. No Traditional Cultural Properties are known by the Corps to occur in the project APE.

Should previously undiscovered artifacts or features be discovered during construction, work will stop in the immediate vicinity of the find. Through consultation with Native American groups that have concerns in the project area and the SHPO, a determination of significance will be made, and the best course of action would be determined.

### **3.11 Socioeconomic Considerations, Land Use and Recreation**

#### **3.11.1 Socioeconomics**

Las Animas County, Colorado is generally rural in character. The city of Trinidad is located near the lake and is the major population center in Las Animas County (population in 2010: 9,096). The total population of Las Animas County in 2010 was 15,507 and the 2017 estimated population is 14,238 (U.S. Census Bureau 2018a, b). Lake recreation contributes to the economy of the county and region. People visiting Trinidad Lake may come from Las Animas County or the adjacent counties and cities of Pueblo, Colorado Springs, Denver, or other areas of the state and beyond.

The median household income for Las Animas County (in 2016 dollars), 2012-2016 was \$42,808. Per capita income in past 12 months was \$23,857. The percentage of persons in poverty is 21.6%. Along with the decline in population, the county experienced a decline in employment of -6.1% from 2015-2016 (U.S. Census Bureau 2018a).

The Proposed Action may produce minor short-term economic benefits to the Trinidad area. Construction personnel would utilize local lodging and services for the short duration of the project. However, the noise, dust and activity of construction could lead to camper cancellations and refund requests, resulting in an economic loss for Colorado Parks and Wildlife. To minimize this adverse effect, construction activity would not take place after daylight hours. The No Action alternative would have no effect on socioeconomics.

#### **3.11.2 Land Use and Recreation**

There are no prime farmlands within the boundary of the Trinidad Dam and Lake Project. Lands surrounding Trinidad Lake include Trinidad State Park and the Longs Canyon Watchable Wildlife Area. Public recreation facilities have been developed and are managed by Colorado Parks and Wildlife as Trinidad State Park. The highest visitation at the lake occurs during the

months of April through September (AMEC 2013), but there is sustained public use of the area throughout the year. Activities include camping, picnicking, hiking, horseback riding, boating and watersports, fishing, and wildlife viewing.

Trinidad Lake State Park's South Shore Campground is located approximately 1.5 mile from the area of Proposed Action. The campground is open from May to mid-October. The proposed construction access route would pass close to the campground, and roughly parallel to the South Shore (Sopris Mine) Trail. The south shoreline of Trinidad Lake is popular for shoreline fishing year-round.

The noise, dust and activity of construction would have an adverse short-term impact on recreation including camping, hiking, and to a lesser extent, fishing and hunting. To minimize impact on campers, construction work would not take place at night. After the first month of construction there would be no impact to camping because the campground will be closed for winter. Roads from the campground area to the South Shore would remain open for fishing and hunting access. Other measures to minimize short-term impacts to recreation will be discussed with Colorado Parks and Wildlife and implemented as feasible.

The Proposed Action would not prohibit visitors from accessing the site once construction is complete. The erosion protection may function as a deterrent and would protect the immediate site from visitors inadvertently trampling any loose artifacts. There would be no long-term effect on land use or recreation from the Proposed Action or the No Action alternative.

### **3.12 Environmental Justice**

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994) was designed to focus the attention of federal agencies on the human health and environmental conditions of minority and low-income communities. It requires federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. The 1995 EPA guidance document, *Environmental Justice Strategy: Executive Order 12898*, defines the approaches by which the EPA will ensure that disproportionately high environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with regard to Environmental Justice issues and concerns.

Las Animas County's population includes a high proportion of Hispanic residents (41.8%) with smaller percentages of Black or African American (2.0%), Native American (3.6%), and other minority groups. The Proposed Action would affect all lake recreational users equally. Neither the Proposed Action nor the No Action Alternative would have a disproportionate effect on minority and low-income communities.

### **3.13 Indian Trust Assets**

Indian Trust Assets (ITAs) are legal interests in assets held in trust by the United States for Indian tribes or individuals. Examples of ITAs include land, minerals, hunting and fishing rights, water rights, titles and money. The Indian Trust Responsibility requires that all Federal agencies

take all actions reasonably necessary to protect such trust assets. The Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 20, 1998, and DOI's Secretarial Order 3175 require that the Corps consult with tribes and assess the impacts of its projects on ITAs.

No ITAs are known by the Corps to occur within the Proposed Action area and no concerns were identified during consultation with Native American tribes. There would be no effect on Indian Trust Assets by the Proposed Action or the No Action Alternative.

### **3.14 Human Health and Safety**

To reduce the effect of the Proposed Action on human health and safety, access to the Proposed Action area would be limited to keep the public away from construction equipment. The chief safety concern with the proposed project is the use of controlled fire to remove vegetation. The following requirements would ensure safety of Project personnel and the public.

Burning of vegetation shall require permits and notifications to local Fire Department and Sheriff's Department prior to any burning. An approved burning and safety plan would be prepared that addresses and dictates the appropriate procedures for the specific needs for this project. All personnel shall be trained on the procedure, wear the required PPE, have equipment sized for extinguishing and control of fire on site, and weather will be monitored for changes in wind direction, gusts conditions, and downwind structures and personnel. A safety officer or a burn boss will be present during any burning actions. A Fire Safety Watch is required for one hour after all burning and mop-up activities are completed to ensure that there are no fire flare-ups.

The site currently has steep, eroding slopes, which are unstable and could present a safety hazard to visitors accessing the site. The Proposed Action would make the slope safer to visitors, whereas the No Action Alternative would not change this condition.

### **3.15 Hazardous, Toxic, and Radioactive Waste (HTRW)**

No hazardous waste or petroleum product releases have been associated with the Proposed Action area and there are no known toxic or radioactive wastes present. The No Action Alternative would bring no new substances on site and therefore would have no effect on HTRW. The Proposed Action has the potential to adversely affect the environment due to the use of petroleum products by construction equipment working on-site. The following requirements would be in place to minimize the risk by preventing spills or releases of hazardous or toxic substances.

a. The BLM shall provide a Contaminant Prevention Plan that identifies potentially hazardous materials and substances to be used on the job site, identifies the intended actions to prevent introduction of such materials into the air, water, or ground, and details provisions for compliance with federal, state, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Safety Data Sheets (SDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in

the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

b. The BLM shall provide a Spill Control plan that shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under state or local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Trinidad Lake Operations Project Manager in addition to the legally required federal, state, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.

2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

3. Training requirements for personnel and methods of accomplishing the training.

4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

6. The methods and procedures to be used for expeditious contaminant cleanup.

7. Disposal of all project related wastes shall be off-site and in accordance with all federal, state, regional and local laws and regulations.

c. All construction materials shall be recycled to the extent possible. Solid waste generation shall be minimized throughout the duration of the project.

d. Any leftover hazardous materials used in the construction of this project shall be managed in accordance with the Safety Data Sheet (SDS). Empty containers shall be disposed of as solid waste in accordance with federal, state, regional and local laws and regulations.

e. Waste water from construction activities, such as onsite material processing, concrete curing, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. Disposal of the construction related waste water off-Government property shall be in accordance with all federal, state, regional and local laws and regulations. When concrete is being placed, casted, or removed, all appropriate personnel protective equipment shall be used.

f. In the case that any non-native soils, discolored soil, soil with an odor, or any debris are discovered during excavation or trenching, stop work immediately and the work leader shall notify the District Office, Environmental Engineering Section, Otis Dickey at 505 343 6280. If

the Corps determines the material is determined to be free of contamination and unregulated, construction will proceed without change.

g. If additional material, not indicated, that may be hazardous to human health upon disturbance during work activities is encountered, stop that portion of work and notify the Trinidad Lake Operations Project Manager immediately. Within 14 calendar days the Corps of Engineers Environmental Engineering Section will determine if the material is hazardous. If material is not hazardous or poses no danger, the Corps will direct the BLM to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Corps will notify BLM how to proceed..

h. All equipment that shall be used at the site shall be inspected prior to being mobilized to the site to ensure that there are no leaks or drips. Any equipment in disrepair shall be removed from the site immediately. Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and contamination of the environment. Manage and store fuel, lubricants and oil in accordance with all federal, state, regional and local laws and regulations. Used lubricants and used oil to be discarded must be stored in marked corrosion-resistant containers and recycled or disposed off-site in accordance with state and local laws and regulations.

i. Since the disturbance is equal to or greater than one acre in size, there will be stormwater controls required for this project. The Corps has prepared a Storm Water Pollution Prevention Plan (SWPPP) and will file a Notice of Intent (NOI) with the US Environmental Protection Agency. The BLM shall install and maintain the required controls, and inspect the controls, document their condition, and make any required repairs or changes in accordance with the 2017 National Pollutant Discharge Elimination System General Permit for Discharges from Construction Activities and the Project SWPPP.

### **3.16 Cumulative Impacts**

NEPA defines cumulative effects as “...the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.”

The Proposed Action lies within a rural area in Las Animas County (Figure 1). The project would not significantly impact the current conditions of the local environment and would benefit cultural resource protection. Neither the Proposed Action nor the No Action Alternative, when combined with past, present, or future activities, in the Trinidad Lake area would significantly add to or raise local cumulative adverse environmental impacts to a level of significance.

## **4 CONCLUSIONS AND SUMMARY**

This Environmental Assessment addresses the potential effects of slope stabilization at Trinidad Lake. The Proposed Action is needed to protect cultural resources from damage. Pursuant to the Corps’ anticipated MOA with the SHPO and consultation with affected Tribes the Albuquerque District recommends implementation of the Proposed Action.

**Table 1: Summary of Effects of Proposed Action and No Action Alternative**

<b>Resource</b>	<b>Proposed Action</b>		<b>No Action Alternative</b>	
	<b>Short-term effect</b>	<b>Long-term effect</b>	<b>Short-term effect</b>	<b>Long-term effect</b>
Physiography, Geology, and Soils	Minor adverse effect	No effect	No effect	Adverse effect to soil- erosion
Climate and Climate Change	No effect	No effect	No effect	No effect
Water Resources	No effect	No effect	No effect	No effect
Floodplains and Wetlands	No effect	No effect	No effect	No effect
Air Quality, Noise, and Aesthetics	Minor adverse effects	Minor adverse visual effect	No effect	No effect
Vegetation Communities	Minor adverse effect	Minor adverse effect	No effect	No effect
Noxious Weeds and Invasive Species	Minor adverse effect	No effect	No effect	No effect
Wildlife	Minor adverse effect	No effect	No effect	No effect
Special Status Species	No effect	No effect	No effect	No effect
Cultural Resources	No effect	Beneficial effect	Adverse effect	Adverse effect
Socioeconomic Considerations and Land Use	Minor adverse effect	No effect	no effect	No effect
Recreation	Minor adverse effect	No effect	No effect	No effect
Environmental Justice	No effect	No effect	No effect	No effect
Indian Trust Assets	No effect	No effect	No effect	No effect
Human Health and Safety	No effect	No effect	No effect	No effect
Hazardous, Toxic, and Radioactive Waste	No effect	No effect	No effect	No effect

## **5 PREPARATION, CONSULTATION AND COORDINATION**

### **5.1 Preparation**

This Environmental Assessment was prepared by the U.S. Army Corps of Engineers, Albuquerque District. Personnel primarily responsible for preparation include:

- Dana Price, Botanist
- Christina Sinkovec, Archaeologist
- Tracy Aragon, Project Manager
- Otis Dickey, Civil Engineer
- Huff Horton, Civil Engineer
- James Hewitt, Hydraulic Engineer
- Corey Bowen, Civil Engineer

### **5.2 Quality Control**

This EA has been reviewed for quality control purposes. Reviewers include:

- George MacDonell, Chief, Environmental Resources Section
- Jonathan Van Hoose, Archaeologist
- Kimberly Falen, Trinidad Lake Operations Project Manager

### **5.3 Consultation and Coordination**

Agencies and entities that were consulted in preparation of this Environmental Assessment include:

- CO SHPO
- Jicarilla Apache Nation
- Kiowa Tribe of Oklahoma
- Mescalero Apache Tribe
- Navajo Nation
- Ohkay Owingeh
- Pueblo of Isleta
- Pueblo of Picuris
- Pueblo of Pojoaque
- Pueblo of San Ildefonso
- Pueblo of Santa Clara
- Pueblo of Taos
- Pueblo of Tesuque
- Pueblo of Zia
- Southern Ute Tribe
- The Hopi Tribe
- Ute Mountain Ute Tribe
- Ute Indian Tribe of the Uintah & Ouray Reservation
- Colorado Parks and Wildlife

## 5.4 Tribal Consultation Mailing List

Wainwright Velarde  
President, Jicarilla Apache Nation  
Post Office Box 507  
Dulce, New Mexico 87528

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Chairman, Kiowa Tribe of Oklahoma  
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Ouray Reservation  
Post Office Box 190  
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## **5.5 Summary of stakeholder review comments and Corps' responses**

The full draft EA was provided to the Colorado SHPO and Tribes with an interest in the proposed project for comment on July 24. The publicly accessible EA, which does not incorporate information that could disclose the location of sensitive historical properties, was posted to the Corps' public website on August 14. Letters requesting comments were sent via e-mail to Colorado Parks and Wildlife, the US Environmental Protection agency, the US Fish and Wildlife Service. Responses are summarized below and appear in full in Appendix D.

The US Fish and Wildlife Service response indicated agreement with the Corps' determination with that the project will not affect any species listed under the Endangered Species Act as amended (16 U.S.C. 1531 et seq.) or their designated critical habitats.

A response was received from the Southern Ute Tribe containing editorial revisions to the cultural resources section of the EA; these comments were incorporated. The Tribe also requested concurrent Section 106 consultation. Consultation with the Tribes has been ongoing, as described in Section 3.10, and additional contact was made with the Southern Ute Tribe after receipt of their letter to ensure that all issues for consultation have been addressed.

Comments were received from Colorado Parks and Wildlife concerning adverse effects during construction to wildlife, vegetation, recreation, and socioeconomics. The EA has been revised with more accurate descriptions of the timing and duration of construction; project area including access route; and impacts of construction. The Corps has agreed to work with Colorado Parks and Wildlife to mitigate remaining unavoidable adverse effects. Comments and responses are detailed below.

**Table 2: Public Review Comments and Corps' Responses**

<b>Comments received from the Southern Ute Tribe</b>		
<b>Section</b>	<b>Comment</b>	<b>Response</b>
<b>3.10 Cultural Resources</b>	We request to enter into Section 106 concurrently with NEPA.	Consultation has been ongoing. Additional contact was made after receipt of this letter to ensure that all issues for consultation have been addressed.
	Editorial revisions suggested for p. 17 of DEA	Revisions were incorporated.
<b>Comment received from Trinidad Lake Project Office and Colorado Parks and Wildlife</b>		
<b>3.10 Cultural Resources</b>	Placing the erosion protection material is likely to draw attention to the site, leading to further cultural resource damage or looting.	Cultural resources will be less evident when they are no longer eroding out of the hillside. Local people with interest in the site already know it is there. The site will be monitored and should damage or looting occur, the Corps would consult with SHPO and tribes to determine the appropriate course of action.
<b>Comments received from Colorado Parks and Wildlife</b>		
<b>3.5 Aesthetics</b>	The draft EA does not provide images of the filter fabric, nor the erosion protection mat discussed throughout.	Description of the tied concrete block product was added to the EA. The filter fabric would not be visible as it would be covered by soil and the concrete mat.
	Will both or either of these materials be visible after the work is complete or after some years of erosion? If so, the finding of no effects in that section of the EA is not accurate.  Our concern is maintaining a natural look rather than exposing man-made materials across what is currently a prominent bluff as the top soils erode due to precipitation or wave action. This bluff is something of a landmark on this park and is visible to boaters, campers and hikers alike. Possible solution: Use of natural materials such as appropriate soils and rip-rap.	Concur: there would be some unavoidable visual impact after construction, as the site is not conducive to rapid vegetative growth. The EA was revised to reflect this. Vegetation will grow between the concrete blocks over time, partly concealing the blocks and improving site aesthetics.  Riprap was considered as an alternative, but would require more truck trips to haul it in, thereby increasing project cost and duration. Rock would not provide as much stability as concrete matting; nor would it be easily removable from the site should future archaeological investigation be needed. The reasons for selecting the tied concrete block matting were added to the EA.

<p><b>3.6 Vegetation Community</b></p>	<p>The summary table says no impacts but the document states there will be impacts. The Proposed Action would have a minor short- and long-term adverse effect on vegetation due to construction and covering the bluff slopes with stabilization material. If the plan is to cover the slope with concrete block, the finding of no effect is difficult to defend.</p>	<p>Summary table was corrected to reflect minor short- and long- term impacts due to covering the slopes with material. Over the long term, the area around the bluff is susceptible to inundation and would revert to early successional vegetation whenever this occurs. Therefore, the difference between the proposed action and no-action is minimal over the long term.</p>
	<p>The draft EA describes a very vague reclamation plan, simply stating they will reseed with a native grass mix. There is no discussion of saving topsoil during construction or any best practices to help grasses establish in a difficult growing situation. If little effort is made with reclamation, then the impacts will be long term, even if they are minor.</p>	<p>Concur. Establishing native grass is always challenging. The SWPPP requires perennial vegetation as permanent stabilization. The Corps received seeding specifications from CPW and added them to the project scope of work. We will discuss best practices with CPW to determine what is feasible.</p>
<p><b>3.7 Noxious Weeds and Invasive Species</b></p>	<p>The document references existing weeds on site but there is no plan to prevent the disturbance from making it worse. Cleaning equipment only helps prevent new weed species. Possible solution: Treat the weeds before disturbance to reduce the chances they will take over disturbed areas and/or treat weeds once they emerge post-construction.</p>	<p>Construction would take place in fall so most weedy species will have already produced seeds. Working to improve native grass establishment is probably the best we can do to limit weed growth. The Corps will consider post-construction herbicide treatment and will discuss measures to reduce noxious weeds with CPW.</p>
<p><b>3.8 Wildlife</b></p>	<p>We disagree with the wildlife mitigation plan listed in the document as follows: Wildlife and birds would have ample time to leave the area of the Proposed Action, and no high quality habitat would be affected.</p>	<p>This was not intended as a mitigation plan, rather a statement that effects to wildlife would be minimal as they can avoid the area. This is considered a minor impact. The bluff is a small area of minor habitat value (vegetation consisting primarily of weedy annual plants). All staging and borrow areas have been previously disturbed.</p>
	<p>The South Shore Trail is a highly active corridor for many species of wildlife, including turkey, deer, large herds of elk, bear and mountain lion. The construction traffic and noise will temporarily displace this wildlife, at a minimum, and depending on construction design could hamper wildlife use of this area in perpetuity.</p>	<p>Concur that wildlife will be temporarily displaced; the EA has been revised accordingly. Wildlife use of area would not be impeded in the long term. Animals will be able to access the lake without crossing over the bluff, or walk over the concrete mat surface once it is installed if they do traverse the bluff.</p>

	CPW recommends that the EA discuss the project schedule, timing and length, as well as design factors intended to facilitate continued use of wildlife present at the site in order to better assess the impacts of this work.	Concur. Additional information about project schedule has been added to the EA. The Corps will discuss wildlife mitigation with CPW.
	If construction disturbance occurs during nesting season, this could impact ground nesting birds or nearby nests.	Project would be conducted outside of nesting season.
	With construction traffic occurring along miles of the Purgatoire River, wildlife's access to water will be impacted.	Either the east or west end access shown in Fig. 2 of the DEA would be used (not both). Construction traffic would not be continuous. Wildlife would have access to water after-hours and between vehicle trips.
	Pertaining to aquatic habitat, the draft EA offers no discussion regarding practices to keep construction sediment out of the water. If construction soils accidentally do get into the lake through erosion or accidental spill, what are the impacts?	Section 3.15, paragraph i. states that stormwater controls will be required for this project. As part of the Project Storm Water Pollution Prevention Plan (SWPPP), silt fence will be used along the sides of the bluff and the borrow area to keep sediment out of the lake. The required controls shall be installed, inspected and maintained, and any required repairs or changes made in accordance with the Project SWPPP.
	Work with Colorado Parks and Wildlife to find optimal timing for this construction, ensure continued wildlife use of the project site, and to minimize impacts on wildlife.	Concur; the Corps will discuss wildlife mitigation with CPW.
<b>3.11 Socioeconomic Considerations, Land Use and Recreation</b>	These impacts are not assessed accurately. Our current understanding of this project from previous meetings and site visits is that numerous tractor-trailer loads of fill material will be transported along the South Shore Road, along what is currently the South Shore Trail and nearby our South Shore Campground, and that this traffic will continue for many days or weeks. CPW recommends that the plan discuss the volume and duration of this traffic clearly so that a more accurate assessment can be made.	Fill material would be obtained from borrow site close to the bluff. Equipment would be staged and parked overnight near the bluff. Traffic close to the campground and trail would be mainly project staff going in and out with their passenger vehicles, and trucks bringing in the concrete mats. The Corps will discuss hours of operation with CPW and will communicate traffic volume when known. Estimated project duration (4 months) has been added to EA.
	The entire South Shore Trail will need to be closed to recreation during this project.	Concur; the Corps will discuss trail closure with CPW.

	<p>Many of the staging areas where fill material is planned to be dumped are located along the south shoreline, which is very popular for shoreline fishing year-round.</p>	<p>Fill would be obtained from the borrow site close to the bluff. Stockpiling of earthen fill is not planned to occur in staging areas close to the campground entrance road. Fishing access would not be affected.</p> <p>Equipment staging at the area near the south shore campground would be primarily during project initiation when temporary access is being constructed.</p> <p>Once the access road is complete, equipment would be at the bluff site while they are working. There may be some heavy truck traffic when the concrete mat is delivered and offloaded for transfer to smaller trucks.</p>
	<p>The construction traffic will travel just a few hundred yards from campers at South Shore Campground. The noise, dust and overall activity of this construction will very likely lead to camper complaints, cancellations and refund request, resulting in an economic loss for Trinidad Lake State Park/Colorado Parks and Wildlife.</p>	<p>Concur there would be an adverse effect during construction. The EA has been revised accordingly.</p> <p>Impacts to camping would be for about a month (project starts mid Sept and the campground closes for winter in mid-Oct.)</p> <p>To minimize impact on campers, construction would not take place outside of daytime hours. The Corps will discuss hours of operation with CPW.</p>
	<p>There is no doubt that the project itself will have impacts to our park visitors, whether they are fishing, hunting, hiking, biking, wildlife-watching or camping.</p>	<p>Concur there would be impacts. EA was revised accordingly.</p> <p>Impact to fishing should be minimal. Except for at the construction site, equipment would not be close to the lake shore unless the reservoir pool elevation rises dramatically.</p>
	<p>Such high-volume of heavy truck loads across gravel roads and trails that Colorado Parks and Wildlife pays to maintain will impact the condition of these roads, pushing the cost of repairs onto CPW. Solution: grade/repair all affected gravel roads and trails post-construction as a cost of the project.</p>	<p>It is the Corps' intent to repair any damage to roads or other facilities beyond normal wear and tear as funds are available.</p>
	<p>Work with the Park Manager to find optimal timing for this construction project, including hours of operations, to minimize the socioeconomic, land use and recreation impacts.</p>	<p>The Corps will discuss this with the Park Manager.</p>

## 6 REFERENCES

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