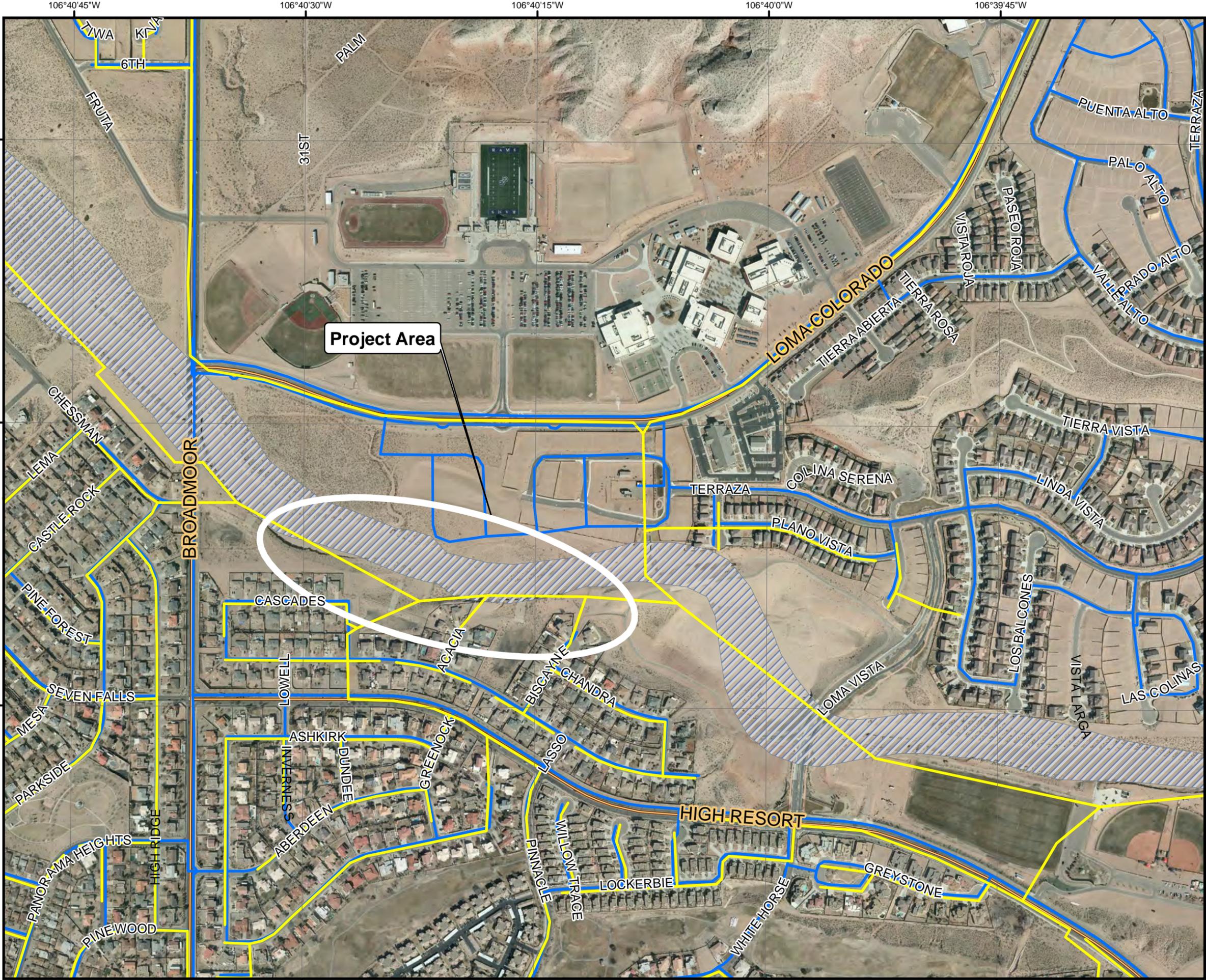


# APPENDIX A



**Legend**

-  Water Line
-  Sanitary Sewer

**FEMA Flood Zone**

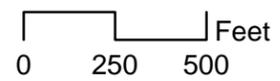
-  A
-  AE

**FIRM Panel Information:**

|                                  |  |             |       |        |
|----------------------------------|--|-------------|-------|--------|
| NATIONAL FLOOD INSURANCE PROGRAM | NFIP   | PANEL 1893D |       |        |
|                                  | <b>FIRM</b>  |             |       |        |
|                                  | FLOOD INSURANCE RATE MAP   |             |       |        |
|                                  | SANDOVAL COUNTY,<br>NEW MEXICO<br>AND INCORPORATED AREAS   |             |       |        |
|                                  | PANEL 1893 OF 2225<br>(SEE MAP INDEX FOR FIRM PANEL LAYOUT)  |             |       |        |
|                                  | CONTAINS:  |             |       |        |
|                                  | COMMUNITY  | NUMBER      | PANEL | SUFFIX |
|                                  | RIO RANCHO, CITY OF  | 350148      | 1893  | D      |
|                                  | <small>Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.</small> |             |       |        |
|                                  |  <b>MAP NUMBER</b><br>35043C1893D<br><b>MAP REVISED</b><br>MARCH 18, 2008<br>Federal Emergency Management Agency  |             |       |        |



1 inch = 500 feet



**Montoyas Bank Stabilization**



**Southern Sandoval County  
Arroyo Flood Control Authority**

Date: May 2013

**Pre-Monsoon 2006**



Existing SAS Manhole

Private property wall

**Pre-Monsoon 2012**



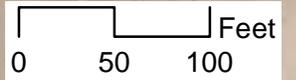
Private property wall  
in jeopardy of losing foundation

Existing SAS Manhole with non-permanent  
temporary protection after break resulting  
in discharge to waters of the US

Severe erosion of banks and failure of  
existing drainage infrastructure



1 inch = 100 feet



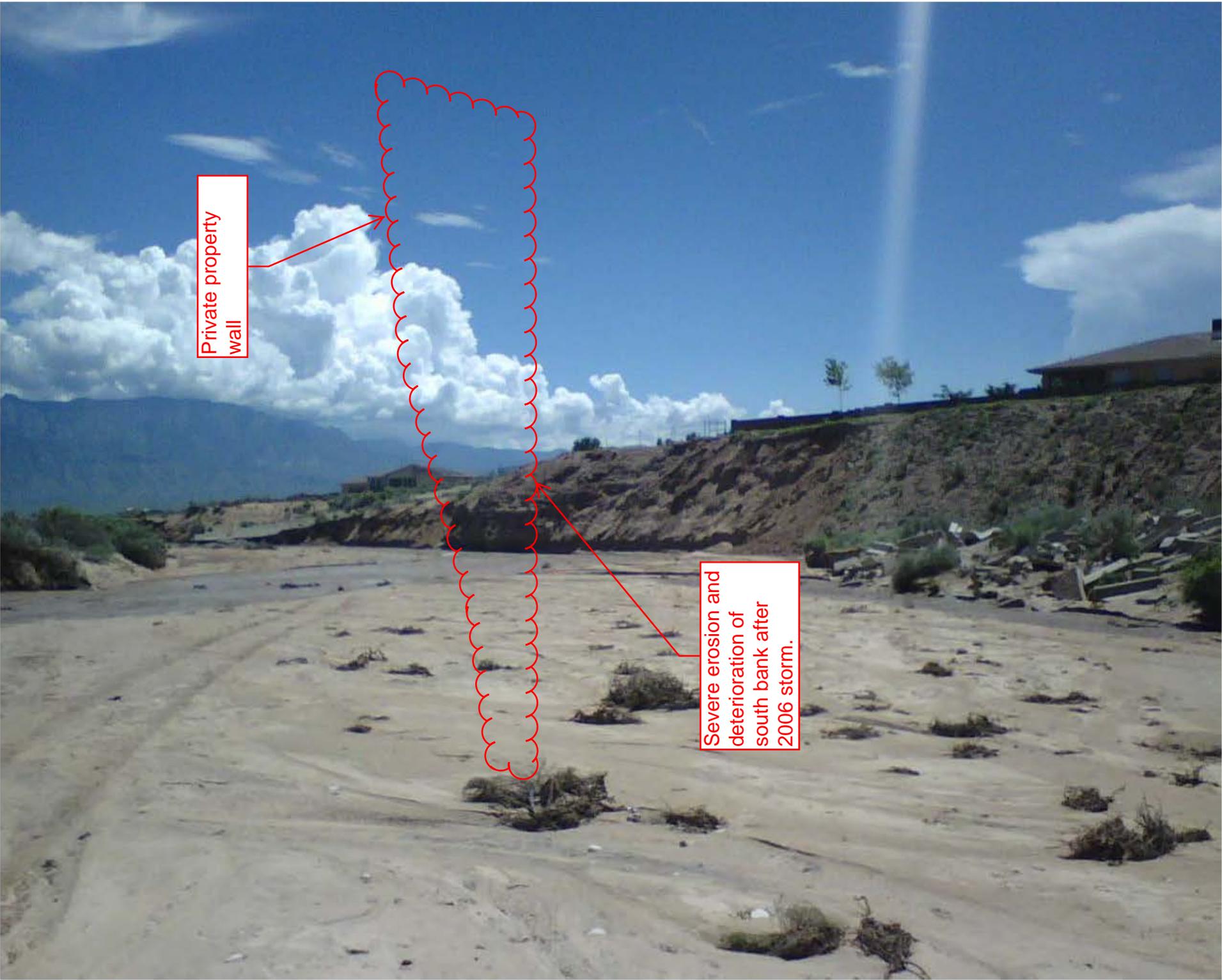
Evolution of Montoyas Arroyo Bank Erosion



**Southern Sandoval County  
Arroyo Flood Control Authority**

Date: May 2013

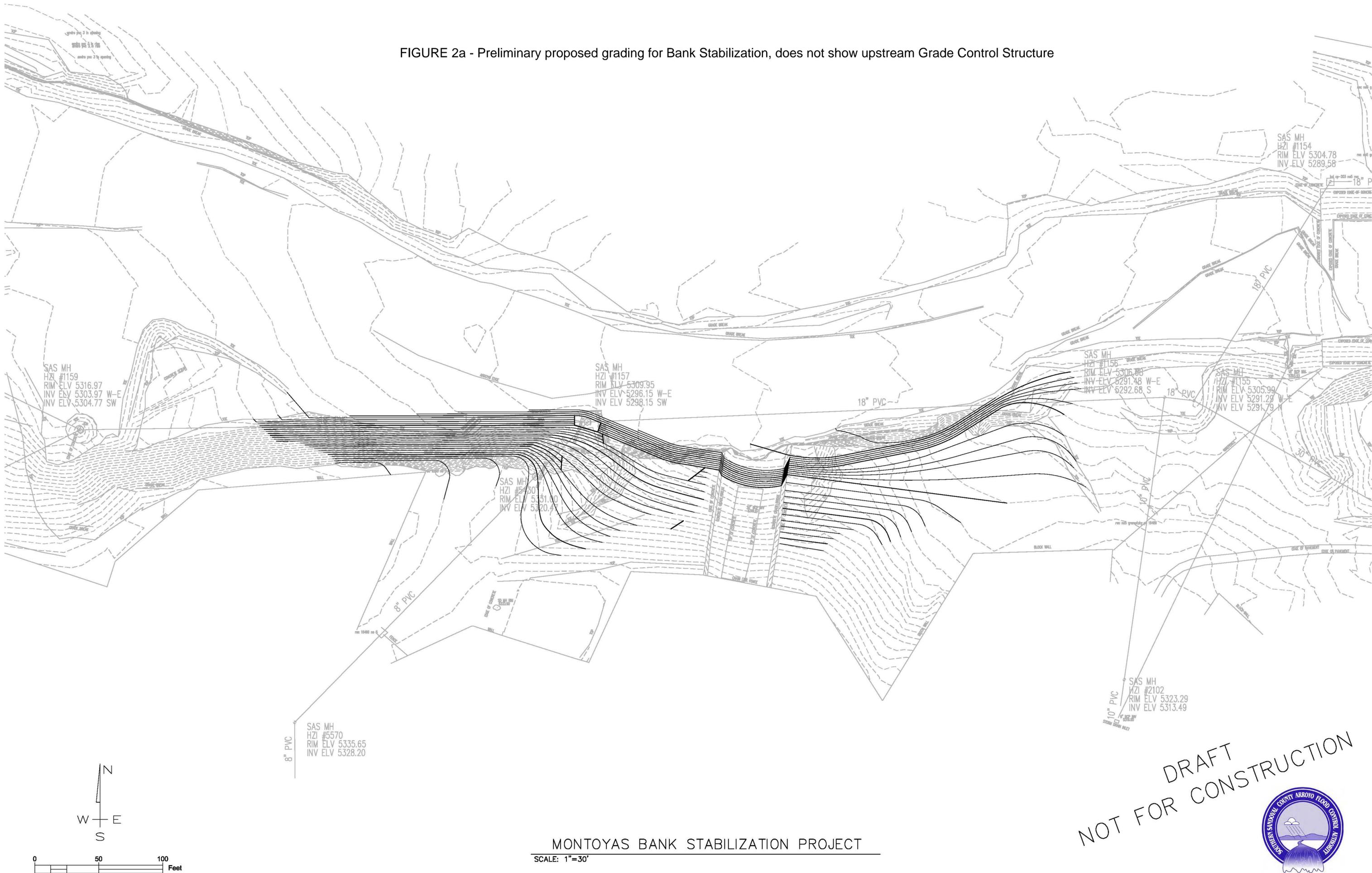
Figure 1 of 1



Private property  
wall

Severe erosion and  
deterioration of  
south bank after  
2006 storm.

FIGURE 2a - Preliminary proposed grading for Bank Stabilization, does not show upstream Grade Control Structure



DRAFT  
NOT FOR CONSTRUCTION



# APPENDIX B

## **Technical Memorandum**

**To:** Jim Brauer  
Wilson & Company, Inc., Engineers & Architects  
2600 The American Rd. SE, Ste. 100  
Rio Rancho, NM 87124

**From:** Matthew McMillan, SWCA Environmental Consultants

**Date:** December 14, 2011

**Re:** **Biological Evaluation for the Proposed Replacement of 1.75 miles of Sanitary Sewer Pipeline in the Los Montoyas Arroyo in Sandoval County, New Mexico / SWCA Project No. 22225**

---

### **PROJECT DESCRIPTION**

Wilson & Company, Inc., Engineers & Architects (Wilson) proposes to complete the Los Montoyas Arroyo Sanitary Sewer Improvements Project in Rio Rancho, Sandoval County, New Mexico. The proposed project will consist of installing a sanitary sewer pipeline for an approximate 2.8 km (1.75-mile) section within the arroyo from just north of Northern Boulevard downstream to the existing 36-inch Loma Colorado-Montoyas Arroyo sanitary sewer outfall immediately upstream of the SportsPlex Dam east of Broadmoor Avenue (Figure 1). The proposed project area comprises approximately 44 acres within the arroyo.

The Los Montoyas Arroyo Sanitary Sewer Improvements Project will consist of approximately 2,582 linear m (8,470 linear feet) of 30-inch DR-21 (IPS) HDPE pipe laid generally in the center of the sandy bottom of the Los Montoyas Arroyo from immediately north of Northern Boulevard to the water quality structure immediately upstream of the SportsPlex Dam east of Broadmoor Drive. The final 137 m (450 feet) of the new HDPE sanitary sewer will be 36-inch DR-21 (IPS) HDPE pipe and will connect to an existing 36-inch HDPE pipe at the project terminus. The 30-inch and 36-inch pipes comprise the main trunk line for the project. Appendix B shows the design schematic of the proposed project. Eight branch lines ranging in size from 10-inch to 16-inch DR-21 (IPS) HDPE provide service to existing and future sanitary sewer collectors. No individual service connections will connect to the proposed system. Thirty-one HDPE manholes are spaced at intervals not greater than 183 m (600 feet) along the main trunk line. The HDPE manholes will provide access to the main trunk line via watertight flanged and bolted manways. The top of flange will be the highest part of the manhole and will be no closer than 1.5 m (5 feet) to the existing arroyo bottom. All pipe will be installed with a minimum 2.4 (8-foot) bury to top of pipe. Horizontal directional drilling will be used to cross under the existing box culverts at Northern Boulevard and Broadmoor Drive. All connections between pipes and at manholes will be either butt-fusion welds or electrofusion couplings; thus, the system will have no mechanical joints or fittings and will be watertight. The proposed main trunk line will replace an existing 15-inch polyvinyl chloride (PVC) sewer that is currently located along the west and south bank of the Montoyas Arroyo. Some portions of the existing 15-inch sanitary sewer fall within the sandy bottom of the channel due to continuing lateral erosion along the arroyo.

With the exception of the horizontal directional drilling described above, open trench construction methods will be used throughout the project. Excavated material will be replaced in the trench to provide bedding and backfill for the pipeline. For calculation purposes, three typical trench sections have been developed that correspond to the anticipated trench depths and lengths required for the project. Trench cross-sections for 12-foot, 16-foot, and 20-foot depths are shown in Appendix B. The volume of dredged material associated with 3,472 linear feet of 12-foot deep trench is estimated to be 12,206 cubic yards.

The volume of dredged material associated with 5,303 linear feet of 16-foot deep trench is estimated to be 25,967 cubic yards. The volume of dredged material associated with 578 linear feet of 20-foot deep trench is 4,572 cubic yards. The total volume of dredged material is estimated to be 42,745 cubic yards. The volume of dredged material that will be displaced by the proposed pipeline is estimated to be 1,958 cubic yards. The volume displaced by the 31 manholes is estimated to be 350 cubic yards. With the exception of the volume associated with the pipeline and manholes, all excavated material will be replaced; thus, approximately 2,308 cubic yards of excavation volume will not be replaced.

## **METHODS**

On October 26, 2011, SWCA Environmental Consultants (SWCA) personnel conducted a biological survey of the project area. The biological survey was conducted on-foot and consisted of a visual assessment of the arroyo and arroyo banks, including a buffer zone extending 5 m (16 feet) outside of the project boundaries. The biological survey was conducted to assess the potential for occurrence of special-status species or sensitive habitats on and directly adjacent to the project area in compliance with the Endangered Species Act (ESA). Existing conditions in the project area were documented with photographs and a description of current land use and dominant plant species.

The list of species federally listed as endangered, threatened, candidate, or proposed in Sandoval County was compiled using the USFWS New Mexico Ecological Field Office database of listed and sensitive species searchable online by county, with updates (USFWS 2011a).

All of the species federally listed in Sandoval County were first evaluated based on their potential to occur in the project area. The potential for occurrence of a species was identified using the following categories:

- *Known to occur*—the species was documented in the project area during SWCA’s biological survey or by other reliable observers.
- *May occur*—the project area is within the species’ currently known range, and vegetation communities, soils, water quality conditions, etc., resemble those known to be used by the species.
- *Unlikely to occur*—the project area is within the species’ currently known range, but vegetation communities, soils, water quality conditions, etc., do not resemble those known to be used by the species, or the project area is clearly outside the species’ currently known range.

Species potentially occurring in the project area and listed by the USFWS as endangered or threatened were assigned to one of three categories of possible effect, following USFWS recommendations. The effects determinations recommended by the USFWS include:

- *May affect, is likely to adversely affect*—This effect determination means that the action would have an adverse effect on the species or its critical habitat. Any action that would result in take of an endangered or threatened species is considered an adverse effect. A combination of beneficial and adverse effects is still considered “likely to adversely affect,” even if the net effect is neutral or positive. Adverse effects are not considered discountable because they are expected to occur. In addition, the probability of occurrence must be extremely small to qualify as discountable effects. Likewise, an effect that can be detected in any way or that can be meaningfully articulated in a discussion of the results of the analysis is not insignificant; it is an adverse affect.

- *May affect, is not likely to adversely affect*—Under this effect determination, all effects to the species and its critical habitat are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without adverse effects to the species (for example, there cannot be “balancing,” so that the benefits of the action would outweigh the adverse effects). Insignificant effects relate to the size of the impact and should not reach the scale where take occurs. Discountable effects are considered extremely unlikely to occur. Based on best judgment, a person would not: 1) be able to meaningfully measure, detect, or evaluate insignificant effects, or 2) expect discountable effects to occur. Determinations of “not likely to adversely affect, due to beneficial, insignificant, or discountable effects” require written concurrence from the USFWS.
- *No effect*—a determination of no effect means there are absolutely no effects to the species and its critical habitat, either positive or negative. It does not include small effects or effects that are unlikely to occur.

The possible effects determinations for candidate and proposed species with the potential to occur in the project area are:

- *Likely to jeopardize*—Expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.
- *Not likely to jeopardize*—Expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

## RESULTS

The project area is in an urbanized setting at an elevation of 1,612 to 1,655 m (5,289–5,430 feet) above mean sea level (amsl). The project area is located in the Albuquerque Basin ecoregion of the Chihuahuan Desert Scrub biotic community (Griffith et al. 2006) consisting primarily of sand sagebrush (*Artemisia filifolia*) and fourwing saltbush (*Atriplex canescens*). Other plant species observed during the survey include broom snakeweed (*Gutierrezia sarothrae*), Apache plume (*Fallugia paradoxa*), plains pricklypear (*Opuntia polyacantha*), Russian thistle (*Salsola tragus*), coyote willow (*Salix exigua*), saltcedar (*Tamarix chinensis*), and Rio Grande cottonwood saplings (*Populus deltoides*). Wildlife observed within the project area include eastern fence lizard (*Sceloporus undulatus*), black-tailed jackrabbit (*Lepus californicus*), and common raven (*Corvus corax*).



Figure 1. Project location.

Of the 10 species on the U.S. Fish and Wildlife Service (USFWS) Sandoval County list, four are listed as threatened or endangered. The proposed project would have no effect on any of these four listed species (Table 1). One of the remaining six special-status species, Gunnison’s prairie dog, may occur within the project area; however this species is a candidate and is not afforded protection under ESA at this time. The project area is either clearly beyond the known geographic or elevational range of the remaining species, or it does not contain vegetation or landscape features known to support these species, or both.

**Table 1. Federally Listed Species Potentially Occurring in Sandoval County, New Mexico**

| <b>Common Name (Species Name)</b>                                       | <b>Status*</b> | <b>Range or Habitat Requirements</b>  | <b>Potential for Occurrence in Project Area</b>  | <b>Determination of Effect</b> |
|---|----------------|---|--|--------------------------------|
| Rio Grande cutthroat trout<br>( <i>Oncorhynchus clarki virginalis</i> ) | USFWS<br>C     | Found in high elevation headwater streams in the Rio Grande, Pecos, and the Canadian river basins in New Mexico and Colorado.   | Unlikely to occur. There are no streams or rivers in the project area. The Rio Grande is not located within or adjacent to the project area.   | No effect.                     |
| Rio Grande silvery minnow<br>( <i>Hybognathus amarus</i> )              | USFWS<br>E     | Found only within an approximate 252-km (157-mile) reach of the Middle Rio Grande in central New Mexico, extending from Cochiti Dam in Sandoval County downstream to Socorro County.  | Unlikely to occur. There are no streams or rivers in the project area. The Rio Grande is not located within or adjacent to the project area.   | No effect.                     |
| Jemez Mountains salamander<br>( <i>Plethodon neomexicanus</i> )         | USFWS<br>C     | Restricted to the Jemez Mountains in northern New Mexico in Los Alamos, Rio Arriba, and Sandoval counties. Predominantly found in mixed-conifer forest at elevations between 2,200 and 2,900 m (7,220–9,510 feet) amsl, consisting mainly of Douglas-fir ( <i>Pseudotsuga menziesii</i> ), blue spruce ( <i>Picea pungens</i> ), Engelmann spruce ( <i>P. engelmannii</i> ), white fir ( <i>Abies concolor</i> ), limber pine ( <i>Pinus flexilis</i> ), and aspen (Salicaceae). Microhabitat is characterized by deep, igneous, subsurface rock with high soil moisture. | Unlikely to occur. There are no habitats in the project area similar to those in which this species occurs and the project area is distant from the species’ known distribution (i.e. the Jemez Mountains). The project area is located below the elevation range of this species. | No effect.                     |
| Southwestern willow flycatcher<br>( <i>Empidonax traillii extimus</i> ) | USFWS<br>E     | Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow ( <i>Salix</i> sp.), boxelder ( <i>Acer negundo</i> ), saltcedar, Russian olive ( <i>Elaeagnus angustifolia</i> ), buttonbush ( <i>Cephalanthus occidentalis</i> ), and arrowweed ( <i>Pluchea sericea</i> ) are present. Nests are found in thickets of trees and shrubs, primarily those that are 4 to 7 m (13–23 feet) tall, among dense, homogeneous foliage. Habitat occurs at elevations below 2,591 m (8,500 feet) amsl.                                       | Unlikely to occur. There are no wetlands or dense riparian vegetation associations in the project area.  | No effect.                     |
| Mexican spotted owl<br>( <i>Strix occidentalis lucida</i> )             | USFWS<br>T     | Found in mature montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak woodlands and associated riparian forests. Generally nests in older forests of mixed conifers or ponderosa pine–Gambel oak ( <i>Pinus ponderosa–Quercus gambelii</i> ). Nests in live trees on natural platforms (e.g., dwarf mistletoe [ <i>Arceuthobium</i> sp.] brooms), snags, and canyon walls at elevations between 1,250 and 2,743 m (4,100–9,000 feet) amsl.  | Unlikely to occur. The project area does not contain montane forests or steep, shady, wooded canyons. There is no riparian vegetation in the project area.   | No effect.                     |

| Common Name (Species Name)  | Status*    | Range or Habitat Requirements  | Potential for Occurrence in Project Area   | Determination of Effect   |
|---|------------|--|--|---------------------------|
| Whooping crane ( <i>Grus americana</i> )                          | USFWS<br>P | Breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Bulrush (Cyperaceae) is the dominant vegetation type used for nesting, and wetland mosaics appear to be the most suitable habitat during migration.                           | Unlikely to occur. There are no wetlands, coastal marshes, estuaries, or other aquatic sites in the project area. No whooping cranes remain in New Mexico.   | No effect.                |
| Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )               | USFWS<br>C | Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 2,012 m (6,600 feet) amsl. Dense understory foliage appears to be an important factor in nest site selection. In New Mexico, most commonly found in the south and along major river valleys, including the San Juan, Rio Grande, Pecos, Canadian, San Francisco, and Gila rivers. | Unlikely to occur. There is no riparian woodland vegetation in the project area.   | No effect.                |
| Black-footed ferret ( <i>Mustela nigripes</i> )                   | USFWS<br>E | Associated with mixed and shortgrass prairie habitats. Depends on prairie dogs ( <i>Cynomys</i> sp.) for food and their burrows for shelter. Historically, ferret habitat largely coincided with habitats of the black-tailed prairie dog ( <i>C. ludovicianus</i> ), Gunnison's prairie dog ( <i>C. gunnisoni</i> ), and white-tailed prairie dog ( <i>C. leucurus</i> ).               | Unlikely to occur. There are no prairies or prairie dog habitats in the project area and the project area is distant from known locations.   | No effect.                |
| Gunnison's prairie dog ( <i>Cynomys gunnisoni</i> )               | USFWS<br>C | Found in level to gently sloping grasslands, semi-desert and montane shrublands, and disturbed areas (road sides, dirt parking lots) at elevations from 1,829 to 3,658 m (6,000–12,000 feet) amsl. Also occupy grass-shrub areas in low valleys and mountain meadows within this habitat.  | May occur. Although there are no grasslands, montane shrublands, or mountain meadows in the project area, the Los Montoyas Arroyo is disturbed and meets the range and habitat requirements to be occupied by prairie dogs.                        | Not likely to jeopardize. |
| New Mexico meadow jumping mouse ( <i>Zapus hudsonius luteus</i> ) | USFWS<br>C | Nests in dry soils, but utilizes moist, streamside, dense riparian/wetland vegetation up to an elevation of about 2,438 m (8,000 feet) amsl. Prefers microhabitats of patches or stringers of tall dense sedges ( <i>Carex</i> sp.) on moist soil along the edge of permanent water.   | Unlikely to occur. The project area is highly disturbed and in a fairly urbanized setting; there is no riparian vegetation for forage or potential shelters for this species in the project area. There is no permanent water in the project area. | No effect.                |

\*USFWS Status Definitions

C = Candidate. Candidate species are those for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the Endangered Species Act. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The Endangered Species Act specifically prohibits the take of a species listed as endangered. Take is defined by the Endangered Species Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

T = Threatened. Threatened species are those in imminent jeopardy of becoming endangered. The Endangered Species Act specifically prohibits the take of a species listed as threatened. Take is defined by the Endangered Species Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

P = Proposed. Proposed species are those which are proposed in the *Federal Register* to be listed under Section 4 of the Endangered Species Act. This could be proposed for endangered or threatened status.

Sources: USFWS (2009, 2011a, 2011b); Arizona Game and Fish Department (2011); New Mexico Avian Conservation Partners (2011); U.S. Department of the Interior (2003); and Corman and Wise-Gervais (2005).

Figure 2 through Figure 7 provide representative views of the project area.



**Figure 2.** View facing west at the east end of the project area.



**Figure 3.** View facing east at the east end of the project area.



**Figure 4.** View facing west of the Los Montoyas Arroyo.



**Figure 5.** View facing west of the Los Montoyas Arroyo.



**Figure 6. View facing east of the Los Montoyas Arroyo.**



**Figure 7. View facing east at the west end of the project area.**

## LITERATURE CITED

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- . 2011b. Environmental Conservation Online System. Species Reports. Available at: [http://ecos.fws.gov/tess\\_public/](http://ecos.fws.gov/tess_public/). Accessed November 4, 2011.
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# APPENDIX C



**FEMA**

99188

May 8, 2014

Jeff Pappas, PhD.  
State Historic Preservation Officer  
Attention Bob Estes, Archaeologist  
Department of Cultural Affairs  
Bataan Memorial Building  
407 Galisteo Street, Suite 236  
Santa Fe, NM 87501



RE: Section 106 Review Consultation, FEMA HMGP-DR-4079-NM Project #8, Southern Sandoval County Arroyo Flood Control Authority Montoyas Arroyo Stabilization Project

Dear Dr. Pappas:

The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is requesting Hazard Mitigation Grant Program (HMGP) funding from the Federal Emergency Management Agency (FEMA) for an erosion and flood control project along Montoyas Arroyo in Rio Rancho, Sandoval County, New Mexico. FEMA is initiating Section 106 review for the proposed undertaking described below.

SSCAFCA is proposing a bank stabilization project along approximately 850 feet of the south bank of the Montoyas Arroyo between Broadmoor Boulevard (Latitude: 35.26002; Longitude: -106.67241) and Loma Vista Boulevard (Latitude: 35.26010; Longitude: -106.66951). The alignment of the Montoyas Arroyo through this reach was significantly altered as a result of the large rainfall events experienced during the monsoon seasons of 2006, 2010, and 2013. The arroyo is encroaching on both public and private rights-of-way, threatening public and private land, stormwater infrastructure, and sanitary sewer utilities. The proposed improvements will include a sloped shotcrete section that will extend up the arroyo side slope to an elevation sufficient to provide 2 feet of freeboard above the 100-year water surface elevation and that will extend below the channel invert approximately 10 feet for long-term scour protection.

In addition to protecting residential structures from flooding, this project will mitigate damage and/or failure of the existing sanitary sewer line within the Montoyas Arroyo, which has been seriously damaged in the past due to high runoff events, resulting in sewer discharge to the Montoyas Arroyo and ultimately the Rio Grande. The area of potential effect (APE) is shown on the enclosed aerial map and topographic map. The APE includes the arroyo streambed and its northern and southern banks. The work will extend up to approximately 100 feet from the southern bank.

On October 17, 2011, SWCA Environmental Consultants (SWCA) was retained to complete a 100 percent pedestrian survey of a proposed project area that was the subject of a U.S. Army Corps of Engineers (USACE) permitting action. The city of Rio Rancho was the permittee and the proposed project consisted of the realignment of a 1.75-mile section of pipeline within the Montoyas Arroyo in Rio Rancho, Sandoval County, New Mexico. The 2011 survey area comprised the active arroyo channel (44 acres [17.8 ha]) with an additional 30-meter (98.45-foot) buffer on all sides of the arroyo (49.2 acre [19.9 ha]). The total area surveyed was 93.2 acres (37.7 ha). The 2011 survey area encompasses the APE for the proposed FEMA action of stabilizing a portion of the southern bank of Montoyas Arroyo.

The New Mexico Cultural Resources Information System (NMCRIIS) Investigation Abstract Form (NIAF) for Activity # 122121 as described above was conducted under New Mexico State Survey Permit: NM-11-055-S. The NIAF (enclosed) indicates that the ground surface in the surveyed area was highly disturbed by foot and all-terrain vehicle traffic. It indicated that much of the project area consists of an active arroyo channel where cultural deposits would not be expected. No cultural resources were located within the project area as a result of the survey. Site 45978 (non-structural prehistoric site of undetermined eligibility) and site 45979 (non-structural site of undetermined eligibility) are close to the APE but not within the APE.

Based on information gathered through this review process, FEMA has made a determination of **No Historic Properties Affected** as a result of the proposed undertaking. SSCAFCA will be required to adhere to the following requirement as a condition of the FEMA grant: "In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains are uncovered, the project must be halted immediately in the vicinity of the discovery, and all reasonable measures will be taken to avoid or minimize harm to the finds. SSCAFCA must secure all archeological findings and restrict access to the sensitive area. SSCAFCA must inform FEMA immediately, and FEMA will consult with the State Historic Preservation Office (SHPO) and appropriate Native American Tribes. Work in sensitive areas must not resume until consultation is completed and until FEMA determines that appropriate measures have been taken to ensure compliance with the National Historic Preservation Act (NHPA) and its implementing regulations."

FEMA requests concurrence with this determination. Your prompt review of this project is greatly appreciated. Should you need additional information please contact Dorothy Weir, FEMA Environmental Specialist, at (940) 383-7250.

Sincerely,



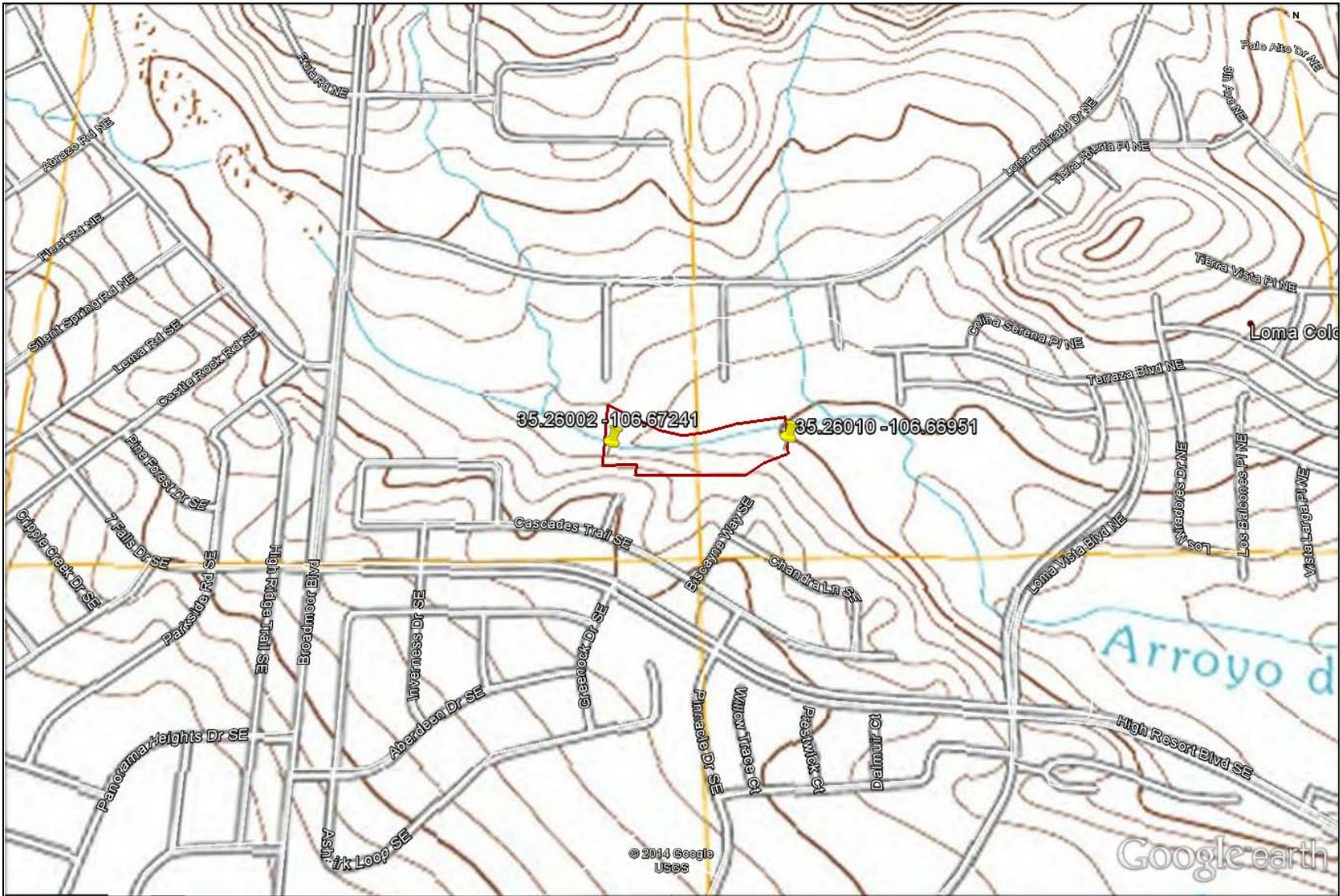
*for* Kevin Jaynes  
Regional Environmental Officer  
Region 6

Concur with recommendations as proposed.

 *Wine* 9, 2014  
for NM State Historic Preservation Officer



Area of Potential Effect: Aerial Map



Area of Potential Effect: Topographic Map



**View facing east of the Los Montoyas Arroyo.**

**From:** [Jimmy Arterberry](#)  
**To:** [Abreu, Hector](#)  
**Subject:** FEMA HMGP-DR-4079-NM, Project #8 Rio Rancho, Sandoval County, NM  
**Date:** Thursday, May 15, 2014 3:27:04 PM

---

In response to your request, the above referenced project has been reviewed by staff of this office. Based on the information provided and a search within the Comanche Nation Site Files, we have determined that there are ***no properties*** affected by the proposed undertaking.

If you require additional information or are in need of further assistance, please contact this office at (580) 595-9960 or 9618.

This review is performed in order to identify and preserve the Comanche Nation and State's cultural heritage, in conjunction with the State Historic Preservation Office.

Jimmy W. Arterberry, THPO  
Comanche Nation  
#6 SW 'D' Avenue, Suite C  
Lawton, Oklahoma 73502  
(580) 595-9960 or 9618  
(580) 595-9733 FAX

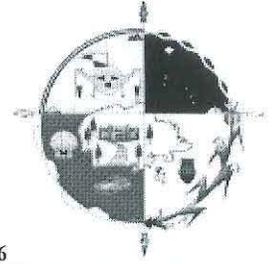
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**THE  
NAVAJO  
NATION**

Historic Preservation Department, POB 4950, Window Rock, AZ 86515 • PH: 928.871-7198 • FAX: 928.871.7886

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June 9, 2014

Kevin Jaynes, Regional Environmental Officer  
U.S. Department of Homeland Security  
FEMA Region 6  
800 N. Loop 288  
Denton, TX 76209

**Subject: Section 106 Review Consultation, FEMA HMGP-DR-4079-NM, Project #8  
Rio Rancho, Sandoval County, NM  
Montoya Arroyo Stabilization Project**

Dear Mr. Jaynes:

The Historic Preservation Department-Traditional Culture Program, hereafter (HPD-TCP) is in receipt of the letter notification for the proposed request of Hazard Mitigation Grant Program funding from the Federal Emergency Management Agency for an erosion and flooding control project along Montoya's Arroyo in Rio Rancho, Sandoval County, New Mexico.

After reviewing the information documents provided, HPD-TCP has concluded the proposed project will not have adverse affects to any Traditional Cultural Properties. HPD-TCP behalf of the Navajo Nation has no further concerns at this time.

If the proposed project inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony the HPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). *(The Navajo Nation claims cultural affiliation to all Anasazi people (periods from Archaic to Pueblo IV) of the southwest. The Navajo Nation makes this claim through Navajo oral history and ceremonial history, which has been documented as early as 1880 and taught from generation to generations.)*

The HPD-TCP appreciates the U.S. Department of Homeland Security's consultation efforts regarding this document. Should you have any additional concerns and/or questions do not hesitate to contact me electronically at [tony@navajohistoricpreservation.org](mailto:tony@navajohistoricpreservation.org) or telephone at 928-871-7750.

Sincerely,

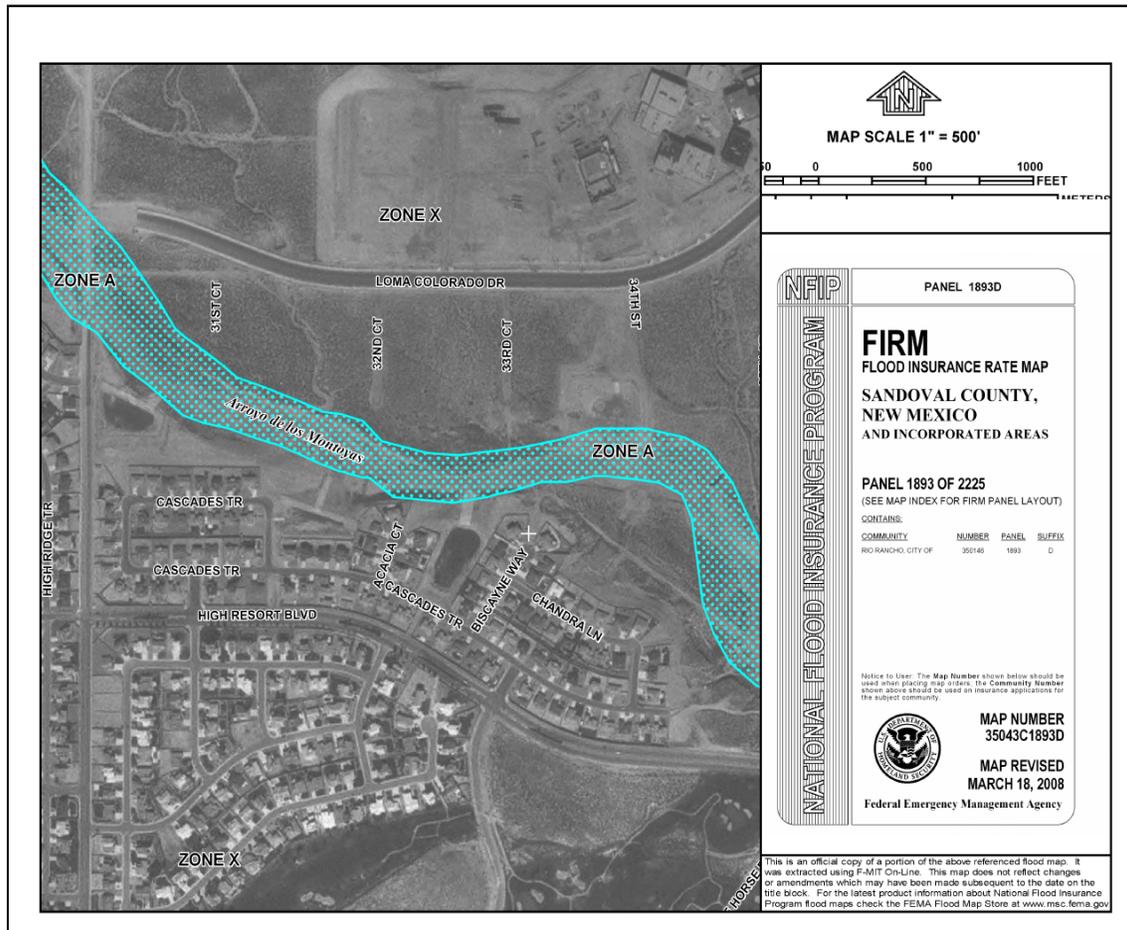
Tony H. Joe, Jr., Supervisory Anthropologist (Section 106 Consultation)  
Traditional Culture Program  
Historic Preservation Department

# APPENDIX D

## EIGHT STEP REVIEW FOR LOWER MONTOYAS BANK STABILIZATION PROJECT

In compliance with FEMA regulations implementing Executive Order 11988, Floodplain Management, FEMA is required to carry out the 8-step decision-making process for actions that are proposed in the floodplain per 44 CFR §9.6.

Step 1 is to determine whether the project is located in the 100-year floodplain. FEMA has determined that portions of the proposed action alternative are located in the 100-year floodplain within a Zone A designation, as depicted on Flood Insurance Rate Map (FIRM) number 35043C1893D, dated March 18, 2008. Zone A indicates an area with a 1 percent annual chance of flooding where base flood elevations have not been determined. The FIRM below depicts the project area. The floodplain is also shown on the project area map provided in Appendix A.



Step 2 is to notify and involve the public in the decision-making process, which will be incorporated into the notice of availability for this Environmental Assessment.

Step 3 is to identify and evaluate practicable alternatives to locating the proposed project in the floodplain, including alternative sites and actions outside of the floodplain. The purpose of the project is to eliminate the potential for erosion along the southern bank of the Montoyas Arroyo in the area where infrastructure and development are threatened by the meandering of the arroyo. The Southern

Sandoval County Arroyo Flood Control Authority (SSCAFCA) identified two alternatives, relocating the infrastructure and development and protection of the infrastructure and development in place. The relocation of the existing gravity sanitary sewer line would require the City of Rio Rancho to completely rework a very large portion of their existing sanitary sewer system. Since this sewer system has developed over the past 40 years as a gravity sewer, the cost for retrofitting this sewer system to relocate it out of the arroyo would be significant. Several sewer lift stations would need to be constructed and operated by the City of Rio Rancho and approximately 2 miles of pressure sewer main would need to be installed. This alternative would cost many millions of dollars and create a large, on-going operations and maintenance burden on the City as each lift station would consume power and would need periodic maintenance of pumps and control systems. The relocation alternative would also require the purchase of two residential structures and relocation of the residents to a different location. Due to the nature of the risk to infrastructure and development (erosion from stormwater flows), the protect-in-place alternative (preferred alternative) was seen as the most cost effective alternative to protecting the infrastructure and development from erosion due to stormwater flows. By the nature of this alternative, it is required that portions of the project be installed within the Zone A floodplain.

Step 4 is to identify impacts associated with occupancy and modification of the floodplain and support of floodplain development that could result from pursuing the proposed action alternative. Per 44 CFR 9.10 "Identify impacts of proposed actions," FEMA should 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 (archeological and historic sites, and open space recreation and green belts); and agricultural, aquacultural and forestry resource values. Factors relevant to a proposed action's effects on the survival and quality of wetlands include public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion; maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

The proposed action alternative will not result in an increased base discharge nor should it increase the flood hazard potential to surrounding structures. The proposed bank stabilization project is not anticipated to encourage development as the area is already fully developed or increase occupancy of the floodplain nor will it significantly adversely affect water resources. The functions of the floodplain to provide flood storage and conveyance, filter nutrients and impurities from runoff, reduce flood velocities, reduce flood peaks, moderate temperature of water, reduce sedimentation, promote infiltration and aquifer recharge, and reduce frequency and duration of low surface flows will remain intact after the implementation of the project. As discussed in **Section 4.2.1** of this EA, there will be minor short-term impacts to water quality during the implementation phase of the project. Floodplains also provide services in the form of providing wildlife habitat, breeding, and feeding grounds. These

floodplain values will not be significantly adversely impacted and the overall integrity of the ecosystem will not be impacted. FEMA has determined the project will have no effect on threatened and endangered species and will not adversely modify or otherwise affect critical habitat. The proposed action would have negligible impacts to native species and their habitats and population levels of native species would not be affected. Sufficient habitat would remain functional to maintain viability of all species. There is the potential for adverse impacts to migratory bird species that may be present at the time of site clearing and grubbing activities. The proposed action will not adversely affect the societal and recreational benefits provided by the floodplain at this location. Open space and recreational uses in the parks will not be affected by the proposed action. As discussed in **Section 4.4**, the site has been surveyed for archeological resources and none were identified as present in the area of potential effect. Archeological resources are considered a societal resource and a value and benefit of floodplain areas. The proposed action will not impact archeological resources due to ground disturbance associated with heavy equipment use.

Step 5 is to minimize the potential adverse impacts and support to or within floodplains identified under Step 4 and restore and preserve the natural and beneficial values served by floodplains. Many of the impacts discussed above are considered insignificant or beneficial to the floodplain. The proposed action to reduce erosion contributes to the conservation of the floodplain and its natural and beneficial values. Short-term water quality impacts will be mitigated by the implementation of best management practices (BMPs; see **Section 4.2.1**). Impacts to migratory bird species will be minimized by seasonal restrictions such that work is conducted outside of nesting season or by the deployment of a biological monitor if work must take place during nesting season (see **Section 4.5.3**). Although no archeological resources were identified in field surveys, if during construction, archeological resources are discovered, the contractor will be required to stop work and contact SSCAFCA who will in turn contact FEMA and/or the State Historic Preservation Office for guidance (see **Section 4.4**). For any work in the floodplain, SSCAFCA will be required to coordinate with the local floodplain administrator and obtain any required permits prior to initiating work. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files. Coordination with the floodplain administrator will ensure that the “no rise” requirement is met per 44 CFR Part 9.11 and 44 CFR Part 60.3.

Step 6 is to determine whether the proposed action is practicable and to reevaluate alternatives. Per the discussion above, the proposed action alternative is the only practicable alternative.

Step 7 requires that the public be provided with an explanation of any final decision that the floodplain is the only practicable alternative. In accordance with 44 CFR §9.12, SSCAFCA must prepare and provide a final public notice 15 days prior to the start of any erosion control activities in the floodplain. Documentation of the final public notice is to be forwarded to FEMA for inclusion in the permanent project files.

Step 8 is the review of the implementation and post-implementation phases of the proposed action to ensure that the requirements stated in 44 CFR Part 9.11 are fully implemented. The proposed erosion control project will be conducted in accordance with applicable floodplain development requirements.