

Draft Environmental Assessment Montoyas Arroyo Bank Stabilization Project

Rio Rancho, Sandoval County, New Mexico

Southern Sandoval County Arroyo Flood Control Authority

FEMA HMGP-DR-4079-NM Project #8

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List of Acronyms

APE	Area of Potential Effects
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CWA	Clean Water Act
dba	decibels on the A-weighted scale
DHSEM	New Mexico Department of Homeland Security and Emergency Management
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
HMGP	Hazard Mitigation Grant Program
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMED	New Mexico Environment Department
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
SSCAFCA	Southern Sandoval County Arroyo Flood Control Authority
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WOUS	Waters of the United States
WSEL	Water Surface Elevation

1.0 Introduction

The nature of flood events in southern Sandoval County, New Mexico, which contains the City of Rio Rancho (Rio Rancho) is characterized by very intense, compact thunderstorms. These thunderstorms drop significant amounts of rainfall over a very short time, creating a surge of stormwater that flows down the arroyos or drainage ditches toward the Rio Grande to the west of the city. As this area of New Mexico is semi-arid, the soils in southern Sandoval County are generally highly erodible. Runoff from intense storm events can rapidly erode large segments of arroyo bank, sometimes eroding up to 40 feet laterally in one storm event, as was seen during the September 2013 flooding event in Rio Rancho.

When Rio Rancho was first platted in the 1960s, there were very few locations where sufficient property was retained in the public domain for the conveyance of stormwater. Consequently, residential and commercial lots have been impacted by the natural meander of the water course. In undeveloped portions of Rio Rancho, this does not present a hazard to structures or human health. However, in those developed areas of the city, there are instances where structures have been threatened or damaged by the meander of the arroyos.

The Montoyas bank stabilization project is designed to mitigate any potential damage to one of those areas where existing public infrastructure and residential development are prone to damage by erosion of the banks of the arroyo from storm events. The proposed project consists of the installation of a scour wall at the invert of the arroyo to keep above grade channel improvements from being undermined, placement of shotcrete along the arroyo bank to prevent further erosion of the bank from future rain events, and minor channeling of stormwater runoff above the shotcrete to prevent any erosion at the top of the structure.

1.1 Project Authority

The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is the local government sponsor of the proposed project. SSCAFCA is a statutorily created governmental entity chartered with management of the large drainages (arroyos) in southern Sandoval County, New Mexico. SSCAFCA has submitted an application to the Federal Emergency Management Agency (FEMA) through the New Mexico Department of Homeland Security and Emergency Management (DHSEM) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP). HMGP provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations Parts 1500-1508), and FEMA's regulations implementing NEPA (44 CFR Part 10). FEMA is

required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed Montoyas Arroyo Bank Stabilization Project. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.2 Project Location

The proposed project is located along the south bank of the Montoyas Arroyo, an ephemeral water course that runs west to east through the City of Rio Rancho, Sandoval County, New Mexico. The proposed erosion control measures would be constructed along the south bank of the Montoyas Arroyo for approximately 850 feet between Broadmoor Boulevard and Loma Vista Boulevard (see Appendix A).

2.0 Purpose and Need

The City of Rio Rancho (Rio Rancho) is the second largest city in New Mexico, located in Sandoval County, New Mexico, just north of the City of Albuquerque, with a population of approximately 90,000 people. When subjected to significant runoff events, the southern bank of the Montoyas Arroyo in the city has a tremendous bank erosion potential. After a significant storm in 2006, the bank of the arroyo migrated significantly south toward existing housing, threatening to erode further toward the houses. Additionally, the City of Rio Rancho has an active sewer line within the arroyo that has been compromised after large storm events due to bank erosion in this area. Finally, a SSCAFCA-maintained concrete run-down from a stormwater detention pond has been damaged and is at risk for complete loss due to bank erosion issues. As development of Rio Rancho continues, more impervious surface will be created west (upstream) of the threatened structures, amplifying runoff quantities and increasing the possibility of significant erosion by smaller and smaller storms.

The purpose of this project is to provide permanent erosion protection and to provide adequate armoring of the bank with freeboard for the 100-year runoff event, which produces approximately 8,800 cubic feet per second (cfs). There is also a need to 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 purpose of HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

3.0 Alternatives

3.1 No Action Alternative

The No Action alternative would entail no construction of bank protection measures along this reach of the Montoyas Arroyo. Consequently, the infrastructure and dwellings along this reach would remain prone to impacts from erosion.

3.2 Proposed Action Alternative

The proposed project is located along the south bank of the Montoyas Arroyo for approximately 850 feet between Broadmoor Boulevard (Latitude: 35.26002; Longitude: -106.67241) and Loma Vista Boulevard (Latitude: 35.26010; Longitude: -106.66951). The project area consists of vacant land owned by SSCAFCA that is adjacent to a residential neighborhood. The proposed improvements will include the installation of a sloped shotcrete section that will extend up the Montoyas Arroyo side slope to an elevation sufficient to provide a minimum of 2 feet of freeboard above the 100-year water surface elevation and will extend below the channel invert approximately 7-feet for long-term scour protection. The scour wall at the invert of the arroyo will keep above grade channel improvements from being undermined. Minor channeling of stormwater runoff above the shotcrete will be implemented to prevent any erosion at the top of the structure. The proposed construction will be scheduled for between October 15 and June 15 (outside of the normal monsoon season in this area).

Upon completion of construction activities, the area will be revegetated with native seed mix. Appendix A provides an aerial map of the project area, maps and photos depicting scour and erosion of the arroyo, and a preliminary grading plan for the proposed improvements.

Since the erosion threat is a location-specific issue, no other locations for the proposed action were considered because an alternate location would not meet the specific purpose and need of this project.

It is estimated that the project lifespan will be at least 50 years. SSCAFCA will be responsible for the design, construction, construction oversight, and ongoing maintenance of the proposed improvements in perpetuity. Maintenance of this project will be evaluated on an annual basis and after every major storm event. Maintenance activities could include measures such as: backfilling scoured out areas along the side slope after major storm events, repairing shotcrete that is damaged by scour/debris during storm events, and monitoring upstream and downstream tie-in points of the bank protection to ensure erosion does not begin to compromise the structure. The proposed construction of shotcrete bank protection provides a more permanent solution to this problem when compared to a riprap side slope treatment.

3.3 Alternatives Considered and Dismissed

In addition to the proposed action, SSCAFCA considered other alternatives and improvements that were eliminated due to cost (both capital and maintenance) and maintainability. Therefore, these alternatives are not analyzed further in this EA.

SSCAFCA evaluated the use of dumped rip-rap as a potential alternative to the selected shotcrete-lined bank protection, however, due to the nature of the sandy soils in the area, it was determined that rip-rap would be prone to undermining and would require continuous maintenance after storm events to ensure that the protection was intact.

A concrete-lined channel was also considered through the subject reach. The channel would have included a 90' bottom width channel with 2:1 side slopes. The cost associated with this alternative was determined unfeasible (\$7.4M) and the proposed action alternative was determined to achieve the same goal at a fraction of the price.

4.0 Affected Environment and Potential Impacts

In the development of this EA, SSCAFCA utilized an environmental document written by SWCA Environmental Consultants (SWCA) for a City of Rio Rancho sewer line replacement project in the same location as the proposed project. The document was completed on December 14, 2011 for the purpose of obtaining a USACE 404 permit to complete the work. Reference will be made to this document as well as the USACE approval of the project throughout this section. Fortunately, the SWCA document covers the entire project area for the proposed project. The SWCA document is contained in Appendix B of this EA.

4.1 Physical Resources

The physical resources considered in this EA are soils, air quality, and climate change. The proposed project does not have the potential to affect geology because construction activities will not be deep enough to affect bedrock; therefore, geological resources are not discussed further in this EA.

4.1.1 Soils

Soils: According to the Natural Resources Conservation Service (NRCS) Soil Survey of Sandoval County Area, New Mexico, two map units are present with the project area, and although they are essentially the same soil type, they have different slopes. Neither of these soil types are hydric soil inclusions. Detailed descriptions of each soil map unit are below. (SWCA, 2011)

Sheppard loamy fine sand, 3% to 8% slopes: This map unit is common in structural benches, dunes, alluvial fans, and stream terraces. This soil is somewhat excessively drained. A seasonal zone of water saturation is at 33 cm (13 inches) during May and June. The elevation range for the complex is 1,585 to 1,737 m (5,200 – 5,700 feet). The average annual precipitation is 20 to 25 cm (8 – 10

inches), the average annual air temperature is 12 to 13 degrees Celsius (53-55 degrees Fahrenheit), and the average frost-free period is 140 to 160 days. This soil does not meet hydric criteria. (SWCA, 2011)

Sheppard loamy fine sand, 8% to 15% slopes: This map unit is common in structural benches, dunes, alluvial fans, and stream terraces. This soil is somewhat excessively drained and the water table is more than 203 cm (80 inches). The elevation range for the complex is 1,585 to 1,737 m (5,200 – 5,700 feet). The average annual precipitation is 20 to 25 cm (8 – 10 inches), the average annual air temperature is 12 to 13 degrees Celsius (53 55 degrees Fahrenheit), and the average frost-free period is 140 to 160 days. This soil does not meet hydric criteria. (SWCA, 2011)

The Farmland Protection Policy Act (FPPA) states that federal agencies must “minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses...” The resources protected by the FPPA include prime and unique farmland. These lands are categorized by the NRCS based on underlying soil mapping units. Sheppard loamy fine sand is not classified a prime or unique farmland. (NRCS Web Soil Survey, 2014)

No Action Alternative:

No impacts on soils would occur during the no action alternative. The Montoyas Arroyo will continue to meander as storm events continue to erode to banks of the arroyo, threatening development in the vicinity of the arroyo banks.

Proposed Action Alternative:

Minor short-term impacts on soils would occur during site preparation and construction of the proposed action alternative. Long-term, minor impacts will occur in the project area by the addition of shotcrete to provide a hardened surface to protect the arroyo embankment. Prime and unique farmlands are not present in the project area and therefore would not be impacted. Consultation with the NRCS is not required under the FPPA when prime farmland soils are not present. To minimize impacts of the proposed action on soils and sedimentation of the arroyo, SSCAFCA would prepare a stormwater pollution prevention plan (SWPPP) and obtain a National Pollution Discharge Elimination System (NPDES) permit prior to construction. Implementation of appropriate erosion and sediment control best management practices (BMPs) would be required during construction. Upon completion of construction activities, the area will be revegetated with native seed mix.

4.1.2 Air Quality

The Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The criteria pollutants include carbon monoxide, lead, nitrogen dioxide, particulate matter greater than 10

microns in diameter, particulate matter greater than 2.5 microns in diameter, ozone, and sulfur dioxide. Rio Rancho and Sandoval County are in attainment with the NAAQS for these criteria pollutants (USEPA, 2014).

Rio Rancho experiences a dry climate with low precipitation and low humidity. Based on 1981 - 2010 climate records, average annual precipitation is 12.26 inches. Precipitation occurs only on 51 days of the year on average. More than six inches precipitation is received during the monsoon season from July through October. The average annual temperature is 55.7 °F. The temperatures range from an average monthly maximum of 78.1 °F in July to an average monthly minimum of 34.3 °F in January (National Climatic Data Center, 2012).

No Action Alternative:

No short or long term impacts will be created from a No Action Alternative. However, short term impacts on air quality will continue to occur during any type of restoration activities in the project area after storm events.

Proposed Action Alternative:

The project will not affect the attainment status for Rio Rancho or Sandoval County. Minor, short-term impacts on air quality would occur during the construction period due to the use of fuel-burning equipment. Construction contractors would be required to implement dust control BMPs such as watering down construction areas when necessary. Fuel-burning equipment running times will be kept to a minimum and engines would be properly maintained. No emissions will be generated at levels that would require a permit from New Mexico Environment Department (NMED) Air Quality Bureau.

4.2 Water Resources

4.2.1 Surface Water Quality

Surface water includes lakes, streams, springs, rivers, seas, and oceans. The project area contains a single ephemeral surface water feature, the Montoyas Arroyo, an intermittent tributary to the Rio Grande. The project is approximately 4.2 miles west of the Rio Grande.

Sections 303(d) and 305(b) of the Clean Water Act (CWA) require all states to identify and characterize waters that do not meet, or are not expected to meet, water quality standards. The most recent 303(d) and 305(b) report issued by the New Mexico Environment Department (NMED) lists the Rio Grande-Albuquerque (non-pueblo Alameda Bridge to HWY 550 Bridge) as impaired for e-coli. The Montoyas Arroyo is not listed in the 303(d) and 305(b) report (NMED, 2012).

No Action Alternative:

Under the no action alternative, nothing would be done to prevent erosion of the arroyo banks. The existing sanitary sewer line within the Montoyas Arroyo would likely continue to be damaged due to high runoff events. Sewer discharges to the

Montoyas Arroyo and the Rio Grande are likely to continue, causing adverse water quality and public health impacts.

Proposed Action Alternative:

The project area includes approximately 0.5 acres of disturbance below the Ordinary High Water Mark (OHWM), along approximately 850 linear feet of the south bank of the arroyo. The Montoyas Arroyo would be directly affected by in-channel work for construction of a scour wall and bank protection. The scour wall and bank protection will help maintain the horizontal alignment of the southern bank of the Montoyas Arroyo during flood events. The proposed action construction will be scheduled for between October 15 and June 15 (outside of the normal monsoon season in this area).

Minor, short-term impacts on surface waters may occur due to transport of sediment from disturbed soils by stormwater runoff during construction. Sediment transport off of the site during rainfall events would be the primary concern for water quality issues within the Montoyas Arroyo. However, the proposed project site is upstream of a large stormwater detention dam. The presence of this dam will minimize the possibility of sediment transport from construction activities from reaching the Rio Grande.

To minimize impacts of the proposed action on soils and sedimentation of the arroyo, SSCAFCA would prepare a stormwater pollution prevention plan (SWPPP) and obtain a National Pollution Discharge Elimination System (NPDES) permit prior to construction. Implementation of appropriate erosion and sediment control best management practices (BMPs) would be required during construction. Upon completion of construction activities, the area will be revegetated with native seed mix, which will further reduce sedimentation of waterways.

4.2.2 Waters of the United States Including Wetlands

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants to the Waters of the United States (WOUS).

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into WOUS, including wetlands, pursuant to Section 404 of the CWA. Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impacts to wetlands. Wetlands are delineated based on an area meeting three criteria: hydric soils, hydrophilic vegetation, and hydrologic indicators. The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), USGS National Map Viewer, and the USDA/NRCS online Web Soil Survey maps of the project area were reviewed as well as a field survey conducted to determine the existence or absence of wetlands in the project area.

None of the national inventories identified any wetlands within the project area.

The field survey identified one atypical wetland within the project vicinity, approximately 1,000 feet to the east of the proposed project area. This man-induced wetland is a result of modification of the arroyo to accommodate surface water runoff from nearby residential neighborhoods. Surface runoff flows into a drainage system that empties via culverts into the arroyo. All three wetland criteria were met; however, the area is very sparsely vegetated with only five plants occurring in the immediate vicinity of the wetland. Of those five, only two were identified as obligate. Although this wetland may qualify as an atypical situation (Wetland Training Institute, Inc. 1995), the area was determined to be a 0.038-acre wetland. An additional area downstream from the atypical wetland was also sampled, but failed to meet at least one of the three wetland criteria to be considered a wetland (SWCA, 2011).

No Action Alternative:

Under the No Action Alternative, nothing will be done to protect the banks of the Montoyas Arroyo from meandering. No impacts to wetlands will be created under the No Action Alternative due to construction related activities.

Proposed Action Alternative:

Due to the nature and location of the work, SSCAFCA, in working with the USACE, has determined that a 404 permit will be required for the performance of this work. The proposed project will be verified under Nationwide Permit 13 for bank stabilization.

SSCAFCA is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and copies forwarded to the State and FEMA as part of the permanent project files.

The proposed project will not impact the atypical wetland as it is geographically separated from the proposed project area. SSCAFCA must ensure that best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. This includes equipment storage and staging of construction to prevent erosion and sedimentation to ensure that wetlands are not adversely impacted per the Clean Water Act and Executive Order 11990.

4.2.3 Floodplains

EO 11988 (Floodplain Management) requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses the Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance

Program. Consistent with EO 11988, FIRMs were examined during the preparation of this EA. The project area is within Zone A of the 100-year floodplain (FEMA 2008, Map Number 35043C1893D, See Appendix A).

In preparation for this project, a Hydrology and Hydraulics Report was prepared by SSCAFCA evaluating impacts to the floodplain from the proposed project. This report was prepared by a licensed Professional Engineer in the State of New Mexico, reviewed and approved by the City of Rio Rancho Floodplain Administrator.

The findings of this report were:

- Although the modeled floodplain boundary extends outside of the published FEMA Zone A floodplain in some locations (due to underlying topography used in different models), Water Surface Elevation Level (WSEL) effects are wholly contained within the public right of way for drainage, and increases do not extend onto privately owned right of way.
- Increases in WSEL are minimal (<0.5-ft) and will not impact adjacent, upstream or downstream property owners.
- FEMA Zone A designation does not report WSELs. WSEL information presented in the report is only pre- and post-project comparisons and is not meant to be an exact comparison with the FEMA model.

The above mentioned report was approved by the City of Rio Rancho floodplain administrator and no remapping requirements were identified.

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion, changing the floodplain and continuing to threaten additional structures as the erosion continues.

Proposed Action Alternative:

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.

The 8-step decision making process narrative is included in Appendix D of this document.

4.3 Biological Resources

4.3.1 Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 requires Federal agencies to determine the effects of their proposed actions on threatened and endangered species of fish, wildlife, and plants and their habitats, and to take steps to conserve and protect these species.

On October 26, 2011, 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 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 on-line Information, Planning, and Conservation System (IPaC):

Table 1: Sandoval County, New Mexico Endangered Species

Common Name	Scientific Name	Federal Status
Jemez Mountains salamander	<i>Plethodon neomexicanus</i>	E
Mexican Spotted owl	<i>Strix occidentalis lucida</i>	T
Southwestern Willow flycatcher	<i>Empidonax traillii extimus</i>	E
Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	P - T
Rio Grande Cutthroat trout	<i>Oncorhynchus clarkia virginialis</i>	C
Rio Grande Silvery minnow	<i>Hybognathus amarus</i>	E
New Mexico meadow jumping mouse	<i>Zapus hudsonius leteus</i>	E
Source: USFWS 2014; C= Candidate, E= Endangered, T= Threatened, P= Proposed		

The Jemez Mountains salamander is restricted to the Jemez Mountains in northern Sandoval County and is predominantly found in mixed-conifer forest at elevations between 2,200 m and 2,900 m (7,220 – 9,510 feet) and is not present at the proposed project location. This species is 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. Jemez Mountains). The project is located below the elevation range of this species. Critical habitat has been designated for this species, but none exists within or in close proximity to the proposed project area.

The Mexican spotted owl found in mature mountain forests and woodlands and steep, shady, wooded canyons. This species is unlikely to occur in the project area. The project area does not contain mountain forests or steep, shady, wooded canyons. There is no riparian vegetation in the project area. Critical habitat has been designated for this species, but none exists within or in close proximity to the proposed project area.

The Southwestern Willow flycatcher is found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, box elder, salt cedar, Russian olive, buttonbush and arrow weed are present. This species is unlikely to occur in the project area. There are no wetlands or dense riparian vegetation associations in the project area. Critical habitat has been designated for this species, but none exists within or in close proximity to the proposed project area.

The Yellow-Billed cuckoo is found in riparian woodland vegetation (cottonwood, willow, or salt cedar) at elevations below 2,012 m (6,600 feet). This species is unlikely to occur in the project area. There is no riparian woodland vegetation in the project area. Critical habitat has been proposed for the Yellow-Billed cuckoo and there is a proposed critical habitat unit approximately 4.3 miles from the project area along the Rio Grande River.

The Rio Grande Cutthroat trout is found in high elevation headwater streams in the Rio Grande, Pecos and Canadian river basins in New Mexico and Colorado. This species is unlikely to occur in the proposed project area as there are no streams or rivers in the proposed project area. The Rio Grande is not located within or adjacent to the project area. This species is a Candidate species, therefore critical habitat has not been proposed or designated.

The Rio Grande Silvery minnow is 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. This species is unlikely to occur in the proposed project area as there are no streams or rivers in the proposed project area. The Rio Grande is not located within or adjacent to the project area. Critical habitat has been designated for the Rio Grande Silvery minnow. A critical habitat unit is located approximately 4.4 miles from the proposed project area to the southwest of the Village of Corrales.

The New Mexico meadow jumping mouse nests in dry soil but utilizes moist, streamside, dense riparian/wetland vegetation up to an elevation of about 2,438 m (8,000 feet). It prefers microhabitats of patches or stringers of tall dense sedges on moist soil along the edge of permanent water. The species is unlikely to occur in the proposed project area. 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. Critical habitat has been proposed for this species, but none exists within or in close proximity to the proposed project area.

A full biological resources report is contained in Appendix B of this EA.

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering

the geography of the area via erosion. Habitat for all species will continue to be altered via the natural erosion processes, which are now being influenced by increased runoff quantities and velocities from impermeable surfaces due to upstream development.

Proposed Action Alternative:

FEMA has made the determination that the proposed action will have no effect on federally threatened, endangered, or proposed species because the species and their habitats are not located in the project area and the project will not otherwise impact species outside of the immediate project area. Critical habitat is not present in the project area and critical habitat in proximity to the Montoyas Arroyo stabilization project will not be impacted. Therefore, FEMA has determined that the proposed action will not adversely modify designated or proposed critical habitat.

4.3.2 Common Wildlife Species

In addition to the listed species discussed in the previous section, the proposed action has the potential to impact common wildlife species and their habitats. The project area may provide habitat for a number of migratory bird species, which are protected by the Migratory Bird Treaty Act (MBTA). The MBTA decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected and that taking, killing, or possessing migratory birds is unlawful. Nearly all native North American bird species are protected by the MBTA.

The project area is in an urbanized setting at an approximate elevation of 5,400 feet above mean sea level. 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 SWCA survey in 2011 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*) (SWCA 2011).

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. Habitat for all species will continue to be altered via the natural erosion processes, which are now being influenced by increased runoff from impermeable surfaces due to upstream development.

Proposed Action Alternative:

Approximately 1.0 acres of high desert vegetation (shrub brush and grasses) will be removed for construction of the proposed project. Upon completion of construction activities, the area will be revegetated with native seed mix.

Portions of the work would be conducted during the breeding season for migratory birds and would comply with the conditions below to avoid potential impacts on migratory birds. Potential impacts likely would be temporary and have little effect on local populations. Therefore, significant adverse impacts from the proposed action on the various common species documented within the project area would not be expected.

The proposed action construction will be scheduled for between October 15 and June 15, outside of the normal monsoon season in this area. The following mitigation measures would be required to avoid and/ reduce potential impacts on migratory birds. SSCAFCA will limit vegetation removal during the peak migratory bird nesting period of April through August as much as possible to avoid destruction of individuals, nests, or eggs. If vegetation removal activities must occur during the nesting season, SSCAFCA will deploy a qualified biological monitor with experience conducting breeding bird surveys to survey the vegetation management area for nests prior to conducting work. The biologist will determine the appropriate timing of surveys in advance of work activities. If an occupied migratory bird nest is found, work within a buffer zone around the nest will be postponed until the nest is vacated and juveniles have fledged. The biological monitor will determine an appropriate buffering radius based on species present, real-time site conditions, and proposed work. For work near an occupied nest, the biological monitor would prepare a report documenting the migratory species present and the rationale for the buffer radius determination, and submit that report to FEMA for inclusion in project files.

4.4 Cultural Resources

The National Historic Preservation Act (NHPA) of 1966, (PL 89-665; 16 USC 470 et seq.) as amended, outlines federal policy to protect historic properties and promote historic preservation in cooperation with the States, Tribal Governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering State-level programs. The NHPA also created the Advisory Council on Historic Preservation, the federal agency responsible for overseeing Section 106 of the NHPA process and its implementing regulations (36 CFR 800) and providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA outlines the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to a federal undertaking that has the potential to affect historic properties, defined in the NHPA as those properties (archaeological sites, standing structures, or other historic resources) that are listed in or eligible for listing in the NRHP. Although buildings and

archaeological sites are most readily recognizable as historic properties, a diverse range of resources are listed in the NRHP, including roads, landscapes, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties within the Area of Potential Effects (APE) for an undertaking, assessing the effects of the undertaking on those historic properties, if present, and considering ways to avoid, minimize, and mitigate any adverse effects of its undertaking on historic properties; it is the primary regulatory framework that is used in the NEPA process to determine impacts on cultural resources. The APE is the geographic area within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.

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 for a sewer line project. 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. No historic properties or Native American religious sites were identified within the APE as a result of the survey (SWCA, 2011).

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No cultural resources will have the potential to be impacted from heavy equipment or other project related activities.

Proposed Action Alternative:

The APE for the proposed action includes the arroyo streambed and its northern and southern banks. The work will extend up to approximately 100 feet from the southern bank. The SWCA survey indicated that the ground surface in the surveyed area was highly disturbed by foot and all-terrain vehicle traffic. 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.

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. The New Mexico SHPO concurred with this determination in a letter dated June 9, 2014 (See Appendix C). In addition, FEMA consulted with sixteen federally recognized tribes that had potential interest in the project area: Pueblo of Cochiti, Comanche Nation, Pueblo of Isleta, Pueblo of Jemez, Jicarilla Apache Nation, Pueblo of Laguna, Navajo Nation, Ohkay Owingeh, Pueblo of San Felipe, Pueblo of San Ildefonso, Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Santa Clara, Pueblo of Santo Domingo, Pueblo of Tesuque, and Pueblo of Zia. At the time of this draft EA, FEMA had received concurrence from the Comanche Nation and Navajo Nation (See Appendix C).

In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains are uncovered, the project shall be halted and SSCAFCA shall stop all work immediately in the vicinity of the discovery and take all reasonable measure to avoid or minimize harm to the finds. The applicant will inform FEMA immediately and FEMA will consult with the SHPO. Work on sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.

4.5 Socioeconomic Resources

4.5.1 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data were reviewed for the project area to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

Table 2: City of Rio Rancho Demographics

	City of Rio Rancho	Sandoval County	State of New Mexico
Total Population (2010)	87,394	131,563	2,059,183
Annual Median household income	\$60,125	\$58,116	\$44,886
% households below poverty level (2008-2012)	9.8%	13.2%	19.5%
% minority population	46.2%	53.4%	59.5%
% Hispanic (may be of any race)	36.7%	36.3%	46.3%
% of population over 65 (2012)	10.8%	13.5%	13.2%
Source: USCB 2010, 2012			

Minorities represented 46.2 percent, 53.4 percent, and 59.5 percent, respectively of the City of Rio Rancho, Sandoval County, and the State of New Mexico populations. The following table shows specific racial composition of the City of Rio Rancho. The City of Rio Rancho has a higher median household income and a lower percentage of low-income populations than Sandoval County and the State

of New Mexico. The dominant ethnicity for the City of Rio Rancho is white (53.8% of the population).

Table 3: City of Rio Rancho racial composition

	City of Rio Rancho	Sandoval County	State of New Mexico
% White	53.8%	46.6%	40.5%
% Hispanic or Latino	36.7%	36.3%	46.3%
% Black or African American	2.9%	2.5%	2.1%
% American Indian or Native Alaskan	3.2%	13.4%	9.4%
% Asian	1.9%	1.7%	1.4%
% Native Hawaiian or Other Pacific Islander	0.2%	0.2%	0.1%
% two or more races	4.7%	2.7%	3.7%

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No Environmental Justice issues will occur from heavy equipment or other project related activities.

Proposed Action Alternative:

Disproportional adverse impacts to minority or low income populations are not anticipated. The purpose of the project is to reduce the risk of floods and scouring on residential structures and other public infrastructure in the project area. Long-term beneficial impacts would occur in the preservation of existing homes from erosion due to flooding. Temporary jobs may also be created during construction.

4.5.2 Hazardous Materials

Hazardous substances are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that pose a substantial present or potential hazard to human health and the environment. Hazardous substances are primarily generated by industries, hospitals, research facilities, and the government. Improper management and disposal of hazardous substances can lead to pollution of groundwater or other drinking water supplies, and the contamination of surface water, ground water, and soil. The primary federal regulations for the management and disposal of hazardous substances are the Comprehensive Environmental Response, Compensation and Liability Act and the Resource Conservation and Recovery Act.

The EPA Enviromapper was reviewed and showed no known sources of hazardous materials in or adjacent to the project area (EPA 2014).

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No potential for Hazardous Materials issues will occur from heavy equipment or other project related activities.

Proposed Action Alternative:

The proposed project will create no new sources of hazardous materials. Contaminants are not expected to be encountered at the project site during construction. If contaminated materials are discovered during construction activities, the work must cease until the appropriate procedures can be implemented and permits obtained. The construction contractor shall handle, manage, and dispose of excavated soil and debris, petroleum products, hazardous materials, and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state and Federal agencies.

4.5.3 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels on the A-weighted scale (dBA), which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines and those of many other federal agencies, state that outdoor sound levels in excess of 55 dBA DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals. The project area is bounded on the south by a residential neighborhood and on the north by vacant land. Typical noises coming from a residential setting include vehicles, dogs, and human voices.

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No potential noise issues will occur from heavy equipment or other project related activities. Periodic noise issues will occur during any remedial activities that may occur in response to an erosion event.

Proposed Action Alternative:

The proposed project will have a short-term minor increase in noise due to the operation of heavy construction equipment. To mitigate these temporary noise impacts, construction activities will take place during normal business hours and equipment and machinery used at the proposed project site should meet all local, state and federal noise regulations.

4.5.4 Traffic

There are no streets within the immediate project area, though the project is adjacent to Broadmoor and other residential streets to the south. The only potential impact on traffic will be heavy equipment and trucks turning off of access roads to access the site.

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No traffic impacts will occur from heavy equipment or other project related activities. If allowed to fester, erosion in the area could begin to threaten residential streets in the area.

Proposed Action Alternative:

Short-term, minor increases in the volume of construction traffic at access points to the construction site. No temporary road closures are anticipated from construction activities. Appropriate signage at construction entrances as required to local, state and federal regulations.

4.5.5 Public Service and Utilities

There is currently one gravity sewer line that runs through the project site. Current elevation and location data for the sewer line has been obtained.

Prior to construction, the construction contractor will be required to contact the State One-Call utility spotting service to identify the location of all existing utilities in the project area.

In the event of damage, the construction contractor must contact the utility owner and, if required, the New Mexico Environment Department (NMED).

No Action Alternative:

Under the no action alternative, nothing would be done to prevent erosion of the arroyo banks. The existing sanitary sewer line within the Montoyas Arroyo would likely continue to be damaged due to high runoff events. Sewer discharges to the Montoyas Arroyo and the Rio Grande are likely to continue, causing adverse water quality and public health impacts.

Proposed Action Alternative:

Construction contractor shall contact New Mexico One-Call to ensure proper location of utilities prior to commencing construction activities and protect any utilities located within the project area from damage.

No interruption to public service and utilities is anticipated during construction activities. In the event of damage to a utility, the contract will be required to contact the utility owner, and, if applicable, the NMED, to report the utility strike and, if necessary, report quantities of sewage spilled. If a sewer line is struck and compromised, the contractor will be required to contain and take corrective measures prior to proceeding with construction operations.

4.5.6 Public Health and Safety

EO 13045 (Protection of Children) requires federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children. Safety and security issues considered in this EA include the health and safety of area residents and the public at-large, and the protection of personnel involved in the activities related to the proposed construction of the project. The project area consists of vacant land (owned by SSCAFCA) adjacent to a residential neighborhood. Access to SSCAFCA-owned land is restricted from the east. There is no publicly available space and activities are restricted to private residential uses.

No Action Alternative:

Under the No Action Alternative, the Montoyas Arroyo will continue to meander, altering the floodplain by changing the course of stormwater by virtue of altering the geography of the area via erosion. No potential public issues will occur from heavy equipment or other project related activities. If the project is not completed, a potential public safety issue with regard to exposure to raw sewage in the arroyo is possible. While not specifically designated as publicly available open space, arroyos are commonly used as open space by residents of the City of Rio Rancho. The introduction of raw sewage into these open spaces provides for potential exposure to pathogens by those who use the arroyos for recreation or conveyance.

Proposed Action Alternative:

The primary safety concern with regard to the proposed project will be construction activities that present safety risk to those performing the activities. Risk could occur if residents wander onto the construction site and gain access to operating machinery or onsite materials. To minimize these risks to local residents and the public, appropriate safety BMPs such as signage and barriers will be placed at potential access points to the project area. All construction activities will be performed by qualified personnel trained in the proper use of appropriate equipment, including all appropriate safety precautions. All activities will be conducted in a safe manner in accordance with standards specified in the Occupational Safety and Health Administration (OSHA) regulations. The construction contractor will be responsible for adhering to the New Mexico One-

Call Law, which promotes public safety, environmental protection and the integrity of underground utilities.

4.6 Summary

The following table summarizes the potential impacts of the proposed project and conditions or mitigation measures to offset those impacts.

Table 4: Summary Table

Environment	Impacts	Mitigation
Soils	Minor short-term impacts on soils would occur during site preparation and construction. Long-term, minor impacts will occur in the project area by the addition of shotcrete to provide a hardened surface to protect the arroyo embankment. No impacts to prime farmlands would occur.	SSCAFCA will prepare a SWPPP and obtain an NPDES permit prior to construction. Implementation of appropriate erosion and sediment control BMPs will be required during construction.
Air Quality	Minor, short-term impacts on air quality would occur during the construction period.	Construction contractors will be required to implement dust control BMPs such as watering down construction areas when necessary. Fuel-burning equipment running times will be kept to a minimum and engines would be property maintained.
Surface Water Quality	Minor, short-term impacts on offsite surface waters may occur due to transport of sediment from disturbed soils by stormwater runoff during construction.	SSCAFCA will prepare a SWPPP and obtain an NPDES permit prior to construction. Appropriate BMPs, such as installing silt fences and revegetating bare soils will be implemented.
Waters of the United States Including Wetlands	Minor, short-term impacts on off-site surface water may occur due to transport of sediment from disturbed soils by stormwater runoff during construction. Wetlands will not be impacted.	SSCAFCA is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) and/or any Section 401/402 Permit(s) from the State prior to initiating work. The applicant must comply with all conditions of the required permit(s).

Environment	Impacts	Mitigation
		All coordination pertaining to these activities should be documented and copies forwarded to the State and FEMA as part of the permanent project files.
Floodplains	No adverse impacts on floodplains are anticipated. Construction of the erosion control facility will provide permanent protection to residents from flood waters.	SSCAFCA must coordinate with the local floodplain administrator and obtain 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.
Threatened and Endangered Species and Critical Habitat	No impacts on federally or state protected species are anticipated.	None.
Common Wildlife Species	Approximately 1.0 acres of high desert will be removed. No adverse effects to migratory birds are anticipated. Impacts to common wildlife would be temporary and have little effect on local populations.	Upon completion of construction activities, the area will be revegetated with native seed mix. SSCAFCA will limit vegetation removal during the peak migratory bird nesting period of April through August as much as possible to avoid destruction of individuals, nests, or eggs. If vegetation removal activities must occur during the nesting season, SSCAFCA will deploy a qualified biological monitor with experience conducting breeding bird surveys to survey the vegetation management area for nests prior to conducting work. The biologist will determine the appropriate timing of surveys in advance of work activities. If an occupied migratory bird nest is found, work within a buffer zone around the nest will be postponed until the nest is vacated and juveniles have fledged. The biological monitor will determine an

Environment	Impacts	Mitigation
		appropriate buffering radius based on species present, real-time site conditions, and proposed work. For work near an occupied nest, the biological monitor would prepare a report documenting the migratory species present and the rationale for the buffer radius determination, and submit that report to FEMA for inclusion in project files.
Cultural Resources	No impacts on cultural resources are anticipated.	In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains are uncovered, the project shall be halted and SSCAFCA shall stop all work immediately in the vicinity of the discovery and take all reasonable measure to avoid or minimize harm to the finds. The applicant will inform FEMA immediately and FEMA will consult with the SHPO. Work on sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.
Environmental Justice	No disproportionately high or adverse effect on minority or low-income populations is anticipated. All populations would benefit from the proposed project.	None.
Hazardous Materials	No hazardous materials or waste impacts are anticipated.	If contaminated materials are discovered during construction activities, the work must cease until the appropriate procedures can be implemented and permits obtained. The construction contractor shall handle, manage, and dispose of excavated soil and debris, petroleum products, hazardous materials, and

Environment	Impacts	Mitigation
		toxic waste in accordance to the requirements and to the satisfaction of the governing local, state and federal agencies.
Noise	Short-term impacts on noise levels would occur in the project area during the construction period.	Construction would take place during normal business hours and equipment would meet all local, state, and federal noise regulations.
Traffic	Short-term, minor increases in the volume of construction traffic at access points to the construction site. No temporary road closures are anticipated from construction activities.	Appropriate signage at construction entrances as required to local, state and federal regulations.
Public Service and Utilities	No interruption to public service and utilities is anticipated during construction activities.	Construction contractor shall contact New Mexico One-Call to ensure proper location of utilities prior to commencing construction activities and protect any utilities located within the project area from damage. In the event of damage, construction contractor shall contact the utility owner and, if required, the New Mexico Environment Department.
Public Health and Safety	Minor, short-term safety risks would occur during construction for those performing the activities and the general public, including children living in adjacent residencies.	Appropriate signage and barriers would be placed at access points to the project to prohibit public access to the project area. All construction activities would be performed by qualified personnel in accordance with OSHA regulations. The construction contractor would be responsible for adhering to the New Mexico One-Call law.

5.0 Cumulative Impacts

According to CEQ regulations, cumulative impacts represent 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).” In accordance with NEPA and to the extent practical, this EA

considered the combined effect of the proposed action and other actions occurring or proposed in the vicinity of the project area.

Other local construction projects and the proposed project may have a cumulative temporary impact on local air quality by increasing criteria pollutants during construction activities and on water quality from sedimentation during construction. No other cumulative effects are anticipated.

6.0 Public Involvement

FEMA is the lead federal agency for conducting the NEPA compliance process for the proposed Montoyas Arroyo Bank Stabilization project. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

SSCAFCA has had several meetings with the local neighborhood association adjacent to the project site. Additionally, SSCAFCA has conducted coordination meetings with the USACE with regard to the Section 404 permit that will be required for the project.

SSCAFCA will notify the public of the availability of the draft EA through the publication of a public notice in the local newspaper of record. The draft EA will be made available for public review at a physical location in the project area and on FEMA's web site (www.fema.gov). FEMA will conduct a 30-day public comment period commencing on the initial date of publication of the public notice. FEMA will consider and respond to all public comments in the Final EA. If no substantive comments are received, the Draft EA will become final and a FONSI will be issued for the project.

7.0 Agency Coordination

As part of the development of this EA, the following agencies were contacted or consulted via web services.

- U.S. Fish and Wildlife Service, Division of Ecological Services
- U.S. Department of Agriculture, Natural Resource Conservation Service
- U.S. Army Corps of Engineers, Regulatory Division
- New Mexico State Historic Preservation Office
- Pueblo of Cochiti
- Comanche Nation
- Pueblo of Isleta
- Pueblo of Jemez
- Jicarilla Apache Nation
- Pueblo of Laguna
- Navajo Nation
- Pueblo of Ohkay Owingeh
- Pueblo of San Felipe

- Pueblo of San Ildefonso
- Pueblo of Sandia
- Pueblo of Santa Clara
- Pueblo of Santo Domingo
- Pueblo of Tamaya (Santa Ana)
- Pueblo of Tesuque
- Pueblo of Zia
- City of Rio Rancho Floodplain Administrator.

In accordance with applicable local, state, and federal regulations, SSCAFCA, or its contractor, would be responsible for acquiring any necessary permits prior to commencing construction at the project area.

8.0 References

- Federal Emergency Management Agency (FEMA), *Flood Insurance Rate Map, Sandoval County, New Mexico and incorporated areas, Map Number 35043C1893D, panel 1893 of 2225, Map Number 35043C1893D*, Revised March 18, 2008.
- Griffith et al. 2006. Ecoregions of New Mexico (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,400,000)
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- SWCA Environmental Consultants (SWCA), *Technical Memorandum, Biological Evaluation of 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*, December 14, 2011.
- SWCA Environmental Consultants (SWCA), *NMCRIS Investigation Abstract Form (NIAF), A Cultural Resources Survey of the Arroyo de los Montoyas in Sandoval County, New Mexico*, November 1, 2011.
- U.S. Census Bureau, 2014. <http://quickfacts.census.gov/qfd/states/35000.html> , accessed June 30, 2014
- U.S. Environmental Protection Agency (USEPA), *Listing of Currently Designated Nonattainment Areas*, 2014. <http://www.epa.gov/oaqps001/greenbk/ancl.html> , accessed July 1, 2014.
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