

Final Supplement to the Environmental Assessment for the SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION PROJECT Albuquerque, Bernalillo County, New Mexico

Prepared by

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Cooperating Agencies

U.S. Bureau of Reclamation Middle Rio Grande Conservancy District

September 2010

Finding of No Significant Impact

Southwest Valley Flood Damage Reduction Project

Albuquerque, Bernalillo County, New Mexico

The United States Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA) and Bernalillo County, New Mexico, is planning a project that will improve stormwater drainage and reduce the potential for flooding within the Southwest Valley Project Area (Project Area), which is located in the southwest corner of Albuquerque and Bernalillo County.

The Project Area is subject to flooding from a variety of sources. Steep slopes surrounding the Project Area drain high peak discharges that typically transport large quantities of sediment. These flows are intercepted by the existing irrigation facilities, many of which have associated embankments one to three feet high. These embankments and roadways divide the Project Area into many small sub-areas, causing floodwaters to pond on-site, inundating residential, commercial, or agricultural land.

In April 2004, the Corps completed a Final Feasibility Report and Environmental Assessment for the Southwest Valley Flood Damage Reduction Project, Albuquerque, Bernalillo County, New Mexico (2004 FFR/EA). The Finding of No Significant Impact (FONSI) for the 2004 FFR/EA was signed on 20 April 2004. Twenty-two alternatives were initially identified and the 2004 FFR/EA explored four of these in detail. The 2004 FFR/EA addressed the potential effects of a number of drainage management projects, including non-structural projects (flood-proofing), constructing small detention ponds, installing pumps, constructing cross-basin channels, or using a combination of detention and storage features. The recommended plan from the 2004 FFR/EA called for utilizing existing easements, widening existing drains, constructing a large stormwater detention pond area, and two new channels.

This Supplemental Environmental Assessment (SEA) reflects changes and additions made to the original project design. These include changes in alignments because of rights of way and easement issues, construction schedules, and improved design elements.

The Project Area is bounded by Central Avenue to the north, the Rio Grande to the east, Don Felipe Road to the south, and Coors Boulevard to the west. The project will be completed in four separate phases as funding becomes available. The duration of the proposed first phase of construction will be approximately 12 months and is proposed to start in September 2010.

The proposed project qualifies for Nationwide Permits 12 and 18 under Section 404 of the Clean Water Act. Initially, it was thought that Nationwide Permit 43 would be applicable but, it has since been determined, that it is not. Construction of a new

discharge outlet in the floodplain of the Rio Grande is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands), as no wetlands are within the project limits.

Special status species under Section 7 of the Endangered Species Act with potential to occur in the Project Area include Southwestern Willow Flycatcher (*Empidonax trailii extimus*), the Rio Grande silvery minnow (*Hybognathus amarus*), and silvery minnow critical habitat. The survey and analysis for these species determined that the proposed work will have no effect on the Southwestern willow flycatcher. However, the work may affect, but is not likely to adversely affect, the silvery minnow and its critical habitat. A Revised Biological Assessment was submitted to the U.S. Fish and Wildlife Service in July 2010 and concurrence on these determinations was received on 28 July 2010.

A cultural resources survey of the project was conducted and several isolated artifacts were recorded. The material was documented in accordance with the New Mexico standards and the report was provided to the New Mexico State Historic Preservation Officer (SHPO) on February 25, 2010. No response was received from the SHPO. Pursuant to 36 CFR 800.5(c)(1), "the agency official may proceed after the close of the 30 day review period if the SHPO/THPO has agreed with the finding or has not provided a response." Given this, and the time-sensitive nature of the proposed action, the Corps stands by its determination of no adverse effect to historic properties and may proceed with the undertaking pursuant to 36 CFR 800.5(c)(1).

The proposed work will utilize appropriate Best Management Practices to reduce the quantities of pollutants. Construction access will be from existing paved roads within the Project Area. All staging areas, including the stockpiling of construction materials and equipment not in operation, will be above the 100-year floodplain.

Specific environmental commitments include:

- 1.) Construction of the Los Padillas Spillway Diversion will take place during winter low flow periods, and all construction equipment will remain at least 75 feet from the active edge of the river channel.
- 2.) A Corps biologist will monitor the project during construction at the bank of the river in order to ensure that excavation takes place at least 75 feet from the active edge of the river channel.
- 3.) Work within the Bosque will only occur between November 1 and May 1 in order to avoid nesting season for migratory birds.
- 4.) A 0.57-acre wetland will be created at Durand Open Space in order to mitigate for the loss of land currently planted with wildlife forage crops.
- 5.) Ditch banks will be replanted with native grasses and other native vegetation following construction.
- 6.) To improve water quality, storm water pollution prevention features have been included in the project. In addition, other BMPs, including public education and awareness, are being pursued.
- 7.) Mature cottonwood trees which must be removed from the bosque will be replaced at a 10:1 ratio with cottonwood saplings.

Other general best management practices will be followed. Fuel, oil, hydraulic fluids and other similar substances will be appropriately stored out of the floodplain and must have a secondary containment system to prevent spills if the primary storage container leaks. Appropriate erosion control measures will be utilized to prevent surface water drainage and erosion material from leaving the construction areas. Water dispersal equipment will be used to minimize dust during construction activities. Best management practices will be implemented regarding the treatment and disposal of waste material. Proper disposal of all waste material at commercial disposal areas or landfills will occur. Activities will be limited to the designated or otherwise approved areas and will be shown on the construction drawings for construction areas, staging access, and borrow use. Corps' approval of these areas will be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources. The Corps' Contracting Officer will coordinate with the Corps Environmental Resources Section to approve any changes in access routes, noncommercial borrow sites, staging areas, and other high-use areas. A copy of the 401 Water Quality Certification will be at the project site at all times.

The contract specifications for construction of this proposed project will require avoiding damage, where practicable, to vegetation. Disturbed areas will be evaluated for reseeding with native, indigenous plants, insofar as contract activities result in noticeable damage to existing plants and vegetative ground cover. The construction contractor will be required to submit an Environmental Protection Plan acknowledging and incorporating these protections.

The Project will result in only minor, temporary, adverse impacts to soils, water quality, air quality, noise levels, vegetation, floodplains, fish and wildlife, and waters of the United States during construction. The project will have minimal long-term adverse impact to water quality, floodplains, water quality and recreational resources. There will be no adverse impacts, short or long-term, to climate, special status species, wetlands, Indian Trust Assets, socioeconomics, or cultural resources. There will be minor, long-term benefits to vegetation, fish and wildlife, wetlands, endangered species, environmental justice, and land use. There will be no adverse cumulative effects to the environment from the proposed project.

The Project has been fully coordinated with Federal, State of New Mexico, tribal, and local governments with jurisdiction over the ecological, cultural, and hydrological resources within the Project Area. Based upon these factors, and others discussed in detail in the SEA, the planned action will not have a significant effect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for this Proposed Project.

<u>| SEP 10</u> Date

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SUPPLEMENT to the ENVIRONMENTAL ASSESSMENT for the Southwest Valley Flood Damage Reduction Project Albuquerque, Bernalillo County, New Mexico

1.0 INTRODUCTION

1.1 Background and Location

The United States Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County, New Mexico, and is planning a project that will improve stormwater drainage and reduce the potential for flooding within the Southwest Valley Project Area (Project Area), which is located in the southwest corner of Albuquerque and Bernalillo County (**Figure 1**).

Authorization for the previous and proposed action is contained in the Flood Control Act of 1941 (Public Law 228) as contained in House Document No. 4911, 77th Congress, 1st Session, dated 18 August 1941.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter Federal investigations and improvements of rivers and other waterways for flood control and allied purposes shall be under the jurisdiction of and shall be prosecuted by the War Department under the direction of the Secretary of War and supervision of the Chief of Engineers, and Federal investigations of watersheds and measures for run-off and waterflow retardation and soil-erosion prevention on watersheds shall be under the jurisdiction of and shall be prosecuted by the Department of Agriculture under the direction of the Secretary of Agriculture, except as otherwise provided by Act of Congress . . .

Sec. 4. The Secretary of War is hereby authorized and directed to cause preliminary examinations and surveys for flood control, to be made under the direction of the Chief of Engineers, in drainage areas of the United States and its territorial possessions, which include the following named localities . . . Rio Grande and tributaries, New Mexico."

As supplemented by S. 507 Water Resource Development Act of 1999.

Sec. 433 SOUTHWEST VALLEY, ALBUQUERQUE, NEW MEXICO. The Secretary shall conduct a study to determine the feasibility of undertaking a project for flood damage reduction in the Southwest Valley, Albuquerque, New Mexico.

Funding for construction of the Southwest Valley Flood Damage Reduction Project was authorized by Section 1001(35) of the Water Resources Development Act of 2007.

Sec. 1001. PROJECT AUTHORIZATIONS.

Except as otherwise provided in this section, the following projects for water resources development and conservation and other purposes are authorized to be carried out by the Secretary substantially in accordance with the plans, and subject to the conditions, described in the respective reports designated in this section:

(35) SOUTHWEST VALLEY, BERNALILLO COUNTY, NEW MEXICO. -- The Project for flood damage reduction, Southwest Valley, Bernalillo County, New Mexico: Report of the Chief of Engineers dated November 29, 2004, at a total cost of \$24,840,000, with an estimated Federal Cost of \$16,150,000 and an estimated non-Federal cost of \$8,690,000.

The Corps and the U.S. Bureau of Reclamation (Reclamation) set forth comprehensive plans for developing water resources in the Rio Grande Valley in a report from the Chief of Engineers dated April 5, 1948, and in a report of the Reclamation dated November 21, 1947. These plans are referenced in the Flood Control Act of 1948 (Public Law 858). These documents clearly state the responsibility of each agency. The Corps' responsibilities include activities related to flood control whereas Reclamation is charged with activities related to irrigation and drainage.

In April 2004, the Corps completed a Final Feasibility Report and Environmental Assessment for the Southwest Valley Flood Damage Reduction Project, Albuquerque, Bernalillo County, New Mexico (2004 FFR/EA). This document is available on the Corps' website at <u>http://www.spa.usace.army.mil/fonsi/</u>. Five specific objectives were identified for the study:

- 1. Reduces the flood hazard that exists within the Southwest Valley floodplains within Albuquerque and Bernalillo County in order to preserve human life and reduce damages to existing property;
- 2. Contributes to the preservation and enhancement of natural and beneficial values of fish and wildlife resources, wetlands, and aesthetic qualities;
- 3. To the extent possible, avoids or minimizes, adverse impacts to the environment and cultural resources of the study area, and compensates for any unavoidable adverse effects caused by project implementation;
- 4. Maintains water quality conditions within the study area; and
- 5. Maintains existing open spaces to maximize public recreational opportunities.

Twenty-two alternatives were initially identified and the 2004 FFR/EA explored four of these in detail. The 2004 FFR/EA addressed the potential effects of a number of drainage management projects including non-structural projects (flood-proofing), constructing small detention ponds, installing pumps, constructing cross-basin channels, or using a combination of detention and storage features. The recommended plan from the 2004 FFR/EA called for utilizing existing easements, widening existing drains, constructing a large stormwater detention ponding area, and constructing two new channels. This Supplemental Environmental Assessment (SEA) was deemed necessary because of changes made to alignments and configurations of several different components of the Southwest Valley Flood Damage Reduction Project. These changes are described in detail in Section 2 of this SEA.

The Southwest Valley Project Area (Project Area) is located in the south valley of Albuquerque and Bernalillo County. The Proposed Project Area is bounded by Central Avenue to the north, the Rio Grande to the east, Don Felipe Road to the south, and Coors Boulevard to the west (**Figure 1**). The project is proposed to be completed in four separate phases as funding becomes available. The duration of the proposed first phase of construction will be approximately 12 months and is proposed to start in summer 2010.

1.2 Purpose and Need

Portions of the Project Area are subject to flooding from a variety of sources. The runoff from the West Mesa is largely controlled by a series of dams, detention basins, and diversion channels constructed by the AMAFCA, Bernalillo County, and the City of Albuquerque. Most of the AMAFCA facilities release controlled flood discharges directly or indirectly into existing agricultural drains and canals. Flood damages occur when floods overwhelm the capacity of existing infrastructure in the Project Area. Some portion of the West Mesa runoff is uncontrolled and flows directly into the Project Area. The runoff consists of high peak and low volume discharges that, given the steep slopes of the mesa, typically transport large quantities of sediment. Because of the nature of the floodplain in the Project Area, much of the damaging flood flows are in the form of sheet flow intercepted by the existing irrigation facilities and overflowing and breaching drains and canals. Slopes in the Project Area are relatively flat and most of the irrigation canals and drains have associated embankments one to three feet high. These embankments and raised roadways divide the Project Area into many small sub-areas. Some sub-areas discharge into the agricultural drains where confining embankments are low or do not exist. Other floodwater discharges into these sub-areas and ponds on-site, inundating residential, commercial, or agricultural land. See Appendix A for photos documenting flooding in the Project Area.

Historically, the Project Area has been predominately agricultural land and there was little damage to property when flooding occurred. However, over the past several decades it has become increasingly urbanized and homes, schools, businesses, streets and other infrastructure have been constructed in low-lying areas. This increased urbanization has affected how floodwaters once moved through and were absorbed by the landscape. Impermeable surfaces such as buildings and streets have limited the absorption potential of this landscape and consequently stormwater flows have the potential to be more damaging to properties.

The purpose of the Proposed Project is to reduce flooding in the Project Area using existing irrigation ditches and drains that are owned and operated by Reclamation and the Middle Rio Grande Conservancy District (MRGCD). Both of these agencies are charged with irrigation activities, and not flood control activities. The existing infrastructure was authorized by the 1948 Flood Control Act and further described in Reclamation's Comprehensive Plan for irrigation and not flood control. In order for the Proposed Project to be possible, Reclamation and MRGCD have granted approval for this additional use and issued a Right-of-Use License. Both agencies are cooperating agencies as outlined in



Figure 1. Map of Project Area.

the Council of Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500 *et seq.*)

1.3 <u>Regulatory Compliance</u>

This SEA was prepared by the Corps, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, as amended, including the following:

- National Historic Preservation Act (16 U.S.C. 470 *et seq.*)
- Archaeological Resources Protection Act (16 U.S.C. 470aa *et seq.*)
- Clean Water Act (33 U.S.C 1251 *et seq.*)
- Clean Air Act (42 U.S.C. 7401 et seq.)
- Endangered Species Act (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations
- Executive Order 11988, Floodplain Management
- National Environmental Policy Act (42 U.S.C 4321 et seq.)
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Part 1500 *et seq.*)
- Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*)
- Executive Order 11593, Protection and Enhancement of the Cultural Environment
- Executive Order 11990, Protection of Wetlands
- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR Part 230; ER 200-2-2)
- Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*)
- Executive Order 13112, Invasive Species
- Federal Noxious Weed Act (7 U.S.C. 2814)
- Energy Independence and Security Act of 2007, P.L. 110-140, Section 438, 121 Stat. 1492, 1620 (2007)
- Flood Control Act of 1948 (P.L. 858)

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

2.0 DESCRIPTION OF THE PROPOSED PROJECTS AND ALTERNATIVES

All Federal agencies that assist or take part in projects that utilize public funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations that satisfy certain defined project criteria. However, alternatives can also include design considerations and/or attributes that may avoid, reduce, or compensate for impacts to the environment generated by a given action. In general, alternatives, including a No-Action Alternative,

can provide decision makers with an evaluation on the present and future conditions with regard to the implementation of an action at a given site, time, or including particular design characteristics. Information and knowledge yielded from alternative evaluations can then guide decision-making processes such that they are made in the best interest of the public and environment.

2.1 Proposed Projects

All project elements are briefly described below and bold type indicates changes from the initial Environmental Assessment and Feasibility Report (2004 FFR/EA.) This SEA will consider only those changes in detail. Refer to the 2004 FFR/EA for a complete description of all proposed actions for the Southwest Valley Flood Damage Reduction Project.

- Phase 1:
 - Phase 1a: Construction of the Los Padillas Spillway Diversion, Construction of Los Padillas Extension
 - Phase 1b: Construction of drainage improvements at Rio Grande High School, construction of drainage inlet to Pond 187
 - Phase 1c: Construction of Los Padillas Spillway Diversion crossing structure at Isleta Boulevard, construction of wetland in Durand Open Space
- Phase 2: Widening of Los Padillas Drain, widening of Isleta Drain north to Barcelona Road, widening of Armijo Drain
- Phase 3: Widening of the remainder of Isleta Drain, Construction of Pond 187
- Phase 4: Widening of Arenal Drain, widening of Rosendo Garcia Drain, widening of all other connectors

2.1.1 Phase 1a

The preferred alternative in the 2004 FFR/EA calls for the construction of a new flood flow channel (Los Padillas Spillway Diversion; Figure 2) from the Los Padillas Drain to the Rio Grande approximately 675 feet south of the intersection of Metzgar Road and Isleta Boulevard. The alignment has changed from what was originally identified in the 2004 FFR/EA because the Corps and the project sponsors are limited to existing easements and rights-of-way, without using eminent domain.

From the Los Padillas Drain to just upstream of the Isleta Boulevard Crossing to the east, the Spillway will be comprised of an approximately 7.5 acre biofiltration swale. This area is currently an irrigated agricultural field. Biofiltration swales are a type of green infrastructure that treat stormwater by filtering pollutants (King County Department of Natural Resources and Parks 2009). A gently sloping, vegetated area slows water velocities causing sediment and attached pollutants (e.g. heavy metals, total dissolved



Figure 2. Proposed new alignment of Los Padillas Spillway Diversion and biofiltration swale.

solids, fecal coliform) to drop out. The Los Padillas biofiltration swale will measure approximately 2,500 feet long by approximately 300 feet wide at the west end and approximately 75 feet wide at the east end. Public scoping done for the 2004 FFR/EA indicated that residents of the project area will prefer conserving agricultural areas where possible so the Los Padillas biofiltration swale will be planted with alfalfa and irrigated during the growing season. An orifice control plate will be located on the Los Padillas Drain at the Los Padillas Spillway Diversion. The orifice control plate will allow only 25 cubic feet per second (cfs) to continue down the Los Padillas Drain, during precipitation events any discharge above that amount will spill into the Spillway Diversion and biofiltration swale.

At just upstream of the Isleta Boulevard Crossing, the Los Padillas Spillway Diversion will transition from a biofiltration swale to a trapezoidal culvert section under Isleta Boulevard and then to a concrete-lined section from the east side of Isleta Boulevard to the Rio Grande levee. Flood gates and three box culverts (each 4 ft tall by 8 ft wide) will be built under the Rio Grande levee. The gates on either end will be manually operated and in the closed position until it is necessary to evacuate stormwater. The center gate will be a flap gate that remains open until water in the Rio Grande begins to backfill in the Spillway Diversion. At that time it will close to prevent flooding. Because slopes from the Project Area to the Rio Grande are so flat (less than 1%), flood gates are necessary to keep the Rio Grande from backing into the Los Padillas Spillway Diversion during high flows.

After coordination with the US Fish and Wildlife Service and the US Bureau of Reclamation, the Corps and the project co-sponsors have changed the Spillway Diversion from the Draft Environmental Assessment. The Spillway Diversion was initially to be constructed with an articulated concrete block substrate with wire-wrapped rip-rap (WRRR) sides. The new design consists of an earthen channel with 12-inch rip-rap (not wire-wrapped) sides. A 5-10-foot section of rip- rap (not wire-wrapped) will transition from the concrete apron at the levee to the earthen portion of the channel. This change was made because it was determined that the previous design was more protective than hydraulically necessary and not conducive to creating wildlife habitat. The Spillway Diversion will continue from the levee for approximately 200 feet through the Bosque to the Rio Grande (Figure 3, although this drawing does not reflect the design changes described. Changes will be made as modifications to the contract). This portion of the Spillway Diversion will feature a 1:4 side slope with an access road on the upstream side and a 1:3 side slope on the downstream side.

During a 1% annual exceedance event (also known as a 100-year flood event) the Spillway Diversion is expected to flow at a maximum of 328 cubic feet per second (cfs) with a velocity of 1.62 feet per second (fps). Hydraulic analysis for the 2004 FFR/EA modeled other precipitation events (**Table 1**). All design elements are being completed by the Corps except as noted below.

Annual Exceedance (%)	Frequency Return Rate (years)	Precipitation in 24 hours (inches)	Approximate projected discharge in Los Padillas Spillway Diversion (cfs)	Approximate projected velocity in Los Padillas Spillway Diversion (fps)
1	100	2.66	328	1.62
4	25	2.13	323	1.61
10	10	1.77	311	1.59
20	5	1.51	200	1.34
50	2	1.15	100	1.02

Table 1. Modeled percent annual exceedance storm events, precipitation depths, and discharge in the Los Padillas Spillway Diversion.

Because of concerns raised by the USFWS during the scoping process for the 2004 FFR/EA, the Spillway Diversion design has been modified to enhance wildlife habitat. Rather than constructing a straight-line channel from the levee to the Rio Grande, a downstream-curving channel with shallower slopes will be created (Figure 3). The Corps explored the possibility of discharging floodwater directly into the Bosque and then allowing it to spread out before reaching the river. Evaluation of this alternative by the Corps determined that the elevation at the levee is lower than the Rio Grande channel. Without an engineered channel, floodwaters from the Spillway Diversion will pool in the bosque and potentially compromise the integrity of the levee system either by erosion, saturation, or a combination of both. This alternative could cause a levee breech. This problem is exacerbated by the very close proximity of the levee to the active channel. There is very little floodplain available at this location for the water to spread across before reaching the Rio Grande. Because existing easements and rights-of-way need to be used for this project without using eminent domain, a larger area of the floodplain could not be utilized. With regular maintenance by the project sponsor, the slope of the Diversion through the bosque will eliminate the threat of ponding of floodwaters.



Figure 3. Detail of proposed alignment of Los Padillas Spillway Diversion through Rio Grande Bosque, including cross section. Note that the design has changed from an articulated concrete channel to an earthen channel.

Durand Wildlife Area

The Durand Open Space is located at 4736 Isleta Boulevard SW and the ten-acre parcel of land was purchased by Bernalillo County in 1999 from the Durand family. Management agreements stated that at least 25% of crops planted remain unharvested for use by wildlife. Currently, citizen farmers are planting 100% of the crops for the benefit of wildlife. They grow wild grasses including alfalfa, vetch, millet, triticale, black-eyed peas, wheat, and sorghum. These native grasses attract numerous bird species including songbirds, predatory birds, cranes, geese and even pheasants. Additionally, the citizen famers planted 133 native trees and bushes including serviceberry, plum and cottonwoods that are used by wildlife. A perimeter walking trail with picnic tables and benches are available at the property for resource-based recreation including bird watching.

The Los Padillas Spillway Diversion across the northern edge of Durand Open Space will make approximately 0.57 acres inaccessible to visitors and wildlife and therefore a 0.57acre wetland is also proposed. This wildlife area will be hydrologically separate from the Los Padillas Spillway Diversion and unlike the biofiltration swale, will not treat stormwater. Design and construction will be done by AMAFCA. This depression will be ephemerally wet when ground water is high (spring run-off period and monsoon periods), but will be drier during low ground water times (fall and winter). Additionally, it will function as a water harvesting feature during major precipitation events. This will increase the water budget for the moist soil areas, enabling moisture loving plants such as reeds, rushes and willows to thrive. On the edge of the depression, thick stands of coyote willows, peachleaf willow, and other Bosque endemic shrubs will form with an occasional cottonwood creating diversity in height and structure, providing habitat for wildlife. These species will be planted after construction of the Durand wildlife area.

2.1.2 Phase 1b

Since the 2004 FFR/EA was finalized, a change was proposed for the alignment of the inlet pipe for Pond 187 and the addition of a smaller stormwater collecting depression: Pond 187a (**Figure 4**). Albuquerque Public Schools (APS) replaced a parking lot surface at Rio Grande High School during the summer of 2009. Design and construction of the inlet as well as Pond 187a were completed by AMAFCA in December 2009.

2.1.3 Phase 1c

A trash rack will be located on the east side of the culvert under Isleta Boulevard and will prevent floatables from reaching the Rio Grande. The concrete-lined section will have a top width of 34 feet, a bottom width of 15 feet, and 1:2 side slopes. Design of the Los Padillas Spillway Diversion crossing structure (**Figure 5**) at Isleta Boulevard as described above will be contracted by AMAFCA, advertised and awarded during late spring 2010 with construction proposed to be completed by August 2010. Design of the Los Padillas Extension will be completed by Bernalillo County and is expected to be contracted by the Corps and awarded in August 2010, subject to the availability of funds.



Figure 4. Detail of proposed change to the alignment of Pond 187 and the addition of Pond 187a at Rio Grande High School.



Figure 5. Detail of proposed Los Padillas Spillway Diversion crossing at Isleta Boulevard.

During construction, traffic will be temporarily detoured to alternate routes when no through traffic route is available. On Isleta Boulevard specifically, a detour to other streets is not allowed per County guidelines, and two-way traffic will be maintained throughout construction of the Los Padillas Spillway Diversion crossing structure at Isleta Boulevard. It is anticipated that Isleta Boulevard will be temporarily widened to accommodate two-way traffic and allow the crossing structure to be constructed one-half at a time. Temporary widening of Isleta Boulevard will be accomplished within the existing right of way. Flagmen, signs and traffic control signs will be utilized. This temporary roadway to detour motorists through Isleta Boulevard may be paved and possibly striped.

2.1.4 Phases 2, 3, and 4

No other changes from the 2004 FFR/EA to the Southwest Valley Flood Damage Reduction Project have been proposed at this time. Refer to the 2004 FFR/EA for descriptions of additional project elements.

Operation and Maintenance

Per the Project Cooperative Agreement (PCA; Article II, Paragraphs C and D) between the Non-Federal sponsors (AMAFCA and Bernalillo County) and the Corps, ownership of the Los Padillas Spillway Diversion would be turned over from the Corps to AMAFCA. Upon notification from the District Engineer, the Non-Federal Sponsor shall operate, maintain, repair, rehabilitate, and replace the Project as required by the O&M Manual approved by the Corps.

The intent of the Project is to enhance existing facilities so that they would function as both irrigation conveyances as well as evacuate flood water. Detailed operation and maintenance descriptions would be available in the Corps O&M Manual for this Project and the Storm Water Management Plan (SWMP) that AMAFCA and Bernalillo County would produce in accordance with the terms of their respective MS4 NPDES permits. The SWMP would be reviewed and approved by EPA prior to implementation. An O&M manual will be developed by the Corps prior to turning the Project over to the local cosponsors. FWS may contribute to the development of this manual and add conditions to it.

Maintenance activities in the existing and widened drains are expected to entail mowing banklines, and if needed to ensure hydraulic efficiency dredging the earthen channels (twice a year, once before and once after the flood season). Once each year, all sediment in the 100-200-ft section immediately upstream of the diversion structure at the intersection of the Isleta Drain and the Los Padillas Extension and the section 100-200-ft upstream of the diversion structure at the intersection of the diversion structure at the intersection of the Los Padillas Drain and the Los Padillas Drain and the Los Padillas Drain and the section 100-200-ft upstream of the diversion Spillway would be entirely removed. Because the channel makes a 90-degree bend at these two intersections, it is expected that most sediment would drop out at these points. All erosion control activities would occur in the winter when the drains are dry. Presently there is vegetation growing in existing drains and this vegetation is typically removed during maintenance activities by MRGCD for agricultural purposes

and then returns on its own. This is not expected to change. Future effects from O&M activities will remain the same as today.

Stormwater both entering and exiting the Los Padillas Spillway Diversion alfalfa biofilter swale would be monitored to confirm the reduction in contaminants. See Enclosure 2 for specific monitoring locations. If after a period of 2-5 years (depending on storm flows in the proposed Project) the alfalfa biofilter swale is determined to not be effective at reducing total suspended solids and contaminants, then AMAFCA would modify the biofilter plantings to improve contaminant reduction, as required in the O&M Manual. Such modifications could include but are not limited to structural changes within the biofilter swale, changes to plant species, or other modifications as appropriate. Assuming that the alfalfa is effective, the biofiltration swale would be maintained on an as-needed basis to keep the swale functioning as a biofilter. The alfalfa would be irrigated and harvested multiple times each growing season. When sediment accumulation reaches a point where the biofiltration swale no longer functions, then the swale would be dredged, regraded, and replanted with alfalfa. Dredging, regrading, and replanting would not occur during periods when the swale is inundated. If the biofiltration swale is planted with any other plants, then O&M activities would be changed accordingly. Future effects from O&M in biofiltration swale will be beneficial to water quality over the life of the project.

Sediment in the Spillway Diversion between the levee and the Rio Grande would be removed only as necessary in order to maintain the engineered elevation of the diversion channel and hydraulic integrity of the channel. These excavation activities would occur only during periods when the side channel of the Rio Grande is dry and maintenance equipment would not come in contact with mainstem Rio Grande water. This proposed maintenance will prevent isolated pools from developing and ensure that silvery minnows do not become entrapped after high flows recede. In the event of an emergency excavation when the channel is wet, AMAFCA will coordinate with the Corps and ultimately the USFWS to limit the effects to the silvery minnow as a result of any emergency action.

The hydraulic efficiency of the proposed Project will not change should the Rio Grande channel migrate west and shorten the Los Padillas Spillway Diversion. The Non-Federal project sponsors do not have the authority to perform maintenance activities in the main channel of the Rio Grande. Should the Rio Grande migrate west, toward the proposed Project, and a threat is perceived, the Non-Federal sponsors would not take any protective action. Instead, they would consult with either Reclamation or the Corps. This would trigger a Federal Action and Endangered Species Act compliance activities would be initiated.

The Corps' Inspection of Completed Works Program (ICW) will ensure that Non-Federal owners of Federally-built critical infrastructure perform essential maintenance in accordance with the project O&M manual. Compliance inspections will be performed biannually to identify maintenance deficiencies and operational problems and discuss corrective actions. Through these compliance inspections, the Corps ensures that the project will operate and function as designed. During the public review period for the Draft SEA, the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) requested the Corps identify where the Project will intersect existing sanitary sewer and potable water lines and include the costs for redesigning and reconstructing these facilities in the Project Budget (letter included in Appendix H). The Corp's Project Cooperation Agreement with its Non-Federal Sponsors, AMAFCA and Bernalillo County, obligates the Non-Federal Sponsors to perform or ensure performance of all utility relocations prior to or as part of the Corps construction project. The maps provided by ABCWUA have been provided to the Non-Federal Sponsors to notify them of possible utility conflicts so that they can fulfill their obligation for the utility adjustment as needed for future phases of design and construction.

The ABCWUA infrastructure conflicts identified in Phase 1 have already been incorporated into the designs of the projects and are explained below. The Los Padillas Spillway Diversion Crossing at Isleta Boulevard will intersect with an eight-inch vacuum sanitary sewer (SAS), an eight-inch force main SAS, and a ten-inch waterline that run parallel with Isleta Boulevard. The utility adjustments are incorporated in the AMAFCA design and are shown on their design drawings. The Los Padillas Spillway Diversion will not impact any ABCWUA infrastructure. There is an existing 54-inch SAS at the confluence of the Isleta Drain and Los Padillas Extension. The Corps-designed channel will be concrete lined and the concrete will abut against the existing concrete encasement of the existing SAS at both the upstream and downstream side, thus the existing 54-inch SAS will not need to be lowered or relocated. There is an existing 48-inch SAS at the intersection of the Arenal Main Canal and the Los Padillas Extension. The Project design incorporates jacking and boring a 48-inch diameter fiberglass pipe siphon under the existing SAS and a series of 30-inch corrugated metal pipes will be installed above the existing SAS. With this design, the SAS will not need to be relocated. There is also an existing 48-inch sanitary interceptor at the intersection of the Los Padillas Extension and Los Padillas Drain. The design incorporates jacking and boring a 30-inch diameter fiberglass pipe siphon under the existing SAS and a concrete lined weir will be constructed above the existing SAS. With this design, the SAS will not need to be relocated.

2.2 <u>Permits Required</u>

Because the Proposed Project entails using existing Middle Rio Grande Project drainage canals and ditches which are currently owned and maintained by Reclamation and MRGCD, a joint Right-of-Use License from Reclamation and MRGCD is required. In order to obtain this License, the Non-Federal project cosponsors must demonstrate that they have obtained their own easements, rights-of-way, or fee title. This process is ongoing and is expected to be complete before construction begins.

2.3 <u>Alternatives Considered</u>

Alternative actions were considered in the original 2004 FFR/EA and were not addressed in this SEA.

2.4 <u>The No-Action Alternative</u>

The No-Action Alternative has not changed from the original 2004 FFR/EA. Under the No-Action Alternative, there will not be any construction of or modification to the existing stormwater reduction structures. No federal funding will be expended and there will be no new effects to the project site or surrounding environment. Drainage in the proposed Project Area will not improve and flooding will continue.

3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS

3.1 <u>Physiography, Geography, and Soils</u>

The Proposed Project is in the Middle Rio Grande Valley, a wide floodplain of fertile bottomland (USDA 2006). These fertile soils and shallow water tables support vegetation as well as a variety of resident and migratory wildlife. The Rio Grande Valley is a productive agricultural area that contributes to the quality of life and economies of the urban areas of Albuquerque, Rio Rancho, Bosque Farms, Los Lunas and Belen, New Mexico, as well as several other smaller communities.

The Rio Grande flows along a series of linked troughs, or long segments of the crust of the earth that has subsided between mountain uplifts. The study area lies within the Santo Domingo-Albuquerque-Belen Basin, the largest in the series of complex structural basins, which collectively form the Rio Grande trough, which extends from the northern end of the San Luis Valley in Colorado to near El Paso, Texas. The Albuquerque basin measures 30 miles wide and 90 miles long, with Albuquerque near the center. The basin was probably formed during the upper Tertiary (Miocene and Pliocene) period, coincidental with the uplifting of the Sandia-Manzano-Los Pinos easterly tilted fault block mountain range. Total basin subsidence and the resultant infilling are estimated to be as much as 15,000 feet. Little is known of the sedimentary rocks underlying much of the basin, but they are likely of Cretaceous age and older; some early Tertiary deposits may also be present.

In very late geologic time, the Rio Grande eroded the trough-filling deposits into an inner valley, approximately 10 miles wide, which comprises that part of the trough between the flanking mesa rims. Before cutting its inner valley, the Rio Grande probably meandered on a wide plain that extended from the level of the high mesa or the lava flows on the west, to the East Mesa east of the Rio Grande. The subsequent period of valley cutting may have occurred several hundred thousand to perhaps only twenty thousand years ago, after which the river began filling again.

Approximately 2,000 years ago, the Rio Grande took up its present course, having shifted from an earlier one that flowed down the east side between Albuquerque's Second and Twelfth Streets. Once the river changed to its more westerly course, it began to build up its channel and form flanking banks or natural levees until the channel bottom was several feet higher than the old course. Because the level of the river bottom more or less determines the level of the water table in the surrounding floodplain, a river level at or above the adjacent plain creates a poorly drained condition in the low areas adjacent to the river. This is the case in the Project Area, where it is slightly uphill to the river and so low in slope that drainage is extremely slow. Recognizing that the threat of flooding is ever present, the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) has constructed a series of channels and detention basins west of the river to reduce flood damages in the valley areas.

In the early 1930s the MRGCD completed a series of drainage ditches that began lowering the water table, and this, coinciding with dry periods in the 1930s and 1940s, made it possible to occupy much reclaimed swampland. Prior to this time, runoff from the arroyos into the lowland area just stood until it evaporated because it could not be absorbed into soil already saturated with water.

The soils in the Project Area are assigned to the Madurez-Wink association (West Mesa and Cedar Wash drainage areas), Bluepoint-Kokan association (mesa areas), and Gila-Vinton-Brazito association (valley areas). The Madurez-Wink association consists of deep, well-drained soils that are forming on piedmonts in old unconsolidated alluvium modified by wind. Slopes are 1 to 5 percent. These fine sandy loam soils occur on gently sloping slightly convex piedmont fans and low ridges (Hacker 1977).

The Bluepoint-Kokan association is a somewhat excessively or excessively drained sandy and gravelly soil that occurs on dissected terraces and alluvial fans. Bluepoint soils make up approximately 50 percent of the mapping unit. Typically, they are loamy sands forming in sandy alluvium partly modified by wind. These nearly level to rolling soils are mainly on broad, convex alluvial fans. Kokan soils are typically gravelly and very gravelly sands, forming in old alluvial sand and gravel of mixed sources. These rolling to steep soils occur on dissected terraces. The soils in this association are a major source of sand and gravel (Hacker 1977).

The Gila-Vinton-Brazito association consists of deep, well-drained soils forming in recent alluvium on the floodplain along the Rio Grande. This association occurs in the irrigated Rio Grande Valley. The Gila-Vinton-Brazito association comprises about 33

percent Gila loam and sandy loam, 25 percent Vinton sandy loam, 13 percent Brazito silty clay loam, and 29 percent Agua, Glendale, Anapra, and Armijo soils and the frequently flooded Torrifluvents (Hacker 1977).

Table 2 lists important structural, physical and chemical characteristics of soils in the Project Area. Structurally, soil types grade from fine sandy loams at the higher elevations of the West Mesa to gravelly sand on the river terrace, and loam to sandy loams on the valley floor. Permeability (ability to transmit water through the soil) is moderate to moderately rapid on the West Mesa; rapid to very rapid on the river terrace; and slow to moderate on the valley floor. Fine-grained soils found in the Project Area exhibit a moderate to high potential for wind erosion. Depending upon the material types and flow velocities, the potential for water erosion is low to moderate on the West Mesa; moderate to high along the river terrace; and low to moderate on the valley floor.

The subsurface materials primarily comprise sands, silts, and lean clays interbedded with sands and gravels. The upland Madurez, Wink, and Pajarito soils are classified in the Unified Soil Classification for use as construction material as sandy silt, lean silt, sandy clay, lean clay, or gradations between (i.e., SM, ML, SC, CL, SC-SM, and SM-MC). The river terrace soils are classified as poorly graded gravel, silty gravel, poorly graded sand, sandy silt, and gradations between (i.e., GP, GM, GP-GM, SP, SM, SP-SM). The soils on the valley floor comprise sandy silt, lean silt, lean clay, and gradations between (i.e., SM, ML, SC, CL, SC-SM, SP-SM).

There will be soil disturbance associated with construction because of excavation, grading, and other activities. This will be short term and temporary. Prior to construction, all environmental protection measures as expressed by contract clauses, design drawings, or other means will be reviewed with the contractor at a pre-construction conference. Silt fencing will be installed when working near the bank of the river. All construction activities will be in compliance with all applicable Federal, state and local regulations. Local soil disturbance permits will be required from the City of Albuquerque. Replanting the banks with native grasses and other vegetation will negate some of these short-term impacts. The channel, however, needs to remain fairly open to allow flows to move through. Therefore, there will be a temporary short-term adverse effect to soils by the Proposed Project. Consistent with regular MRGCD maintenance operations, the existing drains and canals are dredged annually to remove excess sediment. Aside from this, there will be no additional effects to soils by the No-Action Alternative.

Table 2. Soil types and characteristics Soil series/complexes are listed in order from highest to lowest elevational positions (Source: Hacker 1977)

Soil				Potential fo	r erosion by:	Risk of corro	osion to:	Shrink-
Series or complex	Structure	Chemical Characteristics	Permeability	Water	Wind	Steel	Concrete	swell potential
Madurez	Fine sandy loam/ sandy clay loam	Moderately calcareous. Moderately alkaline.	Moderate	Moderate	Moderate to High	High	Low	Moderate
Wink	Sandy loam	Slightly calcareous. Moderately alkaline.	Moderately rapid	Low to moderate	Moderate	High	Low	Low
Pajarito	Fine sandy loam/ sandy loam	Slightly to Moderately Calcareous. Moderately alkaline.	Moderately rapid	Moderate	Moderate	High	Low	Low
Bluepoint	Loamy fine sand/ loamy sand	Slightly calcareous. Mildly/moderat ely alkaline.	Rapid	Moderate to high	High	Low	Low	Low
Kokan	Gravelly sand/ very gravelly sand	Slightly calcareous. Mildly alkaline.	Very rapid	Moderate	Low	High	Low	Low
Gila	Stratified loam to sandy loam	Moderately calcareous. Moderately alkaline.	Slow	Low to moderate	Moderate	Moderate to High	Low	Low
Vinton	Sandy loam/ loamy sand	Slightly calcareous. Moderately alkaline	Slow	Moderate	High	High	Low	Low
Brazito	Fine sandy loam to silty clay loam	Non-saline to moderately saline. Slightly calcareous. Moderately alkaline.	Moderate	Low	Moderate to High	Moderate	Low	Low to Moderate

3.2 <u>Climate</u>

The climate in the vicinity of the Proposed Project is classified as arid (USDA 2006). The temperature occasionally reaches 100 degrees F or falls to zero or below, but not in all years. The average annual precipitation ranges from seven to ten inches. Although an average of only one day a year has more than a half-inch of precipitation, these infrequent, brief, heavy showers may bring one to one-half inches of rain, except in the dry winter season. Occasionally, hail accompanies summer thunderstorms. The average annual snowfall is less than five inches and snowfall seldom exceeds one or two inches and generally melts in a few hours (USDA 2006).

The growing season is about five and a half months long. The last freeze date in spring is May 8, and the first freeze date in fall is October 12 (USDA 2006). Relative humidity averages less than 50 percent and generally less than 20 percent on hot sunny afternoons. In winter the prevailing winds are northerly and in summer the prevailing winds are southerly. Wind speed averages nearly ten miles per hour for the year. There will be no effect to climate by either the Proposed Project or the No-Action Alternative.

The Council on Environmental Quality (CEQ) has provided a Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, dated 18February, 2010. Federal agencies must ensure the scientific and professional integrity of their assessment of the ways in which climate change is affecting or could affect environmental effects of the proposed action. (40 CFR 1502.24). Climate change can affect the environment of a proposed action in a variety of ways. For instance, climate change can affect the integrity of a development or structure by exposing it to a greater risk of floods, storm surges, or higher temperatures. Climate change can increase the vulnerability of a resource, ecosystem, or human community, causing a proposed action to result in consequences that are more damaging than prior experience with environmental impacts analysis might indicate. The Corps has taken climate change into consideration in their hydraulic analysis (see Table 1) and design. The probability of 1% annual exceedance events (also known as a 100-year flood event) may increase or decrease because of changes to global climate. The Proposed Project will allow AMAFCA to convey stormwater safely to the Rio Grande during potentially larger flood events. This proposed project will benefit the community if climate change in the Project Area will result in more heavy downpours and flooding in the short- and long-term.

3.3 <u>Water Quality and Best Management Practices</u>

3.3.1 Clean Water Act Compliance

Section 404 of the Clean Water Act, (CWA; 33 U.S.C. 1251 et seq.) as amended, regulates the discharge or placement of dredged or fill material into waters of the U.S., including wetlands. Construction of the Los Padillas Spillway Diversion structure in the Rio Grande bosque qualified for Nationwide Permit 18: Minor Discharges (Appendix B). Construction of the Isleta Boulevard Crossing qualified for Nationwide Permit 12: Utility Line Activities (Appendix B). Initially it was thought that construction of the Los Padillas Spillway Diversion qualified for Nationwide Permit 43: Stormwater Management Facilities, however, reevaluation has determined that it does not. Nationwide Permit 18 qualifies because of the small amounts of discharges that will be placed below the ordinary high water mark (OHWM). There will be an estimated 4.1 cubic yard (cy) of crushed gravel and 6.3 cy of rip rap within the OHWM. This is under the 25 cy fill limit for Nationwide Permit 18. It is not anticipated that any other element of the proposed work will involve Section 404 regulated discharges. Excavation of the Los Padillas Extension and Spillway Diversion will not involve filling activities. No wetlands currently exist in the Project Area, therefore there will be no impact to wetlands. However, an approximately 0.5-acre wetland will be created in the Durand Open Space. O&M activities by the Non-Federal sponsors will not require section 404 compliance as they will only be excavating and not filling the drains and diversions in the Project Area tom maintain the elevations and remove sediment buildup.

Efforts have been made to first avoid all potential impacts to aquatic ecosystems during the design of this project. No wetlands will be impacted during the construction of this project. Impacts have been reduced to the waters of the U.S. by filling at Isleta Boulevard to the Rio Grande only. The rest of the Project Area will be excavated. Compensation is not required for this project.

Section 401 of the CWA, (33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with section 404 of the CWA activities. Section 401 of the CWA does apply to this project, as there will be discharge into waters of the U.S. A Water Quality Certification Permit was requested from the New Mexico Environmental Department (NMED) and received on 9 August 2010 (Appendix B).

Section 402(p) of the CWA (33 U.S.C. 1251 *et seq.*) as amended regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under National Pollutant Discharge Elimination System (NPDES) guidance. Construction activities associated with storm-water discharges are often characterized by activities such as clearing, grading, and excavation, subjecting the underlying soils to erosion by stormwater. The NPDES general permit guidance will apply to this project because the total Project Area is approximately twelve acres. Therefore, a Storm-Water Pollution Prevention Plan (SWPPP) is required and will be prepared by the Corps for construction of this project. The Corps will also coordinate with NMED regarding work activities and schedules to allow the opportunity for monitoring water quality conditions during project construction.

Non-Federal project sponsors are responsible for developing the SWPPPs and obtaining the NPDES general permits for portions of the Project they will be operating and maintaining. AMAFCA is currently operating under a NPDES permit from the Environmental Protection Agency (EPA) Region VI for the Albuquerque Municipal Separate Storm Sewer System (MS4; Permit No. NMS000101; Appendix C.) Although this permit was set to expire on November 30, 2008, AMAFCA submitted an application for renewal to EPA in 2007 (J. Lovato, personal communication) and is awaiting the new permit. Until the new NPDES permit becomes available, they are operating under the conditions of Permit No. NMS000101.

The proposed plan calls for stormwater to be detained in the widened drainage system and conveyed within 96 hours to the Rio Grande at no more than 328 cfs (the projected maximum discharge during a 1% annual exceedance interval). At this discharge, stormwater will enter the Rio Grande at a maximum velocity of 1.62 fps. Refer to Table 1 for projected water velocities at additional exceedance intervals. These are all within permissible maximum mean channel velocities for both sand and silty sand and are therefore non-erosive flows (EM 1110-2-1601, Corps 1994). Pertinent reports prepared for the City of Albuquerque (Parsons 2000 and Metric 1993) regarding stormwater conveyances in the Rio Grande indicate that there are no direct effects from suspended sediment as levels in stormwater runoff are not significantly above those occurring naturally in the Rio Grande. Additionally, the reports state that stormwater discharges evaluated under previous biological assessments did not exceed any applicable surface water quality standards, and are therefore protective of aquatic-dependent species such as the Rio Grande silvery minnow. It should also be noted that all stormwater conveyed to the river as a result of this project is water that will have eventually returned to the river downstream, through Isleta Pueblo and without treatment, after flood damages occurred. Minimal short- and long-term adverse effects to water quality will occur.

3.3.2 Best Management Practices and Stormwater Pollution Prevention Features

To protect surface waters and other environmentally sensitive areas, construction activities will be accomplished applying standard Corps' BMPs. Construction access will be from existing surface streets, ditch maintenance roads, power line maintenance roads, and agricultural roads. All staging, including the stockpiling of construction materials, and equipment parking for vehicle and equipment not in operation, will be included in the project storm water pollution prevention plan. Fuel, oil, hydraulic fluids and other similar substances will be appropriately stored and will have a secondary containment system to prevent spills if the primary storage container leaks. Appropriate erosion control measures will be utilized to prevent surface water drainage and erosion material from leaving the project site. Water dispersal equipment will be used to minimize dust during construction activities. Compliance will be required for all appropriate laws regarding the treatment and disposal of waste material. All waste material will be disposed properly at designated areas on the plan set or at an approved or commercial disposal area or a landfill. Activities will be limited to the designated or otherwise approved areas and will be shown on the construction drawings for construction areas, staging, access, and borrow use. The Corps' Project Engineer on site will coordinate with the Corps Environmental Resources Section, and Bernalillo County Public Works, to approve any changes in access routes, non-commercial borrow sites, staging areas, and other high-use areas.

Prior to the onset of construction activities, all environmental protection measures as expressed by contract clauses, contract drawings or other means will be reviewed with the contractor at the pre-construction conference. The construction contractor will be required to submit an Environmental Protection Plan acknowledging and incorporating these protection measures during construction of the project. The Corps, or their representatives, will monitor and inspect any contractor's compliance with project specifications regarding the conditions set forth under the CWA permits and any best management practices employed to conform to those permit conditions.

Construction of the Los Padillas Spillway Diversion at the Rio Grande will occur during the winter low-flow period. The high-flow channel along the west bank of the river will be dry at this time. The river side drain, west of the river will contain a small amount of ground water. All construction equipment in the bosque will remain at least 75 feet from the active water edge and therefore, there will be no contact of excavation equipment or soil with Rio Grande water. There will be no effect on water quality during construction.

The project co-sponsors are responsible for developing and implementing BMPs to safeguard water quality during operation and maintenance of the Proposed Project. AMAFCA and Bernalillo County are participants in the multi-agency Middle Rio Grande Stormwater Quality Team (www.keeptheriogrand.org). Both already have a stormwater quality management plan in place designed to reduce pollutant loading into receiving waters. This plan contains the following six elements: 1) Public Outreach, 2) Public Involvement, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Runoff Control, 5) Post-construction Runoff Control, and 6) Pollution Prevention and Good Housekeeping. In addition to these elements, stormwater in the Project Area will be subject to structural BMPs which create a "treatment train" that will use state of the art water quality structures installed throughout the storm sewer system.

At the top of each tributary storm drain system, the storm drain inlets will be modified to include sumps and snouts for sediment and floatable control. This type of system, although simple, is extremely effective in capturing floating debris and reducing sediment transport in the system. Upstream of the point of discharge to the drains, storm water quality manholes will be installed. These manholes are modified to have a larger sump volume for sediment storage, and internal baffles that capture and store gross pollutants, oil and grease (Figure 6, Figure 7). The pipe and manhole systems will be maintained by Bernalillo County with vacuum trucks. Bernalillo County has two of these in their fleet and AMAFCA has contracted with a private company to clean similar systems that are in the AMAFCA inventory.

Within the drains, naturally occurring vegetation will increase the dissolved oxygen content of the drain flows. The Proposed Project calls for modifying the drains by deepening and widening the drain system. This modification will increase the capacity of the drains, increase the area for vegetation to biofiltrate pollutants, improve the efficiency of the drains to lower and maintain the ground-water table and will allow for easier maintenance of the drain system.



Figure 6. Standard detail for a water quality manhole.



Figure 7. Water quality manhole in an active home-building area. Photo show manhole one year after installation, before clean-out.

The Proposed Project is designed such that the drains will fill and spill into off-line detention areas already purchased by AMAFCA. These detention areas provide prime opportunities for gross debris removal, bacteria reduction, and secondary storm water treatment, as well as retaining agricultural uses, providing wildlife habitat and open space in the Project Area. This design concept will allow storm water to move slowly through the system allowing for additional sediment to be removed and allow biological treatment of the stormwater to reduce bacteria.

Storm water will then trickle back into the drains and run downstream to a side weir diversion structure, where excess flows are diverted to the Los Padillas Spillway Diversion or to the detention pond proposed at the Black Mesa Pump station. These structures will be similar to the one built in 1996 on the Corrales Main Canal that diverts storm water flows into the Calabacillas Arroyo and then the Rio Grande.

In addition, the project will include a de-sedimentation area and biofiltration swale that will reduce pollutant loads before the stormwater enters the Rio Grande. This BMP will be located between the Los Padillas Drain and the Rio Grande. This type of BMP has been shown to reduce fecal coliform by 65%, total dissolved solids by 80%, nitrates by 50%, ammonia by 70% and phosphorus by 50% (J. Lovato, personal communication, Table 3.) During review of the Draft SEA, a comment was received from the New Mexico Environment Department Ground Water Quality Bureau regarding concern that contaminants might infiltrate from the detention ponds to the groundwater. The detention ponds are unlined by design in order to slow stormwater velocities and allow for BMPs to be effective. The Non-federal Project Sponsors will be monitoring water quality and will modify BMPs as needed per the terms of their NPDES permit.

Pollutant	Adobe Acres **	Sanchez Farm **	% Reduction
Fecal Coliform Lo*	558 MPN/100mL	149 MPN/100mL	73%
Fecal Coliform Hi*	37,951 MPN/100mL	15,229 MPN/100mL	60%
TSS	794 mg/L	146 mg/L	81%
COD	265 mg/L	131 mg/L	51%
Nitrate	1.0 mg/L	0.44 mg/L	56%
Ammonia	0.68 mg/L	0.18 mg/L	73%
Phosphorus	0.93 mg/L	0.45 mg/L	52%
Lead	38.3 µg/L	19.6 μg/L	49%

Table 3. BMP pollutant reduction efficacy, comparing the Adobe Acres Sewer Outfall (no biofiltration swale) to the Sanchez Farms Sewer Outfall (biofiltration swale). Data collected by AMAFCA.

* Fecal Coliform Lo – Low flow background conditions; Fecal Coliform Hi – High flow storm conditions. All other parameters measured in high flow storm conditions.

** Values show average pollutant concentrations 2004-2008. Adobe Acres discharge is untreated, Sanchez Farms discharge is clarified and filtered through wetlands.

The possibility for illicit discharges from industrial facilities into the Albuquerque MS4 does exist and AMAFCA's protocol once notified is to initiate a spill response plan. There will also be spill kits located at the junction of the Isleta Drain and the Los Padillas Extension, at the junction of the Los Padillas Drain and the Los Padillas Spillway Diversion, and at the Los Padillas Spillway Diversion at the Isleta Boulevard Crossing. Spill kits will contain absorbent materials, containment booms, and commercially available absorbents containing microbes that break down petrochemicals. Bernalillo County's and AMAFCA's detection plan for illicit discharges uses the general public to observe and report discharges. The project once completed is designed to allow pedestrian access to the facilities, which will allow for observation of illicit discharges.

3.4 Floodplains and Wetlands

Executive Order 11988 (Flood Plain Management) provides Federal guidance for activities within the flood plains of inland and coastal waters. The order requires Federal agencies to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains. The proposed Project Area is comprised of Zone X (areas with 0.2% chance of annual flooding) and Special Flood Hazard Zone AH (areas within the 1% chance annual flooding with ponding expected to be between 1 and 3 feet; Federal Emergency Management Administration 2008). Because the Proposed Project is designed to facilitate stormwater drainage from the Project Area, construction of the outlet in the floodplain is necessary. Impacts to floodplains will be minimal in the short and long-term. There will be no effect to floodplains by the No-Action Alternative.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Wetlands exist within the riparian area that is adjacent to the river; however none exist within or near the Project Area. Therefore, no impacts to wetlands will occur. Although most of the water that will be

dispersed from the outlet pipe will be directed towards the river, some of the water may create beneficial wet areas within the riparian zone. Additionally, approximately a 0.57acre wetland will be created in the Durand Open Space to mitigate for waterfowl forage area lost. There will be a beneficial effect to wetlands by the No-Action Alternative.

3.5 <u>Air Quality</u>

The Southwest Valley of Bernalillo County is in New Mexico's Air Quality Control Region No.2 for air quality monitoring and Bernalillo County is "in attainment" (does not exceed State and Federal Environmental Protection Agency air quality standards) for all criteria pollutants (NMED/AQB 2005). Air quality in the Project Area is generally good. The closest Class I area is Bosque del Apache National Wildlife Refuge, approximately 90 kilometers (57 miles) to the south of the Project Area. Class I areas are special areas of natural wonder and scenic beauty, such as national parks, national monuments, and wilderness areas, where air quality should be given special protection. Class I areas are subject to maximum limits on air quality degradation.

The Proposed Project will result in a temporary but negligible increase in suspended dust particles from construction activities. Equipment with water sprinklers will be used during construction to minimize dust. A Fugitive Dust Control Permit is needed when there is surface disturbance to three-quarters of an acre or more. An approved permit from the Bernalillo County Office of Environmental Health will be obtained prior to construction for this project. There will be short-term, adverse effects to air quality by the Proposed Project during construction but there will not be any effect by the No-Action Alternative.

Through a draft guidance memorandum, the Council on Environmental Quality (CEQ) has proposed that Federal agencies should consider opportunities to reduce greenhouse gas (GHG) emissions caused by proposed Federal actions and adapt their actions to climate change impacts throughout the NEPA process and to address these issues in their agency NEPA procedures. The EPA has provided an "applicability tool" to determine whether projects or actions exceed the 25,000 metric ton of CO₂ equivalent greenhouse gas emissions (http://www.epa.gov/climatechange/emissions/GHG-calculator/). As of May 14, 2010 this tool is under construction. As a result the Corps was unable to determine the approximate emissions that will occur as a result of this action. The proposed action will not create a facility that is required to report GHG emissions to the EPA (40 CFR Parts 86, 87, 89 et al.)

3.6 <u>Noise</u>

Background noise levels in the proposed Project Area are relatively low. According to the Noise Center for the League for the Hard of Hearing (League for the Hard of Hearing 2010), a typical, quiet residential area has a noise level of 40 decibels. A residential area near heavy traffic has a noise level of 85 decibels. Heavy machinery has a noise level of 120 decibels. During construction, noise will temporarily increase in the vicinity during vehicle and equipment operation. The Noise Center advises that noise levels above 85

decibels will harm hearing over time and noise levels above 140 decibels can cause damage to hearing after just one exposure. However, the increase in noise during construction will be minor and temporary, ending when construction is complete. There will be no effect on noise from the No-Action Alternative.

3.7 <u>Vegetation Communities</u>

The Project Area is typical of the Rio Grande Valley and includes agricultural areas and development encroaching on irrigated cropland. The crops consist predominantly of corn, hay, and alfalfa. Most of the elements addressed in this SEA, the construction of the Los Padillas Extension, widening of other drains, drains and change in alignment to the Pond 187 inlet, all occur in areas that have been developed and previously disturbed and there will be minimal effects to existing vegetation.

The proposed location for the Los Padillas Spillway Diversion partially lies within the Rio Grande Bosque. Historically, the Bosque was dominated by a mosaic of large wetlands and gallery forests consisting of an overstory of Rio Grande cottonwood (Populus deltoides var. wislizenii) of varying age and an understory including but not limited to coyote willow (Salix exigua), Gooding's willow (Salix goodingii), and New Mexico olive (Forestiera neomexicana). However, modifications to fluvial geomorphic processes in the Middle Rio Grande have changed the structure and character of Bosque vegetation. The installation of large main-stem dams and ensuing sediment retention, Kellner jetty jacks, channelization, and flow modifications have resulted in a hydrologic regime that no longer favors native Bosque vegetation. Because the Bosque is no longer routinely flooded, many native species are being replaced by non-natives. The contemporary Bosque consists of even-aged, non-regenerating cottonwood, non-native Siberian elm (Ulmus pumila), salt cedar (Tamarix spp.), Russian olive (Elaeagnus angustifolia), and Tree of Heaven (Ailanthus altissima). Within the Los Padillas Spillway Diversion area, Bosque vegetation is comprised of dense coyote willow at the Rio Grande river bank and open cottonwood overstory between the river and the levee. It will be necessary to remove approximately ten mature cottonwood trees from the Bosque in order to construct the Los Padillas Spillway Diversion. In addition, two cottonwoods will be removed from Isleta Boulevard to facilitate the Spillway Diversion crossing there. These cottonwood trees will be replaced at a ratio of 10 saplings per each mature tree removed. Planting will be coordinated with the Corps' upcoming Middle Rio Grande **Bosque Restoration Project.**

The proposed Spillway Diversion to the Bosque can expect discharge any time rain or snow falls in the Project Area. This will primarily occur during summer rains of July, August and early September and discharge will vary in duration and amounts depending on the volume of water produced by the storms (see Table 1). The increase of water is expected to benefit the native vegetation within this area of the Bosque by simulating historic hydrologic conditions and creating conditions favorable to cottonwood and willow regeneration. The Proposed Project will have some adverse effects to vegetation because of the removal of mature cottonwoods; however 10 cottonwood saplings will be planted for every mature cottonwood removed. Overall the Spillway Diversion will benefit Bosque vegetation because of the increased hydrology. The No-Action Alternative will not affect vegetation in the Project Area.

3.8 <u>Wildlife</u>

Wildlife species in the adjacent riparian areas are typical for the Middle Rio Grande Valley. Neotropical migrants and resident avian species frequent the area and live within the Bosque. These species will include: Cooper's Hawk (Accipiter cooperii), Red-Tailed Hawk (Buteo jamaicensis), Great-Horned Owl (Bubo virginianus), Turkey Vulture (Cathartes aura), Greater Roadrunner (Geococcyx californianus), Downy Woodpecker (Picoides pubescens), Belted Kingfisher (Ceryle alcyon), White-Crowned Sparrow (Zonotrichia leucophrys), American Crow (Corvus brachyrhynchos), White-Breasted Nuthatch (*Sitta carolinensis*), Summer Tanager (*Piranga rubra*), Black-Headed Grosbeak (Pheucticus melanocephalus), House Finch (Carpodacus mexicanus), American Robin (Turdus migratorius), Black-Crowned Night Heron (Nycticorax nycticorax), Black-Chinned Hummingbird (Archilochus alexandri), Rufous Hummingbird (Selasphorus rufus), Pied-Billed Grebe (Podilymbus podiceps), Common Merganser (Mergus merganser), Canada Goose (Branta canadensis), and various waterfowl (Anas spp., Aythya spp., Aix sponsa). In addition, various mammals and reptiles such as mice, rabbits, skunks, coyote and lizards, also inhabit and transit the Project Area. Most of the proposed construction takes place along previously developed areas. Therefore, wildlife displaced during construction will be minimal.

The Rio Grande is a major migratory corridor for songbirds (Yong and Finch 2002), waterfowl, and shorebirds. At various times of the year, riparian areas support the highest bird densities and species numbers in the Middle Rio Grande. Both the river channel and the drains adjacent to the Bosque provide habitat for species such as mallards, wood Ducks, great blue herons, snowy egrets, green herons, belted kingfishers and black phoebes. Agricultural fields such as the Durand Open Space are important food sources for many birds. The Proposed Project will eliminate approximately 0.57 acres of land currently planted with wildlife forage crops; however, the construction of a 0.57-acre wetland nearby will create additional willow habitat not otherwise available at the Durand Open Space. There will be minimal benefit to wildlife in the lont-term.

The peak nesting season for birds is April through August. The Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703, *et seq.*) is the primary legislation in the United States established to conserve migratory birds (USFWS 2004). The list of the species protected by the MBTA appears in title 50, section 10.13, of the Code of Federal Regulations (50 CFR 10.13). The MBTA prohibits taking, killing, or possessing of migratory birds unless permitted by regulations promulgated by the Secretary of the Interior. The USFWS and the Department of Justice are the Federal agencies responsible for administering and enforcing the statute. In order to avoid potential effects to nesting birds in the Project Area, work within the Bosque will only occur between September and April.

No significant adverse effects will occur to wildlife as a result of the Proposed Project or the No-Action Alternative.

3.9 Special Status Species

Three agencies have primary responsibility for protecting and conserving plant and animal species within the proposed Project Area. The USFWS, under authority of the Endangered Species Act of 1973 (16 U.S.C. 1531), as amended, has the responsibility for Federal listed species. The New Mexico Department of Game and Fish (NMDGF) has the responsibility for state-listed wildlife species. The New Mexico State Forestry Division (Energy, Minerals, and Natural Resources Department) has the responsibility for statelisted plant species. Each agency maintains a continually updated list of species that are classified, or are candidates for classification, as protected based on their present status and potential threats to future survival and recruitment into viable breeding populations. These types of status rankings represent an expression of threat level to a given species survival as a whole and/or within local or discrete populations. Special status species that potentially occur in Bernalillo County and may occur near the proposed Project Area are listed in Table 4.

Special status animal species listed by USFWS (USFWS 2009) and New Mexico Department of Game and Fish for Bernalillo County (NMDGF 2009) that have the potential to occur in or near the Project Area but include the following:

Southwestern Willow Flycatcher

The Southwestern Willow Flycatcher (WIFL) is found in the U.S. from May until September. It winters in southern Mexico, Central America, and northern South America (Unitt 1987). In New Mexico, the Southwestern Willow Flycatcher is distributed in nine drainages (Gila, Rio Grande, Rio Chama, Coyote Creek, Nutria Creek, Rio Grande de Ranchos, Zuni, Bluewater Creek, and San Francisco). The WIFL is an endangered species on the USFWS Endangered Species List and critical habitat has been designated in the Middle Rio Grande, though not in the proposed Project Area. As of 1996, it was estimated that there were only about 400 WIFLs in New Mexico, representing about 42% of the total population of the subspecies (WIFL Recovery Team 2002). WIFLs occur in riparian habitats along rivers, streams, or other wetlands, where dense growth of willows (Salix spp.), Baccharis, arrowweed (Pluchea sp.), saltcedar or other plants are present, often with a scattered overstory of cottonwood (Unitt 1987; Sogge et al. 1997; Finch and Stoleson 2000). These riparian communities provide nesting and foraging habitat. Throughout the range of WIFL, these riparian habitats tend to be rare, widely separated, small and often linear locales, separated by vast expanses of arid lands. The WIFL is endangered by extensive loss and modification of suitable riparian habitat and other factors, including brood parasitism by the Brown-Headed Cowbird (Molothrus ater; Unitt 1987).

The WIFL is an obligate riparian species and nests in thickets associated with streams and other wetlands where dense growth of willow, Russian olive, saltcedar, or other shrubs is present. Nests are frequently associated with an overstory of scattered

Common Name	Scientific Name	Federal Status (USFWS) ^a	New Mexico Status (NMDGF) ^b
Animals			
Southwestern Willow	Empidonax traillii extimus	Е	Е
Flycatcher			
Rio Grande silvery minnow	Hybognathus amarus	E	E
Mexican Spotted Owl	Strix occidentalis lucida	Т	SC
Meadow jumping mouse	Zapus hudsonius luteus	С	E
Yellow-Billed Cuckoo	Coccyzus americanus	С	
Brown Pelican	Pelecanus occidentalis carolinensis		E
American Peregrine Falcon	Falco peregrinus anatum	SC	Т
Arctic Peregrine Falcon	Falco peregrinus tundrius	SC	Т
Baird's Sparrow	Ammodramus bairdii	SC	Т
Black Tern	Chlidonias niger	SC	
Bell's Vireo	Vireo bellii medius	SC	Т
Common Black Hawk	Buteogallus anthracinus anthracinus	SC	Т
Bald Eagle	Haliaeetus leucocephalus	DM	Т
Broad-Billed Hummingbird	Cynanthus latirostris magicus		Т
Gray Vireo	Vireo vicinior		Т
Mountain Plover	Charadrius montanus	SC	SC
Neotropic Cormorant	Phalacrocorax brasilianus		Т
Northern Goshawk	Accipiter gentilis	SC	SC
Slate millipede	Comanchelus chihuanus	SC	SC
Spotted bat	Euderma maculatum		Т
Townsend's pale big-eared bat	Corynorhinus townsendii pallescens	SC	
Western Burrowing Owl	Athene cunicularia hypugaea	SC	SC
White-Eared Hummingbird	Hylocharis leucotis borealis		Т
Plants			(NMRPTC) ^c
Santa Fe milkvetch	Astragalus feensis		R
La Jolla prairie clover	Dalea scariosa		R
Sapello Canyon larkspur	Delphinium sapellonis		R
Sandia alumroot	Heuchera pulchella		R
Todilto stickleaf	Mentzelia todiltoensis		R
Plank's campion	Silene plankii		R

Table 4: Special status species listed for Bernalillo County, New Mexico, that potentially occur in the vicinity of the proposed Project Area.

^a Endangered Species Act (ESA) (as prepared by U.S. Fish and Wildlife Services) status:

 \mathbf{E} = Endangered: any species that is in danger of extinction throughout all or a significant portion of its range \mathbf{T} = Threatened: any species that is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range.

C= Candidate: taxa for which the Services has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.

DM = Delisted Taxon, Recovered, Being Monitored First Five Years

SC= Species of Concern: taxa for which information now in the possession of the Service indicates that proposing to list as endangered or threatened is possible appropriate, but for which sufficient data on biological vulnerability and threat are not currently available to support proposed rules.

^b State of New Mexico status:

E= Endangered Animal species whose prospects of survival or recruitment within the state are in jeopardy. T= Threatened Animal species whose prospects of survival or recruitment within the state are likely to become jeopardized in the foreseeable future.

SC= Species of Special Concern.

^cNew Mexico Rare Plants Technical Council status:

 \mathbf{R} = Rare

cottonwood. WIFLs nest in thickets of trees and shrubs approximately 6 to 23 feet in height or taller, with a densely vegetated understory approximately 12 feet or more in height. Surface water or saturated soil is usually present beneath or next to occupied thickets (Muiznieks et al. 1994). At some nest sites, surface water may be present early in the breeding season with only damp soil present by late June or early July (Muiznieks et al. 1994). Habitats not selected for nesting include narrow (less than 30 feet wide) riparian strips, small willow patches, and stands with low stem density. Suitable habitat adjacent to high gradient streams does not appear to be used for nesting. Areas not utilized for nesting may still be used during migration.

Breeding pairs have been found within the Middle Rio Grande from Elephant Butte Reservoir upstream to the vicinity of Española. WIFLs begin arriving in New Mexico in early May. Breeding activity begins immediately and young may fledge as soon as late June. Late nests and re-nesting attempts may not fledge young until late summer (Sogge et al. 1997).

Occupied and potential WIFL nesting habitat occurs within the Middle Rio Grande valley. Occupied and potential habitat is primarily composed of riparian shrubs and trees, chiefly Goodding's willow and peachleaf willow, Rio Grande cottonwood, coyote willow, and saltcedar. The nearest known breeding WIFLs from the Project Area occurs along the Rio Grande at Isleta Pueblo.

Surveys have been conducted near the Project Area. No nesting WIFL have been encountered to date. Based on these surveys, it is highly unlikely that nesting WIFL will occupy the Project Area during the construction period. No flycatchers were detected during surveys, little suitable habitat will be disturbed, and the Proposed Project will result in the planting of native riparian/wetland vegetation. It is very possible that migrants will be present in the Project Area in spring and fall. The site will be surveyed again during the 2010 survey season. If nesting Flycatchers are detected then consultation with USFWS will be reinitiated. Designated Critical Habitat was determined for WIFL in November 2005 but is not in the Project Area. Therefore, the Corps has determined that the Proposed Project may affect but is not likely to adversely affect, the WIFL.

Although dense, native riparian vegetation exists within the Bosque, the proposed Los Padillas Spillway Diversion will occur within an area of cottonwoods with little to no WIFL habitat. The additional water provided by the proposed Spillway Diversion will be beneficial to the vegetation within this area and could produce more habitat for this endangered bird. Beneficial impacts to the species are expected from the Proposed Project. Project construction will take place outside of the breeding season for Flycatcher and therefore, direct effects on individuals are not anticipated. The No-Action Alternative will not affect WIFL.

Rio Grande Silvery Minnow

Rio Grande silvery minnow (*Hybognathus amarus*) historically occurred in the Rio Grande drainage in New Mexico and Texas (Lee et al. 1980; Propst 1999). The species was historically one of the most abundant and widespread fishes in the Rio Grande

drainage (Bestgen and Platania 1991). In New Mexico, historic range of the species included the Rio Chama from Abiquiu to the Rio Grande confluence, the main stem of the Rio Grande from Velarde downstream to the New Mexico-Texas state line, and the Pecos River downstream from Santa Rosa (Sublette et al. 1990). Rio Grande silvery minnow was extirpated from the Rio Grande downstream of the Pecos River by 1961 and Pecos River proper by the mid-1970s. The species was also extirpated from the Rio Grande upstream from Cochiti Dam and downstream from Elephant Butte Reservoir. Currently, Rio Grande silvery minnow is present only in the Rio Grande between Cochiti Reservoir and the upper end of Elephant Butte Reservoir, which represents less than 10% of its historic distribution (Bestgen and Platania 1991; Propst 1999). Critical Habitat has been designated for the Rio Grande silvery minnow and includes the proposed Project Area.

Rio Grande silvery minnow is a pelagic-broadcast spawner, producing nonadhesive, semibuoyant eggs (Platania and Altenbach 1998). Spawning is initiated by elevated stream discharge and occurs primarily in the late spring and early summer, when water temperatures are 68°F to 75°F (Propst 1999). Females may produce three to 18 clutches of eggs, each clutch numbering from 200 to 300 eggs. Habitat used by adult Rio Grande silvery minnow is characterized by silty to sandy substrate, depths of 8 in to 2.6 ft, and slow to moderate current velocity, 0 ft/sec to 0.98 ft/sec; (Dudley and Platania 1997). Habitats with slow current velocity and associated cover are used in winter. Rio Grande silvery minnow feeds on algae and detritus (Propst 1999; USFWS 1999). Major threats to persistence of Rio Grande silvery minnow include diminution of river flows and dewatering by surface water diversions and dam regulation, modification of aquatic habitats that result in faster current velocities and narrower channels, and introduction of nonnative fishes (USFWS 1999: 1-2). Recovery of Rio Grande silvery minnow requires stabilizing the population in the Middle Rio Grande and reestablishing the species in suitable habitats within its historic range (USFWS 1999). Over the 2004 and 2005 monitoring season, a large population of Rio Grande silvery minnow was found in the Albuquerque Reach of the Middle Rio Grande.

Rio Grande silvery minnow occurs in the Rio Grande near the proposed Project Area. Fish obtained from recent salvage operations conducted during river drying events and captive propagation have been stocked in the Albuquerque area in an attempt to restore the population in that reach (J. Brooks, personal communication). Releases of captivereared Rio Grande silvery minnow have been made at Alameda Bridge, north of the Project Area. The BMPs mentioned in previous sections will serve to decrease the potential for adverse effects to the minnow from work-site erosion. No work is proposed to take place directly in the channel. Therefore, the Proposed Project may affect but is not likely to adversely affect the Rio Grande silvery minnow.

Rio Grande Silvery Minnow Critical Habitat

Designated critical habitat for the species (68 Federal Register 8087: 8135) includes the proposed Project Area in the vicinity of the Los Padillas Spillway Diversion structure. Work will not take place in the main channel but it will take place along the bank and it may result in erosion or other inputs into the river. When work is to occur close to the

bank of the river, BMPs will be enforced to prevent erosional inputs into the river. These BMPs will include, but will not be limited to: the use of silt fences adjacent to the riverbank to prevent erosion to the river; fueling of vehicles will not take place inside the levees; and equipment and vehicles will be cleaned prior to entering the Bosque.

The Middle Rio Grande Endangered Species Act Collaborative Program (MRGESACP) and the New Mexico Interstate Stream Commission (NMISC) are currently and have previously funded habitat restoration projects in the immediate vicinity of the proposed Los Padillas Spillway Diversion structure. The Corps has coordinated with the NMISC on the design of this Spillway Diversion so that it will complement these other projects.

Construction of the Los Padillas Spillway Diversion to the Rio Grande component of the Proposed Project is scheduled for the winter low flow period during which time the high flow channel along the west bank of the Rio Grande will be dry. All construction equipment will remain at least 75 feet from the active water edge and therefore, there will be no contact of excavation equipment or incidental fill material with the Rio Grande. Construction of the Proposed Project may affect but is not likely to adversely affect the silvery minnow. The No-Action Alternative will not affect the silvery minnow. During high-precipitation events the Proposed Project will return treated stormwater to the Rio Grande and discharge from the Los Padillas Spillway Diversion will be monitored in accordance with Section 402 of the CWA. A number of stormwater pollution prevention features have been added to the Proposed Project and are described in detail in section 3.3. Therefore, operation and maintenance of the Proposed Project may affect but is not likely to adversely affect silvery minnow. Because water flowing from the Spillway Diversion will be traveling at non-erosive velocities, the Proposed Project may affect but is not likely to adversely affect designated Critical Habitat of the Rio Grande silvery minnow.

A Biological Assessment (BA) was submitted to the USFWS in April 2010 as required by Section 7 of the Endangered Species Act. After informal consultation with the USFWS, a revised BA was submitted in July 2010 and concurrence was received on 28 July 2010. Both are presented in Appendix G of this SEA.

Bald Eagle

The Bald Eagle was removed from the Department of the Interior's list of threatened and endangered species on June 28, 2007. However, the Bald Eagle is a state threatened species and is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The Bald Eagle is normally found near major waterways and larger lakes where adequate food supplies may be found. It is known to occur in New Mexico primarily during the late fall and winter months. The Bald Eagle utilizes large trees for perching and forages primarily for fish, ducks, and carrion along rivers and at local reservoirs. Although the preferred habitat of the Bald Eagle is not present at the project site, the Bald Eagle may fly over the construction area.

To minimize the potential for disturbing Bald Eagles that may be present during construction, efforts will be made to schedule work outside of the Bald Eagle high use

months of December, January, and February. The following protocol will be followed and included in all construction contracts, "If a Bald Eagle is present within 0.25 mile of the construction sites in the morning before project activity starts, or following breaks in work, the contractor will be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the USFWS, determines that the potential for harassment is minimal. However, if an eagle arrives during construction activities, or if an eagle is beyond 0.25 mile from the site, construction will not be interrupted. If Bald Eagles are found consistently in the immediate Project Area during the construction period, the Corps will contact the USFWS to determine whether formal consultation under the Endangered Species Act is necessary". Therefore, the determination has been made that the Proposed Project may affect, but is not likely to adversely affect the Bald Eagle.

Other Special Status Species and Rare Plants

The other special species listed in Table 2 are not expected to be adversely affected by the Proposed Project. They are either transient, only stopping briefly in the Middle Rio Grande Bosque as they migrate or the specific habitat with which they are associated is not located within the proposed Project Area.

The New Mexico Rare Plants Technical Council (NMRPTC 2009) lists five rare plants species that occur in Bernalillo County. Although these plants are known to occur in Bernalillo County, they are not likely to occur within the Project Area. The preferred habitat of two of these plants, Sandia alumroot and Plank's campion, is limestone cliffs and igneous cliffs, respectfully. Santa Fe milkvetch is known to occur on sandy benches and gravelly hillsides in piñon-juniper woodland or plains-mesa grassland. The Sapello Canyon larkspur is often associated with canyon bottoms and aspen groves in lower and upper montane coniferous forest. The La Jolla prairie clover's preferred habitat is open sandy clay banks and bluffs, often along roadsides. Most of the vegetation that exists within the street rights-of-way is disturbed. All other preferred habitat mentioned above is not located within the Project Area, and therefore there will be no effect to these endangered plants.

3.10 Noxious Weeds and Invasive Species

Executive Order 13112 directs Federal agencies to prevent the introduction of invasive (exotic) species and to control and minimize the economic, ecological, and human health impacts that invasive species cause. In addition, the State of New Mexico, under administration of the New Mexico Department of Agriculture (NMDA), designates and lists certain weed species as being noxious (NMDA 2009). "Noxious" in this context means plants not native to New Mexico that may have a negative impact on the economy or environment and are targeted for management or control. In order to prevent new infestations of noxious weeds and invasive species, all equipment will be cleaned with a high-pressure water jet before entering the area. Following construction, native species will be planted, minimizing the opportunity for invasive species to colonize the area. Salt cedar, which is a state noxious weed, was identified during the site visits. Russian thistle, which is not listed due to being widespread, is also present. To minimize the spread of

these and other invasive species that may have escaped detection, the contractor will also be required to clean equipment upon leaving the Project Area. Removal of either type of vegetation during construction will be reseeded with native vegetation once construction is complete. Therefore, the Proposed Project is in compliance with Executive Order 13112.

3.11 Cultural Resources

This project is in compliance with the National Historic Preservation Act of 1966 and other cultural resource laws. The Area of Potential Effects is considered to be the 238.7 acre Project Area (APE), most of which is adjacent to the existing linear drains traversing the southwest valley. Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by the Secretary of Defense in 1998 and based on the State of New Mexico Indian Affairs Department's Native American Consultations List, American Indian tribes that have indicated they have concerns in Bernalillo County have been contacted regarding the proposed project (Appendix D). To date the Corps has received no indication of tribal concerns that will impact this project. No known Traditional Cultural Properties are known by the Corps to occur in the Project Area.

The proposed Project Area was surveyed for cultural resources in the fall of 2003 by the Office of Contract Archeology (OCA), University of New Mexico (Vaughan and Chapman 2004) (Appendix D). A total of 231.2 noncontiguous acres was surveyed, and two sites, one modern barn, and 16 isolated occurrences were recorded. The majority of the survey occurred adjacent to existing drains, with maintenance roads on one or both sides. No sites were located adjacent to the existing drains. Other areas surveyed by OCA included the proposed connections between drains, detention ponds, and the outlet to the Rio Grande. Following the OCA survey, changes in design and alignment of project features occurred, and these locations, totaling 7.5 acres, were surveyed by archaeologists from the Corps of Engineers in 2009 and 2010 (see negative survey report in Appendix D).

As originally recorded by OCA, the archaeological sites are both very low-density artifact scatters. Site LA 142019 was disturbed by the previous construction of the drain, Foothills Drive, and surrounding houses. This location will be completely avoided by the proposed project due to changes in the alignment of project features. Site LA 142020 consisted of two prehistoric sherds and two pieces of chipped stone in a plowed field. This location was revisited by Corps' archaeologists in 2009, and none of the material noted in 2003 could be relocated. Two pieces of modern broken plates were noted to the east of the site proposed by OCA. No archaeological site occurs at this location.

The 16 isolated occurrences (IOs) include pieces of prehistoric and historic pottery, chipped stone, and broken concrete. The Corps does not consider the IOs to be significant and no additional investigation is recommended for these IOs.

A modern barn thought by OCA to be potentially historically significant is adjacent to a proposed canal that may be constructed during Phase 4, if there are no additional changes

to various alignments of the project features. In the event that this canal is constructed, the age of the barn will be established, and the relationship of the canal to the barn will be evaluated. If the barn is a historic property, further consultation with the New Mexico State Historic Preservation Office and other interested consulting parties will take place at that time to determine the best course of action.

As noted, LA 142019 is no longer within the APE and LA 142020 does not exist. The 2009 and 2010 surveys by Corp's archaeologists found no archaeological remains in the realigned Los Padillas canal right-of-way or near the realignment near Rio Grande High School. The Corps is of the opinion that Phase 1 of the proposed undertaking will have no adverse effect to historic properties and is seeking New Mexico State Historic Preservation Office (NMSHPO) concurrence (Appendix D). Phases 2-4 may require additional coordination, if the final alignment differs from the proposed alignment presented to the NMSHPO. Documentation of SHPO consultation is presented in Appendix D. Should previously undiscovered artifacts or features be discovered during construction, work will stop in the immediate vicinity of the find, a determination of significance made, and consultation to determine the best course of action will take place with the NMSHPO and with Native American tribes that may have concerns in the Project Area.

3.12 Indian Trust Assets

Indian Trust Assets (ITAs) are a legal interest in assets held in trust by the United States Government for Indian tribes or individuals. The United States has an Indian Trust Responsibility to protect and maintain rights reserved by or granted to Indian tribes or individuals by treaties, statues, executive orders, and rights further interpreted by the courts. The Secretary of the Department of the Interior (DOI), acting as the trustee, holds many assets in trust. Some examples of ITAs are lands, minerals, water rights, hunting and fishing rights, titles and money. ITAs cannot be sold, leased, or alienated without the express approval of the United States Government. The Indian Trust Responsibility requires that all Federal agencies take all actions reasonably necessary to protect such trust assets. The Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 20 1998, and DOI's Secretarial Order 3175 and Reclamation's ITA Policy require that the Corps, as the project's Lead Federal Agency, and Reclamation, as the Federal Land Managing Agency, consult with tribes and assess the impacts of its projects on ITAs. If any ITAs are identified and are to be impacted, further consultation on measures to avoid or minimize potential adverse effects will take place. If the project results in adverse impacts, consultation regarding mitigation and/or compensation will take place.

While several tribes have reservation lands and water rights within Bernalillo County, no specific concerns or ITAs have been brought to the attention of the Corps. Tribal scoping letters were sent to Pueblos on February 17, 2010 (Appendix D). Neither the Proposed Project nor the No-Action Alternative will affect reservation lands or to any water rights.

3.13 Hazardous, Toxic and Radioactive Waste (HTRW)

A visual inspection of the site was conducted in February 2010. This inspection was conducted by personnel from the Corps, Albuquerque District, Environmental Engineering Section who are trained in identifying the presence of and impacts from hazardous, toxic, and radioactive waste (HTRW).

During the inspection of surficial solid waste was identified along the banks and within the existing drains. These items appear to have been deposited by wind and visitors. This waste is limited to paper, bottles, glass, cans, and other household trash items. In a few distinct locations, there is the presence of discarded appliances and tires located within the drain system. These items contain constituents that could negatively affect the water quality. No hazardous, petroleum, or special wastes have been noted. No sign of releases of hazardous wastes, hazardous substances, or petroleum products such as distressed vegetation or soil staining have been observed.

Standard environmental record sources were reviewed to identify reported sites of known or potential environmental concern within a minimum of one-half-mile of the project site boundaries. A Computerized Environmental Report (CER) was purchased from Environmental Data Resources (EDR), Inc (Appendix E). EDR is a privately owned vendor of environmental data, which they obtain from many public agency regulatory databases. A review of the CER by Corps personnel did not identify any listed sites of known or potential environmental concern in the vicinity of the property boundaries.

Within the proposed alignment of Los Padillas Spillway Diversion through Rio Grande Bosque (Figure 3) small quantities of surficial solid waste were identified. No hazardous, petroleum, or special wastes have been noted. No sign of releases of hazardous wastes, hazardous substances, or petroleum products such as distressed vegetation or soil staining have been observed; therefore, no soil sampling for chemical parameters in these areas has been conducted.

During the widening of drains within the proposed Project Area, all waste encountered will be removed and disposed of according to local regulations. Therefore there will be no adverse effect to or by HTRW by either the Proposed Project or the No-Action Alternative.

3.14 Socioeconomic Considerations

The Project Area makes up more than one third of the greater Albuquerque Metropolitan area. The total population of Albuquerque, New Mexico in 2002 was estimated to be 737,324. Within the community of Los Padillas, the ethnic background is: Hispanic, 76.9%; White, 16.4%; Native American, 4.9%; African American, 0.2%; and Other, 0.4%. The annual average wage/salary per job was \$38,788 (U.S. Department of Commerce, Bureau of Economic 2002). The unemployment rate for Bernalillo County in 2002 was 5.1% (New Mexico Department of Labor 2004). Within the Los Padillas community, farming is still a major land use. Small truck farms grow chile, corn, squash,

tomatoes and fruit. Alfalfa is a main crop. Dairies and feedlots are also present. There is limited grazing, which is usually confined to families raising 1 or 2 cattle for their own use.

3.15 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; February 11, 1994) was designed to focus the attention of Federal Agencies on the human health and environmental conditions of minority and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. In an accompanying memorandum, President Clinton emphasized that existing laws, such as the National Environmental Policy Act (NEPA), should provide an opportunity for federal agencies to assess the environmental hazards and socioeconomic impacts associated with any given agency action upon minority and low-income communities. In April of 1995, the EPA released a guidance document entitled *Environmental Justice Strategy: Executive Order 12898.* In short, this document defines the approaches by which the EPA will ensure that disproportionately high environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with regard to Environmental Justice issues and concerns.

The Proposed Project will benefit an area with a minority and low-income community. No adverse impacts on minority and low-income populations are expected. Under the definition of Executive Order 12898, there will be no adverse environmental justice impacts under the Proposed Project. Reduced flooding hazard will be a beneficial effect to low income and minority populations living in the Project Area. The No-Action Alternative will adversely affect low income and minority populations because without the Proposed Project, flooding in the Project Area will continue.

3.16 Land Use and Recreation

The proposed Project Area is composed of a mix of both urban and rural land uses. Flooding in the Project Area comes from a variety of sources and flood damages occur when floods overwhelm the capacity of the existing facilities. The Proposed Project mostly occurs within previously developed or disturbed land. Pipes used to collect stormwater flows will be placed in areas adjacent to or along street rights-of way, or through parcels acquired by the sponsor agencies. Property adjacent to the Project Area includes residential and mobile homes, streets, and farmland. The Proposed Project will minimally adversely affect agricultural land use along the proposed Los Padillas Extension, however, that will be mitigated by planting alfalfa in the Diversion Spillway. Project Area residents will be beneficially affected because of flooding improvements to homes and businesses. The No-Action Alternative will adversely affect land use in the Project Area because of the continued flooding problem. The Los Padillas Spillway Diversion structure is located in the Rio Grande Bosque, an area that is used for recreation by hikers, cyclists, birdwatchers, etc. Installation of the proposed Los Padillas Spillway Diversion structure will render a small portion (less than one acre) of the Bosque inaccessible for these recreation pursuits. Additionally, an approximately 0.5-acre wetland will be constructed in the Durand Open Space. This will provide wildlife observation opportunities and create approximately 0.57 acres of wildlife forage cropland that will be lost for construction of the Los Padillas Spillway Diversion. Therefore, the Proposed Project will minimally adversely affect recreation in the Project Area.

3.17 <u>Cumulative Impacts</u>

NEPA defines cumulative effects as "...the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such other actions." The AMAFCA et al studies (SWCA 2003, Parsons 2000) concluded that the constituents of their stormwater systems were not combining individually or cumulatively to produce substantially toxic effects to aquatic life on the Middle Rio Grande or the surrounding area.

The footprint of the project lies within an urban/semi-urban residential area that has little, if any, resemblance to what was present prior to urbanization. Since the construction work primarily involves expansion of existing storm drain facilities, most environmental impacts associated with the Proposed Project will have been incurred during the original construction of the ditches. These impacts have stabilized and have been considered the baselines against which impacts of the Proposed Project have been compared. The two areas of new construction involve disturbance to the perimeter of an existing agricultural field and a maintained utility line right-of-way. This will not significantly impact the current conditions of the local environment. The current state of the drainage system adequately, but not completely, prevents flood damages to residences and structures in the Project Area. Positive flood prevention benefits are anticipated to occur from the Proposed Project that will enhance the quality of life for residents and business owners in the area. BMPs to be implemented during construction as well as during operation and maintenance of the Proposed Project will treat stormwater and filter pollutants before it reaches the Rio Grande. For these reasons, the Proposed Project when combined past, present, or future activities in the Middle Rio Grande will not significantly add to or raise local cumulative environmental impacts to a level of significance.

4.0 CONCLUSIONS AND SUMMARY

This Supplemental Environmental Assessment addresses changes to the Southwest Valley Flood Damage Reduction Project since the 2004 Final Feasibility Report and Environmental Assessment. Adverse effects of the Proposed Project will be short-term while the beneficial effects of reduced flooding will be long-term. As stated previously, the Proposed Project will provide potential benefits to two Federally Endangered species. The Los Padillas Spillway Diversion structure will create low-velocity, off-channel habitat for the Rio Grande silvery minnow and native vegetation planting associated with the Durand Open Space Isolated Willow Swale and Los Padillas Spillway Diversion structure will be conducive to the Southwest Willow Flycatcher. These project elements will be closely monitored to determine the benefits for these species which are proposed to occur as an outcome of the Proposed Project.

5.0 PREPARATION, QUALITY CONTROL, AND COORDINATION

5.1 <u>Preparers</u>

Sarah Beck	Biologist – Environmental Resources Section
John Schelberg	Archaeologist – Environmental Resources Section
Justin Reale	Environmental Engineer – Hazardous, Toxic and Radioactive
	Waste Section

5.2 Quality Control

Jerry Nieto	Project Manager
Julie Alcon	Supervisory Ecologist - Environmental Resources Section
Ondrea Hummel	Ecologist – Environmental Resources Section
Danielle Galloway	Biologist – Environmental Resources Section
Lance Lundquist	Archeologist – Environmental Resources Section
Chris Velasquez, P.E.	Civil Engineer – General Engineering Section
Steve Boberg, P.E.	Hydraulic Engineer – Hydrology and Hydraulics Section

5.3 <u>Coordination</u>

The project co-sponsors, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County have been involved in the design of the project and review of the Supplemental Environmental Assessment. A letter dated February 3, 2010 (see Appendix F) was sent to Reclamation and Middle Rio Grande Conservancy District (MRGCD) asking for their participation as Cooperating Agencies in the National Environmental Policy Act (NEPA) process. They accepted the invitation by email dated February 8, 2010, from Reclamation and a letter dated February 8, 2010, from MRGCD.

John Kelly	AMAFCA
Jerry Lovato	AMAFCA

Kevin Daggett	AMAFCA
Kurt Wagoner	AMAFCA
Roger Paul	Bernalillo County Public Works Department
Brad Catanach	Bernalillo County Public Works Department
Nolan Bennett	Bernalillo County Public Works Department
Subhas Shah	Middle Rio Grande Conservancy District
Ray Gomez	Middle Rio Grande Conservancy District
Mike Hamman	U.S. Bureau of Reclamation
Lisa Croft	U.S. Bureau of Reclamation
Gwen Easterday	U.S. Bureau of Reclamation
Mike Andrews	U.S. Bureau of Reclamation
Art Valverde	U.S. Bureau of Reclamation
Gary Dean	U.S. Bureau of Reclamation
Robert Maxwell	U.S. Bureau of Reclamation

5.4 <u>Distribution List for SEA</u>

Albuquerque Metropolitan Arroyo Flood Control Authority 2600 Prospect Ave NE Albuquerque, NM 87107

Albuquerque Area Office U.S. Bureau of Reclamation 555 Broadway Blvd NE, Suite 100 Albuquerque, NM 87102

U.S. Fish and Wildlife Service 2105 Osuna Road NE Albuquerque, NM 87113

New Mexico Interstate Stream Commission New Mexico Office of the State Engineer P.O. Box 25102 Santa Fe, NM 87504-5102

New Mexico Office of the State Engineer P.O. Box 25102 Santa Fe, NM 87504-5102

Surface Water Quality Bureau New Mexico Environment Department P.O. Box 5469 Santa Fe, NM 87502 Public Works Division Bernalillo County 2900 Broadway SE, Building N Albuquerque, NM 87102

Middle Rio Grande Conservancy District P.O. Box 581 Albuquerque, NM 87102

Conservation Services Division New Mexico Department of Game and Fish P.O. Box 25112 Santa Fe, NM 87504

New Mexico Interstate Stream Commission New Mexico Office of the State Engineer 121 Tijeras NE, Suite 2001 Albuquerque, NM 87102-3465

NM Forestry and Resources Conservation Division Energy, Minerals, and Natural Resources Dept P.O. Box 1948 Santa Fe, NM 87504-1948

Water and Waste Management Division New Mexico Environment Department P.O. Box 26110 Santa Fe, NM 87502 Office of Planning and Coordination, Region 6 U.S. Environmental Protection Agency 1445 Ross Avenue, Suite 1200 Dallas TX 75202-2733

Navajo Nation Post Office Box 9000 Window Rock, Arizona 86515

Ohkay Owingeh Post Office Box 1099 San Juan Pueblo, New Mexico 87566

White Mountain Apache Tribal Council Post Office Box 700 Whiteriver, Arizona 85941

Pueblo of Isleta Post Office Box 1270 Isleta Pueblo, New Mexico 87022 Pueblo of Sandia 481 Sandia Loop Bernalillo, New Mexico 87004

Pueblo of Laguna Post Office Box 194 Laguna, New Mexico 87026

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

Ysleta del Sur Pueblo 117 S. Old Pueblo Rd. El Paso, Texas 79907

5.5 <u>Summary of DEA Public Comments and Corps' Responses</u>

Commenter	Comment Summary	Corps' Response
New Mexico	"the Department does not anticipate significant	We concur.
Department of	impacts to wildlife or sensitive habitats with the	The Corps conducted extensive informal
Game and Fish	exception of the Rio Grande silvery minnow which was	consultation with the U.S. Fish and Wildlife
	mentioned in the letter. The Department recommends	Service regarding the endangered silvery
	you contact our Endangered Fish Biologist and the U.S.	minnow and silvery minnow critical habitat.
	Fish and Wildlife Service regarding the silvery	Several project elements as well as the project
	minnow."	scheduled were modified and the U.S. Fish and
		Wildlife Service concurred with our
		determination that this project "may affect but
		will not adversely affect" either the minnow or
		critical habitat.
Albuquerque	"The Water Authority requests that the Corps identify	Potential conflicts between the Project and
Bernalillo	each of the locations where the flood damage reduction	ABCWUA infrastructure have been identified
County Water	project will impact sanitary sewer and potable water	and described on page 16 of this document.
Utility Authority	infrastructure."	
(ABCWUA)		
ABCWUA	"In addition, the Water Authority requests that the	The Corp's Project Cooperation Agreement with
	costs for redesigning and reconstructing these facilities	its Non-Federal Sponsors, AMAFCA and
	be included as part of the project budget."	Bernalillo County, obligates the Non-Federal
		Sponsors to perform or ensure performance of all
		utility relocations prior to or as part of the Corps
		construction project. The maps provided by
		ABCWUA have been provided to the Non-
		rederal Sponsors to notify them of possible
		chlication for the utility adjustment of needed
		obligation for the utility adjustment as needed
		for future phases of design and construction.

New Mexico	Ground Water Quality Bureau: "However, infiltration	The detention ponds are unlined by design so
Environment	of stormwater contained in the detention ponds could	that best management practices (BMPs) such as
Department	result in the transport of water contaminants to ground	biofilters may be more effective. In addition, the
(NMED)	water. If relatively shallow ground water conditions	Non-Federal project sponsors have developed a
	are anticipated to exist in the project area, the USACE	BMP "treatment train" that will safeguard water
	may wish to consider the use of engineering controls	quality throughout the system. This is discussed
	(e.g. oil/water separators, synthetic liners) to minimize	in greater depth in section 3.3.2, starting on page
	the potential for ground water quality impacts from the	23 of this document.
	planned stormwater detention ponds."	
NMED	Surface Water Quality Bureau: "Overall, potential	Comment received.
	impacts on environmental resources are anticipated to	
	be minimal under the proposed guidelines."	

6.0 **REFERENCES**

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