

Draft Environmental Assessment
and
Draft Finding of No Significant Impact
for the
La Mesilla Community Ditch
Rehabilitation Project,
Rio Arriba County, New Mexico

18 January 2008

Prepared for:

U.S. Army Corps of Engineers
Albuquerque District



Prepared by:

Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505



DRAFT FINDING OF NO SIGNIFICANT IMPACT
La Mesilla Ditch Rehabilitation Project
18 January 2008

The U.S. Army Corps of Engineers (USACE), Albuquerque District, at the request of the New Mexico State Engineer's Office, and the La Mesilla Ditch Association, are planning a project to rehabilitate a small segment of the La Mesilla Ditch in Rio Arriba County, New Mexico. The project area is located in La Mesilla, Rio Arriba County, New Mexico.

The proposed rehabilitation work on the La Mesilla Ditch would be conducted under Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662; 33 U.S.C. 2201 et. seq.), as amended. The Act authorizes the Acequia Rehabilitation Program for the restoration and rehabilitation of irrigation ditch systems (acequias) in New Mexico. The La Mesilla Ditch rehabilitation project also qualifies under Section 215 of the Flood Control Act of 1968, Public Law 90-483, as amended. Section 215 provides that the Secretary of the Army may enter into an agreement to credit or reimburse the costs of certain work accomplished by states or political subdivisions thereof, which later is incorporated into an authorized project.

The USACE proposes to rehabilitate the La Mesilla Community Ditch by replacing two individual earthen laterals with plastic polyvinyl chloride (PVC) pipe. General project components include: 1) installing approximately 1,325 linear feet of 15-inch PVC pipe along Lateral #1; 2) installing approximately 1,750 linear feet of 12-inch PVC pipe along Lateral #2; and 3) constructing a sluice at the end of Lateral #1 pipe to an adjacent arroyo using 18-inch PVC pipe.

The acequia serves up to 28 irrigators growing alfalfa and produce on approximately 52 acres. Project construction is scheduled during the non-irrigation season with an expected duration of about two weeks. The La Mesilla Ditch Association will be responsible for assuring operation and maintenance upon project completion.

The objectives of the acequia rehabilitation project are to reduce maintenance required to clean sediment from the ditch, improve water delivery efficiency, and reduce the potential for flooding of a neighboring property owner's driveway during high run-off events.

The proposed project will not change or affect water rights or the amount of water diverted. The proposed action will result in minor or temporary effects on climate, soils, floodplains, waters of the U.S., air quality, noise levels, vegetation and wildlife habitat, and socioeconomics. The planned action was analyzed for, but will have no effect on, physiography, geology, water resources, wetlands, special status species, land use, visual resources, and environmental justice. As required by the Endangered Species Act of 1973, the USACE has determined that the project will have no effect on any threatened or endangered species or designated or proposed critical habitat receiving protection under the Endangered Species Act.



The proposed action is the rehabilitation of an existing irrigation structure. Therefore, the project is exempt from the provisions of Sections 404 and 401 of the Clean Water Act (33 CFR 323.4). The project complies with Executive Order 11990, Protection of Wetlands.

The proposed project will result in minor, short-term changes to local air quality. An increase in particulates will be expected as a result of topsoil disturbance; localized concentrations of carbon monoxide from equipment during construction are also anticipated. Construction-related effects to air quality will be minimized by employing the use of best management practices. Mechanized operation will conform to air quality control regulations as established by the Clean Air Act and the New Mexico Air Quality Control Act.

Implementing the proposed action will cause temporary increases in noise levels from the operation of heavy equipment. This increase will last approximately one month during day time hours. To reduce temporary construction noise, construction activities will comply with state and local noise control ordinances.

The La Mesilla Community Ditch is eligible for nomination to the National Register of Historic Places and the New Mexico Register of Historic Places. No prehistoric archaeological sites or other historic properties are known to occur within or in the immediate vicinity of the project area. Consistent with the Department of Defense American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, tribes indicating an interest in activities in Rio Arriba County (based on the State of New Mexico Indian Affairs Department's 2006 Native American Consultations List) were sent a scoping letter to assess if there were any potential tribal concerns with the project. No traditional cultural properties are known to occur within or in the vicinity of the project area.

The USACE, therefore, is of the opinion that the proposed La Mesilla Community Ditch rehabilitation project will have "No Adverse Effect to Historic Properties." Should previously undiscovered artifacts or features be unearthed during construction, work will be stopped in the immediate vicinity of the find, a determination of significance made, and a mitigation plan formulated in coordination with the New Mexico State Historic Preservation Officer and with Native American groups that may have concerns in the project area.

Measures to protect the environment that will be implemented as part of this project include the following:

- The contractor will be required to have emission control devices on all equipment.
- The contractor will use best management practices to control wind erosion, including wetting of soils within the construction zone and compliance with local soil sedimentation and erosion-control regulations.
- Construction equipment and activities will comply with state and local noise control ordinances.
- All fuels and lubricants will be stored outside of the 100-year floodplain of Arroyo de Madrid and construction equipment should be inspected daily and monitored during operation to prevent leaking fuels or lubricants from entering surface water.



- All construction equipment would be cleaned with a high-pressure water jet before entering the project area to prevent introduction of invasive plant species.

Implementation of the proposed action is expected to economically benefit the La Mesilla Community Ditch Association by improving water delivery and reducing long-term maintenance costs. In addition, construction of the project will provide some short-term economic benefits for local businesses in the Española, New Mexico area. The planned action is being coordinated with Federal, state, and local agencies with jurisdiction over the biological and cultural resources of the project area. Based upon these factors and others discussed in the following environmental assessment, the proposed action is recommended and will not have significant effects on the human environment. Therefore, an environmental impact statement will not be prepared for the proposed rehabilitation work on the La Mesilla Community Ditch.

Date

B. A. Estok
Lieutenant Colonel, U.S. Army
District Commander



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TABLE OF CONTENTS

1.0 PROJECT PURPOSE AND NEED	1
1.1 Proposed Action	1
1.2 Purpose and Need	3
1.3 Regulatory Compliance	4
1.4 Scoping Summary	5
2.0 DESCRIPTION OF ALTERNATIVES AND PROPOSED ACTION	7
2.1 Alternatives Considered in Detail	7
2.1.1 No Action	7
2.1.2 Proposed Action	7
2.2 Environmental Protection	7
3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS OF THE PROPOSED ACTION	9
3.1 Physical Resources	9
3.1.1 Climate	9
3.1.2 Physiography and Geology	11
3.1.3 Soils	11
3.1.4 Water Resources	12
3.1.5 Floodplains, Wetlands, and Waters of the U.S.	13
3.1.6 Air Quality	14
3.1.7 Noise Levels	14
3.2 Biological Resources	15
3.2.1 Vegetation and Wildlife Habitat	15
3.2.2 Threatened and Endangered Species	18
3.3 Social, Economic, and Cultural Resources	21
3.3.1 Visual Resources and Land Use	21
3.3.2 Cultural Resources	21
3.3.3 Socioeconomics and Environmental Justice	23
3.4 Irreversible and Irretrievable Commitment of Resources	25
3.5 Cumulative Effects	26
4.0 LIST OF PREPARERS	27
5.0 CONSULTATION AND COORDINATION	29
6.0 LITERATURE CITED	31



TABLES

Table 1. Stem count of trees along the two laterals. 16
 Table 2. Bird species observed in the project area during the field surveys 18
 Table 3. Special status plant and animal species that may occur in Rio Arriba County 19
 Table 4. Selected social demographic data for the state of New Mexico and Rio Arriba County 24

FIGURES

Figure 1. The La Mesilla Community Ditch project area in La Mesilla, Rio Arriba
 County, New Mexico. 2
 Figure 2. Major features of the La Mesilla ditch rehabilitation project area. 3
 Figure 3. Precipitation and temperature characteristics in the project area. 10
 Figure 4. Proposed erosion blanket at the sluice pipe outfall in Arroyo de Madrid. 13
 Figure 5. Typical character of vegetation along the laterals in the project area 16

APPENDICES

APPENDIX A Project Scoping Letter and Responses
 APPENDIX B List of Plant Species Identified in the Project Area
 APPENDIX C Cultural Resources Coordination
 APPENDIX D Public and Agency Comments and Responses on the Draft EA



1.0 PROJECT PURPOSE AND NEED

1.1 Proposed Action

The U.S. Army Corps of Engineers (USACE), Albuquerque District, in cooperation with the New Mexico State Engineer's Office and the La Mesilla Community Ditch Association, proposes to improve the efficiency of water deliveries to irrigators by rehabilitating the La Mesilla Community Ditch. The project area is located in La Mesilla, Rio Arriba County, New Mexico (Figure 1).

The USACE proposes to rehabilitate the La Mesilla Community Ditch diversion dam and conveyance structures by replacing two individual earthen laterals with plastic polyvinyl chloride (PVC) pipe. General project components include: 1) installing approximately 1,325 linear feet of 15-inch PVC pipe along Lateral #1; 2) installing approximately 1,750 linear feet of 12-inch PVC pipe along Lateral #2; and 3) constructing a sluice at the end of Lateral #1 pipe to an adjacent arroyo using 18-inch PVC pipe (Figure 2).

The proposed rehabilitation work on the La Mesilla Community Ditch would be conducted under Section 1113 the Water Resources Development Act of 1986 (Public Law 99-662; 33 U.S.C. 2201 et. seq.), as amended. The Act authorizes the Acequia Rehabilitation Program for the restoration and rehabilitation of irrigation ditch systems (acequias) in New Mexico. The La Mesilla Community Ditch rehabilitation project also qualifies under Section 215 of the Flood Control Act of 1968, Public Law 90-483, as amended. Section 215 provides that the Secretary of the Army may enter into an agreement to credit or reimburse the costs of certain work

accomplished by states or political subdivisions thereof, which later is incorporated into an authorized project. The Secretary of the Army, acting through the Chief of Engineers, and, when he determines it to be in the public interest, may enter into agreements providing for reimbursement to States or political subdivisions thereof for work to be performed by such non-Federal public bodies at water resources development projects authorized for construction under the Secretary of the Army and the supervision of the Chief of Engineers.

The USACE would provide 75 percent of construction funding and is, therefore, the action agency for this project. The Office of the State Engineer is the project sponsor, and with the local ditch association, would be responsible for the remaining 25 percent of construction costs. Project design and inspection would be undertaken by the USDA Natural Resources Conservation Service.



Figure 1. The La Mesilla Community Ditch project area in La Mesilla, Rio Arriba County, New Mexico. Section 27, T. 20. N., R. 8 E., Española, New Mexico Quadrangle (1984), NIMA 4755 I NE-SERIES V881, 20' contour intervals, 35°56'30"/1" N 106°5'5.5" W NAD83, quad index number 35016-h1.

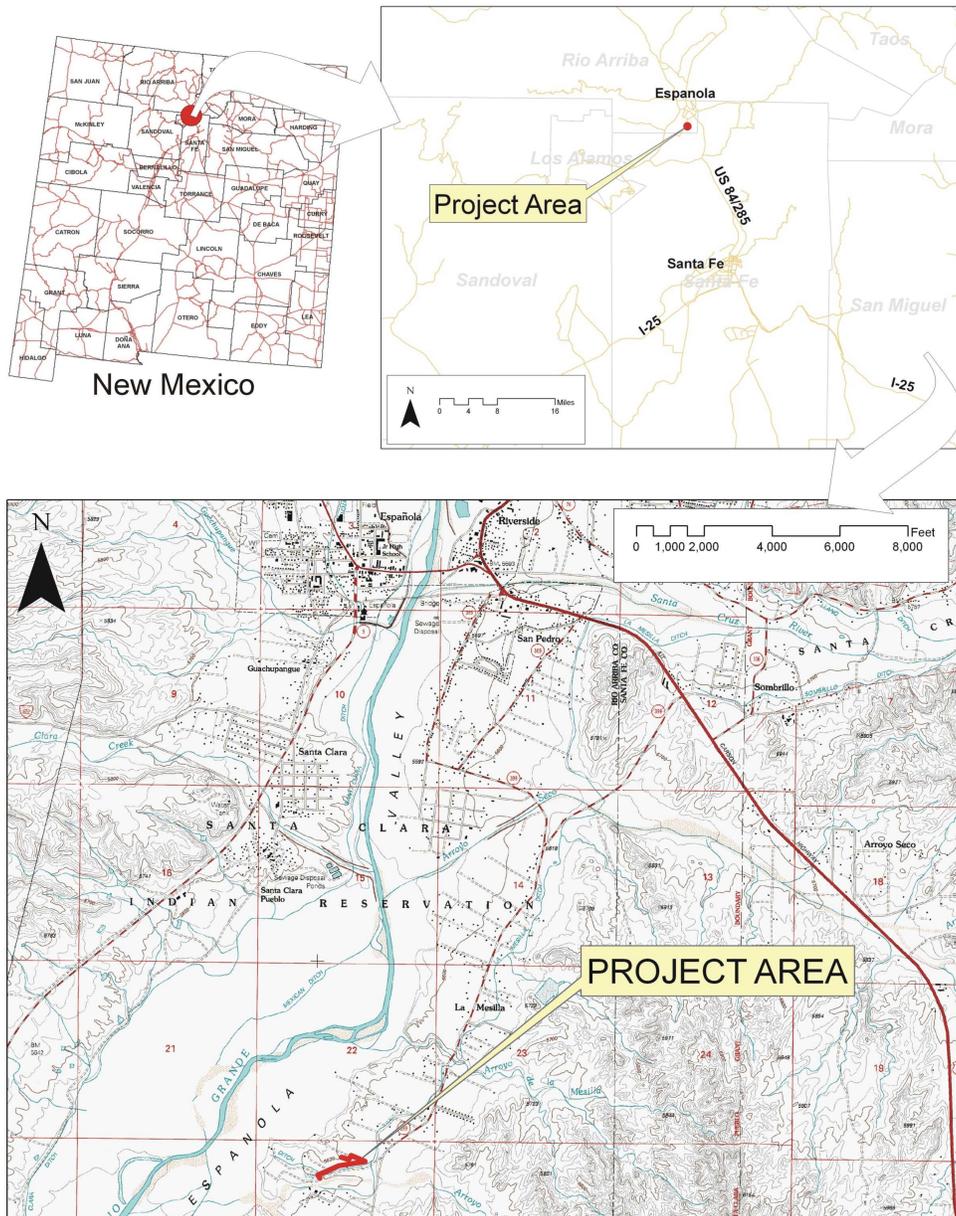
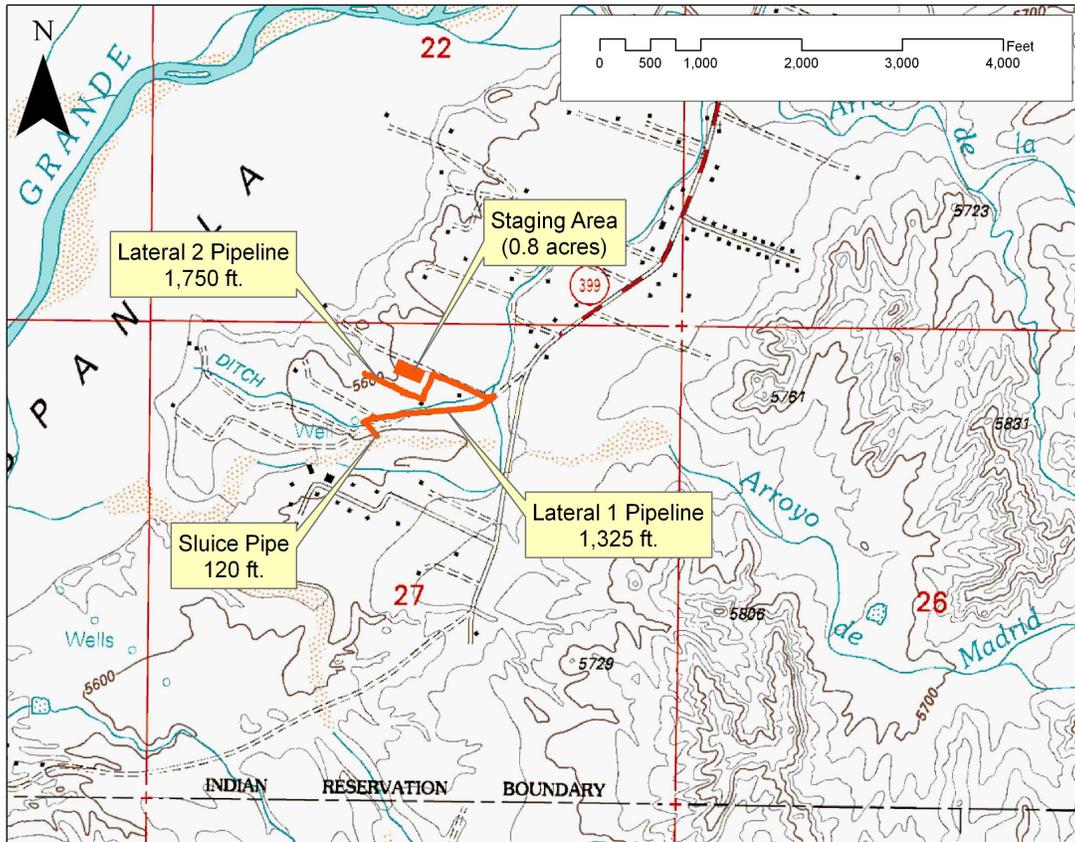




Figure 2. Major features of the La Mesilla ditch rehabilitation project area.



1.2 Purpose and Need

The acequia madre, or main ditch, of the La Mesilla Community Ditch system is approximately six miles long with several smaller laterals or ditches branching from it. The acequia madre is a concrete-lined open ditch while the laterals are open earthen ditches. The ditch conveyance system is inefficient due to seepage from the earthen laterals into the soil and evaporation from the entire open ditch system.

The ditch system has high annual operation and maintenance costs (Pacheco 2005). Some of these costs are attributed to the problem of storm-water runoff from adjacent land, including roads, being directed into the open irrigation ditches. During large precipitation events, the small capacity of the ditch is overwhelmed and requires the use of a sluice to drain storm-water from the ditch. When the volume of water sent through the sluice is very high, it sometimes overflows onto neighboring property, causing flooding of the landowner's driveway (K. Salazar, La Mesilla



Community Ditch Association, 10 October 2007, pers. comm.). Additionally, sediment deposition and vegetation growth in the open laterals increases maintenance costs.

The objectives of the acequia rehabilitation project are to reduce maintenance required to clean sediment and vegetation from the ditch, improve water delivery efficiency, and reduce the potential for flooding of the neighboring property owner's driveway during high run-off events. This would be accomplished by replacing the existing earthen ditch laterals (Laterals #1 and #2) with a PVC pipe and moving the sluice downstream to empty into Arroyo de Madrid. Replacing the earthen ditch with a pipe would also eliminate water loss through seepage into the ground or evaporation from the open ditch. Reducing sediment loading and potential flooding of neighboring property would reduce management costs for the Ditch Association. Eliminating water loss through installation of a pipeline would also increase water delivery efficiency for the Association.

1.3 Regulatory Compliance

This EA was prepared by Blue Earth Ecological Consultants, Inc., for the USACE, in compliance with all applicable Federal statutes, regulations and executive orders (EO) including, but not limited to the following:

- National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] 4321 et seq.)
- Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508);
- U.S. Army Corps of Engineers Procedures for Implementing NEPA (33 CFR 230, ER 200-2-2);
- Clean Air Act of 1972 (42 U.S.C. 7401-7671, as amended);
- Clean Water Act (CWA) of 1977 (33 U.S.C. 1251 et seq.);
- Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544, as amended);
- Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661 et seq., as amended);
- Farmland Protection Policy Act, 1981 (7 U.S.C. 4201, as amended);
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470);
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001-3013);
- American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996);
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470);
- Protection of Historic and Cultural Properties (36 CFR 800 et seq.);
- Federal Noxious Weed Act (7 U.S.C. 2801);
- E.O. 11514, Protection and Enhancement of Environment Quality;
- E.O. 11988, Floodplain Management;
- E.O. 11990, Protection of Wetlands;
- E.O. 12898, Environmental Justice;
- E.O. 13112, Invasive Species Management;
- E.O. 13007, Indian Sacred Sites;
- E.O. 13084, Consultation and Coordination with Indian Tribal Governments; and
- E.O. 11593, Protection and Enhancement of the Cultural Environment.



1.4 Scoping Summary

Project scoping letters were sent on 26 October 2007 to 12 Federal and state government agencies, 10 tribal governments, and six private landowners and/or members of the La Mesilla Community Ditch Association. A complete list of those receiving the scoping letter is contained in Appendix A. All scoping responses are contained in the appendices as well.

Nine responses were received. Four were from federal, state, or tribal entities, including the U.S. Fish and Wildlife Service, the New Mexico Department of Game and Fish, the Hopi Tribe, and the Navajo Nation. Five other responses were received from landowners and/or irrigators with the La Mesilla Community Ditch Association.

The U.S. Fish and Wildlife Service provided only general regulatory guidance with no project specific comments (Appendix A). The New Mexico Department of Game and Fish indicated that the proposed project would not be likely to adversely affect wildlife or habitats (Appendix A). Guidance for minimizing impacts of open trenches to small mammals, amphibians and reptiles was provided by the agency.

Neither the Navajo Nation nor the Hopi Tribe identified specific cultural resource concerns about the proposed project (Appendix C). The Hopi Tribe requested notification if any cultural resource sites are located during construction.

Responses from individual landowners/irrigators (Appendix A) were generally supportive of the project, noting that the proposed pipeline would improve water delivery efficiency and result in cost savings to irrigators. One comment identified concerns with potential traffic delays on N.M.

Highway 399 during construction and the need to identify all utility lines prior to construction. It was also noted that project timeliness is critical. Another commentor requested that he be kept informed for the project progress to ensure all laterals are properly placed.



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2.0 DESCRIPTION OF ALTERNATIVES AND PROPOSED ACTION

2.1 Alternatives Considered in Detail

2.1.1 No Action

The no action alternative would consist of no modification of the existing open ditch conveyance system. The earthen ditch and existing sluice would continue to function and be maintained as they have in the recent past. Typical maintenance of the acequia system in the project's area of influence would continue, including cleaning sediment and vegetation from the existing earthen ditch and piling dirt along the ditch to increase its carrying capacity and minimize overflows.

2.1.2 Proposed Action

The proposed project would install approximately 1,325 linear feet of 15-inch PVC pipe along Lateral #1 and 1,750 linear feet of 12-inch PVC pipe along Lateral #2 (Figure 2). Additionally, a sluice would be constructed at the end of the Lateral #1 pipe to the Arroyo de Madrid using 18-inch PVC pipe. The pipes would be placed in the existing ditch and laterals with a few minor variations. A realignment of approximately 265 feet would be made along Lateral #2 to follow a property line. A second small realignment would be made near the end of Lateral #1 around existing cottonwood trees.

All work would be conducted on private lands either owned or managed by the Ditch Association or its members. The proposed La Mesilla Community Ditch rehabilitation project would utilize existing county roads and a staging area adjacent to Lateral #2. The staging area, located on an irrigator's land, would be approximately 0.8 acres. The proposed project would not change or affect water rights or the amount of water diverted.

Construction would be completed with a backhoe working for about 10 days. Work would occur in the non-irrigation season, mostly likely in the late winter to early spring of 2008 (K. Salazar, La Mesilla Community Ditch Association, 10 October 2007, pers. comm.). The estimated cost for this project as of March 2005 was \$56,000 (Pacheco 2005).

2.2 Environmental Protection

- Construction-related effects to air quality would be minimized by: 1) requiring the contractor to have emission control devices on all equipment; and 2) employing the use of best management practices to control wind erosion, including wetting of soils within the construction zone and compliance with local soil sedimentation and erosion-control regulations. Construction and operation would conform with air quality control regulations as established by the Clean Air Act and the New Mexico Air Quality Control Act. To reduce temporary construction



noise, construction contracts would require that construction equipment and activities comply with state and local noise control ordinances.

- To prevent introduction of invasive plant species, all construction equipment would be cleaned with a high-pressure water jet before entering the project area.



3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS OF THE PROPOSED ACTION

3.1 Physical Resources

3.1.1 Climate

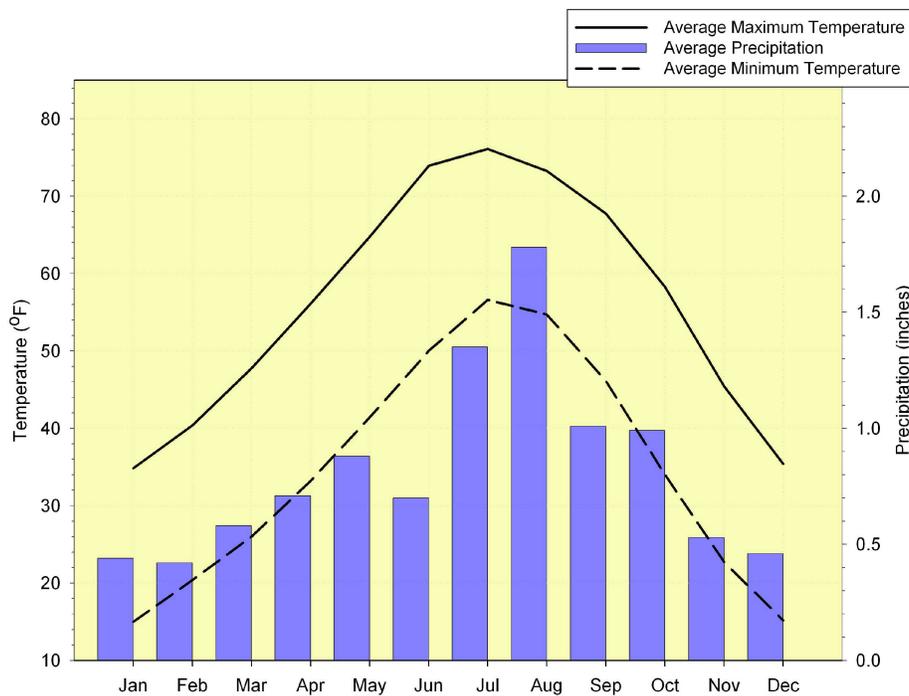
3.1.1.1 Existing Conditions The project area has a mid-latitude desert climate, with an annual average precipitation amount of 9.84 inches (Western Regional Climate Center 2007). Precipitation is irregular, but there is typically a pattern of monsoonal rains in July and August as Gulf air masses penetrate into the region (Figure 3). Cyclonic precipitation occurs during winter months, with average annual snowfall in the area of about 9.9 inches. Average diurnal temperature fluctuations of 20°F to 30°F are characteristic of the project area. Summer temperatures are warm and winters are mild (Figure 3).

Average air temperatures worldwide are predicted to increase beyond the current range of natural variability because human activities have, since the Industrial Revolution, caused accumulation of greenhouse gases (*e.g.* carbon dioxide, methane, nitrous oxide, chloroflourocarbons) in the atmosphere (U.S. Environmental Protection Agency 1998). The potential impacts resulting from climate change are varied, even within the State of New Mexico (New Mexico Agency Technical Work Group 2005). Summer air temperatures in the southwestern U.S. are predicted to rise considerably from 2010 through 2039, average annual precipitation is expected to decrease, and mountain snow-packs are predicted to decrease significantly (Field *et al.* 2007: 627).

New Mexico Governor Bill Richardson signed Executive Order 05-33 in 2005, which included development of recommendations for reducing greenhouse gas emissions in the State to year 2000 levels by 2012, 10 percent below 2000 levels by 2020, and 75 percent below 2000 levels by 2050. The year 2000 reference level is 83 million metric tons of carbon dioxide equivalent gasses (MMtCO₂e; New Mexico Climate Change Advisory Group 2006: 2-2). Residential and commercial fuel use accounted for about five percent of total emissions in the State in 2000 (New Mexico Climate Change Advisory Group 2006: 2-4), or about 7.3 MMtCO₂e (New Mexico Climate Change Advisory Group 2006: 2-6).

3.1.1.2 Effects on Climate Neither the no action alternative or proposed action would measurably affect climatic conditions or trends in climate change in the region. Installation of the buried pipeline would be accomplished using a backhoe and about 300 linear feet of pipeline can be installed in one day (K. Salazar, pers. comm., 10 October 2007). Therefore, completion of the project would require about 10 days of backhoe operation. Backhoe operation during this 10-day period would produce greenhouse gas emissions. Combustion of one gallon of diesel fuel generates about 22.2 pounds of CO₂ equivalent gasses (U.S. Environmental Protection Agency 2005) and an average piece of construction equipment may burn five to eight gallons per hour (gph) of fuel. Using a fuel consumption rate of 6 gph, an average operation period of six hours per day, and a construction period of 10 days, then a total of

Figure 3. Precipitation and temperature characteristics in the project area. Climate data are for the period 1 January 1914 to 31 December 2005. The data are from the National Climate Data Center cooperor station in Española (station number 293031), which is at 5,640 ft elevation.



about 360 gallons of diesel fuel would be burned in the course of constructing the project. This would result in emission of about 7,992 pounds of CO₂-equivalent greenhouse gasses, or 3.6 metric tons. These emissions equate to about 0.00005 percent of the annual greenhouse gas emissions in New Mexico attributable to residential and commercial fuel use in 2000 (*i.e.* 7,300,000 metric tons) and a minute percentage of total greenhouse gas emissions in the State (*i.e.* 83,000,000 metric tons). Greenhouse gas emissions generated by the proposed action can be substantially reduced by:

- reducing idling time, which can burn up to one gallon of fuel per hour;
- using ultra-low sulfur diesel fuel, which may cost \$0.05 to \$0.10 per gallon more than off-road #2 fuel oil; and
- using equipment fitted with diesel oxidation catalysts.

The proposed action would result in greenhouse gas emissions on the order of 3.6 metric tons and would cumulatively add to past, ongoing, and future greenhouse gas emissions in New Mexico. The project-related emissions would be a very small proportion of the total greenhouse gas



emissions in the State (83,000,000 metric tons). Project-related greenhouse gas emissions can be reduced by implementing one or more of the measures described above.

3.1.2 Physiography and Geology

3.1.2.1 Existing Conditions The project area is within the Southern Rocky Mountains province of the Rocky Mountain physiographic region (Fenneman and Johnson 1946). Located on the east side of the Rio Grande, the La Mesilla area is situated in the Española Basin, which is a west-tilted half graben and a prominent feature of the Rio Grande rift. Surficial geology in the project area consists of west-dipping beds of the Tesuque Formation, which are middle to upper Miocene age (Kelson and Olig 1995), and modern alluvium associated with arroyo channels.

3.1.2.2 Effects on Physiography and Geology Physiographic characteristics of the project area and local geologic conditions would not be affected by either the no action or the proposed action alternatives. The proposed action would not cause any marked changes in local surface topography.

3.1.3 Soils

3.1.3.1 Existing Conditions Three soil units are mapped in the project area (Natural Resources Conservation Service 2007). Soils along Arroyo Madrid, into which the *desaguas*, or sluice, for Lateral #1 would empty, are mapped as Abiquiu-Peralta Complex, 0 to 3 percent slopes. The other two soils mapped in the project area are Fruitland sandy loam, 0 to 3 percent slopes, and Pinavetes loamy sand, 0 to 3 percent slopes. Abiquiu-Peralta Complex soils are derived from alluvium and are somewhat poorly drained

because of a relatively high silt content in the surface layer. These soils are non-saline, with an electrical conductivity of 0 to 2 millimhos/cm. Depth to the water table ranges from 24 to 48 inches. The typical profile consists of silt loam from 0 to 4 inches, fine sandy loam from 4 to 8 inches, and stratified extremely cobbly coarse sand to gravelly sand from 8 to 60 inches. The Fruitland sandy loam and Pinavetes loamy sand soils are well drained. Fruitland sandy loam is derived from alluvium and Pinavetes loamy sand is eolian deposits derived from sandstone. Saturated hydraulic conductivity is high to very high (2 to 20 inches/hour). They are deep soils and are non-saline to very slightly saline. Electrical conductivity ranges from 0.0 to 4.0 millimhos/cm. Depth to the water table is greater than 80 inches. None of the soils in the project area are classified as hydric soils.

3.1.3.2 Effects on Soils

No Action Soil conditions in the project area would not change with the no action alternative. Continuing maintenance of the existing facility would include periodic removal of accumulated sediment from the open ditch segments.

Proposed Action The proposed action would include placement of soil to fill the existing ditch, bed the pipeline, and level the ground surface of the filled area. The resulting fill would cover about 0.42 acres (*i.e.* an area averaging about six feet wide with a length of 3,075 feet). The fill would be similar in composition to existing soils. The 0.42 acre impact area would be devoid of vegetation in the short term and would therefore be subject to increased erosion rates compared to undisturbed, vegetated areas. Another 0.8 acres of land on Mr. Salazar's property would be used as a staging area. This area consists of gravel-surfaced driveway and lawn. No soil disturbance is



expected at the staging area as it would be used only for stockpiling materials and equipment.

Past actions have created the existing soil conditions in the project area. These actions have included residential development, irrigated agriculture, and road construction. Ongoing actions affecting soils in the project area are limited to periodic maintenance of the open ditch. The appropriate area of analysis for cumulative effects is the project area because effects of the proposed action on soils would diminish markedly outside of this area. The proposed action would not overlap in time or space with past and ongoing ditch maintenance actions that affect soils in the project area. This is because effects of the past and ongoing actions would cease with implementation of the proposed action. Ditch maintenance actions would be supplanted by placement of fill and surface disturbance associated with the proposed action (*i.e.* the effects would not accumulate).

3.1.4 Water Resources

3.1.4.1 Existing Conditions Ground water in the project area is located at a depth of 20 feet or more (K. Salazar, pers. comm., 10 October 2007). Surface water drainages in the project area include the existing man-made irrigation ditch and the Arroyo de Madrid. Both of these are ephemeral. The irrigation ditch is fed by a diversion on the Rio Santa Cruz located about eight ditch-miles upstream from the project area. The diversion on the Rio Santa Cruz is just north of the village of Sombrillo.

The headwaters of Arroyo de Madrid are about 4.4 miles upstream from the project area. The arroyo empties into an oxbow on the east side of the Rio Grande about 1.6 miles downstream from

the proposed sluice pipe outfall. Another channel leaves the oxbow and makes its confluence with the Rio Grande about 1.2 miles downstream from the oxbow.

3.1.4.2 Effects on Water Resources

No Action Surface water resources are not affected by existing operation and management of laterals 1 and 2. There is likely some recharge of the shallow ground water aquifer by flood irrigation from laterals 1 and 2 under current conditions.

Proposed Action The proposed project would not change or affect water rights or the amount of water diverted. Patterns of flood irrigation using laterals 1 and 2 would not change. Consequently, recharge of the shallow ground water aquifer by flood irrigation from these laterals would not change compared to the No Action alternative.

Surface water resources would not be impacted by the proposed action. Small amounts of water would occasionally be discharged from the proposed sluice pipe into Arroyo de Madrid. These discharges would infiltrate into the alluvial sediments of the arroyo bed before reaching the oxbow located 1.6 miles downstream. Water quality in the Rio Grande would not be affected by construction or operation of the proposed buried pipeline segments.

3.1.5 Floodplains, Wetlands, and Waters of the U.S.

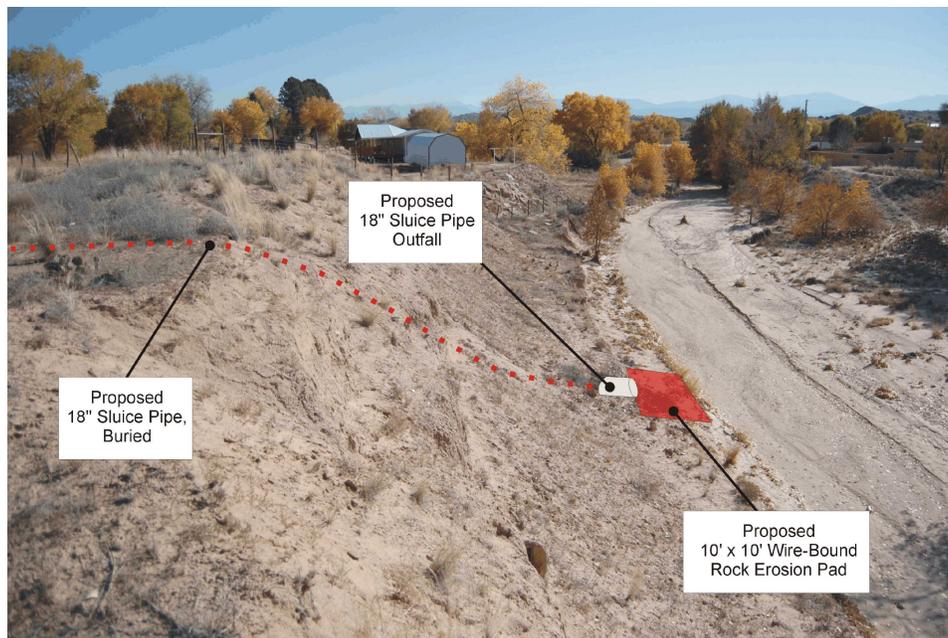
3.1.5.1 Existing Conditions Floodplains in the project area are associated with Arroyo de Madrid. No wetlands were found in the project area. Arroyo de Madrid is ephemeral but is considered a water of the U.S. pursuant to Section 404 of the Federal Clean Water Act. Dredge and fill activities below the ordinary high water mark in waters of the U.S. are typically regulated by the U.S. Army Corps of Engineers under Section 404.

3.1.5.2 Effects on Floodplains, Wetlands, and Other Waters of the U.S.

No Action Current operation and maintenance of the existing ditch segments along laterals 1 and 2 do not have any effects on floodplains, wetlands, or other waters of the U.S.

Proposed Action An area of about 100 square feet (10 feet by 10 feet) of wire-bound rock would be constructed at the outfall of the proposed sluice pipe in the Arroyo de Madrid to prevent bed scour at the pipe outlet (Natural Resources Conservation Service 2004: Sheet 6). The wire-bound rock would be placed below the ordinary high water mark of Arroyo de Madrid (Figure 4). The volume of fill would be approximately 100 cubic feet (*i.e.* 10 ft by 10 ft by one foot deep), or 3.7 cubic yards. Placement of this material would not affect floodplain capacity in Arroyo de Madrid.

Figure 4. Proposed erosion blanket at the sluice pipe outfall in Arroyo de Madrid. View is looking upstream from the west bank of the arroyo.





3.1.6 Air Quality

The Clean Air Act of 1970, as amended, established National Ambient Air Quality Standards for six criteria air pollutants: ozone, airborne particulates, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. If measured concentrations of the six pollutants exceed their respective standards, the U.S. Environmental Protection Agency can designate the area as nonattainment area for that pollutant.

3.1.6.1 Existing Conditions No exceedences of the National Ambient Air Quality Standards have been measured in the air quality monitoring network in Rio Arriba County (New Mexico Environment Department 2008). Therefore, the area is currently in attainment of all Federal air quality standards.

3.1.6.2 Effects on Air Quality

No Action The no action alternative would not affect existing air quality as no changes would occur in regards to rehabilitation of the acequia.

Proposed Action The proposed project would result in short-term effects to local air quality from operation of a backhoe during construction. An temporary increase in particulates (dust) would be expected as a result of soil disturbance. Also, local concentrations of carbon monoxide would increase minutely from equipment emissions during the 10-day construction period. No long-term effects to air quality are anticipated as a result of operation of the proposed facilities.

The appropriate area for cumulative effects analysis for air quality is the area within 300 feet of the project area. Effects of the project on air quality beyond that distance would be negligible.

The effect of past and ongoing actions on air quality in airshed are represented by the existing conditions. There are no known future actions that may impact air quality and that would overlap spatially and temporally with the proposed action. Consequently, the project would not have any cumulative effects on air quality.

Best Management Practices Construction-related effects to air quality would be minimized by: 1) requiring the contractor to have emission control devices on all equipment; and 2) employing the use of best management practices to control wind erosion, including wetting of soils within the construction zone and compliance with local soil sedimentation and erosion-control regulations. Construction and maintenance of the proposed project would conform with air quality control regulations as established by the Clean Air Act and the New Mexico Air Quality Control Act.

3.1.7 Noise Levels

In considering potential effects of increased noise levels, sensitive noise receptors are identified in a project area. Sensitive receptors include but are not limited to homes, lodging facilities, hospitals, parks, and undeveloped natural areas.

3.1.7.1 Existing Conditions The project area generally has a moderate to low level of noise as most of the area is semi-rural with two-lane paved roads and scattered homes. Sounds created by humans heard in the project area included vehicle traffic traveling adjacent roads, including N.M. Highway 399, and residents going about their daily lives.



3.1.7.2 Effects on Noise Levels

No Action The no action alternative would not result in any construction in the project area. Therefore, there would be no effect on current noise levels.

Proposed Action If the proposed action is implemented, there would be temporary increases in noise levels from backhoe operation, lasting for about 10 days during the construction period. Additional construction-related noise from vehicles and people at the site would persist throughout the construction period. These increases in noise would occur in day time hours and may disrupt the relatively quiet project setting. Birds and other wildlife that use this area may be temporarily displaced by the increased level of noise.

Cumulative effects of noise increases were assessed using an approximately one-half mile radius from the project area, assuming that large equipment noise may be heard from that distance at times. The increase in noise generated by construction of the project would add to noise levels from vehicles on N.M. Highway 399 and other roads and noise generated from surrounding homes, resulting in a cumulative increase in noise levels during the period of construction.

Best Management Practices To reduce temporary construction noise, construction contracts would require that construction equipment and activities comply with state and local noise control ordinances.

3.2 Biological Resources

3.2.1 Vegetation and Wildlife Habitat

A biological field survey of the project area was conducted on 10 October and 1 November 2007. The project area is situated in Plains-Mesa Grassland vegetation (terminology following Dick-Peddie 1993). Vegetation in and along the ditch was dominated by ruderal herbaceous species with patches of trees and shrubs (Figure 5). A list of plant species identified in the project area is provided in Appendix B. All of Lateral 1 and about one-third of Lateral 2 were located alongside the two paved roads (NM 399 and Kenny Lane, respectively). The remainder of Lateral 2 was located along the perimeter of an apple orchard and then between two pastures.

Trees immediately adjacent to the two laterals were enumerated by species and size class (Table 1). The six Utah juniper trees were located on the south side of an apple orchard. These trees would not be affected by installation of the buried pipelines (K. Salazar, pers. comm., 10 October 2007). Similarly, the seven Rio Grande cottonwood trees, located near the end of Lateral 1, would be avoided by burying the pipeline to the east of the trees (Figure 6). The remaining trees may be removed during pipeline installation. All of these potentially-affected trees are of non-native species, including volunteer apple and white mulberry trees, Siberian elm, Russian olive, and saltcedar (Table 1).

Figure 5. Typical character of vegetation along the laterals in the project area. View is looking down Lateral 2 from the beginning of the project (Station 0+00).



Table 1. Stem count of trees along the two laterals. Trees are grouped into three size classes based on diameter at breast height (dbh). The six Utah juniper and seven Rio Grande cottonwood trees would not be affected by the proposed action.

Species	< 6" dbh	6"-12" dbh	> 12" dbh	Total
Utah juniper (<i>Juniperus osteosperma</i>)	0	0	6	6
Siberian elm (<i>Ulmus pumila</i>)	3	11	10	24
apple (<i>Malus alba</i>)	3	5	2	10
white mulberry (<i>Morus alba</i>)	0	5	2	7
Rio Grande cottonwood (<i>Populus deltoides wislizeni</i>)	0	0	7	7
Saltcedar (<i>Tamarix chinensis</i>)	4	2	0	6
Russian olive (<i>Elaeagnus angustifolia</i>)	0	0	2	2
Total	10	23	29	62
Number Affected by Project	10	23	16	49

Figure 6. Rio Grande cottonwoods at the end of Lateral #2. These trees would be avoided by placing the buried pipeline to the east of the trees.



Habitat suitability along the two laterals for wildlife is limited by the proximity of roads, houses, and frequent vehicle traffic. Bird species observed during the field survey are listed in Table 2. No other wildlife species were observed during the field surveys.

3.2.1.2 Effects on Vegetation and Wildlife Habitat

No Action The no action alternative would not result in any substantial changes to existing vegetation or wildlife habitat conditions in the project area. Existing levels of disturbance from vehicle travel, equipment operation, and human activity in the project area would continue.

Proposed Action The proposed action would result in impacts to about 0.42 acres of vegetation along the two laterals from excavation, placement of the pipeline, and backfilling. The affected

vegetation is dominated by herbaceous, ruderal species such as Canada wildrye, cheatgrass, curlycup gumweed, horseweed, annual sunflower, kochia, and Russian-thistle. Forty-nine trees, all non-native species, would likely be removed during placement of the buried pipeline. Most of the affected trees (49 percent) would be in the six-to-12 inch diameter-at-breast-height size class. The small stand of mature Rio Grande cottonwood trees at the end of Lateral 2 would not be affected by the proposed action. The 0.8-acre staging area is mostly un-vegetated and does not provide habitat for wildlife. Vegetation similar to that currently found in the project area is likely to re-establish relatively quickly following completion of the project (*i.e.* within about three years).

Table 2. Bird species observed in the project area during the field surveys conducted on 10 October and 1 November 2007.

Common Name	Scientific Name
Black-billed Magpie	<i>Pica hudsonia</i>
American Robin	<i>Turdus migratorius</i>
Western Scrub-jay	<i>Aphelocoma californica</i>
Common Raven	<i>Corvus corax</i>
Mountain Chickadee	<i>Peocile gambeli</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
House Finch	<i>Carpodacus mexicanus</i>

3.2.2 Threatened and Endangered Species

3.2.2.1 Existing Conditions A list of special status animal species that may be found in Rio Arriba County was compiled from information obtained from the U.S. Fish and Wildlife Service and the Conservation Services Division of the New Mexico Department of Game and Fish. Special status plant species occurring in Rio Arriba County were identified using the Rare Plant List developed by the New Mexico Rare Plant Technical Council and the scoping response provide by the State Botanist. Information on the distribution and habitat of each species was gathered from published and unpublished reports, databases, and personal communications and the list was refined based on the geographic location and habitat characteristics of the project area.

There are 61 special status species that occur or may occur in Rio Arriba County (Table 3). The general vegetation type that each species is known from is listed in Table 3 in the “Habitat” column. None of these species is known or likely to occur

in the project area because one or more of the following criteria were met: 1) the species was not found in the project area during the field survey; 2) the project area is not within the known distribution of the species; 3) suitable habitat for the species is not found in the project area.

3.2.2.2 Effects on Threatened and Endangered Species

No Action Continued operation and maintenance of the open ditch segments of laterals 1 and 2 would not have any effects on any threatened, endangered, or sensitive species that may occur in Rio Arriba County.

Proposed Action The proposed action would have no effect on any threatened, endangered, or sensitive species that may occur in Rio Arriba County, as none occur in the project area.



Determination of Effects to Federally Listed or Proposed Species and Critical Habitat

The USACE determines that the proposed action would have no effect on federally listed species known to occur in Rio Arriba County, New Mexico. The proposed project area is not within, and therefore would not affect, any proposed or designated critical habitat.

Table 3. Special status plant and animal species that may occur in Rio Arriba County. Species that are known to occur or that may potentially occur in the project area are highlighted in bold.

Status is: Federal endangered (**FE**); Federal threatened (**FT**); Federal proposed as threatened (**FPt**) or endangered (**FPe**); Federal candidate (**FC**); Federal species of concern (**FS**); state endangered (**SE**); state threatened (**ST**); and state species of concern (**SS**). Habitat is coded as: **TUN** = alpine tundra; **SCF** = subalpine coniferous forest; **MCF** = Rocky Mountain upper or lower montane coniferous forest; **SAG** = subalpine-montane grassland; **PJW** = piñon-juniper woodland or juniper savanna; **MSC** = montane scrub; **PMG** = plains-mesa grassland; **BDS** = Great Basin desert scrub; **DGR** = desert grassland; and **CDS** = Chihuahuan desert scrub. Special habitats are coded as: **Rip** = riparian; **Wet** = wetlands; **Aq** = aquatic; **Rck** = rock outcrops, rocky areas or cliffs; **Se** = selenium-rich soils; **Gyp** = gypsum soils; **Shale** = shale outcrops; and **Snd** = sand or sandy soils.

Common Name	Scientific Name	Status	Habitat
Plants (15 taxa)			
tufted sand verbena	<i>Abronia bigelovii</i>	FS SS	BDS-PJW/Gyp
cyanic milkvetch	<i>Astragalus cyaneus</i>	FS SS	PJW
Chaco milkvetch	<i>Astragalus micromerius</i>	- SS	BDS,PJW/Gyp,Snd
Pagosa milkvetch	<i>Astragalus missouriensis v. humistratus</i>	FS SS	PJW,MCF
Arboles milkvetch	<i>Astragalus oocalycis</i>	- SS	PJW-MCF/Se
Taos milkvetch	<i>Astragalus puniceus v. gertrudis</i>	FS SS	PJW
Ripley's milkvetch	<i>Astragalus ripleyi</i>	FS SS	BDS-MCF
robust larkspur	<i>Delphinium robustum</i>	FS SS	MCF
small-headed goldenweed	<i>Ericameria microcephala</i>	FS SS	MCF/Rck
New Mexico stickseed	<i>Hackelia hirsuta</i>	FS SS	MCF
Chama blazing star	<i>Mentzelia conspicua</i>	FS SS	PJW
Pagosa phlox	<i>Phlox caryophylla</i>	FS SS	BDS,PJW
Pagosa bladderpod	<i>Physaria pruinosa</i>	FS SS	MCF,SCF/Shale
Arizona willow	<i>Salix arizonica</i>	FS SS	SCF/Rip,Wet
Clifford's groundsel	<i>Senecio cliffordii</i>	FS SS	PJW,MCF
Invertebrates (1 taxon)			
Socorro mountainsnail	<i>Oreohelix neomexicana</i>	- SS	PJW,MCF
Amphibians (2 taxa)			
Jemez Mountains salamander	<i>Plethodon neomexicanus</i>	FS SE	MCF,SCF
mountain toad	<i>Bufo boreas complex</i>	FS SE	MCF,SCF



<u>Reptiles (2 taxa)</u>				
southwestern fence lizard	<i>Sceloporus cowlesi</i>	FS	-	PMG,PJW
<u>Fishes (4 taxa)</u>				
Rio Grande cutthroat trout	<i>Oncorhynchus clarki virginalis</i>	FS	SS	MCF,SCF/Aq
Rio Grande chub	<i>Gila pandora</i>	-	SS	DGR-MCF/Aq
roundtail chub	<i>Gila robusta</i>	FS	SE	CDS-MCF/Aq
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	FE	-	CDS,PJW/Aq
<u>Birds (17 taxa)</u>				
Brown Pelican	<i>Pelecanus occidentalis carolinensis</i>	FE	SE	CDS-PJW/Aq
White-tailed Ptarmigan	<i>Lagopus leucurus altipetens</i>	-	SE	MCF-TUN
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT	ST	CDS-MCF/Rip
Northern Goshawk	<i>Accipiter gentilis</i>	FS	SS	MCF,SCF
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	FS	ST	CDS-MCF/Rck
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	FS	ST	CDS-MCF
Mountain Plover	<i>Charadrius montanus</i>	FS	SS	DGR,PMG
Interior Least Tern	<i>Sterna antillarum athalassos</i>	FE	SE	CDS-PJW/Rip,Aq
Black Tern	<i>Chlidonias niger surinamensis</i>	FS	-	CDS-PJW/Wet
Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	FS	-	CDS-PJW/Rip
Burrowing Owl	<i>Athene cucularia hypugaea</i>	FS	-	CDS,DGR,PMG
Boreal Owl	<i>Aegolius funereus</i>	-	ST	MCF,SCF
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FT	SS	MCF/Rip
Black Swift	<i>Cypseloides niger borealis</i>	-	SS	PJW-SCF/Rip
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	FE	SE	CDS-MCF/Rip,Aq
Loggerhead Shrike	<i>Lanius ludovicianus</i>	FS	-	CDS,DGR,PMG
Baird's Sparrow	<i>Ammodramus bairdii</i>	FS	ST	DGR,PMG
<u>Mammals (20 taxa)</u>				
western small-footed myotis	<i>Myotis ciliolabrum melanorhinus</i>	FS	SS	PJW,MCF/Rip
Yuma myotis	<i>Myotis yumanensis yumanensis</i>	FS	SS	DGR-MCF/Rip,Aq
long-legged myotis	<i>Myotis volans interior</i>	FS	SS	MCF/Rip
fringed myotis	<i>Myotis thysanodes thysanodes</i>	FS	SS	DGR-MCF/Rip
long-eared myotis	<i>Myotis evotis evotis</i>	FS	SS	MCF-SCF/Rip
spotted bat	<i>Euderma maculatum</i>	FS	ST	PJW,MCF/Rip
Townsend's pale big-eared bat	<i>Corynorhinus townsendii pallescens</i>	FS	SS	CDS-MCF
big free-tailed bat	<i>Nyctinomops macrotis</i>	FS	SS	PJW,MCF/Rip,Rck
Goat Peak pika	<i>Ochotona princeps nigrescens</i>	FS	SS	SCF,TUN
yellow-bellied marmot	<i>Marmota flaviventris</i>	-	SS	MCF-TUN
Gunnison's prairie dog	<i>Cynomys gunnisoni</i>	-	SS	DGR,PMG
white-tailed jackrabbit	<i>Lepus townsendii campanius</i>	-	SS	PMG,BDS
meadow jumping mouse	<i>Zapus hudsonius luteus</i>	FC	SE	DGR-MCF/Wet
heather vole	<i>Phenacomys intermedius intermedius</i>	-	SS	BDS-MCF/Wet,Rip
White Sands wood rat	<i>Neotoma micropus leucophaea</i>	FS	-	PMG-PJW
red fox	<i>Vulpes vulpes</i>	-	SS	DGR-MCF
black-footed ferret	<i>Mustela nigripes</i>	FE	-	DGR,PMG
American marten	<i>Martes americana origenes</i>	-	ST	MCF,SCF
ringtail	<i>Bassariscus astutus</i>	-	SS	CDS,PMG
western spotted skunk	<i>Spilogale gracilis</i>	-	SS	MSC,PJW,MCF



3.3 Social, Economic, and Cultural Resources

3.3.1 Visual Resources and Land Use

3.3.1.1 Existing Conditions As described in section 3.1.2.- Physiography and Geology, the project area is located in the Española Basin. The project area is a semi-rural landscape developed with low-standard roads to access homes separated by agricultural fields which used as pasture or for crop production. Background views of the surrounding area include low hills and mountains. The La Mesilla Community Ditch is not clearly visible in most of the project area as it is overgrown with grasses, forbs, and shrubs.

Land in the project area is privately owned by members of the La Mesilla Community Ditch Association or the Association itself. Lands adjacent to the project area is used for crop production, livestock grazing, or the yards of nearby homes. There are no undeveloped natural lands remaining the project area. Man-made features visible from the project area include wire fences, paved roads, and homes and outbuildings.

3.3.1.2 Effects on Visual Resources and Land Use

No Action The no action alternative would not result in any effect on current land uses or visual resources in the project area. Land uses would continue as are currently being undertaken.

Proposed Action The presence of a backhoe and workers' vehicles in the project area would have little, if any, effect on the visual quality of the project area during construction as the area

already has substantial developments. This alternative would not change current rural character of the project area and surrounding lands. As the project would not affect visual resources or land uses, there would be no cumulative effects to land use and visual resources.

3.3.2 Cultural Resources

3.3.2.1 Existing Conditions

A cultural resource survey was conducted of the proposed project area on November 16-17 and November 29, 2007 (Raymond 2008). The archaeological pedestrian survey targeted the entire lengths of Lateral #1 (1,325 feet) and Lateral #2 (1,750 feet) of the La Mesilla Community Ditch and the outfall area along Arroyo de Madrid, and an approximately 0.8-acre staging area on private property adjacent to Lateral #2.

Prior to the field survey, an archival literature search and a search of the New Mexico Archaeological Records Management Section database, the State Register of Cultural Properties, and the National Register of Historic Places were completed. The records review reflected that segments of the La Mesilla Community Ditch north of the project area were previously recorded under site numbers LA 103380 and LA 126810. However, these acequia segments are more than one-half mile from either of the two laterals, and the previous recording did not include Lateral #1 or #2. There are no previously-recorded archaeological sites, previously-completed archaeological surveys, nor any properties listed on the State or National Register located within 0.6 mile of the area of potential effect (APE) for this project.



For historic preservation and documentation purposes, acequias and irrigation ditches in New Mexico are evaluated as a system, rather than evaluating the eligibility and effect on each identified segment of a system. The La Mesilla Community Ditch has a priority date of May 8, 1925 (New Mexico Office of the State Engineer), although archival research indicates that an irrigation system was in place in the general area long before this date. Based on information from archival research and ethnographic interviews, Laterals #1 and #2 were added to the La Mesilla Ditch between about 1925 and 1930.

Laterals #1 and #2 (the project area) are open earthen operating segments of the La Mesilla Community Ditch. A total of 18 associated acequia features were documented in the project area, nine along each lateral. These features included the headgates at each lateral from La Mesilla acequia madre, tapboxes, drops, checks, and one footbridge (Raymond 2008).

The La Mesilla Community Ditch and Laterals #1 and #2 are associated with the agricultural development of the community of La Mesilla and the Española Valley and represent early modifications to the landscape by Hispanic and Euroamerican settlers. The La Mesilla Community Ditch system, including Laterals #1 and #2, retains sufficient integrity of location, design, setting, materials, workmanship, feeling and association to convey their historic and design characteristics. The USACE determined that the La Mesilla Community Ditch is eligible for nomination to the National Register of Historic Places.

American Indian Tribes that have indicated that they have cultural resource concerns in Rio Arriba County and Santa Fe County were given the opportunity to comment on the proposed project

(Appendix A); no traditional cultural properties are known to occur in the vicinity of the project area (Appendix C).

Other than the acequia and associated features, there are no historically significant properties along the county roads, in the staging area, or in the area of construction for the outflow, and no further archaeological investigation of those areas is recommended.

3.3.2.2 Effects on Cultural Resources

No Action The no action alternative would not affect cultural resources in the project area as no ground disturbance would be undertaken.

Proposed Action Proposed changes to the laterals would affect approximately nine percent of the total La Mesilla ditch conveyance system. The proposed undertaking would not have an adverse effect upon the historic characteristics of the La Mesilla Community Ditch system that qualify it for inclusion on the National Register of Historic Places, because nine percent is below the threshold to be considered an adverse effect for acequia systems. No further archaeological investigation is recommended.



3.3.3 Socioeconomics and Environmental Justice

Regulations for implementing NEPA require analysis of social effects when they are interrelated with effects on the physical or natural environment (40 CFR §1508.14). Federal agencies are required to "*identify and address disproportionately high and adverse human health or environmental effects*" of their programs and actions on minority populations and low-income populations, as directed by Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).

3.3.3.1 Existing Conditions

Community The project area is located in unincorporated Rio Arriba County in the village of Mesilla, about four miles south of Española, New Mexico. La Mesilla is served by county services for police and fire protection. Española has emergency services, a public library, and public schools, including a community college.

Population Rio Arriba County had a population of 41,190 in 2000 (U.S. Census Bureau 2008a). A July 2006 estimate shows that the county population may have decreased slightly since the census to 40,949 residents (U.S. Census Bureau 2008b). There are no residences within the project area boundaries, but several homes are within a few hundred feet of the ditch along the length of the project.

Economics Leading employment sectors in the county (U.S. Census Bureau 2008c) are education, health care, and social services (20.9 percent) and public administration (16.4 percent). Two other major employment sectors are the arts,

entertainment, recreation and hospitality services and construction, each employing more than 10 percent of the workforce (U.S. Census Bureau 2008c). Agriculture employs about four percent of the county's workers (U.S. Census Bureau 2008c).

La Mesilla Community Ditch serves up to 28 irrigators with about 52 acres irrigated by the ditch system (K. Salazar, La Mesilla Community Ditch Association, 10 October 2007, pers. comm.). Alfalfa is the most commonly-produced crop and is grown on about 41 acres. Strawberries, apples, and other produce are grown on the remaining 11 acres (K. Salazar, La Mesilla Community Ditch Association, 10 October 2007, pers. comm.).

Environmental Justice Selected demographic characteristics of the population of New Mexico and Rio Arriba County are shown in Table 4. Racial characteristics of Rio Arriba County residents vary substantially from the populace of New Mexico as a whole. Between 57 percent of the population of Rio Arriba County is white while almost 14 percent are American Indian. By contrast, almost 67 percent of New Mexicans classified themselves as white and less than 10 percent are American Indian, according to the 2000 census (Table 4). The population of Rio Arriba County is about 73 percent Hispanic or Latino as compared to only 42 percent of all New Mexico residents (Table 4).

Residents of Rio Arriba County and the State of New Mexico are roughly the same age as the average New Mexican (Table 4). The per capita income in Rio Arriba County is a little more than 80 percent of the average New Mexico resident (Table 4). Correspondingly, the percentage of persons living below the poverty level in the



county (20.3 percent) is about two percent greater than the state average (18.4 percent).

Table 4. Selected social demographic data for the state of New Mexico and Rio Arriba County (U.S. Census Bureau 2008a, 2008d). Note: Percentages may not always sum to 100 due to rounding.

Social Demographic Factor	New Mexico	Rio Arriba County
Total population	1,829,146	41,190
Race (percent of total population)		
white	66.8%	56.6%
black	1.9%	0.3%
American Indian	9.5%	13.9%
Asian	1.1%	0.1%
Hawaiian or Pacific Islander	0.1%	0.1%
some other race	17.0%	25.6%
two or more races	3.6%	3.3%
Hispanic origin (percent of total population)		
Hispanic or Latino (of any race)	42.1%	72.9%
not of Hispanic origin	57.9%	17.1%
Age		
median age (years)	34.6	34.5
65 years and over (% of total pop.)	11.7%	10.9%
Income		
per capita income (dollars)	\$17,261	\$14,263
persons below poverty level	18.4%	20.3%



3.3.3.2 Socioeconomic and Environmental Justice Effects

No Action As no changes would occur in the project area with the no action alternative, there would be no effects related on socioeconomics of the area and no effects related to environmental justice issues. The La Mesilla Community Ditch Association would continue to maintain the open ditch and water delivery pressure would continue to be insufficient, especially for last users on the system.

Proposed Action There would be no effect from the proposed project on county services, such as law enforcement, fire protection, emergency medical care, or schools. No property would be acquired so no residents or businesses would be affected by relocations. The proposed project is not expected to create adverse effects on human health or the environment.

Elimination of the open ditch laterals would result in a reduction of on-going maintenance costs for the La Mesilla Community Ditch Association. Elimination of the need to remove sediment and clear trash and vegetation from the open ditch would reduce costs for routine maintenance. Reduced costs for association members would result in more profitable farming operations. In addition, the new sluice would remedy the problem of potential damages to private property when the ditch overflows after intercepting high levels of stormwater runoff.

Construction of the project would provide some short-term economic benefits for local businesses. Depending on the location of the contractor selected, local financial expenditures by the contractor may result in the form of purchasing supplies, renting equipment, workers' wages, and meal purchases. Some of the state gross receipts

taxes on goods and services purchased locally (e.g. in Española, Pojoaque, or Santa Fe) would return to Rio Arriba and/or Santa Fe counties for local government use. These expenditures would contribute to cumulative economic effects on the local economy.

Although the racial and economic profiles of Rio Arriba County indicate that there are higher percentages of minority and low-income persons in these areas as compared with the rest of the state, there would be no disproportionate adverse effects on these populations. Rather, there would be a beneficial economic benefit to the Ditch Association members and the surrounding community. Therefore, the proposed action complies with Executive Order 12898.

3.4 Irreversible and Irretrievable Commitment of Resources

Irreversible commitments of resources are those effects that cannot be reversed. For example, the extinction of a species is an irreversible commitment. Irretrievable commitments of resources are those that are lost for a period of time, but may be reversed, such as building a shopping center on farmland. The land cannot be used for farming again until the pavement is removed and soils are restored to productivity. There are no irreversible or irretrievable commitments of resources associated with the proposed project.



3.5 Cumulative Effects

Cumulative effects are analyzed individually for each resource area in Sections 3.1 through 3.3. These analyses address the cumulative impact of the direct and indirect effects of the proposed action when added to the aggregate effects of past, present, and reasonably foreseeable future actions. For all resources, the aggregate effect of past and present actions was considered to be represented by the current, existing condition of the resource (Council on Environmental Quality 2005). Therefore, the specific effects of individual past and present actions typically were not cataloged in the analysis. In order for direct or indirect effects to incrementally add to the effects of past, present, or reasonably foreseeable future actions, they must overlap with those effects in time or space (Council on Environmental Quality 1997).

The time frame for analysis of cumulative effects varied, depending on the duration of direct and indirect effects. For example, direct effects resulting from construction were expected to persist for relatively short periods of time (about one month). Conversely, indirect effects resulting from operation of the rehabilitated acequia system would persist for the life of the facility. Similarly, the geographic bounds for cumulative effects analysis varied with the resource under consideration, depending on zone of influence of the direct or indirect impact being analyzed.



4.0 LIST OF PREPARERS

This EA was prepared by the Albuquerque District project delivery team, including Blue Earth & Mussetter, LLC and their subconsultants. Members of the team included:

Albuquerque District, Corps of Engineers

Patricia Phillips	Civil Project Management Branch
Ondrea Linderoth-Hummel	Biologist, Environmental Resources Section
Gregory Everhart	Archaeologist, Environmental Resources Section
Julie Alcon	Supervisory Ecologist, Environmental Resources Section

Consultants

Karen Yori	Project Manager/Sr. Planner, Blue Earth Ecological Consultants, Inc.
John Pittenger	Senior Ecologist, Blue Earth Ecological Consultants, Inc.
Gerry Raymond	Principal Investigator, Criterion Environmental Consulting, LLC



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5.0 CONSULTATION AND COORDINATION

The following agencies and organizations were consulted during the planning process for the La Mesilla Community Ditch Rehabilitation Project:

U.S. Bureau of Reclamation
U.S. Environmental Protection Agency, Region 6
U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office
U.S.D.A. Natural Resources Conservation Service
New Mexico Department of Game and Fish, Conservation Services Division
New Mexico Department of Game and Fish, Fisheries Management Division
New Mexico Department of Game and Fish, Division of Wildlife
New Mexico Energy, Minerals and Natural Resources Department, Rare Plants Program
New Mexico Environment Department, Surface Water Quality Bureau
New Mexico Historic Preservation Officer
New Mexico Interstate Stream Commission
Navajo Nation
Jicarilla Apache Nation
Comanche Nation of Oklahoma
Kiowa Tribe of Oklahoma
Hopi Tribe
Ohkay Owingeh
Pueblo of Pojoaque
Pueblo of San Ildefonso
Pueblo of Santa Clara
Pueblo of Taos
La Mesilla Community Ditch Association

Copies of the EA were also provided to:

Española Public Library
Richard Lucero Center
313 N. Paseo de Oñate
Española, New Mexico 87532



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6.0 LITERATURE CITED

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APPENDIX A

Project Scoping Letter and Responses



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26 October 2007

Dear Interested Party:

The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the La Mesilla Community Ditch Association, is planning the rehabilitation of the La Mesilla Ditch conveyance structures under the Water Resources Development Act of 1986 (Public Law 99-662; 33 U.S.C. 2201 et. seq.), as amended. The project area is located in La Mesilla, Rio Arriba County, New Mexico (Figure 1).

The project would reduce maintenance required to clean sediment from the ditch deposited by stormwater by replacing the existing earthen ditch with pipe. The acequia madre, or main ditch, is approximately six miles long with several smaller laterals or ditches branching from it. The project includes replacing two individual earthen laterals with plastic PVC pipe. General project components include: 1) installing approximately 1,325 linear feet of 15-inch PVC pipe along Lateral #1; 2) installing approximately 1,750 linear feet of 12-inch PVC pipe along Lateral #2; and 3) constructing a sluice at the end of Lateral #1 pipe to an adjacent arroyo using 18-inch PVC pipe.

The Corps is seeking public and agency input for consideration during planning of the project. Your input will be used in preparing an environmental assessment to comply with the National Environmental Policy Act (NEPA) currently being prepared by Blue Earth Ecological Consultants, Inc. under contract to the Corps.

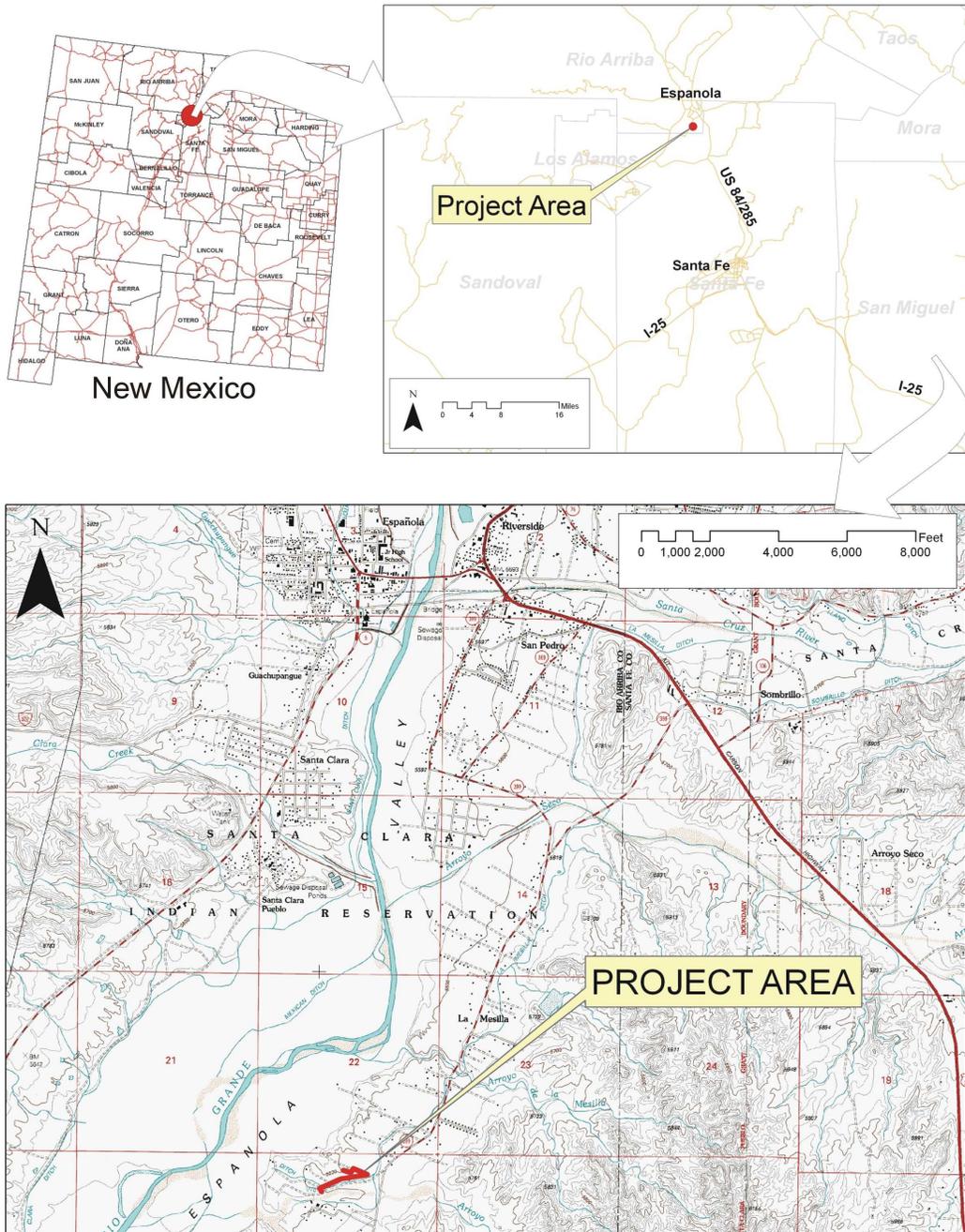
Please mail or fax comments by **13 November 2007**. You may use the attached form or send a letter to the address on the form. If you have any questions or require additional information, please contact Ms. Karen Yori at (505) 983-2687 x106.

Sincerely,

Karen Yori
Senior Planner



Figure 1. The La Mesilla Community Ditch project area in La Mesilla, Rio Arriba County, New Mexico. Section 27, T. 20., R. 8 E., Española, New Mexico Quadrangle (1984), NIMA 4755 I NE-SERIES V881, 20' contour intervals. 35°56'30/1" N 106°5'5.5" W NAD83.





**La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico**

Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

2. Other comments about the project.

Please attach additional sheets if desired.



- Please keep my name on the project mailing list.
- Please remove my name from the project mailing list.

Name: _____

Address: _____

City, State, Zip: _____

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



La Mesilla Community Ditch Scoping Letter Mailing List

Mr. Kenneth Salazar
31 County Road 118
Española, NM 87532

Mr. Rob Lawrence
U.S. Environmental Protection Agency
Region 6
Office of Planning and Coordination (6EN-XP)
1445 Ross Avenue
Dallas, TX 75202-2733

Mr. Wally Murphy
Field Supervisor
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, NM 87113

Ms. Connie Rupp
Area Manager
U.S. Bureau of Reclamation
555 Broadway NE, Suite 100
Albuquerque, NM 87102-2352

Mr. Thomas Salazar
Natural Resource Conservation Service
Española Service Center
424 G. South Riverside Drive
Española, New Mexico 87532

David Hogge
Surface Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, N2050
P.O. Box 26110
Santa Fe, NM 87502

Mr. Ray Acosta
NMISC
P.O. Box 25102
Santa Fe, New Mexico 87504-5102

Ms. Janell A. Ward
NMDGF - Conservation Services Division
P.O. Box 25112
Santa Fe, NM 87504

Division Chief
Conservation Services Division
New Mexico Department of Game and Fish
1 Wildlife Way
Santa Fe, NM 87507

Mr. Robert Sivinski
New Mexico Forestry and Resources
Conservation Division
Energy, Minerals and Natural Resources
Department
P.O. Box 1948
Santa Fe, NM 87504

Mr. Mike Sloan
Fisheries Management Division
New Mexico Department of Game and Fish
P.O. Box 25112
Santa Fe, NM 87504

Mr. Luis Rios
Division Chief
Division of Wildlife
New Mexico Dept. of Game and Fish
1 Wildlife Way
Santa Fe, NM 87507

Ms. Marcy Leavitt
Surface Water Quality Bureau
Harold Runnels Building, N2050
P.O. Box 26110
Santa Fe, NM 87502



Mr. Kenneth Martinez
58 County Rd. 120
Española, NM 87532

Mr. Gino Brazil
Box 231
Santa Cruz, NM 87567

Raul and Lorraine Rivera
P.O. Box 2653
Española, NM 87532

Mr. Felix Garcia
Box 2
Keith Lane
Española, NM 87532

Mr. Charlie Salazar
P.O. Box 316
Santa Cruz, NM 87567

President Joe Shirley
Navajo Nation
P.O. Box 9000
Window Rock, Arizona 86515

Mr. Alan Downer
Tribal Historic Preservation Officer
Navajo Nation
P.O. Box 4950
Window Rock, Arizona 86515

Mr. Tony H. Joe, Jr.
Traditional Culture Program
Historic Preservation Department
Navajo Nation
P.O. Box 4950
Window Rock, Arizona 86515

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

NAGPRA Representative
Ohkay Owingeh
Post Office Box 1532
San Juan Pueblo, New Mexico 87566

Chairman Wallace Coffey
Comanche Nation of Oklahoma
P.O. Box 908
Lawton, Oklahoma 73502

Ms. Ruth Toahty
NAGPRA Coordinator
Comanche Nation of Oklahoma
P.O. Box 908
Lawton, Oklahoma 73502

Chairman Benjamin H. Nuvamsa
Hopi Tribal Council
Post Office Box 123
Kykotsmovi, Arizona 86039

Mr. Leigh Kuwonwosiwma
Director, Cultural Preservation Office
Hopi Tribal Council
Post Office Box 123
Kykotsmovi, Arizona 86039

Chairman Billy Evans Horse
Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, Oklahoma 73015

Governor George Rivera
Pueblo of Pojoaque
78 Cities of Gold Road
Santa Fe, New Mexico 87506

Honorable Levi Pesata
Jicarilla Apache Nation
P.O. Box 507
Dulce, NM 87528



Mr. Vernon Lujan.
NAGPRA Representative
Pueblo of Pojoaque
78 Cities of Gold Road
Santa Fe, New Mexico 87506

Governor James Mountain
Pueblo of San Ildefonso
Route 5, Box 315-A
Santa Fe, New Mexico 87506

Mr. Myron Gonzales
NAGPRA Representative
Pueblo of San Ildefonso
Route 5, Box 315-A
Santa Fe, New Mexico 87506

Governor Michael Chavarria
Pueblo of Santa Clara
Post Office Box 580
Española, New Mexico 87532

Mr. Gilbert Tafoya
Pueblo of Santa Clara
Post Office Box 580
Española, New Mexico 87532

Governor Gilbert Suazo, Sr.
Pueblo of Taos
Post Office Box 1846
Taos, New Mexico 87571

Mr. Donovan Gomez
Tribal Administrator
Pueblo of Taos
Post Office Box 1846
Taos, New Mexico 87571



NOV-01-2007 02:27PM

FROM-US FISH AND WILDLIFE

+5053462542

T-006 P.001/003 F-373



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office

2105 Osuna NE

Albuquerque, New Mexico 87113

Phone: (505) 346-2525 Fax: (505) 346-2547

NOV 1 2007

Thank you for your recent request for information on threatened or endangered species or important wildlife habitats that may occur in your project area. The New Mexico Ecological Services Field Office has posted lists of the endangered, threatened, proposed, candidate and species of concern occurring in all New Mexico Counties on the Internet. Please refer to the following web page for species information in the county where your project occurs: http://www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm. If you do not have access to the Internet or have difficulty obtaining a list, please contact our office and we will mail or fax you a list as soon as possible.

After opening the web page, find New Mexico Listed and Sensitive Species Lists on the main page and click on the county of interest. Your project area may not necessarily include all or any of these species. This information should assist you in determining which species may or may not occur within your project area.

Under the Endangered Species Act, as amended (Act), it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with us further. Similarly, it is their responsibility to determine if a proposed action has no effect to endangered, threatened, or proposed species, or designated critical habitat. If your action area has suitable habitat for any of these species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts. Please keep in mind that the scope of federally listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects.



NOV-01-2007 02:28PM FROM-US.FISH AND WILDLIFE

+5053462542

T-006 P.002/003 F-373

2

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. We recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands. These habitats should be conserved through avoidance, or mitigated to ensure no net loss of wetlands function and value.

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted by the U.S. Fish and Wildlife Service. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until nesting is complete.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding fish, wildlife, and plants of State concern.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area.

Sincerely,

Wally Murphy
Field Supervisor



GOVERNOR
Bill Richardson



DIRECTOR AND SECRETARY
TO THE COMMISSION

Bruce C. Thompson, Ph.D.

Robert S. Jenks, Deputy Director

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way
Post Office Box 25112
Santa Fe, NM 87504
Phone: (505) 476-8008
Fax: (505) 476-8124

Visit our website at www.wildlife.state.nm.us
For information call: 505/476-8000
To order free publications call: 1-800-862-9310

STATE GAME COMMISSION

Alfredo Montoya, Chairman
Alcalde, NM

Dr. Tom Arvas, Vice-Chairman
Albuquerque, NM

Sandy Buffett, Commissioner
Santa Fe, NM

Jim McClintic, Commissioner
Albuquerque, NM

Terry Z. Riley, Ph.D., Commissioner
Tijeras, NM

M. H. "Dutch" Salmon, Commissioner
Silver City, NM

Leo V. Sims, II, Commissioner
Hobbs, NM

November 12, 2007

Blue Earth Ecological Consultants, Inc.
Ms. Karen Yori
1345 Pacheco Street
Santa Fe, NM 87505

Re: La Mesilla Ditch, NMDGF Doc. No. 11781

Dear Ms. Yori:

The Department of Game and Fish (Department) has reviewed your request for information regarding the above-referenced project, and provides the following recommendations to minimize or eliminate impacts to wildlife.

Open trenches and ditches can trap small mammals, amphibians and reptiles and can cause injury to large mammals. Periods of highest activity for many of these species include night time, summer months and wet weather.

- To minimize the amount of open trenches at any given time, keep trenching and back-filling crews close together.
- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) which need to be assessed on a site-specific basis.
- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches sloping to the surface or wooden planks extending to the surface. The slope should be less than 45 degrees (100%). Trenches that have been left open overnight, especially where endangered species occur, should be inspected and animals removed prior to back-filling.

With implementation of these recommendations during construction, the Department believes that this project as proposed is unlikely to adversely affect wildlife or wildlife habitats. For your convenience, we have enclosed a copy of New Mexican Wildlife of Concern for Rio Arriba County (Biota Information System of New Mexico, BISON-M, New Mexico Dept. of Game and Fish electronic database). Species accounts, habitat associations and county species lists (use the "Database Query" option) can be accessed from the BISON-M database via the World-wide Web at <http://www.bison-m.org>. The Department recommends that you contact the U.S. Fish and Wildlife Service for current listing of federally listed species.





Ms. Yori
November 9, 2007
Page -2-

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Mark Olson, Northwest Area Habitat Specialist, at (505) 222-4708 or mark.olson@state.nm.us.

Sincerely,

for Matthew Wunder, PhD
Chief, Conservation Services Division

MW/mo

(encl: 1)

xc: Acting Ecological Services Field Supervisor, USFWS
Brian Gleadle, Northwest Area Operations Chief, NMGF
Mark Olson, Northwest Area Habitat Specialist, NMGF



NEW MEXICO WILDLIFE OF CONCERN RIO ARRIBA COUNTY

For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at <http://www.fws.gov/fw2es/NewMexico/SBC.cfm>. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to <http://nmrareplants.unm.edu/>. If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information.

Common Name	Scientific Name	NMGF	US FWS	<u>critical</u> <u>habitat</u>
Rio Grande Cutthroat Trout	Oncorhynchus clarki	s	SOC	
Rio Grande Chub	Gila pandora	s		
Roundtail Chub	Gila robusta	E	SOC	
Jemez Mountains Salamander	Plethodon neomexicanus	E	SOC	
Western Boreal Toad	Bufo boreas boreas	E	SOC	
Southwestern Fence Lizard	Sceloporus cowlesi	s		
Brown Pelican	Pelecanus occidentalis	E		
Bald Eagle	Haliaeetus leucocephalus	T	T	
Northern Goshawk	Accipiter gentilis	s	SOC	
Peregrine Falcon	Falco peregrinus	T	SOC	
White-tailed Ptarmigan	Lagopus leucurus	E		
Mountain Plover	Charadrius montanus	s	SOC	
Least Tern	Sterna antillarum	E	E	
Black Tern	Chlidonias niger surinamensis		SOC	
Yellow-billed Cuckoo	Coccyzus americanus	s	C	
Mexican Spotted Owl	Strix occidentalis lucida	s	T	Y
Boreal Owl	Aegolius funereus	T		
Burrowing Owl	Athene cucularia		SOC	
Black Swift	Cypseloides niger	s		
Southwestern Willow Flycatcher	Empidonax traillii extimus	E	E	Y
Loggerhead Shrike	Lanius ludovicianus	s		
Baird's Sparrow	Ammodramus bairdii	T	SOC	
Western Small-footed Myotis Bat	Myotis ciliolabrum melanorhinus	s		
Yuma Myotis Bat	Myotis yumanensis yumanensis	s		
Long-legged Myotis Bat	Myotis volans interior	s		
Long-eared Myotis Bat	Myotis evotis evotis	s		
Spotted Bat	Euderma maculatum	T		
Pale Townsend's Big-eared Bat	Corynorhinus townsendii pallescens	s	SOC	
Big Free-tailed Bat	Nyctinomops macrotis	s		
Goat Peak Pika	Ochotona princeps nigrescens	s	SOC	
White-tailed Jack Rabbit	Lepus townsendii campanius	s		
Yellow-bellied Marmot	Marmota flaviventris	s		
Gunnison's Prairie Dog	Cynomys gunnisoni	s		
Heather Vole	Phenacomys intermedius intermedius	s		
New Mexican Jumping Mouse	Zapus hudsonius luteus	T	SOC	
Red Fox	Vulpes vulpes	s		
American Marten	Martes americana origenes	T		
Western Spotted Skunk	Spilogale gracilis	s		
Socorro Mountainsnail	Oreohelix neomexicana	s		



La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico

Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

NONE

2. Other comments about the project.

I am very glad this project is moving forward. Having our lateral in pipe has been a dream of ours for some time. Our water will not be wasted down gopher holes anymore.

Please attach additional sheets if desired.





Please keep my name on the project mailing list.



Please remove my name from the project mailing list.

Name:

Kenny Salazar

Address:

31 CR 118

City, State, Zip:

Esperanto, NM 87532

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico

Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

I have no issues at this time. This upgrade is a cost savings to all users on this lateral.

2. Other comments about the project.

I don't understand the reduction in size from 15" to 12" with a 18" subee. Doesn't the reduction cause a back pressure or increased pressure at the production. Do we have a projected construction start date.

Please attach additional sheets if desired.





- Please keep my name on the project mailing list.
 Please remove my name from the project mailing list.

Name: Ken Martine
Address: #58 County Road 120
City, State, Zip: Esperanza, NM 87532

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico

Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

none

2. Other comments about the project.

This has been a project we've been waiting for. I totally support its purpose and am anxious for it to begin. May I offer any assistance needed including a place to use as a 'staging area' if needed. My phone numbers are 753-3576 or 929-3293. Thank you!

Please attach additional sheets if desired.





- Please keep my name on the project mailing list.
- Please remove my name from the project mailing list.

Name: Charlie Salazar
Address: P.O. Box 316
City, State, Zip: Santa Cruz, N.M. 87567

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico

Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

THE LOCATION OF THE TWO LATERALS ARE
SITUATED NEAR ~~AT~~ NM 399 THAT MAY CAUSE
SOME TRAFFIC DELAYS AND SOME POTENTIAL UNOBSERVED
ISSUES.

2. Other comments about the project.

TIMELINESS WILL BE CRITICAL WITH THIS JOB
ALONG W/ LOCATING EXISTING UTILITY LINES.

Please attach additional sheets if desired.





- Please keep my name on the project mailing list.
 Please remove my name from the project mailing list.

Name: THOMAS C. GONZALES
Address: 424 G. SOUTH RIVERSIDE DRIVE
City, State, Zip: ESPAÑOLA, NM 87532

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

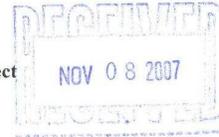
Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



La Mesilla Community Ditch Rehabilitation Project
Rio Arriba County, New Mexico



Comment Form

Please make your comments specific to the proposal described in the attached letter.

1. What issues (for example, natural or cultural resources, social, or economic) are of concern to you in regards to the project?

I believe the project will positively affect our area. So much water is lost to evaporation, gopher holes, and "suction" of water into the ground with current system. If water was at a surplus all the time, those above factors wouldn't be an issue, but those factors, combined with lean water

2. Other comments about the project. *Supplies of increasing # of acequia users, due to population increase, make this type of project (piping) a MUST/NECESSITY!*

other comment: I want to be informed of the project's process, have knowledge

Please attach additional sheets if desired.

of where all the laterals will be and make sure that the laterals are placed where they will be effective for all users on the project area!

*Thank you
Einar*



- Please keep my name on the project mailing list.
- Please remove my name from the project mailing list.

Name: Grino Brazil
Address: PO Box 231
City, State, Zip: SANTA CRUZ NM
87567

Please mail, e-mail, or fax your specific written comments **for receipt by close of business on 13 November 2007** to:

Karen Yori
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, NM 87505

Fax: (505) 983-2960

e-mail: kyori@blueearthecological.com



APPENDIX B

List of Plant Species Identified in the Project Area

* indicates non-native species



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CUPRESSACEAE

Utah juniper *Juniperus osteosperma*

ULMACEAE

Siberian elm *Ulmus pumila**

CACTACEAE

Engelmann's prickly-pear *Opuntia engelmannii*

CHENOPODIACEAE

kochia *Kochia scoparia**

Russian-thistle *Salsola tragus**

POLYGONACEAE

cañaigre *Rumex hymenosepalus*

TAMARIACACEAE

saltcedar *Tamarix chinensis**

MALVACEAE

globemallow *Sphaeralcea* sp.

SALICACEAE

Rio Grande cottonwood *Populus deltoides wislizeni*

coyote willow *Salix exigua*

ELAEAGNACEAE

Russian olive *Elaeagnus angustifolia**

ROSACEAE

apple *Malus pumila**

MORACEAE

white mulberry *Morus alba**

FABACEAE

American licorice *Glycyrrhiza lepidota*



alfalfa	<i>Medicago sativa*</i>
yellow sweet-clover	<i>Melilotus officinalis*</i>
VITACEAE	
thicket creeper	<i>Parthenocissus vitacea</i>
ANACARDIACEAE	
smooth sumac	<i>Rhus glabra</i>
skunkbush sumac	<i>Rhus trilobata</i>
ASCLEPIADACEAE	
showy milkweed	<i>Asclepias speciosa</i>
SOLANACEAE	
Virginia groundcherry	<i>Physalis virginiana var. sonorae</i>
ASTERACEAE	
tarragon	<i>Artemisia dracunculus</i>
sand aster	<i>Chaetopappa ericoides</i>
horseweed	<i>Conyza canadensis</i>
sand-daisy	<i>Dieteria canescens</i>
curly-cup gumweed	<i>Grindelia squarrosa</i>
broom snakeweed	<i>Gutierrezia sarothrae</i>
plains sunflower	<i>Helianthus petiolaris</i>
annual sunflower	<i>Helianthus annuus</i>
hairy goldenaster	<i>Heterotheca villosa</i>
broom groundsel	<i>Senecio spartioides</i>
Canadian goldenrod	<i>Solidago canadensis</i>
POACEAE	
Indian ricegrass	<i>Acnatherum hymenoides</i>
silver bluestem	<i>Bothriochloa laguroides</i>
brome	<i>Bromus sp.</i>
cheatgrass	<i>Bromus tectorum*</i>
Canada wildrye	<i>Elymus canadensis</i>



slender wheatgrass	<i>Elymus trachycaulus</i>
witchgrass	<i>Panicum capillare</i>
bluegrass	<i>Poa</i> sp.
green bristlegrass	<i>Setaria viridis</i> *
alkali sacaton	<i>Sporobolus airoides</i>



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APPENDIX C

Cultural Resources Coordination



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THE

HOPI TRIBE

Hopi Cultural Preservation Office
P.O. Bo 123
Kykotsmovi, AZ 86039
(928) 734-3612

Benjamin H. Nuvamsa
CHAIRMAN

Todd Honyaoma, Sr.
VICE-CHAIRMAN

November 5, 2007

Karen Yori, Senior Planner
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, New Mexico 87505

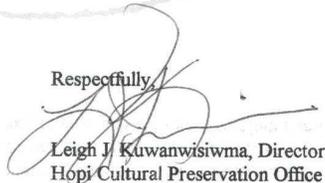
Dear Ms. Yori,

This letter is in response to your correspondence on behalf of the U.S. Army Corps of Engineers and La Mesilla Community Ditch Association planning the rehabilitation of the La Mesilla Ditch conveyance structures in La Mesilla, Rio Arriba County. Because the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in New Mexico, and the Hopi Cultural Preservation Office supports identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties, we appreciate your solicitation of our input and your efforts to address our concerns.

Because this proposal likely federal funding and ground disturbing activities, *if* prehistoric sites are identified in the project area that will be *adversely effected* by project activities, we request additional consultation on this proposal, including to be provided with copies of the cultural resource survey report of the area of potential effect and any proposed draft treatment please for review and comment.

Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office at tmorgart@hopi.nsn.us. Thank you again for your consideration.

Respectfully,



Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office





**THE
NAVAJO
NATION**

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

December 06, 2007

Ms. Karen Yori, Senior Planner
Blue Earth Ecological Consultants, Inc.
1345 Pacheco Street
Santa Fe, New Mexico 87505

Subject: Tribal Consultation Request. Proposing rehabilitation of the La Mesilla Ditch conveyance structures under the Water Resources Development Act of 1986.

Dear Ms. Yori:

Our apology for an oversight and missing the deadline date of our response to your request, please note that in reference to your letter of October 26, 2007, the Historic Preservation Department – Traditional Culture Program (HPD-TCP) received a request for consultation regarding the above undertaking and/or project. After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area **will not impact** any Navajo traditional cultural properties or historical properties. The project is outside the Navajo Aboriginal Lands.

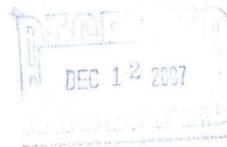
The HPD-TCP appreciates your agency's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have additional concerns and/or questions, do not hesitate to contact me. My contact information is listed below.

Sincerely,

Mr. Tony Joe, Program Manager
Historic Preservation Department – Traditional Culture Program

Tel: 928.871.7688 Fax: 928.871.7886 E-mail: tonyjoe@navajo.org

TCP 08-259
File: Office file/chrono



HISTORIC PRESERVATION DEPARTMENT P.O. BOX 4950 WINDOW ROCK, ARIZONA 86515 928.871.7198 (v) 928.871.7886 (fax)



APPENDIX D
Public and Agency Comments and Responses
on the Draft EA