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Albuquerque District

ACEQUIAS REHABILITATION PROGRAM

DRAFT

ENVIRONMENTAL ASSESSMENT FOR REPAIR OF THE VILLANUEVA DIVERSION DAM, PECOS RIVER, SAN MIGUEL COUNTY, NEW MEXICO

The public review and comment period for this Draft Environmental Assessment begins on September 27, 2014 and ends on October 27, 2014. Please address all comments to Mr. William DeRagon at the address below, or by email at william.r.deragon@usace.army.mil.

An electronic copy of the document is available at: http://www.spa.usace.army.mil/Missions/Environmental/EnvironmentalComplianceDocuments/EnvironmentalAssessmentsFONSI.aspx . Paper copies are available for review at the Villanueva Post Office, 1227 State Route 3, Villanueva NM 87583.

Prepared by
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CONVERSION FACTORS

	From	Multiplier	To
Distance:	inches (in)	25.4	millimeters (mm)
	feet (ft)	0.3048	meters (m)
	miles (mi)	1.6093	kilometers (km)
Area:	acres (ac)	0.0407	hectares (ha)
	square miles (mi^2)	2.590	square kilometers (km^2)
Volume:	cubic yards (CY)	0.7646	cubic meters (m^2)
	acre-feet (ac-ft)	1,233.5	cubic meters (m^2)
	acre-feet (ac-ft)	325,851	gallons (gal)
Discharge:	cubic feet/second (cfs)	0.0283	cubic meters/second (cms)
Mass (weight):	tons [short]	0.9072	metric tons [long]
Velocity:	feet/second (fps)	0.3048	meters/second (cms)
Salinity:	µSiemens/cm or µmhos/cm	0.32379	parts/million NaCl or mg/liter NaCl
Temperature:	° Fahrenheit (°F)	(°F-32)/1.8	° Celsius (°C)

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DRAFT FINDING OF NO SIGNIFICANT IMPACT FOR REPAIR OF THE VILLANUEVA DIVERSION DAM, PECOS RIVER, SAN MIGUEL COUNTY, NEW MEXICO

The U.S. Army Corps of Engineers, Albuquerque District (Corps) is proposing to repair the diversion dam for the Villanueva Southside and Northside ditches on the Pecos River in San Miguel County, New Mexico. The dam is located approximately 1.5 miles upstream from the village of Villanueva. The existing concrete-capped, gabion structure was constructed by the U.S. Army Corps of Engineers (Corps) in 1992, replacing the previous diversion dam. Since that time, the diversion dam has eroded severely on the downstream toe along its entire length and, eventually, the dam will likely overturn as a result of the scouring and undermining of the structure if not stabilized or replaced. The Villanueva irrigation system is an important component of the livelihood of local farmers, most of whom derive their income partially from agricultural pursuits. The existing rural lifestyles are dependent upon the economic benefits of the maintenance of the ditch system.

The Corps, at the request of the Villanueva acequia association and the New Mexico Interstate Stream Commission (NMISC), is proposing to repair the diversion dam under the authority of Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662). The Act authorized the Secretary of the Army to undertake, without regard to economic analysis, such measures as are necessary to protect and restore New Mexico's acequias. For the proposed Villanueva diversion dam repair project, the local acequia association and the NMISC would provide 25% of the total project cost, which is estimated to be approximately $320,000.

The proposed action entails the placement of 30 wire-wrapped, rock-filled gabions along the downstream face of the existing dam structure along its entire length. All placement would be atop an existing concrete-capped apron at the foot of the dam; that is, atop a portion of the structure itself, not on the natural river bottom. The top and vertical surfaces of all existing and new gabions would be capped with concrete.

Villanueva Dam is accessed by County Road B29C which terminates at the dam along the right (southern) bank. At the terminus of the road, an unvegetated and previously disturbed 0.25-acre area would be used as a staging area for the proposed action. Construction would be performed during November 2014 through February 2015. During construction, the seasonally low flow of 20-50 cfs would be diverted through the existing notch in the dam crest and the sluicing trough along the left (north) abutment of the dam.

The planned action would not alter the crest elevation of the diversion dam or the invert elevations of the inlet gates to ditches, and would not increase the dam's diversion capacity. The quantity of water diverted to the ditch system following dam repair would not be affected by the proposed action.

Section 404 of the Clean Water Act regulates the discharge of fill material into waters of the United States and adjacent wetlands. Section f of the Act states that certain discharges associated with irrigation are exempt from requiring a Section 404 permit, included in the construction or maintenance of dams and diversion structures; therefore, a Department of the Army permit under Section 404 would not be required for the proposed action. The following specific measures for environmental protection during construction have been included into the construction contract specifications and provide for the control of noise, air and water pollution, and erosion, as well as protection of vegetation and fish and wildlife resources.

- Stream flow shall be maintained at all times during construction.
- Work shall be performed only during low-flow conditions.

- Diversion structures for construction shall be non-erodible. Dirt cofferdams are not acceptable diversion structures.
- Heavy equipment shall not enter surface water.
- Appropriate erosion control measures shall be employed to prevent sediment-laden runoff or contaminants from entering the watercourse.
- All concrete and other construction materials shall be properly handled and contained to prevent releases to surface water. Poured concrete shall be fully contained in mortar-tight forms and/or placed behind non-erodible cofferdams to prevent discharge contact with surface or groundwater. Wastewater from concrete batching, vehicle washdown, and aggregate processing shall be contained, and treated or removed for off-site disposal.
- Fuel shall be brought to the project as needed. Refueling shall only be performed in the designated staging area. Appropriate spill clean-up materials such as booms and absorbent pads shall be available on-site at all times during construction.
- In order to reduce the potential to transfer non-native vegetation or weed seed, all heavy equipment shall be cleaned with a high pressure water hose before entering the site, and again immediately before leaving the site.
- All heavy equipment will be inspected daily for leaks. Any petroleum or chemical spills would be contained and removed, including any contaminated soil.

No vegetation would be removed during the conduct of the proposed action. All land areas used during construction have been previously disturbed and are largely unvegetated. No Federal or State listed species or designated critical habitat are known to occur near the proposed project site.

The Corps has consulted with the New Mexico State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act. The SHPO has concurred with the Corps' determination that the repair of the structure would result in No Adverse Effect to Historic Properties.

Alternatives to the planned action that were considered but eliminated as economically infeasible included the installation of a concrete-reinforced retaining wall immediately upstream of the existing structure, and replacement of the entire dam.

Under the No-Action alternative, no repair work would be performed by the Corps to address the existing problems. The existing diversion dam would continue to provide irrigation water as long as it remains intact and the Villanueva acequia association would continue to make temporary repairs requiring continual high maintenance and expenses. Similarly, the association would likely replace the entire diversion structure in the event of failure, at considerable expense to local and/or State citizens.

Pursuant to the National Environmental Policy Act of 1969, a draft Environmental Assessment has been made available to the public and resource-management agencies for review and comment. The planned action has been fully coordinated with Federal, State, Tribal, and local governments with jurisdiction over the ecological, cultural, and hydrologic resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant effect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for the repair of the Villanueva diversion dam.

_____ _____

Date

Patrick J. Dagon
Lieutenant Colonel, U.S. Army
District Commander

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CHAPTER 1: INTRODUCTION

1.01. PURPOSE AND NEED

This Environmental Assessment (EA) addresses the planned repair of the diversion dam for the Villanueva Southside and Northside ditches on the Pecos River in San Miguel County, New Mexico. The dam is located approximately 1.5 miles upstream from the village of Villanueva, and is within Section 7, Township 12N, Range 15E. The general location of dam is shown in Figure 1.

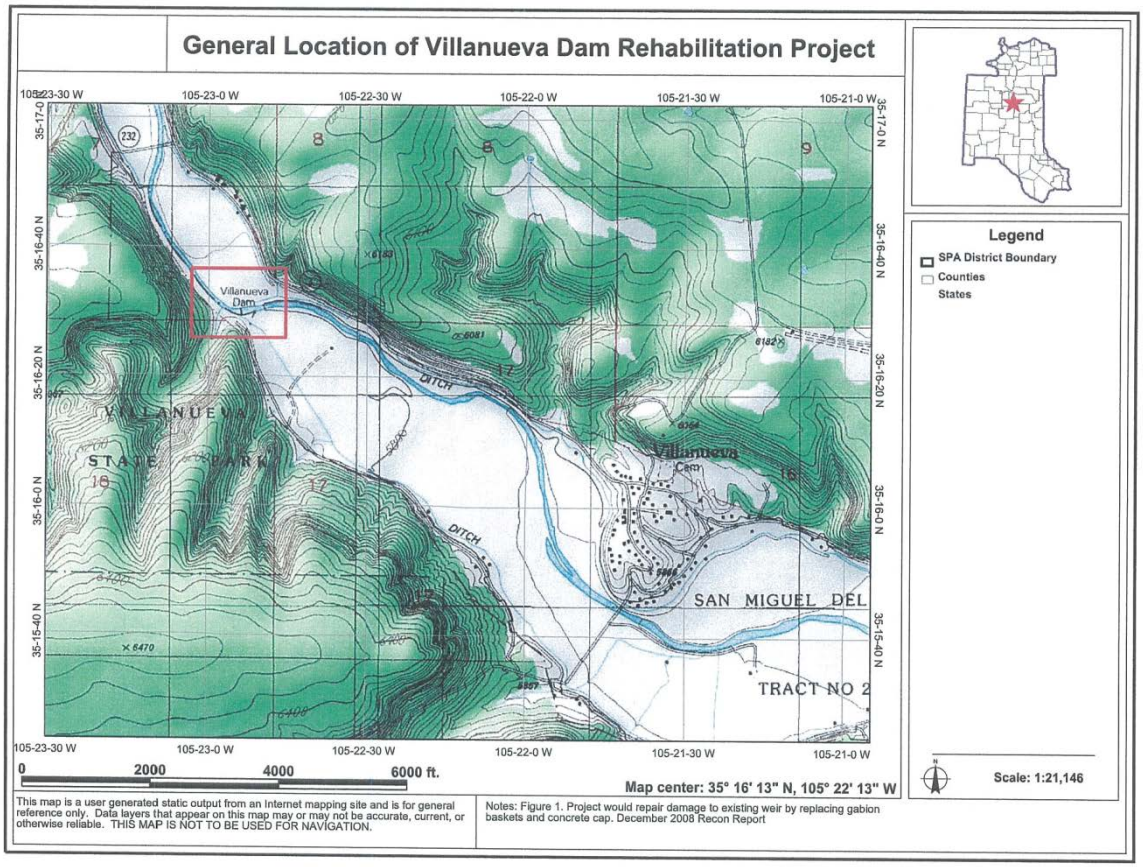

Figure 1. Location of Villanueva Dam.

The Villanueva Diversion Dam is a rock-filled gabion, concrete-capped structure with a crest length of approximately 143 feet, and a weir section of 110 feet. The diversion dam was built in 1992 by the U.S. Army Corps of Engineers (Corps) in 1992 (USACE 1991) The structure has a notched, step-down cross-section with a total water drop of about nine feet. The diversion dam has eroded severely on the downstream toe along its entire length. The most severe erosion is occurring at the right bank (looking downstream). The second-step gabions also are noticeably eroding and this step may soon fail. The downstream edge steel attached to the bottom gabion step is separating from the concrete. Approximately 40 feet in length of steel has separated from the downstream edge of the structure, but is still attached at one end. The gabion rock of the weir step-downs have eroded back upstream approximately five feet. The existing headwalls of the gated outlet are structurally sound and do not require rehabilitation. A

temporary repair was completed within the last couple of years by the Villanueva acequia association to stabilize the weir structure with wall (Jersey) barriers placed perpendicular and parallel to the weir. The spaces between the barriers were filled with random sized boulders to help stabilize the barriers. This material has since been washed downstream. In its present condition, the dam will likely overturn as a result of the scouring and undermining of the structure if not stabilized.

The dam diverts water to two ditch systems on both sides of the Pecos River. These ditch systems serve to irrigate over 500 acres of farmland for more than 80 families. These families raise various crops to include feed for animals, vegetables, and fruit trees. The crops are a significant source of income for this farming community. Losing this dam to failure or to reduced effectiveness due to disrepair would be an economic hardship for the community.

1.02. AUTHORIZATION

The Corps, at the request of the Villanueva acequia association and the New Mexico Interstate Stream Commission (NMISC), is proposing to repair the diversion dam under the authority of the Water Resources Development Act (WRDA) of 1986 (Public Law [P.L.] 99-662). Under Section 1113 of the Act, Congress found that New Mexico's acequias date from the eighteenth century and, due to their significance in the settlement and development of the western U.S., should be restored and preserved for their cultural and historic values to the region. The Act authorized the restoration and rehabilitation of irrigation ditch systems (*acequias*) in New Mexico. The Secretary of the Army was authorized and directed to undertake, without regard to economic analysis, such measures as are necessary to protect and restore New Mexico's acequias. The non-Federal cost-share of any work carried out under this section of the Act shall be 25 percent. For the proposed Villanueva diversion dam repair project, the local acequia association and the NMISC would provide the 25-percent local cost-share.

1.03. REGULATORY COMPLIANCE

This document was prepared by the U.S. Army Corps of Engineers, Albuquerque District, in compliance with all applicable Federal statutes, regulations, and Executive Orders, including:

National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et seq*.);
Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq*.);
U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR 230);
Clean Air Act, as amended (42 U.S.C. 7401 *et seq*.);
Clean Water Act of 1977, as amended (33 U.S.C. 1251 *et seq*.);
Endangered Species Act, as amended (16 U.S.C. 1531 *et seq*.);
Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (Executive Order 12898);
Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq*.);
Floodplain Management (Executive Order 11988);
Protection of Wetlands (Executive Order 11990);
National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq*.);
Protection of Historic and Cultural Properties (36 CFR 800 *et seq*.);
Protection and Enhancement of the Cultural Environment (Executive Order 11593);
American Indian Religious Freedom Act (42 U.S.C. 1996); and
Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq*.).

CHAPTER 2. DESCRIPTION OF THE PLANNED ACTION AND ALTERNATIVES

2.01. DESCRIPTION OF THE PLANNED ACTION

The planned action involves repairing the Villanueva Diversion Dam. The structure would be stabilized on the downstream side with 30 wire-wrapped, rock-filled gabions. Gabions would be added along the entire length of the dam, widening the top and second steps (see Appendix A, Sheet C-104). The lowest row of gabions would rest on the existing concrete-capped apron. The top and vertical surfaces of all existing and new gabions would be capped with concrete.

Access to the work area would be along County Road B29C. A 0.25-acre staging area would be utilized at the terminus of the road and adjacent to the dam. Access to the dam itself would be accommodated by an existing earthen ramp on the riverbank. If needed, a temporary crossing would be established to gain access to the structure through a small channel in the riverbed scoured by flows through the sluice gate in the dam's right (south) abutment (discussed in detail in section 3.05 of this EA).

Specific measures for environmental protection during construction have been included in construction contract specifications. These measures are based on information contained in the Corps of Engineers Civil Works Construction Guide Specification for Environmental Protection which provides for the control of noise, air and water pollution, erosion, and aesthetic degradation, as well as protection of vegetation and fish and wildlife resources. Specific protection measures and best management practices to be employed are discussed in detail in Chapter 3 (particularly sections 3.05 and 3.09) in context of specific resources or potential effects.

On-site construction would begin after the end of the 2014 irrigation season (typically October 30) and be completed before the start of the 2015 irrigation season (typically March 1). The November to February period is usually the annual low-flow period for the Pecos River. The project is expected to be completed within 120 days of its commencement. The expected cost of the project is $320,000.

2.02. DESCRIPTION OF ALTERNATIVES

No-Action Alternative

No repair work would be performed by the Corps to address the existing problem. The existing diversion dam would continue to provide irrigation water as long as it remains intact and the Villanueva acequia association would continue to make temporary repairs requiring continual high maintenance and expenses. Similarly, the association would likely replace the entire diversion structure in the event of failure, at considerable expense to local and/or State citizens.

Alternatives Considered But Eliminated From Detailed Evaluation

Install new retaining wall: The first alternative considered was the construction of a concrete reinforced retaining wall immediately upstream of the existing weir. The cast-in-place concrete weir would be as high as the existing dam from foundation to top of crest (12 feet) and with a similar length footing. This footing would require approximately 25 feet of further excavation upstream of the weir and the need for a diversion channel around the existing

structure for the diversion and care of water during construction. The estimated cost of this alternative proved to be greater than the available funds appropriated.

New gabion diversion dam: This alternative would remove and replace the existing gabion diversion dam with additional concrete capping to eliminate the issue of corrosion of the gabion wire. This alternative would require the need for a diversion channel for the diversion and care of water during construction. The estimated cost of this alternative proved to be greater than the available funds appropriated.

CHAPTER 3. EXISTING CONDITIONS AND FORESEEABLE EFFECTS OF THE PLANNED ACTION AND ALTERNATIVE

3.01 PHYSICAL ENVIRONMENT

Villanueva is located within the narrow Pecos River Valley in southwestern San Miguel County. The village lies within the Sacramento Section of the Basin and Range physiographic province of New Mexico, characterized by high table lands with broad rolling summit plains, eastward dipping slopes and west-facing escarpments (Hawley 1986).

Neither the proposed action nor the no-action alternative would affect the geology or physiology of the project area.

3.02 CLIMATE

The project area has a warm continental semi-arid climate with a mean air temperature of 52° to 55° F and a frost-free period between 160 and 180 days each year. Precipitation ranges from 11 to 13 inches a year, two-thirds of which falls as rain during intense summer thunderstorms from July through September. The main source of moisture at this time is the monsoonal flow of air from Mexico and the Gulf of Mexico. Brief, but often intense, showers are occasionally accompanied by hail. In December through February, winter frontal storms produce additional precipitation.

3.03 SOILS

The soils within the immediate channel area at the Villanueva Dam are classified as Ustifluvents, by the Natural Resources Conservation Service (NRCS 2014). These frequently flooded but moderately well drained soils are forming in alluvium derived from igneous and sedimentary rock.

Villanueva Dam is accessed by County Road B29C, which terminates at the dam along the right (southern) bank. At the terminus of the road, an unvegetated and previously disturbed 0.25-acre area would be used as a staging area for the proposed action. Soils within the staging area consist of Manzano fine sandy loam. These well drained soils are forming in alluvium derived from sandstone and shale, and are typically found along terraces and banks of the Pecos River.

Contract specifications for the proposed action include best management practices to avoid soil erosion or degradation of water quality (see section 3.05).

The no-action alternative would have no effect on soil resources.

3.04 HYDROLOGY

The Pecos River at Villanueva experiences sustained higher flows following snowmelt runoff from the upstream Sangre de Cristo Mountains and the surrounding river basin, usually from March through early July. Discharge also increases for brief periods (usually 0.5 to 2 days) following individual rain storm events from mid-July through mid-September. During November through February (the period of proposed construction), the median daily discharge is 20 to 25 cfs at Anton Chico, about 15 miles downstream from Villanueva (USGS 2014). The river at Villanueva is generally perennial, although there have been brief periods of no flow due to drought, diversions or winter freeze-up.

The planned action would not alter the crest elevation of the diversion dam or the invert elevations of the inlet gates to ditches, and would not increase the dam's diversion capacity. The quantity of water diverted to the ditch system following dam repair would not be affected by the proposed action.

Under the no-action alternative, growing-season diversions would continue as they have been conducted in the past. However, without repair and stabilization, the diversion structure would likely fail in the near future, preventing the lawful diversion of water until the dam is repaired or reconstructed by State or local entities.

3.05 WATER QUALITY

The New Mexico Water Quality Control Commission (NMWQCC) has designated the following uses for the mainstem of the Pecos River from Cañon de Manzanita downstream to Tecolote Creek: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life and primary contact (NMWQCC 2013). In addition to the use-specific water quality standards defined in 20.6.900 NMAC, the NMWQCC has established the following reach-specific standards for the Pecos River in the proposed project area: 1) temperature 30°C (86°F) or less; and 2) at all flows above 10 cfs, TDS 250 mg/L or less, sulfate 25 mg/L or less and chloride 5 mg/L or less.

Section 404 of the Clean Water Act (CWA) regulates the discharge of fill material into waters of the United States and adjacent wetlands. Section (f) of the Act states that certain discharges associated with irrigation are exempt from requiring a Department of the Army (DA) permit under Section 404 of the CWA, including the construction or maintenance of dams and diversion structures. Even under this exemption, a DA permit under Section 404 would be required if any discharge of dredged or fill material contains any toxic pollutant. A very small area of temporary fill may be required to allow access to the dam (discussed below). The on-site material selected to use for temporary fill is from the immediately adjacent bank of the river, and the Corps does not anticipate adding any toxic pollutant to the proposed fill. A DA permit under Section 404 also would be required if the purpose of the action is to convert an area of the waters of the United States to a new use, and the flow for circulation of waters is impaired or the reach of such waters is reduced. The proposed action would not alter the flow or quantity of water diverted, or of the Pecos River channel. Therefore, a DA permit under Section 404 of the CWA would not be required for the proposed action.

All gabions would be placed along the downstream face of the dam and atop an existing concrete-capped apron at the foot of the dam; that is, atop a portion of the structure itself, not on the river bottom. During construction, the seasonally low flow of 20-50 cfs would be diverted

through the notch in the dam crest and the sluicing trough along the left (north) abutment of the dam, returning to the channel approximately 35 feet downstream from the dam, and also downstream from the work zone along the dam's downstream face. Pumping may be employed to assist the diversion through the notch or, alternatively, over the crest of the dam. Additionally, and only if agreeable to the acequia association and the NM State Engineer, water might be diverted through the irrigation gates and the first available wasteways, returning flows to the channel approximately 200 feet (north side) or 550 feet (south side) downstream from the dam. If needed, non-erodible cofferdams may be employed to prevent water from backing upstream into the work zone.

If necessary, a small temporary crossing may be placed over a depression in the river bottom near the right (south) bank to provide equipment access to the dam's downstream apron. This scoured depression is a result of periodic operation of a sluice gate in the right bank abutment and wingwall. The depression does not convey the low flow of the Pecos River, but is sometimes inundated by backwater flow. The temporary crossing would begin at the foot of the existing earthen access ramp down the right bank, and extend 20 to 60 feet from the bank, depending on the extent of water in the depression at the time. Correspondingly, the crossing would cover 600 to 3,900 square feet in area, and entail 67 to 140 cubic yards of earthen fill. The source of the fill would be that shaved from the existing access ramp to lessen the slope for equipment access. Upon removal of temporary fill, the river bed would be restored to its natural contours.

To ensure that State standards are maintained, the following best management practices (BMPs) have been included in construction contract specifications and would be employed during construction to prevent bank erosion and the discharge of soil material into the river.

- Stream flow shall be maintained at all times during construction.
- Work shall be performed only during low-flow conditions. Flowing water may be temporarily diverted around the work area, but must remain within the existing channel to minimize erosion and turbidity and to provide for aquatic life movement. In coordination with the acequia association, flow may be diverted through the irrigation inlets only if it is returned to the channel as near as possible to the downstream end of the work area. Diversion structures shall be non-erodible, such as sand bags, water bladders, or concrete barriers. Dirt cofferdams are not acceptable diversion structures.
- Heavy equipment shall not enter surface water. If needed, a temporary crossing from the foot of the access ramp to the work area immediately downstream from the dam shall be utilized to minimize disturbance to the channel. The crossing shall be as short as possible to accommodate such access. Only uncontaminated earth or crushed rock shall be used for the temporary crossing. Heavy equipment shall not be parked within the stream channel or parked unattended on the crossing.
- Silt curtains, cofferdams, dikes, wattles, straw bales and other suitable erosion control measures shall be employed to prevent sediment-laden runoff or contaminants from entering the watercourse.
- All concrete and other construction materials shall be properly handled and contained to prevent releases to surface water. Poured concrete shall be fully contained in mortar-tight forms and/or placed behind non-erodible cofferdams to prevent discharge contact with surface or groundwater. Wastewater from concrete

batching, vehicle washdown, and aggregate processing shall be contained, and treated or removed for off-site disposal. Dumping of any waste material in or near watercourses is prohibited.

- Fuel shall be brought to the project as needed. Refueling shall only be performed in the designated staging area. Oil, lubricants, hydraulic fluids and other petrochemicals shall be stored only within the designated staging area. Appropriate spill clean-up materials such as booms and absorbent pads shall be available on-site at all times during construction.
- In order to reduce the potential to transfer non-native vegetation or weed seed, all heavy equipment shall be cleaned with a high pressure water hose before entering the site, and again immediately before leaving the site.
- All heavy equipment will be inspected daily for leaks. A written log of inspections and maintenance must be completed and maintained throughout the project period. Leaking equipment must not be used in or near surface water. Any petroleum or chemical spills would be contained and removed, including any contaminated soil.

An increase in turbidity may occur during the placement and removal of temporary crossing fill; however, the fill occurs in an often disconnected backwater area of the river. No permanent effects to water quality for the Pecos River at or below the dam are foreseen.

Under the no-action alternative, the Villanueva Diversion Dam would likely fail at some time in the future, potentially allowing a portion of the 9 feet of sediment that has accumulated behind the dam to be washed downstream through the breached structure, depending on the severity of structural damage. A short-term increase in turbidity would be expected following such failure.

3.06. FLOODPLAINS AND WETLANDS

Executive Order 11988 (Floodplain Management) provides Federal guidance for activities within the floodplains of inland and coastal waters. The objectives of EO 11988 are (1) to reduce, where possible, the long-and short- term adverse effects associated with the occupancy and modification of the base (100-year) floodplain, and (2) the avoidance of direct or indirect support of development in the base floodplain wherever there is a practicable alternative. The planned action would stabilize the diversion dam and allow continued use of the floodplain for agricultural and irrigation purposes. No induced development of the floodplain as a result of the action is foreseen. The staging area is outside of the 100-year floodplain. The proposed action is consistent with this Executive Order.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the extent possible, of long- and short-term adverse impacts associated with the destruction, modification, or other disturbance of wetland habitats. A small (0.15 ac.) emergent wetland dominated by cattail (*Typha* sp.) occurs in a depression approximately 90 feet landward from the left (north) riverbank. All access and staging for the proposed action would occur on the right (south) bank of the river, avoiding the potential for disturbance or impacts to this wetland. No wetlands occur in the staging and construction area, *per se*.

Neither the proposed action nor the no-action alternative would affect floodplain management or wetlands near the project area.

3.07. HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

Review of recent photographs from the project site shows no visible contaminants. The project is located in a rural area with no industrial activity. At no time would sediment or construction debris be removed from the project area. Any rocks or construction debris will be used on the construction site. There are no hazardous materials that will be a concern during the Villanueva Diversion Dam repair.

3.08. AIR QUALITY AND NOISE

San Miguel County is within the Environmental Protection Administration's Air Quality Region 154 (New Mexico Air Quality Bureau 2014a). The County is designated as an air quality attainment area for criteria pollutants (sulfur dioxide, total suspended particulate matter, and carbon monoxide) as determined by National Ambient Air Quality Standards (New Mexico Air Quality Bureau 2014b). Most of the county is considered Class II under the Prevention of Significant Deterioration (PSD) Program. PSD Class II areas allow moderate human development. The nearest PSD Class I (pristine) area is the Wheeler Peak Wilderness, approximately 80 miles north of Villanueva. Air quality in the project area is generally good due to low urban and industrial development. Although seasonal high winds are common in open terrain throughout most of the state, blowing dust is generally not a problem in the project area except during extremely dry years when annual vegetation is sparse.

The proposed action would not have a significant effect on air quality. Dust suppression would be employed on all unpaved access roads and the staging area. A slight increase in local concentrations of suspended particulates and carbon monoxide would occur during construction, but would not continue beyond completion of construction.

Ambient noise levels are generally low in the proposed project area. There is very little motor vehicle traffic and agricultural operations are relatively small scale. Minor noise from construction equipment will be unavoidable during construction.

3.09. BIOLOGICAL RESOURCES

Dominant vegetation surrounding the Pecos River valley consists of one-seed juniper (*Juniperus monosperma*), Gambel oak (*Quercus gambelii*), piñon pine (*Pinus edulis*), Apache plume (*Fallugia paradoxa*), four-wing saltbush (*Atriplex canescens*) and rabbitbrush (*Chrysothamnus depressus*). Coyote willow (*Salix exigua*) and cottonwood (*Populus deltoides*) dominate the riparian areas. Large agricultural fields are prevalent in the valley, often separated by bands of cottonwood, willow or Siberian elm (*Ulmus pumila*). In the immediate vicinity of the Villanueva Dam, scattered but dense stands of Russian olive (*Elaeagnus angustifolia*) and coyote willow are present (see photograph on the cover of this EA).

Mammals likely to occur in the Pecos Valley near Villanueva includes mule deer (*Odocoileus hemionus*), beaver (*Castor canadensis*), bobcat (*Felis rufus*), coyote (*Canis latrans*), ground squirrels (*Spermophilus* spp.), Eastern cottontail (*Sylvilagus floridanus*), pocket gopher (*Thonomys* sp.), harvest mouse (*Reithrodontomys* sp.), and white-footed mouse (*Peromyscus leucopus*) (Findley *et al.* 1975).

Bird species known or likely to occur near the project area include Common Raven (*Corvus corax*), Black Phoebe (*Sayornis nigricans*), American Robin (*Turdus migratorius*), Rock Wren

(*Salpinctes obsoletus*), and Canyon and Spotted Towhees (*Pipilo fuscus* and *maculatus*). The Bald Eagle (*Haliaeetus leucocephalus*) is known to occur along the Pecos River in San Miguel County from October through March, roosting in large trees close to water and primarily feeding on fish and waterfowl. No roost trees or snags are known to occur near the Villanueva Dam. Eagles moving along the river corridor may simply avoid flying directly over the dam during active construction, but they would not be deterred from traversing the river corridor.

Amphibians and reptiles likely to occur in these habitat types include the New Mexico spadefoot (*Spea multiplicata*), Woodhouse's toad (*Bufo woodhousii*), ornate box turtle (*Terrapene ornata*), prairie lizard (*Sceloporus undulatus*), lesser earless lizard (*Holbrookia maculata*), Great Plains skink (*Eumeces obsoletus*), plateau striped whiptail (*Cnemidophorus velox*), western hognose snake (*Heterodon nasicus*), gopher snake (*Pituophis melanoleucus*), western terrestrial garter snake (*Thamnophis elegans*), western diamondback rattlesnake (*Crotalus atox*) and the ringneck snake (*Diadophis punctatus*) (Degenhardt *et al*. 1996).

The Pecos River in this reach is likely to support fishes including common carp (*Cyprinus carpio*), longnose dace (*Rhinichthys cataractae*), red shiner (*Cyprinella lutrensis*), flathead chub (*Platygobio gracillis*), Rio Grande chub (*Gila pandora*), fathead minnow (*Pimephales promelas*), white sucker (*Catostomus commersoni*), black bullhead (*Ictalurus melas*), brown trout (*Salmo trutta*) and green sunfish (*Lepomis cyanellus*) (Sublette *et al*. 1990). The Pecos River also supports populations of invertebrates including stoneflies, mayflies, and caddisflies.

No vegetation would be removed during the conduct of the proposed action. All land areas used during construction have been previous disturbed and are largely unvegetated (except for sparse, pioneer weed species). Animals in the immediate vicinity of the dam may be temporarily disturbed and shift their activities away from the area during active construction. Because the scope of this project is minimal, no significant negative environmental effects are foreseen.

The Fish and Wildlife Coordination Act (FWCA) requires Federal agencies to coordinate preconstruction planning with the U.S. Fish and Wildlife Service (Service) on water development projects in which "the waters of any stream or other body of water area proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled…," and that the Service's recommendations be included in all project reports transmitted to Congress for approval. Because the proposed action would not alter the magnitude, frequency, or volume of flow within the Pecos River or of water lawfully diverted, it is excluded from the requirements of the FWCA.

In November 1991, the Service provided recommendations to the Corps on the then-proposed complete reconstruction of the Villanueva Diversion Dam (see Appendix B). The following recommendations included in the Service's 1991 report would be employed during the conduct of the currently proposed repairs:

- Perform work in the water only during low-flow periods to minimize project-induced erosion and turbidity.
- Dewater all construction work areas within the river channel.
- Place only clean, coarse and erosion-resistant fills in the water and employ silt curtains, settling basins or other suitable means to control turbidity.
- Contain any poured concrete in forms and/or behind cofferdams to prevent discharge into the river. Contain and treat or remove for off-site disposal any wastewater from concrete batching, vehicle washdown, and aggregate processing.

- Store and dispense fuels, lubricants, hydraulic fluids and other petrochemicals above the 100-year floodplain. Inspect construction equipment daily to ensure that no leaks or discharges of lubricants, hydraulic fluids or fuels occur in the aquatic or riparian ecosystem. Contain and remove any petrochemical spills, including contaminated soil, and dispose of these materials at an approved upland disposal site
- Use existing roads and rights-of-way to the greatest extent practicable to transport equipment and construction materials to the project site. Prohibit vehicles from turning round or maneuvering except in designated areas.
- Use only quarry stone or cobble from an existing approved upland borrow site for gabion fill.

The no-action alternative would not affect biological resources in the project area.

3.10. SPECIAL STATUS SPECIES

The U.S. Fish and Wildlife Service, under authority of the Endangered Species Act of 1973 (as amended), maintains a list of species which have been classified as Endangered or Threatened based on present status and potential threat to future survival. No Federally listed species or designated critical habitat occur near the Villanueva Diversion Dam.

The New Mexico Department of Game and Fish, under the authority of the Wildlife Conservation Act of 1974, maintains a list of wildlife species whose prospects of survival or recruitment in the State are in jeopardy or may become in jeopardy in the foreseeable future. No state listed wildlife would likely be affected by the planned action.

The no-action alternative would not affect Federal or State-listed species of concern, or Federally designated critical habitat.

3.11. CULTURAL RESOURCES

"La Cuesta" — known today as the community of Villanueva — and the Villanueva diversion structure are located within the historic 1794 San Miguel del Bado (also Vado) Spanish Colonial community land grant (Kessell 1979, pp. 415-436; Ebright 2014). One of the five conditions for establishment of the San Miguel del Bado grant, as attested to for the 1803 distribution of the grant lands, was the "opening of acequias" (Ebright 2014). La Cuesta was founded a few years later, *circa* 1808 (Julyan 1998:373; Ebright 2014). One or both of the Villanueva acequia systems likely date to the founding of "La Cuesta."

It is highly likely that numerous different diversion structures have been constructed at this location through the acequia system's 200-year history. In recent historic times, the NRCS (the former Soil Conservation Service) assisted the Villanueva acequia association by constructing a new diversion structure at this location in 1960 (Rayl 1991). Repairs were made again by NRCS in 1972 after flooding on the Pecos River. The Corps, under its Acequia Rehabilitation Program, constructed the existing structure in 1992 (USACE 1991). During planning for this rehabilitation, the Corps conducted an archaeological survey (Rayl 1991) and National Historic Preservation Act Section 106 consultation with the N.M. State Historic Preservation Officer (SHPO; HPD Consultation Nos. 29410 and 33030).

The Corps' 1991 archaeological survey is the only survey that has been conducted in the immediate vicinity of the project area. Other surveys in the area have generally been small, such

several that have documented the Los Trigos Acequia (Laboratory of Anthropology [LA] site number LA109297) that runs along the left (north) bank of the Pecos River Valley. The San Miguel del Bado Historic District (HPD No. 150), located about 7.3 miles upstream of the Villanueva diversion structure, was listed on the State Register on February 20, 1970, and on the National Register on July 17, 1972. The currently proposed Villanueva diversion structure repair project would have no effect upon the San Miguel Historic District or the Los Trigos Acequia.

The area of potential effect (APE) for the undertaking would be the construction footprint and adjacent staging area. On July 15, 2014, the Corps conducted a re-survey of the APE for the proposed rehabilitation project. The survey covered 100% of the proposed project area and covered 1.38 acres. Similar to the Corps' 1991 survey, no artifacts or cultural resources were observed during the survey (Everhart 2014).

Consistent with the Department of Defense's American Indian and Alaska Native Policy, and based on the State of New Mexico Indian Affairs Department and Historic Preservation Division's 2014 Native American Consultations List, Native American tribes that have indicated they have concerns in San Miguel County were sent scoping letters regarding the proposed project on August 28, 2014. No indication of tribal concerns that would impact this project has been received by the Corps to date. No Traditional Cultural Properties and no Indian Trust Assets are known to occur within or adjacent to the project area.

In the Corps' previous Section 106 consultation with the SHPO regarding the construction of the 1992 Villanueva diversion structure, the SHPO concurred with the Corps' determination that the Villanueva North-side and South-side acequia systems are, due to their age, potentially eligible for nomination to the National Register of Historic Places under criteria a and d of 36 CFR 60.4. The SHPO also concurred with the Corps' determination that the rehabilitation of the structure would result in No Adverse Effect to Historic Properties, indicating that the structure itself no longer "…retain[s] historic integrity or fabric and do[es] not contribute to the significance of the ditch system[s]," and that rehabilitation would not affect the North and South acequia systems. The same would be true for the Corps presently proposed action. The proposed dam stabilization would have no effect upon either of the acequia system alignments, historical irrigation function, or visual qualities — the historic elements that contribute to the system's eligibility for nomination to the National Register. Therefore the project would have No Adverse Effect to Historic Properties. The Corps' Section 106 consultation letter for the current project was mailed to the SHPO on August 22, 2014. The SHPO concurred with the Corps' determination on September 14, 2014 (see Appendix B).

Under the no-action alternative, the Villanueva diversion structure would likely fail, preventing, or at least interrupting, the historic irrigation function of the acequias. Without action by the Federal government, the local acequia association and the State of New Mexico would likely bear the responsibility for the replacement or repair of the damaged structure at a cost far in excess of the estimated cost of the stabilization currently proposed by the Corps.

3.12 SOCIOECONOMIC ENVIRONMENT

The 2010 population estimate for San Miguel County was 29,383, nearly half of which live in or near Las Vegas, the county seat (U.S. Census Bureau 2014). The population and economy of San Miguel County have declined over a period of more than 45 years. The 2010 population was 74.1% Hispanic or Latino, 19.4%Anglo-American, and the remaining 6.5% consisted of other cultural groups.

In terms of employment and income, San Miguel County ranks as one of the poorer counties in the state: approximately 27% of the population have incomes below the poverty level. Unemployment in the area fluctuates widely from year to year but remains very high. The economy is not diversified. Employment is dominated by the Government sector, primarily at Highlands University and the New Mexico State Hospital in Las Vegas. Coinciding with the growth in the Government sector there has been a reduction in such basic economic activities as agriculture and manufacturing. In agriculture, the long-term shift from crop production to cattle grazing has resulted in reduced employment. Much of the irrigated agriculture supported by the Villanueva South and Northside Ditch Association consists of relatively small agricultural pursuits which, combined with employment outside of the local area, provide partial support for a family.

On February 11, 1994, President Clinton issued Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This Executive Order requires Federal agencies to identify and address disproportionately high or adverse human health and environmental effects of Federal programs, policies, and activities on minority and low-income populations. An accompanying memorandum and guidance from the White House Council on Environmental Quality emphasized that Federal agencies would analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities as part of the NEPA analysis and provide opportunities for community input.

Approximately 80% of San Miguel County's population consists of minority demographic groups. As stated previously, approximately 27% of the County population has income below the poverty level. The proposed action occurs at the specific site of damage, and no alternative locations for action have been considered. The repair of the irrigation diversion would facilitate the traditional and income-generating agricultural practices near Villanueva. The planned action would be consistent with EO 12898.

3.13. RECREATIONAL RESOURCES AND AESTHETICS

The proposed action would not adversely affect any public recreation areas in the vicinity of the project site. Local residents frequently visit the southern bank of the dam to view the river. The southern bank would be used as a staging area for construction equipment and materials. For the public's safety, access to the immediate area of the dam would be restricted during construction. However, current recreational opportunities would continue unimpaired following construction.

For the planned action, some aesthetic (visual quality) impact would result during construction due to the on-site presence of equipment, materials, and personnel, but would be minimal due to the limited scope of the project and the relatively small work area. The proposed action would not result in a significant modification of the aesthetic environment following completion of construction. Some visitors may actually prefer the post-construction appearance of the dam as opposed to the current scatter of woody and rock debris immediately downstream.

CHAPTER 4. CONCLUSIONS

The proposed repair of the diversion dam for the Villanueva South and Northside Ditch Association would ensure future reliable irrigation of agricultural lands served by the acequia users. The proposed action would continue economic benefits to local landowners who rely on the ditch system for their livelihood. Effects on biological resources, air and water quality, and streamflow characteristics would be minor, and no cultural resources or special-status species would be affected.

CHAPTER 5. PREPARATION AND COORDINATION

This Environmental Assessment (EA) was prepared by the U.S. Army Corps of Engineers, Albuquerque District. The multidisciplinary Product Development Team included:

Bernadette Armijo – Project Manager
Ben Alanis – Civil Engineer
Richard Banker – Specifications
William DeRagon – Biologist
Barry Easter – Engineering Technician
Gregory Everhart – Archaeologist
Charles Little – Engineering Technician
Tamara Massong – Hydraulic Engineer
Benjamin Miranda – Real Estate Specialist
Will Shuter – Geotechnical Engineer
Timothy Tetrick – Cost Engineering
Steven Wagner – Environmental Engineer

Albuquerque District Quality Control reviewers included:

Julie Alcon, Chief, Environmental Resources Sect.
Jeremy Decker – Archaeologist
Danielle Galloway – Biologist
Kerry Horner – Construction Engineer
Justin Reale – Environmental Engineer

Agencies and entities contacted formally or informally during the preparation of this EA are listed below. Entities provided the Draft EA for review and comment are marked with an asterisk (*).

U.S. Fish and Wildlife Service *
New Mexico Interstate Stream Commission *
New Mexico State Historic Preservation Office
New Mexico Department of Game and Fish *
New Mexico Environment Department *
Villanueva South and Northside Ditch Association *
Apache Tribe of Oklahoma
Comanche Nation of Oklahoma
Jicarilla Apache Nation
Kewa Pueblo (formerly Pueblo of Santo Domingo)
Kiowa Tribe of Oklahoma
Mescalero Apache Tribe
Navajo Nation
Pueblo de Cochiti
Pueblo of Isleta
Pueblo of Jemez
Pueblo of Tesuque
Pueblo of Zuni
The Hopi Tribe
Wichita and Affiliated Tribes

This draft EA was made available to the public and pertinent entities for review and comment for 30 days from September 27 to October 27, 2014. Responsible comments and the Corps' responses will be included in the final EA, and also will be made available to the public.

CHAPTER 6. LITERATURE CITED

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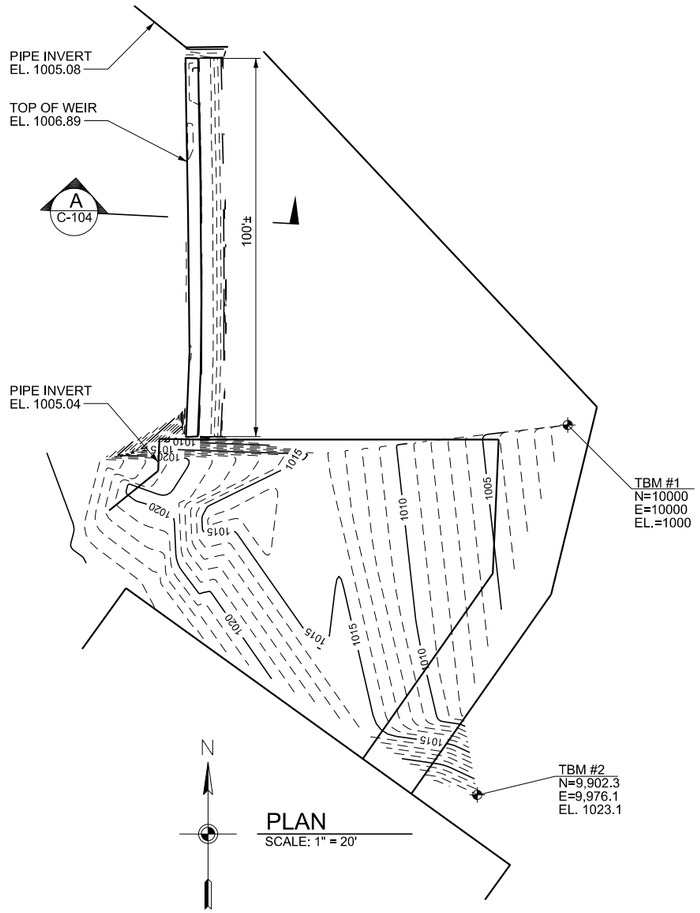
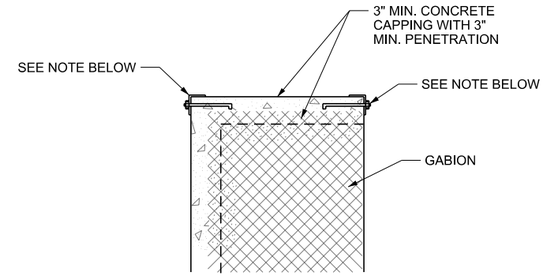
APPENDIX A – PLATES

(Sheet C-104))

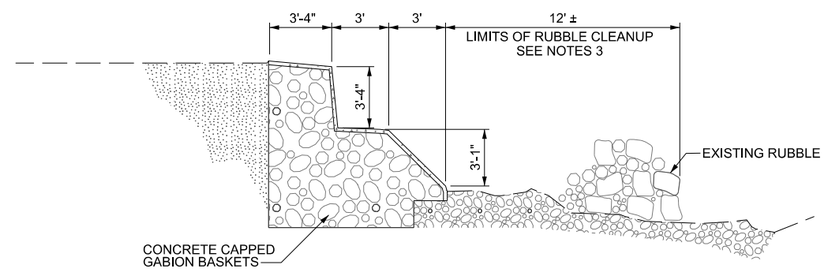


PLAN
SCALE: 1" = 20'



TYPICAL CONCRETE CAPPING DETAIL
NOT TO SCALE

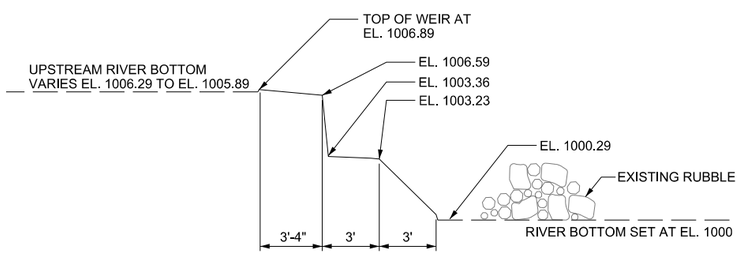
NOTE:
CONTINUOUS 4" X 4" X 3/8" ANGLE WITH 3/4" X 10" LONG ANCHOR BOLT (1" HOOKED END) WITH NUTS. ANCHOR BOLTS SHALL BE SET AT 4' O.C. BEGINNING 2' FROM EACH END OF ANGLE. NUTS SHALL BE WELDED TO ANGLE. ANGLE TO END 1/2 " FROM SIDES OR APPROVED EQUAL. 2" MINIMUM COVER FOR ANCHOR BOLT.



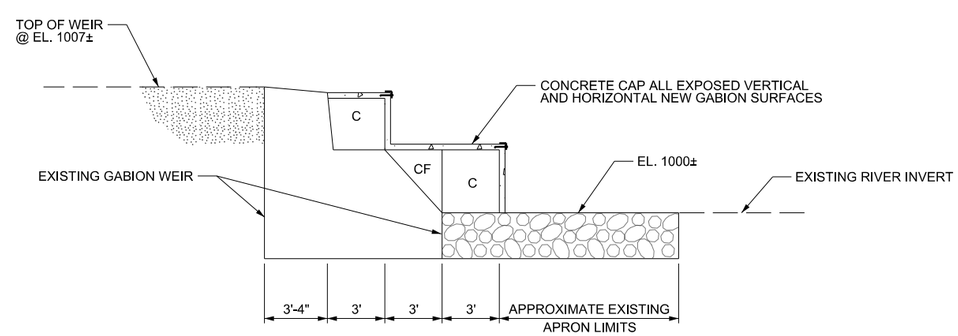
CONCRETE EXISTING CONDITIONS
NOT TO SCALE

GENERAL NOTES

1. CONCRETE FOR CAPPING OF GABIONS SHALL USE 3,000 PSI AT 28 DAYS STRENGTH AS PER NEW MEXICO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. TESTING WILL NOT BE REQUIRED. CONTRACTOR SHALL SUBMIT CERTIFICATION THAT CONCRETE AND DESIGN MIX MEET STRENGTH REQUIREMENTS PRIOR TO PLACEMENT.
2. GABIONS SHALL BE 3' X3'X 12' PLACED STAGGERED FROM MACCAFERRI OR APPROVED EQUAL.
3. CONTRACTOR SHALL REMOVE RUBBLE FROM BOTTOM OF APRON TO ELEVATION 1000±. FOR CONSTRUCTION OF BOTTOM GABION.
4. C = 3' X 3' X 12' GABION
5. CF = 3' X 3' X 12' FOLDED GABION TO FIT AREA.



A C-104 SECTION
SCALE: 1" = 40'



DAM REPAIRS SECTION
SCALE: 1" = 40'

1" = 20' 0' 10' 20' 40' 60'

1" = 40' 0' 20' 40' 80' 120'

US Army Corps of Engineers
Albuquerque District

Mark	Description	Date	Appr.

File Name: ardlo-104.dgn
Plot Scale: 2to1
Plot Date: AUGUST 2014
SOLICONTRACT NO. W912PP-14-R-0041
Zero Accidents Zero Tolerance

DESIGN BY: WILL SHUTER
DRAWN BY: BARRY EASTER
REVIEWED BY: BEN ALANIS

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ALBUQUERQUE, NEW MEXICO

CHIEF, GENERAL ENGINEERING SECTION
DATE:

ACEQUIAS IRRIGATION SYSTEM, SAN MIGUEL CO. NM
VILLANUEVA DIVERSION DAM REPAIR

PLAN AND SECTION

SHEET NO.
C-104
4 OF 4

SEQUENCE NO.
6

BID SET

APPENDIX B – CULTURAL RESOURCES COORDINATION

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE, NM 87109-3435

August 22, 2014

99806

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section

RECEIVED
AUG 25 2014
HISTORIC PRESERVATION DIVISION
SPA Rec'd 9-13-2014

Dr. Jeff Pappas
State Historic Preservation Officer
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Dr. Pappas:

Pursuant to 36 CFR Part 800, the U.S. Army Corps of Engineers (Corps), Albuquerque District, is seeking your concurrence in our determination of "No Adverse Effect to Historic Properties" for proposed construction for the rehabilitation of the existing Villanueva diversion structure on the Pecos River. The Corps, at the request of the project sponsors, the New Mexico State Engineer/Interstate Stream Commission and the Villanueva North-side and South-side Acequia Associations, is planning a project that would rehabilitate the existing Villanueva diversion structure. The proposed project being planning through the Corps' Acequia Rehabilitation Program, would be conducted under Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662), as amended. Under Section 1113 of the Act, Congress has found that many of New Mexico's acequias date from the eighteenth century and, due to their significance in the settlement and development of the western United States should be restored and preserved for their cultural and historic values to the region. The Secretary of the Army has been authorized and directed to undertake without regard to economic analysis, such measures as are necessary to protect and restore New Mexico's acequias.

The Corps' Acequia Rehabilitation Program would provide 75 percent of construction funding and is the lead Federal agency for this project in terms of Section 106 of the National Historic Preservation Act compliance. The Office of the State Engineer is the project sponsor and with the Villanueva North-side and South-side Acequia Associations who would be responsible for the remaining 25 percent of construction costs. The Villanueva North-side and South-side Acequia Associations would be responsible for assuring operation and maintenance upon project completion.

The proposed Villanueva project area is located about 1.5 miles north of the village of Villanueva, San Miguel County, New Mexico (Figures 1 and 2). Villanueva is located south of Interstate Highway 25 on State Highway 3 and approximately 53 miles southeast of Santa Fe, the capital in New Mexico. The Villanueva project area is located on the right-bank (southwest side) of the Pecos River, in the southeast quarter of the southeast quarter of Section 7, Township 12 North, Range 15 East, as shown on USGS Quadrangle Map Sena, New Mexico (35105-C4).

The Villanueva North-side and South-side Acequias divert irrigation water from both the right-hand and left-hand banks of the Pecos River. The current project will be confined to work on the diversion structure. The North-side and South-side Acequias serve about 80 families who irrigate approximately 500 acres of crop and pasture land and local orchards and gardens. The community of Villanueva was established ca. 1808 and is located within Tract 2 of the 1794 Spanish Colonial San Miguel del Bado (Vado) community land grant. The community depends upon subsistence agriculture and heavily upon the irrigation water diverted by the structure for their livelihood. Loss of the use of the diversion structure whether from reduced effectiveness due to storm damages or disrepair that would result in structural failure would be economically devastating to the community.

While the acequia systems are historic, the existing diversion structure is not. It was constructed in 1992 by the Corps. It was recently damaged by high flood flows that resulted from September 2013 storms; the structure's weir is leaning downstream and is in imminent danger of failure. The Corps is planning to install additional rock-filled, wire-wrapped gabion baskets on the downstream side to buttress the existing structure, surface the gabions with concrete, and re-establish the rock rip-rap at the downstream toe of the structure for energy dissipation as necessary. All construction work will be confined to the area downstream of the structure's weir and within the river channel (Figure 3).

Pursuant to 36 CFR 800.2, consulting parties in the Section 106 process identified for the Undertaking include the Corps and your office. Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 20, 1998, and based on the State of New Mexico Indian Affairs Department and Historic Preservation Division's 2014 Native American Consultations List, Native American tribes that have indicated they have concerns in San Miguel County were sent scoping letters concurrently with this letter regarding the proposed project. To date, the Corps has received no indication of tribal concerns that would impact this project.

Pursuant to 36 CFR 800.4, the area of potential effect (APE) for the undertaking would be the construction footprint and adjacent staging area; the Corps archaeological resurvey covered a total of approximately 1.38 acres. The Corps conducted a literature search of the NMCRIS database and map server and of the State Register of Cultural Properties and the National Register of Historic Places on June 19, 2014. No historic properties have been identified in the immediate vicinity of the project area, other than the Villanueva acequia systems. Several different diversion structures have been constructed at this location through the acequia system's history. The Natural Resources Conservation Service (the former Soil Conservation Service) assisted the Villanueva Acequia Associations by constructing a new diversion structure at this location in 1960 (Rayl 1991). Repairs were made again in 1972 after flooding on the Pecos River. The Corps, under its Acequia Rehabilitation Program, constructed the existing structure in 1992.

On July 15, 2014, a Corps archaeologist conducted an intensive pedestrian resurvey covering 100 percent of the project area. Please find enclosed for your review, the Corps cultural resources survey report entitled A Cultural Resources Inventory of 1.38 Acres for the Villanueva Acequia Diversion Structure Rehabilitation Project near the Village of Villanueva, San Miguel County, New Mexico (NMCRIS No. 131437; USACE-ABQ-2014-009) and the associated Historic Cultural Properties Inventory form. Similar to the Corps 1991 survey, no artifacts or cultural resources were observed during the survey. The Corps continues to be of the opinion that, due to their age, the Villanueva North and South Acequia systems are potentially eligible for nomination to the National Register of Historic Places under criteria a and d of 36 CFR 60.4 (HPD Consultation No's. 29410 and 33030). While one or both of the acequia systems likely date to the founding of "La Cuesta" known later as Villanueva in ca. 1808, numerous diversion structures have been constructed at this location. The existing diversion structure "...do[es] not retain any historic integrity or fabric and do[es] not contribute to the significance of the ditch system" (HPD Consultation No. 33030). The project would have no effect upon either of the acequia systems alignments, historical irrigation function, or visual qualities, those historic elements that contribute to the systems eligibility for nomination to the National Register.

Based upon the information above and that found in the Corps survey report, the Corps is of the opinion that rehabilitation of the existing Villanueva diversion structure would result in No Adverse Effect to Historic Properties. The Corps is seeking your concurrence with our effect determination.

Pursuant to 36 CFR 800.13, should previously unknown artifacts or historic properties be encountered during construction, work would cease in the immediate vicinity of the resource. A determination of significance would be made, and further consultation with your office and with tribes interested in the project area would be conducted to determine the best course of action.

If you have any questions or require additional information concerning the Villanueva Diversion Structure Rehabilitation Project, please contact Gregory D. Everhart, Archaeologist at (505) 342-3352 or me at (505) 342-3281. You may also provide comments to the above address.

Sincerely,

Julie A. Alcon
Chief, Environmental Resources Section

Enclosures

I Concur John R Eck Date Sept 14, 2014
For Jeff Pappas
New Mexico State Historic Preservation Officer

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BRUCE KING
GOVERNOR

HELMUTH J. NAUMER
CULTURAL AFFAIRS OFFICER

VILLA RIVERA, ROOM 101
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87503
(505) 827-6320

THOMAS W. MERLAN
DIRECTOR

May 14, 1991

Mr. Kim B. Zahm, P.E.
Acting Chief
Engineering and Planning Division
Albuquerque District
U.S. Army Corps of Engineers
Post Office Box 1580
Albuquerque, New Mexico 87103-1580

Re: Villanueva South and Northside Irrigation Ditch Rehabilitation Project

Attn: Sandra L. Rayl, Archaeologist

Dear Mr. Zahm:

At your request, I have reviewed the results of an intensive cultural resources inventory survey of the areas to be affected by the proposed Villanueva South and Northside irrigation ditch rehabilitation project near Villanueva, New Mexico. The rehabilitation project will involve the replacement of an existing concrete capped rock, wire, and brush diversion dam with a concrete capped gabion structure and the construction of new inlet works for each ditch. The results of the inventory survey are described in *Cultural Resources Inventory Villanueva South and Northside Ditches, San Miguel County, New Mexico* (COE-91-07) by Sandra L. Rayl, Albuquerque District Archaeologist.

I concur with your determination that the Villanueva South and Northside Ditches are eligible for inclusion in the National Register of Historic Place under criteria "a" and "d" of the criteria of eligibility (36 CFR Part 60.4) for their historical importance to the early settlement of the upper Pecos River valley and as a surviving example of a traditional 19th century irrigation system. No other properties entered in or determined eligible for inclusion in the National Register will be affected by the described rehabilitation project.

Since the features of the ditch system to be affected by the rehabilitation project have been repeatedly damaged by floods and since the existing diversion structure and headworks were reconstructed in 1960 and again in 1972, I agree with your assessment that these features do not retain any historic integrity or

Mr. Kim B. Zahm, P.E.
May 14, 1991
Page 2

fabric and do not contribute to the significance of the ditch system. I therefore concur with your determination that the proposed undertaking will have no adverse effect on any of the values for which the ditch systems are considered eligible for inclusion in the National Register. Replacement of the diversion dam and headworks with more permanent structures may have a beneficial effect of the remaining original portions of the Villanueva irrigation systems by helping to ensure the continued use and maintenance of these systems for their original purpose.

Thank you for the opportunity to consult with you on the described Villanueva South and Northside irrigation ditch rehabilitation project. Please contact this office with any questions you may have regarding my comments and concurrence with your determinations of eligibility and effect.

Sincerely,

Thomas W. Merlan
State Historic Preservation Officer

TWM:DER:bc/Log 29410

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BRUCE KING
GOVERNOR

VILLA RIVERA, ROOM 101
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87503
(505) 827-6320

HELMUTH J. NAUMER
CULTURAL AFFAIRS OFFICER

THOMAS W. MERLAN
DIRECTOR

October 2, 1991

Mr. Richard Flint
Box 216
Villanueva, New Mexico 87583

Re: Villanueva South and Northside Irrigation Ditch Rehabilitation Project

Dear Mr. Flint:

Thank you for your recent letter expressing concern for the protection of historic properties that may be affected by the Corps of Engineers' Villanueva South and Northside Irrigation Ditch Rehabilitation Project.

As required by the Advisory Council on Historic Preservation's regulation, 36 CFR 800, implementing the provisions of Section 106 of the National Historic Preservation Act, the Albuquerque District consulted with this office on the potential of this project to affect historic properties entered in or that may be eligible for inclusion in the National Register of Historic Places. Prior to requesting my comments, the District conducted an intensive cultural resources inventory survey of the project area of effect. The results of this survey are described in *Cultural Resources Inventory Villanueva South and Northside Ditches San Miguel County, New Mexico* (COE-91-07) by Sandra L. Rayl, District Archaeologist.

As documented by this report, no evidence of any earlier diversion dam construction was observed within the project area of effect. This report did document the significance of the existing original portions of the irrigation system and described the more recently constructed diversion dam that you discuss in your letter and attached *New Mexico Historical Review* article. On the basis of the survey documentation, I concurred with the District's determination that the Villanueva South and Northside Ditches are eligible for inclusion in the National Register under criteria "a" and "d" of the criteria of eligibility set forth in 36 CFR 60.4. I also agreed with the District's determination that the existing diversion dam and headworks, constructed in 1960 and rebuilt in 1972, do not retain any historic integrity or fabric and do not contribute to the significance of the ditch system.

Since the dam and headworks to be replace by the proposed undertaking are less than fifty years old and are not considered to contribute to the National Register

Mr. Richard Flint
October 2, 1991
Page 2

significance of the irrigation systems, I concurred with the District's determination that replacement of the diversion dam and headworks would not adversely affect any of the values for which the ditch systems are considered significant. As required by 36 CFR 800, the Advisory Council on Historic Preservation was afforded an opportunity to comment on this determination of no adverse effect and concurred with the District's findings.

I am satisfied that the Corps of Engineers has implemented reasonable and prudent actions to ensure that the effects of the undertaking on historic properties are taken into account and has complied with applicable laws and regulations protecting historic properties. Copies of correspondence documenting the District's consultation and the Advisory Council's concurrence are enclosed for your information.

Sincerely,

Thomas W. Merlan
State Historic Preservation Officer

TWM:DER:bc/Log 33030

Enclosure

cc: David E. Wright
John Schelberg

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 131437	2a. Lead (Sponsoring) Agency: U.S. Army Corps of Engineers, Albuquerque District	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.: USACE-ABQ-2014-009

4. Title of Report: A Cultural Resources Resurvey of 1.38 Acres for the Villaneuva Acequia Diversion Structure Rehabilitation Project near the Village of Villanueva, San Miguel County, New Mexico

Author(s) Gregory D. Everhart

5. Type of Report
X Negative ☐ **Positive**

6. Investigation Type
☐ Research Design **X** Survey/Inventory ☐ Test Excavation ☐ Excavation ☐ Collections/Non-Field Study
☐ Overview/Lit Review ☐ Monitoring ☐ Ethnographic study ☐ Site specific visit ☐ Other

7. Description of Undertaking (what does the project entail?): An intensive pedestrian archaeological re-survey of 1.38 acres covering 100% of the construction and staging area for the Rehabilitation of the Villaneuva Diversion Structure. All construction work will be confined to the area downstream of the structure's weir and within the river channel.

8. Dates of Investigation:
06-19-2014 to: 08-21-2014

9. Report Date: August 21, 2014

10. Performing Agency/Consultant:
USACE- Albuquerque District
Principal Investigator: Gregory D. Everhart
Field Supervisor: Gregory D. Everhart
Field Personnel Names: Gregory D. Everhart

11. Performing Agency/Consultant Report No.:
USACE-ABQ-2014-009

12. Applicable Cultural Resource Permit No(s):
NM-14-193

13. Client/Customer (project proponent):
Villanueva Acequia Association (North-side acequia) and the NM Interstate Stream Commission
Contact: Julie Barela, Mayordomo
Address: P.O. Box 33 Villanueva, NM 87583
Phone: ( ) julieannvbarela@gmail.com

Client/Customer (project proponent):
Villanueva Acequia Association (South-side acequia) and the NM Interstate Stream Commission
Contact: Orlando Lucero, Mayordomo
Address: P.O. Box 121 Villanueva, NM 87583
Phone: (505) 421-3848

14. Client/Customer Project No.:

15. Land Ownership Status ***(Must be indicated on project map):***

Land Owner	Acres Surveyed	Acres in APE
Villanueva North-side and South-side Acequia Associations	1.38	1.38
TOTALS	1.38	1.38

16 Records Search(es):

Date(s) of ARMS File Review: 06-19-2014	Name of Reviewer(s) Gregory D. Everhart	
Date(s) of NR/SR File Review: 06-19-2014	Name of Reviewer(s) Gregory D. Everhart	
Date(s) of Other Agency File Review: 06-19-2014	Name of Reviewer(s) Gregory D. Everhart	Agency: U.S. Army Corps of Engineers, Albuquerque District

17. Survey Data:

a. Source Graphics ☐ **NAD 27** **X NAD 83**

X USGS 7.5' (1:24,000) topo map ☐ **Other topo map, Scale:**

X GPS Unit **Accuracy X <1.0m** ☐ **1-10m** ☐ **10-100m** ☐ **>100m**

b. USGS 7.5' Topographic Map Name **USGS Quad Code**

Sena, NM	35105-C4

c. County(ies): San Miguel

17. Survey Data (continued):

d. Nearest City or Town: Villanueva

e. Legal Description:

Township (N/S)	Range (E/W)	Section	¼ ¼ ¼
12 N	15 E	7	SE, SE, .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .
			, , .

Projected legal description? Yes [ ] , No [ ] **Unplatted [ ]**

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): Access to the Villanueva diversion structure is located on the right bank (south-west side) of the Pecos River, about 1.5 miles upstream from the village of Villanueva. Looking at the USGS 7.5-Minute quad map, it appears that the diversion structure is located within the 1794 San Miguel del Bado (Tract No. 2) Spanish Colonial community land grant and that the staging area for the project, located immediately to the south, is within the grant as well as within the boundary of Villanueva State Park. Access to the diversion structure is from Interstate Highway 25, go south on State Highway 3 for approximately 12 miles, travel through the village and follow Hwy 3 to the SW, after crossing the Pecos River, turn right on County Road B29C for about 1.5 miles north to the diversion structure.

18. Survey Field Methods:

Intensity: X 100% coverage ☐ <100% coverage

Configuration: X block survey units ☐ linear survey units (l x w): ☐ other survey units (specify):

Scope: X non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method: X systematic pedestrian coverage ☐ other method (describe)

Survey Interval (m): 15 m Crew Size: 1 Fieldwork Dates: July 15, 2014

Survey Person Hours: 1 Recording Person Hours: 1 Total Hours: 2

Additional Narrative: The intensive pedestrian archaeological resurvey covered 100% of the project construction area and existing staging area proposed for use by the Corps. Transects were spaced 15 meters or less. Ground visibility was about 85 percent or more for most of the project area. A vegetated area immediately south of the diversion structure will not be affected by construction activities.

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): Elevation is approximately 5800 feet amsl. Riparian vegetation near the river and diversion structure include cottonwood trees, Russian olive, willows, and various grasses, weeds, and reeds. Upland vegetation includes piñon and juniper trees, blue grama and buffalo grasses, and various weeds. All construction work will be confined to the area downstream of the structure's weir and within the river channel. Soils in the upland area immediately adjacent to the project area are shallow, well-drained stony sandy loam soils that formed in material weathered from sandstone. The project area is riparian sands and gravels.

a. Percent Ground Visibility: 85 percent **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):** The entire project area has been extensively disturbed in the past by numerous construction and rehabilitation prjects.

21. CULTURAL RESOURCE FINDINGS ☐ Yes, See Page 3 X No, Discuss Why: The entire project area has been extensively disturbed in the past. The staging area has been used as a staging area for maintenance and construction vehicles and heavy equipment, for stockpiling construction materials such as rock for rip-rap, for access to the diversion structure, and for access to the nearby small quarry numerous times in the past. All construction work will be confined to the area downstream of the structure's weir and within the river channel.

22. Required Attachments (check all appropriate boxes):
- X USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn
- X Copy of NMCRIS Mapserver Map Check
- ☐ LA Site Forms - new sites (*with sketch map & topographic map*)
- ☐ LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum*)
- X Historic Cultural Property Inventory Forms
- ☐ List and Description of isolates, if applicable
- ☐ List and Description of Collections, if applicable

23. Other Attachments:
- ☐ Photographs and Log
- X Other Attachments

(Describe): representative photographs

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: **Gregory D. Everhart**

Signature Gregory D. Everhart Date 8-22-2014 Title (if not PI):

25. Reviewing Agency:
U.S. Army Corps of Engineers, Albuquerque District
Reviewer's Name/Date Jonathan Van Horne
22 Aug 2014

Accepted (✓) Rejected ( )

Tribal Consultation (if applicable): X Yes ☐ No

26. SHPO
Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.:	2. Lead (Sponsoring) Agency:	3. Lead Agency Report No.:
131437	U.S. Army Corps of Engineers, Albuquerque District	USACE-ABQ-2014-009

SURVEY RESULTS:

Sites discovered and registered: 0
Sites discovered and NOT registered: 0
Previously recorded sites revisited (*site update form required*): **0**
Previously recorded sites not relocated *(site update form required):* 0
TOTAL SITES VISITED: 0
Total isolates recorded: 0 Non-selective isolate recording? X
Total structures recorded (*new and previously recorded, including acequias*): **1**

MANAGEMENT SUMMARY: The U.S. Army Corps of Engineers, Albuquerque District (Corps), at the request of the project sponsors, the Villanueva North Side and South Side Acequia Associations and the NM Interstate Stream Commission, is planning a construction project for the rehabilitation of the 1992 diversion structure constructed by the Corps (Figures 1, 2, and 3). The diversion structure has been reconstructed numerous times in the past, for approximately 200 years; most likely from the time of original construction and founding of "La Cuesta" (later Villanueva) in ca. 1808 (Julyan 1998:373; Ebright 2014). In 1960, USDA Soil Conservation Service constructed a diversion structure that served the community for about 30 years; the 1960 SCS structure was rebuilt in 1972 after flooding partially damaged the structure (Rayl 1991). In 1991, the Corps prepared an Environmental Assessment, and conducted an archaeological survey and Section 106 consultation during planning for rehabilitation of the 1960/1972 structure (Rayl 1991; NMCRIS No. 35810). The existing structure was built by the Corps in 1992. The Corps has previously conducted Section 106 consultation with regard to construction of the Villanueva diversion structure and the SHPO has concurred with the Corps determination that the Villanueva North-side and South-side acequia systems are, due to their age, potentially eligible for nomination to the National Register of Historic Places under criteria a and d of 36 CFR 60.4 (HPD Consultation No's. 29410 and 33030). However, the diversion structure, since it has been reconstructed numerous times, no longer "…retain[s] historic integrity or fabric and do[es] not contribute to the significance of the ditch system[s]."

The existing 1992 Corps structure was impacted by high flood flows that resulted from September 2013 storms; the structure's weir is leaning downstream and is in imminent danger of failure (see representative photographs). The Villanueva North Side and South Side acequias irrigate about 500 acres of farmland that serve about 80 families. The community depends heavily upon irrigated farmland, pastures, orchards, and family gardens for their livelihood. Loss of the use of the diversion structure whether from reduced effectiveness due to storm damages or disrepair that would result in structural failure would be economically devastating to the community. The Corps is planning to install additional rock-filled, wire-wrapped gabion baskets to buttress the existing structure, surface the gabions with concrete, and re-establish the rock rip-rap at the downstream toe of the structure for energy dissipation. All construction work will be confined to the area downstream of the structure's weir and within the river channel.

On June 19, 2014, a Corps archaeologist conducted a search of the ARMS NMCRIS database and map server. The Corps survey for the 1992 Villanueva rehab project is the only survey that has been conducted in the immediate vicinity of the project area (Rayl 1991; NMCRIS No. 35810). Other surveys in the area have generally been small surveys such as a 1994 Lone Mountain survey of 51.0 acres (NMCRIS No. 47112) near the village of Villanueva, and several that have documented the Los Trigos Acequia (LA109297) that runs along the left-hand (east) bank of the Pecos River Valley (linked activities: USACE 49039; Lone Mountain 126844; and SWCA 127670 and 128249). The San Miguel del Bado (Vado) Historic District (HPD No. 150), located about 7.3 miles upstream of the Villanueva diversion structure, was listed on the State Register on February 20, 1970, and on the National Register on July 17, 1972. The proposed Villanueva diversion structure rehabilitation project would have no effect upon the San Miguel Historic District. The Villanueva diversion structure is located within the historic 1794 San Miguel del Bado (Tract No. 2) Spanish Colonial community land grant (Kessell 1979:415-436; Ebright 2014). "La Cuesta" (later Villanueva) was founded in ca. 1808 (Julyan 1998:373; Ebright 2014). One of the five conditions for establishment of the San Miguel del Bado grant as attested to for the 1803 distribution of the grant lands was the "opening of acequias" (Ebright 2014).

The Corps has conducted several archaeological surveys for acequia projects on the Pecos River and in the vicinity of Villanueva including San Miguel (Ackerly 2005); Los Trigos (Kneebone and Everhart 1995, Lundquist 2006); el Cerrito (Everhart 2003); as well as those to the north and south of the Villanueva including Acequia del Llano to the north near Sapello (Van Hoose and Everhart 2009) and both the East and West Puerto de Luna acequias

to the south (Everhart 2009; Van Hoose and Lundquist 2009, respectively). Numerous other references discuss the history of this region as well as acequias and land grants in New Mexico (Stanley 1970; Kessell 1979; Westphall 1983; Nostrand 1992; Ebright 1994, 2014; Ackerly 1996; Rivera 1998; Julyan 1998; GAO 2001).

On July 15, 2014, the Corps conducted a re-survey of the proposed construction and staging area for the proposed rehabilitation project (see representative photographs). The survey covered 100 percent of the project area, covering 1.38 acres (Figures 1 and 2). No artifacts or other cultural resources were observed during the survey.

No Traditional Cultural Properties and no Indian Trust Assets are known to occur within or adjacent to the project area.

References:

Ackerly, Neal W.
1996 **A Review of the Historic Significance of and Management Recommendations for Preserving New Mexico's Acequia Systems**. Dos Rios Consultants, Silver City, NM. Prepared for the New Mexico Historic Preservation Division, Santa Fe.

2005 **Cultural Resources Survey Report for the Rehabilitation of the San Miguel Acequia near Ribera, San Miguel County, New Mexico**. NMCRIS No. 89535. Dos Rios Consultants, Silver City, NM and Science Applications International. Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

Ebright, Malcolm
1994 **Land Grants and Lawsuits in Northern New Mexico**. University of New Mexico Press, Albuquerque.

2014 **San Miguel del Bado Grant**. New Mexico History.org. http://newmexicohistory.org/places/san-miguel-del-bado-grant. Accessed 08-21-2014.

Everhart, Gregory D.
2003 **Cultural Resources Documentation Regarding the El Cerrito Community Ditch's Diversion Structure Rehabilitation Project, Near El Cerrito, San Miguel County, New Mexico**. Corps Report No. COE-2003-02). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

2009 **A Cultural Resources Inventory of 7.8 Acres for an Acequia Rehabilitation Project on the East Puerto de Luna Community Ditch, Guadalupe County, New Mexico**. Corps Report No. USACE-ABQ-2009-012; NMCRIS No. 115353). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

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1998 **The Place Names of New Mexico**. Revised Edition. University of New Mexico Press, Albuquerque.

Kessell, John L.
1979 **Kiva, Cross, and Crown: The Pecos Indians and New Mexico, 1540-1840**. U.S. Department of the Interior, National Park Service. Washington, D.C.

Kneebone, Ronald R. and Gregory D. Everhart
1995 **A Cultural Resources Inventory for the Rehabilitation of Los Trigos Acequia (LA109297), San Miguel County, New Mexico**. Corps Report No. COE-95-03A; NMCRIS No. 38809). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

Lundquist, Lance
2006 **A Cultural Resources Inventory of 1.0 Acres for an Acequia Rehabilitation Project on the Los Trigos Acequia, San Miguel County, New Mexico**. Corps Report No. COE-2006-006; NMCRIS No. 101204). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

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1992 **The Hispano Homeland**. University of Oklahoma Press, Norman.

Rivera, José A.
1998 **Acequia Culture: Water, Land, & Community in the Southwest**. University of New Mexico Press, Albuquerque.

Stanley, F.
1970 **The Villanueva, New Mexico Story**. Nazareth, TX.

U.S. General Accounting Office (GAO)
2001 **Treaty of Guadalupe Hidalgo: Definition and List of Community Land Grants in New Mexico**. Report to Congressional Requesters. GAO Report No. GAO-01-951. Washington, D.C.

Van Hoose, Jonathan E. and Gregory D. Everhart
2009 **An 8.9-Acre Cultural Resources Inventory for the Acequia Del Llano Acequia Rehabilitation Project, San Miguel County, New Mexico**. Corps Report No. COE-2009-005; NMCRIS No. 113376). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

Van Hoose, Jonathan E. and Lance Lundquist
2009 **A 23.06-Acre Cultural Resources Inventory for the West Puerto de Luna Community Ditch, Guadalupe County, Rehabilitation Project, Guadalupe County, New Mexico, and Detailed Documentation of the Failed Diversion Structure and Associated Features**. Corps Report No. USACE-ABQ-2009-016; NMCRIS No. 115748). Prepared for the U.S. Army Corps of Engineers, Albuquerque District, Albuquerque.

Westphall, Victor
1983 **Mercedes Reales: Hispanic Land Grants of the Upper Rio Grande Region**. University of New Mexico Press, Albuquerque.

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

MONITORING LA NUMBER LOG *(site form required)*

Sites Discovered (*site form required*) **:** **Previously recorded sites** ***(Site update form required):***

LA No.	Field/Agency No.	LA No.	Field/Agency No.

Areas outside known nearby site boundaries monitored? Yes ☐, No ☐ If no explain why:

TESTING & EXCAVATION LA NUMBER LOG (*site form required)*

Tested LA number(s)	Excavated LA number(s)

Figure 1: Villanueva Diversion Structure Rehabilitation Project. Project Area/Archaeological Survey Area.

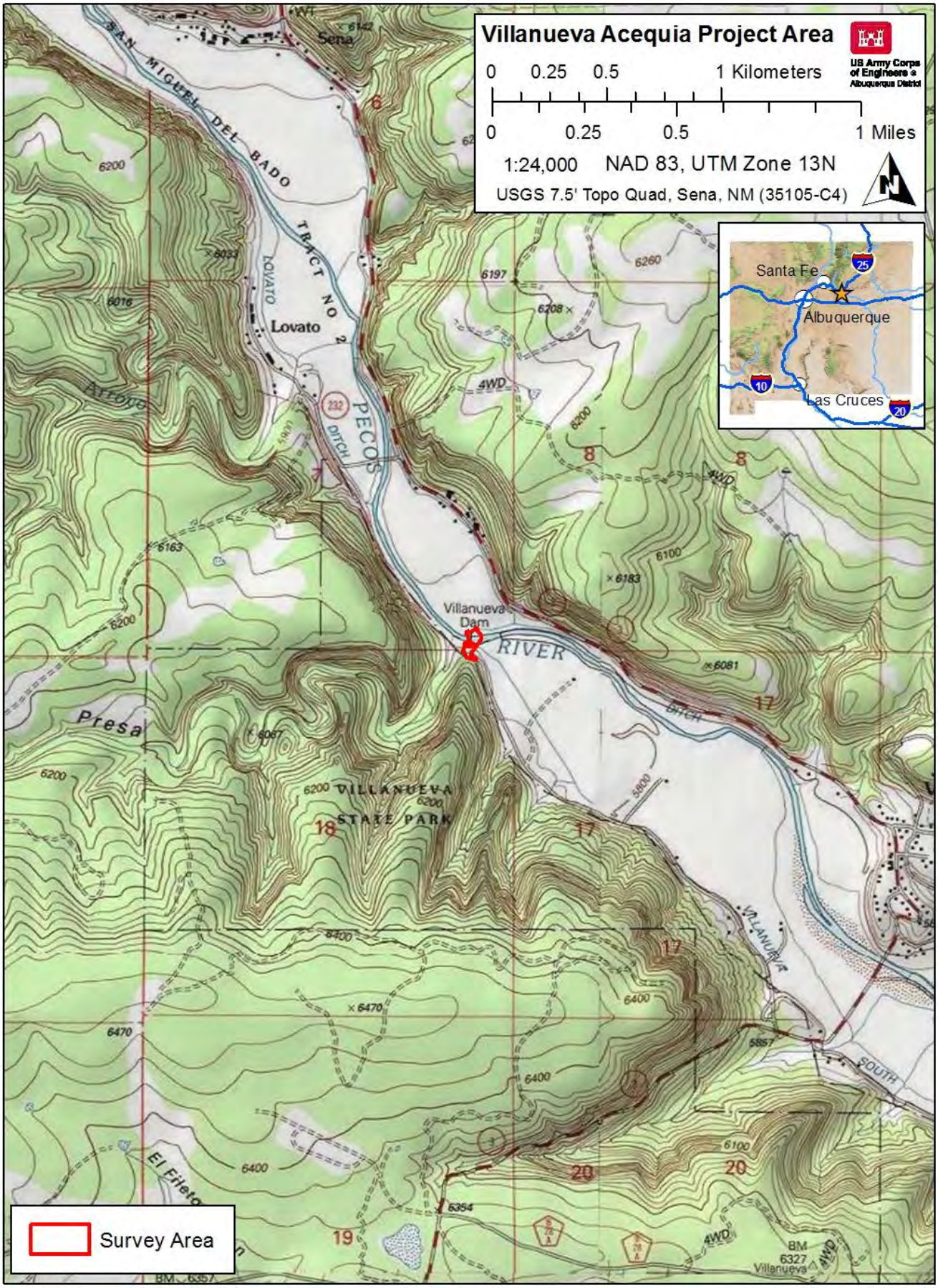
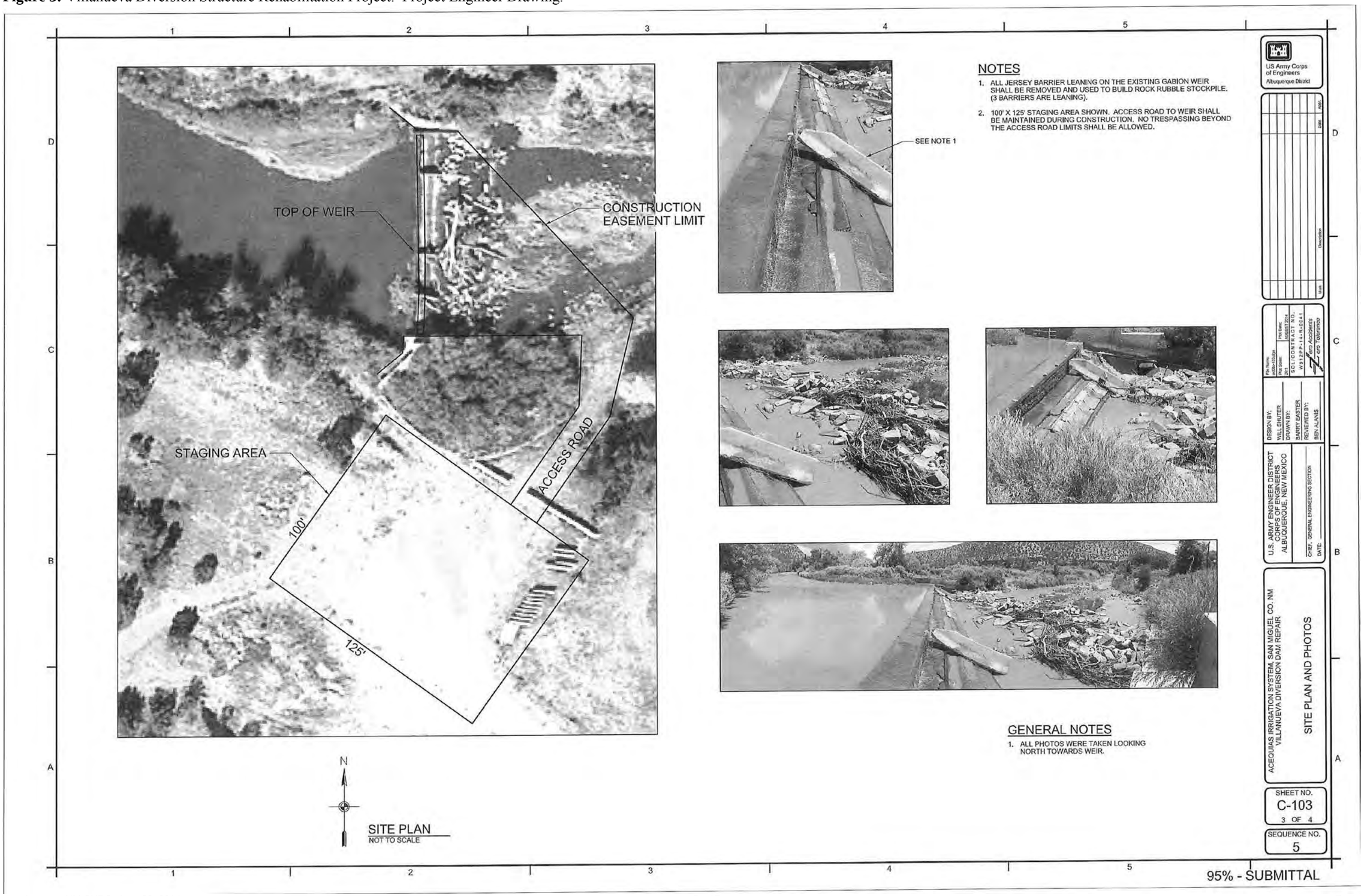


Figure 2: Villanueva Diversion Structure Rehabilitation Project. Project Area/Archaeological Survey Area.

Figure 3: Villanueva Diversion Structure Rehabilitation Project. Project Engineer Drawing.



Representative Photographs:

Photograph No. 6: Overview of the Villanueva Diversion Structure, from downstream. July 15, 2014.

Photograph No. 23: View to the north of the leaning Villanueva Diversion Structure. July 15, 2014.

Photograph No. 59: View to the south of the leaning Villanueva Diversion Structure. July 15, 2014.

Photograph No. 38: View from north bank across Pecos River to access ramp. July 15, 2014.

Photograph No. 15: Primary Staging Area on south bank, view to the south. July 15, 2014.

Photograph No. 34: Staging Area on north bank, view to the west. July 15, 2014.

Photograph No. 36: Overview of the Villanueva Diversion Structure, from downstream on the north bank. July 15, 2014.

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

August 28, 2014

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section

Honorable Donnie Cabaniss, Jr.
Chairman, Apache Tribe of Oklahoma
Post Office Box 1330
Anadarko, Oklahoma 73005

Dear Chairman Cabaniss, Jr.:

The U.S. Army Corps of Engineers, Albuquerque District (Corps), seeks your comment and input regarding proposed construction for the rehabilitation of the existing Villanueva diversion structure on the Pecos River. The Corps at the request of the project sponsors, the New Mexico State Engineer/Interstate Stream Commission and the Villanueva North-side and South-side Acequia Associations, is planning a project that would rehabilitate the existing Villanueva diversion structure. The proposed project being planning through the Corps' Acequia Rehabilitation Program would be conducted under Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662) as amended. Under Section 1113 of the Act, Congress has found that many of New Mexico's acequias date from the eighteenth century and, due to their significance in the settlement and development of the western United States should be restored and preserved for their cultural and historic values to the region. The Secretary of the Army has been authorized and directed to undertake, without regard to economic analysis, such measures as are necessary to protect and restore New Mexico's acequias.

The proposed Villanueva project area is located about 1.5 miles north of the village of Villanueva, San Miguel County, New Mexico (Figures 1 and 2). Villanueva is located south of Interstate Highway 25 on State Highway 3 and approximately 53 miles southeast of Santa Fe, New Mexico. The Villanueva project area is located on the right-bank (southwest side) of the Pecos River in the southeast quarter of the southeast quarter of Section 7, Township 12 North, Range 15 East, as shown on USGS Quadrangle Map Sena, New Mexico (35105-C4).

The Villanueva North-side and South-side Acequias divert irrigation water from both the right-hand and left-hand banks of the Pecos River. The current project will be confined to work on the diversion structure. The North-side and South-side Acequias serve about 80 families who irrigate approximately 500 acres of crop and pasture land and local orchards and gardens. The community depends upon subsistence agriculture and heavily upon the irrigation water diverted by the structure for their livelihood. Loss of the use of the diversion structure whether from reduced effectiveness due to storm damages or disrepair that would result in structural failure would be economically devastating to the community.

While the acequia systems are historic, the existing diversion structure is not. It was constructed in 1992 by the Corps. It was recently damaged by high flood flows that resulted from September 2013 storms; the structure's weir is leaning downstream and is in imminent danger of failure. The Corps is planning to install additional rock-filled, wire-wrapped gabion baskets on the downstream side to buttress the existing structure, surface the gabions with concrete, and re-establish the rock rip-rap at the downstream toe of the structure for energy dissipation as necessary. All construction work will be confined to the area downstream of the structure's weir and within the river channel.

No historic properties have been identified in the immediate vicinity of the project area, other than the Villanueva acequia systems. Several different diversion structures have been constructed at this location through the acequia system's history. The Natural Resources Conservation Service formerly the Soil Conservation Service (SCS) assisted the Villanueva Acequia Associations by constructing a new diversion structure at this location in 1960. Repairs were made again by SCS in 1972 after flooding on the Pecos River. The Corps under its Acequia Rehabilitation Program constructed the existing structure in 1992.

On July 15, 2014, a Corps archaeologist conducted an intensive pedestrian resurvey covering 100 percent of the project area (Figure 2). The Corps has prepared a cultural resources survey report entitled A Cultural Resources Inventory of 1.38 Acres for the Villanueva Acequia Diversion Structure Rehabilitation Project near the Village of Villanueva, San Miguel County, New Mexico (NMCRIS No. 131437; USACE-ABQ-2014-009) and the associated Historic Cultural Properties Inventory form that has been submitted to the New Mexico State Historic Preservation Officer. Similar to the Corps 1991 survey, no artifacts or cultural resources were observed during the survey.

The Corps continues to be of the opinion that, due to their age, the Villanueva North and South Acequia systems are potentially eligible for nomination to the National Register of Historic Places under criteria a and d of 36 CFR 60.4 (HPD Consultation No's. 29410 and 33030). While one or both of the acequia systems likely date to the founding of "La Cuesta" known later as Villanueva, in ca. 1808, numerous diversion structures have been constructed at this location. The existing diversion structure "...do[es] not retain any historic integrity or fabric and do[es] not contribute to the significance of the ditch system" (HPD Consultation No. 33030). The project would have no effect upon either of the acequia systems alignments, historical irrigation function, or visual qualities, those historic elements that contribute to the systems eligibility for nomination to the National Register.

Based upon the information above and that found in the Corps survey report, the Corps is of the opinion that rehabilitation of the existing Villanueva diversion structure would result in No Adverse Effect to Historic Properties.

Pursuant to 36 CFR 800.13, should previously unknown artifacts or historic properties be encountered during construction, work would cease in the immediate vicinity of the resource. A determination of significance would be made, and further consultation with your office and with tribes interested in the project area would be conducted to determine the best course of action.

The Corps is seeking input from Tribes regarding the proposed project. The purpose of this scoping letter is to provide you with the opportunity to submit concerns or comments regarding potential effects. Specifically, any concerns you may have regarding the environment such as natural, biological, or cultural resources; wildlife, vegetation, and special status species; air, water, or sound quality; aesthetics; health and safety; Traditional Cultural Properties; or Indian Trust Assets that may occur within or adjacent to the project area. Your input will be used in preparing an Environmental Assessment to comply with the National Environmental Policy Act.

If you have any questions or require additional information concerning the Villanueva Diversion Structure Rehabilitation Project, please contact Gregory D. Everhart, Archaeologist at (505) 342-3352 or me at (505) 342-3281. You may also provide comments to the above address.

Sincerely,

Julie A. Alcon
Chief, Environmental Resources Section

Enclosures

Figure 1: Villanueva Diversion Structure Rehabilitation Project. Project Area/Archaeological Survey Area.

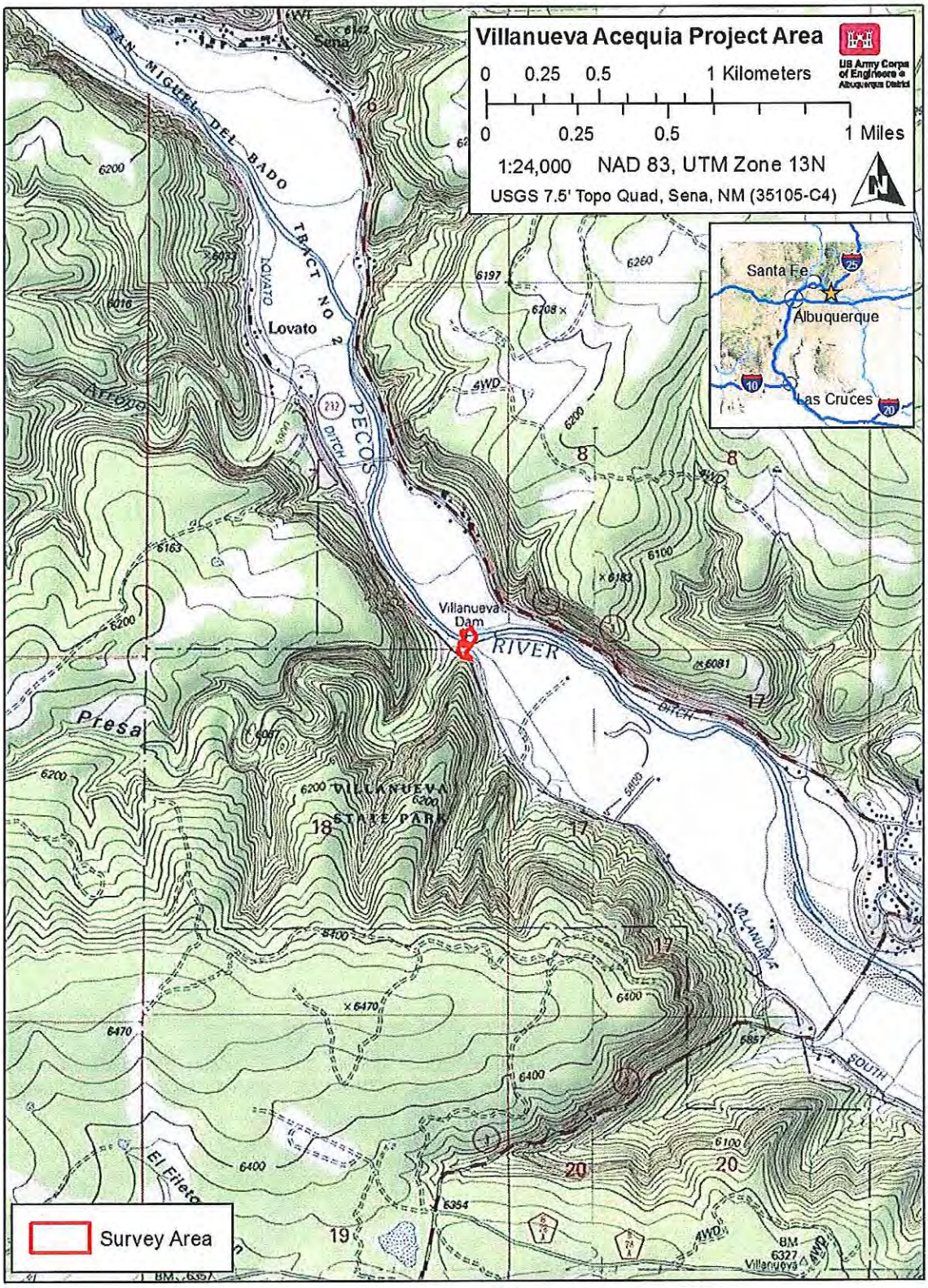


Figure 2: Villanueva Diversion Structure Rehabilitation Project. Project Area/Archaeological Survey Area.

Representative Photographs:

Photograph No. 6: Overview of the Villanueva Diversion Structure, from downstream. July 15, 2014.

Photograph No. 23: View to the north of the leaning Villanueva Diversion Structure. July 15, 2014.

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