

Appendix A

Scoping Letter

September 19, 2008

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

Mr. John R. D'Antonio, Jr.
State Engineer
New Mexico State Engineer
Bataan Memorial Bldg.
P.O. Box 25102
Santa Fe, New Mexico 87504-5102

Dear Mr. D'Antonio:

The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the Acequia de la Mesa Prieta in Rio Arriba County, New Mexico is planning the rehabilitation of the Acequia de la Mesa Prieta main ditch under the Water Resources Development Act of 1986 (Public Law 99-662; 33 U.S.C. 2201 et seq.), as amended. The proposed project area is located approximately six miles south of Ojo Caliente, New Mexico on the Rio Ojo Caliente along U. S. 285. It is also approximately seventeen miles north of Espanola, Rio Arriba County, New Mexico (Figure 1). The Corps is seeking public and agency input for consideration during the planning of the project.

The purpose of this project is to provide the acequia with a reliable and more efficient water distribution system that is more efficient at removing sediment from diverted water and less subject to erosion from the U.S. 285 road and bank. General project components potentially include: 1) rebuild 4000 feet of ditch with 18-inch diameter plastic pipeline along the road embankment; 2) build a new sluice structure to remove heavy sediment, trash and debris; 3) build a new sluice structure to remove secondary sediments before irrigation water enters the siphon; 4) install 36 inch diameter corrugated metal pipe over the new pipeline; and 5) install wire-bound mattress to safely pass drainage flows from U.S. 285 over the new 18-inch diameter plastic pipeline.

Please respond with your concerns regarding the project. Your input will be used in preparing an environmental assessment to comply with the National Environmental Policy Act (NEPA) currently being prepared by the Corps.

Please mail or fax by **September 29, 2008** to comments to:

Attn: Mr. Michael Porter,
U.S. Army Corps of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109
505-342-3668 fax

If you have any questions or need additional information, please contact Mr. Michael Porter at (505) 342-3264 or e-mail at Michael.D.Porter@usace.army.mil.

Sincerely,

Michael Porter
Environmental Resources Section

Enclosures

Figure 1. The Acequia de la Mesa Prieta project area near Ojo Caliente in Rio Arriba County, New Mexico.





Comment Form

**Acequia de la Mesa Prieta Rehabilitation Project
Rio Arriba County, New Mexico**

Please make comments specific to the project described in the attached letter.

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

2. Other comments about the project.

Please attach additional sheets or materials if desired.



**US Army Corps
of Engineers**
Albuquerque District

Comment Form (Cont.)

Please keep my name on the project mailing list.

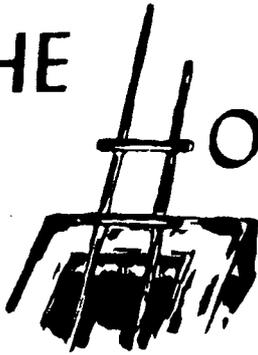
Please remove my name from the project mailing list.

Name: _____

Address: _____

City, State, Zip: _____

THE HOPI TRIBE



Benjamin H. Nuvamsa
CHAIRMAN

Todd Honyaoma, Sr.
VICE-CHAIRMAN

October 14, 2008

Michael Porter, Environmental Resources Section
Department of the Army, Corps of Engineers, Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

Dear Mr. Porter,

Thank you for your correspondence dated September 18, 2008, regarding the Corps planning the rehabilitation of the Acequia de La Mesa Prieta main ditch in Rio Arriba County.

Because the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in New Mexico, and the Hopi Cultural Preservation Office supports the identification and avoidance of archaeological sites and Traditional Cultural Properties, we appreciate your solicitation of our input and efforts to address our concerns.

The Hopi Cultural Preservation Office considers the archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore, if prehistoric sites are identified that may be adversely affected by project activities, please provide us with copies of the cultural resources survey of the area of potential effect and any proposed preservation, testing, or data recovery plans for review and comment.

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

Respectfully,


Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office



THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

October 03, 2008

Mr. Michael Porter
Department of the Army
Environmental Resources Section
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

Subject: Tribal Consultation Request. Proposing to rehabilitate the Acequia de La Mesa Prieta in Rio Arriba County, New Mexico.

Dear Mr. Porter:

Our apology for an oversight and missing the deadline date of our response to your request, please note that in reference to your letter of September 18, 2008, the Historic Preservation Department – Traditional Culture Program (HPD-TCP) received a request for consultation regarding the above undertaking and/or project. After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area **will not impact** any Navajo traditional cultural properties or historical properties.

However, if there are any inadvertent discoveries made during the course of the undertaking, your agency shall cease all operations within the project area. HPD-TCP shall be notified by telephone within 24 hours and a formal letter be sent within 72 hours. All work shall be suspended until mitigation measures/procedures have been developed in consultation with the Navajo Nation.

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

Sincerely,

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

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

TCP 09-036
File: Office file/chrono



STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
SANTA FE

THOMAS C. TURNEY
State Engineer

September 30, 2008

BATAAN MEMORIAL BUILDING, ROOM 101
POST OFFICE BOX 25102
SANTA FE, NEW MEXICO 87504-5102
(505) 827-6175
FAX: (505) 827-6188

Mr. Michael Porter
US Army Corps of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109

Re: Mesa Prieta Project

Dear Mr. Porter:

Thank you for your letter about the project on the Acequia de La Mesa Prieta. We are aware of the proposed water project work, and have no concerns.

Additionally, we have determined that no permit from our office will be required for the work that is proposed.

If you have any additional questions, please call me at 505-827-6129.

Sincerely,

A handwritten signature in black ink, appearing to read "SMWells", written over a faint, illegible stamp.

Stermon M. Buck Wells
Rio Chama Watermaster
Water Rights Division
Office of the State Engineer

Enclosure

cc: To WM files

Appendix B

Cultural Resources Survey Report and SHPO Concurrence Letter

October 7, 2008

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

Ms. Katherine Slick
State Historic Preservation Officer
New Mexico Department of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Ms. Slick:

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 a proposed rehabilitation of the Acequia de la Mesa Prieta (Acequia). The Corps, at the request of the New Mexico State Engineer/Interstate Stream Commission and Acequia de la Mesa Prieta Association (Association), is planning a project that would rehabilitate a 4,000-foot segment of the Acequia de la Mesa Prieta and associated structures. Work would be conducted under the Water Resources Development Act of 1986 (Public Law 99-662), as amended.

The Acequia is located in Rio Arriba County, and is situated to the east and approximately parallel to the Rio Ojo Caliente; it is also bounded for much of its length on the west by the current alignment of U.S. Highway 285. The diversion is approximately 17 miles south of the community of Ojo Caliente. The project area is located on private land owned by members of the Association. The Acequia obtains water from the Rio Ojo Caliente, and the system as a whole provides water to ?? irrigators and approximately ?? acres of cultivated land.

One of the key reasons that the Association wants to pursue this project is that the current system is highly impacted by constant erosion and sediment movement from the embankment of U.S. Highway 285. The present highway embankment, which was built with a very steep grade, encroaches to within a meter or less of the acequia in the proposed project area, and the downward movement of sediment from this slope into the acequia has created numerous difficulties in clearing and maintaining the open-ditch acequia system in this portion of its extent. In

order to alleviate this problem, the proposed project would include the following measures:

- Laying of 4,000 feet of new 18-inch diameter plastic pipeline from the existing point of diversion downstream along the road embankment;
- Construction of a new sluice structure to sluice out heavy sediment, trash and debris before they enter the new pipeline;
- Construction of a new sluice at the inlet of the existing welded steel pipe siphon to sluice out secondary sediments before irrigation water enters the siphon;
- Extension of existing 36 inch diameter corrugated metal pipe, located under U.S. Highway 285, over the new PVC pipeline; and
- Extension of the existing wire-bound mattress twenty-four feet in order to safely pass drainage flows from U.S. Highway 285 over the new 18-inch diameter plastic pipeline.

Pursuant to 36 CFR 800.2, consulting parties in the Section 106 process identified for the Undertaking include the Corps, the Association, 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 28, 1998, and based on the State of New Mexico Indian Affairs Department's 2008 Native American Consultations List, American Indian tribes that have indicated they have concerns in Rio Arriba County were sent scoping letters 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 Effects (APE) for the Undertaking is considered to be the construction footprint within the Association's right-of-way (ROW) and the staging area. Access is provided on existing roads. The APE as mapped encompasses approximately XX.X acres.

Pursuant to 36 CFR 800.4(b), historic properties were identified by Corps archaeologists on September 11, 2008, as presented in the enclosed cultural resources survey report titled *A 12.5-Acre Cultural Resources Inventory for the Acequia de la Mesa Prieta, Rio Arriba County, New Mexico* (Report no. CO-2008-007, NMCRIS No. 111751). The Mesa Prieta Acequia dates to approximately AD 1735. The survey was conducted within

Association (private) property, and includes the staging area and construction areas. Access will be on existing local roads. No modification for access is required.

In addition to the Acequia itself, which was previously assigned the archaeological site number LA 107761, the survey identified an additional site (LA 160949) adjacent to the proposed staging area, as well as ?? isolated occurrences (IOs). The newly recorded site consists of an ash stain measuring 45 x 55 cm and one possibly associated lithic artifact eroding out of a two-track road cut on private land that provides access to the proposed staging area. It is unclear if the feature is natural or cultural. If the feature is cultural, and based on the local geology, there is the potential for a buried horizon measuring up to 27 m north-south by 78 m east-west, at a depth of approximately 1 m. The current project will not involve any modification of the road or the road cut, or otherwise result in the excavation of sediments that could be associated with the site, and as such will not adversely impact the site.

In 1995, the acequia itself was determined to be eligible for the National Register of Historic Places under criterion (d) (HPD Log 48019); further, the Corps considers the Mesa Prieta Acequia to be eligible for inclusion to the National Register under Criterion (a) of 36 CFR 60.4, as irrigation features such as this one made possible the settling and farming of the area, and is thus associated with events that have made a significant contribution to the broad patterns of our history. With regard to the proposed irrigation pipeline, the project will affect one historical element, the "open earthen ditch" design of the Acequia de la Mesa Prieta. However, while the proposed action will thus change the form of the acequia, the present project will impact a relatively minor portion (4,000 feet, approximately 25 percent of the total current length of 2.83 miles) of this linear property. No other substantial recent modifications (e.g., piping, new diversion) have occurred at this acequia to the Corps' knowledge, meaning that this 25 percent would also represent the total cumulative impacts to the acequia.

The proposed piping is in an area of repeated failure caused by the construction of the highway, and will allow the acequia users to continue using this traditional water system in a historically significant way. Further, it will not alter the function or alignment of the acequia system, both of which are characteristics that contribute to the acequia's significance and eligibility for the National Register.

Based on the information provided in the enclosed cultural resources report, the Corps is of the opinion that there would be "No Adverse Effect to Historic Properties" by the Acequia de la Mesa Prieta project or on the historic and cultural resources of the region.

Pursuant to 36 C.F.R. 800.13, should previously unknown artifacts or cultural resource manifestations be encountered during construction, work would cease in the immediate vicinity of the resource. A determination of significance would be made, and a mitigation plan would be formulated in consultation with the New Mexico State Historic Preservation Officer and with American Indian Tribes that have cultural concerns in the area.

If you have questions or require additional information regarding the Acequia de la Mesa Prieta rehabilitation project, please contact Dr. Jonathan Van Hoose, archaeologist, at (505) 342-3687 (jonathan.e.vanhoose@usace.army.mil), or Mr. Gregory Everhart, archaeologist, at (505) 342-3352.

Sincerely,

Julie Alcon
Chief, Environmental
Resources Section

_____	I CONCUR _____
Date	KATHERINE SLICK NEW MEXICO STATE HISTORIC PRESERVATION OFFICER

Enclosures

Addendum: The Corps was unaware that the project would require additional right-of-way clearance from the Bureau of Land Management when this letter was mailed.



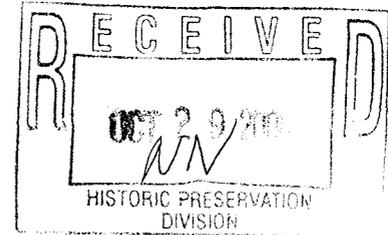
DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

October 28, 2008

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

085634

Ms. Katherine Slick
State Historic Preservation Officer
New Mexico Department of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501



Dear Ms. Slick:

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 a proposed rehabilitation of the Acequia de la Mesa Prieta (Acequia). The Corps, at the request of the New Mexico State Engineer/Interstate Stream Commission and Acequia de la Mesa Prieta Association (Association), is planning a project that would rehabilitate a 4,000-foot segment of the Acequia de la Mesa Prieta and associated structures. Work would be conducted under the Water Resources Development Act of 1986 (Public Law 99-662), as amended.

The Acequia is located in Rio Arriba County, and is situated to the east and approximately parallel to the Rio Ojo Caliente; it is also bounded for much of its length on the west by the current alignment of U.S. Highway 285. The diversion is approximately six miles south of the community of Ojo Caliente. The project area is located on private land owned by members of the Association. The Acequia obtains water from the Rio Ojo Caliente, and the system as a whole provides water to 14 irrigators and approximately 100 acres of cultivated land.

One of the key reasons that the Association wants to pursue this project is that the current system is highly impacted by constant erosion and sediment movement from the embankment of U.S. Highway 285. The present highway embankment, which was built with a very steep grade, encroaches to within a meter or

less of the acequia in the proposed project area, and the downward movement of sediment from this slope into the acequia has created numerous difficulties in clearing and maintaining the open-ditch acequia system in this portion of its extent. In order to alleviate this problem, the proposed project would include the following measures:

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Sincerely,



Julie Alcon
Chief, Environmental Resources
Section

11/18/08
Date

I CONCUR




KATHERINE SLICK
NEW MEXICO STATE HISTORIC
PRESERVATION OFFICER

Enclosures

NMCRIS No. 111751

**A 12.5-ACRE CULTURAL RESOURCES INVENTORY
FOR THE ACEQUIA DE LA MESA PRIETA
RIO ARRIBA COUNTY, NEW MEXICO**

Prepared by

Jonathan E. Van Hoose

With contributions by

Michael Porter

U.S. Army Corps of Engineers
Albuquerque District

Prepared for

U.S. Army Corps of Engineers, Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435
Office: (505) 342-3283; Fax: (505) 342-3668

New Mexico Annual State General Permit No. NM-08-193

Report No. COE-2008-007

October 24, 2008

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 111751	2a. Lead (Sponsoring) Agency: USACE, Albuquerque District	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.: COE-2008-007												
4. Title of Report: A 12.5-ACRE CULTURAL RESOURCES INVENTORY FOR THE ACEQUIA DE LA MESA PRIETA, RIO ARRIBA COUNTY, NEW MEXICO Author(s) Jonathan E. Van Hoose		5. Type of Report <input type="checkbox"/> Negative <input checked="" type="checkbox"/> Positive													
6. Investigation Type <input type="checkbox"/> Research Design <input checked="" type="checkbox"/> Survey/Inventory <input type="checkbox"/> Test Excavation <input type="checkbox"/> Excavation <input type="checkbox"/> Collections/Non-Field Study <input type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other															
7. Description of Undertaking (what does the project entail?): The U.S. Army Corps of Engineers, Albuquerque District, in cooperation with the Acequia de La Mesa Prieta Association proposes to construct 4,000 feet of new 18-inch diameter plastic pipeline from the existing point of diversion downstream along the road embankment, as well as a new sluice structure to sluice out heavy sediment, trash and debris before they enter the new pipeline; to extend an existing 36 inch diameter corrugated metal pipe located under U.S. Highway 285, over the new PVC pipeline; and to extend an existing wire-bound mattress 24 ft to safely pass drainage flows from U.S. 285 over the new 18-inch diameter plastic pipeline. These improvements will allow the users of the acequia system to continue using this portion of the acequia, mitigating the continuing difficulties in using and maintaining this segment due to constant erosion of sediment into the ditch from the embankment for U.S. 285.		8. Dates of Investigation: (from: 9/11/2008 to: 9/11/2008) 9. Report Date: October 24, 2008													
10. Performing Agency/Consultant: USACE, Albuquerque District Principal Investigator: Jonathan Van Hoose Field Supervisor: Gregory Everhart Field Personnel Names: Gregory Everhart, Jonathan Van Hoose		11. Performing Agency/Consultant Report No.: COE-2008-007 12. Applicable Cultural Resource Permit No(s): NM-08-193													
13. Client/Customer (project proponent): USACE Contact: Jonathan Van Hoose Address: U.S. Army Corps of Engineers, Albuquerque District 4101 Jefferson Plaza, NE Albuquerque, NM 87109 Phone: (505) 342-3687		14. Client/Customer Project No.: N/A													
15. Land Ownership Status (<u>Must</u> be indicated on project map): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 60%;">Land Owner</th> <th style="width: 20%;">Acres Surveyed</th> <th style="width: 20%;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>Bureau of Land Management</td> <td style="text-align: center;">3.4</td> <td style="text-align: center;">3.4</td> </tr> <tr> <td>Acequia de la Mesa Prieta Association (Private)</td> <td style="text-align: center;">9.1</td> <td style="text-align: center;">9.1</td> </tr> <tr> <td style="text-align: right;">TOTALS</td> <td style="text-align: center;">12.5</td> <td style="text-align: center;">12.5</td> </tr> </tbody> </table>				Land Owner	Acres Surveyed	Acres in APE	Bureau of Land Management	3.4	3.4	Acequia de la Mesa Prieta Association (Private)	9.1	9.1	TOTALS	12.5	12.5
Land Owner	Acres Surveyed	Acres in APE													
Bureau of Land Management	3.4	3.4													
Acequia de la Mesa Prieta Association (Private)	9.1	9.1													
TOTALS	12.5	12.5													
16 Records Search(es): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 40%;">Date(s) of ARMS File Review 6/27/2008</td> <td style="width: 30%;">Name of Reviewer(s) Gregory Everhart</td> <td style="width: 30%;"></td> </tr> <tr> <td>Date(s) of NR/SR File Review 6/27/2008</td> <td>Name of Reviewer(s) Gregory Everhart</td> <td></td> </tr> <tr> <td>Date(s) of Other Agency File Review 6/27/2008</td> <td>Name of Reviewer(s) Gregory Everhart</td> <td>Agency USACE</td> </tr> </table>				Date(s) of ARMS File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart		Date(s) of NR/SR File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart		Date(s) of Other Agency File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart	Agency USACE			
Date(s) of ARMS File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart														
Date(s) of NR/SR File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart														
Date(s) of Other Agency File Review 6/27/2008	Name of Reviewer(s) Gregory Everhart	Agency USACE													

17. Survey Data:

- a. Source Graphics NAD 27 NAD 83
 USGS 7.5' (1:24,000) topo map Other topo map, Scale:
 GPS Unit Accuracy <1.0m 1-10m 10-100m >100m

b. USGS 7.5' Topographic Map Name USGS Quad Code

c. County(ies): Rio Arriba

17. Survey Data (continued):

d. Nearest City or Town: Ojo Caliente, NM

e. Legal Description:

Township (N/S)	Range (E/W)	Section	1/4 1/4 1/4
T23N	R08E	24	SW 1/4, NE 1/4, NW 1/4.
T23N	R08E	24	NE 1/4, SW 1/4, NW 1/4.
T23N	R08E	24	SE 1/4, SW 1/4, NW 1/4.
T23N	R08E	24	NW 1/4, SE 1/4, NW 1/4.
T23N	R08E	24	SW 1/4, SE 1/4, NW 1/4.
T23N	R08E	24	NW 1/4, NE 1/4, SW 1/4.
T23N	R08E	24	SW 1/4, NE 1/4, SW 1/4.
T23N	R08E	24	NE 1/4, NW 1/4, SW 1/4.
T23N	R08E	24	SE 1/4, NW 1/4, SW 1/4.
T23N	R08E	24	NE 1/4, SW 1/4, SW 1/4.
T23N	R08E	24	SE 1/4, SW 1/4, SW 1/4.
T23N	R08E	24	NW 1/4, SE 1/4, SW 1/4.
T23N	R08E	25	NE 1/4, NW 1/4, NW 1/4.
T23N	R08E	25	SE 1/4, NW 1/4, NW 1/4.
T23N	R08E	25	NW 1/4, SW 1/4, SW 1/4.
T23N	R08E	26	NE 1/4, SE 1/4, SE 1/4.

Projected legal description? Yes , No Unplatted

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): The project area is located approximately 6 miles south of Ojo Caliente, New Mexico on the Rio Ojo Caliente along U.S. Highway 285, and approximately 17 miles north of Espanola, Rio Arriba County, New Mexico. The acequia headgate is located at a bend of the Rio Ojo Caliente, and extends southward between the Rio Ojo Caliente to the west and the current U.S. Highway 285 alignment to the east.

18. Survey Field Methods:

- Intensity: 100% coverage <100% coverage
 Configuration: block survey units linear survey units (l x w): **see below** other survey units (specify):
 Scope: non-selective (all sites recorded) selective/thematic (selected sites recorded)
 Coverage Method: systematic pedestrian coverage other method (describe)
 Survey Interval (m): 2 Crew Size: 4 Fieldwork Dates: 9/11/2008
 Survey Person Hours: 4 Recording Person Hours: 4 Total Hours: 8

Additional Narrative: Survey crew consisted of two Corps archaeologists, Gregory Everhart and Jonathan Van Hoose. Corps biologist Michael Porter assisted with boundary mapping and GPS work on the access roads and proposed staging area. All locational information, including acequia alignment, survey boundaries, and artifact locations, was recorded with a Trimble Geo-XH GPS sub-foot unit. The area surveyed fell into two categories: the acequia alignment and staging area. Survey proceeded as follows. Beginning at the acequia headgate, two archaeologists walked the alignment of the acequia southward: one in the center of the channel with GPS unit and one approximately 5 m outside of the western margin of the acequia; no crew members walked the eastern margin due to the extremely close proximity of the highway embankment. Within the staging area, Everhart and Van Hoose walked transects with 5-7 m transect intervals while Porter recorded staging area boundaries via GPS. Isolated artifacts were photographed and recorded in

field notes and via GPS, and an archaeological feature (part of newly recorded LA 160949) was measured, photographed, and plotted via GPS. In addition to the acequia alignment, locations of elements such as culverts and sluice boxes were marked with GPS points as well.

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): Active floodplain of Rio Ojo Caliente. Soil: Abiquiu-Peralta complex derived from sandstone resulting in a silt loam above a fine sandy loam with a base of stratified cobbles, soil moisture regime is mainly aridic with a mesic soil temperature. Vegetation: typical riparian willows and cottonwood; upland vegetation at the lower elevations is grass and sagebrush with pinyon-juniper woodland and ponderosa pine forests are at mid elevations. Elevation approx. 5990 - 6000 ft amsl.

20. a. Percent Ground Visibility: 80 b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): Acequia: occasional dense vegetation cover within trench and on banks; subject to repeated seasonal cleanout operations. Staging area: empty lot impacted by driving, possible grazing.

21. CULTURAL RESOURCE FINDINGS Yes, See Page 3 No, Discuss Why:

<p>22. Required Attachments (check all appropriate boxes):</p> <p><input checked="" type="checkbox"/> USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn</p> <p><input checked="" type="checkbox"/> Copy of NMCRIS Mapserver Map Check</p> <p><input checked="" type="checkbox"/> LA Site Forms - new sites (<i>with sketch map & topographic map</i>)</p> <p><input checked="" type="checkbox"/> LA Site Forms (update) - previously recorded & un-relocated sites (<i>first 2 pages minimum</i>)</p> <p><input type="checkbox"/> Historic Cultural Property Inventory Forms</p> <p><input type="checkbox"/> List and Description of isolates, if applicable</p> <p><input type="checkbox"/> List and Description of Collections, if applicable</p>	<p>23. Other Attachments:</p> <p><input type="checkbox"/> Photographs and Log</p> <p><input checked="" type="checkbox"/> Other Attachments</p> <p style="text-align: center;"><i>(Describe):</i> HWDSIF</p>
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24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: Jonathan Van Hoose

Signature _____ Date _____ Title (if not PI): _____

<p>25. Reviewing Agency: USACE, Albuquerque</p> <p>Reviewer's Name/Date _____</p> <p>Accepted () Rejected ()</p> <p>Tribal Consultation (if applicable): <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>26. SHPO</p> <p>Reviewer's Name/Date: _____</p> <p>HPD Log #: _____</p> <p>SHPO File Location: _____</p> <p>Date sent to ARMS: _____</p>
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CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 111751	2. Lead (Sponsoring) Agency: USACE, Albuquerque District	3. Lead Agency Report No.: COE-2008-007
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SURVEY RESULTS:

Sites discovered and registered: 1
 Sites discovered and NOT registered: 0
 Previously recorded sites revisited (*site update form required*): 1
 Previously recorded sites not relocated (*site update form required*): 0
TOTAL SITES VISITED: 2
 Total isolates recorded: 5 Non-selective isolate recording?
 Total structures recorded (*new and previously recorded, including acequias*): 1

MANAGEMENT SUMMARY: The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the New Mexico State Engineer/Interstate Stream Commission and Acequia de la Mesa Prieta Association, plans to rehabilitate a segment of the acequia's ditch and associated structures in order to improve maintenance of the main canal and the efficiency of water delivery to the fourteen acequia members. The proposed project is in an area of repeated failure caused by the construction of the U.S. Highway 285 embankment, and will allow the acequia users to continue using this traditional water system in a historically significant way. The project would consist piping a 4,000-foot segment of the

acequia and replacing associated acequia elements in this area of greatest impact from the highway embankment. Land in the project area is owned by the Bureau Land Management, and privately owned by members of the Acequia de La Mesa Prieta Association (Gary Martinez pers. comm.) In addition, a portion of land on Mr. Martinez's property would be used as a staging area. No soil disturbance is expected at the staging area as it would be used only for stockpiling materials and equipment. On BLM land, the project would occur within the Association's right-of-way.

Corps archaeologists surveyed the segment of the acequia to be piped, as well as the staging area, on Sept. 11, 2008. In addition to 5 isolated occurrences, a new site (LA 160949) was recorded. This newly recorded site will be avoided and not impacted by the project.

The Acequia de la Mesa Prieta is eligible for nomination to the National Register of Historic Places and the New Mexico Register of Historic Places. Piping the ditch might be considered an adverse effect to the ditch. However, the Corps is of the opinion that the proposed project will result in no adverse effect on historic properties for the following reasons:

1. This project would represent a cumulative impact of less than 30% (25.3%) of the total length of this linear feature.
2. The current placement of highway embankment and concomitant movement of sediment downslope into the acequia itself endangers the acequia's function; the fact that more was not done mitigate this impact when the highway embankment was constructed jeopardizes the continued use of this segment of the acequia in a historically meaningful way. While the project will alter the acequia's form, it will preserve other factors relevant to its eligibility for the NRHP; the proposed project is thus a means of preserving the historically significant use of the ditch by preserving its alignment and function.
3. Project activities will not result in any modification of or impact to the area adjacent to the staging area that includes newly recorded site LA 160949.

For these reasons, the Corps considers the effects to the acequia to not be adverse. The portion of the ditch outside the area to be piped would remain eligible.

Consistent with the Department of Defense American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, tribes indicating an interest in activities in Santa Fe County (based on the State of New Mexico Indian Affairs Department's 2008 Native American Consultations List) were sent a scoping letter to assess if there were any potential tribal concerns with the project. To date, no tribal concerns have been identified, and no traditional cultural properties are known to occur within or in the vicinity of the project area.

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

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)
LA 160949	none	undetermined

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)
LA 107761	none	Y, recommend criterion A (already determined eligible under D, HPD log 48019)

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CHAPTER 1

INTRODUCTION AND PROJECT DESCRIPTION

Jonathan E. Van Hoose and Michael Porter

Purpose of the Survey and Project Background

The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the New Mexico State Engineer/Interstate Stream Commission and Acequia de la Mesa Prieta Association, is planning a project that would rehabilitate a segment of the acequia's ditch and associated structures. Work would be conducted under Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662), as amended, which authorized the Corps to conduct the restoration and rehabilitation of irrigation ditch systems and acequias in New Mexico. Under Section 1113, Congress recognized that New Mexico's acequias are significant in the settlement and development of the Western U.S., and should be restored and preserved for their cultural and historic value 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 Floodwater Control Act of 1968, Section 215 (Public Law 90-483), as amended, provides that the Secretary of the Army, acting through the Chief of Engineers, may, when he determines it to be in the public interest, enter into agreements providing for reimbursement to States or political subdivisions thereof for work to be performed by such non-Federal public bodies at water resources development projects authorized for construction under the Secretary of the Army and the supervision of the Chief of Engineers. The proposed improvements to this acequia satisfy the intent and purpose of these legislative actions. This cultural resources survey serves as one step in the environmental and cultural process.

The Water Resources Development Act of 1986 (Public Law 99-662; 33 U.S.C. 2201 et. seq. as amended), authorizes the Acequia Rehabilitation Program for the restoration and rehabilitation of irrigation ditch systems (acequias) in New Mexico. Under Section 1113 of the Act, Congress has found that 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, therefore, 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 Act also recognized community acequias as public entities, allowing acequia officials to serve as local sponsors of water related projects through the Department of Defense.

The Acequia de La Mesa Prieta rehabilitation project also qualifies under Section 215 of the Flood Control Act of 1968, Public Law 90-483, as amended. Section 215 provides that the Secretary of the Army may enter into an agreement to credit or reimburse the costs of certain work accomplished by states or political subdivisions thereof, which later is incorporated into an authorized project. The Secretary of the Army, acting through the Chief of Engineers, and, when he determines it to be in the public interest, may enter into agreements providing for reimbursement to States or political subdivisions thereof for work to be performed by such non-

Federal public bodies at water resources development projects authorized for construction under the Secretary of the Army and the supervision of the Chief of Engineers.

The main objective of the acequia rehabilitation project is to improve the maintenance of the main canal and the efficiency of water delivery to the fourteen acequia members. Project construction would be scheduled in November 2008, during the non-irrigation season with an expected duration of about four months. The proposed project is in an area of repeated failure caused by the construction of the highway, and will allow the acequia users to continue using this traditional water system in a historically significant way.

Project Description and Location

The proposed project area is located approximately six miles south of Ojo Caliente, New Mexico on the Rio Ojo Caliente along U.S. Highway 285. It is also approximately seventeen miles north of Espanola, Rio Arriba County, New Mexico (Figure 1.1). The acequia headgate is located at a bend of the Rio Ojo Caliente, and extends southward between the Rio Ojo Caliente to the west and the current U.S. Highway 285 alignment to the east. The highway embankment is extremely close to the acequia, coming to within 1 m of the acequia channel for much of the segment to be piped.

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with the Acequia de La Mesa Prieta proposes to construct 4,000 feet of new 18-inch diameter plastic pipeline from the existing point of diversion downstream along the road embankment, as well as a new sluice structure to sluice out heavy sediment, trash and debris before they enter the new pipeline; to extend an existing 36 inch diameter corrugated metal pipe located under U.S. Highway 285, over the new PVC pipeline; and to extend an existing wire-bound mattress twenty-four feet to safely pass drainage flows from U.S. Highway 285 over the new 18-inch diameter plastic pipeline. These improvements will allow the users of the acequia system to continue using this portion of the acequia, mitigating the continuing difficulties in using and maintaining this segment due to constant erosion of sediment into the ditch from the embankment for U.S. Highway 285.

Land Ownership

Land in the project area is owned by two parties. The northern portion of the project area is on land owned by the Bureau of Land Management (Figure 1.1); the remainder is privately owned by members of the Acequia de La Mesa Prieta Association (Gary Martinez pers. comm.) In addition, a portion of land on Mr. Martinez's property would be used as a staging area. No soil disturbance is expected at the staging area as it would be used only for stockpiling materials and equipment.

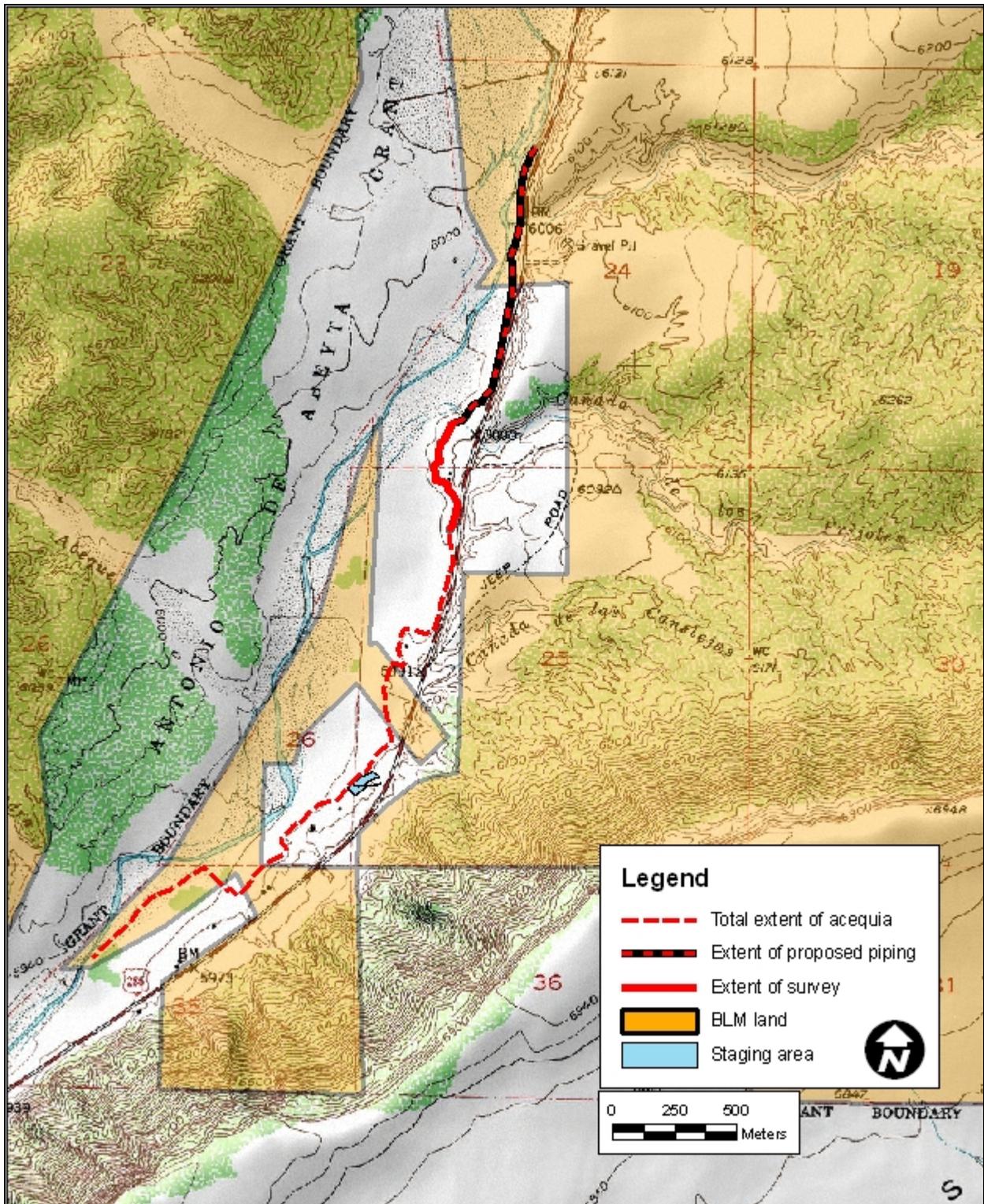


Figure 1.1. Location of acequia and surveyed areas, showing boundaries of BLM land (orange).

Project Personnel and Schedule

Gregory Everhart and Jonathan Van Hoose, Corps archaeologists, conducted the survey on September 11, 2008; in addition, some photographs appearing in this document were taken during a June 2008 site visit by Corps personnel Patricia Phillips, Gregory Everhart, Michael Porter, and Jonathan Van Hoose. Jonathan Van Hoose prepared this report, adapting and incorporating some material from an environmental assessment prepared by Corps biologist Michael Porter (USACE 2008). John Schelberg, Corps archaeologist, peer-reviewed this document. The project proponents would prefer to begin construction between irrigation seasons, but prior to snowfall (i.e. October or November).

CHAPTER 2

ENVIRONMENTAL SETTING

Jonathan E. Van Hoose and Michael Porter

Natural and Cultural Environment

The project area is on the Intermontane Plateaus of the Southern Rocky Mountains Province (Fenneman and Johnson 1946; Natural Resources Conservation Service 2008a), six miles south of the town of Ojo Caliente. The Rio Ojo Caliente is a tributary to the Rio Chama, with the Mesa Prieta acequia located upstream of the confluence. Landforms in most areas are controlled by the underlying sedimentary rock formations, with fluvial landforms in the Rio Grande rift basin. Elevation ranges between 4,600 to 9,300 feet (1,400 to 2,835 meters) in areas of the foothills and high mesas that border the Southern Rocky Mountains. Relief generally is less than 1,500 feet (455 meters). Most of the area is characterized by generally horizontal beds of sedimentary rocks (Natural Resources Conservation Service 2008a). The sedimentary rocks have been eroded into plateaus, mesas, hills, and canyons. Wide valleys in the rift basin have accumulated deep alluvial sediments, and fan remnants are common. The Española Basin is a west-tilted half graben and a prominent feature of the Rio Grande rift. Surficial geology in the project area consists of west-dipping beds of the Tesuque Formation, which are middle to upper Miocene age (Kelson and Olig 1995), and modern alluvium associated with arroyo channels. The project area itself, containing the acequia and the staging area, are at an elevation of approximately 5,990 to 6,000 feet.

The soil in the project area is primarily stream alluvium (Abiquiu-Peralta complex) derived from sandstone resulting in a silt loam above a fine sandy loam with a base of stratified cobbles, gravel and sand over the floodplain for the Rio Ojo Caliente (Natural Resources Conservation Service 2008a). The adjacent hill slope is composed of sandy loam derived from sandstone (Florita-Rock outcrop complex) on top of rock and bedrock. The soil moisture regime is mainly aridic regime with a mesic soil temperature regime (Natural Resources Conservation Service 2008b). The existing soil conditions in the project area were created by irrigated agriculture, and road construction. Ongoing actions affecting soils in the project area are limited to periodic maintenance of the open ditch.

Rio Arriba County has a semiarid climate. The project area has a mid-latitude desert climate, with an annual average precipitation amount of 9.84 inches (Western Regional Climate Center 2007). Precipitation is irregular, but there is typically a pattern of monsoonal rains in July and August as Gulf air masses penetrate into the region. Average diurnal temperature fluctuations of 20 F to 30 F are characteristic of the project area. Summer temperatures are warm and winters are mild. The project area is located on the alluvial floodplain of the Rio Ojo Caliente. The peak storm flows since 1932 are between 2000-3000 cfs, based on the USGS Rio Ojo Caliente at La Madera, NM gage (08289000) data. The range of average annual discharge is between 11 and 204 cfs. The project area includes the existing Acequia de La Mesa Prieta irrigation ditch and Arroyo de Pueblo. These are ephemeral water features.

The project area is located on the edge of the Rocky Mountain Montane Conifer Forest biotic community as described by Brown (1982). The vegetation along the Rio Ojo Caliente is typical riparian willows and cottonwood. The upland vegetation at the lower elevations is grass and sagebrush with pinyon-juniper woodland and ponderosa pine forests at mid elevations. Forests of Rocky Mountain Douglas-fir and white fir are at the higher elevations.

Some of the major wildlife species in this area are mule deer, elk, coyote, black bear, mountain lion, black-tailed jackrabbit, Gunnison's prairie dog, badger, piñon jay, black-billed magpie, mountain chickadee, red-breasted nuthatch, white-breasted nuthatch, collared lizard, fence lizard, and western rattlesnake. Special status animal species listed by USFWS (USFWS 2008) and New Mexico Department of Game and Fish for Rio Arriba, County (NMDGF 2008) that might occur in or near the project area but are not anticipated to occur include the following:

- The Bald Eagle is a State Threatened species that recently was federally delisted, but is still protected under the Golden and Bald Eagle Act. The Bald Eagle is known to occur in New Mexico primarily during the late fall and winter months. The Bald Eagle utilizes large trees for perching and forages primarily for fish, ducks, and carrion along rivers and at local reservoirs. The Rio Ojo Caliente is a small stream lacking preferred habitat in the project area. Due to the ease of mobility of the Bald Eagle, the limited disturbance of the proposed project and the lack of preferred habitat in the project area, there would be no effect to the Bald Eagle.
- The Southwestern Willow Flycatcher (Flycatcher) is a state and federally listed species that relies on dense riparian habitat for nesting. It has been recorded along the Rio Grande near Ohkay Owingeh Pueblo and Velarde in the last ten years. Willow stands exist in the general vicinity of the project, but lack the appropriate structure for use by Flycatchers. Construction would occur during the winter months, outside the breeding season for migratory songbirds. There would be no effect to Flycatchers due to the lack of breeding habitat.
- The Rio Grande silvery minnow is a state and federally listed species that has been extirpated from the Rio Chama and Rio Grande upstream of Cochiti Lake. There would be no effect to silvery minnows because they do not occur in the project area.
- The black-footed ferret is dependent on prairie dogs for burrows and food. Prairie dog colonies generally occur in grasslands, and do not occur in the project area. There would be no effect to ferrets because they do not occur in the project area.

Results of Records Check

An on-line records check of the New Mexico Office of Cultural Affairs, Historic Preservation Division, Archaeological Records Management Section's (ARMS) database was conducted by Gregory Everhart on June 27, 2008. Table 2.1 lists archaeological surveys that have been conducted within 0.5 miles of the project area. A screen-capture of the ARMS map server search is shown in Appendix A, Figure A.1.

According to the ARMS database and Corps' records, five surveys have been conducted within 0.5 miles of the project area. These surveys total 486.29 acres and resulted in the recording of 26 unique historic properties. This translates into 5.35 historic properties per 100 acres surveyed,

about 226 percent higher than the average for New Mexico. The Corps contacted ARMS staff for information, and as of November 6, 2006, approximately 12 percent of New Mexico has been surveyed, for a total 9,072,164 acres and 148,540 sites. This equals 1.64 sites per 100 acres. Table 2.2 lists archaeological sites located within 0.5 miles of the project area.

Table 2.1. Surveys conducted within 0.5 miles of project area.

NMCRIS Number	Performing Agency	Survey End Date	Acres	Number of Sites	Survey Type
8627	UNM OCA	31 Dec 1985	3.95	1	Intensive
46558	CRC	1 May 1995	261.0	24	Intensive
54333	CASA	5 Nov 1996	41.34	1	Intensive
57464	OAS	24 Sep 1997	0.46	1	Intensive
83859	TAOS RA	4 Sep 1986	180.0	0	Intensive

There are five known archaeological sites within one-half mile of the project area; ARMS data for these sites are presented in Table 2.2. Two of the sites are prehistoric, one is historic, one dates to both prehistoric and historic periods, and one is of unknown temporal affiliation. The historic site, LA 107761, is the Acequia de la Mesa Prieta, the subject of the current survey; a 600-foot segment of the acequia, extending southward from the headgate, was surveyed previously in 1997 by OAS (Williamson 1997). The site dating to both prehistoric and historic periods is the large Pueblo site of Ponsipa'akeri (LA 297), located on the mesa top immediately to the northeast of the acequia. As noted in the following sections, this site was first occupied during the 1200s to 1300s and was abandoned after Spanish contact, as the entire Chama valley became largely depopulated during the sixteenth and seventeenth centuries (Ramenofsky and Feathers 2002).

Table 2.2. Known archaeological sites within 0.5 miles of project area.

LA Number	Site Type	Occupation Type	Site Size (acres)
LA 297	Structural	Both Prehistoric and Historic	19.6
LA 901	Structural	Unknown	0.0
LA 105714	Structural	Prehistoric	0.4
LA 107761	Structural	Historic	*193.0
LA 153021	Structural	Prehistoric	0.0

*Note that the reported acreage, 193.0 acres, is based on a hypothetical circular site area defined by a radius of 500 meters. As this in reality is a linear feature, the actual acreage would be significantly less.

Results of Tribal Consultation

Pursuant to 36 CFR 800.2, consulting parties in the Section 106 process identified for the Undertaking include the Corps, the Association, and the New Mexico State Historic Preservation Office. Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, and based on the State of New Mexico Indian Affairs Department's 2008 Native American Consultations List, American Indian tribes that have indicated they have concerns in Rio Arriba County were sent scoping letters regarding the proposed project. To date, the Corps has received no indication of tribal concerns that would impact this project.

Culture History and Literature Review

The proposed project is within the Chama District of the Northern Rio Grande archaeological region (Cordell 1979; Crown et al. 1996; Stuart and Gauthier 1988). The following culture history overview provides a general context for the last 14,500 years of known occupation around the project area—from the Ice Age to the present—and is based largely on the works of Cordell (1979) and Stuart and Gauthier (1988), describing trends in the northern Rio Grande in general, with specific focus on the Chama District where appropriate. Specific citations are provided from other referenced sources.

The Paleoindian Period (c. 12,500 BC to 5500 BC)

Humans were present in North America by approximately 12,500 BC (Feidel 1999), and the Paleoindian period dates from this time to approximately 5500 BC. The most distinctive artifact types associated with the Paleoindian period are lanceolate spear points, many of which exhibit distinct basal flutes (large flake scars extending from the point base). Throughout the Great Plains and the Southwest, these points have been found associated with large ice-age mammal species such as mammoths, mastodons, and several extinct species of bison. While these finds have contributed to an image of Paleoindians as specialized big-game hunters, in reality they probably pursued more diverse subsistence strategies. The period appears to be characterized by low population densities and high mobility, resulting in Paleoindian sites being rare and having low archaeological visibility.

The Archaic Period (5500 BC to AD 400/600)

The Archaic Period extends from approximately 5500 BC to AD 400 and represents a continuation of a hunting-gathering lifestyle; however, the range of animal species is similar to those found today, without many of the larger species (e.g. mammoth, camels) that became extinct after the end of the last ice age (cf. Irwin-Williams 1973). This represents the primary difference from the preceding Paleo-Indian Period. During the Archaic, both large and small animals were hunted and trapped. Based on the increasing presence of manos and metates (grinding stones usually used to grind corn or other seeds), it is clear that the processing of plants became more important later in the period. Towards the end of the Archaic, longer-term habitation sites that include shallow pithouses (structures at least partly dug into the ground) are found in central New Mexico.

Two major changes occurred towards the end of the Archaic. Indications of maize appear in the archaeological record by about 2000 BC; however, maize became relatively more common after 1000 BC. Finally, the bow and arrow appeared around AD 500 and replaced the spear as the primary weapon.

The Ancestral Pueblo Period (AD 400/600 to AD 1540)

The Archaic Period is followed by the Ancestral Pueblo Period. Depending on the location within New Mexico, between three and five major phases are recognized within this period and are based on a host of characteristics, including house forms and construction techniques, settlement patterns, pottery types, and other elements of material culture. One of the key new developments during this period is the appearance and proliferation of pottery; because stylistic

changes in the ceramics over time are much better understood by archaeologists, the appearance of pottery makes Ancestral Pueblo sites much easier to place within a precise chronological sequence than preceramic sites.

The first chronological sequence developed for this period in the Southwest was the Pecos Classification (Kidder 1924: 84-88), which includes the Basketmaker III (AD 600-750), Pueblo I (AD 750-900), Pueblo II (AD 900-1100), Pueblo III (AD 1100-1300), and Pueblo IV (1300-1600) periods. Wendorf and Reed (1955) proposed an alternative sequence for the northern Rio Grande valley, which was defined largely on the basis of specific sets of changes in settlement pattern and site structure; these periods are termed Developmental (AD 400/600 to AD 1200), Coalition (AD 1200 to AD 1325), and Classic (AD 1325 to approximately AD 1540). The following discussion follows this classification scheme.

A number of general trends characterize the Ancestral Pueblo period in the northern Rio Grande valley. While hunting and gathering continued, reliance on agricultural products continually increased. Pithouse villages with larger communal structures indicate larger social groups living in one location for longer periods of time. Small living and storage rooms built on the ground surface (rather than into the ground, as with earlier pithouses) begin to appear early in this period, and increase in size and abundance. In later periods, above-ground architecture completely replaces pithouses for living and storage functions, with below-ground structures then being limited to communal and ceremonial use.

As populations increased, these small houses were replaced with large buildings of up to several hundred rooms made of rock and/or adobe. Not all of the rooms in these connected structures were necessarily occupied at once; often the large roomblocks grew by accretion, with older rooms being abandoned and new rooms being constructed over time. Overall, the Ancestral Pueblo period saw fundamental changes in architecture, shifts and growth in population, and agricultural reliance in the northern Rio Grande valley.

Developmental Period (AD 400/600 to AD 1200)

The Developmental Period, dating between AD 400/600 and 1200, and represents a time of gradual transition from the Archaic period, and includes the appearance and spread of new technologies including ceramics and the bow and arrow. It is also characterized by the construction of more elaborate, substantial pithouses (Cordell 1979:42; Schmader 1994). The period is often subdivided into Early (AD 600 to 900) and Late (AD 900 to 1200).

The Developmental period is characterized by increasing sedentism made possible by greater reliance on agriculture. Increased precipitation during this period made intensified maize cultivation possible. A more sedentary existence is suggested also by the presence of pottery and large pit structures that were occupied for longer periods during the year (Allen and McNutt 1955; Schmader 1994), and by increased numbers of storage cists both inside and outside pithouses (Schmader 1994). Early Developmental ceramics consist of pottery types widely distributed throughout the Southwest, including both locally manufactured wares and others associated with the Mogollon culture area to the south (Anschuetz 1984). Early in the period the associated ceramics are similar to those found throughout northern New Mexico; later in time the stylistic attributes, including paint, design, and temper, become more locally distinctive. Pithouses during this time were more substantial than before, with structural elements reflecting

greater investment in domestic architecture than previously. Dispersed, seasonal settlements inhabited by people with fluid group memberships are believed to characterize this period. Surface structures appeared toward the end of the period, along with an increase in site size (Anschuetz 1984: 27; Wendorf and Reed 1955: 140).

The Developmental period also saw changes in climatic conditions. The Early Developmental period witnessed an overall increase in precipitation, but with short-term periodicity and great variance and unpredictability in precipitation levels. Anschuetz (1984) suggests that populations were growing and that this increased density constrained mobility and increased competition for limited subsistence resources. As a result, populations were forced to increase agricultural production, while uplands provided buffers against potential floods on the floodplain and would have allowed dispersion for dry farming during favorable periods of rainfall. During the eleventh century, rainfall patterns shifted to greater short-term predictability and longer-term periodicity. According to Anschuetz, this resulted in more intensive but seasonal use of upland areas, probably in response to increasing population densities.

Coalition Period (AD 1200 to 1325)

The Coalition Period, AD 1200 to 1325, is marked by a dramatic population increase in many portions of the northern Rio Grande region after around AD 1250, hypothesized to originate from an indeterminate combination of migration from other areas such as Mesa Verde, Chaco Canyon, or portions of west central New Mexico; and internal population growth. Crown et al. (1996) find strong evidence for population shifts throughout the region between AD 1150 and AD 1350; this was coincident with an overall trend toward increases in the number and density of sites, and a shift from dispersed habitations to aggregated residences. An important theme in the interpretation of this period is the relationship between a collapsing core area (the San Juan Basin) and its developing periphery (the Rio Grande valley) (Stuart and Gauthier 1988; Tainter 1987).

During this period, populations appear to shift throughout the northern Rio Grande. Crown et al. (1996) note that no permanent habitations dating before AD 1250 have been documented in the Chama region, but that after this point settlements became more permanent and increased in size and complexity until the middle AD 1500s (Crown et al. 1996: 192). Other areas experience different degrees of population growth, likely stemming both from internal population increase and the arrival of groups from elsewhere. Regardless of the actual pace or trajectory of population growth, all regions experience aggregation (the consolidation of greater numbers of people into smaller numbers of communities) at more or less the same time between AD 1250 and AD 1300 (Crown et al. 1996).

In some areas, this shift precedes population increase, but follows it in others. In the Chama District, aggregation appears to precede sharp population growth by approximately 50 to 75 years (Crown et al. 1996: 193), but this pattern is reversed in the adjacent Pajarito District to the south (Crown et al. 1996: 196-197); and in the Jemez District to the southwest of the project area, population and aggregation occur more or less simultaneously (Crown et al. 1996: 195). An apparent jump in the percentage of population living in aggregated settlements occurs around AD 1275 in all three areas.

In general, Coalition period habitations continue the shift from pithouses to above-ground structures (Cordell 1979), and sites generally consist of linear or L-shaped room blocks (containing from two to 200 rooms, with structures containing between 13 and 30 rooms the most common) which tend to be located near major drainages (Stuart and Gauthier 1988). By their measure, Crown et al. (1996) note that nearly all habitation sites in the northern Rio Grande contained more than 50 rooms by AD 1300 (Crown et al. 1996: 199). In decorated ceramics, there is a shift from the use of mineral paint to organic paint represented by the appearance of Santa Fe Black-on-white (Cordell 1979).

Classic Period (AD 1325 to 1540)

Substantial social and technological change is evident during the Classic period, beginning around AD 1325 (Cordell 1979; Stuart and Gauthier 1988; Wendorf and Reed 1955). By this time, the majority of the northern Rio Grande population lived in large aggregated settlements (Crown et al. 1996), some containing more than 1,000 rooms (Stuart and Gauthier 1988). The development of glaze-paint pottery occurred during this period, allowing relatively fine-grained chronological placement based on a series of stylistic and technological changes in the Rio Grande Glaze sequence. Glaze wares replaced black-paint wares in most regions (with the exception of the Jemez area, where Jemez Black-on-white persists for some time), and the appearance of this technology has been interpreted as evidence for migration from the west (Shepard 1942: 197-199), diffusion of ideas from the Zuni and Little Colorado areas (Wendorf and Reed 1955: 150, 161), local development, or a combination of the three. In the Chama area, archaeologists have noted a progressive decline in the abundance of Pueblo settlements, possibly representing a trend of relocation closer to the Rio Grande. Further, some researchers have noted the possibility of increased conflict in the Chama during this period, citing the defensive orientations of sites such as Tsiping (LA 301, a major site in the Rito Cañones), and “burned room blocks, unburied skeletal remains, or mass interments in nontraditional burial locales (Crown et al. 1996:193, citing Beal 1987:147).

The end of the Classic period saw the arrival of the Spanish, first with Coronado’s entrada of 1540, and then with the first establishment of a Spanish colony in 1598. By the time of European contact, some of the large Classic pueblos had already been abandoned for nearly a century. Theories on these abandonments include overpopulation, overexploitation of natural resources, drought, and conflict (Cordell 1979: 45). End dates for the Classic period have been alternatively designated as 1540, the year of Coronado’s entry into the area; and approximately 1600, a time when the establishment of a permanent colony (1598) began to impinge significantly on Pueblo life. This report uses the earlier date, while recognizing the inherently arbitrary nature of using this as a cutoff.

The Historic Period (AD 1540 to Present)

In general, this period in central and northern New Mexico is characterized by rapid change and acculturation (the exchange and adoption of cultural elements such as beliefs and behaviors between groups coming into contact with one another) among Indians, Spanish, Mexicans, and Anglo-Americans. This period, dating from about AD 1540 to the present, can be seen as a series of phases reflecting aspects of social interaction between different groups. In broad outline, key elements of these include (in chronological sequence): Spanish exploration followed by

colonization; the Pueblo Revolt; the post-Revolt colonial period under Spanish and then Mexican rule; the annexation of New Mexico as a United States territory; and U.S. statehood.

Currently, there are four major linguistic groups among the Pueblo Indians of the Southwest—Zuni, Uto-Aztecan (Hopi), Tanoan, and Keres. The Tanoan language family is divided into three primary subgroups: Tiwa, Tewa, and Towa. While the Chama was largely abandoned by the early historic period, Tewa dialects are spoken by the inhabitants of the pueblos of San Ildefonso, Santa Clara, and Ohkay Owingeh, three pueblos with lands located closest to the study area.

Pueblo population throughout the northern Rio Grande region faced a general decline during this period as a result of multiple factors, including disease. In addition to missionary efforts to convert indigenous groups to Christianity, this period was also characterized by concerted efforts by the Spanish to consolidate control over Pueblo populations through strategies such as *reducción* (Spicer 1962), a policy of forced concentration of populations into a smaller number of more easily controlled settlements. In some portions of the Rio Grande, these efforts likely led in part to native dispersal into peripheral areas in order to escape Spanish control (Kulisheck 2002). Beginning around 1650, the Spanish established their own farms in the growing gaps between Pueblo lands.

The Spanish Colonial Period (AD 1540 – 1821)

When Coronado entered New Mexico in 1540, he found a series of large, aggregated villages concentrated along the length of the Rio Grande valley; the Rio Grande is one of the few parts of the Southwest where such aggregated population centers persisted into the Historic period. Coronado's 1540-1542 entrada noted the province of Yuque-Yunque, incorporating the pueblo of Ohkay Owingeh as well as several other large villages in the Chama area, possibly including the large site of Sapawe (Schroeder 1979). Coronado's entry into the Southwest was followed by intermittent additional Spanish forays until 1598, when Juan de Oñate established a permanent colony, with his primary base in the vicinity of Ohkay Owingeh near the location of modern Española (Simmons 1979), southwest of the project area. Large Puebloan settlements in the Chama are noted at this time (Schroeder 1979), although several archaeologists have noted a progressive decline in Chama-area settlement during the Classic (Wendorf and Reed 1955; Bertram et al. 1989).

While a general decline during this period is generally recognized, the question of both the precise timing and the nature of the abandonment of the lower Chama valley has been a matter of some debate. Spanish records suggest that the remaining Chama pueblos had been abandoned sometime before 1620 (Schroeder 1979:250), and proposed dates of abandonment range from the mid-1500s to mid-1600s (Ramenofsky and Feathers 2002). Further, it is unclear whether abandonment occurred *en masse* as a single event (or a concentrated set of events), or whether population declines were more gradual, with intermittent and sporadic small-scale reoccupations. Tree-ring dates from the lower Chama Valley region representing cutting and cultural use of trees (Dean 1979; see also Ramenofsky and Feathers 2002) show low-level, intermittent dates as early as the AD 1100s, with abundance of dates beginning to rise in the middle AD 1200s to a peak during the early 1400s. After this peak, abundance of dates declines progressively until the middle 1500s. While these patterns are indicative of patterns of construction and building repair,

tree-ring dates do not speak directly to questions of abandonment; that is, abandonment may take place any number of years after the latest identifiable construction episode. A study of thermoluminescence dates on potsherds from three major Chama pueblos, including Ponsipa'akeri (LA 297, located immediately upslope of the project area), which represent direct dates on artifacts, suggests that some low-level Tewa occupation of the area may have persisted, perhaps intermittently, into the 1600s, and possibly up to the time of the Pueblo Revolt in 1680 (Ramenofsky and Feathers 2002).

THE PUEBLO REVOLTS OF 1680 AND 1696

The last decades of the seventeenth century were characterized by significant upheaval, as conflict escalated between indigenous populations and the Spanish colonial presence. The Pueblo Revolt of 1680 was a unified action on the part of several pueblos, in alliance with other indigenous groups including Apache and Navajo, who together successfully drove the Spanish out of New Mexico for more than a decade (Knaut 1995; Sando 1979). Popé, one of the primary leaders of the Revolt, was from Ohkay Owingeh; and San Ildefonso, the largest Tewa village at this time, played a significant role in the Revolt as well (Edelman 1979). Twelve years later (AD 1692), Diego de Vargas led a Spanish contingent to retake New Mexico, beginning a process of reconquest that was intermittently violent between approximately 1692 and 1696. Continued resistance culminated in a second revolt in 1696, which was of smaller scale than the 1680 revolt and was not ultimately successful (Edelman 1979; Espinosa 1988). The suppression of the 1696 revolt marked the end of the last significant organized resistance by Rio Grande pueblos against Spanish rule.

POST-REVOLT PERIOD TO 1821

Before the Pueblo Revolt of 1680, Spanish settlers generally maintained scattered estates (haciendas) in close proximity to Pueblo villages, which served as sources of labor (Cordell 1979:115), but after the reconquest this shifted to a focus on the greater security afforded by living in villages (ranchos). While the shift to rancho settlement is partly due to decreasing Pueblo population sizes and increasing Spanish population size (Cordell 1979:118), it was also likely a response to both perceived threat of Pueblo action, and to increasingly common raids on both Spanish and Pueblo communities by Apache, Navajo, and Comanche groups. Early in the eighteenth century, these ranchos were still fairly scattered, but increasing need for greater security encouraged the construction of defensible plazas later in the century (Cordell 1979: 118). The town of Ojo Caliente, located six miles to the north of the current project area, was originally settled in the early 1700s, but was abandoned both in 1747 and in 1769 as a result of raiding and then ultimately resettled in the late 1700s (deBuys 1985:65).

Acequias

Colonial-era remains in the study area include agricultural features such as acequias (irrigation ditches), including the Acequia de la Mesa Prieta examined in the present study (which is named for the Spanish name for Black Mesa, located just south of the project area – Julyan 1996:4). As described in detail by Ackerly (1996), there is some evidence for irrigation systems in the Pueblo world before Spanish contact. Fray Marcos de Niza describes irrigated agricultural land in the Rio Grande valley in 1539 (Ackerly 1996:5; Hammond and Rey 1940:69-72). Spanish settlement of the Chama area began to increase during the 1700s, and acequia systems were a vital component of agriculture during this period. Ackerly (1996:47) presents the temporal

distribution of acequia systems in the Chama Basin, showing the earliest as dating to the period between 1701 and 1725, but not increasing dramatically until the period after 1800, particularly the period of 1801-1825 (Figure 2.1). Ackerly lists the Acequia de la Mesa Prieta as having no known date; however, the acequia does have a non-adjudicated priority date of 1735 (Williamson 1997; Gary Martinez, pers. comm.) As such, it is one of the earliest acequias known to have been established in the Chama Valley, with one of the longest periods of continuous use of any acequia in the area.

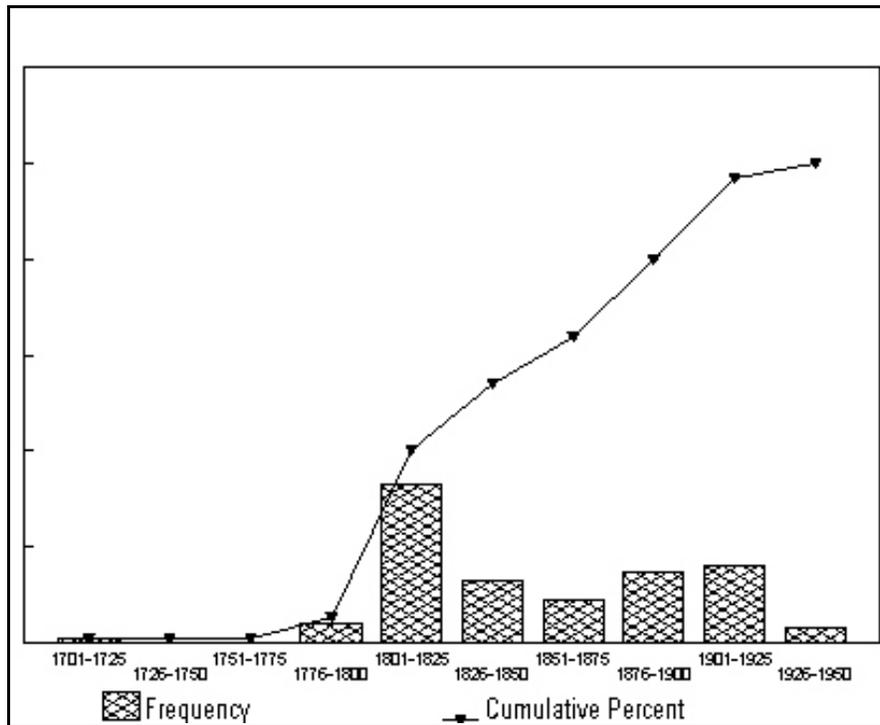


Figure 2.1. Temporal distribution of acequia systems in the Chama Basin. Figure reproduced from Ackerly (1996:47, Figure 5).

The Mexican Period (AD 1821-1846)

The nineteenth century saw a series of geopolitical shifts resulting in New Mexico changing hands more than once. The Republic of Mexico was founded in 1821, but Mexican control over New Mexico only lasted a quarter of a century before New Mexico was annexed by the United States in 1846 (Cordell 1979; Weber 1982). Raiding on Pueblo and Hispanic communities by nomadic groups increased during the Mexican period, encouraging further aggregation for defense (Cordell 1979). Anglo settlers began to enter the area as well during this period, a pattern which intensified after annexation. Settlement and livestock grazing expanded into previously unoccupied regions (Pratt et al. 1988: 53), and farming continued to be a central activity.

The Territorial and Statehood Periods (AD 1846-1912 and AD 1912-Present)

The nineteenth and twentieth centuries saw further economic and political changes affecting New Mexico, including an increase in trade between New Mexico and the United States,

manifested in part in the development of the Santa Fe Trail; growth of mining activities; the advent and development of railroad networks; and lumber operations. The town of Española, located in the vicinity of Oñate's original settlement, was founded sometime after the middle 1800s (Fugate and Fugate 1989: 208; Chilton et al. 1984: 520) between the pueblos of Santa Clara to the south and Ohkay Owingeh to the north, and grew with the arrival of the railroad in the late 1800s. Annexation by the United States also led to the establishment of American military outposts throughout New Mexico, as well as conflict with and relocation of various indigenous groups, and the creation of Indian reservations. New Mexico became a state in 1912.

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CHAPTER 3

FIELD METHODS

Jonathan E. Van Hoose

Introduction

Areas surveyed included the portion of the acequia to be piped, a section of the acequia outside of the area to be piped (in order to map the acequia alignment), and the proposed staging area. The following methods were used for survey and site recordation.

Size of the Survey Crew, Transect Interval(s) and Transect Method

The survey crew consisted of two Corps archaeologists, Gregory Everhart and Jonathan Van Hoose; in addition, Corps biologist Michael Porter assisted with boundary mapping and GPS work on the access roads and proposed staging area. The area surveyed fell into two categories: 10.9 acres for the acequia alignment and 1.6 acres for the probable staging area, for a total of 12.5 surveyed acres. Survey methods for each are described below.

Beginning at the acequia headgate located at the Rio Ojo Caliente, two archaeologists walked the alignment of the acequia southward. Van Hoose walked the center of the acequia channel with a GPS unit in order to record the alignment and to look for evidence of archaeological materials within the acequia walls, while Everhart walked approximately five meters outside of the western margin of the acequia. Where possible, the precise route and alignment of the acequia was recorded via GPS by walking down the center of the acequia channel. In some locations, current vegetation was too thick to easily walk the center; in these cases, GPS mapping continued outside of but parallel to the acequia channel. No crew members walked the eastern margin of the acequia due to the extremely close proximity of the highway embankment to the acequia's eastern edge. Within the staging area, Everhart and Van Hoose walked transects with approximately five- to seven-meter transect intervals while Porter recorded the boundaries of the staging area via GPS.

Isolated artifacts were recorded in field notes and locational information recorded via GPS, and a single archaeological feature (forming part of the newly recorded site LA 160949) was measured, photographed, and point-plotted via GPS. All locational information, including acequia alignment, survey boundaries, and artifact locations, was recorded with a Trimble GeoXH GPS sub-foot unit. In addition to the acequia alignment, locations of acequia features such as culverts and sluice boxes were marked with GPS points as well.

When individual isolated occurrences (isolated artifacts) were located, their locations were recorded via GPS, relevant data and observations were recorded in field notes, and artifacts were photographed.

Field Conditions

Field conditions during the survey were overcast, with high cloud cover and good visibility. Temperatures averaged approximately 70 degrees Fahrenheit, and ground visibility was fairly good over most of the study area, with occasional patches obscured under thick vegetation.

Methods of Site Location and Site Recording

A pre-field check of the New Mexico Office of Cultural Affairs Archaeological Records Management Section's (ARMS) database on June 27, 2008 by Gregory Everhart indicated the presence of several archaeological sites within 0.5 miles of the project area, but none (save the acequia itself, LA 107761) were located within the project area. Corps archaeologists had conducted a preliminary site visit for the proposed project on June 30, 2007. See Appendix A, Figure A.1 for the results of this ARMS search.

Standard survey methods, such as presence of features and artifacts, were used to identify historic properties. Prior to going to the field, a 100 m UTM grid was superimposed over a color 2005-2006 aerial image of the project area. The method of site mapping was to individually flag and piece-plot any located surface artifacts and features using a hand-held Trimble Geo-XH sub-foot GPS unit for all artifacts in the proposed construction footprint.

A newly recorded site (LA 160949) was identified based on the presence of a single feature eroding out of a road cut adjacent to the staging area. This feature (and a possibly-associated lithic flake) were photographed and measured, and their locations recorded via GPS. Because this feature is buried at a depth of approximately one meter, it is possible that a buried horizon exists throughout the slightly raised hill in which the feature exists. The boundaries of this raised area are not within the low-lying staging area, but the boundaries of its maximal extent (i.e. the maximal extent of the area likely to contain intact deposits within this landform) were delineated by GPS.

Photography and Documentation Methods

Digital photographs were taken at different points during the survey using an Olympus Stylus 400 4.0-megapixel camera set at a resolution of 2272 × 1704 pixels. Some of these photos have been incorporated into this document, as is one photograph taken during an earlier site visit on June 30, 2008 (Figure 4.4). Notes, photographs, and copies of the report are stored at the Corps' Albuquerque District office.

Prehistoric lithic artifacts were documented photographically, and were recorded as to size (length, width, and thickness, in millimeters), artifact type, and lithic material type. Historic artifacts were recorded as to size and artifact type.

Strategies Employed for Collection or Limited Tests

No artifact collection or testing was conducted as part of this project.

CHAPTER 4

RESULTS OF SURVEY

Jonathan E. Van Hoose

Location of Cultural Properties

The public disclosure of the location of archaeological sites on state and private lands is prohibited by Section 18-6-11.1 NMSA 1978. Public disclosure of archaeological site locations is federally prohibited by 16 USC 470hh (36 CFR 296.18). Confidential site location information is provided in Appendix A. Appendix A should be removed prior to public disclosure of this report.

Acequia de la Mesa Prieta (LA 107761)

The Acequia de la Mesa Prieta is an open, non-lined ditch roughly paralleling the current roadbed from a headgate located at the southern margin of a wide meander in the Rio Ojo Caliente (Appendix A, Figure A.2). It is named for the Spanish name for Black Mesa (which is located just 2.5 km to the south of the project area; see Julyan 1996:40), and runs from north to south along the western margin of the current U.S. Highway 285 (see again Figure 1.1). The acequia's total length is 2.83 miles, of which 4,000 feet (25.3%) is to be piped as part of the current project.

The Mesa Prieta acequia has a non-adjudicated priority date of 1735 (Gary Martinez, pers. comm.; Williamson 1997:3). As noted in Chapter 2, this would fall at the early end of the range of established dates for other acequias in the Chama area, as described in Ackerly (1996:47; see also Figure 2.1). It was recorded as an archaeological site in 1995 by Cibola Research Consultants (Marshall 1995), and given the site number LA 107761. A 600-foot segment extending south from the headgate was surveyed in 1997 by the Museum of New Mexico's Office of Archaeological Studies (OAS) as part of a planned effort to move this segment of the ditch 15 feet to the west, to improve access and to distance the ditch from the embankment of U.S. Highway 285 (Williamson 1997). Nevertheless, the ditch was never moved.

The acequia's current function is greatly impacted by the relatively recent construction of the embankment for U.S. Highway 285, which is both steep and extremely close; the base of the embankment comes to within a meter or less of the acequia's edge in some places, and its very steep construction has resulted in significant erosion and slump downward toward and into the acequia. Figure 4.1 is a photograph of the acequia as viewed facing south from the headgate, showing both the angle and proximity of the highway embankment.



Figure 4.1. View of Acequia de la Mesa Prieta, facing south from headgate. Note the proximity to the steep highway embankment of U.S. Highway 285 at left.

Corps personnel conducted an initial site visit on June 30, 2008, and Corps archaeologists conducted a survey of the project area and staging area on September 11, 2008. The purpose of the current survey is to examine the portion of the acequia to be impacted by the project to install piping along the approximately 4,000 feet of the acequia most vulnerable to impacts resulting from the erosion of the extremely steep highway embankment. Descriptions of both the acequia and the erosional impacts in the project area follow.

Acequia Description

The Acequia de la Mesa Prieta is an open-earth ditch with a headgate located at a bend in the Rio Ojo Caliente. Diversion occurs at a bend in the river channel (Appendix A, Figure A.2), and the acequia headgate is a metal drop gate (Figure 4.4) covering a short segment of a buried metal culvert which feeds immediately into an open ditch flowing southward paralleling the highway embankment. Williamson (1997:13-15) notes that the location of the diversion was changed approximately 20 years previous to that survey, but no records of said change were ever located.

Immediately adjacent to the headgate, there is a relatively new metal culvert at an orientation perpendicular to the acequia channel, allowing flow of water under a two-track road (Figure 4.5 and Figure 4.6). Based on comparison to a drawing of the headgate in the 1997 report (Williamson 1997:20), it appears that the addition of this culvert occurred after the earlier survey, as neither the culvert nor the concrete framework around it are evident in photographs or illustrations in the earlier report.

Figure 4.2 is a schematic cross-section of the acequia, showing approximate dimensions of the trench itself, as well as the approximate location and size of the spoil pile. These dimensions are fairly constant throughout the acequia's surveyed length.

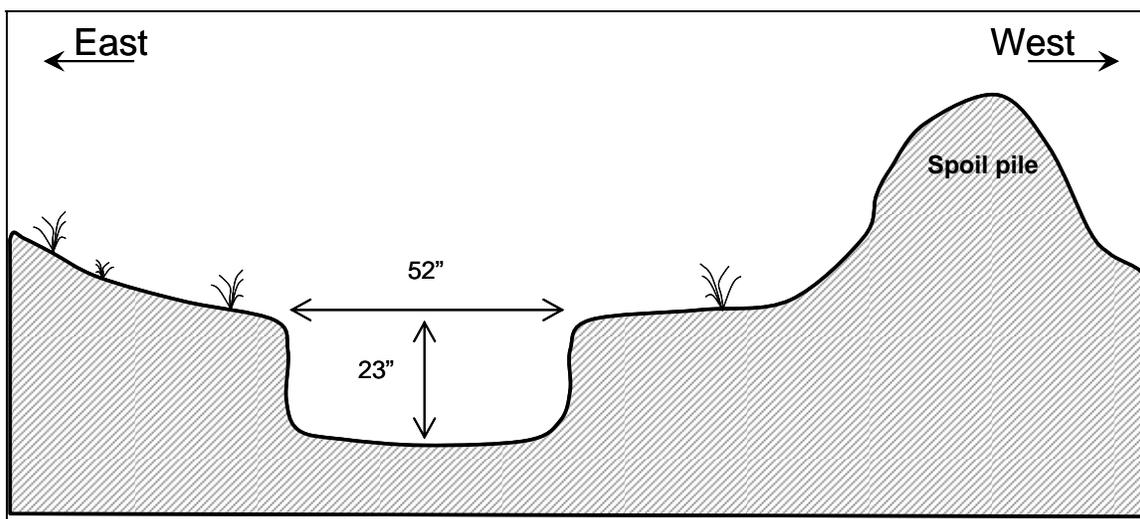


Figure 4.2. Typical cross-section of the acequia, facing south; width and depth are relatively consistent throughout entire length. Spoil piles from cleaning-out operations form a berm of varying height along the western margin of the acequia for most of its length. U.S. Highway 285 is upslope to the East.

Approximately 318 meters south of the headgate, the acequia enters a concrete-lined covered underground channel that allows it to pass under a major drainage; this drainage passes through a large culvert under the highway, which is large enough to accommodate automobile traffic (Figure 4.7). The upstream end of this underground channel is fitted with metal pipes set into concrete and arranged vertically to form a grating to trap large debris and keep it from clogging the channel (Figure 4.8).



Figure 4.3. Diversion point for the Acequia de la Mesa Prieta, facing north.



Figure 4.4. Acequia headgate, facing south (photo taken during June 2008 site visit).



Figure 4.5. Recently added culvert adjacent to headgate, facing west.



Figure 4.6. Outlet of recent culvert adjacent to headgate, facing east.



Figure 4.7. Large concrete culvert allowing water in a major intermittent drainage to pass under the highway, facing southeast.



Figure 4.8. Entry point of underground channel segment allowing acequia to pass under intersecting drainage, facing south.



Figure 4.9. Outlet of underground channel passing under drainage, facing south.

Four other water control features form part of the acequia segment to be piped. These include four sluice boxes / field gates, which are summarized in Table 4.1. The first, located 585 meters downstream of the headgate, consists of a shaped metal door set in a wooden frame, with walls of river cobble masonry set in concrete (Figure 4.10). The second, located 865 meters downstream of the headgate, is a wood and concrete structure with a plywood gate (Figure 4.11). The third is a concrete-lined segment of ditch with a large piece of corrugated metal as a door (Figure 4.12), located 1,044 meters from the headgate. The last is a large concrete sluice box designed to accommodate two gates at right angles to each other; at the time of survey, only one gate (steel) was in place (see Figure 4.13). None of these features appears to be more than 50 years old.

Table 4.1. Summary of sluice boxes in segment of acequia to be piped.

Feature Type	Distance from Headgate	Door Material	Construction	Photograph
Sluice box	585 meters	Metal (aluminum?) and wood	River cobble masonry set in concrete	Figure 4.10
Sluice box	865 meters	Plywood	Wood and concrete	Figure 4.11
Field gate	1,044 meters	Corrugated metal	Concrete	Figure 4.12
Sluice box	1,214 meters	Metal (steel)	Concrete	Figure 4.13



Figure 4.10. Sluice box serving as field gate, 585 meters from headgate, facing east.



Figure 4.11. Sluice box, 865 meters from headgate, facing northwest.



Figure 4.12. Field gate, 1,044 meters from headgate, facing east.



Figure 4.13. Sluice box marking endpoint of piping project, 1,214 meters from headgate, facing north.

Artifact: Basalt Handstone

A single artifact, an isolated occurrence (IO #1) was identified along the acequia alignment, just short of the end point for the proposed piping. It is a shaped vesicular basalt handstone measuring 112 mm × 49 mm × 30 mm, with diffuse grinding wear on two faces (Figure 4.14). The artifact was found on the ground surface approximately two meters east of the ditch edge.



Figure 4.14. I.O. #1, Shaped basalt handstone.

Erosional Impacts

Erosion from the embankment of U.S. Highway 285 has a substantial impact on the usability of the acequia, as well as on the time and effort required to maintain it. As noted above, the base of the embankment comes to within one meter or less of the edge of the ditch in some places; further, sediment is constantly moving downward into the ditch itself. Attempts to ameliorate this problem after the construction of the current embankment included the placement of numerous temporary retaining fences at several locations along both the acequia and on the slope itself. These fences have not been effective in protecting the acequia or in preventing erosion; in many locations along this alignment, the silt fences themselves have become mostly or completely buried by erosion. Figure 4.15 is a photograph showing the steep slope of the embankment, as well as the presence of retaining fences (some of which are buried; note the tops of posts protruding above ground surface) and the encroachment of the embankment onto the acequia channel itself. Figure 4.16 shows an area of particularly heavy erosion, wherein continued erosion has begun to form a deep channel which itself reveals the presence of abundant buried fencing. Clearly, erosion is a major factor in endangering the continued viability of this segment of the acequia.



Figure 4.15. Highway embankment immediately to the east of the northern portion of the acequia. Note extensive retaining fencing, and proximity of bank to the acequia channel.

Staging Area

The proposed staging area is a low, relatively flat area on private land south of the portion of the acequia to be piped, and located just west of U.S. Highway 285 and just east of a non-affected portion of the acequia (Figure 4.17). The area is accessed via a small two-track road that connects U.S. Highway 285 to the staging area (Figure 4.17). Both the staging area and the two-track road were surveyed. The access road includes a road cut into a low rise adjacent to the staging area, in which a single buried feature was located. The entire extent of the rise (Appendix A, Figure A.3) was designated a site (LA 160949), and is described below (see also Appendix A, Figure A.4 for site map).



**Figure 4.16. Highly eroded portion of highway embankment immediately above acequia.
Note buried retaining fences.**

Four artifacts were observed in the staging area; one prehistoric lithic artifact (a nonvesicular basalt flake tool with bifacial flaking on one margin) and three recent Historic period artifacts (two glazed whiteware fragments and a piece of purple glass); Table 4.2 presents information on these artifacts. No features or artifact clusters were identified in the staging area.



Figure 4.17. Staging area and access road.

Table 4.2. Summary table of artifacts (IOs) identified in the staging area.

I.O. Number	Artifact Type	Period	Material	Length (mm)	Width (mm)	Thickness (mm)	Comments
2	Purple glass	Historic	glass	54	31	5	Bottle fragment
3	Saucer rim	Historic	glazed whiteware	27	22	2-4	
4	Flake tool	Prehistoric	basalt (nonvesicular)	62	44	15	bifacially worked on one margin; plain platform; 10% cortex
5	Plate fragment	Historic	glazed whiteware	24	23	5	

Site Description: LA 160949

LA 160949 consists of a single possible feature – an ash stain eroding out of a road cut made into a low hill – and one possibly associated lithic flake; the cut is associated with a two-track road on private land that provides access to the proposed staging area (see Appendix A, Figures A.3 and A.4). The ash stain (Figure 4.18) measures approximately 45 cm × 55 cm in profile. Archaeologists did not cut into the feature to better expose a profile; as such, the profile shape of the possible feature could not be determined. No artifacts or substantial pieces of charcoal were observed in the ashy matrix of the stain. It is unclear whether the feature is natural or cultural. In addition, a broken rhyolite flake measuring 59 mm × 27 mm × 12 mm (Figure 4.19) was identified sitting on the hill slope surface at approximately the same elevation as the ash stain and approximately 60 cm to the east of it. The flake has a plain platform and no cortex, with a lateral break.

While observed cultural manifestations are limited to the ash stain and flake, for the purposes of site recordation we identify the remainder of the small hill in which the ash stain is located (see Appendix A, Figure A.5) as the extent of possible site boundaries. The highly eroded nature of the surrounding terrain suggests that any intact portion of the site (if indeed the ash stain is cultural) is likely located within the small remaining portion of the rise, and have the potential to represent a buried horizon measuring up to 27 m north-south by 78 m east-west (the dimensions of the hill), at a depth of approximately 1 m. Figure A.3 in Appendix A shows the extent of this intact raised area.

Also located near the ash stain was a bifacially worked chopper of igneous material (Figure 4.20); however, this was located on top of the small hill in which the ash stain is located, and was thus separated vertically from the possible feature by more than a meter of sediment. As such, it is probably not directly associated with the ash stain and is likely more properly understood as an IO; however, given its proximity to the ash stain, it is included within the site for purposes of description. The artifact measures 72 mm × 68 mm × 34 mm, with continuous bifacial flaking along approximately 50 percent of the artifact’s perimeter. The flaked edge also shows some battering wear.



Figure 4.18. Ash stain eroding out of road cut bordering staging area, facing north.



Figure 4.19. Broken rhyolite flake located east of ash stain.

LA 160949 is limited to this raised area bounded by an access road to the staging area. The current project will not involve any modification of the road or the road cut, or otherwise result in the excavation of sediments that could be associated with the site. As such, it is the Corps' opinion that there is no danger of adverse impact to the site resulting from these activities.



Figure 4.20. Bifacially worked chopper located upslope of ash stain.

Description of Other Archaeological Sites

No previously recorded archaeological sites were encountered during this survey in the project area, other than the acequia itself, described in this chapter. The newly recorded site LA 160949 is described above.

Interpretive Summary

In sum, the survey examined the 4,000-foot segment of the Acequia de la Mesa Prieta (LA 107761) extending southward from the headgate. The acequia has been in use since the early 1700s. For most of its surveyed length, the acequia is an open, unlined ditch bounded on the east by the embankment for U.S. Highway 285 and on the west by spoil piles of varying height resulting from acequia clean-out operations. It is subject to frequent in-movement of sediment from the highway embankment, which encroaches to within less than a meter in some areas; this creates a significant burden on the acequia system and increases maintenance requirements. A single isolated artifact (IO #1), a shaped vesicular basalt handstone, was identified along the acequia alignment; no additional archaeological sites were located along the acequia itself. The handstone is prehistoric and represents some form of grinding activity, such as grinding of corn or pigments.

In addition, a newly identified site (LA 160949) was identified adjacent to the proposed staging area, representing a single feature (an ash stain of uncertain date or, indeed, of uncertain human

origin) and one possibly associated lithic flake eroding out of a road cut. An additional prehistoric artifact (a bifacial chopper) was located on the ground surface above the feature and may or may not be associated with the feature. Based on the local geomorphology, the entire low hill in which the feature is found has the potential to contain a buried cultural horizon. This site is undated, but (if the feature is of cultural origin) it likely represents a prehistoric cultural manifestation.

Finally, several other isolated occurrences of primarily historic artifacts were also identified within the staging area itself. In addition to one prehistoric artifact (a basalt flake tool), the IOs in the staging area include three fragments of historic glazed whiteware and one piece of purple bottle glass, together suggesting use of the area during the early 20th century. A summary of all artifacts identified during this survey is presented in Table 4.3.

Table 4.3. Summary of all artifacts observed during survey.

Artifact Number	Location	Artifact Type	Period	Material	Length (mm)	Width (mm)	Thickness (mm)	Comments
IO #1	Acequia alignment	Handstone	Prehistoric	Vesicular basalt	112	49	30	
IO #2	Staging area	Purple glass	Historic	Glass	54	31	5	Bottle fragment
IO #3	Staging area	Saucer rim	Historic	glazed whiteware	27	22	2-4	
IO #4	Staging area	Flake tool	Prehistoric	basalt (nonvesicular)	62	44	15	bifacially worked on one margin; plain platform; 10% cortex
IO #5	Staging area	Plate fragment	Historic	glazed whiteware	24	23	5	
None	LA 160949	Chopper	Prehistoric	igneous	72	68	34	Bifacially worked; on ground surface approx. 1 m above stain
None	LA 160949	Broken flake	Prehistoric	rhyolite	59	27	12	Plain platform; next to ash stain

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CHAPTER 5

SUMMARY AND RECOMMENDATIONS

Jonathan E. Van Hoose

Evaluation and Statement of Significance

The present survey examined the extent of the Acequia de la Mesa Prieta alignment to be impacted by the proposed piping project, as well as the proposed staging area. The survey identified two archaeological sites: the acequia itself, which has the site number LA 107761, and the newly recorded site LA 160949, marked by an ash stain eroding out of a road cut adjacent to the staging area.

The acequia is located in Rio Arriba County, and is situated to the east and approximately parallel to the Rio Ojo Caliente; it is also bounded for much of its length on the west by the current alignment of U.S. Highway 285. The diversion is approximately six miles south of the community of Ojo Caliente. The project area is located on private land owned by members of the acequia association, and within the acequia right-of-way on land owned by the BLM. The acequia obtains water from the Rio Ojo Caliente, and the system as a whole provides water to 14 irrigators and approximately 100 acres of cultivated land.

In 1995, the acequia itself (LA 107761) was determined to be eligible for the National Register of Historic Places under criterion (d) (HPD Log 48019); further, the Corps considers the Mesa Prieta Acequia, which has a non-adjudicated priority date of 1735, to be eligible for inclusion to the National Register under Criterion (a) of 36 CFR 60.4, as irrigation features such as this one made possible the settling and farming of the area, and is thus associated with events that have made a significant contribution to the broad patterns of our history.

In addition to the acequia itself, the survey identified an additional site (LA 160949) adjacent to the proposed staging area, as well as five isolated occurrences (IOs). All observed artifacts were fully recorded in the field. The newly recorded site consists of an ash stain measuring 45 cm × 55 cm and one possibly associated lithic artifact eroding out of a two-track road cut on private land that provides access to the proposed staging area. It is unclear whether the feature is natural or cultural. If the feature is cultural, and based on the local geology, there is the potential for a buried horizon measuring up to 27 m north-south by 78 m east-west, at a depth of approximately one meter. Due to the question of whether the ash stain is or is not cultural, it is not possible to make a determination of eligibility for NRHP listing based on the current evidence. Nonetheless, the proposed project will not involve any modification of the access road or removal / deposition of sediment from/to the area of the site, and the site will thus not be impacted.

Effect Determination

Under 36 CFR 800.5, Assessment of Adverse Effects, examples are provided in subsection (2) and include seven examples of adverse effects to historic properties. This project has the

potential to affect the Acequia de la Mesa Prieta (LA 107761) and one additional archaeological site (LA 160949). The criteria of adverse effect pursuant to the seven examples of types of adverse effects as listed in 36 CFR 800.5 (a)(2) are applied below.

(i) Physical destruction of or damage to all or part of the property;

The proposed disturbances will be confined to approximately 4,000 feet of the acequia itself, which will not destroy the property but will alter this segment from open earth-lined ditch to buried piping. None of the associated water control structures (field gates, culverts, etc.) appear to be more than 50 years old, and most have likely been modified to varying degrees throughout their use lives. Further, in the vicinity of the staging area, the current project will not involve any modification of the road or the road cut, or otherwise result in the excavation of sediments that could be associated with site LA 160949, and as such will not result in damage to the site.

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

The purpose of this project is rehabilitation of the acequia so that it may continue to function well in its current context by the highway embankment; rehabilitation is defined under 36 CFR 68.2(b) as “the act or process of making possible an efficient compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.” The project will affect one historical element, the “open earthen ditch” design of the Acequia de la Mesa Prieta. The proposed project will not affect other historic elements such as alignment and function, which contribute to the ditch’s eligibility for the National Register. Further, the proposed project will involve only 4,000 feet of this linear feature, representing a cumulative effect on less than 30% (25.3%) of its total alignment. Further, the portion of the ditch outside the area to be piped would remain eligible.

(iii) Removal of the property from its historic location;

This category does not apply to this project.

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

The proposed project will alter the “open ditch” form of 4,000 feet (25.3%) of this segment of the acequia, but piping will allow this segment of the acequia to remain in its historic location while preserving its function, given its proximity to the recently expanded highway embankment.

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

This category does not apply to this project.

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

This category does not apply to this project.

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

This category does not apply to this project.

Summary and Recommendations

The Acequia de la Mesa Prieta is eligible for nomination to the National Register of Historic Places and the New Mexico Register of Historic Places. Piping the ditch might be considered an adverse effect to the ditch. However, the Corps is of the opinion that the proposed project will result in **no adverse effect on historic properties** for the following reasons:

- This project would represent a cumulative impact of less than 30% (25.3%) of the total length of this linear feature.
- The current placement of highway embankment and concomitant movement of sediment downslope into the acequia itself endangers the acequia's function; the fact that more was not done mitigate this impact when the highway embankment was constructed jeopardizes the continued use of this segment of the acequia in a historically meaningful way. While the project will alter the acequia's form, it will preserve other factors relevant to its eligibility for the NRHP; the proposed project is thus a means of preserving the historically significant use of the ditch by preserving its alignment and function.
- Project activities will not result in any modification of or impact to the area adjacent to the staging area that includes newly recorded site LA 160949.

For these reasons, the Corps considers the effects to the acequia to not be adverse. The portion of the ditch outside the area to be piped would remain eligible.

Consistent with the Department of Defense American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, tribes indicating an interest in activities in Santa Fe County (based on the State of New Mexico Indian Affairs Department's 2008 Native American Consultations List) were sent a scoping letter to assess whether there were any potential tribal concerns with the project. To date, no tribal concerns have been identified, and no traditional cultural properties are known to occur within or in the vicinity of the project area.

The USACE, therefore, is of the opinion that the proposed Acequia de la Mesa Prieta rehabilitation project will have "No Adverse Effect to Historic Properties." Should previously undiscovered artifacts or features be unearthed during construction, work will be stopped in the

immediate vicinity of the find, a determination of significance made, and a mitigation plan formulated in coordination with the New Mexico State Historic Preservation Officer and with Native American groups that may have concerns in the project area.

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APPENDIX A

CONFIDENTIAL SITE LOCATION DATA

— FOR OFFICIAL USE ONLY —

The public disclosure of the location of archaeological sites on state and private lands is prohibited by Section 18-6-11.1 NMSA 1978. Public disclosure of archaeological site locations is federally prohibited by 16 USC 470hh (36 CFR 296.18).

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Figure A.2. Aerial photograph showing location of headgate relative to the Rio Ojo Caliente and the highway. Headgate is located at UTM (NAD27) E 405968.4, N 4008269.4, Zone 13.

Appendix C

Site Photos



Erosion of U.S. Hwy. 285 roadbed above Acequia Mesa de la Prieta.



Headgate and diversion for above Acequia Mesa de la Prieta.



Rio Ojo Caliente upstream of Acequia Mesa de la Prieta diversion.



Access route crossing the Rio Ojo Caliente upstream of Acequia Mesa de la Prieta diversion.

Appendix D

Notice of Availability and Affidavit of Publication

Notice of Availability of Draft Environmental Assessment for the
Acequia de la Mesa Prieta Rehabilitation Project, Rio Arriba County, New Mexico

Pursuant to the Council on Environmental Quality Regulations for Implementing the Procedural Provision of the National Environmental Policy Act, the U.S. Army Corps of Engineers (Corps), Albuquerque District, has completed a Draft Environmental Assessment (DEA) and Finding of No Significant Impact (FONSI) for a proposal to construct wastewater collection and water distribution lines.

The project would construct: 1) 4000 feet of new 18-inch diameter plastic pipeline from the existing point of diversion downstream along the road embankment; 2) two new sluice structures; 3) extend existing 36-inch diameter corrugated metal pipe, located under U.S. Highway 285, over the new PVC pipeline; and 4) extend the existing wire-bound mattress twenty-four feet to safely pass drainage flows from U.S. Highway 285 over the new 18-inch diameter plastic pipeline. The proposed project is located on the Rio Ojo Caliente along U.S. Hwy. 285 approximately seventeen miles north of Española, and six miles south of Ojo Caliente, New Mexico Rio Arriba County, New Mexico.

Public review of the DEA will begin on October 15, 2008 and will run for 30 days until November 14. The document will also be available on the Corps web site at <http://www.spa.usace.army.mil> (go to FONSI/Environmental Assessments). A hard copy will be sent upon written request. Comments on the DEA / FONSI should be sent to:

U.S. Army Corps of Engineers
Albuquerque District
Environmental Resources Section
Attn: CESP-PM-LE (Michael Porter)
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

Paper copies of this document are also available for review at:

Espanola Public Library
314-A Onate Street NW
Espanola, NM 87532

For more information please contact Michael Porter, USACE, (505) 342-3264 or Michael.D.Porter@usace.army.mil

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Notice of Availability
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 the
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STATE OF NEW MEXICO
 COUNTY OF SANTA FE

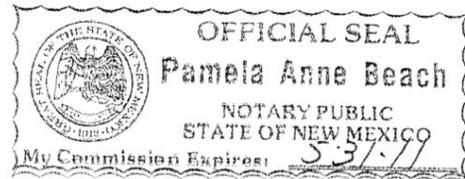
I, L. Paquin, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 86130 a copy of which is hereto attached was published in said newspaper 1 day(s) between 10/14/2008 and 10/14/2008 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 14th day of October, 2008 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/s/ L. Paquin
 LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 21st day of October, 2008

Notary Pamela Anne Beach

Commission Expires: May 31, 2011



Appendix E

Public Comment Letters



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

October 14, 2008

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

Mr. John R. D'Antonio, Jr.
State Engineer
New Mexico State Engineer
Bataan Memorial Bldg.
P.O. Box 25102
Santa Fe, New Mexico 87504-5102

Dear Mr. D'Antonio:

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with the Acequia de la Mesa Prieta proposes to construct: 1) 4000 feet of new 18-inch diameter plastic pipeline from the existing point of diversion downstream along the road embankment; 2) a new sluice structure to sluice out heavy sediment, trash and debris before they enter the new pipeline; 3) a new sluice at the inlet of the existing welded steel pipe siphon to sluice out secondary sediments before irrigation water enters the siphon; 4) extend existing 36 inch diameter corrugated metal pipe, located under Hwy 285, over the new PVC pipeline; and 5) extend the existing wire-bound mattress twenty-four feet to safely pass drainage flows from U.S. 285 over the new 18-inch diameter plastic pipeline.

The proposed project is located on the Rio Ojo Caliente along U.S. Hwy. 285 approximately seventeen miles north of Española, and six miles south of Ojo Caliente, Rio Arriba County, New Mexico. The proposed construction period for the proposed action is three months and is expected to start during November 2008.

Pursuant to the Council on Environmental Quality Regulations for implementing the Procedural Provisions of the National Environmental Policy Act, the Corps has completed a draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the proposed construction of the pipeline. The Draft EA / FONSI, entitled "Acequia de la Mesa Prieta Rehabilitation Project, Rio Arriba County, New Mexico" will be available on the Corps web site at <http://www.spa.usace.army.mil> (go to FONSI / Environmental Assessments). Public review begins on October 15, 2008 and will run for 30 days until November 14, 2008.

Please review the Draft EA / FONSI and provide any written comments to the above address, Attn: Mr. Michael Porter, Environmental Resources Section. Written comments must be received **no later than November 14, 2008**, so that comments can be addressed and revisions made to the EA / FONSI in a timely manner. **If you need additional time to respond, please contact Mr. Porter immediately.** If we do not hear from your agency or receive comments by this date, we will assume you have no concerns or have no objections to the project. You may facsimile your correspondence to (505) 342-3668. If you have any questions or need additional information, please contact Mr. Michael Porter at (505) 342-3264 or e-mail at Michael.D.Porter@usace.army.mil.

Sincerely,

Julie Alcon
Chief, Environmental Resources
Section



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Taos Field Office
226 Cruz Alta Road
Taos, New Mexico 87571-5983



In Reply Refer To: 2801

November 20, 2008

Patricia Phillips
U.S. Army Corps of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109

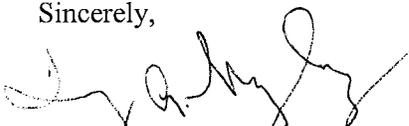
Dear Ms. Phillips:

Thank you for providing the Taos Field Office an opportunity to review the environmental assessment for the Acequia de la Mesa Prieta Rehabilitation Project. The following comments relate to proposed improvements on public lands, and should be considered prior to completing the decision record:

- 1) The EA should state that the proposed action is in conformance with the 1988 Taos Resource Management Plan.
- 2) The proposed action should state that the pipeline would be buried, and also discuss and display the footprint of any new disturbance on public lands, such as sluice improvements that would disturb approximately 30' X 30'.
- 3) Section 2.3, The No Action Alternative, should be moved to immediately follow the Proposed Action, thus becoming Section 2.2. The current Section 2.2 should be re-titled "2.3 Alternatives Considered and Dismissed" and focused solely on those options (i.e., lining the ditch with concrete or other materials) dismissed from detailed analysis. This discussion should not indicate a "selected" alternative (language reserved for the Decision Record).
- 4) Taos Field Office should be identified in Section 5.3 among those agencies consulted.
- 5) Appendix A does not appear to contain a complete cultural resources survey report. Taos Field Office will need to review the complete report prior to its decision on granting any rights-of-way authorizations. Also, the letter to SHPO in Appendix B needs to be complete (i.e., the acreage for the APE is absent, and the 4th line of the 7th paragraph refers to isolated occurrences, but does not give a number).

Following our receipt of your Decision Record, we must then prepare a separated decision document, essentially adopting the analysis in the finalized EA. Please be assured that we will make every effort to finalize our decision on the necessary rights-of-way and process any applicable, subsequent authorizations for this action in a timely manner.

Sincerely,


For Sam DesGeorges
Field Manager



BILL RICHARDSON
Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Office of the Secretary

Harold Runnels Building
1190 Saint Francis Drive (87505)
PO Box 26110, Santa Fe, NM 87502
Phone (505) 827-2855 Fax (505) 827-2836
www.nmenv.state.nm.us



RON CURRY
Secretary
Jon Goldstein
Deputy Secretary

October 22, 2008

Michael Porter
Environmental Resources Section
Department of the Army
Albuquerque District, Corps of Engineers
4101 Jefferson Plaza, NE
Albuquerque, NM 87109-3435

RE: Acequia De La Mesa Prieta Project, Ojo Caliente, Rio Arriba County

Dear Mr. Porter:

Your letter regarding the above named project was received in the New Mexico Environment Department (NMED) and was sent to various Bureaus for review and comment. Comments were provided by the Air Quality and Surface Water Quality Bureau and are as follows.

Air Quality Bureau

The Air Quality Bureau has evaluated the information submitted with respect to the U.S. Army Corps of Engineers plan to rehabilitate the Acequia de La Mesa Prieta main ditch south of Ojo Caliente, NM on the Rio Ojo Caliente along U.S. 285 in Rio Arriba County. Rio Arriba County is considered to be in attainment with all New Mexico and National Ambient Air Quality Standards.

To further ensure air quality standards are met, applicable local or county regulations requiring noise and/or dust control must be followed. If none are in effect, controlling construction-related air quality impacts during projects should be considered to reduce the impact of fugitive dust and/or noise on community members. Potential exists for temporary increases in dust and emissions from earthmoving, construction equipment, and other vehicles. However, the increases should not result in non-attainment of air quality standards. Dust control measures should be taken to minimize the release of particulates due to vehicular traffic, construction, drilling procedures and reclamation activities. Areas disturbed by the construction activities, within and adjacent to the project area should be reclaimed to avoid long-term problems with erosion and fugitive dust.

All asphalt, concrete, quarrying, crushing and screening facilities contracted in conjunction with the proposed project must have current and proper air quality permits. For more information on air quality permitting and modeling requirements, please refer to 20.2.72 NMAC.

If air quality permits are required for the proposed action, permits will need to be administered by the New Mexico Environment Department (NMED). The project as proposed should not be anticipated to contribute negatively to air quality on a long-term basis.

Surface Water Quality Bureau

The project is located along the Rio Ojo Caliente which is part of the Rio Vallecitos and the Rio Tusas at the southern end of the watershed at which it confluences the Rio Chama. This reach is inconsistent as a perennial stream, because it relies on favorable weather to contain water flow. This segment of the river is very sandy and during dry seasons the water flow is usually lost to evaporation and surface infiltration, however during good flood seasons the flows might reach the Rio Chama. This reach of river could possibly be designated as ephemeral because of the inconsistency of water flow during any given year.

Appropriate Best Management Practices should be implemented along the project to ensure that disturbed soils are retained on project site. The heavy equipment such as trucks and tractors should be free of oil and/or other type of fluid leaks to prevent soil and water contamination of project site.

I apologize for the delay in responding to you and hope this information is helpful to you.

Sincerely,



Georgia Cleverley
Environmental Impact Review Coordinator
NMED File #2742