

Appendix A

Public Scoping Letter and Responses

17 September 2008

Dear Interested Party,

The U.S. Army Corps of Engineers, Albuquerque District (Corps), at the request of the Acequia de la Posecion Association, is evaluating the rehabilitation of the Acequia de la Posecion conveyance system. The legal authority for this project, the technical description, project location, and surrounding landscape features are presented in detail on the following page and in Figure 1.

This project is being proposed to reduce difficult and continual acequia maintenance activities required by the association to clean sediment and debris deposited by stormwater and snowmelt runoff. The project would replace the existing open, earthen ditch with either a half-round open or buried 30-inch polyvinylchloride (PVC) pipe.

The Corps is seeking public and agency input for consideration during planning of this project. Your contribution will be used as input during the preparation of an Environmental Assessment (EA) in compliance with the National Environmental Policy Act of 1969. Tetra Tech, Inc. is assisting the Corps with this project. Please mail, fax, or email comments by **03 October 2008**. You may use the attached comment form if you wish or send a letter or email to:

Acequia de la Posecion Comments

Attn: Ms. Joni Wood

Tetra Tech, Inc.

6121 Indian School, Suite 205

Albuquerque, NM, 87110

Tel: (505) 881-3188 ext. 125

Fax: (505) 881-3283

Email: Joni.Wood@tetrattech.com; please use a subject line of "Acequia de la Posecion Comments"

If you have questions or require additional information, please don't hesitate to contact me as indicated below. Thank you for your time.

Sincerely,



Mike Marcus Ph.D.

Project Manager

(505) 881-3188 ext. 131

Mike.Marcus@tetrattech.com

Proposed Rehabilitation by the U.S. Army Corps of Engineers of the Acequia de la Posecion Conveyance System

Project Authority

The rehabilitation of the Acequia de la Posecion conveyance system is being proposed by the U.S. Army Corps of Engineers under the auspices of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662; 33 U.S.C. 2201 et. seq.), as amended. The Environmental Assessment is being prepared in compliance with the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 through 42 U.S.C. § 4347.

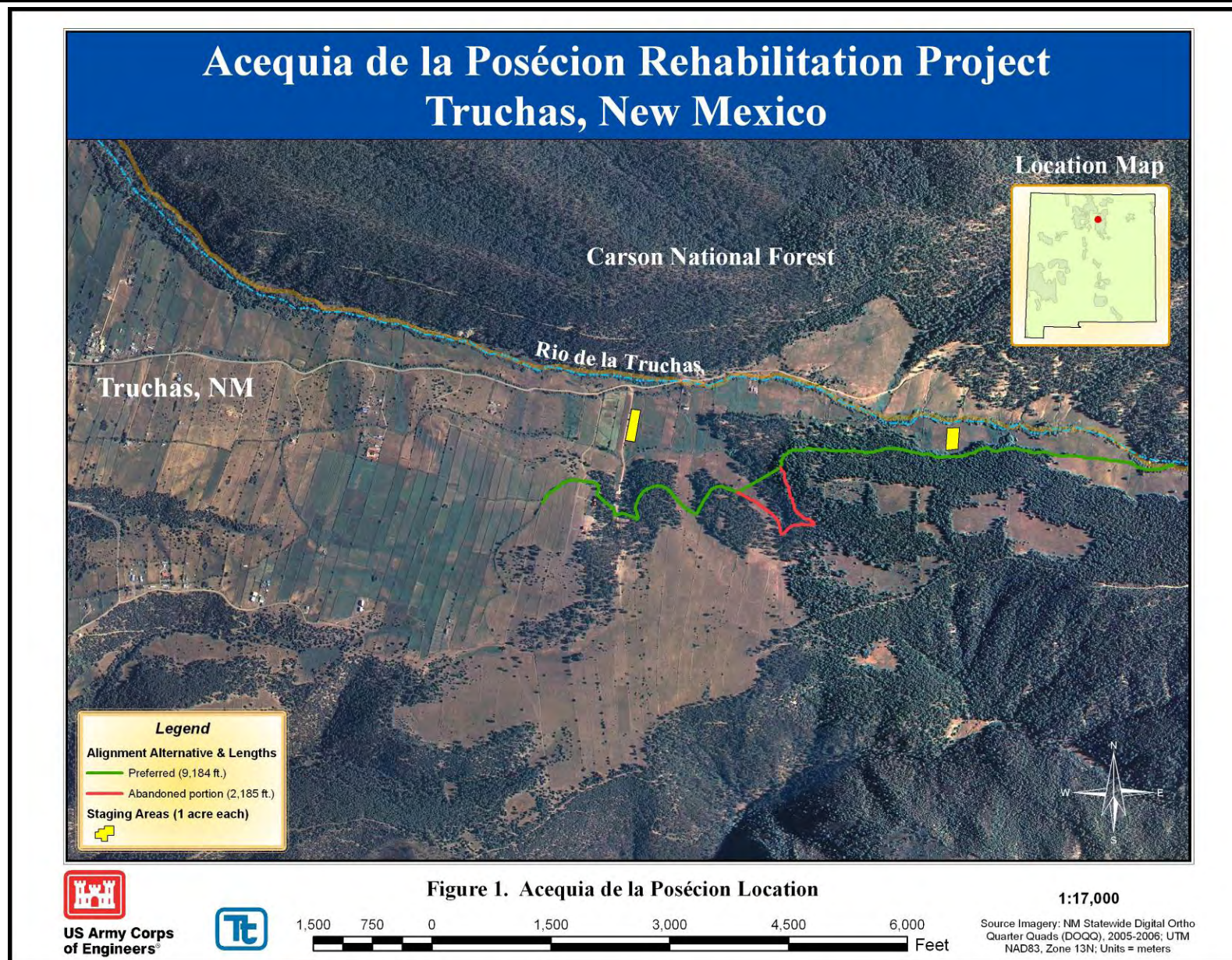
Project Location and Description

The project area is located within the Nuestra Señora del Rosario, San Fernando y Santiago Community Land Grant (1754) in Rio Arriba County, New Mexico; USGS 7.5' Quadrangle = Truchas, NM (36105a7, photo revised 1977). Having rich cultural history, Acequia de la Posecion diverts irrigation water from the Rio Truchas and has been in continuous use for about 150 years. The approximate latitude/longitude of the diversion structure is 36.0359°N, 105.7518°W located in T21N, R11E, Sec. 22. The terrain slope is approximately 35.6% with a southwest aspect (206.9°) at an approximate elevation of 8,463 feet. The approximate latitude/longitude at which the Acequia Madre (mother ditch) terminates and branches into the primary lateral is 36.0343°N, 105.7773°W located in T21N, R11E, Sec. 21 with a terrain slope of approximately 2.5% with a southeast aspect (124.9°) at an approximate elevation of 8,395 feet.

The attached figure (Figure 1) shows the location and alignment of the Preferred Alternative (green) and a portion of the existing acequia that would be abandoned with the completion and implementation of the Preferred Alternative (abandoned portion shown in red). In addition, there are two (2) 1-acre staging areas (yellow) located along existing local roadways. The roadways will provide access routes from the staging areas to the acequia rehabilitation construction area.

The Preferred Alternative traverses the area for approximately 9,321 linear feet and the abandoned portion of Acequia de la Posecion is approximately 2,185 linear feet; however, these estimates can vary slightly due to differences in the meander path of the ditch along its alignment and certain construction requirements. The area of disturbance around the Preferred Alternative is approximately 9.2 acres and is defined as an area extending for 15 feet upslope and 25 feet down slope of the centerline of the acequia. The area of disturbance falls completely within the legally defined easement of the acequia.

The proposed project would reduce difficult and continual maintenance activities performed by the acequia association in order to clean sediment and debris deposited by stormwater and snowmelt runoff by replacing the existing open ditch with either a half-round open or buried 30-inch polyvinylchloride (PVC) pipe. The pipe would span the entire length of the Acequia Madre's Preferred Alternative alignment (9,184 feet).



Comment Form
for
Acequia de la Posecion 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.

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: _____

Responses to Scoping Letters

The following Comment Form was received from:

Mr. Bruce Donnell
104 Agenda de la Casas
Santa Fe, NM 87506-2169

Received on: September 29, 2008

He requested to remain on the mailing list with the updated address (above)



**US Army Corps
of Engineers.**
Albuquerque District

Comment Form
for
Acequia de la Posición 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.

It looks like a good project.

Zaven Donnell

Please attach additional sheets or materials if desired.

Environmental Assessment for
Acequia de la Posición Rehabilitation Project



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: Bruce Donnell

Address: 104 Avenida de las Casas

City, State, Zip: Santa Fe, NM. 87506.

please note spelling of my last name and
revised address

(You had Bruce "Donald", and 1 Casas de San Juan)

Thank ya!
Bruce Donnell

Environmental Assessment for
Acequia de la Posición Rehabilitation Project

The following Comment Form was received from:

Thomas C. Gonzalas
NRCS Española Field Office
424 South Riverside Drive
Española, NM 87532

Received on: September 25, 2008

He requested to remain on the mailing list and provided the address above

09/25/2008 15:45 5057471104

RIO ARriba COUNTY

PAGE 03



Comment Form
for
Acequia de la Posición 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?

ISSUES SUCH AS DRAINAGE AND DEBRIS ARE OF
CONCERN. MANY OF THE DITCHES THAT GET PIPED HAVE
ISSUES WITH THE DRAINAGE WAYS AND THE LANDS BELOW
THAT WERE PROTECTED BY THE DITCH. ALSO OF CONCERN
WOULD BE AN ADEQUATE TRASH RAIL & SLUICE @ BEGINNING
OF PIPELINE.

2. Other comments about the project.

ADEQUATE TURNOUTS FOR IRRIGATED FIELDS SHOULD BE
DESIGNED AROUND W/ ADAPTABLE SUB CUTS TO HAVE
THE OPTION TO TIE IN W/ UNDERGROUND PIPELINE.
WE, NRCS FIELD OFFICE (ESPANOLA) HAVE WORKED ON SOME
PRELIMINARY PLANNING FOR A HEADGATE & DIVISION STRUCTURE
FOR THE ACEQUIA MADRE DE TRUCHAS & THE ACEQUIA DEL
LLANO QUEMADO.

Please attach additional sheets or materials if desired.

Environmental Assessment for
Acequia de la Posición Rehabilitation Project



09/25/2008 15:45 5057471104

RIO ARriba COUNTY

PAGE 04



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: THOMAS C. GONZALES

Address: 424 G. SOUTHRIVERSIDE DRIVE

City, State, Zip: ESPAÑOLA, NM 87632

Environmental Assessment for
Acequia de la Posición Rehabilitation Project

The following Comment Form was received from:

Terra Manasco
For : Michael Sloane
Department of Game and Fish
Fisheries Management Division
One Wildlife Way
Post Office Box 25112
Santa Fe, NM 87504

Received on: October 3, 2008

They have requested to remain on the mailing list.

OCT-03-2008 11:17 From:

5054768128

To: 15058813283

P. 2/2

GOVERNOR
Bill Richardson



DIRECTOR AND SECRETARY
TO THE COMMISSION
Bruce C. Thompson, Ph.D.

Robert S. Jenks, Deputy Director

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

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

Visit our website at www.wildlife.state.nm.us
For information call 505-476-8000
To order free publications call 1-800-662-9310

STATE GAME COMMISSION

Dr. Tom Arvas, Chairman
Albuquerque, NM

M.H. "Dutch" Salmon, Vice-Chairman
Silver City, NM

Brendy Buffell, Commissioner
Santa Fe, NM

Jim McClintic, Commissioner
Albuquerque, NM

Alfredo Montoya, Commissioner
Alameda, NM

Oscar Simpson, Commissioner
Albuquerque, NM

Leo V. Sims, II, Commissioner
Hobbs, NM

October 2, 2008

Ms. Joni Wood
Tetra Tech, Inc.
6121 Indian School, Suite 205
Albuquerque, NM 87110

Re: Acequia de la Posación Comments; NMDGF 12288

Dear Ms. Wood,

Please accept this letter as a comment by New Mexico Department of Game and Fish (NMDGF) regarding the proposed rehabilitation of the Acequia de la Posación conveyance system. Over the past year, the NMDGF has worked cooperatively with the members of the Nuestra Señora del Rosario, San Fernando y Santiago Community Land Grant. In particular, we conducted fish surveys in the Rio de Truchas and Rio Quemado watersheds to determine the presence and genetic status of Rio Grande cutthroat trout populations. As of spring 2008, the U.S. Fish and Wildlife Service considers the Rio Grande cutthroat trout a candidate species for Endangered Species Act protection. Though we are still in the process of conducting these surveys and receiving genetic results, we have documented a core conservation population (>99 % native alleles) of Rio Grande cutthroat trout in the upper Rio de Truchas and likely another population in the Rio Quemado.

We do not foresee the preferred alternative causing a significant deleterious effect on the upper Rio de Truchas population of Rio Grande cutthroat trout. In fact, it is likely the historic water diversions in the area have helped to protect this population from encroachment by non-native trout. We do, however, request that the Army Corps of Engineers consider how the more efficient water conveyance system will affect hydrologic connectivity to the lower Rio Quemado watershed and potentially permit non-native trout to migrate into the Rio de Truchas watershed. In order to better understand this system and possible effects, I offer NMDGF assistance during field surveys. For further information and to coordinate field surveys, please contact Kirk Patten, Fisheries Biologist, via email (kirk.patten@state.nm.us) or phone (505-476-8068).

Please include me on any further project correspondence and thank you for the opportunity to comment on the initial phases of the project's development.

Sincerely,

Michael B. Sloane

Michael B. Sloane
Chief, Fisheries Management Division

MBS/tlm

The following Comment Form was received from:

Georgia Cleverley
New Mexico Environment Department
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, NM 87502

Received on: October 20, 2008

Did not indicate to remain on the mailing list



BILL RICHARDSON
Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Office of the Secretary

Harold Runnels Building
1190 Saint Francis Drive (87505)
PO Box 569, 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 6, 2008

Mike Marcus, Ph.D.
Project Manager
Tetra Tech Inc.
6121 Indian School, Suite 205
Albuquerque, NM 87110

RE: Rehabilitation of the Acequia de la Posición Conveyance System, Truchas

Dear Dr. Marcus:

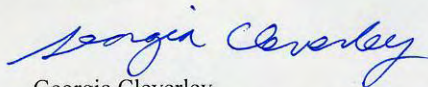
Your letter regarding the above named project was received in the New Mexico Environment Department (NMED) and was sent to various Bureaus for review and comment. Comments were provided by the Surface Water Quality Bureau and are as follows.

Surface Water Quality Bureau

The letter from Tetra Tech does not mention proposed changes to the diversion structure. If such changes are contemplated, please consider the merits of a diversion structure such as that described by David Rosgen (in a white paper available at www.wildlandhydrology.com/assets/cross-vane.pdf). Overall, the proposal to replace the ditch with a pipe has the potential to reduce undesirable impacts to water quality in the long run.

I hope this information is helpful to you.

Sincerely,



Georgia Cleverley
Environmental Impact Review Coordinator
NMED File #2738

The following Comment Form was received from:

Mr. Tony Joe, Program Manager
Historic Preservation Department – Traditional Culture Program
Navajo Nation
Post Office Box 4950
Window Rock, AZ 86515

Received on: October 20, 2008

Did not indicate to remain on the mailing list.



THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

October 03, 2008

Mr. Mike Marcus, Project Manager
Tetra Tech, Inc.
6121 Indian School Road, NE, Suite 205
Albuquerque, New Mexico 87110

Subject: Tribal Consultation Request. Proposing to rehabilitate the Acequia de la Posecion conveyance system, Albuquerque, New Mexico.

Dear Mr. Marcus:

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 17, 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 09-035

File: Office file/chrono

HISTORIC PRESERVATION DEPARTMENT P.O. BOX 4950 WINDOW ROCK, ARIZONA 86515 928 871 7198 (v) 928 871 7886 (fax)

The following Comment Form was received from:

Leigh Kuwanwisiwma, Director
Hopi Cultural Preservation Office
Post Office Box 123
Kykotsmovi, AZ 86039

Received on: October 21, 2008

Did not indicate to remain on the mailing list.



Benjamin H. Nuvamsa
CHAIRMAN

Todd Honyaoma, Sr.
VICE-CHAIRMAN

September 29, 2008

Dr. Mike Marcus, Project Manager
Attention: Joni Wood, Acequia de la Posecion Comments
Tetra Tech, Inc.
One Towne Centre, 6121 Indian School Road, Suite 205
Albuquerque, New Mexico 87110

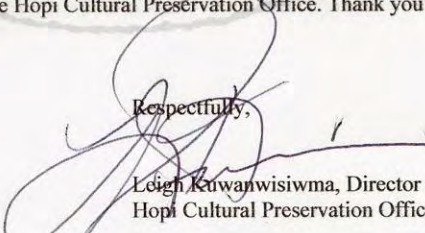
Dear Dr. Marcus,

This letter is in response to your correspondence on behalf of the U.S. Army Corps of Engineers dated September 17, 2008, regarding the proposed Acequia de la Posecion conveyance system rehabilitation in Rio Arriba County, New Mexico. 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 prehistoric 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 prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. Because this project is a federal undertaking that involves ground disturbing activities, if prehistoric cultural sites are identified in the project area that will be adversely affected by project activities, we request to be provided with copies of the cultural resource survey report of the area of potential effect and any proposed draft treatment plans for review and comment.

In addition, we recommend that if any prehistoric cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains, and the State Historic Preservation Office must be consulted to evaluate their nature and significance. If any Native American human remains and funerary objects are discovered during construction they shall be immediately reported as required by law. Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you for your consideration.

Respectfully,


Leigh Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office
Julie Alcon, Corps of Engineers, 4101 Jefferson Plaza NE, Albuquerque, New Mexico 87109-3435

Appendix B

Plant Species Observed in the Survey Area

List of Plants Observed in the Survey Area

* = adventive (alien, introduced) species

Family	Common Name	Scientific Name
APIACEAE (Parsley Family)		
	Spotted or Western water hemlock	<i>Cicuta maculata</i>
	Cowparsnip	<i>Heracleum maximum</i>
	Lesser sweet – Cicely	<i>Osmorhiza depauperata</i>
ASTERACEAE (Sunflower Family)		
	Common Yarrow	<i>Achillea millefolium</i>
	Pussytoes	<i>Antennaria</i> sp.
	Louisiana Sagebrush	<i>Artemisia ludoviciana</i>
	Thistle	<i>Cirsium</i> sp.
	Spreading Fleabane	<i>Erigeron divergens</i>
	Trailing Fleabane	<i>Erigeron flagellaris</i>
	Curlytop Gumweed	<i>Grindelia squarrosa</i>
	Showy Goldeneye	<i>Helioeris multiflora</i>
	Goldenaster	<i>Heterotheca villosa</i>
	*Prickly Lettuce	<i>Lactuca serriola</i>
	*Oxeye Daisy (class B noxious in CO.)	<i>Leucanthemum vulgare</i>
	Aster	<i>Machaeranthera</i> sp.
	Cutleaf Coneflower	<i>Rudbeckia laciniata</i>
	Mountain Groundsel	<i>Senecio eremophilus</i>
	Goldenrod	<i>Solidago</i> sp.
	White Heath	<i>Symphotrichum ericoides</i>
	*Common Dandelion	<i>Taraxacum officinale</i>
	*Yellow or Western Salsify	<i>Tragopogon dubius</i>
BETULACEAE (Birch Family)		
	Thinleaf Alder	<i>Alnus incana</i> ssp. <i>Tenuifolia</i>
BERBERIDACEAE (Barberry Family)		
	Creeping Oregon – Grape	<i>Berberis repens</i>
BRASSICACEAE (Mustard Family)		
	*Shepherd's Purse	<i>Capsella bursa-pastoris</i>
	Common Pepperweed	<i>Lepidium densiflorum</i>
	*Tall Tumblemustard	<i>Sisymbrium altissimum</i>
CAMPANULACEAE (Harebell Family)		
	Harebell	<i>Campanula rotundifolia</i>
CAPRIFOLIACEAE (Honeysuckle Family)		
	Snowberry	<i>Symphoricarpos</i> sp.
CARYOPHYLLACEAE (Pink Family)		
	Starwort	<i>Stellaria</i> sp.

CONVOLVULACEAE (Morning Glory Family)

*Bindweed (class C noxious) *Convolvulus arvensis*

CUPRESSACEAE (Cypress Family)

Common Juniper *Juniperus communis*
Rocky Mountain Juniper *Juniperus scopulorum*

CYPERACEAE (Sedge Family)

Nebraska sedge *Carex nebrascensis*

EQUISETACEAE (Horsetail Family)

Common or Field Horsetail *Equisetum arvense*

ERICACEAE (Heath Family)

Bearberry *Arctostaphylos uva-ursi*
Woodland Pinedrops *Pterospora andromedea*

FABACEAE (Pea Family)

Lupine *Lupinus* sp.
*Black Medick *Medicago lupulina*
*Alfalfa *Medicago sativa*
*Yellow Sweetclover *Melilotus officinalis*
Mountain Golden Pea *Thermopsis montana*
*Red Clover *Trifolium pretense*
*White Clover *Trifolium repens*

FAGACEAE (Beech Family)

Gamble Oak *Quercus gambelii*

GERANIACEAE (Geranium Family)

*Redstem Stork's Bill *Erodium cicutarium*
Purple Geranium *Geranium caespitosum*
Richardson's Geranium *Geranium richardsonii*

GROSSULARIACEAE (Goosefoot Family)

Currant *Ribes* sp.

JUNCACEAE (Rush Family)

Baltic rush *Juncus arcticus* (*J. balticus*)
Rocky Mountain Rush *Juncus ensifolius* var. *montanus*

LAMIACEAE (Mint Family)

*Wild or Field Mint *Mentha arvensis*
Selfheal or Heal – All *Prunella vulgaris*

LILIACEAE (Lily Family)

Geyer's Onion *Allium geoyeri*
*Garden Asparagus *Asparagus officinalis*
Starry False Solomon's – Seal *Maianthemum stellatum*

LINACEAE (Flax Family)

Blue Prairie Flax *Linum lewisii*

MALVACEAE (Mallow Family)

White Checkermallow *Sidalcea candida*

ONAGRACEAE (Evening Primrose Family)

Fringed Willowherb *Epilobium ciliatum*
Hooker's Evening Primrose *Oenothera elata*

ORCHIDACEAE (Orchid Family)

Hooded Coralroot *Corallorhiza striata*

PINACEAE (Pine Family)

Rocky Mountain fir *Abies bifolia*
Blue Spruce *Picea pungens*
Ponderosa Pine *Pinus ponderosa*
Douglas fir *Pseudotsuga menziesii*

POACEAE (Grass Family)

*Redtop *Agrostis gigantea*
Shortawn Foxtail *Alopecurus aequalis*
*Smooth Brome *Bromus inermis*
*Orchardgrass *Dactylis glomerata*
*Intermediate Wheatgrass *Thinopyrum intermedium*
*Timothy *Phleum pratense*
*Kentucky Bluegrass *Poa pratensis*
Indian Grass *Sorghastrum nutans*
Weak Mannagrass *Torreyochloa pallida* var.
pauciflora

POLEMONIACEAE (Phlox Family)

Scarlet Gilia *Ipomopsis aggregate*

POLYGONACEAE (Knotweed Family)

*Sheep Sorrel *Rumex acetosella*
Willow Dock *Rumex californicus* var.
denticulatus

PORTULACACEAE (Purslane Family)

*Purslane *Portulaca oleracea*

RANUNCULACEAE (Buttercup Family)

Red Baneberry *Actaea rubra*
Meadowrue *Thalictrum* sp.

ROSACEAE (Rose Family)

Meadow Cinquefoil *Potentilla diversifolia*
Chokecherry *Prunus virginiana*
Woods' Rose *Rosa woodsii*
Red Raspberry *Rubus idaeus*

RUBIACEAE (Madder Family)

Bedstraw *Galium* sp.

SALICACEAE (Willow Family)

Narrowleaf Cottonwood	<i>Populus angustifolia</i>
Quaking Aspen	<i>Populus tremuloides</i>
Booth's Willow	<i>Salix boothii</i>
Coyote Willow	<i>Salix exigua</i>
Bluestem Willow	<i>Salix irrorata</i>

SCROPHULARIACEAE (Figwort Family)

Yellow Owlclover	<i>Orthocarpus luteus</i>
Beardtongue	<i>Penstemon</i> sp.
*Common Mullein	<i>Verbascum thapsus</i>
American Brooklime	<i>Veronica americana</i>

URTICACEAE (Nettle Family)

Nettle	<i>Urtica</i> sp.
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VERBENACEAE (Vervain Family)

Bigbract Verbena	<i>Verbena bracteata</i>
MacDougal's Vervain	<i>Verbena macdougalii</i>

VIOLACEAE Violet Family

Canadian violet	<i>Viola canadensis</i>
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Appendix C

Threatened, Endangered, and Special Status Species in Rio Arriba County, New Mexico

Special status plant and animal species that may occur in Rio Arriba County, New Mexico (list compiled through BISON-M, USFWS, and NMRPTC database queries)

Status classifications: Federal endangered (FE); Federal threatened (FT); Federal candidate (FC); Federal species of concern (FS); critical habitat (CH) State endangered (SE); State threatened (ST); State species of concern (SS); and State sensitive species (SN).

Habitat classifications: alpine tundra (TUN); subalpine coniferous forest (SCF); Rocky Mountain upper or lower montane coniferous forest (MCF); subalpine-montane grassland (SAG); piñon-juniper woodland or juniper savanna (PJW); montane scrub (MSC); plains-mesa grassland (PMG); Great Basin desert scrub (BDS); desert grassland (DGR); reservoirs (RES); and Chihuahuan desert scrub (CDS). Special habitats are coded as riparian (Rip); wetlands (Wet); aquatic (Aq); terrestrial (Ter); rocky outcrops/areas/cliffs (Rck); malpais or badlands (Mal); fossorial (Fos); arboreal (Arb); scansorial (Scn); bare ground (Bgd); woody debris on the ground surface (Log); selenium soils (Sel); gypsum soils (Gyp); shale or shale-clay outcrops or areas (Shl); lime mudstones (Lmu); and sand or sandy soils (Snd).

Common Name	Scientific Name	Status	Habitat Classification
<u>Fish (2)</u>			
Roundtail chub	<i>Gila robusta</i>	FS, SE, SN	PJW, MCF, CDS, RES/Aq
Rio Grande cutthroat trout	<i>Oncorhynchus clarki virginalis</i> (NM)	FS, SN	SCF, MCF/Aq
<u>Amphibians (2)</u>			
Jemez Mountains Salamander	<i>Plethodon neomexicanus</i>	FS, SE	SCF, MCF/Ter, Rck, Fos, Log
Mountain toad	<i>Bufo borea</i> complex (NM)	FS, SE	MCF, SAG/Aq, Rip, Ter, Fos
<u>Birds (15)</u>			
Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i> (west ⁿ pop ⁿ)	FC, SN	MCF, CDS/Rip
Bald Eagle	<i>Haliaeetus leucocephalus alascanus</i> (NM)	ST	MCF, PJW, CDS/Rip
Peregrine Falcon	<i>Falco peregrinus anatum</i>	FS, ST	SCF, MCF, PJW/Rip, Rck
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	FS, ST	SCF, MCF, PJW/Rip
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	FE, SE CH	MCF, CDS/Rip, Aq
Northern Goshawk	<i>Accipiter gentilis atricapillus</i>	FS, SN	SCF, MCF/Rip

Boreal Owl	<i>Aegolius funereus</i>	ST	SCF, MCF
Burrowing Owl	<i>Athene cunicularia hypugaea</i> (NM, AZ)	FS	PJW, PMG, DGR, CDS/Fos
Mexican Spotted Owl	<i>Strix occidentalis lucida</i> (NM, AZ)	FT, CH, SN	MCF, PJW/Rip, Arb
Brown Pelican	<i>Pelecanus occidentalis carolinensis</i> (NM)	SE	PJW, RES, CDS/Rip, Aq
Mountain Plover	<i>Charadrius montanus</i>	FS, SN	PMG, DGR/Bgd
White-tailed Ptarmigan	<i>Lagopus leucurus altipetens</i> (NM)	SE	TUN, MCF
Baird's Sparrow	<i>Ammodramus bairdii</i>	FS, SE	PMG, DGR
Black Tern	<i>Chlidonias niger surinamensis</i> (NM)	FS	MSC, PMG, RES/Rip, Wet
Least Tern	<i>Sterna antillarum athalassos</i> (NM)	FE, SE	PJW, CDS/Wet, Aq
<u>Mammals (6)</u>			
Townsend's pale big-eared bat	<i>Corynorhinus townsendii pallescens</i> (NM, AZ)	FS	MCF, PJW
Spotted bat	<i>Euderma maculatum</i>	ST	MCF, PJW, RES/Rip, Rck
American marten	<i>Martes Americana origenes</i> (NM)	ST	SCF, MCF/Rip, Ter, Scn
Meadow jumping mouse	<i>Zapus hudsonius luteus</i> (NM,AZ)	FC, SE	MCF, DGR/Rip
Goat peak pika	<i>Ochotona princeps nigrescens</i> (NM)	FS	TUN, SCF, MCF/Ter, Rck, Bgd
White sands wood rat	<i>Neotoma micropus Leucophaea</i>	FS	PMG, DGR/Ter, Bgd
Gunnison's prairie dog	<i>Cynomys gunnisoni gunnisoni</i>	FC, SS	SAG (and meadows)
<u>Lepidoptera –</u>			
<u>Moths and butterflies (1)</u>			
Chuska Mountains checkerspot butterfly	<i>Euphydryas anicia chuskae</i> (NM, AZ)	FS	MCF (meadows)
<u>Plants (17)</u>			
Tufted sand verbena	<i>Abronia bigelovii</i>	FS, SS	PJW, BDS/Gyp
Cyanic milkvetch	<i>Astragalus cyaneus</i>	FS, SS	PJW/Snd
Chaco milkvetch	<i>Astragalus micromerius</i>	FS, SS	PJW, BDS/Gyp

Pagosa milkvetch	<i>Astragalus missouriensis</i> var. <i>humistratus</i>	FS, SS	MCF, PJW
Arboles milkvetch	<i>Astragalus oocalycis</i>	FS, SS	MCF, PJW/Sel
Taos milkvetch	<i>Astragalus puniceus</i> var. <i>gertrudis</i>	FS, SS	PJW
Ripley's milkvetch	<i>Astragalus ripleyi</i>	FS, SS	MCF, PWJ, MSC
Greater yellow lady's slipper	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	FS, SE	MCF/Rip
Robust larkspur	<i>Delphinium robustum</i>	FS, SS	SCF, MCF
New Mexico stickseed	<i>Hackelia hirsuta</i>	FS, SS	MCF/Shl
Wood lily	<i>Lilium philadelphicum</i> var. <i>andinum</i>	FS, SE	MCF, PMG
Small-headed golden- weed	<i>Lorandersonia</i> <i>microcephala</i>	FS, SS	MCF (open areas)/Rck
Chama blazing star	<i>Mentzelia conspicua</i>	FS, SS	PJW/Shl
Pagosa phlox	<i>Phlox caryophylla</i>	FS, SS	PJW
Pagosa bladderpod	<i>Physaria pruinosa</i>	FS, SS	MCF, SAG/Shl
Arizona Willow	<i>Salix arizonica</i>	FS, SS	SCF/Rip, Wet
Clifford's groundsel	<i>Senecio cliffordii</i>	FS, SS	MCF, PJW/Lmu, Snd

*Note: Other habitat-type uses for various species are casual, infrequent, or accidental. Habitat types indicated in are generally important and/or predominant. In addition, no critical habitat for Southwestern willow flycatcher or Mexican spotted owl occur in the project area; the closest such occurrence are two Mexican spotted owl Critical Habitat Units located approximately 19 miles to the south and southwest within the Santa Fe National Forest.

Appendix D

Final Cultural Resources Survey Report (FCRSR)

**A CULTURAL RESOURCE SURVEY OF 19.2 ACRES FOR
REHABILITATION OF THE ACEQUIA DE LA POSECION,
NEAR TRUCHAS, RIO ARRIBA COUNTY, NEW MEXICO**

Prepared by
Thomas F. Messerli
and
Joanne E. Eakin

SWCA ENVIRONMENTAL CONSULTANTS
5647 Jefferson Street NE
Albuquerque, New Mexico 87109
Tel. 505-254-1115; Fax. 505-254-1116
www.swca.com

SWCA Cultural Resources Report No. 08-454

New Mexico Annual State General Permit No. NM-08-055

Prepared for
TETRA TECH
6121 Indian School Road NE, Suite 205
Albuquerque, NM 87110

Submitted to
U.S. ARMY CORPS OF ENGINEERS
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

November 25, 2008

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 111906	2a. Lead (Sponsoring) Agency: U.S. Army Corps of Engineers Albuquerque District	2b. Other Permitting Agency: N/A	3. Lead Agency Report No.: N/A
Title of Report: A Cultural Resource Survey of 19.2 Acres for Rehabilitation of the Acequia de la Posecion near Truchas, Rio Arriba County, New Mexico Author(s) Thomas F. Messerli / Joanne Eakin			5. Report Type <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 checked="" type="checkbox"/> Other Historic Evaluation			
7. Description of Undertaking (what does the project entail?): The U.S. Army Corps of Engineers (USACE) at the request of the New Mexico Interstate Stream Commission and the Acequia de la Posecion Ditch Association proposes to install a 30-inch pipeline within the existing ditch of the Acequia de la Posecion located east of Truchas, Rio Arriba County, New Mexico. The acequia diverts water from the Rio de Truchas, a narrow perennial stream that originates in the Sangre de Cristo Mountains. The proposed project area involves the acequia easement, which traverses private land. The anticipated activity area related to pipe installation is 5 m (15 feet) above and 8 m (25 feet) below the acequia. The total length of the acequia is 5,824 m (19,107 feet) and includes the primary section and two lateral ditches. A defunct 1970s-era pipeline section measuring 251 m (825 feet) will be rebuilt as part of the project. The proposed project area will rehabilitate 2,590 m (8,496 feet) of the main section of the acequia. The open-unlined ditch will be replaced with a buried pipeline. Also, a 666 m (2,185-foot) section of acequia will be abandoned. Two proposed 1-acre (0.4-hectare) staging areas for storing construction materials are included as part of the project. The total acreage surveyed (including 4 acres [1.6 hectares] encompassing each staging area) was 19.2 acres (7.7 hectares).		8. Dates of Investigation: from: 10/1, 10/2, 10/9/2008 9. Report Date: November 25, 2008	
10. Performing Agency/Consultant: SWCA Environmental Consultants Principal Investigator: Joanne Eakin Field Supervisor: Thomas F. Messerli Field Personnel: N/A		11. Performing Agency/Consultant Report No.: 2008-454 12. Applicable Cultural Resource Permit No(s): New Mexico State Permit No. NM-08-055S.	
13. Client/Customer (project proponent): Tetra Tech Contact: Mike Marcus, Ph.D.: Program Manager/ Senior Environmental Scientist Address: 6121 Indian School Road NE, Suite 205 Albuquerque, NM 87110 Phone: Main: 505-881-3188 x131		14. Client/Customer Project No.: N/A	

15. Land Ownership Status (<u>Must be indicated on project map</u>):		
Land Owner	Acres Surveyed	Acres in APE
Private	19.2	13.2
TOTALS	19.2	13.2

16 Records Search(es): Date(s) of ARMS File Review Sept. 30, 2008	Name of Reviewer(s): Thomas F. Messerli	Agency: SWCA Environmental Consultants
Date(s) of NR/SR File Review: Sept. 30, 2008	Name of Reviewer(s): Thomas F. Messerli	Agency: SWCA Environmental Consultants
Date(s) of Other Agency File: Review N/A	Name of Reviewer(s): N/A	Agency: N/A

17. Data Recovery Data:

a. Source Graphics ☒ NAD 27 ☐ NAD 83
☐ USGS 7.5' (1:24,000) topo map ☒ Other topo map, Scale: 1:9600
☒ GPS Unit Accuracy ☐ <1.0m ☒ 1-10m ☐ 10-100m ☐ >100m

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

Truchas, NM: 1953 photorevised 1977	36105-A7
--	----------

18. County(ies): Rio Arriba

Nearest City or Town: Truchas, NM

Legal Description: NAD 27 Zone 13: BOP 432291E/ 3988173N to EOP 429993E/ 3988013N

Projected legal description? Yes ☐ , No ☒ **Unplatted** ☒

Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):
 Nuestra Señora del Rosario, San Fernando y Santiago del Rio de las Truchas Grant

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):

The project area is at an average elevation of 2,574 m (8,445 feet) above mean sea level. Local vegetation includes Douglas fir, Engelmann's spruce, ponderosa pine, one-seed juniper, and Gambel oak. The pasturelands consist of timothy-grass, "volunteer" apple trees, and native grasses. The following soil associations are bisected by the acequia. Manzano clay loam is a deep, well-drained, nearly level to gently sloping soil formed in mixed alluvium. The permeability for Manzano clay loam is moderately slow. The Jaroso-Angostura-Mascarena complex consists of moderately steep to steep soils. Jaroso, Angostura, and Mascarenas soils are formed in colluvium of imbedded shale and sandstone (Hacker and Carelton 1982).

The average annual temperature for Truchas, New Mexico, is 61.1 degrees Fahrenheit (°F) (16.1degrees Celsius [°C]), while the annual average minimum temperature is 31°F (-0.55°C). The highest maximum temperature is 80.7°F (27.05°C) for the month of July, and the lowest mean minimum temperature is 14.4°F (-9.77°C) for the month of January. As in much of New Mexico, a majority of the precipitation falls in the form of warm-season monsoon rains. Overall yearly precipitation for the village of Truchas is 33.8 cm (14.53 inches), with an average yearly snowfall of 111.5 cm (43.9 inches). The growing season of frost-free days is 90 to 110 days (Western Regional Climate Center 2008).

<p>20.a. Percent Ground Visibility: 65%</p> <p>20.b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): The proposed project area is a mix of forested lands and pastures. Disturbances in the area have included agriculture and grazing, fencing, and operation and maintenance of the acequia.</p>	
<p>21. CULTURAL RESOURCE FINDINGS <input checked="" type="checkbox"/> Yes, See Page 4 <input type="checkbox"/> No, Discuss Why:</p>	
<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 type="checkbox"/> LA Site Forms (update) - previously recorded & un-relocated sites (<i>first 2 pages minimum</i>)</p> <p><input checked="" 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>22. Other Attachments: <input checked="" type="checkbox"/></p> <p>23. Photographs and Log <input checked="" type="checkbox"/></p> <p>Other Attachments (Describe): HWDSIF Forms (2)</p>
<p>24. I certify the information provided above is correct and accurate and meets all applicable agency standards. Principal Investigator/Responsible Archaeologist: Joanne Eakin</p> <p>Title (if not PI): <i>Joanne Eakin</i> Date: November 25, 2008</p>	
<p>25. Reviewing Agency: Reviewer's Name/Date</p> <p>Accepted () Rejected ()</p> <p>Tribal Consultation (if applicable): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>26. SHPO Reviewer's Name/Date:</p> <p>HPD Log #: SHPO File Location: Date sent to ARMS:</p>

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 111906	2. Lead (Sponsoring) Agency: U.S. Army Corps of Engineers, Albuquerque District	3. Lead Agency Report No.: N/A
<p>SURVEY RESULTS:</p> <p>Sites discovered and registered: 1</p> <p>Sites discovered and NOT registered: 0</p> <p>Previously recorded sites revisited (site update form required): 0</p> <p>Previously recorded sites not relocated (site update form required): 0</p> <p>TOTAL SITES VISITED: 1</p> <p>Total isolates recorded: 0 Non-selective isolate recording? 0</p> <p>Total structures recorded (new and previously recorded, including acequias): 1</p> <p>MANAGEMENT SUMMARY:</p> <p>The section of the Acequia de la Posecion within the proposed project area has historically been modified to maintain a consistent supply of water. Technical upgrades to enhance the efficiency of the acequia were attempted in 1971 and 1972. The design and/or construction proved to be inadequate, and the use of the open acequia was restored. The acequia is recommended as eligible for nomination to the National Register of Historic Places (NRHP) under Criteria A, C, and D.</p> <p>The Atkinson Cabin site (LA 161069) was newly recorded during this effort and is recommended as eligible for nomination for listing on the NRHP under Criterion D. The site has the research potential to contribute to the understanding of the rural lifestyle of the Truchas area during the late nineteenth and early twentieth century.</p> <p>The Atkinson Cabin is outside the project area of potential effect and will be avoided by any ground-disturbing development. If the site cannot be avoided, mitigation options may be necessary.</p> <p>SURVEY LA NUMBER LOG</p> <p>Sites Discovered: 1: LA 161069, NRHP Eligibility Criterion D</p> <p>Previously recorded revisited sites: N/A</p>		

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CHAPTER 1

INTRODUCTION AND PROJECT DESCRIPTION

The U.S. Army Corps of Engineers (USACE), Albuquerque District, at the request of the New Mexico Interstate Stream Commission and the Acequia de la Posecion Ditch Association, is planning for the rehabilitation of the Acequia de la Posecion. The USACE proposes to install a 30-inch pipeline within the existing primary ditch of the Acequia de la Posecion located east of Truchas, Rio Arriba County, New Mexico.

The Acequia de la Posecion is an open-unlined ditch that diverts water from the Rio de Truchas, a narrow, perennial stream that originates in the Sangre de Cristo Mountains east of Truchas. The primary section of acequia measures 3,256 m (10,681 feet) and traverses the high slope of the Rio de Truchas valley. The primary ditch transects private property, but the adjacent landowners do not have irrigation or domestic use rights to the water. The main ditch extends to the eastern edge of agricultural fields on the llano where it is diverted into two lateral ditches; the north lateral ditch measures 1,205 m (3,953 feet) and the south lateral measures 1,363 m (4,473 feet). The total length of the acequia is 5,823 m (19,107 feet) (Figure 1.1, Figure 1.2, and Figure 1.3). According to ditch commissioner Joe Sandoval, there are 16 members of the Acequia de la Posecion Ditch Association and 169 acres (68 hectares) of irrigated land. The proposed project area involves the acequia easement, which transects private land.

During 1971 and 1972, the Acequia de la Posecion Ditch Association received funding to construct a steel pipeline to traverse a deep and narrow drainage, essentially diverting water from the bend of the acequia. The steel pipeline terminated at a siphon that carried the water into intersections of concrete culverts installed in the original channel of the acequia. The modification proved structurally faulty, however, and its use was discontinued.

The open-unlined primary ditch traverses steep terrain and porous soil that is susceptible to erosion and seepage, resulting in constant maintenance. The heavily forested area also contributes flora debris to the maintenance requirements. The Acequia de la Posecion Ditch Association is unable to maintain the ditch with the level of maintenance required. To provide a low maintenance system, the USACE, Albuquerque District, in cooperation with the Acequia de la Posecion Ditch Association proposes to: 1) replace 2,590 m (9,321 feet) of existing primary earthen ditch with a buried 30-inch diameter polyvinylchloride (PVC) conduit, 2) install 825 linear feet of pipeline in an old right-of-way for a buried inverted siphon, and 3) install 23 reinforced concrete manholes and a sluice structure. All rehabilitation work would occur within the acequia's existing right-of-way. The anticipated activity area related to pipe installation is 5 m (15 feet) above and 8 m (25 feet) below the acequia. The proposed action would not change or affect water rights or the amount of water diverted. The proposed action would also abandon 666 m (2,185 feet) of existing primary ditch in favor of the inverted siphon. In addition, two 1-acre (0.4-hectare) staging areas have been identified near the acequia alignment and existing roads would be utilized as access to these staging areas. The survey area total is 19.2 acres (7.7 hectares), which includes 4 acres [1.6 hectares] each encompassing the staging areas, the defunct pipeline section through the drainage, and the primary ditch within the project. The proposed project would affect 56 percent of the Acequia de la Posecion.

Thomas F. Messerli (tmesserli@swca.com) of SWCA Environmental Consultants (SWCA) (5647 Jefferson Street NE, Albuquerque, NM 87109; [505] 254-1115) served as project manager and author of the report. Joanne Eakin (jeakin@swca.com) served as principal investigator and co-author. Ryan Trollinger and Rachel Cooper provided geographic information systems (GIS) support and report graphics. Justin Elza was the technical editor, and Sheri Waldbauer formatted and produced the report. Enid Messerli (enidm@email.arizona.edu) completed Spanish to English translation of portions of the acequia log book. Katherine Roxlau (Kathy.Roxlau@tetrattech.com) was the technical representative for Tetra Tech. The fieldwork was completed under New Mexico State Permit Number NM-08-055-S.

SWCA conducted a cultural resources survey of the Acequia de la Posecion on October 1, 2, and 9, 2008, now listed as NMCRIS Activity No. 111906. The survey was conducted to assist the USACE in fulfilling federal responsibilities regarding cultural resources. The undertaking complies with the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended through 1992, and applicable regulations. This report is consistent with applicable federal and state standards for cultural resources management. All work conducted was in compliance with federal and state cultural resources laws and regulations, executive orders, and USACE regulations, including the NHPA of 1966 (Public Law [PL] 89-665 et seq.), the National Environmental Policy Act (NEPA) of 1969 (PL 90-190), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601), and Executive Order 13007 (Indian Sacred Sites, May 24, 1996). The standards and methods used during the project adhered to the requirements of the New Mexico Administrative Code (NMAC), Title 4, Chapter 10, Part 15 (NMAC 4.10.15), Standards for Survey and Inventory.

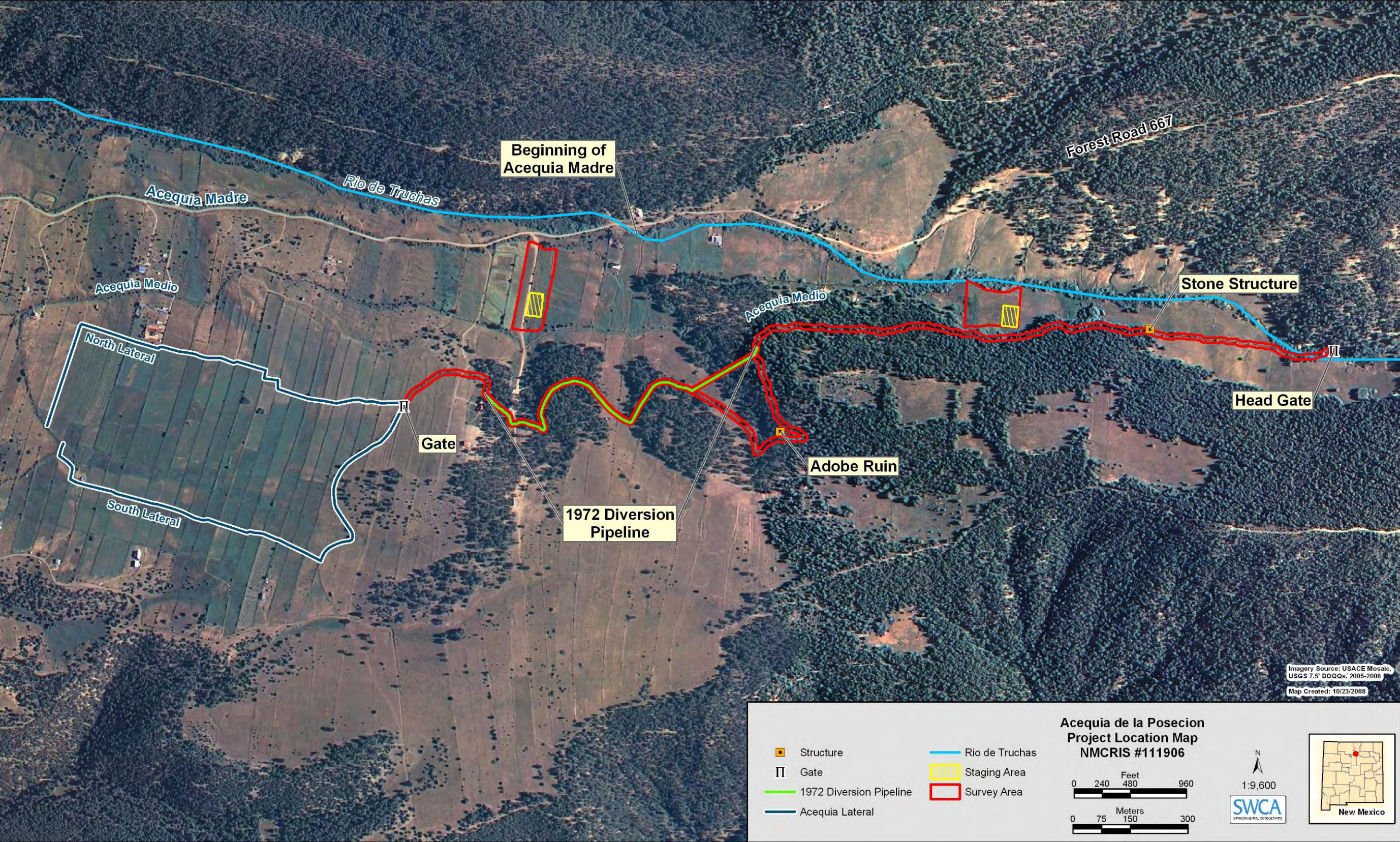


Figure 1.1. Map of the project area.

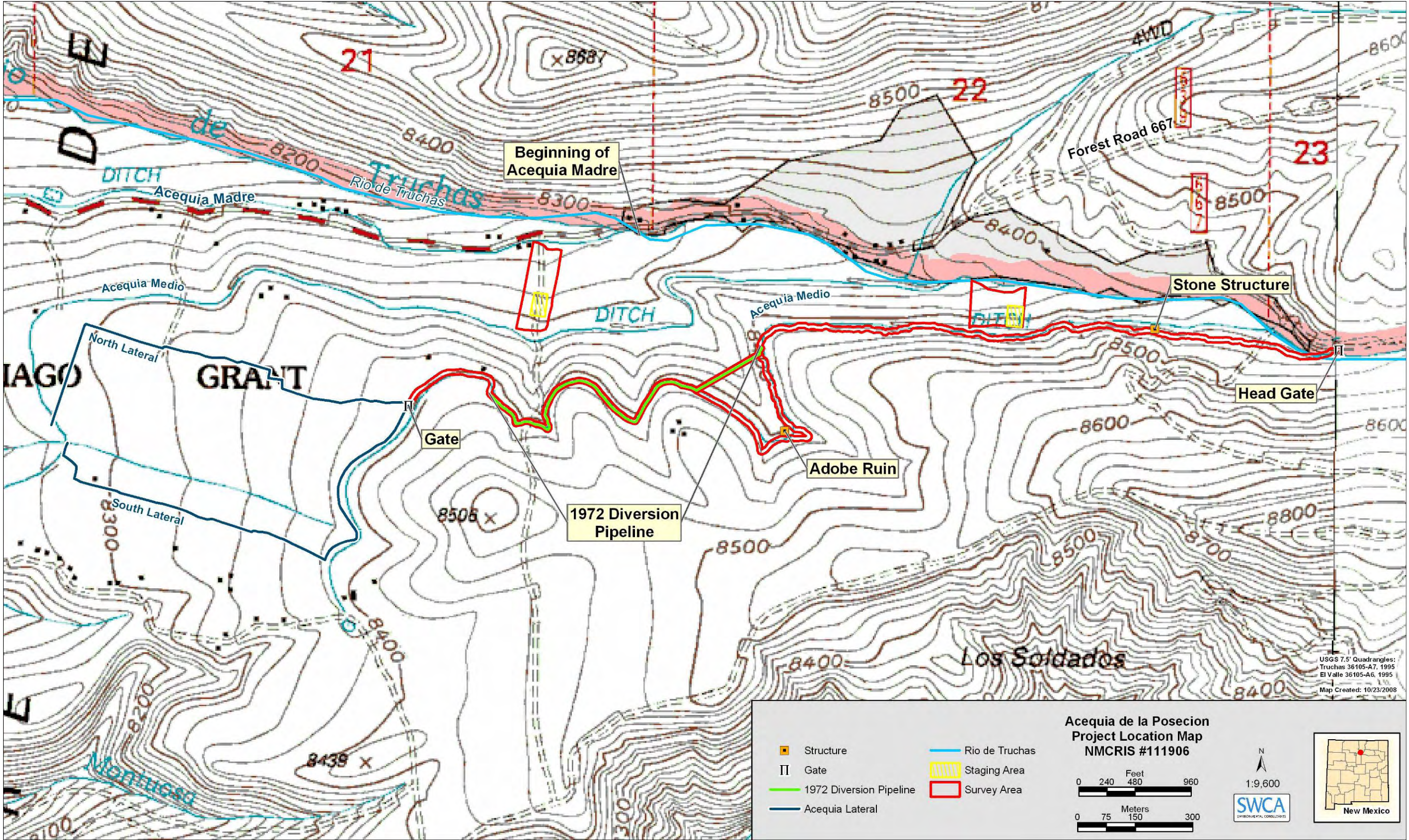


Figure 1.2. Proposed project area.

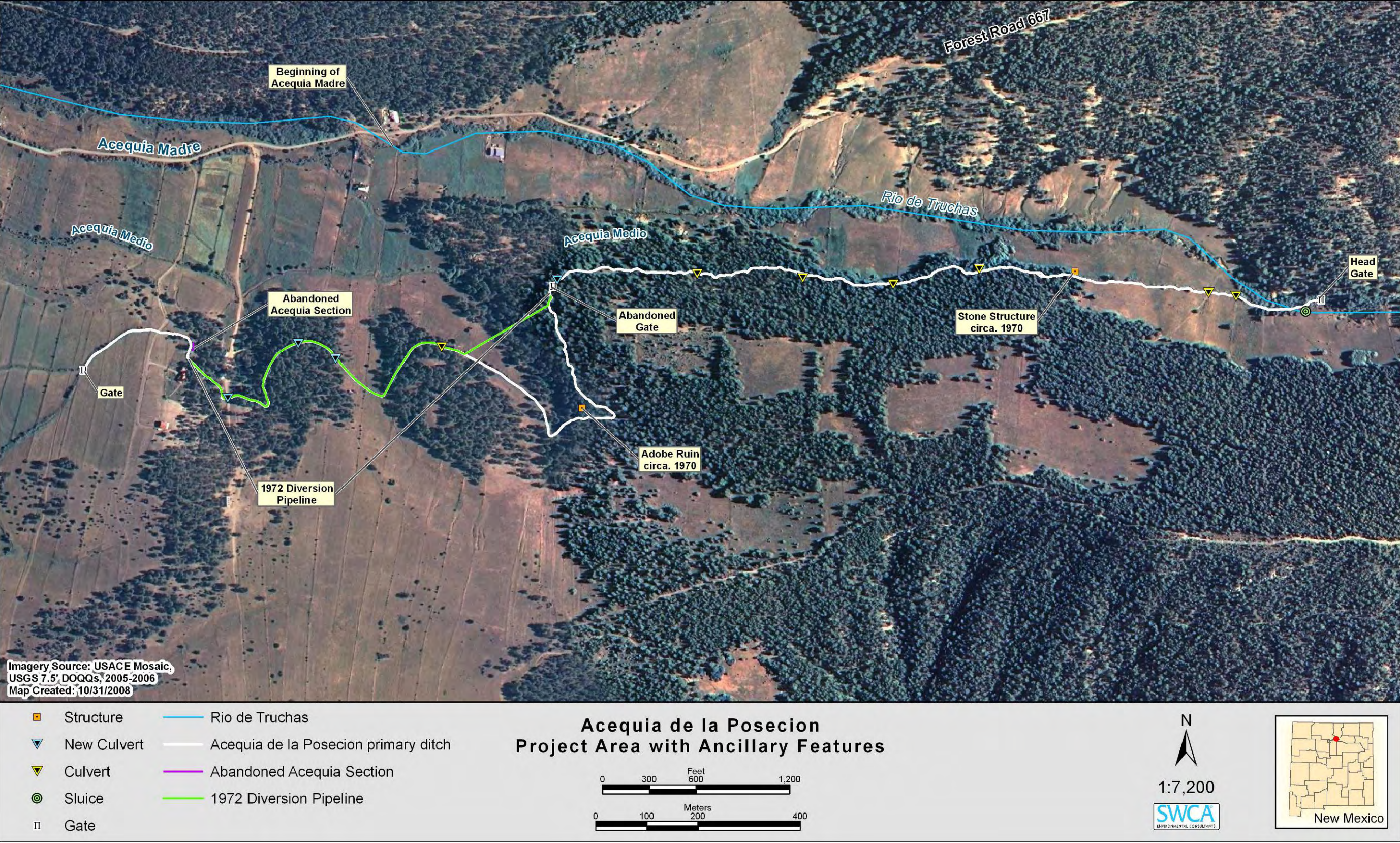


Figure 1.3. Project area with ancillary features.

CHAPTER 2

ENVIRONMENTAL AND CULTURAL SETTING

NATURAL ENVIRONMENT

GEOLOGY AND GEOMORPHOLOGY

The project area is in the valley drained primarily by the Rio de Truchas, a creek that flows from the Sangre de Cristo Mountains on the east to the Santa Clara Pueblo to the west. The Rio Grande valley is generally broad near Picuris Pueblo (Pueblo) and is bisected by numerous low ridges and ephemeral washes. The Sangre de Cristo Mountains, part of the Southern Rocky Mountain Physiographic Province, have cores of Precambrian rock with exposures of Mesozoic, Paleozoic, and Cenozoic materials (Williams 1986). The Picuris Range is an isolated spur of the Sangre de Cristo Mountains, defining the southeast portion of the Taos Plateau. Micaceous schist is a major component of this largely metamorphic range. The range's landform is a series of ridges and deep canyons radiating around Picuris Peak, whose elevation is 3,295 m (10,819 feet). The U-shaped valleys on the upper reaches of the Sangre de Cristo Mountains show evidence of past glaciations. The project area is situated along the piedmont overlooking the Rio de Truchas drainage.

The following soil associations are bisected by the acequia. Manzano clay loam is a deep, well-drained, nearly level to gently sloping soil formed in mixed alluvium. The permeability of this loam is moderately slow. The Jaroso-Angostura-Mascarena complex consists of moderately steep to steep soils. Jaroso, Angostura, and Mascarenas soils are formed in colluvium of imbedded shale and sandstone (Hacker and Carelton 1982).

CLIMATE

The average annual temperature for Truchas, New Mexico, is 61.1 degrees Fahrenheit (°F) (16.1 degrees Celsius [°C]), while the annual average minimum temperature is 31° F (-0.55°C). The highest maximum temperature is 80.7°F (27.05°C) for the month of July, and the lowest mean minimum temperature is 14.4°F (-9.77°C) for the month of January. As in much of New Mexico, a majority of the precipitation falls in the form of warm-season monsoon rains. Overall yearly precipitation for the village of Truchas is 33.8 cm (14.53 inches), with an average yearly snowfall of 111.5 cm (43.9 inches). The growing season of frost-free days is 90 to 110 days (Western Regional Climate Center 2008).

FLORA AND FAUNA

Engelmann's spruce (*Picea engelmannii*), Douglas fir (*Pseudotsuga menziesii*), one-seed juniper (*Juniper monosperma*), and ponderosa pine (*Pinus ponderosa*) grow densely in the project area. The most common grass species are blue grama (*Bouteloua gracilis*), three-awn (*Aristida* sp.), sand dropseed (*Sporobolus cryptandrus*), timothy-grass (*Phleum pratense*), cheatgrass (*Bromus secalinus*), and perennial ryegrass (*Lolium perenne*).

A number of vertebrate species may be found in the project area, including black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), and several bird, reptile, and raptor species. Mule deer (*Odocoileus hemionus*) and various rodents could be expected in this habitat. Small mammals include mountain cottontail (*Sylvilagus nuttallii*), ground squirrel (*Spermophilus* sp.), Gunnison's prairie dog (*Cynomys gunnisoni*), and possibly pocket gopher (*Thomomys* sp.) and woodrat (*Neotoma* sp.). A number of species could be exploited for pelts or hides, including fox (*Vulpes* sp.), common raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), and striped skunk (*Mephitis mephitis*).

CULTURAL ENVIRONMENT

RESULTS OF RECORD CHECK

A remote records search of the New Mexico Historic Preservation Division's Archaeological Records Management Section (ARMS) database was performed on September 30, 2008, by Thomas F. Messerli of SWCA. No state/federal registered historic properties and/or districts are within 1 mile (1.6 km) of the project area. Six previous cultural resource investigations have been conducted within 1 mile (1.6 km) of the project area (Table 2.1). One archaeological site, remnants of a historic structure, was recorded within one mile of the project area (Table 2.2, Appendix B).

LA 130785 is a historic structure associated with the nineteenth to mid-twentieth century (New Mexico Territory to World War II) historic period and is located outside the area of potential effect (APE). No artifacts other than the log structure were observed. The log structure measured approximately 4 × 4 m (13 × 13 feet) and appears to have only three sides. The structure is possibly a cabin or a livestock pen (Westbury 2000). LA 130785 is not within the APE of this project and will not be impacted by the proposed construction.

Table 2.1. Cultural Resources Surveys within 1 Mile of the Project Area

NMCRIS No.	Agency	Survey Acreage	Date
22660	USFS Carson District	56	03/Jan/1983
25842	USFS Carson District	1	12/Jul/1989
33462	USFS Carson District	354	07/Aug/1990
34114	USFS Carson District	6.7	29/Oct/1990
71342	USFS Carson District	250	02/Aug/2000
81229	USFS Carson District	3	04/Jun/2001

Table 2.2. Archaeological Sites within 1 Mile of the Project Area

LA No.	Type	Occupation Type
130785	Structural	Historic

Portions of one volume of the mayordomo daily log dating from A.D. 1918 to 1987 were transcribed from Spanish into English for additional research. Transcriptions of Curtis Frank's 1971 interviews with community members were also used in the research of the history of the Acequia de la Posecion. Current interviews with two of the commissioners and two of the landowners who live adjacent to the project area were also conducted.

RESULTS OF TRIBAL CONSULTATION

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, consultation with Native American Indian tribes was conducted to identify any tribal concerns regarding the proposed project. Based on the State of New Mexico Indian Affairs Department's 2008 Native American Consultations List, Native American Indian tribes that have indicated they have concerns in Rio Arriba County include the Jicarilla Apache Nation, Comanche Indian Tribe, Navajo Nation, Ohkay Owingeh, Hopi Tribal Council, Kiowa Tribe of Oklahoma, Pueblo of San Ildefonso, Pueblo of Pojoaque, Pueblo of Santa Clara, and Pueblo of Taos. Informal consultation (scoping) letters were mailed to these tribes on September 17, 2008. Responses were received from the Navajo Nation and the Hopi Tribe. To date, the USACE has received no indication of tribal concerns that would affect this project. No Traditional Cultural Properties (TCPs) are known to occur in the area. Copies of the tribal response letters are located in Appendix A.

PREHISTORIC CONTEXT

The cultural history of the Truchas area is a local expression of trends that occurred over a much larger geographic area. Human prehistory in the area begins with the highly mobile hunter-gatherers of the Paleoindian tradition, followed by the Archaic tradition in which hunter-gatherers adapted to changing environmental conditions. Human population in the region increased substantially, and toward the end of this time frame, some local groups began farming. The Ancestral Pueblo tradition, marked by the introduction of ceramics, also encompasses a time of great change involving intensified agriculture, population growth, and the formation of sedentary villages and more complex societies. For further discussion of regional prehistory, see Adler and Dick (1999) and Stuart and Gauthier (1988).

The arrival of Spanish explorers, then colonists, marks the beginnings of recorded history in the area—a time of abrupt changes in the human landscape of northern New Mexico.

HISTORIC CONTEXT

After initial explorations, the Spanish established a permanent foothold in New Mexico in 1598, with a capital near San Juan Pueblo. In 1609–1610, the capital was shifted to the depopulated but well-watered upper Santa Fe River, where it remains today. As time passed, much of the area was parceled into grants, confirming Pueblo land use or opening lands to Spanish colonists (Post 2001:37–41).

The effort spent obtaining grants and then litigating their boundaries shows that upland areas were of some value for hunting, mining, and fuel-wood gathering, but most of all for grazing sheep. In the subsistence economy of the Spanish colonists, sheep provided wool for clothing, a

ready source of animal protein, and an insurance policy against crop failure. In addition, through the *partido* system, sheep became wealth for many leading New Mexico families (e.g., Simmons 1982:114–115). Under Spanish law, the uplands were held as common lands where residents could graze their sheep as part of a seasonal round—livestock were grazed in the uplands during the summer and brought down to the valley for the winter. Consistent with the low level of available technology, Spanish shepherds left few archaeological traces of their activity. Although stock rearing in New Mexico shifted largely from sheep to cattle in the 1900s, flocks of sheep were grazed in the hills east of Truchas into the twentieth century.

Coronado's earliest Spanish expedition into northern New Mexico may or may not have made it into the Truchas area. Other early expeditions eventually traveled through the Picuris region, the first of which may have gone up a valley adjacent to the Pueblo, missing it entirely. Today, the Pueblo's valley is referred to in local folklore as "the Hidden Valley." On January 13, 1591, Castano de Sosa made it through deep snow to Picuris Pueblo, whose inhabitants did not immediately emerge to greet him. The Pueblo was reported by Sosa to be the tallest on record. In 1621, Fray Martin de Arvide established the first mission church at Picuris, though the Picuries reportedly did not warm to the idea of converting to Christianity (Adler and Dick 1999). The name given to Picuris by the Spanish, San Lorenzo, was not accepted by the Picuries. The word Picuris may come from *pe'ewi*, the name the Picuris call themselves, meaning "the mountain people" in the native Tiwa language (Adler and Dick 1999).

Large areas of land in the Truchas area and across New Mexico were divided into land grants by the Spanish and Mexican governments during the eighteenth and nineteenth centuries. Governor Cachupín had begun establishing communities in remote areas as barriers to raids from Plains Indians, particularly Comanches, on more established towns such as Santa Fe (Baxter 1997). Many communities, including Las Trampas (1751), Truchas (1754), Peñasco, Vadito, and Rio Lucio, were established during this time. The Law of the Indies provided the basis for Spanish town planning through this period, requiring settlers to develop high, well-drained sites with access to timber, water, and grazing lands. Spanish plazas, acequia systems, and long lot fields began to take shape in many of northern New Mexico's well-watered valleys. The early plaza building form was an attempt to fortify in the event of an attack by indigenous groups. As populations grew and such threats diminished, many Spaniards began building residences outside plazas at the tops of their fields, often on the north sides of valleys in an effort to maximize solar gain during cold months (Wilson 2005). Ditch irrigation (acequia) systems have provided water for agriculture and drinking possibly back to the Puebloan Rio Grande Classic period or earlier in the Southwest and continue to be an important component of the local Hispanic lifestyle to this day. For further information on acequia systems and Hispanic settlement patterns in New Mexico, refer to Rivera (1998) and Weigle (1975).

In 1754, twelve families (members of Espinosa and Romero families) of Chimayo and Pueblo Quemado officially received a grant of land from Governor Tomas Velez Cachupín. The grant is known as the Nuestra Señora del Rosario, San Fernando y Santiago del Río de las Truchas Grant (Baxter 2000). The community grant consisted of 14,786 acres (5,984 hectares) (Government Accounting Office 2001:25). By 1752, the group of Truchas had already created an acequia (presumed to be Acequia Madre; see Figure 1.1) and begun farming. According to Baxter (see Ackerly 1996:50–51) additional acequias were built in the Truchas area in 1755, 1760, 1776, 1836, and sometime between 1850 and 1860.

In 1782, Fray Diego Munoz Jurado completed a census of the communities in the Santa Cruz jurisdiction and Nuestra Senora del Rosario de Truchas had 49 inhabitants. By 1790, population increases caused lawsuits and demand for more irrigable land in the Santa Cruz drainage. A need for more acequias to water these lands was an issue (Baxter 2000).

On August 18, 1846, Doniphan's California Column entered Santa Fe, ushering in a new era in the region's history. With the subsequent defeat of the Mexican Army, New Mexico officially became a territory of the U.S. Water issues were to be heard by the Justice of the Peace not the villa alcalde. Documentation of legal records such as land sales and water compacts were recorded with the county officials. In 1905, justices of the Court of Private Land Claims approved the Truchas Land Grant (Baxter 2000). Irrigation or water rights adjudication continues in U.S. District Courts into the twenty-first century.

Disputes over water occurred from the inception of the acequia system. The success of the acequia was based, therefore, on the defined roles and cooperation of its members, the commissioners and the mayordomo. The 1900 bylaws of the Acequia de la Posecion, as written in the Acequia Log Book, also dictate the division of labor between mayordomo and members and also the cooperation of other acequia associations.

From the Acequia Log Book:

Page 3

January 4 A.D. 1900

We the body of *comicionados* of the *Acequia de la Posecion* elected in the first Monday of December A.D. 1900 by the *Parciantes* legal of the mentioned *Acequia* that is situated in the *Truchas* county of *Rio Arriba* and territory of New Mexico in virtue of the faculties that we free the law and in complement of our duties as such *comicionados* we have met in regular session for to give establishment and enact the next rules and regulations that will be observed in the management and government of the mentioned *acequia*, as known

Sec 1 That the *mayordomo* of the *acequia de la Posecion* so prompt as is practicable will cause that while not being used to irrigate the labor(?) should keep the water for domestic uses of the families

Sec 2 That the mentioned *mayordomo* when is convenient (he) plow what is dried up or reconstruct the mentioned *Acequia de la Posecion*.

Sec 3 That all persons required by the *mayordomo* or by his order fails the job of the mentioned *acequia* will pay for each one time that (he) fails to the job the sum of \$150c he that will be recovered by the *mayordomo* and in fault of such payment (he) will deprive (himself) of the rights of the water until that there will be payment according to the law

Page 4

Sec 4 That when the *mayordomo* of the *acequia de la Posecion* is incapacitated by illness or which is that other legal inconvenient can name a manager so that act as *mayordomo* while that the *mayordomo* does not exist for the reasons before mentioned understood that the manager *mayordomo* that will give his individual to the official deposit of the principal *mayordomo* with prior consent from the *Comicion*

Sec 5 That the *mayordomo* and *tesorero* each one will implement a deposit in the sum of 50 *pesos* and that the money that they collect in place of the work will be invested in benefit of the mentioned *acequia* as will be agreed by the *comicionados* and the *mayordomo*.

Sec 6 That the *mayordomo* of the *acequia de la Posesion* will have the duty of collecting the dues of the work of the *acequia Madre* or *de la sierra* and surrendering it to the *tesorero* of the mentioned *acequia Madre* or *de la sierra*, and that the mentioned *mayordomo* of the *Acequia de la Posesion* will have that to meet with the *mayordomo* of the *acequia Madre* and determine between both the day in that they should warn to his people for to construct the mentioned *acequia Madre* or *de la sierra*

Sec 7 That if the *mayordomo* cannot rule in the distribution of the water to proportion of the irrigation honestly of the *acequias* then the *comicionados* will take part in the ruling the difficulty.

Sec 8 That so many member before rules will not be amended or modified the same will have effect.

The proposed project is located east of the community of Truchas in the Rio de Truchas drainage. There are three distinct acequia systems fed by the Rio de Truchas: the *Acequia Madre* (also known as *Acequia de la Sierra*), the *Acequia Medio*, and the *Acequia de la Posesion*. The *Acequia de la Posesion* begins 1,900 m (6,234 feet) upstream on the Rio de Truchas from the *Acequia Madre*. Portions of the in situ Rio de Truchas have had anthropogenic manipulation since 1752 (Ackerly 1996:50–51) and have taken on some characteristics of an acequia rather than a natural drainage.

The crops grown within the proposed project area have changed, as has the land use. Prior to the second half of the twentieth century, farmers depended on crops for subsistence. Commonly raised plants included corn, beans, and potatoes (Joe Sandoval, personal communication, September 2008). Wheat was an important crop to the Spanish colonists and remained a preferred crop among the Spanish colonizers in the Santa Cruz drainage (Baxter 1997). Wheat was important as well to the twentieth century farmers of the Truchas community. Myrtle Walmsley (1981:46) wrote in her memoir about her first harvest season in Truchas (ca. 1936). She described the wheat being cut with hand scythes, then hauled to a central location. The wheat was threshed by goats walking over the pile, scooped up and poured to a clean cloth as the chaff blew away in the slight breeze. The grain was washed and sun-dried, and taken to a grist mill that was located on the stream behind the (Presbyterian) mission.

Most land is now used for grazing and hay production rather than row crops. Corn and potatoes are now raised as a hobby rather than a necessary staple to survive. No wheat fields were observed in the farming community adjacent to Truchas. One small stand of dry-land field corn was observed. During this investigation, a small herd of yaks was observed, as well as bison, horses, goats, and cattle in the general area of the project.

After World War II, men from Truchas began working outside the community on a more regular basis. Men who had taken work (much of which were seasonal tasks) outside the community as loggers, sheepherders, railroad workers, and miners began taking jobs in Los Alamos. The subsistence economy was replaced by outside steady income for many.

CHAPTER 3

FIELD METHODS

Thomas F. Messerli and Joanne Eakin of SWCA surveyed 100 percent of the project area in 5-m (15-foot) pedestrian transects along the acequia and 15 m (49 foot) transects at the staging areas on October 1 and 2, 2008. The purpose of the survey was to document (1) the Acequia de la Posecion; (2) ancillary features associated with the acequia and any archaeological remains of an apparent or likely age of 50 years or more within the survey area; (3) any standing buildings or structures of an apparent or likely age of 50 years or more within or adjacent to the survey area; and (4) buildings and structures that would qualify as historic within five years. The acequia was measured for average width and depth of associated berm as well as depth of ditch and flood pool. Sections of the 1972 diversion pipe were measured for length and diameter of concrete culvert and the steel pipe used in the construction.

Daily field notes were completed. All global positioning system (GPS) coordinates/locations of features associated with Acequia de la Posecion and the LA 16109 were documented using a Garmin 60Cx with <4-m (13-foot) accuracy. Photographs were taken of all features with a Lumix DMC-FZ18 camera with 8 megapixel resolution of the proposed project location. Field conditions were excellent, with clear weather. Ground visibility averaged an estimated 65 percent throughout the area.

CHAPTER 4

RESULTS OF SURVEY

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 New Mexico Statutes Annotated (NMSA) 1978. Public disclosure of archaeological site locations is federally prohibited by 16 United States Code 470hh (36 Code of Federal Regulations [CFR] 296.18). Confidential site location information is provided in Appendix B. Appendix B should be removed prior to public disclosure of this report.

Staging areas: A 4-acre (1.6-hectare) total area was surveyed for each of the proposed 1-acre (0.4-hectare) staging areas. No cultural resources were identified within the survey areas associated with the two staging areas. The ground visibility of Staging Area 1 (Figure 4.1) was 50 percent and Staging Area 2 (Figure 4.2) was 60 percent.



Figure 4.1. Staging Area 1, view to the north.



Figure 4.2. Staging Area 2, view to the south.

Acequia survey: One water delivery system, Acequia de la Posecion, was recorded during this investigation. Also, one archaeological site, LA 161069, a mid-nineteenth to late-nineteenth century log ruin located outside the APE, was documented. The ground visibility of the acequia corridor averaged 60 percent.

There are three acequia systems located within the Rio de Truchas drainage. Each acequia is diverted from the Rio de Truchas, a meager perennial stream that originates in the Sangre de Cristo Mountains east of Truchas. The three acequias include the Acequia Madre (A.D. 1752) (Baxter 1997:11; Baxter 2000:72–73), the Acequia de la Posecion (ca. 1754 or post A.D. 1860 [Ackerly 1996; First Judicial District Court: Preliminary Injunction 1971:1; Curtis Frank, personal communication 2008; Coco Atkinson, personal communication 2008; Joe Sandoval, personal communication 2008]), and the Acequia Medio (date unknown). Each of these acequias irrigates a distinct area. The Acequia de la Posecion currently irrigates 169 acres (68 hectares) and has 16 parcientes/water users.

The discrepancies in the exact date of original use of the Acequia de la Posecion are somewhat problematic. The acequia commissioner, Curtis Frank, thought the construction date was 1870, and Joe Sandoval thought it was sometime in the 1800s. Mr. and Mrs. Atkinson claimed their warranty deed stated the acequia had been in existence since 1840. Ackerly (1996:50–51) based on Baxter's (1997, 2000) information states the acequia was constructed either in 1754 or post-1860.

ACEQUIA DE LA POSECION

Acequia de la Posecion is an unlined irrigation ditch created circa A.D. 1754 or post-1860. The acequia is diverted from the Rio de Truchas, a narrow, meandering perennial stream at an elevation of 2,574 m (8,445 feet) above mean sea level. The acequia extends onto the llano east of Truchas where it splits into two lateral ditches (see Figure 1.3). The total length of the acequia including the north and south laterals is 5,823 m (19,107 feet). The acequia traverses through pastures within the Rio de Truchas drainage and forested land before entering the llano (see Figure 1.1 and Figure 1.2). The acequia terminates as two paralleling lateral ditches that supply water for approximately 169 acres (68 hectares). The laterals do not return flow but terminate at the Acequia Medio. The proposed project includes the primary ditch (3,256 m [10,681 feet]) of the acequia as it flows through lands that do not have irrigation water rights. The ditch channel averages 60 cm (24 inches), and the flood pool is 35 cm (14 inches) deep (Figure 4.3). The earthen berm averages 1.2 m (3.9 feet) wide and cascades downslope up to 2 m (6.6 feet). The ditch varies by width and depth based on the soil it truncates. The cubic feet per second (cfs) flow is unknown, but by appearances the ditch discharge is adequate for no more than the prescribed acreage.



Figure 4.3. Section of the acequia through the timber looking upstream, view to east.

During the investigation and documentation of the Acequia de la Posecion, all ancillary feature locations were noted using a GPS receiver (see table in Appendix B). The acequia appears to be in the original channel (see Figure 1.3) as originally created. There are eleven corrugated steel culverts, one sluice, and three gates (Figure 4.4–Figure 4.6). The head gate was replaced in 1984 with a ¼-inch steel plate model. Seven of the corrugated steel culverts and the sluice and the gate diverting water to the two lateral ditches were installed in the early 1970s, according to Acequia

Commissioner Joe Sandoval (personal communication 2008). The abandoned gate was constructed and abandoned in the early 1970s as part of the failed diversion pipeline. Four additional culverts have been installed since the very late twentieth or early twenty-first century because of new home construction.



Figure 4.4. Head gate for Acequia de la Posecion on Rio de Truchas.



Figure 4.5. Sluice, view to north.



Figure 4.6. Predominant type of culvert, view from upstream.

During 1971 and 1972, the Acequia de la Posecion Ditch Association requested and received funding from the Agriculture Stabilization and Conservation Service, the New Mexico Interstate Stream Commission, and the Acequia de la Posecion Ditch Association. The funding was used for construction of an approximately 251 m (825 foot) steel pipeline to traverse a deep and narrow drainage, essentially diverting water from the bend of the acequia near the adobe ruin. The steel pipeline terminated at a siphon that would carry the water into intersections of concrete culverts installed in the original channel of the acequia (see Figure 1.1). The steel pipe measures ¼ inch thick and 45 cm (18 inches) in diameter. The steel pipe flowed into interlocking concrete pipe measuring 1.8 m (6 feet) long and 53 cm (21 inches) in diameter, with a 36 cm (14 inch) interior. The siphon from the defunct pipeline project is also found in the area (Figure 4.7). The pipeline was abandoned because of design flaws and inadequate construction, and according to Curtis Frank, it was abandoned in stages as problems arose. Sections were abandoned beginning around 1972, and the pipeline was completely abandoned in the late 1990s. The remnants of this system are currently being disassembled by the Acequia de la Posecion Ditch Association. The steel pipe will be used elsewhere on the acequia system (Figure 4.8). The abandoned route is currently within the proposed project area.



Figure 4.7. Siphon from abandoned 1972 pipeline project.



Figure 4.8. Disarticulated steel pipeline from 1971–1972 project, view to the west.

Two contemporary (ca. 1960–1970s) structural ruins were built inside the acequia easement but do not have any direct association with the acequia. The acequia easement is 8 m (25 feet) downslope and 5 m (15 feet) upslope of the ditch.

The first contemporary structure, built with adobe block, is located within a bend of the acequia (see Figure 1.1). Mr. Sandoval claimed he witnessed a “hippie” building this adobe home next to the acequia in the late 1960s or early 1970s (Figure 4.9). He did not mention when it was abandoned, and the adobe ruins remain visible. The roof either collapsed or was removed and used elsewhere, and the adobe is melting. The adobe structure does not meet the age criterion requirement as a historic structure.

Construction of another structure had begun further upstream where the acequia begins to traverse through the timber (Figure 4.10). The stone and masonry structure abutted the acequia berm. The Acequia de la Posesion Ditch Association expressed concern in a formal letter to the builder about the structural integrity of the berm and the construction was halted (Joe Sandoval, personal communication 2008). The stone masonry ruin does not meet the age criterion requirement as a historic structure.



Figure 4.9. “Hippie-built” adobe structure circa 1968–1971; the acequia is to the left, view to the south.



Figure 4.10. Stone structure abandoned during construction.

COMMUNITY INTERVIEWS

Chris and Coco Atkinson bought their property in 1989 and settled into the community in 1993. Prior to their move to Truchas, Mr. Atkinson had spent his later professional life in Liberia, Africa, working for an insurance company. The Acequia de la Posecion flows through the upper ridge of the Atkinsons' land. They thought the acequia was built in 1840, according to their warranty deed. The Atkinsons said they had met a man who had spent his summers with an uncle tending sheep and living in the log cabin ruin (LA 161069). Though the cabin is only 12 m (39 feet) from the Acequia de la Posecion, they did not know if the cabin and the ditch were contemporaneous. They are not members of the Acequia de la Posecion Community Ditch Association, and therefore only have livestock watering rights. During 1989, the Acequia commissioners realigned a 9-m (30-foot) section of the ditch while the Atkinsons were in Africa; they still voice their concern. According to the Atkinsons, the Acequia de la Posecion Ditch Association has a 5.5-m (18-foot) easement corridor, but some of the realignment ventured outside that easement. The Atkinsons have another ditch, the Acequia Medio, flowing through their property and have irrigation rights to that acequia.

Curtis Frank was at Colorado State University when he bought his parcel of land in 1961. Back then, irrigated land was selling for about fifty dollars an acre. He has been commissioner of Acequia de la Posecion Ditch Association since 1990. He stated that he has been encouraging efforts to place a pipe in the ditch for five years because of maintenance issues. He currently operates a bed and breakfast establishment from his home north of the ditch.

During the 1970s Mr. Frank was a professor of sociology at Colorado State University. He received a grant to interview residents of Truchas and document the village and acequia system.

Joe Sandoval was born in Truchas and has served as a ditch member, a mayordomo, or commissioner of the acequia for over fifty years. His father was the mayordomo before him. The Acequia de la Posecion does not have a mayordomo at this time.

Mr. Sandoval said that prior to World War II, most landowners were subsistence growers of corn, potatoes, and beans. After the war and with the lure of prosperity in a modern outside world, the people began to sell their land and move from the community. This exodus of farmers changed the use of the land to irrigated pasture and alfalfa and hay production. As a teenager in the early 1950s, Mr. Sandoval went to work in the mines of Colorado and saved his money and bought a new 1951 Ford. Returning to Truchas, his mother responded to the new car by telling him “they make cars every day but they don’t make land. If you are going to spend your money, buy land.” Mr. Sandoval heeded his mother’s advice over the years. When neighbors wanted to sell, they offered it to him. Mr. Sandoval, whether working in the mines near Grants, New Mexico, or at the laboratory in Los Alamos, kept his roots in the Truchas community and he remains the largest property holder of the Acequia de la Posecion Ditch Association. Retired from Los Alamos, he moved back to Truchas and still relishes the ability to grow hay and raise a few head of cattle.

Mr. Sandoval stated that most of the “farmers” in the area are retired from other occupations, and that farming is now mainly a hobby. Mr. Sandoval says there currently are 169 acres (68 hectares) under irrigation and 16 members of the Acequia de la Posecion Ditch Association. According to the Daily Log book of 1923, 14 members appeared for the annual cleaning and six paid their dues because they did not attend the cleaning (Daily Log book: page 2). The 1989 bylaws archived at the Office of the State Engineer documents 166.6 acres (67.4 hectares) of irrigable land associated with Acequia de la Posecion.

According to Mr. Sandoval, before he became mayordomo, the acequia delivery schedule was haphazard at best. The schedule was revised, and now the water of Acequia de la Posecion is delivered in a rotation system by elevation. The parcel at the lowest elevation gets the first water. The amount of water is based on the size of the plot. A small plot of land would be irrigated for one half day while a larger parcel may get a full day of watering. Because of the high elevation and only 90 to 110 frost-free days, water delivery usually does not happen until June with fields irrigated through October to saturate the land prior to the next growing season.

Mr. Sandoval’s nephew, Peter Sandoval, is the third of the Acequia de la Posecion Ditch Association commissioners. Peter, in his early fifties, is the youngest on the commission. He, like so many others, was unavailable for interview, just as many in the area are unavailable to participate in the general maintenance of the acequia. The younger generations who work elsewhere are unable or unwilling to maintain the system. Joe Sandoval currently walks and maintains the ditch every one or two weeks during irrigation season, but anticipates a time when he will be unable to monitor the ditch.

NRHP RECOMMENDATION

The Acequia de la Posecion is a historic ditch constructed circa A.D. 1754 or post-1860. SWCA recommends that the Acequia de la Posecion is eligible for nomination to the National Register

of Historic Places (NRHP) under Criteria A, C, and D, of 36 CFR 60.4 for its association with the development of irrigation and agriculture in the Truchas area uplands, as well as the associated settlement of Truchas; for its engineering design characteristics; and for its potential to yield additional information on acequia construction and function. The Acequia de la Posecion currently retains its integrity of design, location, setting, workmanship, materials, feeling, and association.

The proposed rehabilitation project will not change the historic irrigation function or alignment. The visual quality (form) has been previously modified by years of operation and maintenance activities. The proposed project will not change the form of the acequia. The proposed project will have no effect on the integrity of setting, location, or association. The integrity of setting and location will not be affected because the proposed undertaking will be in situ of the acequia. The proposed undertaking will not affect the integrity of association because the project extends the use and improves the efficiency of the acequia for the community.

SWCA recommends the proposed rehabilitation pipeline undertaking will adversely affect the integrity of workmanship, design, feeling, and material of the Acequia de la Posecion. The proposed pipeline will replace materials and improve the design to maximize the efficiency of the water delivery system. By doing so, the proposed project will affect the workmanship of the ditch by displacing soil from the berm and installing a pipe in the unlined canal.

TREATMENT OF PROPERTY

SWCA recommends the conversion of the primary ditch of Acequia de la Posecion from an earthen ditch to underground PVC pipeline would be an adverse effect to this historic property. Approximately 3,256 m (10,681 feet) would be affected by this undertaking, 2,590 m (8,496 feet) by installing pipeline in the ditch and 666 m (2,185 feet) by abandonment. Another 2,568 m (8,426 feet) of acequia system is outside the area of potential effect. Thus 56 percent of this historic property would be adversely affected.

To mitigate this adverse effect, extensive information on the acequia and its history was collected. These mitigation efforts included recording the acequia and its associated features on a New Mexico Historic Water Delivery System Inventory form; photo-documenting the acequia on archival paper; conducting oral history interviews with Acequia de la Posecion Ditch Association members; scanning and translating the acequia association's log book, which dates from A.D.1918–1987; and dubbing and transcribing 15 hours of interviews conducted previously by the association. SWCA is of the opinion that these efforts resolve the adverse effect that would occur to the Acequia de la Posecion from the proposed undertaking.

NEWLY RECORDED SITE

LA Number: 161069

Site Name: Atkinson Cabin

UTM Location: NAD 27; Zone 13

USGS Quadrangle: Truchas, NM

Elevation (AMSL): 2,560 m (8,400 feet)

Land Ownership: Private

Site Type: Log cabin ruin

Cultural Affiliation and Age: Historic U.S. Territorial to WWII: A.D. 1846–1945

Site Size: 21 × 29 m (609 m² [6,555 square feet])

The Atkinson Cabin (Figure 4.11) ruin is probably a late-nineteenth century construction with some early-twentieth century improvements. The cabin is situated 13 m (39 feet) south of the Acequia de la Posecion and outside the APE. The exterior measurements are 5.01 × 5.3 m (16.4 × 17.4 feet), and the interior measurements are 4.9 × 4.2 m (16.0 × 13.8 feet). The door threshold measures 1.1 m (3.6 feet) wide and is in the center of the east wall, and a milled lumber framed window portal measuring 55 × 55 cm (22 × 22 inches) is located in the central portion of the west wall. The logs used in the construction of the cabin measure 15 to 20 cm (6–8 inches) in diameter and up to 5.3 m (17.4 feet) in length.

The wire nails and milled dimensional lumber in the door threshold and window sash appear to indicate later-date improvements. A cast-iron panel from a wood-burning stove was unearthed by the landowner 5 m (16 feet) west of the cabin (Figure 4.12). Remnants of adobe chinking remain in situ. Adobe melt that was chinking has pooled along the interior walls of the cabin. Logs were saw and axe cut. One log exhibits hewn sides and may have been salvaged from another structure during the initial construction or was used as a replacement log. The current owners attest to the story that the cabin was used during the mid-twentieth century by shepherds who were summer pasturing their sheep on the land grant.

NRHP Recommendation: The structural integrity of the feature has been diminished since its abandonment. No extraneous cultural debris is associated with the structure. It appears that the roofing material was intentionally removed from the site boundary. Only one artifact, a cast-iron stove part, was observed. The soil deposition observed at the site and within the feature ruin is such that there is a potential for buried cultural deposits. The site is similar to other log structure ruins in the Rio de Truchas drainage observed during this project. The site is recommended as eligible for nomination for listing on the NRHP under Criterion D. The site has the research potential to contribute to the understanding of the rural lifestyle of the Truchas area during the late-nineteenth and early-twentieth century.

Site Treatment: The Atkinson Cabin, is outside the APE and would be avoided by any ground-disturbing activity and thus will not be adversely affected. If the site cannot be avoided, mitigation measures may be necessary.



Figure 4.11. Atkinson Cabin, acequia in background; view to the north.



Figure 4.12. Cast-iron stove part located 5 m west of the cabin.

RURAL HISTORIC LANDSCAPE

There are three acequia systems located within the Rio de Truchas drainage. Each acequia is diverted from the Rio de Truchas, a meandering perennial stream that originates in the Sangre de Cristo Mountains east of Truchas. The three acequias include the Acequia Madre (A.D. 1752), the Acequia de la Posecion (ca. A.D. 1754 or post-1860), and the Acequia Medio (date unknown). Each of these acequias irrigates areas with distinct habitation sites associated with each acequia. The Acequia de la Posecion currently irrigates 169 acres (68 hectares). This acequia system represents a segment of the history from Spanish colonization of the Upper Rio Grande valley to the expansion and growth of New Mexico territory.

The historic landscape of Truchas may qualify for listing with the NRHP, with the Acequia de la Posecion serving as a contributing resource for the historic landscape. The Truchas/Acequia de la Posecion landscape illustrates the adaptation of Spanish farmers to the natural environment over the past three and a half centuries. The acequias (de la Posecion and los Medios) wind through the Rio de Truchas valley amidst terraced agricultural fields that once grew corn, beans, and wheat. However, with respect to NRHP criteria, historic integrity, a measure of a property's evolution and current condition, must also be considered. Recent changes that have erased historic characteristics and do not have exceptional importance may make a property ineligible, even if scenic qualities are still present. In the case of the Truchas/Acequia de la Posecion landscape, changes in land utilization are pronounced. While the fields remain, with terraces and property lines intact, agriculture for sustaining the community has given way to farming as a hobby, and most landowners grow hay rather than food crops. These changes in land use and agriculture began in the community after World War II.

Nevertheless, the qualities of the landscape of the project area and the nearby village of Truchas appear to satisfy NRHP Criterion C. Criterion C applies to properties embodying the distinctive characteristics of a type, period, or method of construction; possessing high artistic values; or representing a significant and distinguishable entity whose components may lack individual distinction. The organization of space, visible in the arrangement of fields or siting of farmsteads, may illustrate a pattern of land use significant for its representation of traditional practices unique to a community. Similarly, an irrigation or transportation system may reflect an important innovation in engineering that fostered a community's prosperity (McClelland et al. 1999:14).

Based on this information, it is unclear if the Truchas/Acequia de la Posecion area is eligible to be designated as a Rural Historic Landscape. The land use within the project area has changed. Residents are no longer dependent upon farming for sustenance. Livestock and beasts of burden essential in a subsistence environment have been replaced with recreational and novelty animals such as yaks, trail or pleasure horses, and bison. The proposed project will allow the acequia to continue functioning, thereby preserving the historic landscape. This would likely not adversely affect a potential Rural Historic Landscape designation. Additional historic research and pedestrian access to the landscape community would be necessary to develop historic context, select boundaries, assess historic integrity, and define the significance of the area.

TRADITIONAL CULTURAL PROPERTY

Consideration of the village of Truchas and surrounding agricultural landscape and water system for its cultural significance may qualify it as a TCP. “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices. An example of such significance as it may apply to Truchas and the surrounding agricultural area, including the acequias, is “a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents” (McClelland et al. 1999:14). A property can be eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (1) are rooted in that community’s history and (2) are important in maintaining the continuing cultural identity of the community (McClelland et al. 1999:1).

In the case of a TCP, there are two fundamental questions to ask about integrity: does the property have an integral relationship to traditional cultural practices or beliefs, and is the condition of the property such that the relevant relationships survive? Certainly the physical property survives in good condition. The village of Truchas and the agricultural community were tied to the landscape and the acequia system and its organization. However, changes in land use, agricultural practices, and economics associated with working outside of the community arose during and after World War II. Accompanying the economic change was a decrease in opportunity and motivation within the community to maintain the landscape and water system for sustenance. In evaluating the criteria for designating the system as a TCP, further research, primarily through interviews in the community, would serve to ascertain whether relationship with the acequia, maintenance activities, and overall way of life is still a part of the traditional value system of the contemporary community that now inhabits the historic landscape.

Based on this definition, additional interviews with spiritual and community leaders, farmers, and water users may be necessary to determine whether the acequia system and associated practices are part of the value system of the community. The proposed undertaking will allow the farming and community practices to continue and not adversely affect potential TCP designation.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS

EVALUATION AND STATEMENT OF SIGNIFICANCE

The current investigation recorded the Acequia de la Posecion alignment and examined two proposed staging areas. One historic water delivery system was documented and one historic site, LA 161069, was recorded. This investigation also addressed whether the proposed project area is potentially eligible as a Rural Historic Landscape or a Traditional Cultural Property.

The Acequia de la Posecion is an open-unlined ditch that diverts water from the Rio de Truchas. It is located in Nuestra Señora del Rosario, San Fernando y Santiago del Rio de las Truchas Grant, east of the village of Truchas, Rio Arriba County, New Mexico. The acequia distributes water to 16 irrigators and 169 acres (68 hectares). The Acequia de la Posecion is a historic ditch constructed circa A.D. 1754 or post-1860.

SWCA recommends that the Acequia de la Posecion is eligible for nomination to the NRHP under Criteria A, C, and D, of 36 CFR 60.4 for its association with the development of irrigation and agriculture in the Truchas area uplands, as well as the associated settlement of Truchas, for its engineering design characteristics, and for its potential to yield additional information on acequia construction and function.

LA 161069 consists of a log cabin ruin built during the mid- to late-nineteenth century period and a cast iron stove part. SWCA recommends LA 161069 as eligible for nomination for listing on the NRHP under Criterion D. The site has the research potential to contribute to the understanding of the rural lifestyle of the Truchas area during the late-nineteenth and early-twentieth centuries. Site LA 161069 is outside the APE and would be avoided by any ground-disturbing activity and thus would not be adversely affected.

The Truchas area community may qualify as a Rural Historic Landscape, with the Acequia de la Posecion serving as a contributing resource. The qualities of the landscape of the project area and the nearby village of Truchas appear to satisfy NRHP Criterion C; however, SWCA recommends that additional historic research and pedestrian access of the landscape community would be necessary to develop historic context, select boundaries, assess historic integrity, and define significance of the area.

Consideration of the village of Truchas and surrounding agricultural landscape and acequia system for its cultural significance may qualify it as a TCP. SWCA recommends that further research, primarily through interviews in the community, would serve to ascertain whether relationship with the acequia, maintenance activities, and overall way of life are still part of the traditional value system of the contemporary community that now inhabits the historic landscape. The proposed undertaking will allow the farming and community practices to continue and not adversely affect potential TCP designation.

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. The proposed project has the potential to affect Acequia de la Posecion. LA 161069 is outside the APE and would not be affected by the undertaking

The criteria of adverse effect pursuant to the seven types of adverse effects

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

The proposed pipeline installation would be confined to 3,256 m (10,681 feet) of the acequia and would alter the property from an open-unlined ditch to a buried pipe; therefore, the existing ditch would not be destroyed by this undertaking. All water control features, such as gates, culverts, an abandoned siphon, and a sluice, are less than fifty years old. All have been documented as constructed or installed from circa 1970 to present. The staging areas are located along existing roads, and the undertaking would not destroy or damage these roads.

(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 proposed rehabilitation project would affect a historical element, the “open-unlined earthen ditch” design of the Acequia de la Posecion. The proposed undertaking would not affect other historic elements, such as function or setting. The proposed project would involve 56 percent of the acequia system.

(iii) Removal of the property from its historical location.

This statement 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 which contribute to its historic significance.

The proposed project would alter the open ditch form for 3,256 m (10,681 feet) of the acequia to buried pipe; however, piping would allow this segment of the acequia to remain in its historic location while preserving its function.

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

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.

The proposed action would abandon 666 m (2,185 feet); therefore, the abandonment is considered an adverse effect.

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

This category does not apply to this project.

SUMMARY AND RECOMMENDATIONS

SWCA conducted a cultural resources survey that documented the Acequia de la Posecion and one archaeological site, a historic cabin (LA 161069). LA 161069 is a log cabin ruin built during the mid- to late-nineteenth century and may represent a sheep camp habitation used seasonally into the mid-twentieth century. The Acequia de la Posecion is a historic ditch constructed circa A.D. 1754 or post-1860. This acequia system represents a segment of the agrarian history from Spanish colonization of the Upper Rio Grande valley to the expansion and growth of New Mexico territory. There are three acequia systems located within the Rio de Truchas drainage: the Acequia Madre (A.D. 1752), the Acequia de la Posecion (ca. A.D. 1754 or post-1860) and the Acequia Medio (date unknown). Each acequia is diverted from the Rio de Truchas, a meandering perennial stream that originates in the Sangre de Cristo Mountains east of Truchas, and the acequias irrigate areas with distinct habitation sites associated with each acequia. The Acequia de la Posecion currently irrigates 169 acres (68 hectares). This acequia system and LA 161069 represent a segment of the history from Spanish colonization of the Upper Rio Grande valley to the expansion and growth of New Mexico territory.

The historic landscape of Truchas may qualify for listing on the NRHP, with the Acequia de la Posecion serving as a contributing resource for the historic landscape. The Truchas/Acequia de la Posecion landscape illustrates the adaptation of Spanish farmers to the natural environment over the past three and a half centuries. The acequias (Acequia de la Posecion and Acequia Medio) wind through the Rio de Truchas valley amidst terraced agricultural fields that once grew corn, beans, and wheat.

SWCA recommends the conversion of the primary ditch of Acequia de la Posecion from an earthen ditch to underground PVC pipeline would be **an adverse effect** on this historic property. Approximately 3,256 m (10,681 feet) would be affected by this undertaking, 2,590 m (8,496 feet) by installing pipeline in the ditch and 666 m (2,185 feet) by abandonment. Another 2,568 m (8,426 feet) of acequia system is outside the area of potential effect. Thus, 56 percent of this historic property would be adversely affected.

To mitigate this adverse effect, extensive information on the acequia and its history was collected. These mitigation efforts include recording the acequia and its associated features on a New Mexico Historic Water Delivery System Inventory form; photo-documenting the acequia on archival paper; conducting oral history interviews with Acequia de la Posecion Ditch Association members; scanning and translating the acequia association's log book, which dates from A.D. 1918–1987; and dubbing and transcribing 15 hours of interviews conducted previously

by the association. SWCA is of the opinion that these efforts would resolve the adverse effects that would occur to the Acequia de la Posecion from the proposed undertaking.

Native American Indian tribes that have indicated they have concerns in Rio Arriba County include the Jicarilla Apache Nation, Comanche Indian Tribe, Navajo Nation, Ohkay Owingeh, Hopi Tribal Council, Kiowa Tribe of Oklahoma, Pueblo of San Ildefonso, Pueblo of Pojoaque, Pueblo of Santa Clara, and Pueblo of Taos. Informal consultation (scoping) letters were mailed to these tribes on September 17, 2008. Responses were received from the Navajo Nation and Hopi Tribe. To date, there has been no indication of tribal concerns that would affect this project. No TCPs are known to occur in the area.

Should previously undiscovered artifacts or features be unearthed during project development, work will cease in the immediate area of the find, a determination of significance will be made, and a mitigation plan will be formulated, in coordination with the New Mexico Historic Preservation Officer and Native American groups that may have concerns in the project area.

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**APPENDIX A
TRIBAL LETTERS**



Benjamin H. Nuvamsa
CHAIRMAN

Todd Honyaoma, Sr.
VICE-CHAIRMAN

September 29, 2008

Dr. Mike Marcus, Project Manager
Attention: Joni Wood, Acequia de la Posecion Comments
Tetra Tech, Inc.
One Towne Centre, 6121 Indian School Road, Suite 205
Albuquerque, New Mexico 87110

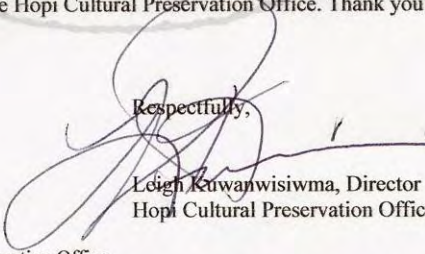
Dear Dr. Marcus,

This letter is in response to your correspondence on behalf of the U.S. Army Corps of Engineers dated September 17, 2008, regarding the proposed Acequia de la Posecion conveyance system rehabilitation in Rio Arriba County, New Mexico. 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 prehistoric 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 prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. Because this project is a federal undertaking that involves ground disturbing activities, if prehistoric cultural sites are identified in the project area that will be adversely affected by project activities, we request to be provided with copies of the cultural resource survey report of the area of potential effect and any proposed draft treatment plans for review and comment.

In addition, we recommend that if any prehistoric cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains, and the State Historic Preservation Office must be consulted to evaluate their nature and significance. If any Native American human remains and funerary objects are discovered during construction they shall be immediately reported as required by law. Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you for your consideration.

Respectfully,


Leigh Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office
Julie Alcon, Corps of Engineers, 4101 Jefferson Plaza NE, Albuquerque, New Mexico 87109-3435

P.O. BOX 123

KYKOTSMOVI, AZ 86039

(928) 734-3000



THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

October 03, 2008

Mr. Mike Marcus, Project Manager
Tetra Tech, Inc.
6121 Indian School Road, NE, Suite 205
Albuquerque, New Mexico 87110

Subject: Tribal Consultation Request. Proposing to rehabilitate the Acequia de la Posecion conveyance system, Albuquerque, New Mexico.

Dear Mr. Marcus:

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 17, 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,

A handwritten signature in black ink, appearing to read "Tony Joe", is written over a horizontal line.

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 09-035

File: Office file/chrono

HISTORIC PRESERVATION DEPARTMENT P O BOX 4950 WINDOW ROCK, ARIZONA 86515 928 871 7198 (v) 928 871 7886 (fax)

APPENDIX B
STATE HISTORIC PRESERVATION OFFICER CONSULTATION



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

Copy

December 11, 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 "Adverse Effect to Historic Properties" for a proposed rehabilitation of the Acequia de la Posecion (Posecion). The Corps, at the request of the New Mexico State Engineer/Interstate Stream Commission and Acequia de la Posecion Association (Association), is planning a project that would rehabilitate a 9,321-foot segment of the Acequia. Work would be conducted under Section 1113 of the Water Resources Development Act of 1986 (Public Law 99-662), as amended.

The Acequia de la Posecion Rehabilitation Project is located approximately three miles east of the Village of Truchas, in Rio Arriba County, New Mexico. The project area is located within the historically significant Nuestra Señora del Rosario, San Fernando, y Santiago Community Land Grant (1754); USGS 7.5' Quadrangle = Truchas, NM (36105a7 1953, photo revised 1977). The Acequia de la Posecion is a 19,107 foot-long open earthen ditch system that diverts water from the Rio de Truchas, travels 10,681 feet west before splitting into one 3,953 foot-long northern and one 4,473 foot-long southern alignment that parallel each other and drain into (desagua) the Acequia Medio. The Acequia de la Posecion serves a portion of the community of Truchas, and dates to 1754. In 1900, by-laws were established to define the roles and cooperation of the acequia members, and dictate the division of labor associated with the acequia. The Acequia system currently provides water to 17 irrigators and approximately 167 acres of cultivated land.

The proposed project is to pipe the acequia madre from the diversion structure to the split at 10,681 feet. As part of this process, a more direct route (following approximately 825 feet of an earlier alignment) will be re-established. This shorter alignment was briefly in use in the early 1970s as an alternate alignment, but was not well engineered and was abandoned soon thereafter. The acequia is relatively unmodified from its original form, function, and alignment, although as part of the early 1970s alternate alignment process, approximately 2,350 feet of the existing acequia were piped with concrete; and the alternate alignment, measuring approximately 825 feet, used a steel pipe siphon (totaling 17 percent). Much of this piping and concrete has since been removed, returning the ditch to an open, earthen form.

The Corps would provide 75 percent of construction funding and is, therefore, the lead Federal agency for this project in terms of Section 106 of the National Historic Preservation Act. The Office of the State Engineer is the project sponsor, and with the local ditch association, would be responsible for the remaining 25 percent of construction costs. The Association would be responsible for assuring operation and maintenance upon project completion.

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) as well as two 1-acre staging areas, for a total of 13.2 acres. Access is provided by existing roads.

Pursuant to 36 CFR 800.4(b), historic properties were identified by SWCA, Inc. archaeologists in early October 2008, as presented in the enclosed cultural resources survey report titled A Cultural Resources Survey of 19.2 Acres for Rehabilitation of the Acequia de la Posecion, Truchas, Rio Arriba County, New Mexico by Thomas F. Messerli and Joanne E. Eakin. The survey was conducted within Association and private property. Note that the survey

includes 6 acres surrounding the staging areas that are not in the APE.

Prior to the pedestrian survey, an archival literature search, and searches of the New Mexico Archaeological Records Management Section database, the State Register of Cultural Properties, and the National Register of Historic Places (NRHP) were completed. Six previous cultural resource investigations have been conducted within one mile of the project area. One archaeological site (LA 130785), consisting of remnants of a historic-period structure, was recorded as a result of these investigations. Although, this structure is within one mile of the project area, it is not near the acequia. The records review determined that there are no State or Federal registered historic properties within one mile of the project area.

The pedestrian survey identified two historic properties: the Acequia de la Poscion and a dilapidated historic cabin (LA 161069). Known as the Atkinson Cabin, this is considered by the current land owner to be a late 19th century log cabin with some early 20th century improvements. During the mid-20th century, it was used by shepherds who were summer-pasturing their sheep on the land grant. The cabin is located outside of the project area approximately 39 feet south of the acequia, and will not be affected by this project. SWCA, Inc. recommends that LA 161069 is eligible for listing on the NRHP under Criterion D, for its ability to contribute to the understanding of the rural lifestyle of the Truchas area during the late 19th and early 20th centuries. The Corps concurs with this eligibility determination.

SWCA Inc. recommends that the Acequia de la Poscion is eligible for nomination to the NRHP under Criteria A, C, and D, for its association with the development of irrigation and agriculture in the Truchas Valley, as well as the associated settlement of Truchas; for its engineering design characteristics; and for its potential to yield additional information on acequia construction and function. The Corps concurs with SWCA's recommendations for Criteria A and C, but does not agree that significant information could be derived from excavation of the active physical ditch. There are no unique features or technological challenges associated with this ditch that would warrant a Criterion D eligibility determination.

The Corps considers conversion of 9,321 feet of the Acequia de la Poscion from an earthen ditch to underground PVC pipeline an adverse effect to this historic property, as this represents a change in form to a little more than half of the acequia (56 percent). The project would not introduce a new alignment; it would follow the current alignment for most of its extent but would also

include the reuse of an approximately 825-foot segment discontinued shortly after its construction in the 1970s. The function of the acequia, to convey water to fields for farming, will remain the same.

The Corps considered construction options that would reduce or minimize the effects to form, function, and alignment to the acequia. The steep terrain, roots, beavers, rodent burrows, water loss, arroyos, and heavily forested nature of the proposed project area does not leave many viable alternatives. Half-piping while staying in the original alignment would have the least impact to the historic character of the acequia, but would not resolve the problem of significant sedimentation and accumulation of debris in the ditch. In addition, access for cleaning and maintenance over the last decades has become extremely problematic to the 17 remaining acequia association members. There are approximately 30 private non-acequia land owners whose boundary fences cross the acequia and make access to the acequia right-of-way difficult. Due to the steep forested terrain, it is not possible to drive up the acequia to maintain it. In the end, the proposed piping through the portion with recent land-ownership issues and ongoing debris problems will allow the declining number of acequia association members to continue operating the acequia.

To mitigate adverse effects to the acequia, the Corps recommends conducting additional research on the acequia, including photographically documenting the acequia on archival paper; conducting oral history interviews with acequia association members; scanning and translating the Association's log book, which dates from 1900; and copying and transcribing 17 hours of interviews conducted in 1971 by the Association. The Corps recommends that these efforts could serve to mitigate the adverse effect that would occur to the Acequia de la Posecion from the proposed undertaking. As conducting this research is non-destructive in nature, the Corps is in the process of conducting this research. Results, when available, will be forthcoming.

Although the Corps had already completed this research, the Corps does not consider consultation on this proposed activity to be complete. Pursuant to 36 CFR 800.5(a), we have applied the criteria of adverse effect, and are asking for your concurrence in our determination of adverse effect. In anticipation of your concurrence, we are also proposing, pursuant to 36 CFR 800.6, a potential resolution to adverse effects, as described in the previous paragraph, but will entertain any additional suggestions, comments, or requests that you or other potential consulting parties might have. Pursuant to 36 CFR 800.6(a)(1), we will also notify the Advisory Council on Historic Preservation concerning

this project, but due to the non-controversial nature of this project, do not anticipate their participation.

The USACE, therefore, is of the opinion that the proposed Acequia de la Poscion rehabilitation project will have an "Adverse Effect to Historic Properties." The Corps recommends that construction be permitted to proceed after consulting parties agree to the resolution of adverse effects.

Should work be allowed to proceed, and 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 the Corps will consult with your office and with Native American tribes that may have concerns in the project area as to the best course of action.

If you have questions or require additional information regarding the Acequia de la Poscion rehabilitation project, please contact Gregory Everhart, archaeologist, at (505) 342-3352 or me at (505) 342-3281.

Sincerely,



Julie Alcon
Chief, Environmental Resources
Section

I CONCUR

Date

KATHERINE SLICK
NEW MEXICO STATE HISTORIC
PRESERVATION OFFICER

Enclosures