

**ENVIRONMENTAL ASSESSMENT
FOR THE EMWT REGIONAL ASSOCIATION
MCINTOSH, NEW MEXICO WATER SYSTEM
PROJECT**

Prepared for:

**U.S. DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE**

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1.0 INTRODUCTION

1.1 NATIONAL ENVIRONMENTAL POLICY ACT

This environmental assessment (EA) has been prepared by SWCA Consultants under contract with the Estancia, Moriarty, Willard and Torrance County Regional Water Association (EMWT) in accordance with the guidelines contained in the U.S. Department of Agriculture (USDA) Rural Development Handbook– Instruction Part 1970 Subpart C. The handbook established a means of complying with the National Environmental Policy Act (NEPA) and its implementing regulations. The purpose of this EA is to evaluate the potential environmental impacts resulting from the proposed water system improvements. Other federal regulations and laws that apply to the Proposed Action are:

- Section 106 of the National Historic Preservation Act (NHPA)
- Section 7 of the Endangered Species Act (ESA)
- Section 404/401 of the Clean Water Act (CWA)
- Clean Air Act

Pursuant to the provisions of NEPA, the ESA, and the CWA, EMWT Regional Water Association contracted SWCA in 2008 to conduct a biological resource survey of a larger proposed project area (42.25 acres). SWCA conducted a second biological resource survey of just the McIntosh project area, as described in Section 3.0 of this EA, on July 29, 2017 to inventory habitat and evaluate the potential presence of federally threatened and endangered species.

Pursuant to provisions of the NHPA, SWCA conducted a cultural resources inventory in 2008 of the proposed project area. Subsequently, a cultural resources inventory report was prepared (SWCA 2008; see Appendix B).

1.2 RELATIONSHIP OF THE EA TO THE PRELIMINARY ENGINEERING REPORT

A preliminary engineering report, EMWT Regional Water Association McIntosh, New Mexico, Water System Preliminary Engineering Report (PER) was completed in July 2017. Due to USDA funding, there is a nexus for NEPA, which entails the completion of this EA. This document incorporates exact details as provided in the submitted PER.

1.3 PUBLIC INVOLVEMENT

Resource issues to be considered in the EA were determined following review of the cultural resource report and biological survey.

1.4 AGENCY DECISION

The completion of this document will meet the USDA environmental compliance requirements such that the review process can be completed and a decision provided on the application for

financial assistance. The details provided in this assessment will demonstrate that there will not be a significant impact on the quality of the human environment and support the Agency's decision to prepare a Finding of No Significant Impact (FONSI).

1.5 PROJECT CHANGES SUBSEQUENT TO APPROVAL

No changes have occurred in this proposed alternative, as reflected in the PER submitted in July 2017.

1.6 SOURCES OF INFORMATION

Sources used in the completion of this document are specifically referenced throughout the text.

2.0 PURPOSE AND NEED FOR THE PROPOSAL

2.1 PROJECT BACKGROUND AND LOCATION

The EMWT Regional Water Association is a non-profit water association which aims to provide service to the communities and residents of the Estancia Basin (Basin). EMWT is focused on providing a regionalized system to residential and commercial users within the Basin. The long-term goal of this project is to provide the first phase of a regional system that can sustainably serve users in the Basin for the foreseeable future.

The unincorporated community of McIntosh is located in Torrance County within the Estancia Basin, approximately 50 miles southeast of Albuquerque, New Mexico along NM 41, midway between the towns of Moriarty and Estancia (Figure 2.1). It is the most densely populated community in the Basin that does not currently have a public water system.

The EMWT is applying for financial assistance through the USDA Rural Utilities Service (RUS) to upgrade and expand its current drinking water system in the community of McIntosh to meet the existing National Pollutant Discharge Elimination System (NPDES) permit. This document will be part of the Agency certification document that the USDA RUS will present to the Environmental Protection Agency (EPA) for its NEPA review in pursuit of a FONSI.

Background documents to support this effort included a Preliminary Engineering Report (PER) completed in 2017. A biological evaluation (SWCA 2008) and cultural resource report (SWCA 2008) were also completed.

2.2 PURPOSE AND NEED FOR ACTION

The community of McIntosh does not currently have a community drinking water system; local water availability consists of many small, domestic groundwater wells that serve individual parcels. The residents either haul bulk water or have private wells, many of which are not deep enough to sustain adequate water supply. These individual groundwater well systems are not currently monitored for drinking water standards, nor do they have adequate fire protection.

Currently, no unified local government entity manages water resources in the Basin. Instead local municipalities, such as the City of Moriarty and the Towns of Estancia, Mountainair, Willard, and Edgewood, have established individual public water systems. To achieve a higher level of water protection, control, and sustainability, these municipalities desire to create a comprehensive regional water system administered by EMWT. A public water system would provide a sustainable source of water to the community, while also reducing potential public health hazards from failing septic systems in proximity to local domestic wells. A regional water system would also limit exportation of water, protect existing water rights, achieve water supply sustainability and ensure a safe, high-quality water supply. The future goals of the project will be to provide a proper level of control through management of the Basin's water supply, and the implementation of comprehensive conservation, education, and monitoring will be possible with this alternative. In addition, the water supply will be protected from outside interests that would jeopardize future water availability.

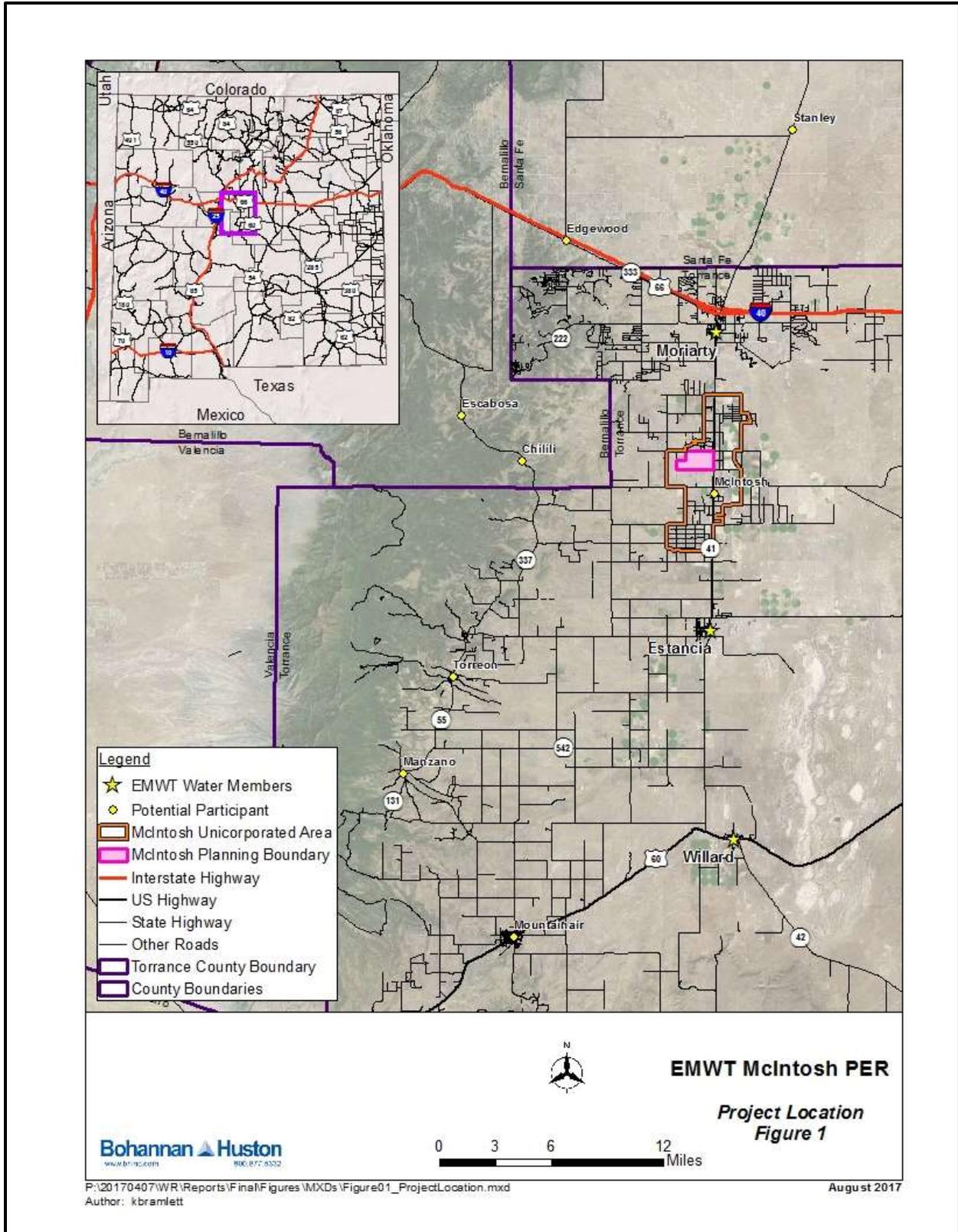


Figure 2.1. Project Location.

3.0 PROPOSED ACTION AND ALTERNATIVES

This section describes the alternatives considered for implementation of the project. In addition to the no action alternative, three other water system options were analyzed in the PER (see the PER for further discussion of the proposed alternatives). However, the three action alternative described in the PER would have nearly identical environmental consequences. Therefore only two alternatives are considered in this EA: the No Action Alternative and the Proposed Action.

3.1 NO ACTION ALTERNATIVE

This alternative would not create any additional environmental, construction, or cost issues but would result in a continuation of the current water use configuration and operation. The no action alternative also does not protect the diminishing supplies of water in the Estancia Basin or take significant steps towards the preservation and sustainability of scarce water resources. It would not provide reliable water supply to the targeted areas.

3.2 THE PROPOSED ACTION

The Proposed Action would comprise approximately 42 acres, and consist of a community-wide water system with a 250,000-gallon storage tank, a 500-gpm supply well at a depth of approximately 400-feet deep, a 12-inch transmission line, and a 6-inch looped distribution system with gate valves, fire hydrants and water service connections to existing residences.

Design criteria for the Proposed Action follows the Torrance County Zoning Ordinance (2016) and the New Mexico Environment Department Recommended Standards for Water Facilities (2006). The demands for the community of McIntosh are based on 100 gallons per capita per day, as recommended by the USDA RUS. Pipe sizes were selected to maintain an average velocity of not more than seven (7) feet per second (fps) under the Maximum Day Demand flow. Maximum Day Demand flow will be determined using a 2.0 peaking factor.

The fire flow requirement as required by the Torrance County Fire Marshall is 500 gallons per minute (gpm) for a duration of two hours with 20 pounds per square inch (psi) residual pressure. The storage tank was designed to hold a minimum storage of two peak days, as recommended by the USDA Rural Development guidelines.

4.0 AFFECTED ENVIRONMENT

This chapter describes the existing setting or baseline conditions that would be potentially affected by the Proposed Action.

4.1 LAND RESOURCES

The project area is in western Torrance County, which is partially within the geohydrologically closed Estancia Basin where no surface water or streams enter or leave the Basin (EBWPC 2008; Thomas 2004). Most of the water supplied in the valley comes from groundwater wells drilled into the Valley Fill Aquifer. Mining of this aquifer has occurred for decades, largely because of irrigated agriculture (John Shomaker and Associates 1997), which is the main land use in and

around the proposed project area. Approximately 1,000 acres of important farmlands operate along the NM 41 right-of-way (John Perea, Executive Director, Torrance County USDA Farm Service Center, personal communication with Matt McMillan, SWCA, June 4, 2008). Most of the land in the vicinity of the project area is classified as Shortgrass Prairie (Table 4.1). Based on observations during the initial 2008 biological survey, grasslands closer to the proposed route of the pipeline have been cleared, mowed, and otherwise physically altered. Land is primarily (89%) in private ownership with the remainder (11%) owned by the State of New Mexico (Appendix B).

Table 4.1. Land Cover/Land Use Areas within the 100 m Survey Corridor

Code	Land Use/Land Cover	Acres	Percent
N80	Agriculture	46.78	3.56
S056	Colorado Plateau Mixed Low Sagebrush Shrubland	32.87	2.50
N22	Developed, Medium–High Intensity	97.86	7.44
N21	Developed, Open Space–Low Intensity	128.66	9.78
S065	Inter-Mountain Basins Mixed Salt Desert Scrub	22.92	1.74
S018	North American Warm Desert Active and Stabilized Dune	52.46	3.99
S093	Rocky Mountain Lower Montane Riparian Woodland and Shrubland	0.42	0.03
S074	Southern Rocky Mountain Juniper Woodland and Savanna	0.03	0.00
S038	Southern Rocky Mountain Piñon-juniper Woodland	2.82	0.21
S088	Western Great Plains Shortgrass Prairie	930.88	70.75
Grand Total		1315.70	100.00

SOILS

The soils in the proposed project area are generally derived from recent alluvial and arroyo deposits. The two Great Group taxonomic soil-mapping units that are present within the proposed project area are Lithic Haplustolls and Ustic Haplocalcid (Appendix C). Lithic Haplustolls soils have a shallow lithic contact. Commonly, the mollic epipedon extends to the rock, and the soils have neither a cambic horizon nor a horizon that contains identifiable secondary carbonates. These soils are of large extent, mostly in the mountains of the western United States, and have moderate to very steep slopes formed in valley fill or mixed alluvium. The vegetation is mostly grass and shrubs, but some of the soils support forest vegetation; soils are used mostly as rangeland or forest. Ustic Haplocalcids are characterized by being dry in all parts of the moisture control section for less than three-fourths of the time (cumulative) when the soil temperature is 5 °C or higher at a depth of 50 cm and have a soil moisture regime that borders on ustic. These soils do not have a lithic contact within 50 cm of the soil surface. These soils are associated with level to strongly sloping soils formed in lake sediments on terraces and gentle sloping to steep soils formed in wind-deposited materials on hills. These soils are common in the semiarid deserts of the world.

4.2 FLOODPLAINS

The project area is located within the Estancia Basin, a geohydrologically closed basin in which no surface water or streams enter or leave. Therefore, no floodplains are expected to be affected by the proposed action.

4.3 WETLANDS

Wetlands systems and classes are based on criteria set forth in the Clean Water Act of 1977, Executive Order 11990, and other regulatory materials. Jurisdictional wetlands have three essential characteristics: dominance by hydrophytic vegetation, hydric soils, and wetland hydrology. Soil saturation is required for hydrophytic vegetation. Pondered or flooded soils during the growing seasons for a sufficient amount of time to develop anaerobic conditions are required for hydric soils to exist. The availability of groundwater or surface water is required for the sustainment of a wetland.

No wetlands were documented during the biological survey. Wetlands do exist as part of a greater complex of warm desert playas southeast of the town of Estancia, but they occur well outside of the proposed construction area.

4.4 WATER RESOURCES AND WATER QUALITY

Water resources in the project area would be managed and protected according to existing federal law and policies regarding the use, storage, and disposal of these resources during the construction and operation of the project. Surface water use and protection is administered under a number of laws, most notably and relevant is the Federal Water Pollution Act (i.e., CWA).

The federal EPA and the U.S. Army Corps of Engineers (USACE) implement the CWA. The CWA prohibits the discharge any pollutant from a point source, including stormwater discharges, into waters of the U.S. , unless a permit has been obtained from the NPDES program (CWA § 402), or in the case of dredged or fill material, a permit from the USACE per its authority under CWA § 404. Construction activities larger than 1 acre that will discharge stormwater runoff from the construction site into a municipal separate stormwater sewer system or into waters of the U.S. must comply with the CWA Section 402 NPDES during operation. The New Mexico program is administered through the EPA. The New Mexico Environment Department, Surface Water Quality Bureau, Point Source Regulation Section may review federal NPDES permits and/or conduct inspections on EPA's behalf. A SWPPP is required and should be displayed at the site during construction.

The biological survey determined that there were no jurisdictional waters within the proposed project area.

4.5 COASTAL RESOURCES

There are no coastal resources affected by this project.

4.6 BIOLOGICAL RESOURCES

GENERAL VEGETATION AND WILDLIFE

Elevations in the basin range from 6,050 feet on the valley floor to 10,098 feet on Manzano Peak. Vegetation found within the project area is typical of the Western Great Plains shortgrass prairie classification. On nearly level and lower rangelands, vegetation includes short to mid-grasses, shrubs, forbs, yucca, piñon, juniper and cacti.

Twenty-four plant species, five bird species, three reptile species and one mammal species were observed during the biological survey (see Appendix A for full species list).

ENDANGERED SPECIES ACT

The ESA directs the U.S. Fish and Wildlife Service (USFWS) to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Among its other provisions, the ESA requires the USFWS to assess civil and criminal penalties for violations of the ESA or its regulations. Section 9 of the ESA prohibits take of federally listed species. Take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” (16 USC 1532). The term “harm” includes significant habitat alteration that kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). Projects involving federal lands, funding, or authorizations will require consultation between the federal agency and the USFWS, pursuant to Section 7 of the ESA.

Federal and state listed species included in this EA are based on the list of endangered or threatened species for Tarrant County, New Mexico (**Error! Reference source not found.**) as determined by consulting the U.S. Fish and Wildlife Service Information for Planning and Conservation System (IPaC) database (USFWS 2017), the New Mexico Department of Game and Fish (NMDGF) (Biota Information System of New Mexico [BISON-M] 2017), and the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Forestry and Resources Conservation Division endangered plant species list (New Mexico Statutes Annotated 1978). A copy of the IPaC report is included in Appendix D.

There are three federally listed and five state listed threatened and endangered species identified as having the potential to occur in the county (Appendix B). During the 2017 biological survey, habitat was evaluated for the possible occurrence of threatened and/or endangered species. No suitable habitat was identified within the proposed project area for state or federally listed species.

Migratory Bird Treaty Act

The regulatory framework for protecting birds includes the Migratory Bird Treaty Act (MBTA) and Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds). The MBTA is the cornerstone of migratory bird conservation and protection in the United States. The statute’s language is clear that actions resulting in a “taking” or possession (permanent or temporary) of a protected species, in the absence of a USFWS permit or regulatory authorization, are a violation. The MBTA states, “Unless and except as permitted by regulations ... it shall be

unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill . . . possess, offer for sale, sell . . . purchase . . . ship, export, import . . . transport or cause to be transported . . . any migratory bird, any part, nest, or eggs of any such bird” (16 United States Code [USC] 703). The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 Code of Federal Regulations [CFR] 10.12). The USFWS maintains a list of all species protected by the MBTA at 50 CFR 10.13. This list includes more than 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines.

SWCA field personnel observed 5 bird species using the project area. Several of these species could nest in the surrounding area, though no nests were observed.

BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act (BGEPA) specifically protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). Under authority of the BGEPA (16 USC 668–668d), bald and golden eagles are afforded additional legal protection. The BGEPA prohibits the take, sale, purchase, barter, offer of sale, purchase, transport, export, or import, at any time or in any manner, of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 USC 668). The act also defines take to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb” (16 USC 668c), and includes criminal and civil penalties for violating the statute (see 16 USC 668). The term “disturb” is defined as agitating or bothering an eagle to a degree that causes, or is likely to cause, injury to an eagle, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior (50 CFR 22.3).

Bald eagles are found typically in association with water and nest and breed from October to July throughout the state. No suitable nesting habitat occurs in the project or surrounding area. Bald eagles are attracted to areas of prey concentration and might use the area if large prairie dog colonies are present.

Golden eagles nest primarily on rock ledges or cliffs and occasionally in large trees at elevations ranging from 1,219 to 3,048 m (4,000–10,000 feet) amsl. Golden eagles are typically found in mountainous regions of open country, prairies, arctic and alpine tundra, open wooded areas, and barren areas (BISON-M 2016; Stahlecker and Walker 2010). No suitable nesting area is present in the project or surrounding area, but golden eagles are also known to migrate through or winter in the county. Large concentrations of prey such as the nearby prairie dog colony could attract golden eagles to the project area.

INVASIVE SPECIES

The Federal Noxious Weed Act of 1975 and Plant Protection Act of 2000 establish a federal program for controlling the spread of noxious weeds. The U.S. Department of Agriculture (USDA) designates plants as noxious weeds to control, eradicate, and prevent their spread (USDA 2016). The New Mexico’s Noxious Weed Management Act of 1998 directs the New Mexico Department of Agriculture (NMDA) to develop a noxious weed list and target species

for control or eradication of these species (NMDA 2009). During the biological survey, Siberian elm (*Ulmus pumila*), a NMDA and USDA Class C-listed noxious weed was identified within the proposed Project Area. Other nuisance plant species such as kochia (*Bassia scoparia*) and Russian thistle (*Salsola tragus*) were also present.

4.7 CULTURAL RESOURCES AND HISTORIC PROPERTIES

The proposed project is an undertaking as defined in 36 CFR 800.16(y) that has the potential to affect historic properties (cultural resources) located on 42.32 acres within the Estancia Basin in Torrance County, New Mexico. The federal nexus to funding requires the project must meet the statutory and regulatory requirements of Section 106 of the National Historic Preservation Act (54 U.S.C. 306108) to identify and evaluate any effects to historic properties (cultural resources) that might occur as a result in the approval of this project. Those regulatory requirements include an on-the-ground cultural resources survey of the area of potential effect (APE) for the proposed project preceded by file searches of existing documentary and archival information for the APE.

The proposed project area is approximately 9 miles south of Moriarty on the west side of Highway 41. The survey area consists of approximately 3,000 to 4,000 m of road rights-of-way, mainly on an east-to-west linear route, including Tyler Loop, Rio Vista, Clubhouse Road, Otero Drive, Viatero Avenue, Espeto Avenue, Estancia del Norte, Berrendo Avenue, etc. A cultural resources report (SWCA 2008) was submitted and is attached in Appendix B.

A field investigation of the proposed site revealed two isolated occurrences (purple SCA glass sherd and an oyster shell) that were not associated with any specific sites, thus the proposed installation can be carried out with the understanding that any cultural artifacts uncovered during the construction needs to be reported to the appropriate officials, and any necessary measures of investigation must be performed before construction can continue.

4.8 AESTHETICS

The proposed project includes the installation of a 250,000-gallon storage tank, a 500-gpm supply well at a depth of approximately 400-feet deep, a 12-inch transmission line, and a 6-inch looped distribution system with gate valves, fire hydrants and water service connections. Excavation activities may temporarily impact the aesthetic quality of the proposed site. Proposed construction areas are primarily adjacent to existing infrastructure, such as highways, that have already been heavily altered in appearance. No formally classified lands such as designated wilderness areas, parks, recreation areas, historic sites, or wild/scenic rivers are located in the vicinity of the project area.

4.9 AIR QUALITY

The Clean Air Act and its amendments require the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment (Public Laws 88-206, 90-148, 91-604, 95-95, and 101-549). Accordingly, the EPA has set NAAQS for six “criteria” pollutants: lead, nitrogen oxide, sulfur dioxide, carbon monoxide, particulate matter less than 10 microns in size and less, particulate matter 2.5 microns in size and less, and ozone (EPA 2016a). The Clean Air Act also allows states to adopt additional ambient

air quality standards. The State of New Mexico's ambient air quality standards are more stringent for primary pollutants than the federal NAAQS. Although the New Mexico Environment Department (NMED) Air Quality Bureau does not conduct regional air quality monitoring, Torrance County is currently classified by the EPA as "attainment areas," which means that ambient air quality meets the standards of the levels set in the NAAQS (EPA 2017; NMED 2017).

The proposed project area lies within New Mexico's Air Quality Control Region No. 154. This region covers an area of 22,747 square miles and extends from the northeastern part of the state to the central portion of the state and includes Colfax, Guadalupe, Harding, Mora, San Miguel, Torrance, and Union counties. Due to construction activities, localized dust and particulate matter may result in temporary and localized degradation of air quality.

4.10 SOCIAL IMPACT ASSESSMENT/ENVIRONMENTAL JUSTICE

The proposed project location encompasses the community of McIntosh within Torrance County. According to the 2014 Census, Torrance County had a population of 15,611. The county population declined 4.7% between 2010 and 2014 (U.S. Census Bureau 2016) The County is approximately 3,345.81 square miles in area, with an average of 4.7 persons per square mile.

Socioeconomic conditions include employment and income, demographic trends, lifestyle and cultural values, community infrastructure, and environmental justice. In 1994, Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, was issued to focus attention of federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed. The population of Torrance County has proportionately fewer persons of Hispanic, Native American, African-American or Asian background in comparison to the State of New Mexico.

4.11 MISCELLANEOUS ISSUES

NOISE AND LIGHT

Equipment to be used during the proposed project will create temporary variable noise levels that will likely exceed allowable ambient noise levels of 80 decibels A-weighted (dBa) in the immediate vicinity of the construction.

TRANSPORTATION

Transportation refers to the movement of vehicles throughout a road and highway network. Primary roads are principal arterials, such as major highways/interstates, designed to move traffic and not necessarily provide access to all adjacent areas. Secondary roads are arterials such as rural routes and major surface streets that provide access to residential and commercial areas, hospitals, and schools. Tertiary roads are smaller roadways that provide access to less developed areas, including some rural areas and agricultural areas.

The proposed project area is adjacent to County Road AO72 and vehicular traffic may be slowed or delayed during construction. However, the road receives minimal traffic and therefore only local residents are likely to be inconvenienced by construction activities.

4.12 HUMAN HEALTH AND SAFETY

EMWT Water Association is committed to operating a regional water system in a safe and environmentally sound manner. All associated infrastructure would be constructed and in accordance with federal and state laws to mitigate impacts to public health and safety. Additionally, there are numerous laws and policies designed to protect the public through EPA regulations, other federal regulatory agencies, and state and local government agencies. In addition, EMWT has systems and procedures in place ranging from written operating procedures, required internal policies and standards, and compliance audits/inspections.

5.0 ENVIRONMENTAL CONSEQUENCES

This section describes and analyzes the potential environmental impacts or effects that would occur as a result of implementing the Proposed Action. Analysis of impacts from the No Action Alternative is also provided to present a baseline from which to compare the impacts from the Proposed Action. Under the No Action Alternative, the baseline conditions presented above in the affected environment for each resource would be maintained.

EMWT examined all potential impacts by considering the direct, indirect, and cumulative effects of the Proposed Action on the environment, along with any connected and cumulative actions. As described in the regulations, “NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.” (CEQ NEPA regulations, 40 CFR 1500.1 (b)).

5.1 LAND RESOURCES

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no new impact to land resources, including soils, because the Proposed Action would not occur.

PROPOSED ACTION

The environmental consequences of the proposed action may result in localized impacts to native vegetation and terrestrial habitats through excavation activities and repeated travel of construction equipment. The current construction areas are primarily adjacent to existing highways where vegetation has already been heavily impacted or where maintenance (e.g., mowing) occurs on a regular basis. EMWT owns a significant portion of the highway right-of-way and it is anticipated that a portion or all of the construction will occur within this area.

The environmental consequences of the proposed action may result in localized impacts to soils through excavation activities and possible soil compaction through the use of construction

equipment. The area is dominated by rangeland, and no current farmland is expected to be taken out of production.

5.2 FLOODPLAINS

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no new impact to floodplains because the Proposed Action would not occur.

PROPOSED ACTION

Since no surface water enters or leaves the Estancia Basin, no environmental impacts to floodplains should occur.

5.3 WETLANDS

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to wetlands because the Proposed Action would not occur.

PROPOSED ACTION

No wetlands or arroyos are expected to be impacted by the proposed action.

5.4 WATER RESOURCES

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to water resources because the Proposed Action would not occur.

PROPOSED ACTION

No jurisdictional waters of the U.S. will be directly affected by the propose project. Ground disturbances resulting from the proposed action will likely be more than 1 acre, and therefore an NPDES permit and accompanying SWPPP may be required for this project. The proposed action is not anticipated to affect groundwater, unless dewatering is required for below ground tanks.

5.5 COASTAL RESOURCES

There are no coastal resources affected by this project and no environmental consequences are expected.

5.6 BIOLOGICAL RESOURCES

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to biological resources because the Proposed Action would not occur.

PROPOSED ACTION

Seven species were considered as having the potential for occurrence in the project area and were evaluated based on: 1) existing information on distribution and 2) qualitative comparisons of the habitat requirements of each species and vegetation communities/landscape features found in the project area. Impacts were evaluated based on reasonably foreseeable project-related activities.

The potential for occurrence of each species is summarized in Table B.1 according to the categories listed below. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided. The categories are as follows:

- *Known to occur*—the species has been documented in the project area by a reliable observer.
- *May occur*—the project area is within the species' currently known range, and vegetation communities, soils, etc. resemble those known to be used by the species.
- *Unlikely to occur*—the project area is within the species' currently known range, but vegetation communities, soils, etc. do not resemble those known to be used by the species, or the project area is clearly outside the species' currently known range.

Each species listed by the USFWS was assigned to one of three categories of possible effect, following USFWS recommendations. These effects determinations include the following:

- *May affect, is likely to adversely affect*—the project is likely to adversely affect a species if: 1) the species is known to occur in the project area, and 2) project activities would disturb areas or habitat elements known to be used by the species, or would directly affect an individual.
- *May affect, is not likely to adversely affect*—the project is not likely to adversely affect a species if: 1) the species may occur but its presence has not been documented, and 2) project activities would not result in disturbance to areas or habitat elements known to be used by the species.
- *No effect*—the project will have no effect on a species if: 1) the species is considered unlikely to occur (range, vegetation, etc. are inappropriate), and 2) the species or its sign was not observed during surveys of the project area.

The project was determined to have no effect on seven species based on their known geographic or elevational range, or the lack of habitat to support these species (see Appendix B).

Western burrowing owl (*Athene cunicularia hypugaea*)

The western burrowing owl is the only special status species that has the potential to occur in the project area, although it would not be expected to be encountered in the construction area. The western burrowing owl was delisted in 2003, although it continues to be a national priority species for the USFWS Office of Migratory Birds (Cartron 2010). The species has not been listed by the state as threatened or endangered but is protected specifically by New Mexico statute 17-2-14 (New Mexico Statutes Annotated 1978) and the MBTA.

New Mexico is part of both the historic and current breeding and wintering ranges of these birds. Burrowing owls are closely associated with prairie dog colonies, where they utilize existing tunnels and burrows surrounded grasslands or sparse vegetation. Habitat loss and fragmentation, particularly in their breeding territories, pose a major threat to the success of this species.

Burrowing owls have been reported to breed in Torrance County (BISON-M 2008) and may be found year-round in New Mexico. No suitable nesting burrows were observed in the project area during the survey.

5.7 CULTURAL RESOURCES AND HISTORIC PROPERTIES

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to cultural resources or historic properties because the Proposed Action would not occur.

PROPOSED ACTION

The previous undertaking by SWCA staff (2008) identified no subsurface cultural resources associated with NH-H-14-68, though two isolated occurrences (IOs) were recorded in the field. In accordance with these findings and the nature of the current artifact distribution, the site is recommended not eligible to the NRHP. No prehistoric or historic cultural materials were identified within the in-use area. The project will have no effect on the in-use area. The two IOs are also not eligible to the NRHP. The project will have no effect on the IOs.

None of the identified cultural resources are eligible for protection under the Archaeological Resources Protection Act or the American Indian Religious Freedom Act. No cultural resources eligible for protections were identified in the course of the project area survey. No traditional cultural properties will be affected by the project. As a result of these findings, no further management of the identified resources or restrictions on the construction was recommended (see Appendix C).

5.8 AESTHETICS

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to aesthetics because the Proposed Action would not occur.

PROPOSED ACTION

There will be no change to the existing aesthetics by the proposed alternative. No short or long-term significant impacts to aesthetics will occur.

5.9 AIR QUALITY

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to air quality because the Proposed Action would not occur.

PROPOSED ACTION

Fugitive dust emissions (particulate matter with a diameter of 10 microns or less [PM10]) typically occur during ground-disturbing construction activities.

Construction equipment will temporarily generate fumes and air emissions under the proposed project. The level of air emissions is anticipated to be low and in compliance with local and federal air emission standards.

6.0 SOCIAL IMPACT ASSESSMENT/ENVIRONMENTAL JUSTICE

6.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no social or environmental justice impacts because the Proposed Action would not occur.

6.2 PROPOSED ACTION

No adverse socio-economic or environmental justice factors are expected to occur within the proposed project area. Also, no disproportionately high or adverse human health or environmental effects to local communities are expected. The proposed project would provide a long-term health benefit to the local community. The influx of construction workers and the creation of temporary jobs will result in minor short-term economic benefits to the local communities. This alternative would comply with Executive Order 12898, which mandates addressing high adverse human health or environmental effects on minority or low-income populations.

7.0 MISCELLANEOUS ISSUES

7.1 NOISE

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to noise levels because the Proposed Action would not occur.

PROPOSED ACTION

Residences in close proximity to construction will be most impacted by temporary construction noise. Noise levels are limited to 90 dBA averaged over an 8-hour day by the Occupational Safety and Health Administration (29 CFR 1910.95).

7.2 TRANSPORTATION

NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to transportation because the Proposed Action would not occur.

PROPOSED ACTION

Vehicular traffic may be altered or redirected if necessary creating a temporary inconvenience for local residents.

8.0 HUMAN HEALTH AND SAFETY

8.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no change to human health or safety because the Proposed Action would not occur. The No Action Alternative would not provide any of the potential beneficial health impacts of providing a long-term safe and reliable water supply to the local communities.

8.2 PROPOSED ACTION

The preferred alternative will have a long-term beneficial effect of improving human health by ensuring a sustainable, high quality water source for local communities within the Basin.

9.0 CUMULATIVE EFFECTS

The Council on Environmental Quality (CEQ) regulations that implement NEPA require assessment of cumulative impacts in the decision making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable

future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7).

Cumulative impacts are determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects within the Basin and, if applicable, the surrounding region.

Torrance County is primarily a farming and ranching community with some commercial development occurring in Moriarty and the northwestern portion of the county. Future business expansion might consist of a large commercial development to support a population of residents that mostly commute to Albuquerque for employment.

The eastern portion of the county has high potential for wind and solar development according to resource maps produced by the National Renewable Energy Laboratory ([NREL] 2017). Previous interest in the development of renewable energy in the county has diminished with the lack of adequate transmission potential. One large wind project was proposed in 2008 for the area approximately 20 miles east of McIntosh that would tie into an existing transmission line extending just west of McIntosh. Land for another wind project, southeast of Willard, near the present High Lonesome Wind project, was also leased. Neither project was subsequently developed, but interest in these sites or other locations of the county’s eastern plains may be renewed as the proposed Western Spirit transmission line may extend into the county near Willard, NM. Completion of this transmission line could also spur more interest in commercial solar development since there is sufficient land available.

10.0 SUMMARY OF MITIGATION

Only those resources that require mitigation are included in the section below.

10.1 LAND RESOURCES

Impacts to terrestrial habitats and soils would be minimized by using existing roads and cleared staging areas. In general, equipment operation would take place in the most open areas available, and all efforts would be made to minimize damage to native vegetation and terrestrial habitats. Following construction, all impacted areas will be revegetated based on specifications developed by the contractor and consultant.

Best management practices (BMPs) will be applied in order to curtail wind and water erosion of exposed soils during construction. To avoid soil pollution impacts during construction, any polluting materials generated will not be dumped in the project area, but will be disposed of in accordance with appropriate guidelines.

10.2 WATER RESOURCES

The EPA requires a NPDES Construction General Permit for all stormwater discharges from construction permits that will result in the disturbance of 1 or more acres of total land. A SWPPP must be prepared for the site and appropriate BMPs must be implemented and maintained to the

extent practicable to prevent pollutants (primarily sediment, oil and grease, and construction material) in stormwater runoff from entering the waters of the U.S. A re-evaluation of impacts should be conducted after the final design and construction location is determined, as CWA compliance may be necessary. If the work associated with the recommended alternative is within jurisdictional areas, a 404 permit from the USACE and 401 permits from the State of New Mexico would be required. The 404 and 401 permitting processes would be completed prior to commencement of the proposed project. Compliance with the CWA will ensure that the proposed project will have no adverse effect on the water quality of the Estancia Basin.

10.3 BIOLOGICAL RESOURCES

BMPs would be implemented to avoid or minimize any potential effects to migratory and breeding birds that are protected by the MBTA (16 U.S.C. 703, et seq.) during construction activities. To avoid direct impacts to migratory birds, construction should be scheduled between August 15 and March 15, outside of the normal breeding season for most avian species. Should vegetation removal be required during the breeding season, pre-construction breeding bird surveys should be conducted to ensure that no breeding birds would be affected. The project area should be surveyed for the western burrowing owl if construction activities occur during the nesting season (March 15–August 15).

Trenching guidelines developed by the New Mexico Department of Game and Fish should be followed to prevent inadvertent fatalities of wildlife during construction (see Appendix E).

10.4 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Because the proposed action will not affect archaeological and cultural resources, traditional cultural properties, or visual aesthetics, no mitigation measures are needed. In the event that unexpected buried cultural resources are unearthed during the course of this project, work shall cease in that area and the Supervisory Archaeologist with the Navajo Nation Historic Preservation Department and the State Archaeologist with the New Mexico State Historic Preservation Office will be informed.

10.5 AIR QUALITY

All necessary permits for access points, staging areas, and study sites would be acquired prior to construction activity. If necessary, a fugitive dust permit will be obtained from the communities, and BMPs, such as wetting down disturbed areas to minimize dust, will be followed during project activities.

10.6 SOCIAL IMPACT ASSESSMENT/ENVIRONMENTAL JUSTICE

The proposed project will be completed ensuring that there is neither exclusion of persons nor people nor discrimination of people due to race, color, income level, or national origin in accordance to Executive Order 12898.

10.7 TRANSPORTATION

The construction contractor will be required to install necessary signs and barricades, and use appropriate traffic safety measures where appropriate.

Upon selection of the final construction site, all necessary permits for access points, staging areas, refueling areas, and study sites would be acquired prior to construction activity. Work in highway rights-of-way will require careful coordination for traffic control and avoidance of public utilities. Public meetings and/or notices to local newspapers and other media outlets can be issued in advance to alert local residents of potential traffic problems related to construction.

11.0 CONSULTATION AND COORDINATION

Coordination letters were distributed in 2016 to Tribal and Agency entities for input regarding a much larger project area that extended from approximately Moriarty to Willard, NM but included the area covered by the McIntosh project. Those contacted and a summary of their responses are listed below.

Table 11.1. Agency and Tribal Correspondence

Agency Contact	Date of Response	Summary of Contents
U.S. Army Corps of Engineers Albuquerque District Regulatory Division 4101 Jefferson Plaza NE Albuquerque, NM 87109	January 28, 2016 Call from Shelly Burns, USACE	Only concerned if project will result in impacts to two drainages that intersect the project corridor. No permit needed if no impact below ordinary high water mark.
New Mexico Department of Cultural Affairs Historic Preservation Division Attn: Jeff Pappas, State Historic Preservation Officer 407 Galisteo Street, 2nd Floor Santa Fe, NM 87501	January 22, 2016	The State Historic Preservation Office recommended confirmation that the cultural resource surveys covered the proposed project area. Also recommended contacting NMDOT regarding environmental approval.
New Mexico Department of Homeland Security and Emergency Management Preparedness Bureau P. O. Box 27111 Santa Fe, New Mexico 87502	February 19, 2016	Insure the project adequately guards against inundation from floodwaters and that all NFIP Code of Federal Regulations 44 (CFR) part 60, Executive Order 11988 ordinances are followed. Coordinate with local floodplain administrator
Environmental Protection Agency, Region 6 Compliance Assurance and Enforcement Division Attn: Rhonda Smith, Chief Office of Planning and Coordination (6EN-XP) 1445 Ross Avenue Dallas, TX 75202-2733	No response	
New Mexico Department of Game and Fish Conservation Services Division Attn: Matthew Wunder, Chief P. O. Box 25112 Santa Fe, NM 87504	January 25, 2016	Follow open trenching guidelines as directed (see letter attached in Appendix E
NM Department of Transportation P.O. Box 1149, Room 213 Santa Fe, NM, 87504-1149	No response	
New Mexico Environment Department Environmental Impact Review Coordinator 1190 St. Francis Drive, PO Box 5469 Santa Fe, New Mexico 87502-5469	No response	
New Mexico Natural Resources Conservation Services Attn: J. Xavier Montoya, State Conservationist 6200 Jefferson NE Albuquerque, NM 87109	January 25, 2016	NRCS agrees the project will have no effect on Prime or Unique Farmlands or hydric soils.
Commissioner New Mexico State Land Office P.O. Box 1148 Santa Fe, NM 87504-1148	No response	
U.S. Fish & Wildlife Service New Mexico Ecological Services Field Office Attn: Wally Murphy, Field Supervisor 2105 Osuna NE Albuquerque, NM 87113	No response	
Wallace Coffey Chairman Comanche Tribe PO BOX 908 Lawton, Oklahoma 73502	No response	

Table 11.2. Agency and Tribal Correspondence (Continued)

Agency Contact	Date of Response	Summary of Contents
Herman G. Honanie Tribal Council Chairman Hopi Tribe PO BOX 123 Kykotsmoui, Arizona 86039	February 2, 2016	Requests copy of cultural resources survey report if prehistoric sites are identified. Requests to be consulted should prehistoric sites be adversely effected.
E. Paul Torres Governor Pueblo of Isleta PO BOX 1270 Isleta, New Mexico, 87022	No response	
Ty Vicenti President Jicarilla Apache Tribe PO BOX 507 Dulce, New Mexico, 87528	No response	
Amber Toppah Chairman Kiowa Tribe PO BOX 369 Carnegie, Oklahoma 73015-0369	No response	
Danny Breuninger Sr. President Mescalero Apache Tribe PO BOX 227 Mescalero, NM 88340	No response	
Milton Herrera Governor Pueblo of Tesuque Route 42, BOX 360-T Santa Fe, New Mexico 87506	No response	
Ben Shelly President Navajo Nation PO BOX 7440 Window Rock, Arizona 86515	No response	

12.0 LITERATURE CITED

- 16 U.S.C. 470 (Short Title). National Historic Preservation Act of 1966, as amended through 2000. An Act to Establish a Program for the Preservation of Additional Historic Properties throughout the Nation, and for Other Purposes. United States Code.
- 16 U.S.C. 703. Migratory Bird Treaty Act of 1918, as amended. United States Code.
- Arizona Game and Fish Department (AGFD). 2001b. Western burrowing owl (*Athene cunicularia hypugaea*). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- BISON-M. 2017. Biota Information System of New Mexico. 2006 version. BISON-M home page: <http://www.bison-m.org>. Accessed: August 2017.
- Estancia Basin Water Planning Committee (EBWPC). 2008. EBWPC Home Page. Available at: <http://www.ebwpc.org/index.html>. Accessed May 16, 2008.
- Federal Register. 1994. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Vol. 59, No. 32 / Wednesday, February 16, 1994. p. 7629.
- National Renewable Energy Laboratory. 2017. National Solar Radiation Database. Accessed August 2017. Available at: <https://maps.nrel.gov/nsrdbiewer/#/?aL=UdPEX9%255Bv%255D%3Dt%268VWYIh%255Bv%255D%3Dt%268VWYIh%255Bd%255D%3D1&bL=dI6joO&cE=0&lR=0&mC=34.76417891445512%2C-106.59416198730469&zL=11>
- NatureServe. 2008. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, Virginia. Available at: <http://www.natureserve.org/explorer>. Accessed August 2017.
- New Mexico Department of Agriculture (NMDA). 2009. New Mexico Noxious Weed List Update. New Mexico State University. Available at: http://www.nmda.nmsu.edu/wp-content/uploads/2012/01/weed_memo_list.pdf. Accessed August 2017.
- New Mexico Energy, Minerals, and Natural Resources Department. 2017. New Mexico State Endangered Plant Species (19.21.2.8 NMAC). Available at: <http://www.emnrd.state.nm.us/SFD/ForestMgt/documents/NMENDANGEREDPLANTList.pdf>. Accessed August 2017.
- New Mexico Environment Department (NMED). 2017. EPA Air Quality Nonattainment Areas in New Mexico. Available at: http://www.nmenv.state.nm.us/aqb/modeling/na_map.html. Accessed August 2017.
- New Mexico Historic Preservation Division (NMHPD). 2017. New Mexico Historic Preservation Division Home Page. Available at: <http://www.nmhistoricpreservation.org>. Accessed: August 2017.
- . (2007) New Mexico's Rich Cultural Heritage – Listed State and National Register Properties. Santa Fe, New Mexico. Pp.153.

New Mexico Rare Plant Technical Council. 1999. New Mexico Rare Plants. Available at: <http://nmrareplants.unm.edu>. Accessed August 2017.

John Shomaker and Associates. 1997. Regional Water Plan Estancia Underground Water Basin, New Mexico. Albuquerque: John Shomaker and Associates, Inc.

SWCA Environmental Consultants. 2008. Biological Evaluation of the EMWT Regional Water Association, Water System Project in Torrance County New Mexico. Albuquerque, NM.

Thomas, R.P. 2004. Estancia Basin Dynamic Water Budget. Sandia National Laboratories Technical Report, Number SAND2004-1796.

_____. 2008. A Cultural Resources Survey of 42.325 Acres for the Proposed EMW Waterline, Torrance County, New Mexico Cultural Resources Survey, Torrance County, New Mexico. Project Number 207-200-053-00 SWCA Cultural Resources Report No. 2008-446 .Albuquerque, NM.

U.S. Environmental Protection Agency (EPA). 2017. NAAQS criteria air pollutants table. Available at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. Accessed August 2017.

U.S. Fish and Wildlife Service (USFWS). 2017. Information, Planning, and Conservation System (IPaC). Available at: <http://ecos.fws.gov/ipac/>. Accessed July 2017.

13.0 LIST OF PREPARERS

SWCA Environmental Consultants

APPENDIX A -SPECIES OBSERVED DURING 2017 BIOLOGICAL SURVEY

Table A.1 Plant and Wildlife Species Observed during the Biological Survey of the Proposed Project Area

Common Name	Scientific Name
Plant Species	
Indian ricegrass	<i>Achnatherum hymenoides</i>
Sand sagebrush	<i>Artemisia filifolia</i>
Kochia	<i>Bassia scoparia</i>
Sideoats grama	<i>Bouteloua curtipendula</i>
Black grama	<i>Bouteloua eripoda</i>
Blue grama	<i>Bouteloua gracilis</i>
Sandmat	<i>Chaemaesyce glyptosperma</i>
Buffalo gourd	<i>Cucurbita foetidissima</i>
Tree cholla	<i>Cylindropuntia imbricate</i>
Flixweed	<i>Descurainia Sophia</i>
Broom snakeweed	<i>Gutierrezia sarothrae</i>
Annual sunflower	<i>Helianthus annuus</i>
Hogpotato	<i>Hoffmanseggia glauca</i>
One-seed juniper	<i>Juniperus monosperma</i>
Winterfat	<i>Krascheninnikovia lanata</i>
Spike muhly	<i>Muhlenbergi wrightii</i>
Plains pricklypear	<i>Opuntia polyacantha</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Scorpionweed	<i>Phacelia</i> sp.
Devil's claw	<i>Proboscidea louisianica</i>
Russian thistle	<i>Salsola tragus</i>
Hopi tea	<i>Thelesperma megapotamicum</i>
Siberian elm	<i>Ulmus pumila</i>
Yucca	<i>Yucca glauca</i>
Avian Species	
Red-tailed hawk	<i>Buteo jamaicensis</i>
Lark bunting	<i>Calamospiza melanocorys</i>
Turkey vulture	<i>Cathartes aura</i>
American kestrel	<i>Falco sparverius</i>
Western kingbird	<i>Tyrannus verticalis</i>
Reptile Species	
New Mexico whiptail	<i>Cnemidophorus neomexicana</i>
Western rattlesnake	<i>Crotalus atrox</i>
Bullsnake	<i>Pituophis catenifer</i>
Mammal Species	
Rock squirrel	<i>Otospermophilus variegatus</i>

APPENDIX B - SPECIAL STATUS SPECIES TABLE FOR TORRANCE COUNTY, NEW MEXICO

Table B.1. Endangered, Threatened, and Special Status Species with the Potential to Occur in Torrance County, New Mexico

Common Name (Scientific name)	USFWS Status	NMDGF Status	Range or Habitat Requirements	Potential for Occurrence in Project Area	Possible Effects
Birds					
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T, D		Found in mature montane forest and woodland and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally nests in older forests of mixed conifer or ponderosa pine/Gambel oak. Nests in live trees on natural platforms (e.g., dwarf mistletoe brooms), snags, and on canyon walls at elevations between 4,100 and 9,000 feet.	Unlikely to occur. The project area does not contain the tree structure or woodland habitat necessary to support this species.	No effect
American peregrine falcon (<i>Falco peregrinus anatum</i>)		T	Peregrine falcons are found on rocky, steep cliffs near water. They prefer elevations from 6500–8599 feet but may be found from 3500–9000 feet. They are most often seen beside rivers or near other large water bodies. They have managed to successfully nest on skyscrapers in large cities.	Unlikely to occur. The area is not suitable for nesting by this species. There may be potential nesting sites in the surrounding landscape, but they are not close enough to be affected by construction.	No effect
Arctic peregrine falcon (<i>Falco peregrinus tundrius</i>)		T	The Arctic peregrine falcon is a rare migrant in the state of New Mexico. This species winters in South America and typically migrates through eastern and middle United States, bypassing New Mexico.	Unlikely to occur. The area is not suitable for nesting by this species. The species rarely migrates through New Mexico, and it is highly unlikely that it would ever be found in the project area.	No effect
Baird's sparrow (<i>Ammodramus bairdii</i>)		T	This grassland sparrow is a rarely reported migrant in New Mexico found mainly on the eastern plains and southern lowlands. It does not breed in New Mexico but may winter in some areas. It occupies a habitat of undisturbed or reclaimed grass prairies with scattered shrubs.	Unlikely to occur. Suitable habitat does exist for Baird's sparrows within the project area. However, breeding has not been documented in New Mexico, and any species within the area would likely be there as winter residents or migrants at other times of the year (BISON-M-2007).	No effect
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	T		Typically found in riparian woodland vegetation (cottonwood, willow, or tamarisk) below 6,600 feet elevation. Dense understory foliage appears to be an important factor in nest site selection.	Unlikely to occur. No riparian woodlands are present in the project area.	No effect
Bald eagle (<i>Haliaeetus leucocephalus</i>)		T	The species is primarily water oriented, found near streams and lakes in association with open expanses of water. Nesting sites are usually isolated, located high in trees or on cliffs in close proximity to water.	Unlikely to occur. No lakes or other large permanent water bodies are present in the project area.	No effect

Common Name (Scientific name)	USFWS Status	NMDGF Status	Range or Habitat Requirements	Potential for Occurrence in Project Area	Possible Effects
Birds					
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E, D	E	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder, tamarisk, Russian olive, buttonbush, and arrowweed are present. Nests are found in thickets of trees and shrubs primarily 13 to 23 feet in height, among dense and homogeneous foliage. Habitat occurs at elevations below 8,500 feet.	Unlikely to occur. No dense riparian habitats are present in the project area.	No effect

Status Definitions
 E = Endangered:
 T = Threatened:
 C = Candidate:
 D = Designated Critical Habitat

APPENDIX C- CULTURAL RESOURCES SURVEY (2008)

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 111879	2a. Lead (Sponsoring) Agency: RUS	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:
4. Title of Report: A Cultural Resources Survey of 42.325 Acres for the Proposed EMW Waterline, Torrance County, New Mexico Author(s): Ryan Brucker, Amalia Kenward			5. Type of Report <input checked="" type="checkbox"/> Negative <input 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 checked="" type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other			
7. Description of Undertaking (what does the project entail?): The survey was completed in preparation for the proposed installation of three storage tanks, groundwater wells, and 6-, 12-, and 16-inch-diameter waterlines for Moriarty, Estancia, Willard, and McIntosh.		8. Dates of Investigation: (from: October 6, 2008 to: October 7, 2008)	
		9. Report Date: October 22, 2008	
10. Performing Agency/Consultant: SWCA Environmental Consultants Principal Investigator: Joanne Eakin, M.A. Field Supervisor: Amalia Kenward Field Personnel Names: Amalia Kenward, Ryan Brucker		11. Performing Agency/Consultant Report No.: 2008-446	
		12. Applicable Cultural Resource Permit No(s): NM-08-055S	
13. Client/Customer (project proponent): Wilson & Company Contact: Donzil Worthington Address: 4900 Lang Ave. NE, Albuquerque, NM 87109 Phone: (505) 348-4000		14. Client/Customer Project No.: 07-200-053-00	
15. Land Ownership Status (<i>Must be indicated on project map</i>):			
Land Owner		Acres Surveyed	Acres in APE
Private Unknown		42.325	42.325
TOTALS		42.325	42.325
16 Records Search(es):			
Date(s) of ARMS File Review: September 22, 2008		Name of Reviewer(s): Thomas F. Messerli	
Date(s) of NR/SR File Review: September 22, 2008		Name of Reviewer(s): Thomas F. Messerli	
Date(s) of Other Agency File Review:		Name of Reviewer(s):	
		Agency:	

17. Survey Data:

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

b. USGS 7.5' Topographic Map Name USGS Quad Code

Moriarty South, 1986	34106-H1

c. County(ies): Torrance County, New Mexico

17. Survey Data (continued):

- d. Nearest City or Town:** McIntosh
e. Legal Description:

Township (N/S)	Range (E/W)	Section	1/4	1/4	1/4
8N	8E	13	SE, SE, SW		
8N	8E	14	SE, SE, SE		
8N	8E	15	SE, SE, SE		
8N	8E	22	SE, SE, SE		
8N	8E	23	SE, SE, SE		
8N	8E	24	NW, NW, NW		
8N	8E	25	NE, NE, NW		
8N	8E	26	NE, NE, NE		

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

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): The project area is approximately 9 miles south of Moriarty on the west side of Highway 41. The survey area consists of approximately 3,000 to 4,000 m of road rights-of-way, mainly on an east-to-west linear route, including Tyler Loop, Rio Vista, Clubhouse Road, Otero Drive, Viatero Avenue, Espeto Avenue, Estancia del Norte, Berrendo Avenue, etc.

18. Survey Field Methods:

- Intensity:** 100% coverage <100% coverage
Configuration: block survey units linear survey units (l x w): varied other survey units (specify):

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

Coverage Method: systematic pedestrian coverage other method (describe)

Survey Interval (m): 7-10 **Crew Size:** 2 **Fieldwork Dates:** October 6 and 7, 2008

Survey Person Hours: 26 **Recording Person Hours:** included in survey **Total Hours:** 26

Additional Narrative: The survey crew walked the road rights-of-way in the proposed project areas.

<p>19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): Elevations in the basin range from 6,050 feet on the valley floor to 10,098 feet on Manzano Peak. In the lower foothills, vegetation is predominantly piñon-juniper woodlands and associated shrubland, including yucca, juniper, cacti, and short- to mid-grasses. Mixed conifer forests are found in the high country. The mountainous and foothill terrain is fairly steep and rugged and is cut with canyons and rocky outcrops. Vegetation found within the project area is typical of the Western Great Plains shortgrass prairie classification (U.S. Geological Survey 2005). On nearly level and lower rangelands, vegetation includes short to mid-grasses, shrubs, forbs, yucca, piñon, juniper and cacti. Farmlands include alfalfa, wheat, corn, and pinto beans. (Natural Resources Conservation Service 2007). The soils in the area are mainly composed of Harvey and Witt series soils. Both soil types consist of very deep, well-drained, moderately or moderately slowly permeable soils, while the Harvey series have been formed in alluvium and windblown sediments derived from sandstone, shale, and limestone. Location for Harvey soils are hills, swales, plateaus, bajadas, mesas, and fan piedmonts, with slopes between 0 and 15 percent. Witt series have been formed in eolian material and alluvium from sedimentary materials located in fan terraces, piedmonts, bajadas, and mesas with slopes between 0 to 12 percent (Natural Resources Conservation Service 2008).</p>	
<p>20. a. Percent Ground Visibility: 20–50% b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): The area for the overflow tank was grazed, while the roads are bladed and adjacent ditches are overgrown with vegetation.</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): <input type="checkbox"/> USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn <input checked="" type="checkbox"/> Copy of NMCRIS Mapserver Map Check <input type="checkbox"/> LA Site Forms - new sites (<i>with sketch map & topographic map</i>) <input type="checkbox"/> LA Site Forms (update) - previously recorded & un-relocated sites (<i>first 2 pages minimum</i>) <input type="checkbox"/> Historic Cultural Property Inventory Forms <input type="checkbox"/> List and Description of isolates, if applicable <input type="checkbox"/> List and Description of Collections, if applicable</p>	<p>23. Other Attachments: <input type="checkbox"/> Photographs and Log <input checked="" type="checkbox"/> Other Attachments (<i>Describe</i>): ARMS Maps</p>
<p>24. I certify the information provided above is correct and accurate and meets all applicable agency standards.</p> <p>Principal Investigator/Responsible Archaeologist: Joanne Eakin</p> <p style="text-align: center;"></p> <p>Signature Date: 10/24/08 Title (if not PI):</p>	
<p>25. Reviewing Agency: Reviewer's Name/Date</p> <p>Accepted () Rejected ()</p> <p>Tribal Consultation (if applicable): <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>26. SHPO 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.: 111879	2. Lead (Sponsoring) Agency: RUS	3. Lead Agency Report No.:
--	--	-----------------------------------

SURVEY RESULTS:

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

MANAGEMENT SUMMARY: Two isolated occurrences (purple SCA glass sherd and an oyster shell) were not associated with any sites, thus the proposed installation can be carried out with the understanding that any cultural artifacts uncovered during the construction need to be reported to the appropriate officials, and any necessary measures of investigation must be performed before construction can continue.

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

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

Previously recorded revisited sites:

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

MONITORING LA NUMBER LOG *(site form required)*

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

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

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

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

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



Figure C.1. Arms map 1

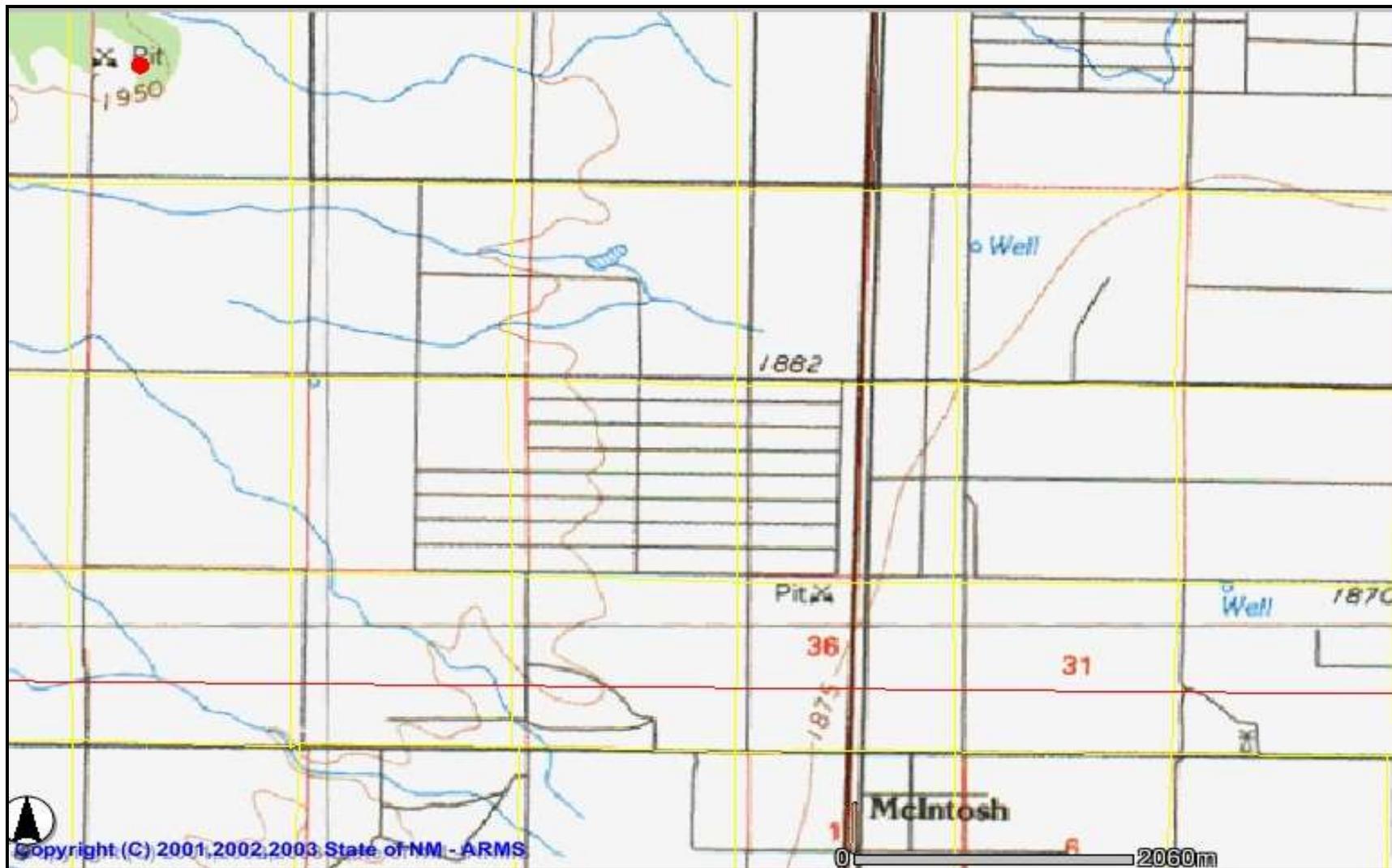


Figure C.2. Close up of project area

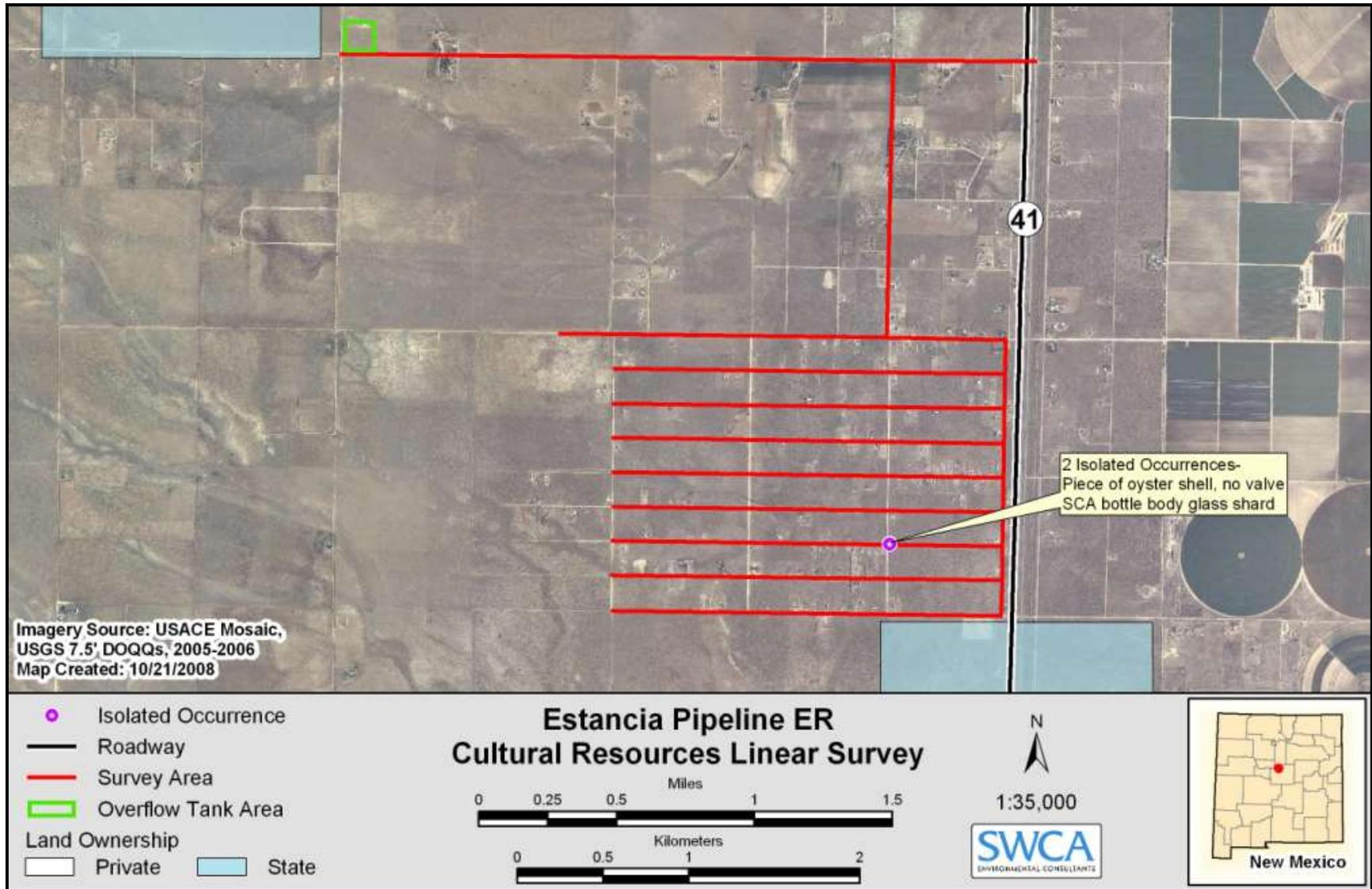


Figure C3. Survey Area

APPENDIX D IPAC REPORT

IPaC

U.S. Fish & Wildlife Service

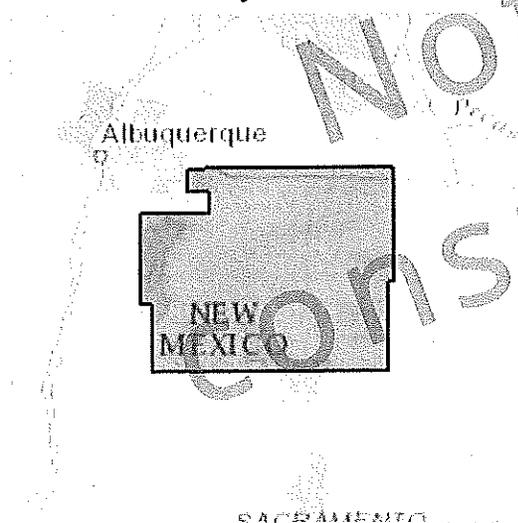
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Torrance County, New Mexico



Local office

New Mexico Ecological Services Field Office

☎ (505) 346-2525

📠 (505) 346-2542

2105 Osuna Road Ne
Albuquerque, NM 87113-1001

<http://www.fws.gov/southwest/es/NewMexico/>

http://www.fws.gov/southwest/es/ES_Lists_Main2.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.

5. Click REQUEST SPECIES LIST.

Listed species

¹ are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is a final <u>critical habitat</u> designated for this species. Your location overlaps the designated critical habitat. https://ecos.fws.gov/ecp/species/8196	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is a proposed <u>critical habitat</u> for this species. Your location is outside the proposed critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Mexican Spotted Owl <i>Strix occidentalis lucida</i> https://ecos.fws.gov/ecp/species/8196#crithab	Final designated

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data <http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
Bald Eagle <i>Haliaeetus leucocephalus</i> https://ecos.fws.gov/ecp/species/1626	Wintering

Bendire's Thrasher <i>Toxostoma bendirei</i> https://ecos.fws.gov/ecp/species/9435	Breeding
Black Rosy-finch <i>Leucosticte atrata</i> https://ecos.fws.gov/ecp/species/9460	Year-round
Black-chinned Sparrow <i>Spizella atrogularis</i> https://ecos.fws.gov/ecp/species/9447	Breeding
Brewer's Sparrow <i>Spizella breweri</i> https://ecos.fws.gov/ecp/species/9291	Wintering
Brown-capped Rosy-finch <i>Leucosticte australis</i>	Wintering
Burrowing Owl <i>Athene cunicularia</i> https://ecos.fws.gov/ecp/species/9737	Breeding
Calliope Hummingbird <i>Stellula calliope</i> https://ecos.fws.gov/ecp/species/9526	Migrating
Chestnut-collared Longspur <i>Calcarius ornatus</i>	Wintering
Flammulated Owl <i>Otus flammeolus</i> https://ecos.fws.gov/ecp/species/7728	Breeding
Fox Sparrow <i>Passerella iliaca</i>	Wintering
Golden Eagle <i>Aquila chrysaetos</i> https://ecos.fws.gov/ecp/species/1680	Year-round
Grace's Warbler <i>Dendroica graciae</i>	Breeding
Gray Vireo <i>Vireo vicinior</i> https://ecos.fws.gov/ecp/species/8680	Breeding
Juniper Titmouse <i>Baeolophus ridgwayi</i>	Year-round

Lewis's Woodpecker <i>Melanerpes lewis</i> https://ecos.fws.gov/ecp/species/9408	Year-round
Loggerhead Shrike <i>Lanius ludovicianus</i> https://ecos.fws.gov/ecp/species/8833	Year-round
Long-billed Curlew <i>Numenius americanus</i> https://ecos.fws.gov/ecp/species/5511	Breeding
Mountain Plover <i>Charadrius montanus</i> https://ecos.fws.gov/ecp/species/3638	Breeding
Olive-sided Flycatcher <i>Contopus cooperi</i> https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon <i>Falco peregrinus</i> https://ecos.fws.gov/ecp/species/8831	Year-round
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> https://ecos.fws.gov/ecp/species/9420	Year-round
Prairie Falcon <i>Falco mexicanus</i> https://ecos.fws.gov/ecp/species/4736	Year-round
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Breeding
Rufous Hummingbird <i>selasphorus rufus</i> https://ecos.fws.gov/ecp/species/8002	Migrating
Rufous-crowned Sparrow <i>Aimophila ruficeps</i> https://ecos.fws.gov/ecp/species/9718	Year-round
Short-eared Owl <i>Asio flammeus</i> https://ecos.fws.gov/ecp/species/9295	Wintering

Swainson's Hawk <i>Buteo swainsoni</i> https://ecos.fws.gov/ecp/species/1098	Breeding
Virginia's Warbler <i>Vermivora virginiae</i> https://ecos.fws.gov/ecp/species/9441	Breeding
Western Grebe <i>aechmophorus occidentalis</i> https://ecos.fws.gov/ecp/species/6743	Breeding
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> https://ecos.fws.gov/ecp/species/8832	Wintering
Willow Flycatcher <i>Empidonax traillii</i> https://ecos.fws.gov/ecp/species/3482	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance

and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAAANCCOS models: the models were developed as part of the NOAAANCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest, survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAAANCCOS [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible

hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR
consultation

APPENDIX E NMDGF TRENCHING GUIDELINE

TRENCHING GUIDELINES

NEW MEXICO DEPARTMENT OF GAME AND FISH

September 2003

Open trenches and ditches can trap small mammals, amphibians and reptiles and can cause injury to large mammals. Periods of highest activity for many of these species include nighttime, summer months and wet weather. Implementing the following recommendations can minimize loss of wildlife.

- Keep trenching and back-filling crews close together, to minimize the amount of open trenches at any given time.
- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) that need to be assessed on a site-specific basis.
- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling, especially where endangered species occur.

On a statewide basis there are numerous threatened, endangered or sensitive species potentially at risk by trenching operations. Project initiators should seek county species list to evaluate potential impact of projects. Risk to these species depends upon a wide variety of conditions at the trenching site, such as trench depth, side slope, soil characteristics, season, and precipitation events.