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Archaeological Survey for the El Paso Natural Gas Line Nos. 2034 and 2058 Replacement and Lowering at Interstate 10, El Paso County, Texas

S. Jerome Hesse

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Archaeological Survey for the El Paso Natural Gas Line Nos. 2034 and 2058 Replacement and Lowering at Interstate 10, El Paso County, Texas

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**Archaeological Survey for the El Paso
Natural Gas Line Nos. 2034 and
2058 Replacement and Lowering at
Interstate 10, El Paso County, Texas**

Prepared for

El Paso Natural Gas Company

Prepared by

SWCA Environmental Consultants

March 2015

**ARCHAEOLOGICAL SURVEY FOR THE EL PASO NATURAL GAS LINE
NOS. 2034 AND 2058 REPLACEMENT AND LOWERING AT
INTERSTATE 10, EL PASO COUNTY, TEXAS**

Prepared for

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Texas Antiquities Permit #7173
SWCA Project No. 31400
SWCA Cultural Resources Report No. 15-104

March 2015

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MANAGEMENT SUMMARY

Project Title. Archaeological Survey for the El Paso Natural Gas Line Nos. 2034 and 2058 Replacement and Lowering at Interstate 10, El Paso County, Texas

SWCA Project Number. 31400

Project Description. SWCA Environmental Consultants (SWCA) conducted an archaeological background review and intensive pedestrian survey for the El Paso Natural Gas (EPNG), a subsidiary of Kinder Morgan, Inc. (KMI), Line Nos. 2034 and 2058 replacement and lowering at Interstate 10 project to determine whether the undertaking would impact any significant archaeological resources.

Location. The project construction workspace will encompass land owned by EPNG, the City of El Paso Texas, and the Texas Department of Transportation in the northwest part of El Paso, El Paso County, Texas and EPNG easements owned in fee. The project is located on the Smelertown, Texas/New Mexico, 7.5-minute U.S. Geological Survey quadrangle (31106-G5).

Number of Acres Surveyed. 12.3 acres

Principal Investigator. Cherie Walth

Date of Work. February 17, 2015

Purpose of Work. The Texas Department of Transportation's (TxDOT's) planned expansion of Interstate 10 (I-10) at the Resler Drive interchange in El Paso, Texas, requires EPNG Line Nos. 2034 and 2058 to be relocated to a greater depth beneath I-10. Specifically, approximately 700 feet of Line No. 2034 is to be replaced between EPNG Milepost (MP) 1+0950 and MP 1+1650, and 900 feet of Line No. 2058 is to be replaced between MP 1+1800 and MP 1+2700. The pipeline replacement would be conducted via horizontal directional drill. Temporary workspace beyond EPNG's existing pipeline right-of-way (ROW) is needed for construction staging and stringing of the pipeline prior to its installation. The project construction workspace is located on land owned by the City of El Paso.

EPNG's proposed replacement of Line Nos. 2034 and 2058 constitutes a Federal Energy Regulatory Commission (FERC) jurisdictional project that can be accomplished under blanket authority granted by FERC in Docket No. CP82-435-000, Section 157.208(a). The project qualifies as a federal undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 Code of Federal Regulations 800). FERC is the lead federal agency for the project. Because the project is located on land owned by the City of El Paso, it also constitutes an undertaking subject to state-level review under the Antiquities Code of Texas (Texas Natural Resource Code, Title 9, Chapter 191).

The area of potential effects (APE) for the project is the construction workspace, which includes EPNG's existing ROW and a large area of temporary workspace on the west side of I-10. The total APE is approximately 8.8 acres. Approximately 12.3 acres were surveyed, including 11.5 acres west of I-10 and 0.8 acre east of I-10. The surveyed area fully included the APE, which EPNG had marked with lath prior to the archaeological survey. The survey was conducted by SWCA Environmental Consultants under Antiquities Permit #7173.

Properties Identified. One isolated artifact (one flake) was found within the APE. The APE falls entirely within the Elephant Butte Irrigation District (EBID), although no contributing properties to the EBID are within the APE.

Eligibility of Properties. The EBID is listed in the National Register of Historic Places (NRHP). No contributing properties to the EBID are located in the APE. The isolated piece of flaked stone is not eligible for the NRHP.

Curation. No artifacts were collected, resulting in no curation.

Comments. The proposed replacement and lowering of EPNG Line Nos. 2034 and 2058 beneath I-10 involves ground-disturbing activities within the EPNG ROW and staging and pipe-stringing activities within temporary workspace adjacent to the EPNG ROW. An archaeological survey of the APE, which includes the existing EPNG ROW and the adjacent temporary workspace, resulted in the discovery of no archaeological sites or contributing properties to the EBID. The proposed undertaking should result in No Historic Properties Affected. No further archaeological work is recommended.

INTRODUCTION

The Texas Department of Transportation's (TxDOT's) planned expansion of Interstate 10 (I-10) at the Resler Drive interchange in El Paso, Texas, requires El Paso Natural Gas Company (EPNG) Line Nos. 2034 and 2058 to be relocated to a greater depth beneath I-10. Specifically, approximately 700 feet of Line No. 2034 is to be replaced between EPNG Milepost (MP) 1+0950 and MP 1+1650, and 900 feet of Line No. 2058 is to be replaced between MP 1+1800 and MP 1+2700 (Figure 1 and Figure 2). The pipeline replacement would be conducted via horizontal directional drill. Temporary workspace beyond EPNG's existing pipeline right-of-way (ROW) is needed for construction staging and stringing of the pipeline prior to its installation. The project construction workspace is located on land owned by the City of El Paso.

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The project is located on either side of I-10 just southeast of the Resler Drive interchange in the northwest part of El Paso, El Paso County, Texas. It is located on the Smelertown, Texas/New Mexico, 7.5-minute U.S. Geological Survey quadrangle. The area of potential effects (APE) for the project is the construction workspace, which includes EPNG's existing ROW and adjacent temporary workspace. The APE consists of about 8 acres southwest of I-10 and about 0.8 acre northeast of I-10. Approximately 12.3 acres were surveyed, including 11.5 acres west of I-10 and 0.8 acre east of I-10. The APE had been marked with lath prior to the survey. SWCA's survey included the entirety of the APE, as well as adjacent areas of an empty lot beyond the staked APE. The landscape containing the APE has been significantly modified by the construction of I-10. Very little of the APE appears to be undisturbed.

NATURAL AND CULTURAL SETTING

The project area lies within the northeastern portion of the Chihuahuan Desert within the boundary of the prehistoric Jornada branch of the Mogollon culture of southeastern New Mexico, west Texas, and northern Chihuahua, Mexico.

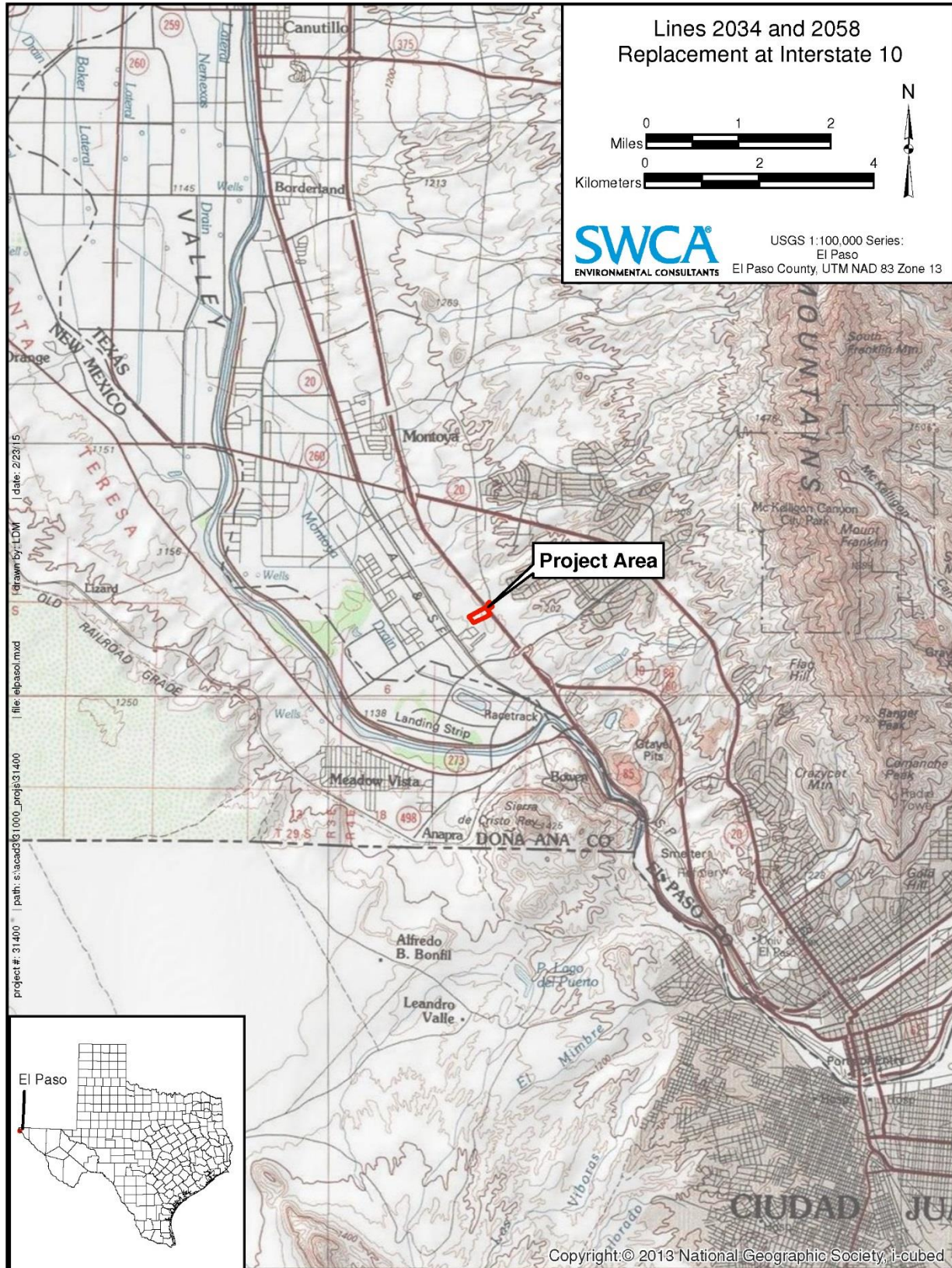


Figure 1. Project location.

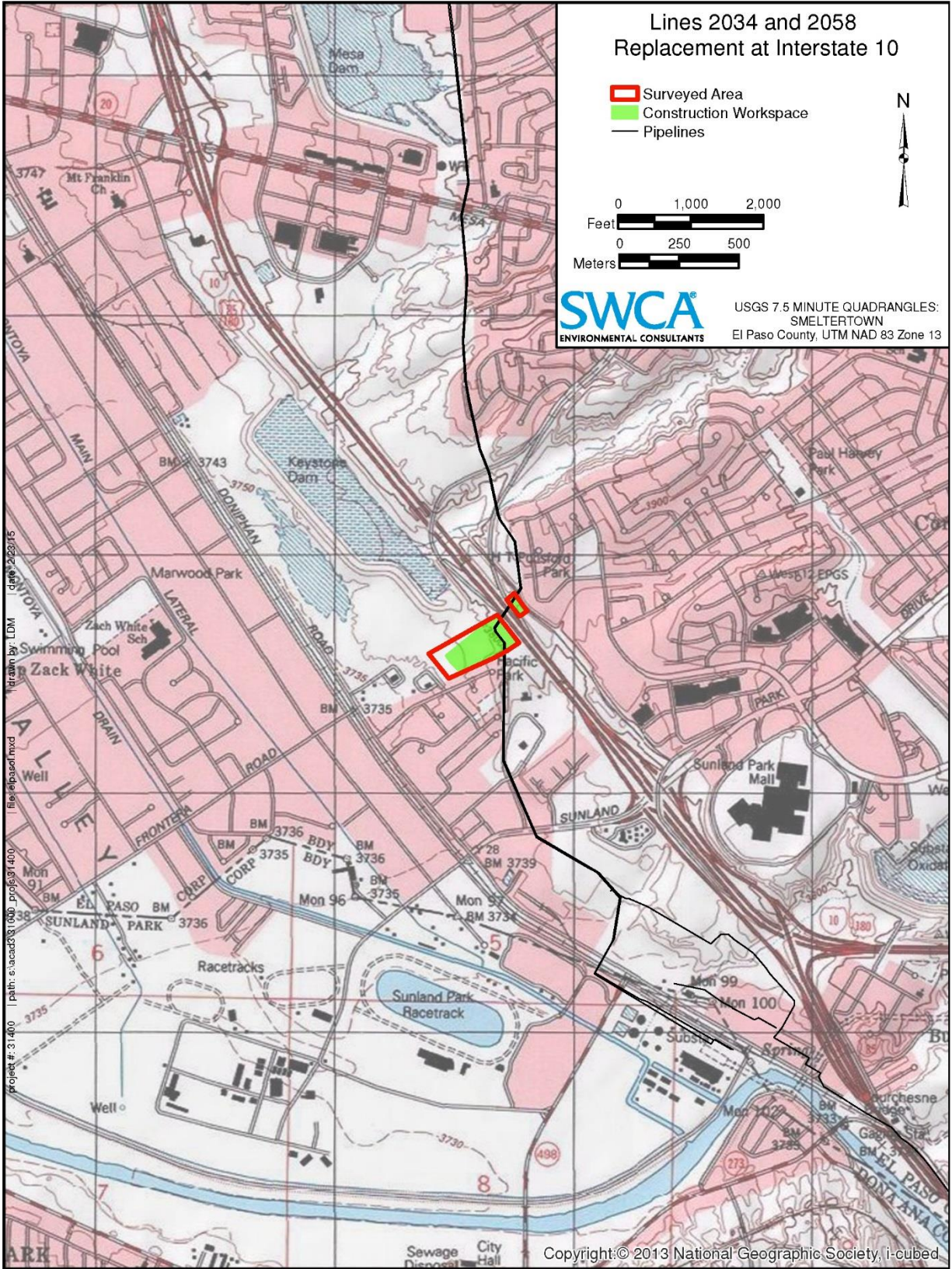


Figure 2. Project area.

Natural Setting

The project area is situated within the Basin and Range physiographic province. The area is located within the northern portion of the Chihuahuan Desert, a high arid desert and the largest of the creosotebush deserts in North America (Brown 1994:169). Annual temperature extremes are (or can be) significant, with summer temperatures regularly exceeding 100°F and winter temperatures dropping well below freezing. The majority of precipitation occurs during the summer months and is associated with thunderstorms. Precipitation ranges from around 8 to 12 inches a year. The combination of rainfall and temperature makes for marked seasonality and a long growing season. The project area is near the toe of the alluvial piedmont emanating from the Franklin Mountains to the east. The broad floodplain of the Rio Grande is located just west of the project area. The modern-day river channel is about 1.6 miles west of the project area.

Vegetation in the project area is sparse. Dominant species include creosotebush, mesquite, and fourwing saltbush. It is generally thought that there has been little change in the vegetation and climate of the area since middle Holocene times (8000 B.P.); thus, current environmental conditions provide a context for interpreting the prehistoric occupation of the area (e.g., O’Laughlin et al. 1988). Animals that would have been commonly found in the area prior to development include jackrabbit and cottontail rabbit, deer, pronghorn, various rats and mice, coyote, snakes, turtles, quail, and badger. Many of these species were also of economic importance to the prehistoric peoples of the area.

Cultural Setting

The region has a long history of use by humans. The earliest cultural resources date to the end of the Pleistocene, and Native American populations were living in the region, primarily along rivers, when the Spanish first entered the area. A more detailed overview of prehistory of the Jornada Mogollon area can be found in O’Laughlin and Martin (1993).

Paleoindian Period

The earliest occupants of the Jornada Mogollon region are associated with the Paleoindian period (12,000–8000 B.P.), although few remains associated with these early people have been identified in the region. Their presence is most often documented by the discovery of lanceolate and fluted isolated projectile points, which distinguish these people from later times. Paleoindians are generally thought to have lived in small bands, hunted late Pleistocene megafauna (including mammoth and bison), and consumed other plants and animals, as well. The earliest Paleoindians are associated with the Clovis tradition, although Clovis points and sites are few in the general area. Subsequent Paleoindian traditions, including the Folsom and Plano traditions, are generally more common (O’Laughlin and Martin 1993:17–19).

Archaic Period

The Archaic period in the region is generally dated between 8000 B.P. and 1800 B.P. During this time, there was a shift from subsistence economies focused on hunting to diversified subsistence economies based on a mix of hunting small game and extensive and intensive use of wild plant resources. About 4,000 to 2,000 years ago, an environment similar to current conditions was established. This was initiated with a prolonged drying period, an increase in winter precipitation, and intensification of the summer monsoon season. This impacted the settlement and subsistence patterns of the region’s prehistoric inhabitants (Carmichael 1986; Van Devender and Spaulding 1979).

Despite the documentation of a well-established Archaic period occupation of the region (primarily through surface finds), excavations have been limited. This has made it difficult to document the cultural and subsistence changes that occurred during this extended period of time. Additionally, the excavation and chronometric data at hand are often conflicting.

Archaic populations in the region peaked during the Late Archaic period. During this time, cultigens are introduced to and used in the area. Radiocarbon dates indicate corn was introduced between 3665 and 3225 B.P. (Carmichael 1982; Upham et al. 1986), and squash and beans were in use by the end of the Late Archaic period (MacNeish and Beckett 1987). However, it does not appear that cultigens played a major part in the overall diet of Late Archaic peoples.

For the most part, Archaic period sites are identified through the presence of distinctive projectile point types and the presence of slab metates and handstones or one-hand manos. In west Texas, the Late Archaic period is also referred to as the Hueco phase (O'Laughlin and Martin 1993:19–22).

Formative Period

The Formative or ceramic period is divided into three phases and defined as the Jornada branch of the Mogollon culture (Lehmer 1948). Study of the Jornada Mogollon languished for decades until the inception of cultural resource management and enforcement of Section 106 of the National Historic Preservation Act. Numerous large-scale surveys and excavations in both the Hueco and Mesilla Bolsons have resulted in a proliferation of new data that challenge existing paradigms and basic units of analysis. However, as a result, new questions and problems arose, many of which continue to be topics of current research.

Mesilla Phase

The Mesilla phase is defined by the appearance of ceramic technology, the introduction of the bow and arrow, and the appearance of deep pithouses. In many ways, the early Mesilla phase represents a continuum of the Late Archaic lifeway, other than the appearance of the aforementioned traits. The diagnostic ceramic type associated with this phase is El Paso Brown ware, which can be identified by distinctive rim forms. Despite the introduction of pithouses (both round and rectangular), Mesilla phase populations appear to have remained fairly mobile, moving seasonally (Hard 1983; O'Laughlin 1980; Whalen 1981a). However, by the end of the Mesilla phase, villages became larger and populations less mobile as settled village life set in with the adoption of agriculture as the primary source of food. Late in the Mesilla phase, there is evidence of interregional interaction, with the limited appearance of some Mimbres wares in Mesilla phase contexts. It is likely that Mesilla phase villages consisted of nuclear or extended families, and there is no evidence of any significant social differentiation within groups (Whalen 1981b). The phase is generally dated ca. 2000 B.P. to 900 B.P. (O'Laughlin and Martin 1993:25–30).

Doña Ana Phase

The Doña Ana phase is the least well understood of the three Formative period phases in the Jornada area. As initially defined (Lehmer 1948), the phase is seen as a transitional phase between the earlier Mesilla phase and the subsequent El Paso phase. It is said to exhibit traits of both, and it is dated between 900 and 800 B.P. Both residential sites and campsites make up the settlement system for the Doña Ana phase. Ceramics associated with this phase include El Paso Brown ware, El Paso Bichrome, and an early version of El Paso Polychrome. Some deep pithouses with unplastered floors and floor features, such as hearths, have been identified. Shallow pit rooms with aboveground adobe walls have also been identified. These are non-contiguous but arranged in a linear fashion and can be seen as precursors to El Paso phase pueblo architecture. There is some evidence to suggest an increase in social and socio-religious complexity. Some rooms are larger than average and are thought to have functioned as communal rooms. Social

groups probably continued to be kin-based nuclear or extended families. There was a continued dependence on agriculture, although hunting and gathering continued to supplement the diet (O’Laughlin and Martin 1993:30–34).

El Paso Phase

The El Paso phase is the last prehistoric phase of the Formative period in the Jornada area (Lehmer 1948). Initially dated between 800 and 600 B.P., there is some evidence that the phase did not begin until sometime around 750 B.P., which suggests that the Doña Ana phase lasted longer than originally thought. The El Paso phase is defined by the presence of a late variety of El Paso Polychrome, a variety of intrusive ceramics (including Chihuahuan, Salado, and Mogollon types), and adobe-walled pueblos. El Paso phase architecture, once thought to consist exclusively of aboveground adobe-walled pueblos, also includes pit structures that probably functioned as field houses. The majority of El Paso phase adobe-walled pueblos are small, with rooms arranged in a linear fashion. Large pueblo sites with enclosed plazas are also known.

The presence of a late variety of El Paso Polychrome distinguishes El Paso phase ceramic assemblages. In general, there is an elaboration of El Paso phase material culture. Not only are intrusive ceramics common, so are a variety of non-local exotic items, such as shell, turquoise, and obsidian, which indicates that El Paso phase peoples were participating in regional exchange networks. Additionally, variation in site and room size has been interpreted as evidence of social differentiation within and between El Paso phase social groups. There is also evidence for increased ceremonialism and socio-religious integration. This elaboration of material culture is likely related to the florescence of the Casas Grandes culture to the south in Chihuahua, Mexico (O’Laughlin and Martin 1993:36).

A sedentary lifeway appears to be the norm for El Paso phase peoples. Villages are common, and the subsistence base is dominated by several varieties of corn, beans, squash, and bottle gourd (e.g., Foster and Bradley 1984). Nevertheless, the role of wild-plant foods remains important, with mesquite, datil, acorns, cheno-ams, and cacti contributing to the diet. Hunting of small game, rabbit and hares, deer, pronghorn, and other small to medium-sized mammals also continued to significantly contribute to the diet (O’Laughlin and Martin 1993:36).

The Formative period in the region ends with the demise of the El Paso phase sometime around 600 B.P., and prehistoric agricultural peoples appear to have abandoned the area. It is not known whether this represents a collapse due to climatic shifts that overwhelmed agriculturalists, or whether the collapse was tied to events in the Casas Grandes area and the decline of the Casas Grandes regional system, or both. There is little evidence for occupation of the area after the El Paso phase (O’Laughlin and Martin 1993:38).

Protohistoric and Early Historic Period

Early Spanish accounts document the presence of semi-nomadic horticultural groups in the El Paso area. In 1598, Oñate encountered a group that became known as Mansos on the Rio Grande just below El Paso. Subsequent chronicling in the 1600s indicates that the Mansos exhibited a highly flexible settlement and subsistence system that made them well adapted to the region. This seems true for most native groups (e.g., Raydos, Ryas, Pataros, Patarueyes, Jumanso, Mansos, and Sumas) living along the Rio Grande in the vicinity of El Paso and southward to La Junta (Camilli et al. 1988:3-37–3-39). In general, protohistoric and early historic period remains located in the bolsons and plains away from the rivers are difficult to distinguish from earlier hunter-gatherer remains because these areas were used almost exclusively for hunting and gathering throughout human occupation.

The Ysleta del Sur Pueblo is located approximately 10 miles northwest of the project area (Ysleta del Sur Pueblo 2011). The Ysleta del Sur Pueblo is the southernmost of the Rio Grande Indian Pueblos that extend northward to Taos Pueblo (above Santa Fe), New Mexico. The pueblo was established in 1682 by Tigua (pronounced Tiwa) Indians, who had been removed (or fled) from Isleta Pueblo in New Mexico in 1680 and 1681 during the Pueblo Revolt. The people of the pueblo were mostly farmers who supplemented their diet with hunting and gathering forays into the surrounding territory. Currently, the pueblo has a population of more than 1,200.

Historic Period

In 1821, Mexico, having gained its independence, for the most part continued Spanish colonial policies. El Paso, a relatively small frontier town of more than 8,000 Mexicans and indigenous groups, felt little consequence from the shift in power. However, Euro-American colonization to the east would gradually affect the area.

Much of the mid-nineteenth century exploration of west Texas derived from efforts to negotiate and map an east-west transcontinental route, beginning prior to the gold rush years of the late 1840s. A southern route through the critical ford at El Paso became a focal point of these efforts. By the 1850s, numerous expeditions eventually established two fundamental routes: the Upper Road, or Emigrant Trail, and the Lower Road. The Lower Road, running from Van Horn's Wells to Fort Quitman and up the river to El Paso, passed south of the study area. The Upper Road, as marked by Major Robert Neighbors and John "Rip" Ford, among other expeditions, passed through the Hueco Mountains.

From 1850 to 1878, San Elizario was the seat and commercial center of the El Paso District. Its commercial viability was sustained by outfitting streams of overland migrants passing through the area. Salt, vital for local consumption as well as for travelers, was among the essential trade goods, providing a reliable economic mainstay.

The San Elizario Salt Road, built with public funds in 1863, ran from San Elizario to the salt deposits along the west side of the Guadalupe Mountains. The opening and closing of this route served as a catalyst for hostilities that culminated in the Salt War of 1877. For fear of the entire border's unraveling, the Secretary of War ordered federal troops from Fort Stanton, Fort Bayard, and Fort Davis to quell the violence.

As a result of the 1877 violence, San Elizario was virtually abandoned out of fear of reprisal. In 1878, the county seat was moved north to Ysleta (or Isleta). After the railroad was constructed through El Paso in 1880, it became the major center and was made the seat in 1884. San Elizario's importance faded rapidly. Fort Bliss, which had been closed in January 1877, was re-established in February 1879 after recommendations by the Adjutant General for a federal military presence to temper the volatility exposed in the Salt War.

The area gradually stabilized, and the early twentieth century saw the population in El Paso County steadily rise. Adjacent counties continued to maintain low populations. Farther to the east, oil was discovered in the Wink oil fields of Ward County in 1927. Oil and cattle remain the primary economic livelihoods of these counties today, although both are diminishing.

PRE-FIELD INVESTIGATIONS

Methods

SWCA performed a cultural resources file records review on December 11, 2014, to determine whether the project area had been previously surveyed for cultural resources and whether any archaeological sites have been recorded in or near the project area. To conduct this review, SWCA project manager Kimberly Parker reviewed the U.S. Geological Survey Smelertown, Texas/New Mexico 7.5-minute quadrangle at the Texas Archeological Research Laboratory (TARL) and searched the THC Texas Archeological Sites Atlas (Atlas) database and site files at TARL. These sources provide information on the nature and location of previously conducted archaeological surveys, previously recorded cultural resource sites, locations of National Register of Historic Places (NRHP) properties, sites designated as State Archeological Landmarks (SALs), Official Texas Historical Markers, Registered Texas Historic Landmarks, cemeteries, and local neighborhood surveys.

Results

The project area is within the Elephant Butte Irrigation District (EBID) boundary and two previously recorded archaeological sites, 41EP493 and 41EP494 (also known as the Keystone Dam sites), are located less than 0.25 mile from the proposed project area.

The EBID, which is listed in the NRHP, includes 217 contributing water diversion and irrigation features spread over a vast discontinuous area from New Mexico to Texas. The district is one of three irrigation systems served by the complex Rio Grande Project. Authorized in 1905, the Rio Grande Project accomplished the consolidation and reconstruction of small privately built water diversion and conveyance structures located in the Rincon and Mesilla Valleys. As a result, the supply of irrigation water became both predictable and dependable, and the amount of irrigated farmland in the Rincon and Mesilla Valleys tripled to more than 100,000 acres. The principal engineering features of the Rio Grande Project include Elephant Butte and Caballo storage dams, six diversion dams, 141 miles of canals, 462 miles of laterals, 457 miles of drains, and one hydroelectric plant. However, the current project area contains no contributing or non-contributing elements of the district.

The Keystone Dam sites were first located in the late 1970s by the U.S. Army Corps of Engineers during the construction of flood control dams. The sites are thought to be one of the largest and earliest Archaic period villages in the western United States. In 1983 they were designated SALs by the THC and were also determined eligible to the NRHP.

In the late 1990s their importance led to the formation of a group concerned with the preservation of the site and the surrounding wetlands. This group was known as the Keystone Archeological Preservation and Protection Association. Membership grew and by 2000 the Keystone Heritage Park was formed (Keystone Heritage Park 2006). The group persuaded the City of El Paso to sponsor them to apply for a highway beautification grant from the Texas Highway Department. A grant of approximately \$1.4 million was awarded and used to purchase land surrounding the archaeological resources and associated wetlands. The surrounding land was eventually donated to the group and the full acreage of the Keystone Heritage Park acquired by the end of 2002. The Keystone Heritage Park is owned by the City of El Paso and is leased to a volunteer Board of Directors who is charged with preserving and developing the Park.

The boundaries of the Keystone Dam sites in Atlas (2015) extend outside the fenced Keystone Heritage Park boundaries (Figure 3); however, the website for the park suggests that the entirety of these sites is located within.

MAP REMOVED

Figure 3. Atlas map showing survey area and Keystone Dam Sites.

FIELD SURVEY AND RESULTS

On February 17, 2015, SWCA archaeologist Heather West conducted an archaeological survey of the staked APE and surrounding areas just beyond the APE. Conditions for the survey were good. The survey area was mostly disturbed, primarily from the construction of I-10, and to a lesser degree from the prior installation of EPNG Line Nos. 2034 and 2058. Vegetation was sparse, and visibility was generally 90 percent; consequently, shovel testing was not conducted. Numerous shallow erosional channels are present in the western part of the APE and afforded the SWCA archaeologist an opportunity to examine cut banks for buried cultural deposits (Figure 4).

The survey was conducted by walking a series of systematic transects spaced no more than 15 m (50 feet) apart. Evidence for cultural resources was sought in the form of artifacts (e.g., ceramics, lithics, historical metals, or glass) or features (concentrations of fire-affected rock, charcoal-stained soil, prehistoric or historical structures, or other cultural anomalies).



Figure 4. View of APE, facing southwest from near I-10.

DISCUSSION

The archaeological survey resulted in the discovery of one piece of flaked stone debitage (Isolated Occurrence 1) in the APE west of I-10. This part of the APE is dissected with erosional cuts that afforded the archaeologist to examine the subsurface for buried cultural deposits, of which none were found. The surface of the APE is mostly disturbed, with the least disturbed portion of the area that was surveyed being west of the APE (Figure 5). The ground conditions, coupled with the background research, suggest that it is unlikely that intact, subsurface cultural deposits are present within the APE or would be affected by the proposed undertaking.

Data obtained during the pre-field investigation showed that the APE is located within the NRHP-listed EBID. No contributing properties to the district are within the APE. Therefore, the proposed undertaking should result in No Historic Properties Affected.

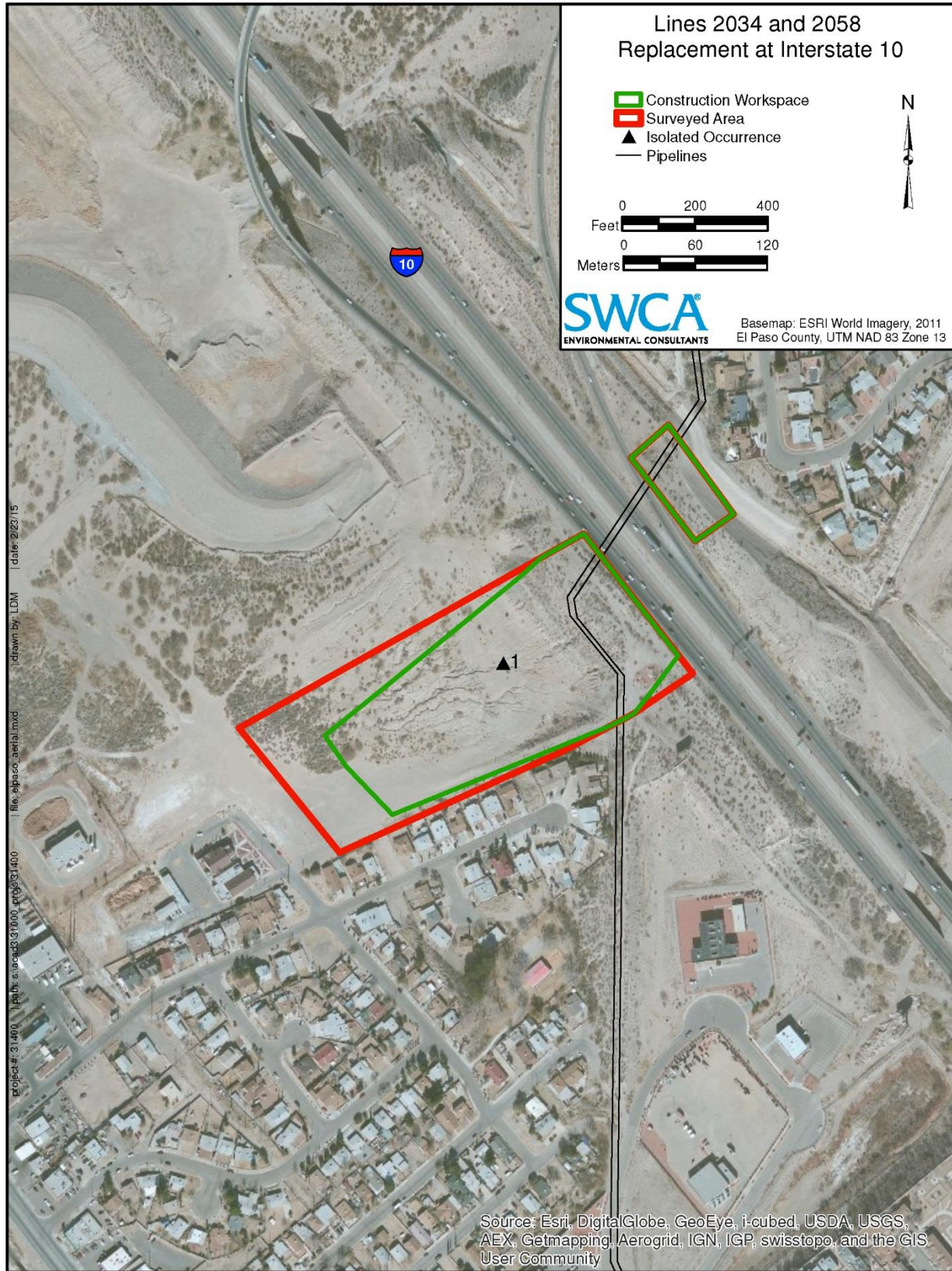


Figure 5. Project area and results.

MANAGEMENT SUMMARY

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Data obtained during the pre-field investigation showed that the APE is located within the NRHP-listed EBID. No contributing properties to the district are within the APE. Therefore, the proposed undertaking should result in No Historic Properties Affected.

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Keystone Heritage Park

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