CULTURAL RESOURCE REPORT

Class III Cultural Resource Survey for the Proposed Eddy County Loop West of Carlsbad, Eddy County, New Mexico

PREPARED BY
Marron and Associates, Inc.
7511 Fourth Street NW
Albuquerque, New Mexico
87107

PREPARED FOR
Smith Engineering
201 N. Church Street
Suite 210
Las Cruces, New Mexico
88001

April, 2010
# NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

<table>
<thead>
<tr>
<th>1. NMCRIS Activity No.:</th>
<th>2a. Lead (Sponsoring) Agency:</th>
<th>3. Lead Agency Report No.:</th>
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<tbody>
<tr>
<td>117303</td>
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<td>Class III Cultural Resource Survey for the Proposed Eddy County Loop West of Carlsbad, Eddy County, New Mexico</td>
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Author(s) J. Robert Estes, Toni Goar, and Scott Walley

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<th>6. Investigation Type</th>
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<th>7. Description of Undertaking (what does the project entail?):</th>
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<td>The project was conducted pursuant to a new road alignment in Eddy County, New Mexico. The alignment is located southwest of the City of Carlsbad. The southern end of the proposed alignment begins at National Parks Highway south of Carlsbad, bears west for approximately 3.2 km, then curves northward, continuing north until it intersects Happy Valley Road on the west side of Carlsbad. In addition to the alignment, two short access routes from existing roads are proposed. The alignment generally follows the 3,200-ft contour line throughout its length, with minor variation. The alignment is located west of the City of Carlsbad, and is one of two projects forming a loop around the city. To distinguish this undertaking from a similar project east of Carlsbad, it is referred to herein as the Eddy County Loop – West Side. This alignment was modified during the course of the investigations, and for this reason the survey was conducted in multiple episodes between 2008 and 2010. It is anticipated that funding for this undertaking will be provided by Eddy County; however, federal lands will be involved, and the Bureau of Land Management (BLM) is the lead agency for Section 106 compliance. Note that the East and West alignments were originally surveyed as a single project and registered as NMCRIS 116438. The projects were subsequently separated, and some of the sites and acreage originally linked to NMCRIS 116438 in ARMS are now associated with NMCRIS 117303.</td>
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<th>8. Dates of Investigation:</th>
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<tr>
<td>(from: 10/1/2008 to: 1/21/2010)</td>
<td>April 30, 2010</td>
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<tr>
<td>Marron and Associates, Inc.</td>
<td>7040.01b</td>
</tr>
<tr>
<td>Principal Investigator: Toni Goar</td>
<td></td>
</tr>
<tr>
<td>Field Supervisor: J. Robert Estes</td>
<td></td>
</tr>
<tr>
<td>Field Personnel Names: Hansene Gustafson, Maria Hroncich, Stanley Kerr, Lanny Noll</td>
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<table>
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<th>12. Applicable Cultural Resource Permit No(s):</th>
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<tr>
<td>NM State Permit Nos. NM-08-160-S, NM-09-160-S, and NM-10-160-S</td>
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<tbody>
<tr>
<td>Smith Engineering</td>
<td>304204</td>
</tr>
<tr>
<td>Contact: Bill McFarland</td>
<td></td>
</tr>
<tr>
<td>Address: 201 N. Church Street</td>
<td></td>
</tr>
<tr>
<td>Suite 210</td>
<td></td>
</tr>
<tr>
<td>Las Cruces, New Mexico 88001</td>
<td></td>
</tr>
<tr>
<td>Phone: (575) 523-2395</td>
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NIAF Version 1_7_25_06
15. Land Ownership Status *(Must be indicated on project map):*

<table>
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<tr>
<th>Land Owner</th>
<th>Acres Surveyed</th>
<th>Acres in APE</th>
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<td>BLM</td>
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**TOTALS** 304.87 304.87

16. Records Search(es):

- **Date(s) of ARMS File Review**: June 12, 2007 and May 21, 2009
- **Name of Reviewer(s)**: J. Robert Estes

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**
  - Kitchen Cove (provisional edition 1985) 32104-C3
  - Carlsbad West (provisional edition 1985) 32104-D3
- **c. County(ies)**: Eddy

18. Survey Field Methods:

- **Intensity**: ☐ 100% coverage  ☑ <100% coverage
- **Configuration**: ☐ block survey units  ✗ linear survey units (l x w): The length of the corridor is 12.45 miles (20.04 km). The width was 60 m (200 ft) on private and state land and 90 m (300 ft) on BLM land.  ☐ 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): 15    Crew Size: 2    Fieldwork Dates: 10/1/2008 to 1/21/2010
Survey Person Hours: 100   Recording Person Hours: 15   Total Hours: 115

Additional Narrative:

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): The project lies within the Lower Pecos Valley Subsection of the Pecos Valley Section of the Great Plains Province (Hawley 1986a:24). The project APE spans the Pecos River, which flows southward through Carlsbad. Relief is low in and near the town. Elevation roughly follows the 3,200-ft contour line, with some minor variation.

Soil series along the north-south portion of the alignment are predominantly Upton gravelly loam, 0 to 9% slope, and Reagan-Upton association, 0 to 9% slope.

The project area is within the Lower Sonoran Zone (Bailey 1913:12, Plate I). The vegetation of the project corridor is variously classified as desert grassland (Castetter 1956:256), Grassland (Gross and Dick-Peddie 1979:118), and Chihuahuan Desert Scrub (Brown and Lowe 1994; Dick-Peddie 1993a, 1993b:125).

The dominant plant species within the project area are mesquite (Prosopis glandluosa), creosote bush (Larrea tridenta), snakeweed (Gutierrezia microcephla), burro grass (Scleropogon brevifolius), soaptree yucca (Yucca elata), javelina bush (Condalia ericoides), prickly pear (Opuntia), little-leaf sumac (Rhus microphylla), and four-wing salt bush (Atriplex canescens). A variety of grasses are also present, including tobosa grass (Pleuraphis mutica), cane bluestem (Bothriochloa barbinodis), black grama (Bouteloua eriopoda), sideoats grama (B. curtipendula).

20. a. Percent Ground Visibility: variable    b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): The project area is adjacent and on the edge of Carlsbad. The area includes grazing and farming, gravel pits, and rural residential areas. Impacts to the project area include fences, all terrain vehicle (ATV) trails, gas wells and lines, construction and maintenance of roads, urbanization, and rodent activity.

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

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

23. Other Attachments:   □ Photographs and Log
   □ Other Attachments
   (Describe):

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

Principal Investigator/Responsible Archaeologist: Toni Goar

Signature ____________________________ Date _____________ Title (if not PI):

25. Reviewing Agency:
   Reviewer’s Name/Date
   Accepted ( ) Rejected ( )

   Tribal Consultation (if applicable): □ Yes □ No

26. SHPO
   Reviewer’s Name/Date:
   HPD Log #:
   SHPO File Location:
   Date sent to ARMS:
CULTURAL RESOURCE FINDINGS
[fill in appropriate section(s)]

1. NMCRIS Activity No.: 117303
2. Lead (Sponsoring) Agency: BLM-CFO
3. Lead Agency Report No.: 

SURVEY RESULTS:

Sites discovered and registered: 7
Sites discovered and NOT registered: 0
Previously recorded sites revisited (site update form required): 1
Previously recorded sites not relocated (site update form required): 3
TOTAL SITES VISITED: 8
Total isolates recorded: 6  Non-selective isolate recording? ☒
Total structures recorded (new and previously recorded, including acequias): 3

MANAGEMENT SUMMARY: Marron completed a cultural resource survey for the proposed Eddy County Loop – West Side, Eddy County, New Mexico. The first fieldwork was conducted on October 1, 2008, and the last fieldwork was conducted on January 21, 2010. The cultural resources documented during this survey include one previously recorded site that was updated, three previously recorded sites that were not found, seven newly recorded sites, three historic buildings, and six isolated occurrences.

LA 43444 is an artifact scatter with features that has been recorded several times. The features recorded during this update are all burned rock concentrations. Past recordings have determined that this site dates to the Archaic and Jornada Mogollon dating between 5500 BC and AD 1375. The site has been impacted by pipelines, dumping, and road construction however, there are still areas of the site that are fairly intact and can address research questions. LA 43444 is therefore recommended eligible to the NRHP under Criterion D. The site is on an alignment that is an alternate and will not be affected by the proposed project. If this alignment is chosen then data recovery is recommended.

LA 164986 is known to have been part of the Carlsbad Army Airbase. The nature of the features and their associated assemblages, suggest this part of the site was residential. There has been, however, substantial damage in this area. The site is recommended eligible for nomination to the NHRP for its association with events that have made a significant contribution to the broad patterns of our history (Criterion A). The northwest portion of LA 164986 is within the present project APE. Avoidance through re-routing is recommended. If a re-route is not feasible, archival research is recommended.

LA 164897 is a fallow agricultural field with a disused irrigation system and infilled reservoir. The assemblage suggests use since the late nineteenth to early twentieth century, however the cinderblock and concrete water control features suggest the post-World War II period. The site has been recorded and provides little potential for additional cultural information. It is not recommended eligible for nomination to the NRHP. No further treatment is recommended.

LA 164888 is a small artifact scatter with two features. The features and flakes are of unknown cultural and temporal affiliation. The two cans are Euroamerican and are from 1940s to 1960s. The features are somewhat buried with aeolian sands and may contain staining, which could be radiocarbon dated. However, since it is unclear that the features contain staining it is recommended that the site be undetermined for eligibility at this time. Testing to determine eligibility is recommended.

LA 164990 is an artifact scatter with four features. The features are all burned rock concentrations and are thermal features. A sherd tentatively dates the site to the Jornada Mogollon (AD 500 to 1375). Although no staining was noted on the surface of the site, there is potential for subsurface cultural remains. LA 164990 is therefore recommended eligible to the NRHP under Criterion D. LA 164990 is located in the buffer area of a proposed alignment that is currently not the preferred alignment and therefore has been avoided. If this alternate alignment is chosen that data recovery is recommended for the site.

LA 164991 is an artifact scatter with two thermal features of unknown cultural and temporal affiliation. The site is partially eroded on the east and south sides, and has shallow soils in the north and west sides. The lack of datable, organic material in the eroded hearths diminishes the chances of obtaining absolute dates from radiocarbon techniques. The site is therefore recommended not eligible to the NRHP. No further treatment is recommended.
LA 164992 is a historic refuse dump. The prevalence of aqua and sun-colored amethyst glass in the glass assemblage suggests that this site reflects earlier dumping than that observed at other dump sites recorded during this project (ca. 1880 to 1920). All surface artifacts have been recorded and subsurface cultural remains is unlikely. LA 164992 is therefore recommended not eligible to the NRHP. No further treatment is recommended.

LA 164993 is a small artifact scatter of unknown cultural or temporal affiliation. No features or diagnostic artifacts were found. All surface artifacts have been recorded and subsurface cultural remains is unlikely. LA 164993 is therefore recommended not eligible to the NRHP. No further treatment is recommended.

LA 86197, LA 140906, and LA 141858 were not found within the project area and are either destroyed, partially destroyed, or are located outside the APE. No further treatment is recommended.

The assemblage and features indicate a substantial Jornada Mogollon campsite at LA 140906. Erosion continues to reveal additional subsurface features, which indicates the presence of extensive buried cultural deposits. The intact remains do contain charcoal-stained sediments that have the potential to provide chronological and possibly even subsistence data. The SHPO concurred and made a formal determination that the site was eligible to the NRHP under Criterion D (HPD log no. 71734). This site is likely much farther west than originally indicated, and is nowhere near the current project area. No further treatment is recommended.

The assemblage and features at LA 141858 indicate a long-term, local Euroamerican dumping ground. SHPO determined that the site was not eligible to the NRHP (HPD log no. 69677). The portion that is within the current project APE no longer exists. No further treatment is recommended.

The three historic buildings are recommended not eligible to the NRHP. No further treatment is recommended.

Six isolated occurrences were recorded during the various surveys for the West Side of Eddy County Loop. The isolated occurrences have been fully documented and no further treatment is recommended.

If prehistoric or historic cultural remains, features, and/or human remains are encountered during the construction of the proposed pipeline, the contractor is advised to cease all work and notify the BLM archaeologist or other pertinent agencies. The qualified archaeologist will determine the necessary steps to evaluate, document, protect, or remove the material or remains, in compliance with the law.

SURVEY LA NUMBER LOG

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

<table>
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<td>Marron 5</td>
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<tr>
<td>164987</td>
<td>Marron 8</td>
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<td>164988</td>
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<td>164993</td>
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Previously recorded revisited sites:

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Cultural Resource Report

Class III Cultural Resource Survey
for the Proposed Eddy County Loop
West of Carlsbad, Eddy County, New Mexico

By
J. Robert Estes, Toni Goar, and Scott Walley

Edited By
Scott Walley

Prepared by
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Fax: (505) 897-7847

Prepared for
Smith Engineering
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Suite 210
Las Cruces, New Mexico 88001

Marron and Associates Cultural Resource Report No. 7040.01

NM State Permit Nos. NM-08-160-S, NM-09-160-S, and NM-10-160-S
BLM Permit Nos. 199-2920-06-C, 199-2920-09-D and 199-2920-10-E

April 30, 2010
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INTRODUCTION

This report presents the findings of a Class III cultural resource survey conducted by Marron and Associates, Inc. (Marron) for a proposed new road alignment in Eddy County, New Mexico. The alignment is located west of the City of Carlsbad, and is one of two projects forming a loop around the city. To distinguish this undertaking from a similar project east of Carlsbad, it is referred to herein as the Eddy County Loop – West Side. This alignment was modified during the course of the investigations, and for this reason the survey was conducted in multiple episodes between 2008 and 2010. It is anticipated that funding for this undertaking will be provided by Eddy County; however, federal lands will be involved, and the Bureau of Land Management (BLM) is the lead agency for Section 106 compliance.

The southern end of the proposed alignment begins at National Parks Highway south of Carlsbad, bears west for approximately 3.2 km (2 mi), then curves northward, continuing north until it intersects Happy Valley Road on the west side of Carlsbad. In addition to the alignment, two short access routes from existing roads are proposed. Figure 1 shows the areas surveyed. The red and blue lines are the preferred alignment; other alignments are alternates. Green colored lines are the proposed access roads.

The proposed roadway typical section would consist of two 12-ft-wide driving lanes with 4-ft-wide inside shoulders separated by a 30-ft-wide median. The outside shoulders would be 8 ft wide, and 20-ft-wide toe slopes and 10-ft-wide bar-ditches would occur on either side. The expected total right-of-way width would be 200 ft. The County proposes to build two lanes first and then add the other two lanes in the future when traffic volumes warrant. A centerline has been laid out using a 55 mile per hour design speed with curve radii calculated accordingly. Bridges are expected to allow the roadway to cross Dark Canyon and McKittrick Draw. Culverts would be placed to allow drainage flows to follow existing routes. A large box culvert or multi-box culvert would be required under the proposed road where it crosses the diversion dam on the west side. Existing side roads would be tied in to the new road.

Toni Goar served as the principal investigator for the project. J. Robert Estes served as field supervisor. Maria Hroncich, Stanley Kerr, Lanny Noll, and Hansene Gustafson served as field technicians. As noted above, multiple fieldwork episodes were required as project parameters were modified. The first fieldwork was conducted on October 1, 2008, and the last fieldwork was conducted on January 21, 2010. Survey was conducted under Marron’s New Mexico State permits NM-08-160-S, NM-09-160-S, and NM-10-160-S and Bureau of Land Management (BLM) permits 199-2920-06-C, 199-2920-09-D and 199-2920-10-E. A total of 115 person-hours (not including driving time) were required to complete the cultural resource survey. The cultural resources documented during this survey include one previously recorded site that was updated, three previously recorded sites that were not found, seven newly recorded sites, three historic buildings, and six isolated occurrences.

This undertaking complies with the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended through 1992, the New Mexico Cultural Properties Act (18-6-17 NMSA 1978), the New Mexico Prehistoric and Historic Sites Preservation Act (18-8-1 through 18-8-9 NMSA 1978), and applicable regulations. This report is consistent with applicable federal and state standards for cultural resource management. In the event that any archaeological materials or bones are uncovered during construction or earth-disturbing activities, Eddy County will cease work immediately and protect the remains from further disturbance and notify the appropriate land management agency. The appropriate land management agencies and the SHPO will determine the necessary steps to evaluate, document, protect, or remove the material or remains, in compliance with the law.
Figure 1
Project area map

LEGEND

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<tr>
<td>Blue</td>
<td>Alternative Alignment</td>
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<tr>
<td>Green</td>
<td>Secondary Access Road</td>
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<td>Brown</td>
<td>BLM</td>
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<td>White</td>
<td>Private</td>
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<tr>
<td>Blue</td>
<td>State</td>
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Eddy County Loop
West Side
Cultural Resource Survey

Land Ownership:
- Carlsbad West, NM (Prov. Ed. 1985)
- Kitchen Cove, NM (Prov. Ed. 1985)

- BLM
- Private
- State

- Eddy County, NM
  - Sec. 3, 10, 11, 14, 15, 22, 23, 25, 26, & 27

Project Area Map

Map Scale: 1:24,000

Kilometers: 0 0.5 1

Miles: 0 0.5 1
Location of the Undertaking

The proposed Eddy County Loop – West Side is west of Carlsbad, Eddy County, New Mexico. It falls on the Kitchen Cove (provisional edition 1985) (32104-C3) and Carlsbad West (provisional edition 1985) (32104-D3) 7.5-minute USGS topographic quadrangles. The Universal Transverse Mercator (UTM) coordinates for the north and south ends of the alignment are presented in Table 1. Table 2 presents the townships, ranges, and sections through which the alignments pass, with the land status. The width of the surveyed corridor was 60 m (200 ft) on private and State Trust land and 90 m (300 ft) on BLM land. The total length of all the surveyed alignment variations is 12.45 mi (20.04 km) for a total of 304.87 acres (123.38 ha). Of this 304.87 acres, 26.77 acres (10.85 ha) is BLM land, 24.89 acres (10.07 ha) is State Trust land and 253.21 acres (102.61 ha) is private land.

Table 1. Project landmarks.

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<td>EOP (south)</td>
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Table 2. Project legal description.

<table>
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<th>Legal Description</th>
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ENVIRONMENTAL SETTING

Physiography, Geology, and Topography

Carlsbad, in central Eddy County, southeastern New Mexico, lies within the Lower Pecos Valley Subsection of the Pecos Valley Section of the Great Plains Province (Hawley 1986a:24). The project APE spans the Pecos River. The Great Plains Province includes the eastern third of New Mexico. The Pecos Valley Section of this province contains “the terraced valleys of the Pecos and Canadian rivers and flanking piedmont plains and tablelands. Inner river valleys range from reaches with broad floors, occupied by floodplains and low terraces, to relatively shallow canyons” (Hawley 1986b:26). West of the Pecos, the higher piedmont erosional surfaces, cut on eastward-dipping Permian rocks, are transitional to the highlands of the Sacramento Section of the Basin and Range Province. The inner valleys and canyons of the Pecos River are flanked by a stepped sequence of valley-border surfaces inset below the high-level piedmont plains. Alternating periods of valley incision and relative base-level stability during Pleistocene glacial-interglacial intervals formed the valley-border surfaces. Much of the Pecos Valley Section is underlain by Permian bedrock—gypsiferous and saline evaporites, limestone, dolomite, mudstone, shale, and sandstone. Solution-subsidence depressions, varying greatly in size, are common as the result of dissolution of evaporite and carbonate units (Hawley 1986b:26–27).

Sierra Blanca and the Sacramento and Capitan mountains form the western horizon. In between is an extensive cuesta (Pecos Slope) with Roswell and Carlsbad near its base. The Pecos River hugs the eastern margin of the lowland along a bluff composed of limestone, gypsum, and dolomite of the Seven Rivers and Yates formations (Kelley 1971:16–17, 32). Farther to the east lies the Llano Estacado, or Staked Plains. The Pecos River flows southward through Carlsbad. Relief is low in and near the town. The alignment roughly follows the 3,200-ft elevation contour line throughout its length, with minor variation.

The Pecos Valley from Roswell south to Carlsbad consists of two broad alluvial plains or low terraces. The northern valley extends from 24 km (15 mi) north of Roswell to the Seven Rivers Hills. The north valley is widest (45 km [28 mi]) in the vicinity of Artesia. The southern valley includes the Carlsbad/Loving areas. The Lakewood terrace (Fiedler and Nye 1933; Morgan 1938) forms the present alluvial bottomland of the Pecos and its major tributaries. Lakewood deposits typically consist of sandy brown silt with lenses of gravel and localized caliche layers. The Orchard Park terrace forms the principal agricultural plain. Due to erosion, the two surfaces have merged over wide areas. The Orchard Park terrace deposits are composed of sand and silt with clay lenses and caliche. The Blackdom terrace deposits are similar to the Lakewood unit (Kelley 1971:32).

Soils


Soil series found along the north-south portion of the alignment are predominantly Upton gravelly loam, 0 to 9% slope, and Reagan-Upton association, 0 to 9% slope. Reagan soils form in alluvial fans or fan remnants in alluvial and/or aeolian parent material. Series found along the east-west portion of the alignment include Reagan loam, 0 to 3% slope, and Div-Pima complex, 0 to 3% slope. Div-Pima soils are found on alluvial fans and floodplains and form in mixed alluvium.
Surface Water

The Pecos River enters the Carlsbad area east of the Ocotillo Hills, a limestone upland. In general, except for the Pecos River, “surface water stands for only a brief time. Ground water is scarce and hard to locate” (Chugg et al. 1971:6). Historically, windmills, canals, and stock tanks have provided water for livestock, and wells supply water for domestic use.

Climate

Eddy County has a semiarid, continental climate characterized by erratic rainfall, hot summers, and mild winters. The average annual precipitation in the Carlsbad area is 31.5 cm (12.4 in). The wettest months are May through October. Most of the wet period rainfall occurs as brief, heavy thunderstorms and originates in the Gulf of Mexico (Houghton 1971:77, 80). “Moisture is supplied by the general southeasterly circulation of moist air over the Gulf of Mexico from the Bermuda high pressure area, which shifts westward in summer” (Houghton 1971:95). Snowfall is light, ranging from 7.6 to 20.3 cm (3–8 in) (Houghton 1971:77). The average annual temperature is 15.4°C to 17.6°C (60º–64ºF). Temperatures of at least 31.9°C (90°F) are common during the summer. The frost-free season is 200 to 220 days (Chugg et al. 1971:6). Relative humidity averages 45 percent annually. Although winds are light throughout most of the year, averaging 17.7 km (11 mi) per hour, spring is the windy season. Average wind speeds in March are 25.6 km (16 mi) per hour. Winds are mainly from the west-southwest in winter and spring and from the south-southeast the rest of the year. Winds greater than 50 km (31 mi) per hour are generally from the west-southwest (Bennett 1986:50–51; Houghton 1971:80).

Vegetation

The project area is within the Lower Sonoran Zone (Bailey 1913:12, Plate I). The vegetation of the project corridor is variously classified as desert grassland (Castetter 1956:256), Grassland (Gross and Dick-Peddie 1979:118), and Chihuahuan Desert Scrub (Brown and Lowe 1994; Dick-Peddie 1993a, 1993b:125). “Much of the Desert Grassland and desert scrubland in New Mexico occupies sites that were previously grassland” (Dick-Peddie 1993b:107). Drought and overgrazing since the late 1800s have drastically reduced the grass cover. Creosotebush (Larrea tridentata) and tarbush (Flourensia cernua) are the codominants of the Chihuahuan Desert. The absence of tarbush and the presence of scattered soaptree yuccas (Yucca elata) indicate the Chihuahuan Desert Scrub occupation of an area is likely not more than 120 years. The presence of desert holly (Perezia nana) and fluff grass (Erioneuron pulchellum) is probably a Desert Grassland vegetation relict. It is not known, however, if the absence of tarbush and the presence of soaptree yucca, desert holly, and fluff grass in Chihuahuan Desert Scrub are indicators of recent succession from grassland or desert grassland vegetation.

Although tarbush or whitethorn (Acacia constricta) may occur as co-dominants, creosote is generally the lone dominant of Chihuahuan Desert Scrub in New Mexico (Dick-Peddie 1993b:131–132). Other major plants comprising Chihuahuan Desert Scrub vegetation include lechuguilla (Agave lechuguilla), squawbush (Condalia spathulata), ocotillo (Fouquieria splendens), cholla and prickly pear cactus (Opuntia spp.), honey mesquite (Prosopis glandulosa), yucca (Yucca spp.), dropseed (Sporobolus spp.), and dogweed (Dyssodia acerosa) (Dick-Peddie 1993b:140–141).
The dominant plant species within the project area are mesquite (*Prosopis glandluosa*), creosote bush (*Larrea tridenta*), snake weed (*Gutierrezia microcephla*), burro grass (*Scleropogon brevifolius*), soaptree yucca (*Yucca elata*), javelina bush (*Condalia ericoides*), prickly pear (*Opuntia*), little-leaf sumac (*Rhus microphylla*), and four-wing salt bush (*Atriplex canescens*). A variety of grasses are also present, including tobosa grass (*Pleuraphis mutica*), cane bluestem (*Bothriochloa barbinodis*), black grama (*Bouteloua eriopoda*), sideoats grama (*B. curtipendula*).

**Fauna**

Mammals found in the Chihuahuan Desert Scrub include the mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), bison (*Bison bison*), desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), spotted ground squirrel (*Spermophilus spilosa*), woodrat (*Neotoma* spp.), coyote (*Canis latrans*), badger (*Taxidea taxus*), and a variety of rodents. Bison are now locally extinct. Various birds such as the scaled quail (*Callipepla squamata*), mourning dove (*Zenaida macroura*), raven (*Corvus* sp.), burrowing owl (*Athene cunicularia*), and hawks are represented. The western rattlesnake (*Crotalus viridis*), coachwhip (*Masticophis flagellum*), bullsnake (*Pituophis melanoleucus*), western box turtle (*Terrapene ornata*), Great Plains toad (*Bufo cognatus*), and various lizards are among the reptiles and amphibians present (Brown 1994:178–179, 328, 331).

The following common bird species were observed within or near to the project area: mourning dove (*Zenaida macroura*), white-wing dove (*Columba asiatica*), Eurasian collared dove (*Streptopelia decaocto*), northern mocking bird (*Mimus polyglottos*), Chihuahuan raven (*Corvus cryptoleucus*) and western meadowlark (*Sturnella neglecta*). Less common species were: Say’s phoebe (*Sayornis saya*), road runner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis texensis*), thrasher (*Toxostoma sp.*), yellow warbler (*Dendroica petechia*), yellow-breasted chat (*Icteria virens*), cactus wren (*Campylorhynchus brunneicapillus*), and Swainson’s hawk (*Buteo swainsoni*).

Mammals or their sign observed by Marron in the Carlsbad area include mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), spotted ground squirrel (*Citellus spilosoma*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), and badger (*Taxidea taxus*). Habitat for bats exists under roadway bridges and culverts.

Three species of reptiles were observed that include little-striped whiptail (*Cnemidophorus inornatus*), western whiptail (*Cnemidophorus tigris*), and six-lined racerunner (*Cnemidophorus sexlineatus*). Others likely to inhabit the project area include lesser earless lizard (*Holbrookia maculata*), prairie lizard (*Sceloporus undulatus*), Texas horned lizard (*Phrynosoma cornutum*), side-blotched lizard (*Uta stansburiana*), western rattlesnake (*Crotalus viridis*), western diamond-backed rattlesnake (*Crotalus atrox*), and leopard lizard (*Gambelia wislizenii*). These species are likely to be active during the spring, summer and early fall.
Cultural Environment

The project area is adjacent and on the edge of Carlsbad. The area includes grazing and farming, and gravel pits, and rural residential. Impacts to the project area include fences, all terrain vehicle (ATV) trails, gas wells and lines, construction and maintenance of roads, urbanization, and rodent activity. Although these disturbances may enhance the visibility of archaeological sites, the integrity of shallowly buried sites may be affected by these activities.

CULTURAL OVERVIEW

Within southeastern New Mexico local cultural sequences have been developed for the northern Middle Pecos (Jelinek 1967), the Sierra Blanca area (Kelley 1984), the southern Guadalupe Mountains (Applegarth 1976), the Eastern Jornada (Corley 1965; Leslie 1979), and the Carlsbad Basin/Brantley Reservoir area (Katz and Katz 1985a, 1985b). In addition, Stuart and Gauthier (1984), Sebastian and Larralde (1989), and Katz and Katz (1993) have prepared comprehensive cultural overviews for southeastern New Mexico. These sources form the basis for much of the following.

Paleoindian Period (ca. 10,000–5200 BC)

The earliest substantiated cultural manifestation in New Mexico, the Paleoindian period (ca. 10,000 to 5200 BC), can be divided into three subperiods or complexes—Clovis (10,000 to 9000 BC), Folsom (9000 to 8000 BC), and Plano (8000 to 5500 BC). These generally correspond with the Paleoindian 1, 2 and 3 phases of Katz and Katz (1993:I-103, I-113), who also postulate a hiatus (6200 to 5200 BC) at the end of the period that includes the late Plano and extends into the beginning of the Archaic. These complexes are characterized by stylistically distinct projectile points associated with late Pleistocene and early Holocene megafauna. In most cases, the presence of megafaunal bones or the point style provides the only basis for the age assignment. Nevertheless, as noted by Hogan (2006:4-3), the number of published radiocarbon dates associated with Paleoindian occupations in the Plains and Southwest has nearly tripled in the last three decades (Eighmy and LaBelle 1996), allowing a refinement of the projectile point chronology, particularly for the fluted point series.

The fluted Clovis point was associated with the hunting of mammoths and other late Pleistocene fauna. Fluted Folsom points and similar but unfluted Plano points were associated with the hunting of now-extinct forms of bison. By the early Holocene and the end of the Paleoindian period, only modern fauna remained. In addition to hunting megafauna, the early Holocene hunters and foragers also exploited a variety of floral and small faunal resources (Cordell 1979:20, 1997:96, 99; Martin and Plog 1973:159–160).

The diagnostic Clovis artifact is the large lanceolate Clovis spear point, which exhibits a single short basal flute on both faces. The Clovis tool kit also includes a variety of scrapers, flake knives and backed blades, bokers, gravers, and perforators, and bone points and foreshafts (Gunnerson 1987:10). The Clovis type site, Blackwater Draw, is between the towns of Clovis and Portales, New Mexico, north of the project area.
The diagnostic Folsom artifact is the small, finely made lanceolate Folsom projectile point, on which a single flute extends nearly the length of the point on each face. Technologically, the Folsom point developed from the earlier Clovis point form (Gunnerson 1987:13), and the youngest Clovis dates overlap the oldest Folsom dates (Hogan 2006:4-4). Folsom assemblages indicate a subsistence economy focused on the seasonal availability of animal and plant resources. The Folsom type site is in northeastern New Mexico, near Folsom in northeast New Mexico, and the Elida site, a single-component Folsom site, is in Roosevelt County in east-central New Mexico.

Plano complexes are characterized by a variety of projectile point types and knife forms. Projectile points lack fluting, consisting instead of large lanceolate forms with basal grinding and large parallel flaking. The age and typological relationships among the earlier fluted point series and the later, unfluted Plano complex point series is less clear. The forms overlap in time, but the available evidence suggests a technological continuum between them (Holliday 1997:185–186; Hogan 2006:4-4).

Most Paleoindian assemblages consist mainly of non-diagnostic lithic waste. As of 2003, 30 Paleoindian sites had been recorded in the south and central parts of Eddy County, and most were found on hill tops (Simpson 2003; see also Katz and Katz 1993:1-107, Table 15). Although a Paleoindian point base was recorded in the Brantley Reservoir area (Katz and Katz 1985a:34), no Paleoindian sites were found during the present cultural resource survey.

**Archaic Period (5200 BC–AD 500)**

The climate became warmer and more arid during the Archaic. Although this period saw a continuation of the mobile hunting and gathering pattern of the Paleoindian period, there was a shift towards resource diversification. In other words, the Archaic adaptation was a “diffuse” economy (Judge 1982:49). The resource base included a variety of plants and the modern suite of Plains fauna. Archaic populations probably had a primary dependence on plant foods, a seasonally mobile settlement pattern, and a flexible social structure in which group size and composition varied in response to changing economic opportunities. Areas where the density and distribution of key plant resources were predictable on a seasonal basis were reoccupied (Judge 1982:49). A greater dependence on plant foods is reflected in a higher frequency of grinding tools during the Archaic. Unlike other areas of New Mexico, Archaic components in southeastern New Mexico have not yielded evidence of an early agricultural subsistence base (Stuart and Gauthier 1984:267).

Archaic sites are usually identified as lithic scatters with fire-cracked rock, hearths, ground-stone tools, and specific projectile point types. Distinctive Archaic artifacts include stemmed or corner-notched dart point styles, basin metates, and one-hand manos. Although varied, the remainder of the stone tool assemblage—scrapers, drills, choppers, knives—is undiagnostic and chipping debris is abundant (Cordell 1984, 1997). Ceramics are absent. The Archaic is also associated with a biface-oriented chipped-stone technology and a diversity of lithic raw materials (Lintz et al. 1988). Pottery is absent. The defined boundaries of the Oshara (northern), Cochise (northwestern), Chihuahuan (western) and Panhandle Plains and Trans-Pecos (east and southeast) Archaic traditions coincide in southeast New Mexico (Hogan 2006:4-7). Panhandle Plains and Trans-Pecos forms predominate, but projectile points typical of each tradition are found in the area.
Formative Period (AD 500–1375)

Turnbow et al. (2000:10) note “The initial appearance of Formative period traits occurred primarily along major river valleys and probably reflects the addition of new traits to the Late Archaic assemblage base.” As with the Archaic period, Formative-period sites in southeastern New Mexico occur in every topographic setting. Most Formative sites are associated with blowouts, dunes, ridges, and benches. Except for the substitution of benches for hill slopes, Formative and Archaic topographic preferences are similar (Katz and Katz 1993:1-121, I-124).

The Formative period is marked by the appearance of the bow and arrow and brownware pottery and a reliance on bison hunting. Later, sedentism and horticulture occurred in some parts of the region (Turnbow et al. 2000:10), Cultigens (primarily corn, occasionally beans or squash, but seldom all three) have been recovered from Late Archaic and Formative-period sites in the Rio Hondo/Sierra Blanca area (McBride and Toll 2003). However, available evidence suggests that populations in southeast New Mexico were less dependent on agriculture than were populations elsewhere, and a purely horticultural strategy has not been well documented (Stuart and Gauthier 1984:274–275; Hogan 2006:4-36). By AD 1400, agriculturalists had largely abandoned the area.

Proto/Ethnohistoric Period (AD 1375–1750)

As indicated by Sebastian and Levine (1989:93), “the Protohistoric is the least understood and least studied period in the entire prehistoric–historical continuum in the Southwest.” As agricultural adaptations began to disappear from the area after AD 1300, the local hunting and gathering adaptation became increasingly mobile and focused more and more on the procurement of bison. This economic shift may have resulted from deteriorating environmental conditions or from an increased availability of bison (Sebastian and Levine 1989:94). “The common denominator between Paleoindian and the Proto/Ethnohistoric is the prominence accorded to hunting in the subsistence base” (Katz and Katz 1993:I-133).

It is probable that pre-Apache, nonsedentary groups had inhabited portions of southeastern New Mexico during the Formative period. In addition, it is also likely that pre-Apache Plains nomads were pushed into the area by the southward migration of Athapaskan groups (Sebastian and Levine 1989:94). Although the Protohistoric period in extreme southeastern New Mexico is virtually unknown, some sites contain evidence of later groups, such as the Apache, Kiowa, and Comanche (Leslie 1979:193; Sebastian and Levine 1989:95).

As with Paleindian sites, Proto/Ethnohistoric sites are generally small and located primarily in elevated settings close to water. The vast majority of recorded Proto/Ethnohistoric-period sites in southeastern New Mexico are in the southern Pecos Valley portion of the region. Although known sites of this period include hearths, burned-rock scatters, chipped-stone scatters, and ring middens, these sites cannot be distinguished from Archaic or Formative sites in the absence of diagnostic artifacts. The tipi ring, however, is a distinctive feature of the Proto/Ethnohistoric period. Definite tipi rings replaced the small stone circles of the Formative 7 (Katz and Katz 1993:1-133–I-134). Katz and Katz (1993:1-133) divided the Proto/Ethnohistoric period into three phases—Protohistoric 1, Ethnohistoric 1, and Ethnohistoric 2—dating from AD 1375 to 1750.
The Apache

One of the most controversial issues among anthropologists and archaeologists in the Southwest concerns the arrival of the Apache and Navajo—Southern Athapaskan groups—in the region. One hypothesis suggests Apachean groups arrived in the Southwest and Southern High Plains via the High Plains shortly before the arrival of Spaniards in the area in 1540 (Carlson 1965; Gunnerson 1956, 1974; Gunnerson and Gunneron 1971, 1988:1–2; Hester 1962; Schaafsma 1981; Wilcox 1981). A date of ca. AD 1525 has been postulated. If this interpretation is correct, the southward Apachean migration coincided with the maximum of the “Little Ice Age.” Apachean peoples may have followed bison herds along the front range of the Rocky Mountains (Gunnerson 1956; Gunneron and Gunneron 1988:2). Glottochronological data suggest Apachean linguistic differentiation began ca. AD 1300. Prior to that time, the Apacheans were a single group or very closely related groups (Opler 1983a:381, 385). Based on the linguistic data, Opler (1983a:385) suggests the first Apachean groups entered the Southwest ca. AD 1400. Apache emergence and origin stories, however, place them in the Southwest from the beginning of creation (e.g., Blue Panther, Keeper of Stories 2006; Welker 2006).

Early Spanish chroniclers refer to the presence of several nomadic (probable Apachean), bison-hunting groups—Querechos, Teyas, Vaqueros, Faraones—on the Llano Estacado. The relationship of these groups, however, with known historic native groups is problematic, given the uncertainty as to which group or groups the names apply. In September 1598, Juan de Oñate first used the word Apache as a cultural term (Opler 1983a:385–386). "[A]lthough the first use of the term included Athapaskans, it also included other tribes that were linguistically unrelated to the Athapaskan Apache but confused with them or assumed to be sufficiently similar to them to justify the same name" (Opler 1983a:386). The Sierra Blanca Apache were first reported in the Sierra Blanca Mountains in 1653. Apaches de Siete Rios, an Apachean group living in the Seven Rivers area, between the Pecos River and the Guadalupe Mountains, were first mentioned in 1659. This group was also called Faraón until 1726, when Natagé replaced both names. The Faraones were first mentioned in 1675 as Paraonetz. Prior to 1720, the name Faraón did not refer to any specific geographical group. It was applied to Apachean groups both west and east of the Rio Grande. From 1720 to 1726, all Apaches between the Rio Grande and the Pecos River were called Faraones. Although Mescalero replaced the name Faraón in 1814, the latter name was still used on maps until 1858 (Opler 1983a:389–390). “The Faraones have not been firmly identified with a modern Apache tribe, but it seems likely that they merged with the Mescaleros” (Opler 1983a:390). The first reported use of the name Mescalero was in 1745 and as indicated above, use of this name eventually replaced that of Faraón in the north and Natagé in the south (Opler 1983b:438).

“In Spanish Mescaleros (also spelled Mezcaleros) means ‘people of the mescal,’ a reference to the Mescaleros’ use of this plant (Agave spp.), also called century plant, as a staple food” (Opler 1983b:437). The Mescalero established their territory east of the Rio Grande, in southeastern New Mexico and northwestern Texas and adjacent portions of northern Mexico (Opler 1983a:385, 1983b:419). The Rio Grande formed the western boundary of Mescalero territory. Although Mescalero settlements were west of the Pecos River, “buffalo and antelope hunts, expeditions for salt and horses, and forays against enemies frequently took them farther east” (Opler 1983b:419). In the early 1700s, the Comanche forced the Mescalero to withdraw into mountainous areas. By the 1820s, the western border of the Comanche extended to the Pecos River (Kavanagh 2001:886).

The Comanche

The Comanche are Shoshonean-speakers who probably split from the Shoshoni ca. AD 1550. The Shoshoni occupied parts of Wyoming. The Comanche may also have lived there before their arrival in the Southwest. The earliest Spanish record of the Comanche was in 1706, after which date they were mentioned frequently. By 1730, after pushing the Cuartelejo and Jicarilla Apache farther south, the Comanche dominated the High Plains. The Comanche functioned as independent bands. Therefore,
alliances and animosities between the Comanche and other tribes did not necessarily apply to all Comanche bands. In 1767, the Comanche became hostile toward the Spanish and remained so until 1787 (Gunnerson and Gunnerson 1988:29–30). By 1810, the Comanche began to lose their domination of the Central High Plains as more northerly tribes—Arapaho, Cheyenne, Kiowa, Kiowa Apache, Dakota (Sioux), Crow, and Shoshoni—moved south to the Arkansas River and beyond. The Comanche also felt pressure from eastern tribes, such as the Pawnee and Wichita, who ventured onto the High Plains in pursuit of bison (Gunnerson and Gunnerson 1988:32). By the late 1820s, the Cheyenne and Arapaho had forced the Comanche south, from the upper Arkansas River region, to the Canadian River (Kavanagh 2001:888).

**Historic Period (post-AD 1540)**

The 1540–1542 entrada of Francisco Vasquez de Coronado was the first official European entry onto the western plains of North America (Atearn 1992:2–3; Jenkins and Schroeder 1974:14, 17). After the “failure” of the Coronado expedition, the Spanish ignored New Mexico for almost 40 years. The beginning of permanent Spanish settlement in New Mexico was Juan de Oñate’s founding of San Gabriel in 1598. Santa Fe, the Spanish capital of New Mexico, was founded in 1610, (Atearn 1992:3–4; Jenkins and Schroeder 1974:17, 19).

In 1821, Mexico declared its independence from Spain and the Republic of Mexico was established in January 1822. As a consequence, New Mexico became part of the Mexican nation. The establishment of the Republic of Texas in 1836 and the annexation of Texas by the United States in 1844 led to poor relations between Mexico and the United States and eventually resulted in the outbreak of war in 1846. The Treaty of Guadalupe Hidalgo, which ended the Mexican War in 1848, ceded nearly all of present-day New Mexico to the United States. The Territory of New Mexico was created in 1850 (Jenkins and Schroeder 1974).

Southeastern New Mexico lay outside the Spanish and Mexican occupations of New Mexico. However, the establishment of US military posts in New Mexico, beginning in 1846, and their concomitant demand for fresh beef provided the impetus for cattle ranching throughout New Mexico and the rest of the Southwest (Frazer 1983:1–2). When it finally came, the initial settlement and economic development of southeastern New Mexico was based on the cattle industry.

The cattle boom in eastern New Mexico occurred after the Civil War and was initiated by Texans. By the end of the Civil War, “the government market for beef sparked interest in stocking Southwest ranges and led to rapid development of the cattle industry in both Arizona and New Mexico” (Miller 1989:175). The American myth of the wild west began with competition among contractors to supply the military as “the army's demand for fresh beef encouraged western entrepreneurs to risk the hazards associated with government contracting to supply posts with cheap Mexican and Texas cattle” (Miller 1989:176; 212). As the threat of Indian raids decreased, the cattlemen began to accumulate and winter herds in eastern New Mexico, especially the lower Pecos (Williams 1986:120–121). As competition increased, herds were driven farther northward, supplying the needs of ranchers in Colorado and Wyoming. The Texas cattle drives only lasted 14 years (1866 to 1880), but they helped “to populate the Plains area as well as feed the miners and railroad-building crews” (Beck 1962:259).

By the 1880s, huge cattle empires had been established throughout eastern New Mexico, defined mostly by rights to water holes and drift fences used to keep cattle on a home range. By the end of the 1880s, most of the private empires had been carved into cattle companies (Williams 1986:120, 122).
By 1900, uninhibited use of the open range had produced extensive overgrazing. The grasslands were declared public domain and large portions of this former open range were offered to homesteaders. Drift fences were removed and replaced by barbed wire fences, and the size of ranches was reduced to several thousand acres each. Windmills provided water for the pastures enclosed by fencing. These changes, signaling the end of the huge open range cattle empires, contributed to the development of stock farming (Jordan 1993:236–240; Simmons 1988:12–13; Williams 1986:122).

**Eddy County**

Eddy County, created in 1889 from the southeastern portion of Lincoln County, was named for Charles B. Eddy (Beck and Haase 1969:45–46; Whisenhunt 1979:16). Charles Eddy and his brother J. Arthur Eddy played a major role in the development of the area. First and foremost a promoter, Charles Eddy was instrumental in the development of the Carlsbad Irrigation Project and in linking Carlsbad with Pecos, Texas via railroad (Julyan 1996:117).

**Carlsbad**

Eddy, later renamed Carlsbad, was founded in 1888 by a group of settlement organizers and promoters. In 1887, Charles Eddy and others planned the Pecos Valley Land and Ditch Company to solve a drought problem, and sold town lots for $50. The town was a success, and by 1889, Eddy was calling itself "the Pearl of the Pecos." The town voted to change its name in 1899 when a spring northwest of the town was reputed to have the same mineral content as the water at the famous European spa known to Germans as Karlsbad, or Carlsbad (Whisenhunt 1979:17). Although voters agreed to change the town’s name to Carlsbad in 1899, the change was not official until March 25, 1918. In its early days, Carlsbad had two suburbs that were outlaw hangouts. By 1905, the outlaws had been run out, and the communities were eventually absorbed by Carlsbad. In addition, Carlsbad absorbed La Huerta, a Hispanic community to the north, (Julyan 1996:63).

**Railroads**

The Pecos Valley Railway, organized in 1890 to build a line up the Pecos River Valley from Pecos, Texas to Eddy, was completed in early 1891. The line reached Roswell in 1894. A new company, the Pecos Valley and Northeastern Railway, ran from Roswell to Portales, Cameo, and Texico. By 1899, control had passed to the Atchison, Topeka, and Santa Fe Railway (AT&SF). With the formation of Carlsbad Caverns National Park in 1930, Pullman service between Chicago and Los Angeles was extended to Carlsbad to accommodate the flow of tourists. More recently, the exploitation of potash and sulphur deposits in the Carlsbad area have kept the Pecos Valley branch profitable (Myrick 1990:40, 44). The railroad system of the Pecos Valley became part of the Burlington Northern and Santa Fe Railway Company in 1995, when the Burlington Northern Inc. (parent company of the Burlington Northern Railroad) and Santa Fe Pacific Corporation (parent company of the AT&SF Railway) merged (Burlington Northern Santa Fe 2004).

**Petroleum and Mineral Development**

The Flynn-Welch-Yates No. 3 well southeast of Artestia was the first commercially successful oil well in New Mexico (Christiansen 1989). It was followed by the discovery of the Hobbs field in 1928 (Northrop 1959). Oil, and since 1931, potash mining, remain the dominant economic, settlement, and social forces in southeast New Mexico (Northrup 1959; Beck 1962). From about 1925 to 1960, Carlsbad dominated the potash market. More recently, the Waste Isolation Pilot Plant (WIPP) has provided employment for residents. The petroleum industry remains a major part of Carlsbad culture.
PREVIOUS RESEARCH

In August 2008, Marron completed a site file search consisting of an electronic review of site records maintained by the Archaeological Records Management Section (ARMS) of the Museum of New Mexico in Santa Fe. The purpose of this records search was to identify any documented archaeological sites, and surveys located within 0.25 mi of the current project APE; these results are listed below in Table 3. Site file visits were conducted at the BLM office in Carlsbad in 2008 and 2009. Eight sites are within 0.25 mi of the project APE and 16 projects have been completed in the area (Table 4).

Of the eight sites, four sites were updated and are further discussed in the Results section. A review of the National Register of Historic Places (NRHP) and State Register of Cultural Properties (SRCP) revealed no listed historic properties within 0.25 mi of the project APE.

Table 3. Previously recorded sites within 0.25 mi of the APE.

<table>
<thead>
<tr>
<th>LA No.</th>
<th>Cultural Affiliation</th>
<th>Site Type</th>
<th>NRHP Status</th>
<th>Land Owner</th>
<th>Legals</th>
<th>NMCRIS No.</th>
<th>Distance to Centerline (mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>43444</td>
<td>Archaic/ Jornada Mogollon</td>
<td>Artifact scatter with features</td>
<td>No determination</td>
<td>BLM</td>
<td>T22S, R26E, Sec. 26</td>
<td>36889</td>
<td>0</td>
</tr>
<tr>
<td>65400</td>
<td>Jornada Mogollon/ Anglo</td>
<td>Artifact scatter with features</td>
<td>Eligible</td>
<td>BLM</td>
<td>T22S, R26E, Sec. 27</td>
<td>19853</td>
<td>0.1</td>
</tr>
<tr>
<td>86197</td>
<td>Unknown</td>
<td>Artifact scatter with features</td>
<td>No determination</td>
<td>Private</td>
<td>T22S, R26E, Sec. 26</td>
<td>36889</td>
<td>0</td>
</tr>
<tr>
<td>140845</td>
<td>Unknown</td>
<td>Artifact scatter with features</td>
<td>Eligible</td>
<td>State</td>
<td>T22S, R26E, Sec. 26</td>
<td>84731</td>
<td>0.2</td>
</tr>
<tr>
<td>140846</td>
<td>Unknown/ Euroamerican</td>
<td>Artifact scatter with features</td>
<td>Eligible</td>
<td>State</td>
<td>T22S, R26E, Sec. 27</td>
<td>84731</td>
<td>0.2</td>
</tr>
<tr>
<td>140906</td>
<td>Jornada Mogollon</td>
<td>Artifact scatter with features</td>
<td>Eligible</td>
<td>Private</td>
<td>T22S, R26E, Sec. 27</td>
<td>84731</td>
<td>0</td>
</tr>
<tr>
<td>141858</td>
<td>Anglo</td>
<td>Historic dump</td>
<td>Not entered</td>
<td>Private</td>
<td>T22S, R26E, Sec. 10</td>
<td>85889</td>
<td>0</td>
</tr>
<tr>
<td>142044</td>
<td>Anglo</td>
<td>Artifact scatter with features</td>
<td>No determination</td>
<td>BLM</td>
<td>T22S, R26E, Sec. 22</td>
<td>86180</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Table 4. Previously completed projects within 0.25 mi of the APE.

<table>
<thead>
<tr>
<th>NMCRI S No.</th>
<th>Project</th>
<th>Area (Acres)</th>
<th>Sites</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>496</td>
<td>Hackberry Draw Watershed</td>
<td>Unk</td>
<td>2</td>
<td>Rohrbaugh 1981</td>
</tr>
<tr>
<td>15644</td>
<td>Two Surfacing Pits</td>
<td>38.4</td>
<td>2</td>
<td>Koczan 1982</td>
</tr>
<tr>
<td>36889</td>
<td>Gravel Pit Expansion on Public Lands in Eddy County</td>
<td>86.25</td>
<td>2</td>
<td>Martin 1991</td>
</tr>
<tr>
<td>40591</td>
<td>Fiber Optic Toll Line Easement in Eddy County</td>
<td>675.24</td>
<td>8</td>
<td>Martin and Hunt 1992</td>
</tr>
<tr>
<td>60177</td>
<td>Candlestick 15 Federal Com #1 Well Pad and Access Road</td>
<td>27.28</td>
<td>0</td>
<td>Michalik 1998</td>
</tr>
<tr>
<td>77291</td>
<td>Immigration Building</td>
<td>5</td>
<td>0</td>
<td>Gibbs 2002</td>
</tr>
<tr>
<td>77398</td>
<td>Access Roads Rejected or Recommended Cleared for Traffic</td>
<td>102.97</td>
<td>1</td>
<td>Baker and Kearns 2001</td>
</tr>
<tr>
<td>84174</td>
<td>Parcels of Lands Located in Hackberry Draw and Cottonwood Creek Watersheds</td>
<td>368</td>
<td>9</td>
<td>Futch 1982</td>
</tr>
<tr>
<td>84196</td>
<td>PUMP project</td>
<td>Unk</td>
<td>18</td>
<td>No report written</td>
</tr>
<tr>
<td>84731</td>
<td>Saragosa 3D Seismic Project</td>
<td>4810</td>
<td>105</td>
<td>Slaughter et al. 2004</td>
</tr>
<tr>
<td>85702</td>
<td>Proposed Well Location, Access Road and Flow Line Right of Way</td>
<td>27.56</td>
<td>0</td>
<td>Sanders 2003</td>
</tr>
<tr>
<td>85898</td>
<td>Proposed Pipeline ROW and Site LA 141in Eddy County</td>
<td>30.96</td>
<td>1</td>
<td>Sanders 2003</td>
</tr>
<tr>
<td>86160</td>
<td>La Cueva Trail System in Eddy County</td>
<td>79.28</td>
<td>2</td>
<td>Batten 2003</td>
</tr>
<tr>
<td>87136</td>
<td>Street Light Extension Project in Eddy County</td>
<td>17.58</td>
<td>0</td>
<td>Straight 2004</td>
</tr>
<tr>
<td>93177</td>
<td>Expansion of an Existing Mineral Materials Pit near the Carlsbad Airport</td>
<td>103</td>
<td>0</td>
<td>Martin 2005</td>
</tr>
<tr>
<td>102518</td>
<td>Runway “27” Federal No. 1 Pipeline</td>
<td>8.78</td>
<td>0</td>
<td>Rorex and Sanchez 2006</td>
</tr>
</tbody>
</table>

**FIELD METHODS**

Toni Goar served as the principal investigator for the project. J. Robert Estes served as field supervisor. Maria Hroncich, Stanley Kerr, Lanny Noll, and Hansene Gustafson served as field technicians. As noted above, multiple fieldwork episodes were required as project parameters were modified. The first fieldwork was conducted on October 1, 2008, and the last fieldwork was conducted on January 21, 2010. Survey was conducted under Marron’s New Mexico State permits NM-08-160-S, NM-09-160-S, and NM-10-160-S and Bureau of Land Management (BLM) permits 199-2920-06-C, 199-2920-09-D and 199-2920-10-E. A total of 115 person-hours (not including driving time) were required to complete the cultural resource survey. The width of the surveyed corridor was 60 m (200 ft) on private and State Trust land and 90 m (300 ft) on BLM land. Ground visibility ranged between 75 percent and 80 percent. Weather was warm, sunny, but windy at times.

BLM criteria were used to identify cultural resources. The BLM defines a site as a physical location of past human activities or events. Cultural resource sites are extremely variable in size and range from a cluster of several objects or materials to structures with associated objects or features. A site may consist of secondarily deposited cultural resource remains. Features such as hearths, cairns, rock alignments, masonry concentrations, burned adobe, fire-cracked rock, cisterns, corrals, and rock art are generally recorded as sites. Sites also include definite locations of traditional cultural or religious importance to specified cultural groups. The BLM recognizes three categories of manifestations: Category 1 sites, Category 2 sites, and isolated manifestations. These are defined below.
Category 1 Sites

The significance of these properties lies solely in their potential to yield information under National Register of Historic Places Eligibility Criterion D: “Sites … that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and … that have yielded, or may be likely to yield information important in prehistory or history.” In addition, the information potential of these sites can be exhausted by field recording of essential basic data such that any remaining significance can be preserved in archival form through the documented site record. Further, these sites contain small numbers of artifacts (<15 total); an/or contain few features; and/or are surface scatters; and may include soil stains, but no associated artifacts or features; and have been shown to have no depth of deposit, either through limited testing, or through surface observations that establish that the site area has little or no depth of sedimentary matrix (i.e., the site lies on highly-eroded ground, highly-disturbed ground, or bedrock); and contain no dateable hearths, hearths that may contain significant ethnobotanical or ethnozoological remains, prehistoric architectural features, or shrines; and do not relate to other nearby Category 1 sites.

Category 2 Sites

Category 2 sites are all sites which do not fit the criteria for isolated manifestations (below) or Category 1 sites. Although field recording to current professional standards usually will not be sufficient in of itself to preserve the information content of Category 2 sites, not all Category 2 sites are eligible for nomination to the NRHP.

Isolated Occurrences

Isolated Occurrences are defined by the presence of fewer than 10 artifacts or a single, undateable feature, and frequently are found to be redeposited material that lacks significant locational context. They are not related to other nearby isolated manifestations or sites.

Cultural resources were documented using standard procedures and forms. No artifacts were collected. A datum consisting of a rebar with an aluminum cap stamped “Marron—Do Not Disturb” and a field number was placed in each site. Location information was recorded with a Trimble GeoXT GPS unit using the Western US, 1927 North American Datum (NAD). Post-field differential correction of the data used the Portales base station and yielded an error of less than 1 m (3.3 ft). The project area, archaeological sites and features, were photographed with an Olympus Stylus 500 digital camera with 5.0 megapixels and a 3X zoom lens.

SURVEY RESULTS

The cultural resources documented during this survey include one previously recorded site that was updated, three previously recorded sites that were not found, seven newly recorded sites, three historic buildings, and six isolated occurrences. Appendix A includes the USGS topographic quadrangle maps with the location of the cultural resources found. Appendix B includes the site plans. Appendix C lists the UTM locations of all the cultural resources recorded.
Previously Recorded Sites

LA 43444

<table>
<thead>
<tr>
<th>FIELD NUMBER:</th>
<th>Marron-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNERSHIP:</td>
<td>Private</td>
</tr>
<tr>
<td>SITE TYPE:</td>
<td>Artifact Scatter with Features</td>
</tr>
<tr>
<td>AFFILIATION:</td>
<td>Unspecific Archaic to Jornada Mogollon (5500 BC to AD 1400)</td>
</tr>
<tr>
<td>NRHP RECOMMENDATION:</td>
<td>Eligible, Criterion D</td>
</tr>
<tr>
<td>BLM CATEGORY:</td>
<td>2</td>
</tr>
</tbody>
</table>

SITE DESCRIPTION: LA 43444 is an artifact scatter with features, first recorded by Nymeyer (1973). Subsequent updates have been completed since 1973 and are further discussed below. The site is located on a gentle alluvial slope at an elevation of approximately 3,210 ft amsl.

Marron examined the portion of the site within the current APE and did not follow the site onto adjacent private land. The dimensions of the area examined by Marron are 86 m north-south by 149 m east-west (282 ft by 489 ft); however, the site extends outside Marron’s boundaries to the northeast and southwest. It is truncated to the southeast by a gravel pit. Ground visibility is about 80 percent. The site is only 1 percent to 25 percent intact.

PREVIOUS RECORDINGS: As originally recorded by Nymeyer (1973) the site measured approximately 30 m by 7.6 m (100 ft by 25 ft) and was characterized primarily by five mescal pits and more than 50 bedrock mortars associated with a chipped-stone artifact scatter. Nymeyer (1973) noted the prevalence of recent trash over the site. The size of the site was substantially increased when updated by Loring (1988) to 275 m by 396 m (902 ft by 1,299 ft). The new area included 25 nearby ring middens, three midden mounds, and artifacts not described by Nymeyer. Loring observed a Jornada Brown sherd. Noted disturbances included two-track roads and off-road vehicle traffic, dumping, a borrow pit, County Road 672, and fences. Vegetation noted by Loring included creosote, juniper, western hackberry, desert sumac, mesquite, acacia, Brickell bush, and desert spoon.

Martin (1991) examined a project area that included only a portion of the site falling within the limits of a proposed gravel pit enlargement. Although he observed many of the same types of features previously observed by Nymeyer and Loring, he noted that the portion of the site within his project area was an estimated 95 percent destroyed by collecting, dumping, pipelines, borrow, road construction, and “severe industrial mechanical impact.” Martin believed that the only portion of the site retaining data potential was the area around the bedrock mortars originally described by Nymeyer. Finally, the BLM further updated the site in 2005.

FEATURES: Marron recorded 13 features within the APE. All are burned rock concentrations. They are summarized in Table 5.

ARTIFACTS: Marron recorded surface artifacts associated with the site falling within the current APE. This sample included 87 chipped-stone artifacts, mostly debitage, although a knife, a scraper, a drill, and three cores were noted. Forty-eight of the chipped-stone artifacts exhibited no cortex, reflecting late-stage reduction or maintenance. Five of these were biface-thinning flakes. Five flakes were retouched. Most of the chipped-stone artifacts were composed of chert. A few were limestone and two were quartzite.
Table 5. Features at LA 43444.

<table>
<thead>
<tr>
<th>Feature No.</th>
<th>Size</th>
<th>No. of Rocks</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 m diameter</td>
<td>10s</td>
<td>Chipped stone nearby</td>
</tr>
<tr>
<td>3</td>
<td>2 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2 m diameter</td>
<td>10s</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5 m diameter</td>
<td>100s</td>
<td>Partially exposed in two-track</td>
</tr>
<tr>
<td>7</td>
<td>2.5 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>3 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1.5 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1.5 m diameter</td>
<td>Unknown</td>
<td>Partially buried</td>
</tr>
<tr>
<td>12</td>
<td>1.5 m diameter</td>
<td>100s</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1.5 m diameter</td>
<td>100s</td>
<td></td>
</tr>
</tbody>
</table>

PRELIMINARY EVALUATION: LA 43444 is an artifact scatter with features that has been recorded several times. The features recorded during this update are all burned rock concentrations. Past recordings have determined that this site dates to the Archaic and Jornada Mogollon dating between 5500 BC and AD 1375. The site has been impacted by pipelines, dumping, and road construction however, there are still areas of the site that are fairly intact and can address research questions. LA 43444 is therefore recommended eligible to the NRHP under Criterion D.

PROJECT IMPACT: The site is on an alignment that is an alternate and will not be affected by the proposed project. If this alignment is chosen then data recovery is recommended.

Newly Recorded Sites

**LA 164986**

<table>
<thead>
<tr>
<th>FIELD NUMBER:</th>
<th>LA 164986</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAND OWNERSHIP</td>
<td>Private</td>
</tr>
<tr>
<td>SITE TYPE</td>
<td>Artifact scatter and features</td>
</tr>
<tr>
<td>CULTURAL AFFILIATION</td>
<td>Anglo/Euro-American: World War II (AD 1942 to 1945)</td>
</tr>
<tr>
<td>NRHP RECOMMENDATION</td>
<td>Eligible, Criterion A</td>
</tr>
<tr>
<td>BLM CATEGORY</td>
<td>2</td>
</tr>
</tbody>
</table>

SITE DESCRIPTION: LA 164986 is a remnant of the former Carlsbad Army Airbase, activated in 1942 and deactivated in 1945 when it was turned over to the Army Corps of Engineers. The Corps subsequently discharged the property to the War Assets Administration. The base eventually became the Cavern City Air Terminal and today is in private hands. Only a small part of the northeastern edge of the large former air base was recorded in the present survey; nevertheless the recorded portion includes road remnants, foundations, building rubble, and a sparse artifact scatter. The recorded portion of the site measures approximately 667 m by 1,491 m (2,188 ft by 4,890 ft). It is located on the floodplain between the Pecos River and Dark Canyon Arroyo. The scrubland vegetation includes creosote, mesquite, juniper, pencil cholla, prickly pear, and tarbush. Elevation is 1,004 m (3,295 ft) amsl.
The southern part of the site has been commercially developed. Structures in the northeastern part of the site were mechanistically dismantled after 1945. Their superstructures were removed, and the resulting debris was dumped alongside the arroyo edge. Some foundations are intact, but others are partially destroyed. Buried pipes or bores are present throughout the recorded area, and one oil well is on the property. The recorded portion of LA 164986 is estimated to be about 50 percent intact.

**FEATURES:** Two features were recorded. Feature 1, near the northwest corner of the surveyed area, is a 30-cm (1-ft) high, 3.7-m by 3.7-m (12-ft by 12-ft) concrete foundation. A bladed area to the west contains gravel, and an adjacent rubble pile includes part of a concrete and cinderblock foundation.

Feature 2 is the foundation of a 7-m by 5-m (23-ft by 16-ft), four-room building. Its long axis is east-west, and its entrances, indicated by concrete sidewalks, were on the north and south sides. A small concrete porch step suggests the main entrance was on the south. The building is internally divided into two larger rooms on the east and two smaller rooms on the west; a drain in one of the smaller rooms suggests it served as a lavatory or other facility. A gas pipe is at the southwest corner, outside the foundation. A rectangular array of four posts is west of the main entrance, and a post is east of the sidewalk to the entrance. Loose posts and chicken wire scattered east of the post may be part of an enclosure.

**ARTIFACTS:** Artifacts analyzed at Feature 1 included 57 metal items. The metal assemblage was dominated by sanitary cans. Fifty-two were cans that had held food or beverages; a fifty-third slip-lid can may have held tobacco. Four motor oil cans were also among the scatter.

Analyzed glass artifacts consisted of three brown glass bottles. These include a Clorox-in-diamond base from a bottle made before 1960, and two root beer bottles—one Mason’s™ and one Dad’s™ in “Mama Size.” The Mason’s bottle is marked with an Owens-Illinois mark used since 1954. A handful of shattered ceramics included one marked “PAN” (probably made in Japan) and a cluster of bright-glazed sherds that may be Fiestaware™. At least one sherd displayed a cowboy theme on the base (a saddled horse) and side (hat and gunbelt).

Also noted were a 1955 New Mexico license plate (NM 3-1634), a watch band, automobile window glass, fuses, toothpaste tubes, wire, nails, and fragments of colorless glass.

Artifacts associated with Feature 2 were similarly domestic. Hundreds of tacks and roofing nails were observed, along with fewer screws and pieces of wire including stucco wire and a clothespin spring. A red brick was marked “Abiline.” Two oil cans, one with a spout, and an oil filter can were recorded. A church-key opener, several crown caps, two beer cans, a pry-off lid (c.f., a cocoa can lid), and a coffee can were present, along with an institutional-sized can. A wire hanger, a mop part, and an aluminum hair curler completed the Feature 2 metal assemblage.

Eighteen sherds were recorded, including one sherd of white-glazed ceramic with blue and red decoration and two with an embossed floral pattern. Twelve sherds were from a plain white-glazed cup. Three white-glazed earthenware sherds joined; these were marked “Knowles China Co.” “Made in USA.” These sherds are consistent with 1930s manufacture. One piece of terra cotta pipe was also present.

Feature 2 glass included two fragments of a white opaque cup, another Clorox™ bottle base, several pieces of a Coca-Cola™ bottle, and a colorless bottle base with numbers but no maker’s mark. A colorless jar or bottle base marked “AHK” held non-fruit food and was manufactured after 1944 (Toulouse 1971:44). Another colorless bottle base was marked with a Hazel-Atlas mark in use until 1962. One black marble was recorded.
Preliminary Evaluation: The site is known to have been part of the Carlsbad Army Airbase. The nature of the features and their associated assemblages suggest this part of the site was residential. There has been, however, substantial damage in this area. Additional artifacts may be present within and beneath rubble piles, but given the military clean-up of the site, it is unlikely that materials that can add substantial information to the history of the air base are present (Criterion D). The site is, however, recommended eligible for nomination to the NHRP for its association with events that have made a significant contribution to the broad patterns of our history (Criterion A).

Project Impact: The northwest portion of LA 164986 is within the present project APE. Avoidance through re-routing is recommended. If a re-route is not feasible, archival research is recommended.

LA 164987

<table>
<thead>
<tr>
<th>Field Number:</th>
<th>Marron-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership:</td>
<td>Private</td>
</tr>
<tr>
<td>Site Type:</td>
<td>Artifact scatter with a feature</td>
</tr>
<tr>
<td>Affiliation:</td>
<td>Anglo/Euro-American: US Territorial to WW II (AD 1880 to 1950s)</td>
</tr>
<tr>
<td>NRHP Recommen</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>BLM Category:</td>
<td>2</td>
</tr>
</tbody>
</table>

Site Description: LA 164987 is an agricultural site in the southeast part of Happy Valley village. It consists of terraced planting plots with ditch and water control features, and measures approximately 92 m by 120 m (302 ft by 394 ft). The site is on an alluvial fan that slopes south toward Hackberry Draw. The Limestone Hills are to the west. Elevation is approximately 963 m (3,160 ft) amsl.

The site is subject to minor sheetwash, and features to the east appear to have been bladed. Little potential exists for buried cultural materials. Even so, the site is nearly intact. The field has reverted to native desert scrub vegetation, including mesquite, four-wing saltbush, snakeweed, and various grasses. Although features are overgrown and the ditches are partially filled, surface visibility is about 90 percent.

Features: Nine features were identified. Feature 1, an overgrown unlined ditch, crosses the north half of the field at a slight southeastward angle, turns south along a barbed-wire fence bordering the east edge of the field, then west toward a depression.

Features 2 and 3 are cinderblock and concrete ditch gates on the northern leg of ditch Feature 1. Feature 2 is a 6-ft-long alignment of cinderblocks, four of which are notched to form a slot for a 50-cm (1.75-ft) plywood gate. Feature 3, a two-part gate, is an L-shaped cinderblock construction on a poured concrete foundation. The feature measures 2 m north-south by 1.4 m east-west (6.5 ft by 4.5 ft). It forms an open C shape, with two 60-cm (2-ft) wide gate openings.

Feature 4 is an L-shaped construction built entirely of cinderblock on the north leg of Feature 1. A broken concrete culvert extends from Feature 4 toward Feature 5 on the eastern leg of Feature 1.

Features 5, 6, and 7 are 50-gallon metal drums encased in 10-cm (4-inch) thick concrete frames. Each acts as a culvert with gate in the ditch along the east edge of the site. Feature 5 is 1.8 m (6 ft) long and 38 cm (15 inches) high, Feature 6 is 1.2 m (4 ft) long and its concrete surface is stuccoed Feature 7 is 1.2 m (4 ft) long and 44 cm (17.5 inches) high.
Feature 8 is a 1.5 m (5-ft) wide, 76-cm (2.5-ft) high earthen dam. It is associated with a shallow depression, possibly an old dirt tank, in the south half of the site.

Feature 9 is a 61-cm (2-ft) wide, 46-cm (1.5-ft) long, 18-cm (7-inch) high alignment of rocks and cement. Its function is not known and it may be the fortuitous result of mechanical blading evident in the field south of the site.

ARTIFACTS: Artifacts were found only along the fence at the east edge of the field. The sparse assemblage included metal, ceramic, and glass items. Only two glass artifacts were found. Both were cobalt-blue bottle or jar body sherds with no diagnostic characteristics.

Metal artifacts included one cone-top beer can, 10 sanitary cans, and a 4-inch diameter Calumet baking powder slip lid. A rusted piece of single-strand barbed wire, a worn horseshoe, and a barrel band were among the scatter.

The base of an oval container (c.f., a sugar bowl) was marked “Ironstone China...J and G Meakin...England”. The lion and unicorn cartouche is consistent with Meakin’s mark from 1891 to the present, but lacks the expected “Hanley” identification (Kovel and Kovel 1986:110). Five white-glazed ironstone fragments may be part of the same artifact. At least 16 sherds from a brown-glazed crock and one from a terra cotta pot were also identified.

PRELIMINARY EVALUATION: LA 164897 is a fallow agricultural field with a disused irrigation system and infilled reservoir. The assemblage suggests use since the late nineteenth to early twentieth century, however the cinderblock and concrete water-control features suggest use through the post-World War II period. The site has been recorded and provides little potential for additional cultural information. It is recommended not eligible for nomination to the NRHP.

PROJECT IMPACT: The alignment of the project crosses through the site. However, the site is recommended not eligible for nomination to the NRHP, and no further treatment is recommended.

LA 164988

<table>
<thead>
<tr>
<th>FIELD NUMBER:</th>
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<tbody>
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<td>SITE TYPE:</td>
<td>Artifact scatter with a feature</td>
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<tr>
<td>AFFILIATION:</td>
<td>Unknown/Euro-American (AD 1940s to 1960s)</td>
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<tr>
<td>NRHP RECOMMENDATION:</td>
<td>Undetermined</td>
</tr>
<tr>
<td>BLM CATEGORY:</td>
<td>2</td>
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</table>

SITE DESCRIPTION: LA 164988 is a small artifact scatter with features just north of Hackberry Draw. The site is at an elevation of 960 m (3,150 ft) amsl and measures 32 m by 21 m (105 ft by 69 ft). There are some aeolian sands on the site that could have buried some of the features. Vegetation includes mesquite, four-wing saltbush, snakeweed, and various grasses. Surface visibility is about 75 percent.

FEATURES: Two features were identified. Feature 1 is a fire-cracked rock concentration that measures 1 m (3.3 ft) in diameter. Feature 2 is another fire-cracked rock concentration that measures 4 m (13 ft) in diameter. Light staining was observed in the features.
ARTIFACTS: Artifacts were sparse on the site and all surface artifacts were recorded. A gas can and an evaporated milk can were recorded. Two flakes were also found and are both made from chert. Both are cortical core-reduction flakes.

PRELIMINARY EVALUATION: LA 164888 is a small artifact scatter with two features. The features and flakes are of unknown cultural and temporal affiliation. The two cans are Euroamerican and date from the 1940s to 1960s. The features are partially buried with aeolian sands and may contain charcoal, which could be radiocarbon dated. However, since it is unclear whether the light staining results from charcoal, it is recommended that NRHP eligibility remain undetermined at this time.

PROJECT IMPACT: The alignment of the present project crosses through the site. Testing to determine eligibility is recommended.

LA 164990

<table>
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<tr>
<th>FIELD NUMBER:</th>
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<tr>
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<td>Jornada Mogollon (AD 500 to 1375)</td>
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<tr>
<td>NRHP RECOMMENDATION:</td>
<td>Eligible, Criterion D</td>
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<td>BLM CATEGORY:</td>
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SITE DESCRIPTION: LA 164990 is an artifact scatter with features situated on a portion of a dissected north terrace of McKittrick Draw. The local plant community is desert scrubland with creosote, yucca, and a variety of grasses. Ground visibility is approximately 95 percent. The site is at an elevation of 975 m (3,200 ft) above mean sea level, measures 60 m by 50 m (197 ft by 164 ft), and is 80 percent intact. Modern trash has been dumped in the vicinity and within the site. Also, wind and water erosion have affected the site.

FEATURES: Four features were observed during survey and recorded. Feature 1 is a burned limestone concentration located at the southeast corner of the site. It is approximately 9 m (30 ft) in diameter. The rock is generally less than 10 cm (4 inches) in diameter. No staining was noted in the feature. A few artifacts were found associated with Feature 1. These include a Jornada brownware sherd, two limestone cores, a limestone flake, and a chert flake.

Feature 2 is another burned rock concentration. The feature measures 4 m by 3 m (13 ft by 10 ft). The individual rocks average about 5 cm to 7.5 cm (2 inches to 3 inches) in size. No staining is evident in the soil matrix. Erosion has removed some soil on the south and east side, whereas wind-borne deposits have covered the north side of the concentration.

Feature 3 is another burned rock concentration. The feature measures 10 to 12 m (33 ft by 39 ft) across. Erosion is severe on the north, south, and east sides of the feature, whereas there is some deposition on the west and northwest sides. The individual rocks average about 5 cm to 7.5 cm (2 inches to 3 inches) in size. No staining is evident in the soil matrix. Artifacts found with Feature 3 include six chert flakes, one chalcedony flake, one petrified wood flake, and two large limestone flakes.
Feature 4 is the remains of a burned rock concentration and measures 7 m (23 ft) across and 1.5 m (5 ft) wide. The individual rocks average about 5 cm to 7.5 cm (2 inches to 3 inches) in size. No staining is evident in the soil matrix. Sheet erosion has removed some of the soil deposits on the south and east side of the feature. Artifacts associated with Feature 4 include a chert flake and a chalcedony flake.

ARTIFACTS: The artifact assemblage is composed of 26 lithic artifacts and a single prehistoric sherd. All were recorded. Lithic raw materials include chert (n=14), limestone (n=10), petrified wood (n=1), and chalcedony (n=1). Lithic artifact types include cortical core-reduction flakes (n=7), non-cortical core-reduction flakes (n=8), edge modified or utilized flakes (n=6), limestone cores (n=4) and a biface. The majority of the artifacts exhibited no use.

A single sherd of Jornada brownware pottery was observed near Feature 1. It is from the body of a jar. The exterior surface is polished and the interior surface smoothed.

PRELIMINARY EVALUATION: LA 164990 is an artifact scatter with four features. The features are all burned rock concentrations representing thermal activity. The artifacts include mainly flakes; however, one Jornada brownware sherd was found. This sherd dates the site to the Jornada Mogollon (AD 500 to 1375). Although no staining was noted on the surface of the site, there is potential for subsurface cultural remains, including dateable material resulting from the thermal activity. LA 164990 is therefore recommended eligible to the NRHP under Criterion D.

PROJECT IMPACTS: LA 164990 is located in the buffer area of a proposed alignment that is currently not the preferred alignment and therefore has been avoided. If this alternate alignment is chosen, that data recovery is recommended for the site.

LA 164991

<table>
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<tr>
<th>FIELD NUMBER:</th>
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SITE DESCRIPTION: LA 164991 is an artifact scatter with two burned rock concentrations. The site is on the dissected north terrace of McKittrick Draw. The local plant community is desert scrubland with mesquite, acacia, creosote, yucca, and a variety of grasses. Ground visibility is about 95 percent. The site is at an elevation of 975 m (3,230 ft) above mean sea level, and is about 90 percent intact. The site measures about 41 m by 51 m (134 ft by 167 ft).

FEATURES: Two features — both burned-rock concentrations indicating thermal activity — were recorded on the northeast end of LA 164991. Feature 1 is about 1.25 m (4 ft) in diameter and is composed of burned rocks from about 4 cm to 26 cm (1.5 inches to 10.2 inches) in size. It is surrounded by a wider scatter of burned rock, and a sparse scatter of lithic debitage. There is no evidence of charcoal or staining. A fragment of a burned one-hand mano is within the feature.
Feature 2 is about 10 m (33 ft) north of Feature 1, on the northeast end of the site. The densest part of the feature is about 1.25 m (4 ft) wide, and is surrounded by a less dense 2-m to 3-m (6.6 ft to 9.8 ft) wide scatter of burned rock. Most of the burned rocks are less than 7.5 cm (3 inches) in diameter, but average about 5 cm (2 inches) in diameter. The feature is partially eroded and burned rock is moving down slope. There is no evidence of charcoal and ash staining within the feature.

**ARTIFACTS:** The artifact assemblage is composed entirely of lithic artifacts (n=52). Raw materials include chert (n=33), limestone (n=19), quartzite (n=1), and sandstone (n=1). The chipped stone assemblage includes cortical core-reduction flakes (n=16), non-cortical core-reduction flakes (n=20), biface-thinning flakes (n=8), cores (n=3), angular debris (n=3), and a scraper. The scraper is chert and worked on every edge except at the platform. Last, a sandstone one-hand mano was observed in Feature 1. The mano was ground on only one surface. The lithic assemblage of LA 164991 indicates the processing of plant and animal resources, and to a lesser extent the production of lithic tools.

**PRELIMINARY EVALUATION:** LA 164991 is an artifact scatter with two thermal features of unknown cultural and temporal affiliation. The site is partially eroded on the east and south sides, and has shallow soils in the north and west sides. The lack of dateable, organic material in the eroded hearths diminishes the chances of obtaining absolute dates from radiocarbon techniques. The site is therefore recommended not eligible to the NRHP.

**PROJECT IMPACT:** LA 164991 is located on an alternate alignment and will not be impacted by the proposed project. However, the site is recommended not eligible to the NRHP and no further treatment is recommended.

**LA 164992**

<table>
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**SITE DESCRIPTION:** LA 164992 is an historic artifact scatter located near a levee on a slight slope at an elevation of approximately 976 m (3,200 ft) amsl. The site measures 111 m by 53 m (364 ft by 173 ft). The local plant community includes creosote, tarbush, prickly pear, and grasses, and ground visibility is about 80 percent. The site has been affected by a two-track road and some minor wind erosion, but is estimated to remain 80 percent intact.

**FEATURES:** No features were observed.

**ARTIFACTS:** All surface artifacts observed were recorded. Glass artifacts include one clear fragment, two brown fragments, one green fragment, 26 sun-colored amethyst fragments, and 10 aqua fragments (one with a double ring finish). Various serial numbers were observed, but no maker’s marks or brand names.

Ceramic artifacts include seven plain white semiporcelain cup sherds, three glazed earthenware plate sherds, and ten yellow and brown glazed stoneware crockery sherds.
Metal artifacts include a crown cap, a cup with two wire handles, 11 cans (one crushed, one coffee, one hole-in-top, eight sanitary), a coffee pot lid, an automobile crank, a square-headed screw, four pieces of sheet metal (larger than can-sized), half a horseshoe, a pan handle, three barrel straps, a large metal lid, a bucket, a bridle fragment, a nail, and a kerosene lantern handle.

PRELIMINARY EVALUATION: LA 164992 is a historic refuse dump. The prevalence of aqua and sun-colored amethyst glass in the glass assemblage suggests that this site reflects earlier dumping than that observed at other dump sites recorded during this project (ca. AD 1880 to 1920). All surface artifacts have been recorded and there is no evidence for substantial sedimentation since the period of use, indicating that subsurface cultural remains are unlikely. LA 164992 is therefore recommended not eligible to the NRHP.

PROJECT IMPACT: The proposed project passed through the site. The site has been recommended not eligible to the NRHP. No further treatment is recommended.

LA 164993

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SITE DESCRIPTION: LA 164993 is a small artifact scatter located in a flat area near the old Carlsbad Army Air Base (LA 164986). The elevation is approximately 976 m (3,200 ft) amsl. The site measures only 5 m by 4 m (16 ft by 13 ft). The plant community includes mesquite, and grasses. Ground visibility within the site boundaries is approximately 90 percent; however, west of the site, the ground visibility drops to 30 percent due to dense grass coverage. In this area to ensure that the site boundaries were accurate, the area was inspected by three different archaeologists. The site has been affected by some minor wind erosion, but is estimated to remain 90 percent intact.

FEATURES: No features were observed.

ARTIFACTS: All surface artifacts were recorded. These include non-cortical core-reduction flakes (n=11), cortical core-reduction flakes (n=2), and angular debris (n=5). The non-cortical flakes were generally small. All of the material found was chert. No diagnostic artifacts were found.

PRELIMINARY EVALUATION: LA 164993 is a small artifact scatter of unknown cultural or temporal affiliation. No features or diagnostic artifacts were found. All surface artifacts have been recorded and subsurface cultural remains is unlikely. LA 164993 is therefore recommended not eligible to the NRHP.

PROJECT IMPACT: The proposed project passed through the site. The site has been recommended not eligible to the NRHP. No further treatment is recommended.
Previously Recorded Sites Not Found

LA 86197

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SITE DESCRIPTION: LA 86197, recorded by Pecos Archaeological Consultants in 1991, consists of five closely-spaced hearths with burned rock within a scatter of chipped- and ground-stone artifacts. It is located on an alluvial rise above the floodplain of a shallow arroyo that drains into Dark Canyon Draw. Loamy soils overlie calcareous sedimentary rocks, and a small outcrop of quartzite and cherty quartzite was noted in the northeast part of the site. Local vegetation includes creosote bush, javelina bush, prickly pear, grama grass and other grasses. Elevation is 1,115 m (3,215 ft) amsl.

As originally recorded, LA 86197 extended over a 70-m by 60-m (230 ft by 197 ft) area. In 1991, the site was reported to be “grazed,” but intact. During the current project, the reported location of LA 86197 coincided with the edge and interior of a gravel pit. The site was not relocated and has evidently been destroyed during gravel extraction.

PRELIMINARY EVALUATION: In 1991, the assemblage and features indicated lithic tool production in addition to vegetal food procurement and processing, and LA 86197 was interpreted as a small campsite, used intermittently by a small band (or bands) of hunter-gatherers. Based on the identification of buried burned caliche, and on the potential for additional buried materials in the vicinity of the features, LA 86197 was recommended eligible for the NRHP under Criterion D. No HPD determination of eligibility is recorded. The recorded site location is now occupied by a gravel pit, and is therefore recommended not eligible for nomination to the NRHP.

PROJECT IMPACT: The site has been destroyed; the project will have no impact on LA 86197. No further treatment is recommended.

LA 140906

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SITE DESCRIPTION: LA 140906, a large, prehistoric campsite, was initially recorded by Pacific Legacy, Inc. (PLI) in 2003. As originally recorded, the site consisted of thousands of lithic artifacts, one ceramic, and more than 15 thermal features. The recorded portion measured 160 m by 65 m (525 ft by 213 ft); however PLI noted that the site extended onto private land for at least another 50 m (164 ft) along McKittrick Draw to the east. It was located on an alluvial fan terrace above the McKittrick Draw
floodplain, where scrubland vegetation includes mesquite, creosote bush, snakeweed, yucca, grasses, and a variety of cacti. Elevation is 978 m (3,210 ft) amsl.

LA 140906 is subject to wind and water erosion. As the site is located along the draw, water drainage has eroded some of the features on the north edge while working to expose subsurface features not previously visible on the surface. Minimal modern disturbance has resulted from the two-track road below the terrace to the north. The site was estimated to be 76 to 99 percent intact in 2003.

While this site was initially thought to be within the project area, field investigations yielded no sign of the site. Closer inspection of previous information revealed that some of the coordinates were recorded in NAD 27 while others were documented using NAD 83, which may have contributed to the apparent absence of this site. Based on the previous site map and description, it is mentioned that LA 140906 is bound on the east by McKittrick Road, which is much farther to the west than the coordinates suggest, placing this site far outside the current project boundary.

PRELIMINARY EVALUATION: The assemblage and features indicate a substantial Jornada Mogollon campsite. Erosion continues to reveal additional subsurface features, which indicates the presence of extensive buried cultural deposits. The intact remains do contain charcoal-stained sediments that have the potential to provide chronological and possibly even subsistence data. The site was recommended eligible for nomination to the NRHP when it was recorded. The SHPO concurred and made a formal determination that the site was eligible to the NRHP under Criterion D (HPD log no. 71734).

PROJECT IMPACT: This site is likely much farther west than originally indicated, and is not near the current project area. No further treatment is recommended.

LA 141858

<table>
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SITE DESCRIPTION: LA 141858, a refuse dump containing thousands of glass, metal, and ceramic artifacts, was recorded by Southern New Mexico Archaeological Services, Inc. (SNMAS) in 2003. As originally recorded, the site consisted of a primary dump (Feature 1) surrounded by scatters and smaller concentrations of artifacts. The recorded portion measured 912 m by 518 m (2,991 ft by 1,699 ft). It was located in a ponding basin in the Happy Valley floodplain where scrubland vegetation includes mesquite, creosotebush, catclaw, snakeweed, yucca, grasses, and a variety of cacti. Elevation is 991 m (3,250 ft) amsl.

LA 141858 was subject to wind and water erosion and bioturbation. Artifacts had been displaced by construction activities and recreational use. Finally, the recorders noted evidence of multiple episodes of vandalism (mainly target practice). The site was estimated to be 25 percent to 50 percent intact in 2003.
The proposed project clips the boundaries of this site as drawn in 2003; however, no indication of the site was noted within the APE in 2008, suggesting that the boundary is slightly off or that disturbance has removed whatever sparse cultural materials may have been present along the site edge.

**Preliminary Evaluation:** The assemblage and features indicate a long-term, local Euro-American dumping ground. Although additional artifacts remained buried, SNMAS recommended that the sample inventory and site recordation had exhausted the research potential for the site, and that LA 141858 was not eligible for nomination to the NRHP. The SHPO concurred and made a formal determination that the site was not eligible under any criteria (HPD log no. 69677).

**Project Impact:** No materials associated with this site are within the APE, and the site has been determined not eligible for nomination to the NRHP. No further treatment is recommended.

### Historic Buildings

**Building 1**

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<tr>
<td><strong>Construction Date:</strong></td>
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<td><strong>Project Recommendation:</strong></td>
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**Figure 2. Building 1, north and east elevations.**
Building 1 is a one-story vernacular house with a cross-gabled roof (Figure 2). The foundation is raised, but its construction material is not visible. The building is constructed from stucco-covered wood-frame. The core of the building is L-shaped in plan, though additions to the front, back, and sides, including several rooms and porches, have created a rectangular footprint.

The original front-facing L-shaped core building has a medium-pitched cross-gabled roof. The eaves are close and normal. The rafters are enclosed, and the rake is close with a visible soffit. The entire roof is clad in plain coursed composite shingle. Two chimneys are visible coming out of the roof; an interior metal chimney on the north side of the structure and an exterior metal flue for a pellet stove on the east side of the building. An exterior metal vent pipe is present on the south side of the structure. A swamp cooler is located on the exterior wall of the east façade, in the cinderblock addition wall.

An addition to the original L-shaped building includes a partial width porch on the south side of the building that has a low-pitch shed-style roof. Other additions to the core front-facing building include a frame and stucco shed structure attached to the house on the south side of the “L,” east of the back porch, and two cinder block rooms, one on the north side of the structure and one on the west. The stucco and frame addition on the south side abuts the porch to the west and has an above-ground foundation of unknown material. The low-pitch shed roof is covered with the same roofing material as the rest of the house roof and has normal eaves and closed rafters. The cinderblock addition to the north of the building, which fills in the open “L” on the northeast corner and likely dates to the 1950s, also has an above-ground foundation of unknown material and a low-pitch shed roof. The eaves are normal and open and the rafters are exposed with fascia. The roofing material is composite roll. The addition to the west of the core building is also constructed of cinderblock on a concrete foundation slab. It has a low-pitch shed roof with normal eaves and both exposed and closed rafters. Composite shingle was used as roofing. This addition appears to be a car-port structure but is in poor condition with the fascia and soffit falling off. A partial-width entry porch has been added to the north side of the building, which also has a shed roof.

Visible fenestration on the core building includes an aluminum sash window with 6/6 glazing on the north side and a fixed single pane window with a wood frame on the east side. Both windows appear to be replacements. The addition on the south has an aluminum slider with a wooden lintel, which appears to be a replacement. There are original fixed metal framed windows with 3/3 glazing on the north and east sides of the building.

Building 1 was constructed in the 1950s (according to the owner, personal communication, 2008). The building is occupied but in poor condition due to lack of upkeep. The core of the building has undergone significant modification and additions that have changed the plan of the building. Therefore, the building is recommended not eligible for nomination to the NRHP. No further treatment is recommended.
Building 2

Address: 107 Happy Valley Road  
Construction Date: ca. 1940s  
Distance from Pavement: 50 feet  
NRHP Eligibility: Not eligible  
Project Recommendation: No further treatment

Figure 3. Building 2, north elevation.

Building 2 is a one-story residence with a side-facing T-shaped plan (Figure 3). The foundation is above grade; however, the material from which the foundation was constructed is not visible due to the slab lining at the base of the building. The home is constructed of stucco with brick veneer, vertical wood boards, and horizontal wood siding. The front door is accessed via a poured cement stair and deck, surrounded by flower beds lined with the same brick work as the house façade.

The roof is cross-gabled with a medium pitch. The eaves are close and slight with fascia and soffit. The rafters are enclosed. The rake is close with decorative trim below. The roofing material is plain coursed composition shingle. Two interior metal chimneys are visible, one on the east slope of the roof, one on the west. Two interior metal roof vent pipes are also visible as well as two cast iron ones, one on the north wing and one on the west wing. A metal louver gable vent is present on the south side of the building and one turbine roof vent is present on the west side of the ridge of the north wing of the house. Two satellite dishes are attached to the roof near the south end of the gable. A swamp cooler is present on the south side of the house and two swamp coolers are mounted in the window on the southeast corner of the east side of the house.
Fenestration is varied. Most of the windows are sash windows with wood surrounds and 6/6 glazing. There are three of this type of window on the east side of the house, two on the north, and two on the south. A fixed wood window with 6/4 glazing is located on the east side of the building. A dryer vent is in the lower left pane of the window. A casement window with 4/3 glazing is located on the north side of the house.

The sole addition to the house is a shed porch that has been enclosed on the northwest corner of the house. This addition has a concrete foundation and a shed roof with a low pitch.

Building 2 is a brick vernacular house constructed in the 1940s. The building is in good condition and is currently occupied and well-kept. The addition to the building and the updates and modernization, which includes the brick veneer and window replacements, have removed aspects of its historic nature. Therefore, the building is recommended not eligible for nomination to the NRHP. No further treatment is recommended.

Building 3

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<td>50 feet (east)</td>
</tr>
<tr>
<td>NRHP Eligibility:</td>
<td>Not eligible</td>
</tr>
<tr>
<td>Project Recommendation:</td>
<td>No further treatment</td>
</tr>
</tbody>
</table>

Figure 4. Building 3, north elevation.
Building 3 is a one-story cross-gabled vernacular residence that is vacant and appears to have been recently abandoned (Figure 4). The plain concrete block foundation of the building is raised. The core building is a front-facing L-shaped plan. The building is constructed predominantly from concrete block and wood frame with asbestos and composition shingle siding. The low-pitched cross-gabled roof has open, normal eaves and exposed rafters. The rake is open. The roof is clad in plain coursed composition shingle. Two metal interior vent pipes project from the roof on the west side of the building and a cast iron vent pipe runs up the exterior of the southeast corner of the building. There is a wood louver gable vent on the south side of the structure. The foundation on the west side of the structure has been extended in an L shape and a smaller rectangular pad. If further additions were meant to top the extended foundation, this construction was never begun or completed.

The building has limited fenestration, with two windows on the north elevation of the house, one on the west side, one on the south side, and one on the southern portion of the eastern façade. Three of the windows, the one on the south, the east, and the north elevations, are single-hung sash windows with wood lintels and 1/1 glazing pattern. The sash window on the south façade has a fiberglass awning shading it. The west façade is dominated by a single two-pane sliding window with wood lintels. The only entrance to the building is through a single leaf door that accesses the building from the north façade. The door has 3/5 glazing in a wood frame and is likely a replacement of the original door. There are remnants of a front entry porch near the door, but it is in poor and deteriorated condition.

Building 3 was constructed in the 1940s, as indicated by the windows. The building is in poor condition and appears to have been recently abandoned. Additions to the building (including the foundation on the west side of the structure, the replacement door, the varied building materials), and the general dilapidated, boarded-up, and uncharacteristic state of the building make it a poor example of southeastern New Mexico architecture. Therefore, the building is recommended not eligible for nomination to the NRHP. No further treatment is recommended.

Isolated Occurrences

Six isolated occurrences were recorded during the various surveys for the Eddy County Loop – West Side. All are historic (Table 6). The isolated occurrences have been fully documented and no further treatment is recommended.

<table>
<thead>
<tr>
<th>IO No.</th>
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<tbody>
<tr>
<td>1</td>
<td>Evaporated milk can</td>
</tr>
<tr>
<td>2</td>
<td>Sanitary can, knife opened</td>
</tr>
<tr>
<td>3</td>
<td>Railroad spike</td>
</tr>
<tr>
<td>4</td>
<td>Sanitary can, knife opened</td>
</tr>
<tr>
<td>5</td>
<td>Horseshoe</td>
</tr>
<tr>
<td>6</td>
<td>Whiteware</td>
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CULTURAL RESOURCE MANAGEMENT

Marron completed a cultural resource survey for the proposed Eddy County Loop – West Side, Eddy County, New Mexico. The first fieldwork was conducted on October 1, 2008, and the last fieldwork was conducted on January 21, 2010. The cultural resources documented during this survey include one previously recorded site that was updated, three previously recorded sites that were not found, seven newly recorded sites, three historic buildings, and six isolated occurrences.

LA 43444 is an artifact scatter with features. It has been recorded several times. The features recorded during this update are all burned rock concentrations. Past recordings have determined that this site dates to the Archaic and Jornada Mogollon, between 5500 BC and AD 1375. The site has been impacted by pipelines, dumping, and road construction; however, there are still areas of the site that are fairly intact and can address research questions. LA 43444 is therefore recommended eligible for nomination to the NRHP under Criterion D. The site is on an alignment that is an alternate and will not be affected by the proposed project. If this alignment is chosen, then data recovery is recommended.

LA 164986 is known to have been part of the Carlsbad Army Air Base. The nature of the features and their associated assemblages suggest this part of the site was residential. There has been, however, substantial damage in this area. The site is recommended eligible for nomination to the NHRP for its association with events that have made a significant contribution to the broad patterns of our history (Criterion A). The northwest portion of LA 164986 is within the present project APE. Avoidance through re-routing is recommended. If a re-route is not feasible, archival documentation is recommended.

LA 164897 is a fallow agricultural field with a disused irrigation system and infilled reservoir. The assemblage suggests use since the late nineteenth to early twentieth century, however the cinderblock and concrete water-control features suggest the post-World War II period. The site has been recorded and provides little potential for additional cultural information. It is not recommended eligible for nomination to the NRHP. No further treatment is recommended.

LA 164888 is a small artifact scatter with two features. The features and flakes are of unknown cultural and temporal affiliation. The two cans are Euroamerican and are from 1940s to 1960s. The features are partially buried with aeolian sands and may contain charcoal, which could be radiocarbon dated. However, since it is unclear that the features contain charcoal it is recommended that the site be undetermined for eligibility at this time. Testing to determine eligibility is recommended.

LA 164990 is an artifact scatter with four features. The features are all burned rock concentrations representing thermal activities. A sherd tentatively dates the site to the Jornada Mogollon (AD 500 to 1375). Although no staining was noted on the surface of the site, there is potential for subsurface cultural remains. LA 164990 is therefore recommended eligible for nomination to the NRHP under Criterion D. LA 164990 is located in the buffer area of a proposed alignment that is currently not the preferred alignment, and therefore the site will be avoided. If this alternate alignment is chosen, then data recovery is recommended for the site.

LA 164991 is an artifact scatter with two thermal features of unknown cultural and temporal affiliation. The site is partially eroded on the east and south sides, and has shallow soils in the north and west sides. The lack of dateable organic material in the eroded hearths diminishes the chances of obtaining absolute dates from radiocarbon techniques. The site is therefore recommended not eligible for nomination to the NRHP. No further treatment is recommended.
LA 164992 is a historic refuse dump. The prevalence of aqua and sun-colored amethyst glass in the glass assemblage suggests that this site reflects earlier dumping than that observed at other dump sites recorded during this project (ca. AD 1880 to 1920). All surface artifacts have been recorded and subsurface cultural remains is unlikely. LA 164992 is therefore recommended not eligible for nomination to the NRHP. No further treatment is recommended.

LA 164993 is a small artifact scatter of unknown cultural or temporal affiliation. No features or diagnostic artifacts were found. All surface artifacts have been recorded and subsurface cultural remains are unlikely. LA 164993 is therefore recommended not eligible for nomination to the NRHP. No further treatment is recommended.

LA 86197 was originally interpreted as a small campsite, used intermittently by a small band (or bands) of hunter-gatherers. Based on the identification of buried burned caliche, and on the potential for additional buried materials in the vicinity of the features, LA 86197 was recommended eligible for the NRHP under Criterion D. No HPD determination is recorded. The recorded site location is now occupied by a gravel pit. No further treatment is recommended.

LA 140906 was interpreted as a Jornada Mogollon campsite, previously determined eligible for nomination to the NRHP under Criterion D (HPD log no. 71734). This site is likely much farther west than originally indicated, and is not near the current project area. No further treatment is recommended.

LA 141858 is interpreted as a long-term, local Euroamerican dumping ground. SHPO determined that the site was not eligible to the NRHP (HPD log no. 69677). No cultural material associated with this site was observed within the APE, suggesting that the boundary is slightly off or that disturbance has removed the outer fringes of the site. No further treatment is recommended.

The three historic buildings are recommended not eligible to the NRHP. No further treatment is recommended.

Six isolated occurrences were recorded during the various surveys for the Eddy County Loop – West Side. The isolated occurrences have been fully documented and no further treatment is recommended.

If prehistoric or historic cultural remains, features, and/or human remains are encountered during the construction of the proposed pipeline, the contractor is advised to cease all work and notify the BLM archaeologist or other pertinent agencies. The qualified archaeologist will determine the necessary steps to evaluate, document, protect, or remove the material or remains, in compliance with the law.
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Welker, Glenn

Whisenhunt, Donald W.
Wilcox, David R.

Williams, Jerry L.
Appendix A

USGS 7.5-minute Carlsbad East topographic quadrangles.

Confidential: The public disclosure of the location of archaeological sites is prohibited by 36 CFR 296.18.
Figure A.1
Previously Recorded Sites within 0.25 miles of the project area

LEGEND

- Preferred Alignment
- Alternative Alignment
- Secondary Access Road
- BLM
- Private
- State

Carlsbad West, NM (Prov. Ed. 1985)
Kitchen Cove, NM (Prov. Ed. 1985)
T22S, R26E; Sec. 3, 10, 11, 14, 15, 22, 23, 25, 26, & 27
Eddy County, NM

Eddy County Loop
West Side
Cultural Resource Survey

Previously Recorded Sites
Search Radius (0.25 mi)
Figure A.2
Project area map showing the locations of cultural resources

LEGEND

- Building (B#)
- Preferred Alignment
- Isolated Occurrence
- Alternative Alignment
- Secondary Access
- Site Boundary

Land Ownership

- BLM
- Private
- State

Eddy County Loop
West Side
Cultural Resource Survey

Carlsbad West, NM (Prov. Ed. 1985)
Kitchen Cove, NM (Prov. Ed. 1985)

T25N, R26E
Sec. 3, 10, 11, 14, 15, 22, 23, 25, 26, & 27
Eddy County, NM
Appendix B

Cultural Resource Plan View

Confidential: The public disclosure of the location of archaeological sites is prohibited by 36 CFR 296.18.
Figure B.1
LA 43444 Site Map

Site Extends

Eddy County Loop - West Side
Corrales Road Site Continues

Figure B.2
LA 164986 Site Map

LEGEND

- Datum Centerline
- Site Area
- Bladed Area with Artifacts
- Construction Material Scatter

Eddy County Loop - West Side
Figure B.3
LA 164987 Site Map

LEGEND

- Datum
- Gate
- Ditch
- Fenceline
- Centerline
- Depression
- Site Boundary

Old Agricultural Field

LA 164988
Approx. 27 m South

Eddy County Loop - West Side
Figure B.4
LA 164988 Site Map

LEGEND

 Datum
 Barbed Wire Roll
 Chipped stone
 Fire-Cracked Rock
 Can
 Feature Boundary (F#)
 Site Boundary
 Centerline
 Survey Corridor

Eddy County Loop - West Side
Figure B.7
LA 164992 Site Map

Eddy County Loop - West Side
Appendix C

Cultural Resource Coordinates (UTM NAD 27 Zone 13)

Confidential: The public disclosure of the location of archaeological sites is prohibited by 36 CFR 296.18.
Sites Discovered:

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Previously recorded revisited sites:

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Buildings:

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Isolated Occurrences:

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Appendix D

Photographs of Newly Recorded Sites
Overview of LA 164986, facing south.

Overview of LA 164987, facing southwest.
Overview of LA 164988, facing south.

Overview of LA 164990, facing north.
Overview of LA 164991, facing north.
Overview of LA 164992, facing north.