LA BAJADA

CULTURAL LANDSCAPE REPORT

Principal Investigator

Baker H. Morrow, FASLA

Professor of Practice, UNM

100% Submittal

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Consulting Landscape Architect:

Will Moses, PLA, ASLA

MRWM Landscape Architects

Albuquerque, NM

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by

Baker H. Morrow, FASLA
Professor of Practice, UNM

and

Will Moses, PLA, ASLA
MRWM Landscape Architects,
Consultant

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Management Summary

The intent of this report is to complete Parts 1 and 2 of a Cultural Landscape Report (CLR) for the La Bajada cultural landscape which meets National Park Service (NPS) and Secretary of the Interior standards as described in the 1998 NPS *Guide to Cultural Landscape Reports* on behalf of the United States Forest Service (USFS), Santa Fe National Forest (SFNF). The goal is to document the historic resources and their condition within the study area and to provide recommendations for their treatment.

Located approximately 16 miles southwest of downtown Santa Fe, New Mexico, the study area lies within USFS land, in the Santa Fe National Forest. The study area extends from the SFNF boundary with Bureau of Land Management (BLM) property to the east to the boundary with Cochiti Pueblo to the west. The southern boundary is the edge of the escarpment above the Santa Fe River Canyon. The northern boundary bisects the plains between Forest Road (FR) 24 and the next major arroyo to the north (See Figure 6, page 6).

This report was completed in two phases. Phase 1 consisted of a synthesis of existing information, initial field observation and analysis, and preliminary recommendations. Phase 1 was completed in October 2011.

Phase 2 (this report) builds on the research completed in Phase 1. The recommendations from Phase 1 have been re-evaluated in order to tailor the report to the managerial and financial realities and priorities of the owner, the USFS.

La Bajada escarpment is an old and rich cultural landscape with important features related to Native American, Spanish, and American cultures in New Mexico. There is evidence of human use of the landscape of La Bajada dating from the Archaic Period (7500 BP - 2800 BP) to the present. The escarpment has influenced cultural practices, politics, transportation and settlement patterns throughout the history of New Mexico.

This document will focus primarily on the extensive La Bajada road network, including portions of El Camino Real de Tierra Adentro, territorial-era wagon roads, the National Old Trails Highway, and U.S. Highway 66. Currently, in the immediate context of the study area, the land traversed by these roadways is owned by the village of La Bajada, Cochiti Pueblo, the U.S. Forest Service, and the Bureau of Land Management. The primary uses for the land are recreation and rangeland for livestock.

This document will also discuss the Puebloan use of the landscape and its associated features as well as cattle and livestock grazing in the 20th century and its associated features.

Fig. 1 Looking south down the escarpment at the NM 1 switchbacks.

Periods of significance include the Puebloan Period (900 AD-1598), the Camino Real Period (1598-1848), the Territorial Period (1848-1903), the New Mexico 1 (NM1) Period (1903-1925), the Route 66 Period (1925-1937), and the 20th Century Rangeland Period (1900-1965). These will be discussed further below.

Generally, the landscape has integrity for all periods and continues to convey its significance. The manifestations of the periods of significance at La Bajada are unique and exceptional largely due to the unique landscape in which they are found. They are highly significant.

The overall treatment recommendation is preservation with limited rehabilitation.

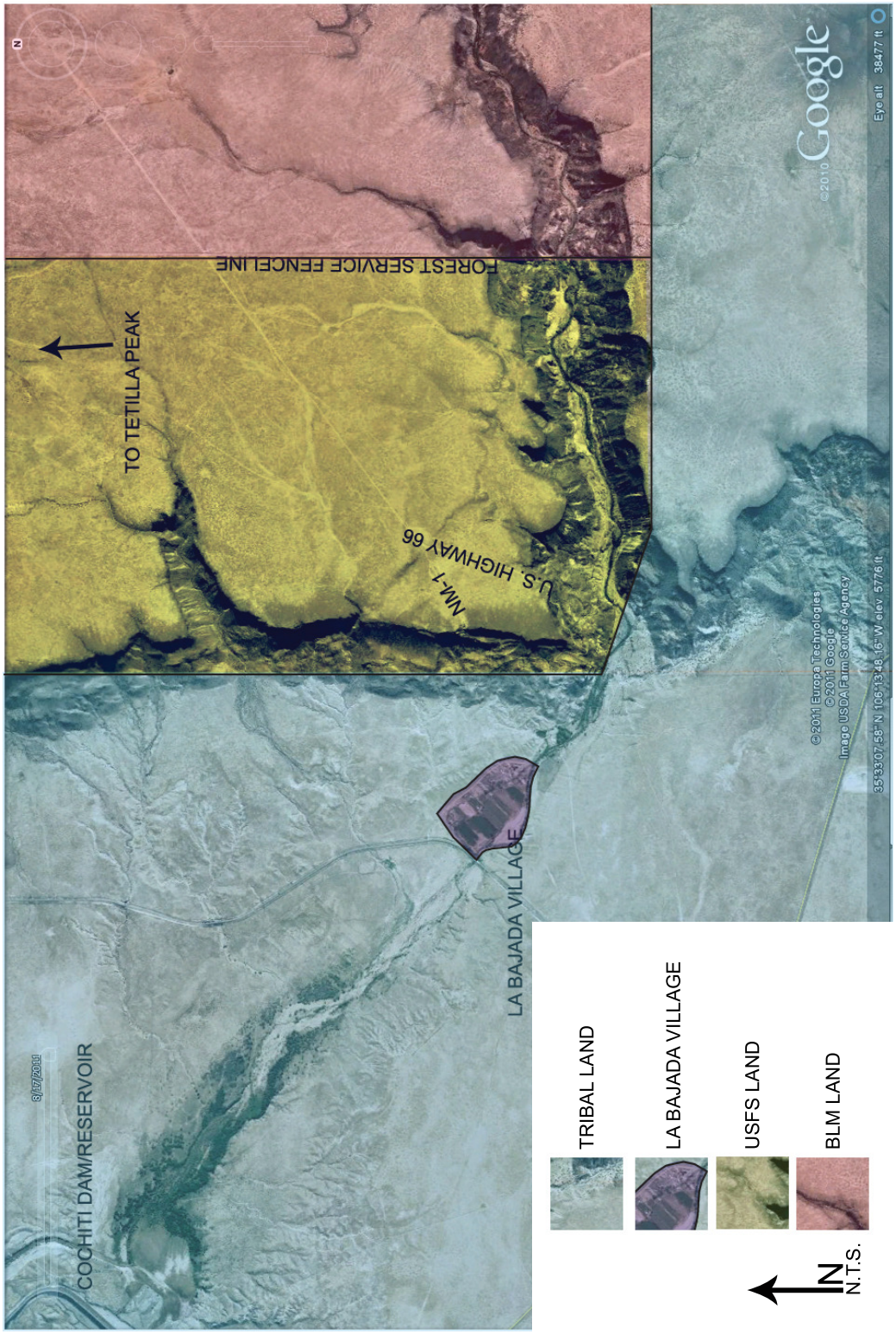

Fig. 2 Land ownership in the vicinity of La Bajada. Note: Ownership boundaries are provided for illustrative purposes only and are approximate, not based on legal descriptions. Base aerial photograph provided by Google Earth.

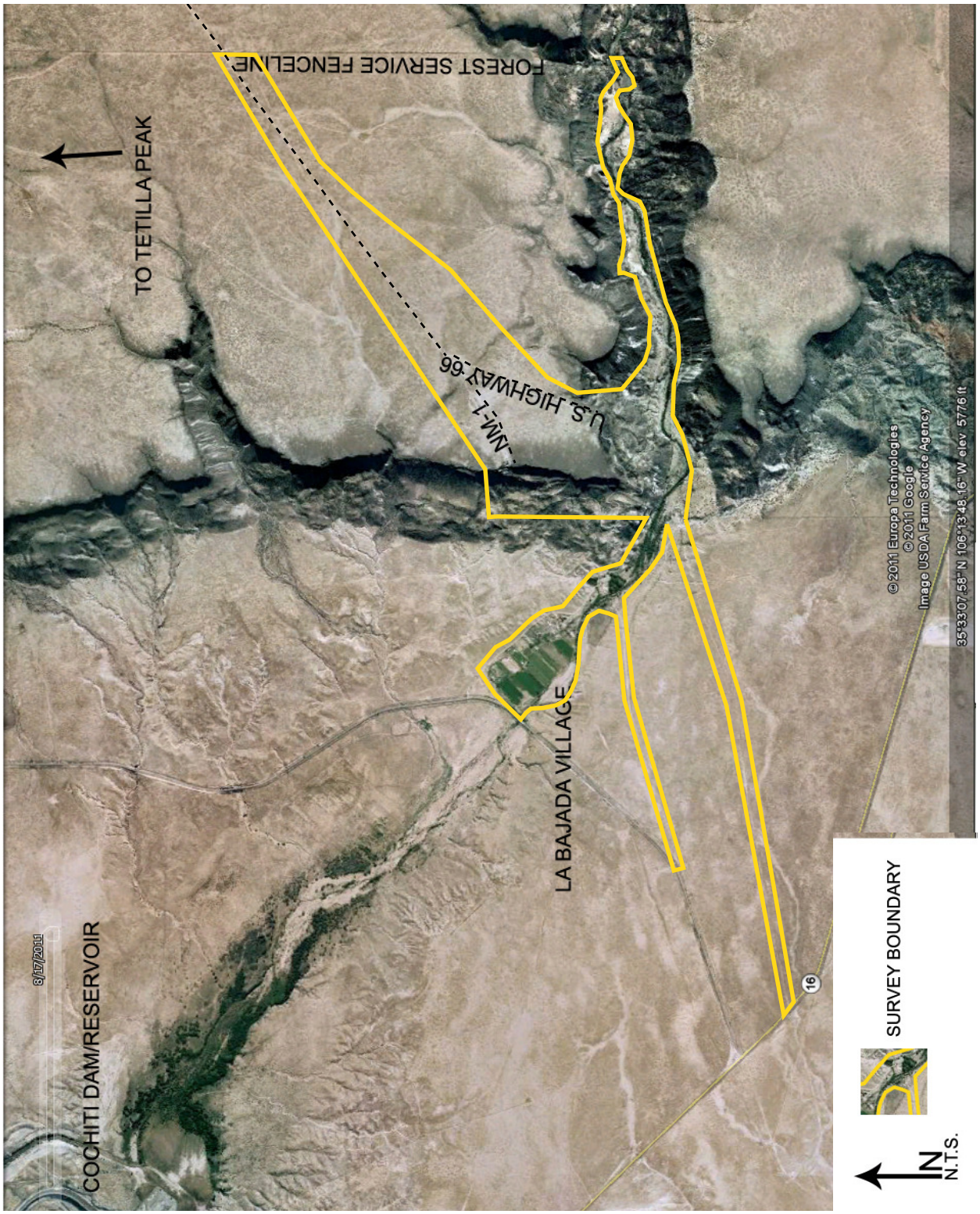

Fig 3. Phase I study area. Note: All field work conducted for Phase 1 was conducted on U.S. Forest Service land, with the exception of the segment of U.S. 66 west of the river, where the Investigator stayed within the roadway itself. Discussion of areas outside these locations was taken from existing documentation. Base aerial photograph provided by Google Earth.

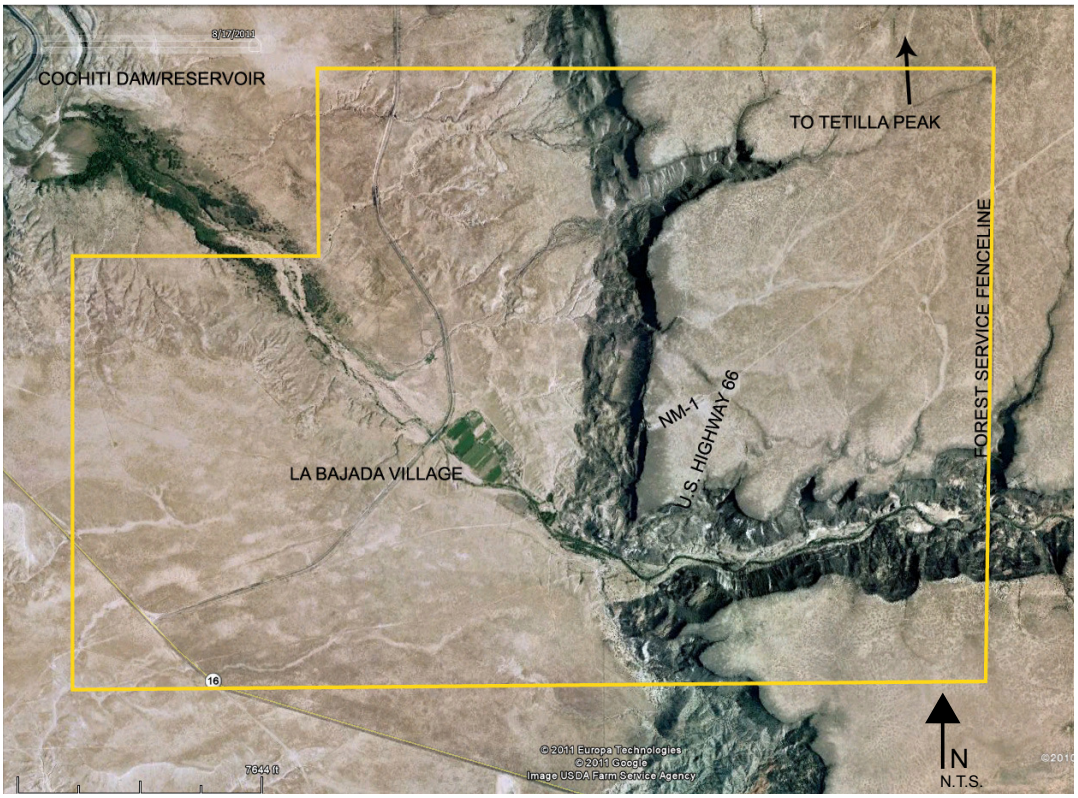

Fig 4 Boundary for Phase 2 as proposed at the conclusion of Phase 1.

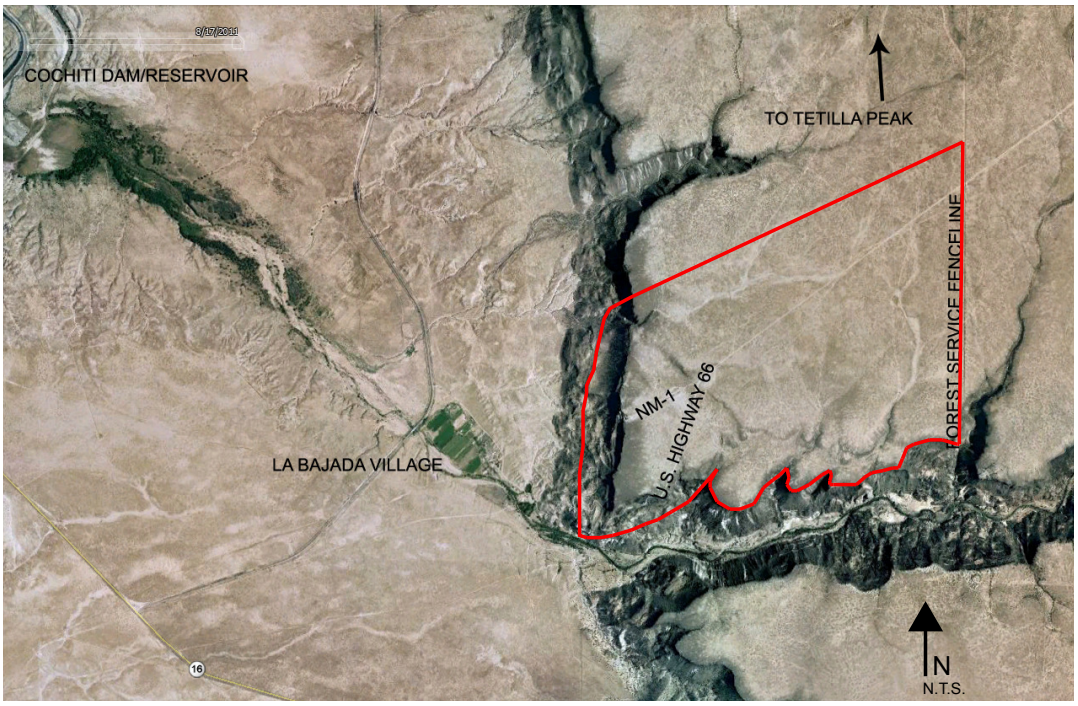

Fig. 5 Phase 2 boundary as agreed to during discussions between the Investigator, USPA Personnel and NPS Personnel.

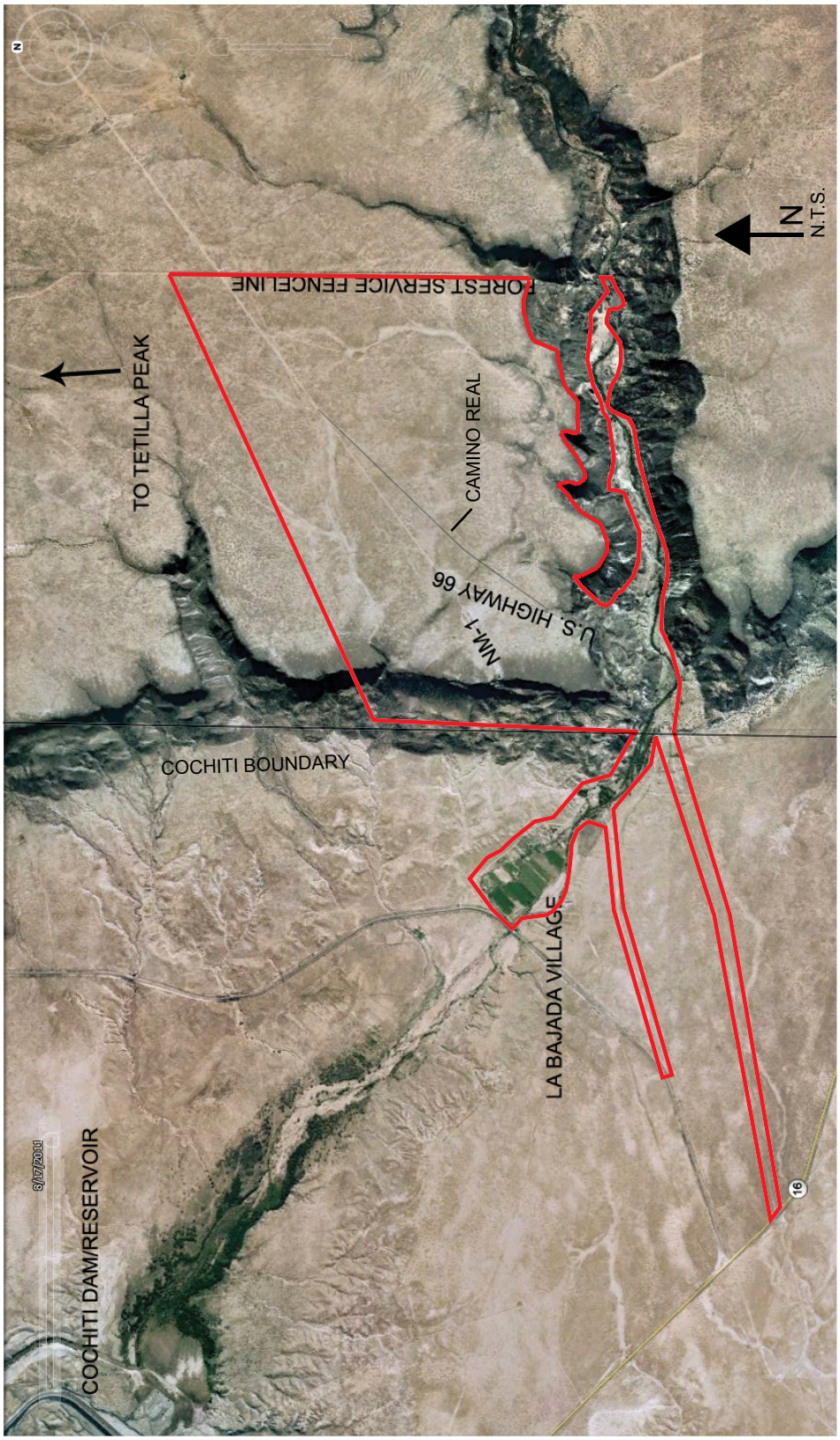

Fig. 6 Phase 1 and Phase 2 combined study area.

2
Landscape History, Periods of Significance, and Historical Photographs

Periods of Significance and Cultural Landscape History

La Bajada ("The Descent" in Spanish) escarpment is an imposing geological feature composed of volcanic basalt that runs north-south and creates an edge to La Bajada Mesa, which includes the geographical landmark called Tetilla Peak. The escarpment itself is the edge of an uplifted lava flow that originated in the Jemez Mountains between two and five million years ago (Alper et al., 2008:7). It creates a formidable change in topography that rises over six hundred feet, dividing the area into La Majada Mesa to the west and La Bajada Mesa to the east. Over time, the Santa Fe River carved through the mesa to create the Santa Fe Canyon, which opens onto the plains of La Majada Mesa (Barthuli 2007:2).

The exposed masses of black basalt bedrock act as an impermeable stratum for groundwater, keeping the water from rains near the surface and ultimately shedding that water down the escarpment to the lower mesa (Gauthier 1982:6-7). These masses of basalt also act as a heat sink, regulating ground temperature and possibly lengthening the growing season atop the mesa. Likely because of this, La Bajada was used for dryland agriculture in the fourteenth and early fifteenth centuries. (Gauthier 1982:6-7).

Early human occupation of La Bajada was transient in nature. Groups passed over the escarpment and surrounding landscape but didn't settle down permanently. The first era of human habitation within what would become the state of New Mexico was the

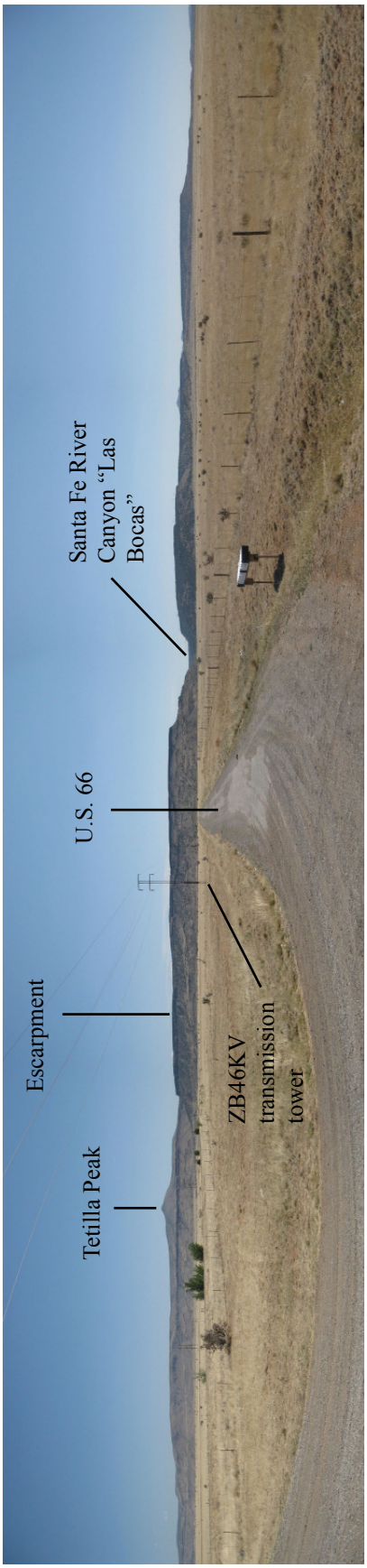

Fig. 7 Panorama of La Bajada escarpment as seen from U.S. 66 on La Majada mesa.

Paleo-Indian period, which dates from approximately 10,000 - 6,000 BC. The earliest people were nomadic or semi-nomadic hunter-gatherers (Mangum 1990:2). The Archaic Period, from 7,500 - 2800 BC, was dominated by big game hunting and wild plant gathering. Small bands of people migrated seasonally over large territories in an effort to locate sufficient food and materials for survival (Fagan 2005:74). Prehistoric people visited the area regularly to acquire basalt for stone tools, hunt, and collect plants. Archaic sites found on the mesa top indicate a highly mobile population in the hunter-gatherer tradition (Alper et al., 2008:8). These ancestors of the Pueblo Indians adopted agriculture, pottery, and an increasingly sedentary way of life beginning around AD 1, when the Basketmaker culture developed. The increasing reliance on agriculture and a more sedentary lifestyle, considered defining characteristics of the Pueblo culture, are markedly different from the preceding Archaic period's mobile hunting and gathering lifestyle (Gerow and Doleman 2002:29). The Basketmaker II period, which lasted from about AD 200 to 400, was a period of further transition as people began to rely more heavily on cultivated foods and created an increasingly sedentary lifestyle. Architecture of this period was usually in the form of shallow pit houses.

In the Basketmaker III period (AD 400-700) period, pit houses got deeper, the bow and arrow replaced the atlatl and dart, people began making pottery, and agriculture intensified.

During Pueblo I (750-900), people began congregating into large *jacal* or masonry villages. Kivas first made an appearance at this time and deep pit houses became a common architectural type.

Fig. 8 Facing northwest toward Tetilla Peak atop the escarpment.

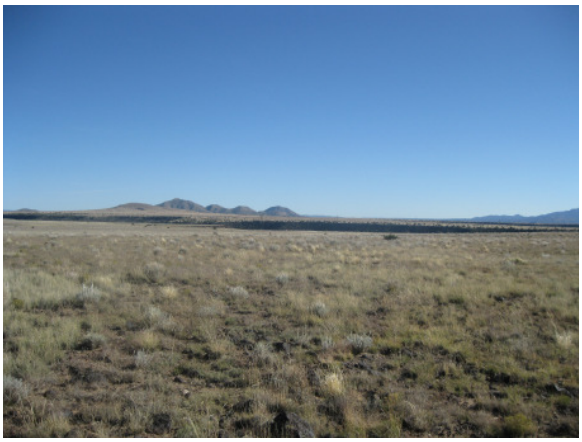

Fig. 9 Facing southeast toward Las Bocas from atop the escarpment.

Puebloan Period of Significance (900 AD - 1598):

The Puebloan Period of significance begins with the Pueblo II period (900-1100).During Pueblo II, the Chaco culture flourished. Great Houses, Great Kivas, and many small pueblos dotted the landscape in northwestern New Mexico, some connected by roads. The Chaco culture declined after 1150, signifying the end of Pueblo II. The Pueblo II period is represented at La

Bajada with the remains of a copper mine a short distance up the Santa Fe River Canyon. This mine is thought to have been in use through the year 1300 (Alper et al., 2008:9). The Pueblo III (AD 1100-1300) period was marked by large Pueblos throughout the region.

During the Pueblo IV period (AD 1325-1600), pueblos were typically oriented around a large central plaza with a main kiva and several smaller kivas. Permanent human habitation of the La Bajada escarpment is believed to have begun during this time (Peckham 1975:1). A large Pueblo community, known alternatively as Tzenatay or Pueblo Quemado, was established at the mouth of the Santa Fe River Canyon below La Bajada escarpment sometime during the late thirteenth century or early fourteenth century. It featured thirteen adobe-walled house blocks which wholly or partially enclosed six plazas, the remnants of which are still present today (Peckham 1975: 1-2). At least four kivas are associated with the pueblo, bringing the estimated number of rooms to 500 (Peckham 1975:3). Excavations of the northwest quarter of the pueblo by N.C. Nelson in 1915 revealed a component of the site associated with Santa Fe Black-on-White pottery, characteristic of the late thirteenth century (Peckham 1975:3).

Sometime after the pueblo was established, the top of the mesa began to be used for agricultural purposes. The agricultural fields found at La Bajada Mesa were most likely established in the fourteenth century during a period of Pueblo population expansion (Gauthier 1982:5). The artifact assemblage includes Agua Fria Glaze-on-Red pottery shards and Gray Utility Ware. These have been used to date the occupation of La Bajada Mesa top from approximately 1315 A.D. to 1425 A.D. These fields are visible as thousands of stone piles placed in a regular pattern two to three meters apart primarily near the edge of the mesa. The stone piles are thought to have retained moisture which was essential in the dry climate of the mesa top (Gauthier 1982: 5) In addition to the fields, a number of small field houses have been discovered on the mesa top. These were likely used during the growing season by a small population of the pueblo's people to more easily tend their crops. The rest of the population would have stayed at the main pueblo (Gauthier 1982: 5-7). While never as productive as farming the river valley, these upland farming efforts probably helped support a growing population, as archeological evidence suggests a population influx into the Caja del Rio plateau and much of the northern Rio Grande area (Gerow and Hogan 2005:224).

Marshall (1990:120) noted the presence of "Anasazi hoe fragments" in the vicinity of El Camino Real near La Bajada Pueblo. The presence of these artifacts "indicates that this sandy grassland plain was an agricultural area (Marshall 1990:120)."

Camino Real Period of Significance (1598-1848):

This period is notable for the arrival of the Spanish in the Southwest. The coming of the Spaniards in 1598 profoundly changed the settlement patterns and cultural traditions of the Pueblo people in New Mexico (Barthuli

2007:2). Don Juan de Oñate established Spanish colonial rule in New Mexico in that year with his settlement of San Juan de los Caballeros on the banks of the Rio Grande at Ohkay Owingeh Pueblo. On his way to establish San Juan, Oñate noted the presence of Pueblo Quemado and identified it as occupied, indicating that the site was at least intermittently inhabited into the fifteenth century. No record or indication of its occupation after the beginning of the Spanish Colonial Period has been found (Peckham 1975:3).

El Camino Real de Tierra Adentro, translated as "The Royal Road of the Interior Lands," allowed transit from Mexico City to the Spanish colonial capitals of San Juan (Ohkay Owingeh), San Gabriel, and Santa Fe (LDTG 2004:1) and was the major route for the north-south movement of goods through New Mexico and northern Mexico. The colonizing efforts of the Spaniards included land grants made to individuals and groups designed to encourage Spanish settlement, as well as the establishment of mission churches in Pueblo villages to spread Spanish culture and influence (Barthuli 2007:2).

La Bajada has likely always been a very well-known landmark in the region. It serves as the boundary between two geographical areas: Rio Arriba and Rio Abajo, translated as Upper River Region and Lower River Region respectively (Gauthier 1982:2). These two areas developed their own political and social identities, effectively delineated by La Bajada Escarpment (Gauthier 1982:2). During Spanish colonial times, travelers on El Camino Real between Albuquerque and Santa Fe had four

Fig. 10 View of the Camino Real and the plains of La Majada from Route 66.

travel options, including 1) the Santa Fe River Canyon, which was the most used and usually the easiest passage, and 2) the La Bajada escarpment, which was far more difficult due to the steep incline but necessary during times when the river route was flooded or otherwise impassable (Barthuli 2007:3). The other two options were, 3) up Waldo Canyon after following the Galisteo drainage, and 4) further to the east, through Galisteo, then up to Santa Fe (Michael Taylor, personal communication, 7/12/2011).

Merlan et al. discuss this further in the Multiple Properties Nomination Form for the Camino Real:

> "Still to the north, beyond the Pueblo of Cochiti, the Rio Grande pours out from a deep canyon incised in the basaltic mesa of the Caja del Rio (River Box). At Santo Domingo the Camino Real left the river to bypass the Caja del Rio. Still looming to the north was the tall black escarpment of the mesa known as La Bajada. La Bajada was the landmark that divided the Rio Abajo and Rio Arriba provinces of New Mexico. The branch trail at San Felipe headed east and around this barrier, while the main trail ran across a long yellow grassland plain to the entrance of Santa Fe Canyon. The canyon opens like a great mouth, the only corridor through the tall volcanic wall of La Bajada to Santa Fe; hence the name Canon de las Bocas...
>
> Travelers then reached a stream that issued from the walls of the canyon. By around 1700, the large Tano pueblo at La Bajada had been reduced to an abandoned shell of melted adobe walls and was probably a paraje on the Camino. There was also a paraje at the entrance to Canon de las Bocas, located below the high fluted rocks known as Penasco Blanco. The Camino Real ran up into the canyon and followed along its narrow floor between gigantic boulders, crossing the stream repeatedly. After passing through the canyon, the trail led to the outskirts of La Cienega.
>
> Another trail (La Bajada Mesa Road), used by pack mules and travelers on horseback, ascended the steep slopes of La Bajada and crossed the open flats on the mesa top. This pack trail was in use during the colonial period and was improved for wagon traffic by the U.S. military in the 1860s. Much later, it became the old automobile highway at La Bajada (NM Highway 1, El Camino Real, National Old Trails Highway, and US Route 66) (Merlan et al. 2010: 15)"

The Pueblo Revolt of 1680 successfully expelled the Spanish from New Mexico for twelve years until Don Diego de Vargas organized and led a reconquest of the territory in 1692. Passing through the canyon at La Bajada, de Vargas noted the poor condition of the road in the area: "...I encamped at a place called Las Bocas. The entire camp arrived after dusk. And, since the road was so rough and difficult, we were obliged to spend

Fig. 11 The church at La Bajada (Center for Southwest Research, UNM, date unknown).

the night on the plain which surrounds the ridge of mountains there (Espinosa 1940:77-78 as referenced in Marshall 1990:134)."

The reconquest of northern New Spain (New Mexico) led to the creation of "La Majada Land Grant" by Governor de Vargas in 1695, which was given to Captain Don Jacinto de Palaez for his service during the expedition (Barthuli 2007:2). This land grant was located at the mouth of the Santa Fe River Canyon at the bottom of the La Bajada Escarpment and led to the creation of a *paraje*, or rest stop, to aid travelers in their passage (Barthuli 2007:3). (Note: a *majada* is a night-pen for livestock, especially smaller animals [*ganado menor*] such as sheep or pigs.) By the 1700s, the Camino Real's trail over La Bajada ventured through the area now encompassed by the Camel Tracks Training Area of the New Mexico National Guard, land located directly north and venturing east of La Bajada village. The first recorded description of this road was made by Fray Atanasio Dominguez in 1776, in which he wrote that "one road leads up through Cieneguilla, and in this vicinity a mesa rises, which, flattening out on top, continues for about two leagues to a very steep slope that leads down to the plain" (Gerow and Doleman 2002:34).

The village of La Bajada, which arose from the presence of the *paraje*, was first documented in 1737 by the Franciscan order of the Catholic Church, but may have been in existence as early as 1695 (Barthuli 2007:3, Alper et al., 2008:3). The village benefitted from the wide expanse of grasslands through its use by citizens' livestock and water for crops and sustenance from the Santa Fe River but never exceeded a population of more than one hundred people in the modern memory of the villagers (Barthuli 2007:3). The village and rest stop were located almost directly opposite the bank from the remnants of Pueblo Quemado, the new settlers recognizing the value of land that had already been proven habitable. The trails up the river canyon and escarpment kept the village viable and sustained the communities to the north through the duration of Spanish rule. It was this latter passage that Zebulon Pike followed after he had been captured by Spanish soldiers in 1807 before spending the night in the village of La Bajada (Kammer 2002:11). Pike recalled that "we reached a precipice which we descended, meeting with great difficulty (from the obscurity of the night) to the small village (La Bajada) where we put up in quarters of the priest, he being absent" (Gerow and Doleman 2002:34).

On September 16, 1821, Mexico declared its independence from Spain, shifting the region from Spanish to Mexican rule. Many Hispanic settlements in New Mexico continued to grow during

Mexico's rule, but at a very slow pace. La Bajada village itself stayed relatively static in population and remained a rest stop on the way north to Santa Fe. Most immigrants gravitated to the Rio Grande valley. Mexico's governance of New Mexico was to be short-lived, however, as the United States of America eyed the province of New Mexico with interest.

Territorial Period of Significance (1848-1903):

At the conclusion of the Mexican-American War in 1848, New Mexico became a territory of the United States after the signing of the treaty of Guadalupe Hidalgo (Mabery 1997:176). The conquest of New Mexico by the United States was a tactical decision made to secure a route west, made even more desirable when gold was discovered in California in 1848 (Kelly and Reynolds 2009:1).

This sudden change in governance of the land and the people was difficult for the Americans as well as the Hispanic and Pueblo people. Even though the treaty made it clear that the new populations of people in New Mexico were technically Americans now, there was an uneasiness on the part of Anglos about allowing "uneducated" foreigners into the country (Simmons 1977,132). The negative perception of Spanish and native New Mexicans on the part of Anglo Americans manifested in a lengthy procrastination in the granting of statehood. During the 64 years until statehood was granted in 1912, New Mexico had to deal with several problems inherent to a land designated as a territory and whose officials were appointed from Washington. Issues with hostile native groups and outlaws, problems of education and economics, difficulties involving land and water rights and territorial boundaries were just a handful of concerns (Simmons 1977, 133).

Once the New Mexico territory was acquired there was a need for the government to survey the new land. It wasn't until 1854 that the first Surveyor General of New Mexico, William Pelham, arrived in Santa Fe to start the arduous mapping of the wild landscape.

Pelham choose the principal meridian to "run near the suburbs of Santa Fe and that the base line should intersect it possibly as far south as the point fifty miles east of the junction of the Rio Grande and the Rio Puerco (Westphall 1965,3)." The rugged topography of the land created many delays for Pelham and his successors over the thirty seven years that it took to complete the survey of the entire territory. During this time period there were several people who held the office of Surveyor General. Each term had its problems. For Pelham the first problem occurred right off the bat: a delay in the shipment of the standard surveyors chain set back the crew almost a month.

Unlike the territory of neighboring states such as west Texas, Oklahoma and Kansas, New Mexico had mountains, valleys, and plateaus that the surveyor's crew was not accustomed to. These circumstances created an irregular pattern in the survey lines (Wesphall, 1965, 15). The first areas to be surveyed were near existing towns and villages off the Rio Grande. Santa Fe, Albuquerque, and Las Cruces were

the first cities to be plotted.

Fig. 12 Eroded segment of Territorial Wagon Road, facing north.

Fig. 13 Eroded segment of Territorial Wagon Road, facing north, north of Figure 12.

Fig. 14 Remnants of Territorial Wagon Road.

In 1857, the U.S. military began surveying and constructing a route from Fort Smith, Arkansas, to California (Kelley and Reynolds 2009:1). This soldierly effort was funded by the 1858 Appropriations Act which provided $150,000 for bridge construction and improving stream crossings between Fort Smith and Albuquerque (Mangum 1990). This exercise was concurrent with American interests aimed at developing a better wagon road from Albuquerque to Santa Fe (Kammer 2002: 11). The need for an easier passage over the escarpment was echoed by statements such as those made by Rev. Hiram Walter in 1851 who described the passage as "an almost impassable mountain, even for goats." The "La Bajada Mesa Road" which climbed the steep slope and crossed the open flats of the mesa top was used by pack mules and few travelers on horseback (Merlan et al., 2010:15). By the early 1860s the U.S. military was charged with creating a route up the mesa for wagon and stagecoach traffic (Alper et al., 2008:10). The pack trail was improved upon by the U.S. Military for wagon traffic during this time (Merlan et al., 2010:15). An account by Lt. Bourke in 1869 describes the volcanic rim at La Bajada as "an overhanging vertical wall" and the escarpment as a "sheer precipice of five hundred feet" (Kammer 2002:11). Bourke concluded that "the only orthodox way of going down La Bajada in those days" was for passengers to alight and make the descent on foot while the stage descended with its brake locked (Kammer 2002:11). Hairpin turns were installed along lower elevations to make the ascent easier for wagon traffic.

New Mexico 1 Period of Significance (1903-1925):

The next major construction undertaking at La Bajada occurred as New Mexico approached statehood in the first decade of the 20th Century. A politically controversial, east-west road was aligned to come west from Tucumcari, then turn northwest at Santa Rosa to eventually reach Santa Fe. There it would venture south again through the La Bajada Escarpment to Albuquerque and eventually cross the Rio Grande at Isleta Pueblo or Los Lunas (Kelley and Reynolds 2009:3). If the proposed route was to be successful, a renovation of the La Bajada Escarpment passage had to be undertaken. The Territorial Highway Commission appropriated funds in 1903 and again in 1909 to improve the escarpment transit with the goal of opening the road up to automobile traffic (Kammer 2002:11). 1909 witnessed the creation of a newly engineered New Mexico Territorial Highway (named New Mexico State Highway 1 after New Mexico gained statehood in 1912), which utilized over 100 laborers from the Cochiti Pueblo and Santo Domingo Pueblo as well as penitentiary inmates to cut, move and stack the basalt rock (Kelley and Reynolds 2009:35, Kammer 2002:5, 11).

Built along several old wagon routes, the new road descended the escarpment through a series of hairpin turns in a 1.5 mile stretch that dropped roughly 450 feet and then flattened out about two hundred feet from the bottom and completed the descent to the mesa below (Kammer 2002:5, Heaphy 2005:221). Inclining as much as 17%

Fig. 15 NM 1 looking down into Cochiti lands from escarpment top.

Fig. 16 NM 1 near escarpment top.

in some stretches and with an average slope of 7.8%, the 1909 passage over the escarpment was striking and ambitious, and decreased the grade compared to the previous wagon road, which was measured to be up to 28% in places (Kammer 2002:6, 11). Impressive dry stacked stone retaining walls held a gravel and rubble road bed in place as the road wound down the escarpment's steep slope (Kammer 2002:5). The design for the road called for an eighteen foot wide road bed, seven new hairpin turns at the rim of the escarpment in addition to those already in place, and in some instances iron culverts to facilitate drainage (Kammer 2002:11). The new alignment's success was underscored by an observed

121% increase in traffic at La Bajada in the months following the project's completion (Kammer 2002:8). 1909 also marked the release of the Ford Model T by Henry Ford, ushering in the age of the automobile and forever changing the way people used roadways throughout the country (Kelley and Reynolds 2009: 3). The steep grade of this descent, though far more manageable than the previous wagon road, was still too severe for the new automobile culture, whose drivers often had to ascend the escarpment in reverse to accommodate the gravity-fed gasoline engines (Barthuli 2007:3). A large water tank was built at the top of the mesa and regularly filled by ranchers for motorists to use if their automobiles overheated, which was a common occurrence (Heaphy 2005:222).

Further contributing to the significance of the passage over La Bajada was its inclusion as part of the alignment of the National Old Trails Highway. Regarded as one of the most important of the many privately designated highways developing across the nation in the decades preceding the creation of the federal highway system, the National Old Trails Ocean to Ocean Highway Association, as its full title read, spliced together historic trails associated with the westward movement. Extending from Maryland's Cumberland Turnpike and following the National Pike to the Mississippi River, it followed the Boone Lick Road across Missouri to Kansas City, where it then followed the Santa Fe Trail southwestward. In New Mexico it turned west following the approximate route of Spanish exploration westward to southern California. In the early days of automobile tourism, it was one

Fig. 17 Historic postcard of New Mexico 1. (Center for Southwest Research, UNM, 1918-1919)

Fig. 18 One of the lower switchbacks of the NM 1 alignment.

Fig. 19 Remnants of a concrete, basalt, and corrugated metal culvert alongside U.S.66. It is unknown if this artifact is associated with NM 1 or Rt. 66.

of the most significant roads to cross New Mexico (Kammer 2002:12). One of the log books for the National Trails Highway described the La Bajada escarpment alignment as "wide enough for two cars to pass easily anywhere, with a volcanic rock wall on the outside" and as "absolutely safe for the most timid driver" (Kammer 2002:12).

Route 66 Period of Significance (1925-1937):

In 1925, the U.S. Bureau of Public Roads appointed a Joint Board on Interstate Highways to research routes of a new U.S. system of numbered highways (Kelley and Reynolds 2009:3). One of the routes created from this resolution was U.S. Highway 66, taking travelers on a diagonal passage from Chicago, Illinois, to Los Angeles, California (Kelley and Reynolds 2009:3). The siting of this major east-west arterial highway though the state demanded a more automobile-friendly passage over La Bajada Escarpment and led to the realignment of the main road over the grade in 1926 (Kammer 2002:5).

Federal and state funds had been used to improve components of the road above and below the escarpment before the highway department undertook the more challenging modifications to La Bajada. With road improvements estimated by engineers to cost $5,000.00, the builders detonated numerous picric acid charges to blast cuts along the escarpment facing Santa Fe Canyon (Kammer 2002:13). Highway department officials were pleased to note that the blasting caused a mere five minute delay in traffic flow down the grade because the new alignment was far enough removed from the 1909 road to not cause problems. Crews then removed the rubble and installed corrugated metal culverts as they constructed retaining walls (Kammer 2002:13).

The new road, named concurrently U.S. 66 and U.S. 85, headed south about two-thirds of a mile to the rim of the escarpment lining the north side of the Santa Fe River Canyon in a more manageable grade that was easier to traverse in automobiles (Kammer 2002:5). The 1926 route lessened the average incline of the passage to 5.5% and decreased the maximum incline to about 15% in the upper stretch of the roadway necessary to get over the rim (Kammer 2002:6). The lower 200 feet of the passage utilized the same road bed as the 1909 road, then branched east to the newer route (Kammer 2002:5). The notorious upper hairpin turns of the 1909 alignment were bypassed, but those lower down the escarpment were still used and had to be widened to accommodate the new Fred Harvey Indian Detours buses that had become popular (Kammer 2002:8). Also in 1926, as part of the escarpment transit improvement, a timber bridge was constructed over the Santa Fe River to replace the existing concrete ford laid in 1918, which had replaced an earlier timber bridge that had washed out in a flood (Kammer 2002:13). By 1930 an average of 1,565 cars were using the escarpment road every day. Increased transit on La Bajada led to a painted advertisement for the Santa Fe Campground located along West San Francisco Street in Santa Fe in the late 1920s and another advertising a La Bajada Service Shop thought to be from

Fig. 20 Looking up the Camino Real toward U.S. 66.

Fig. 21 A view down U.S. 66 toward Cochiti.

Fig. 22 U.S. 66 causeway formed by two dry-stack retaining walls.

Fig. 23 U.S. Highway 66 descending the escarpment.

Fig. 24 U.S. 66 / U.S. 85 alignment from 1925.

Fig. 25 A car driving down the NM 1 switchbacks in 2011.

the same time period (Kammer 2002:14, Alper et al., 2008:6).

In 1929 the ZB46KV electrical transmission line, also known as the Bernalillo-Santa Fe Transmission Line was built (Alper et al., 2008:4). Built between May and October, the steel towers stand between forty and fifty feet tall and are spaced five hundred feet apart (Alper et al., 2008:4). A span of this length was considered an impressive engineering feat at that time (Alper et al., 2008:4). The line passed the village but did not provide it with electricity. The condition of the power line has remained the same.

During this time of change the village of La Bajada was also undergoing a transformation. The La Majada Land Grant was originally designated as an individual land grant to Don Jacinto de Palaez; however, by the 1790s, records indicate that the land had been sold into smaller portions to the Miguel Ortiz and Paulin Montoya families (Barthuli 2007:3). This fluid change in ownership continues today. The use of the rest stop also changed as the Camino Real underwent modifications. The *paraje* was transformed into a stagecoach stop in the nineteenth century and eventually into a tourist camp and service station by 1925 (Barthuli 2007:3). The service station and tourist camp, started by Herb and Wallace Walden, was located west of the ford across the Santa Fe River to take advantage of the new traffic (Kammer 2002:14). Herb Walden was married to Mary Montoya who described later in life how young boys from the village often sold their driving services to motorists who were not comfortable driving their car up or

Fig. 26 The ZB46KV electrical transmission line running alongside NM 1 / U.S.66. Facing southwest.

Fig. 27 ZB46KV electrical transmission line tower adjacent to NM 1 / U.S.66. Facing southwest.

down the steep escarpment passage (Barthuli 2007:3, Kammer 2002:14).

The 1926 U.S. 66/85 alignment was used continuously for only six years before

a new road was constructed in 1932. (Barthuli 2007:3). This latest alignment, located roughly where I-25 is now located, utilized modern construction equipment and successfully traversed the La Bajada escarpment without exceeding a 6% grade (Kammer 2002:14). What followed in 1937 was a complete realignment of Route 66 in a more direct east-west direction that bypassed Santa Fe completely (Barthuli 2007:3).

Periodic use of the roads continued after 1937, but the volume of traffic was much reduced. Today, the roads exhibit characteristics of natural decay and deterioration from automotive use. They are now used sporadically for public recreation or maintenance efforts by the U.S. Forest Service, the Bureau of Land Management (BLM), and by local lessees.

20th Century after Route 66 Period of Significance (1937-1965):

Effects of the loss of Rt. 66 on the Village of La Bajada, Post 1937

Even though U.S. 85 was still aligned on the Albuquerque-Santa Fe route, for the village of La Bajada the loss of commuter business coinciding with a severe drought and the Great Depression caused the population to dwindle to a single family in the 1940s, and by 1956 it was described by a Santa Fe New Mexican reporter as a "ghost town" (Barthuli 2007:4).

The village was resettled in the late 1960s, mostly by descendants of previous residents. The years of abandonment required the new families to reclaim the acequia system and orchards that had fallen into disrepair. Most of the buildings had collapsed and had to be rebuilt - the church, for example - or were replaced by new housing either built on site or brought in from Albuquerque, Los Alamos and Cerrillos.

The village of La Bajada has, over the years, lost virtually all of its common grazing and agricultural lands to the U.S. Army Corps of Engineers, the U.S. Forest Service, Cochiti Pueblo, Santo Domingo Pueblo and others (Barthuli 2007:4). Originally estimated to encompass 54,000 acres of land, the modern village has been reduced to sixty acres (Barthuli 2007:4). Activities include farming, gardening, and raising livestock. The village of La Bajada has a current population of approximately sixty people (Barthuli 2007:4).

20th Century Grazing and Rangeland

The primary landowner at the bottom of La Bajada escarpment is Cochiti Pueblo, which uses the grassland for grazing livestock.

The U.S. Forest Service land atop the mesa is used primarily for rangeland as well.

Grazing has been an important cultural activity on La Bajada, likely from the introduction of livestock to the area by the Spaniards in the late 1500s and early 1600s.

A brief, early 20th century account that offers us a fleeting glimpse of what this life may have been like can be found in *New Mexicans in Cameo and Camera*,

in which, in 1937, Don Nicolás López of Agua Fria is interviewed about his youth. "For a month at a time, I would be gone from home, taking care of the cattle, sometimes towards Las Tetillas, other times in the Arroyo Hondo, wherever the grass was best." (Weigle, 12). Current activities include browsing and grazing of livestock and wildlife as well as recreational activities, including driving, bird watching, hunting, camping, and hiking, among others.

"Las Tetillas" is a small group of hills on BLM land east of the study area. Major features in the study area associated with grazing include a cluster of corrals and water features in the vicinity of what is known as the 800 foot well on USGS maps. It is not clear when these structures were built. Aerial photography reveals the corrals, windmill, and concrete water tanks present as early as 1947 (Soil Conservation Service, 1947: Roll 3, Frame 9).

There is a 1935 aerial photograph of the location of the wells, but they do not appear to be present. The copy of the photograph available at present, however, is of very poor resolution, so it is possible the features may simply be obscured.

The cluster will be discussed in more detail under "Existing Conditions".

20th Century Mining

Other historic activity of note includes mining in the canyon. The HAER Report notes a prehistoric copper mine in Santa Fe Canyon dating between 900-1350 BC. (Alper 2008)

George Rinaldi rediscovered copper in the canyon below La Bajada in 1915 or 1916 and began to develop the deposit with William Kolman (McLemore 1999: 445). In 1923, the La Bajada Mining Co. was formed, with Kolman appointed President, and Rinaldi listed as the Owner. The property was purchased, further developed, and minor production began (McLemore 1999: 445).

In 1926, the mine was acquired by the American Smelting and Refining Co., which continued to produce ore through 1929 (McLemore 1999: 445). According to McLemore, "the La Bajada Mining Co. was dissolved in 1929 (McLemore 1999: 445)."

In 1950, radioactivity was noted in the mine dump, and, in 1955, the property was acquired by the Lone Star Mining and Development Corporation (Chenoweth 1979: 233). The company leased the property, producing uranium from the time of the acquisition until 1966. Approximately 88 metric tons of ore were shipped to the AEC buying station in Grants between 1956 and 1957 (Chenoweth 1979: 233). Soon after, the old workings were determined to be unsafe, so open pit methods were employed between 1962 and 1964, with the final shipment being in 1966. The workings have since become flooded (Chenoweth 1979: 233).

The USFS completed remediation operations on the mine in the 1990s (Anne Baldwin, USFS, personal communication). No downstream radiation has been documented or seems to be of concern at the present.

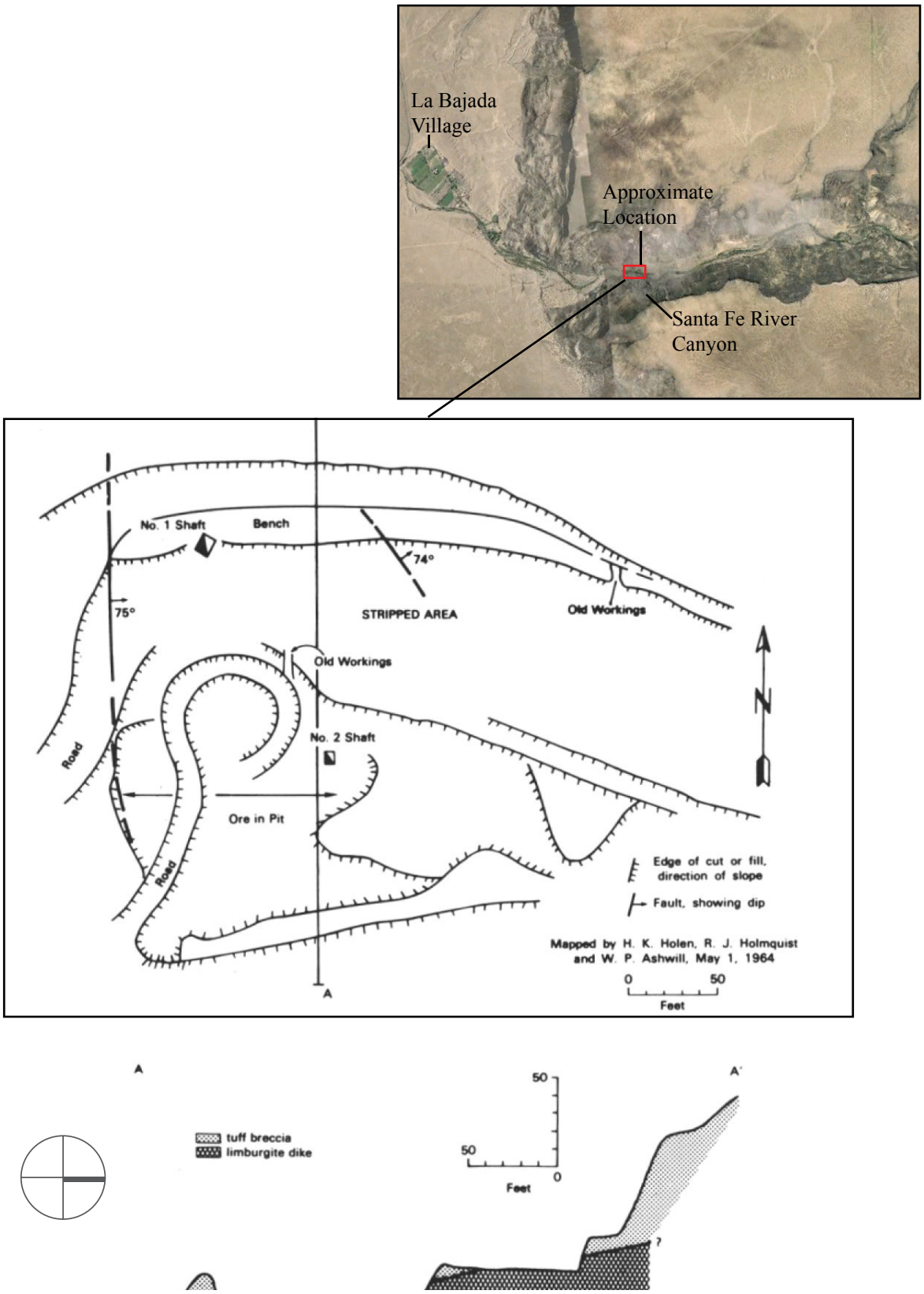

Fig. 28 Plan and cross-section of the La Bajada mine in the Santa Fe River canyon (Chenoweth 1979, 3).

Aerial and Historic Photographs

Most of the following historic aerial photographs are courtesy of the Soil Conservation Service and EDAC, University of New Mexico.

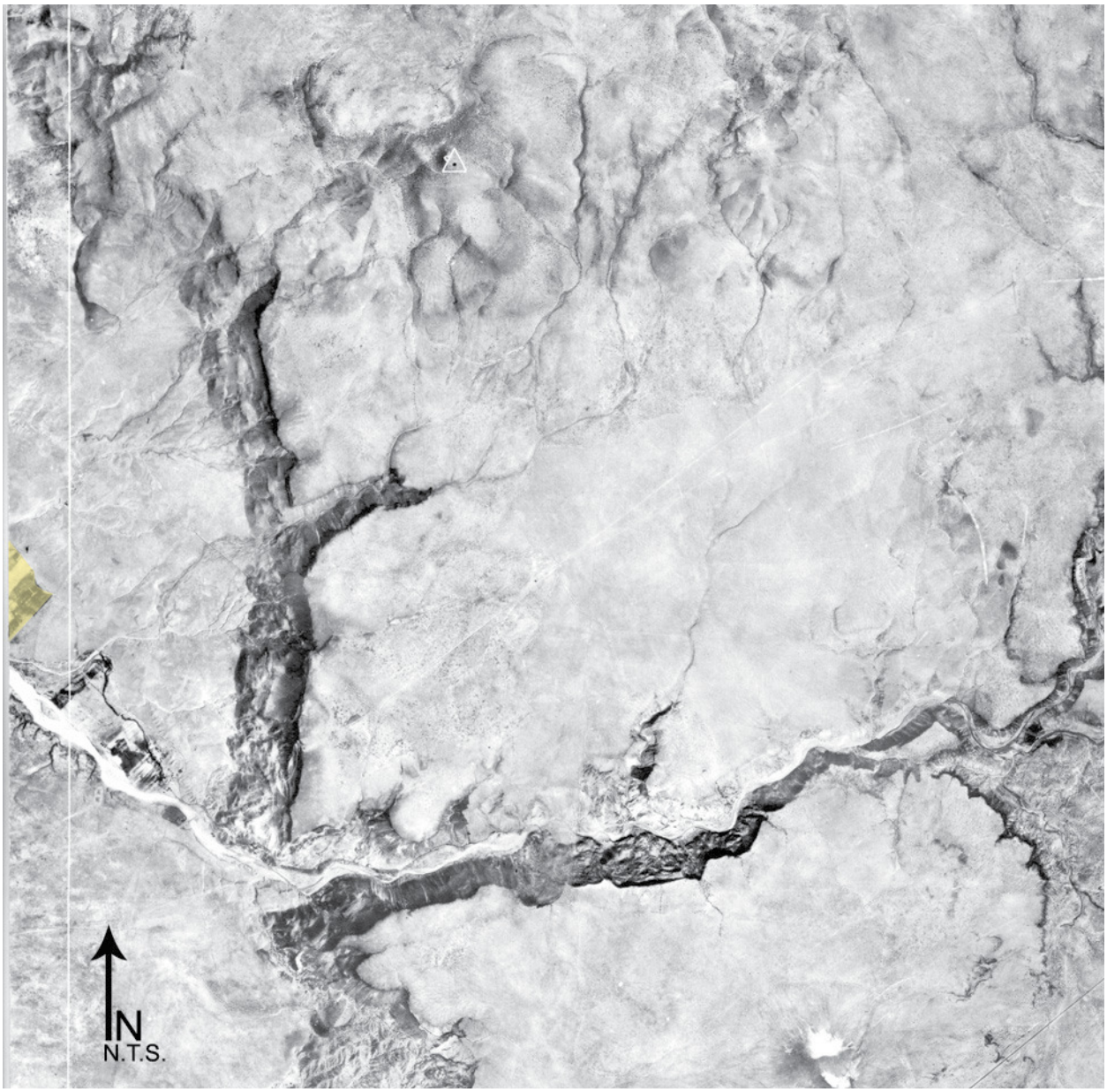

Fig. 29 1935 aerial photograph. Note the fields northwest of the village (highlighted) appear to be under cultivation. These fields were condemned by the U.S. Army Corps of Engineers as a result of the construction of Cochiti Dam. (Soil Conservation Service, 1935)

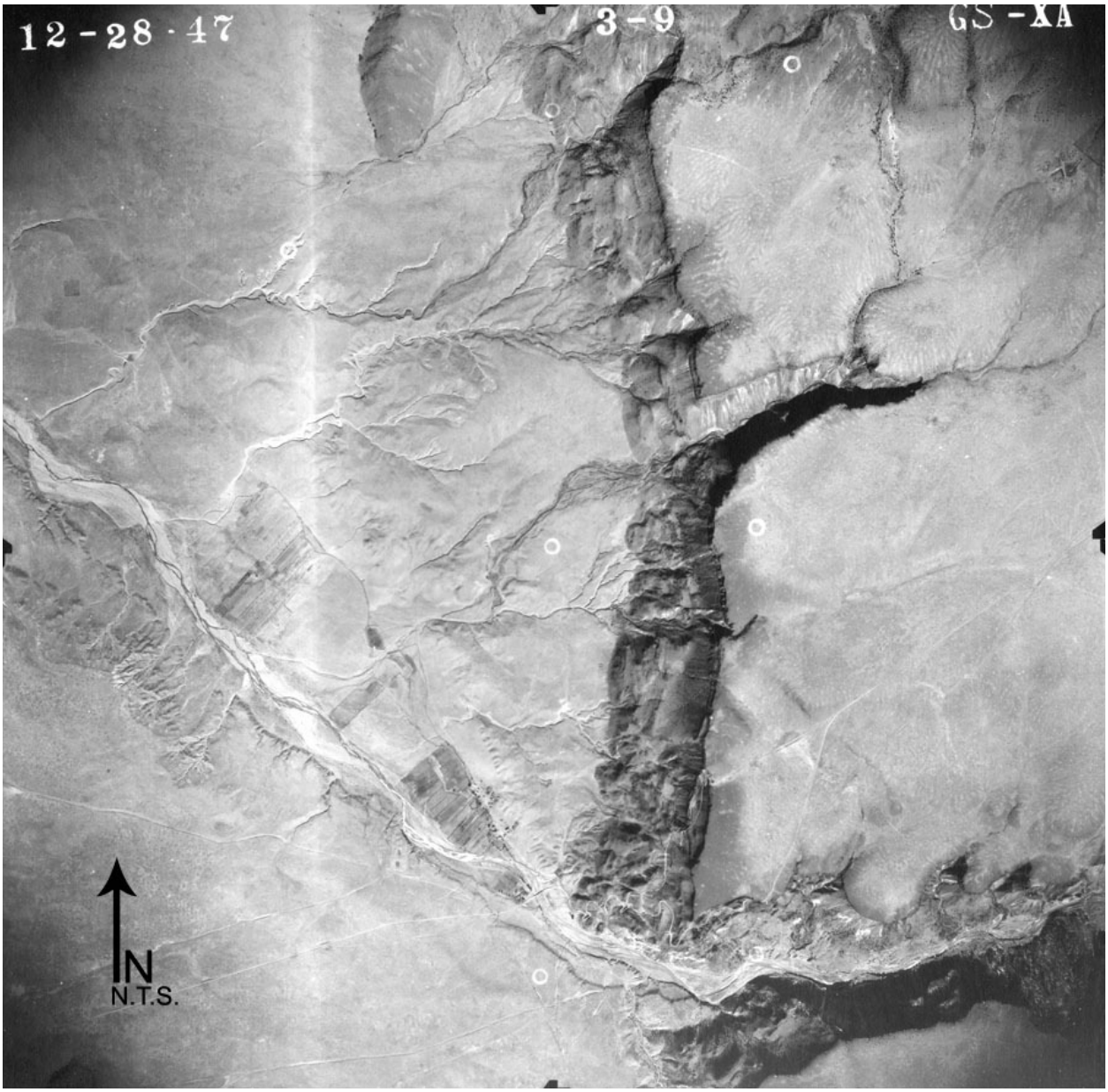

Fig. 30 1947 Aerial photograph of project area. The long lot fields of the Village of La Bajada are clearly visible along with the Santa Fe River canyon, the road network, and La Bajada escarpment . (Soil Conservation Service, 1947: Roll 3, Frame 9)

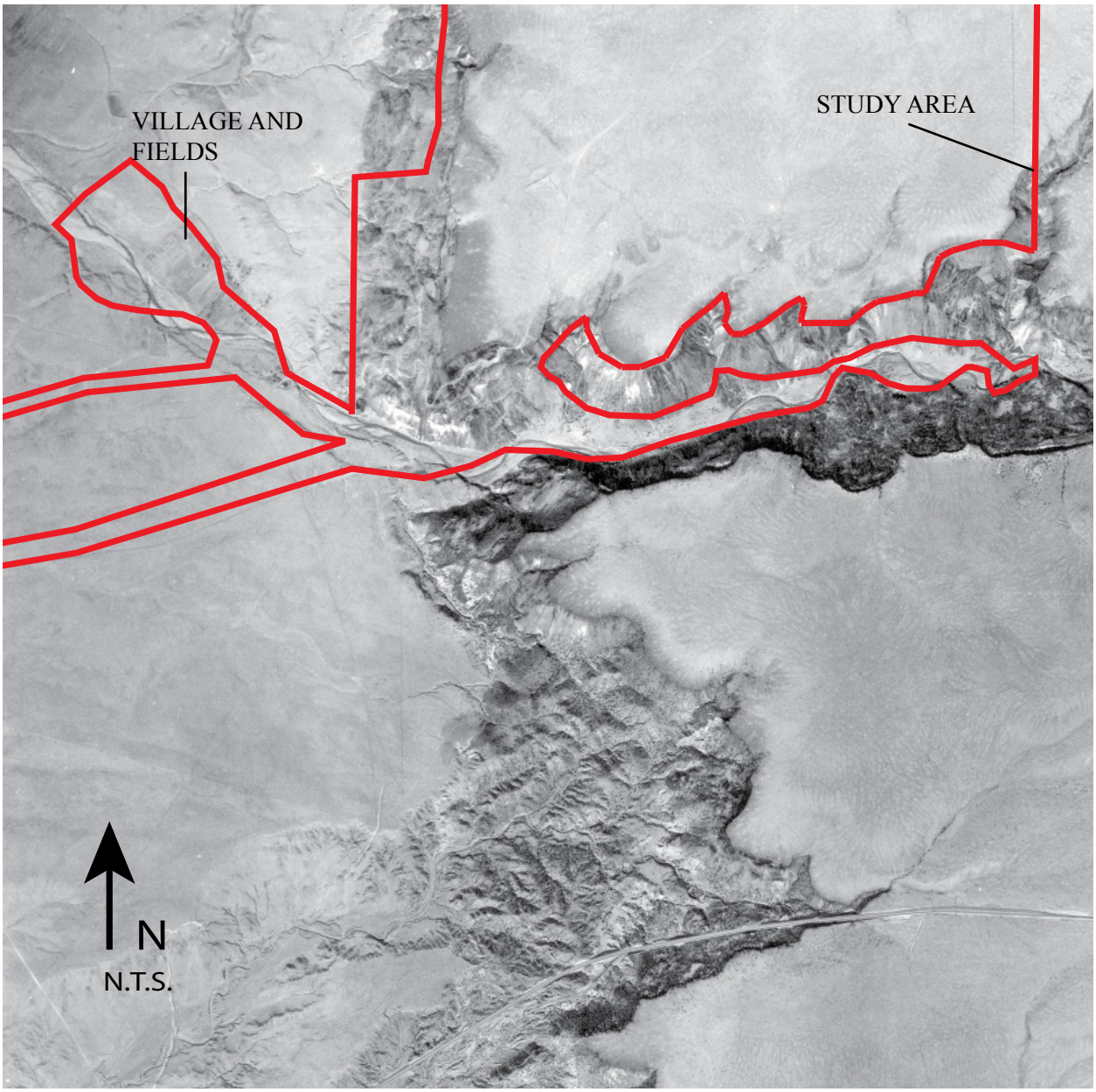

Fig. 31 1954 Aerial photograph. U.S. 85 is visible at the bottom of the photograph. The village appears to be abandoned as evidenced by the lack of crops under cultivation. (Soil Conservation Service, 1954, Frame 6406)

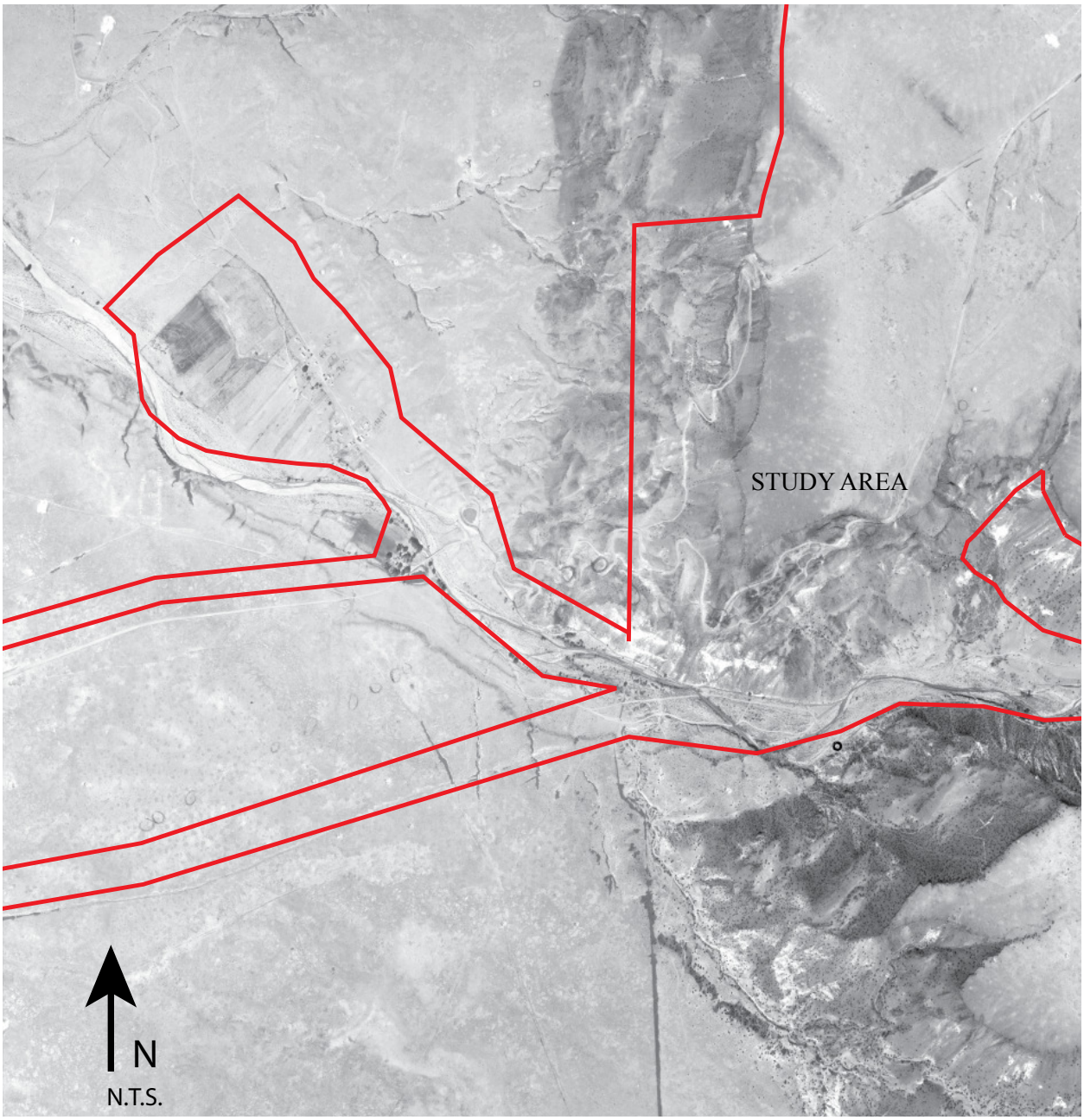

Fig. 32 1963 Aerial photograph. (Soil Conservation Service, 1963, Roll E12, Frame 10)

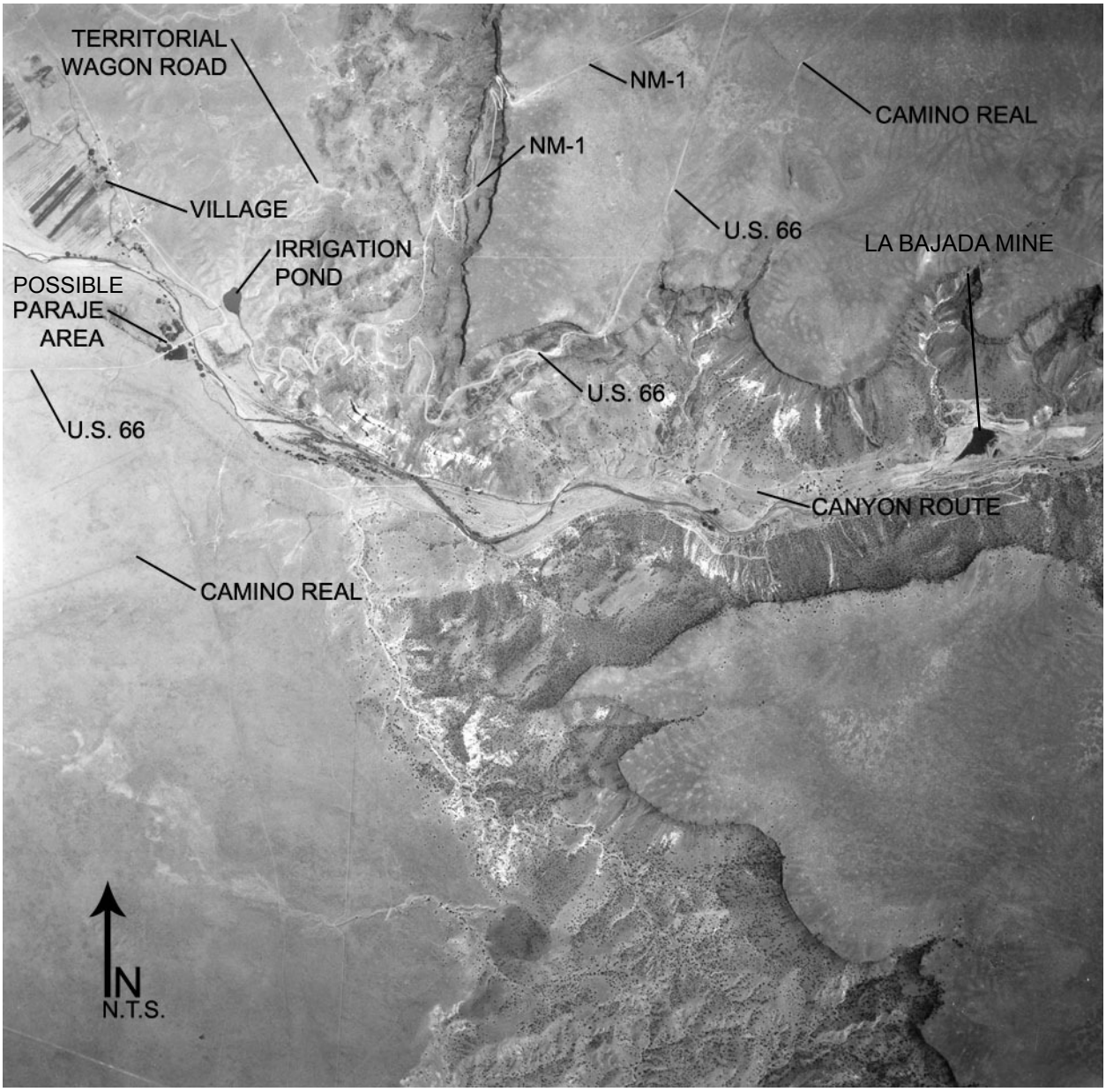

Fig. 33 1975 Aerial Photograph. This aerial of the mouth of the canyon depicts many contributing features, including the Village of La Bajada, NM 1, Route 66, segments of wagon ruts and El Camino Real de Tierra Adentro. (Soil Conservation Service, 1975, Frame 16)

Fig. 34 1981 Aerial photograph. Note fields in La Bajada village now under cultivation. (Soil Conservation Service, 1981, Roll 581, Frame 53)

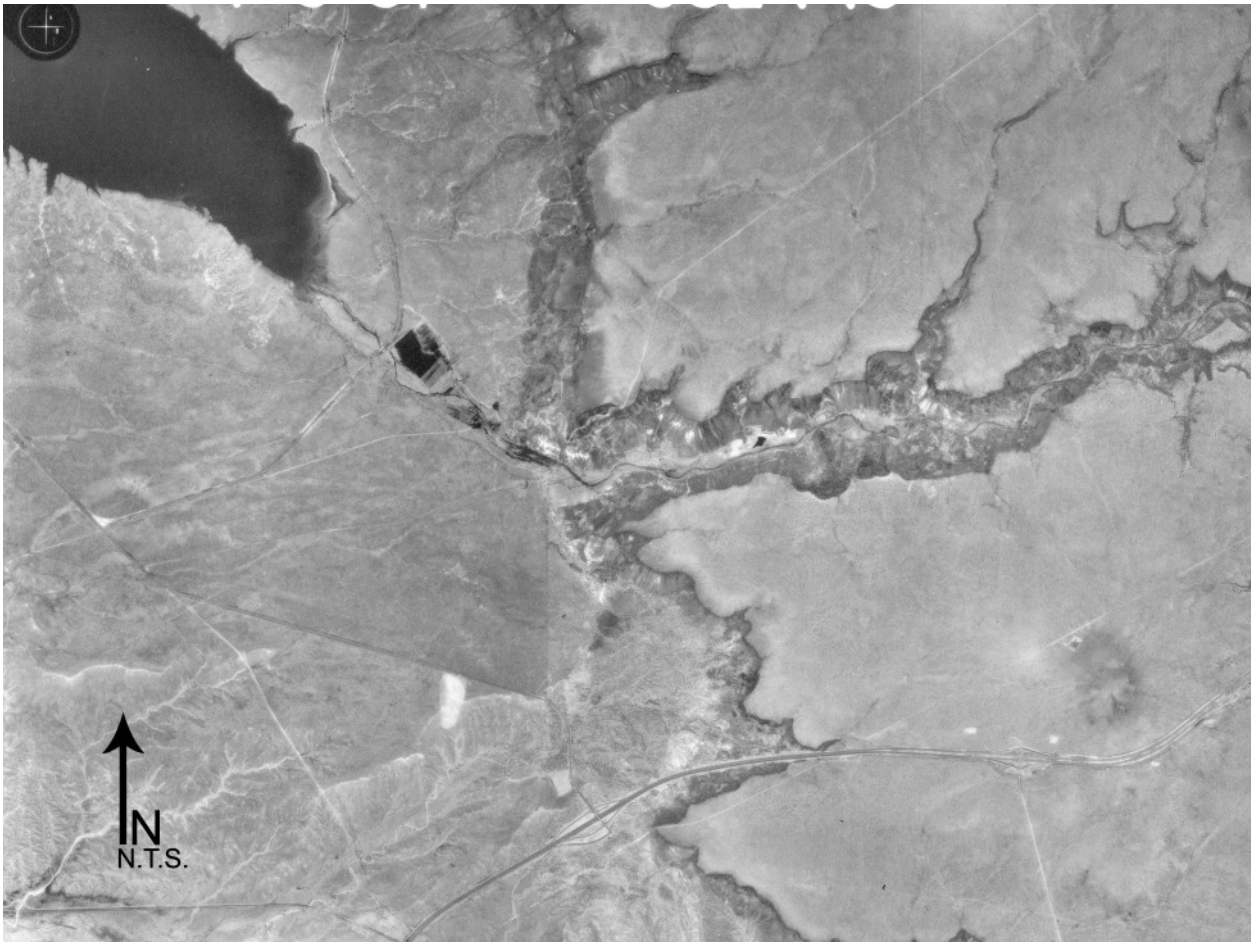

Fig. 35 1987 Aerial Photograph. Cochiti Reservoir is clearly visible in the aerial and is considered a non-contributing feature. (Soil Conservation Service, 1987; Roll 382, Frame 145)

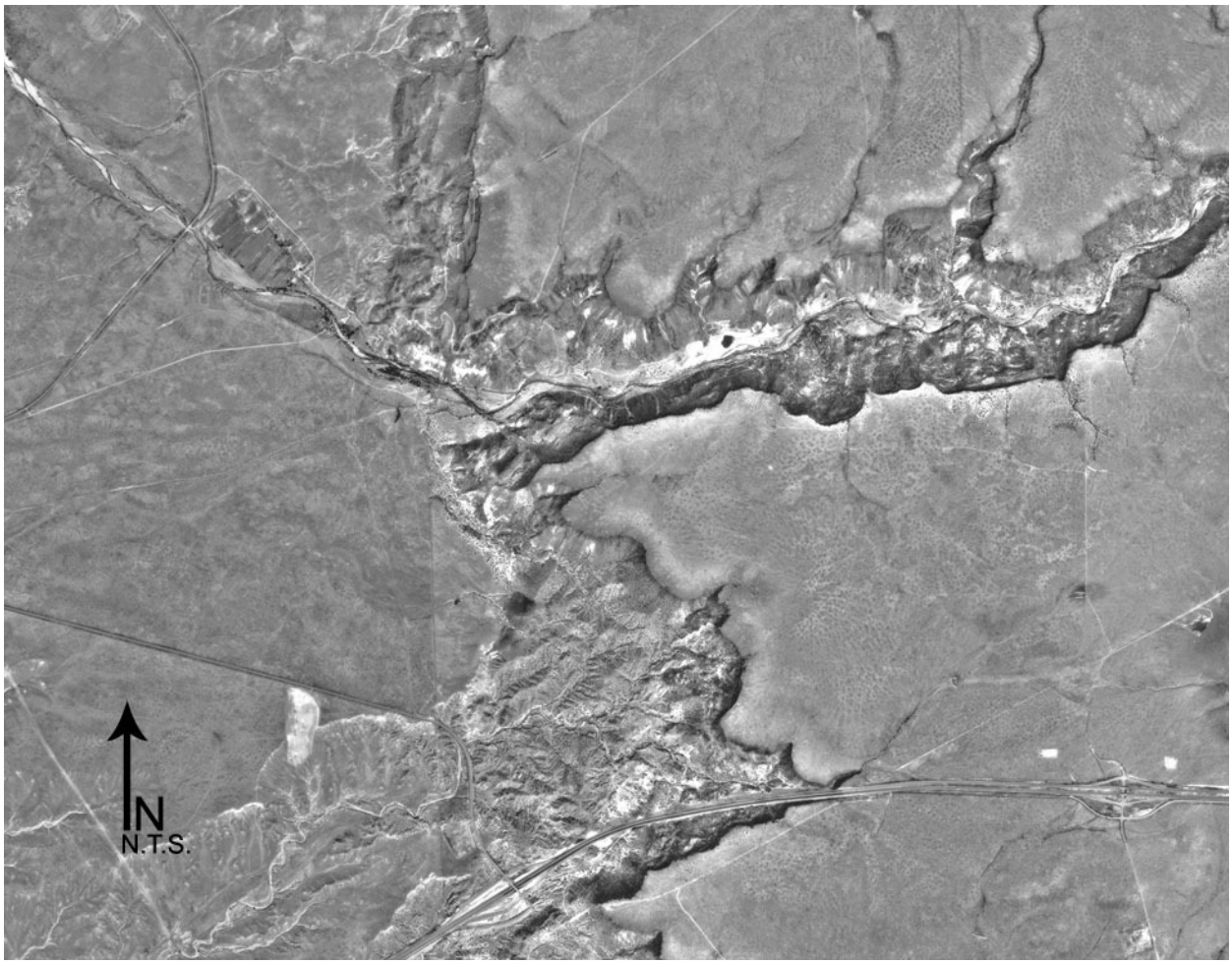

Fig. 36 1998 Aerial Photograph. (Natural Resources Conservation Service, 1998, Roll 125, Frame 9627)

Fig. 37 1919-1923 Historic Photograph of La Bajada Hill (Center for Southwest Research, UNM, 1919-1923)

Fig. 38 1919-1923 Historic photograph looking north, down La Bajada switchbacks. (Center for Southwest Research, UNM, 1919-1923)

Fig. 39 1919-1923 La Bajada Hill historic photograph. (Center for Southwest Research, UNM, 1919-1923)

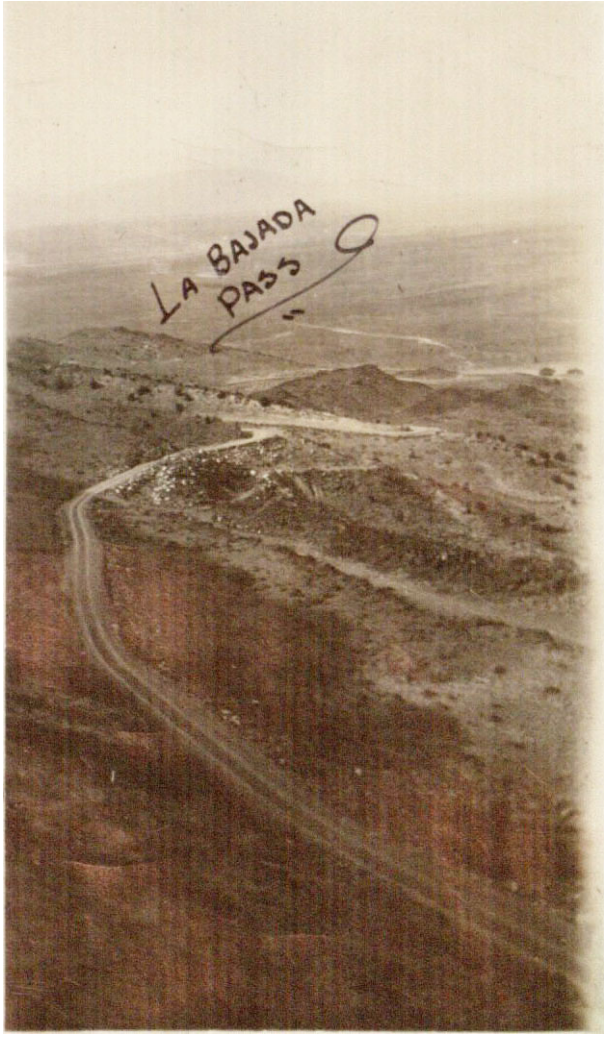

Fig. 40, 41 The first photograph labeled “La Bajada Pass” shows the rugged terrain through the La Bajada escarpment. The second photograph is labeled “Little La Bajada Hill”, and is taken from atop the Mesa northeast of the study area near where all roads descended the plateau into the Santa Fe River valley. (Center for Southwest Research, UNM, 1919-1923)

Fig. 42, 43 Photograph on the left is taken from the top of La Bajada escarpment and shows the Village of La Bajada in the distance. Photograph on the right is an image of the La Bajada grade. (Center for Southwest Research, UNM, 1919-1923)

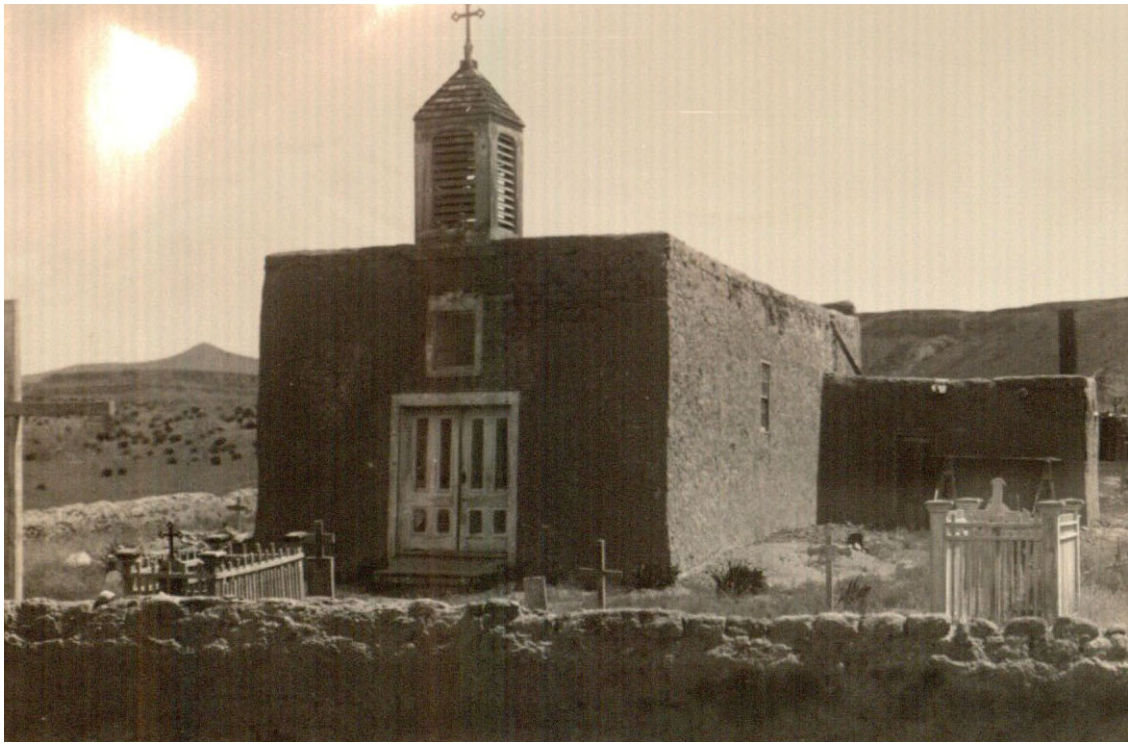

Fig. 44 Photograph of the church in the village of La Bajada, facing northeast, with the La Bajada escarpment and Tetilla Peak in the background. (Center for Southwest Research, UNM, date unknown)

Fig. 45 Photograph of the church in the village of La Bajada, facing southeast, side angle shot with escarpment in background. (Center for Southwest Research, UNM, date unknown)

Fig. 46 Historic Postcard, “La Bajada Hill. Between Santa Fe and Albuquerque New Mexico” Postcard seems to include the US Highway 66 segment, but not NM 1. Note the effects of sheep grazing on the landscape. View is facing southeast. (Center for Southwest Research, UNM, 1918-1990)

Fig. 47 Historic postcard of New Mexico 1 of view looking down the switchbacks to the Village of La Bajada and the Camino Real below. Note the remnant territorial wagon road in the center right of the image.(Center for Southwest Research, UNM, 1918-1990)

Fig. 48 Historic image of La Bajada. (Center for Southwest Research, postcard collection, UNM, 1918-1990)

Fig. 49 Historic image of La Bajada. (Center for Southwest Research, postcard collection, UNM, 1918-1990)

Fig. 50 Looking down the NM1 switchbacks, circa 1925 (Tolan 1985).

Fig. 51 Likely the NM1 switchbacks, exact location unknown, circa 1925. Sand or fine gravel has been used to improve the driving surface. (Tolan 1985)

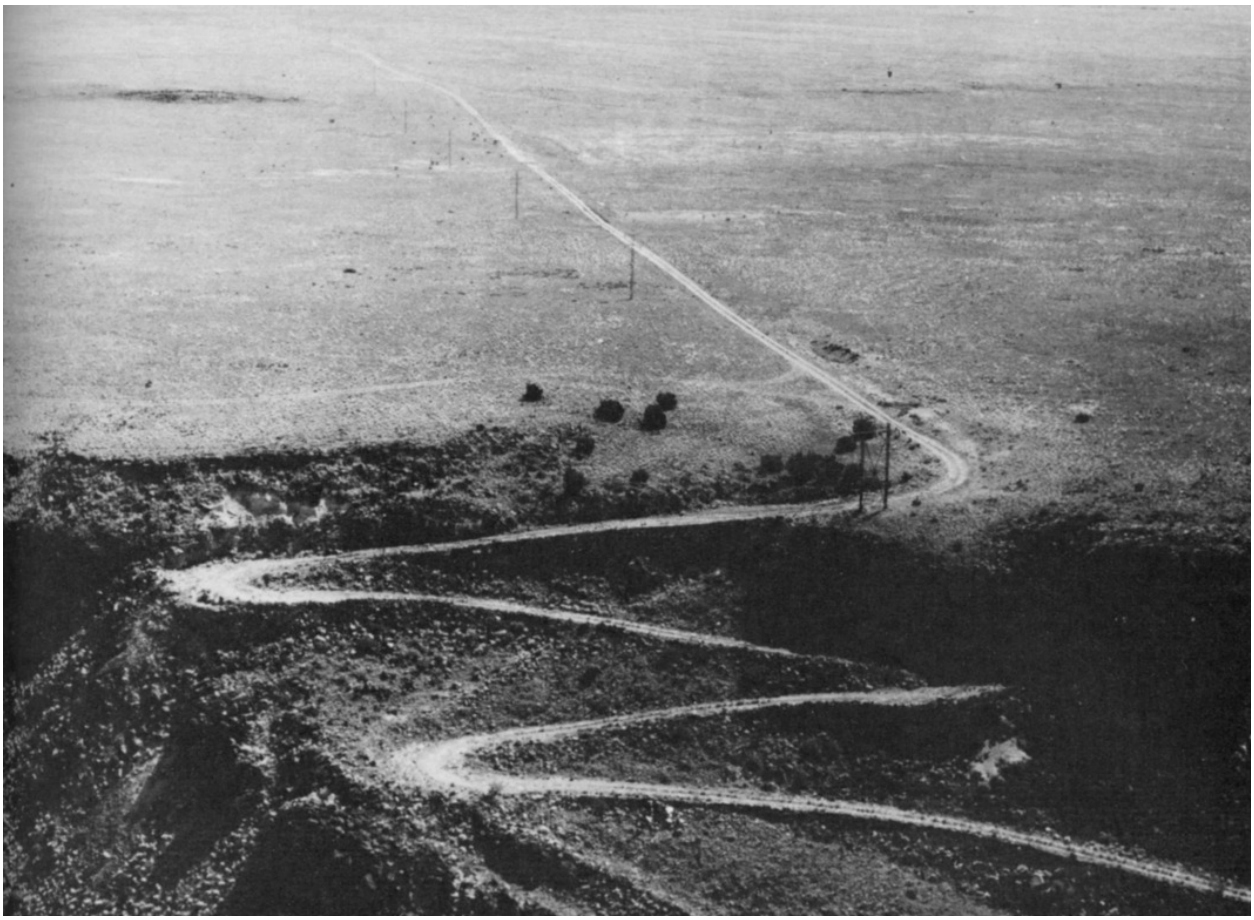

Fig. 52 Bird's eye view of the upper switchbacks of NM1 (Tolan 1985).

Fig. 53 NM1 Switchbacks, 1920s (Unknown). Note the hard-grazed condition of the slopes and the plains below.

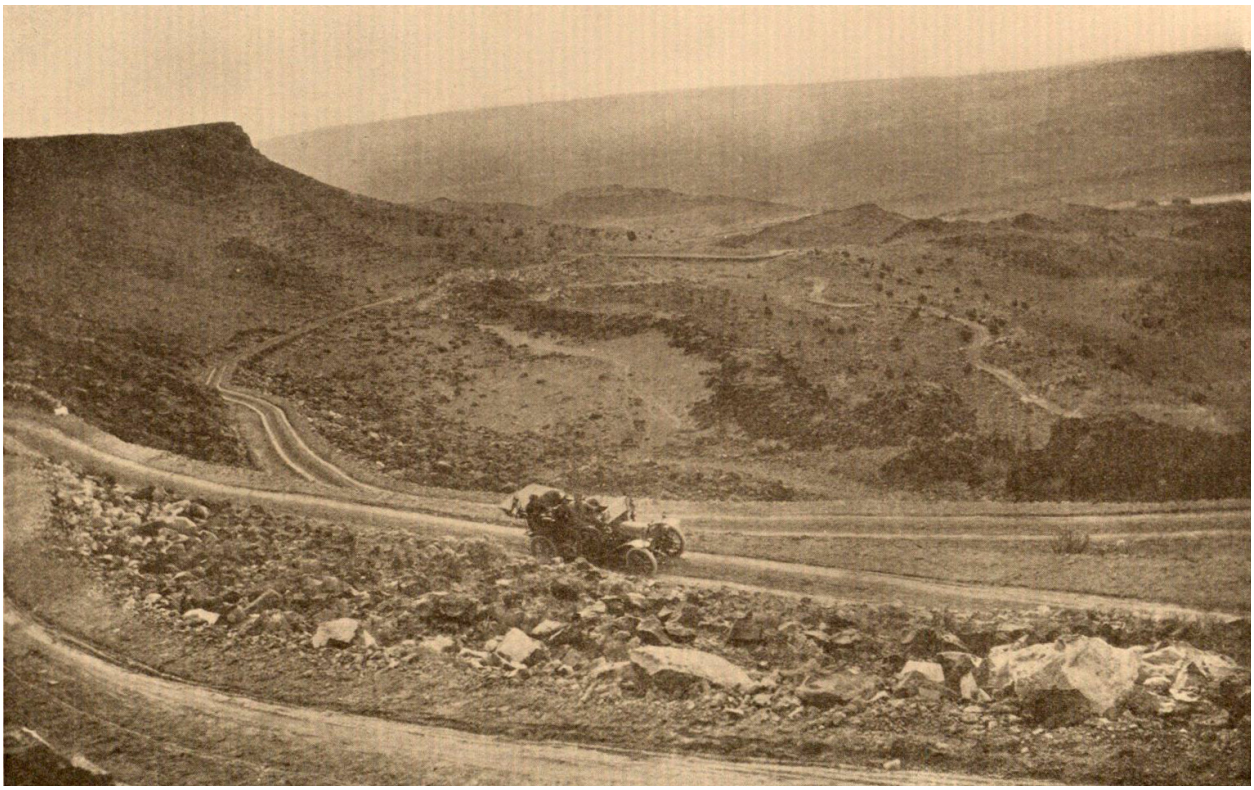

Fig. 54 NM1 Switchbacks, 1920s (Unknown).

Fig. 55 The upper switchbacks on NM1 (Crichton 1935). Note the clear lack of vegetation, indicating heavy grazing, probably by sheep and goats.

Fig. 56 Historic image “showing approach on Old La Bajada Hill Road” (New Mexico State Records Center and Archives, NM Dept. of Tourism photo collection, 1941)

Fig. 57 Historic image of “Geological formation at La Bajada.” Linear feature in the middle left of the photograph is the La Bajada Acequia. (New Mexico State Records Center and Archives, NM Dept. of Tourism photo collection, 1941)

Fig. 58 Historic image of “U.S. Highway 85 bridge over Galisteo Wash at foot of La Bajada Hill”. This image is of the road which was constructed south of the study area along the current I-25 alignment. (New Mexico State Records Center and Archives, NM Dept. of Tourism photo collection, 1954)

Fig. 59 La Bajada Village, circa 1978 (Nohl, 1978).

Note: the photographs of the Charles H. Lange collection are of low quality, but present an invaluable record of La Bajada Village, which lies at the foot of the escarpment and study area, in the mid-1950s, when it was largely abandoned.

Fig. 60 San Miguel Church, La Bajada Village, circa 1957 (Lange 1957).

Fig. 61 Montoya Adobe, La Bajada Village, circa 1957 (Lange 1957).

Fig. 62 Unidentified Adobe Structure with tree (Siberian elm), La Bajada Village, circa 1957 (Lange 1957).

Fig. 63 From left to right, the Montoya Pens, San Miguel Church, the Montoya Shed, the Montoya Adobe, La Bajada Village, circa 1957 (Lange 1957).

Fig. 64 San Miguel Campo Santo and Montoya Shed, La Bajada Village, circa 1957 (Lange 1957).

Fig. 65 Unidentified Adobe Structure, La Bajada Village ,circa 1957 (Lange 1957).

Fig. 66 Unidentified Adobe Structure, La Bajada Village, circa 1957 (Lange 1957).

Fig. 67 La Bajada Village Overview from the South, circa 1957 (Lange 1957). Tetilla Peak lies directly north, on the horizon.

Fig. 68 San Miguel Church (facing west), La Bajada Village, circa 1957 (Lange 1957).

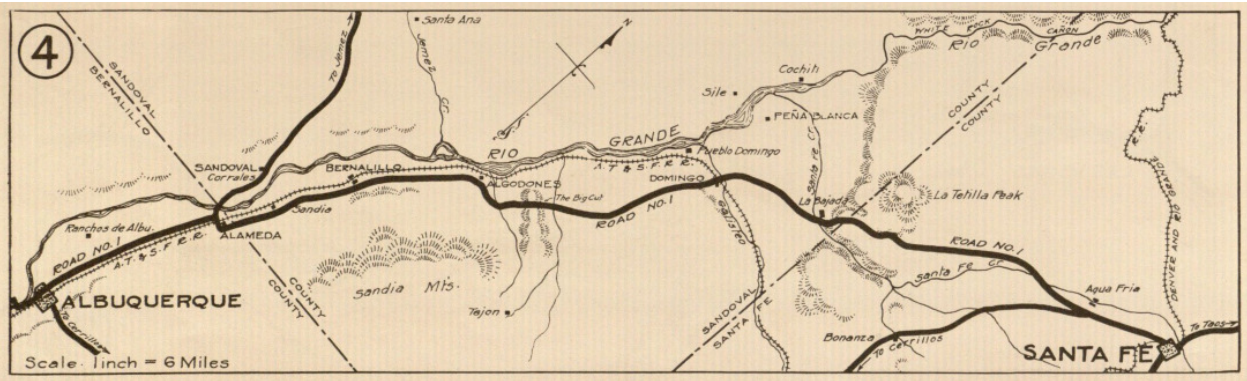

Fig. 69 Map of an early route between Albuquerque and Santa Fe (Unknown).

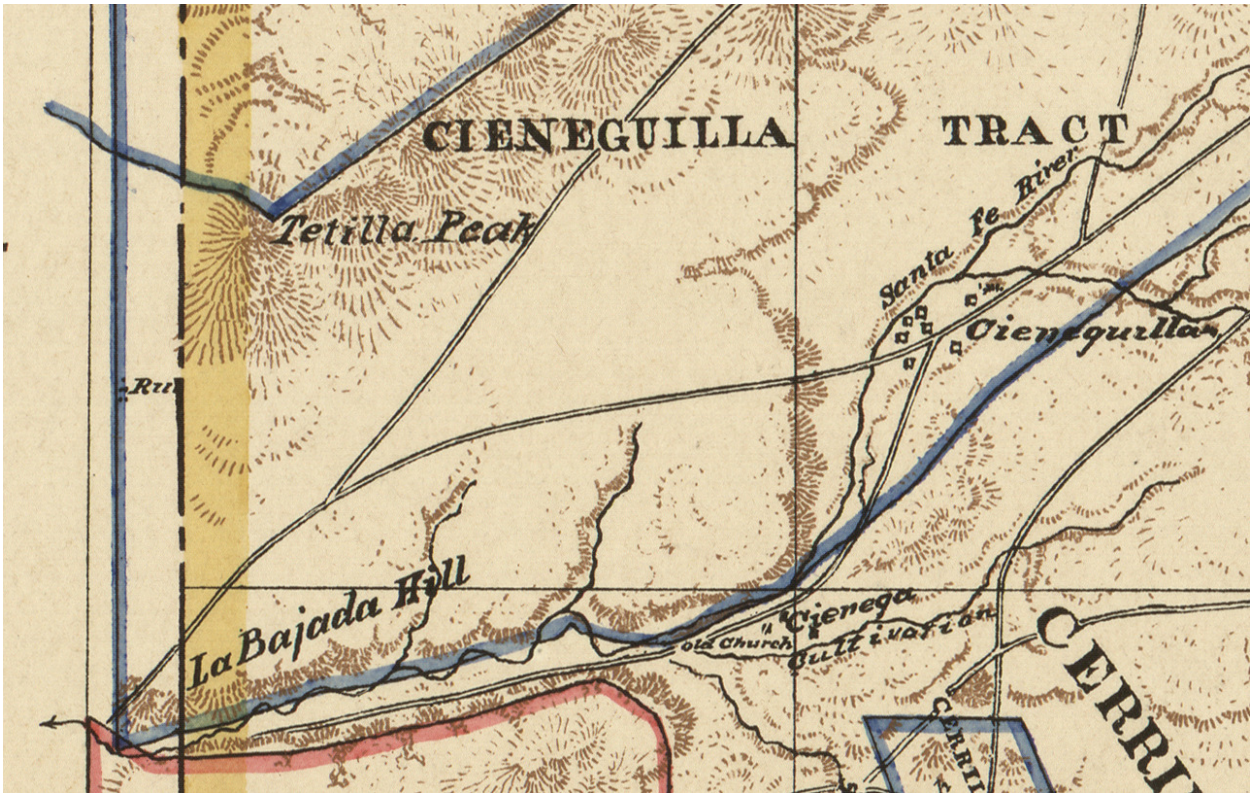

Fig. 70 Detail of the study area from a topographic map of Santa Fe from 1883 (BLM GLO Records 1883)

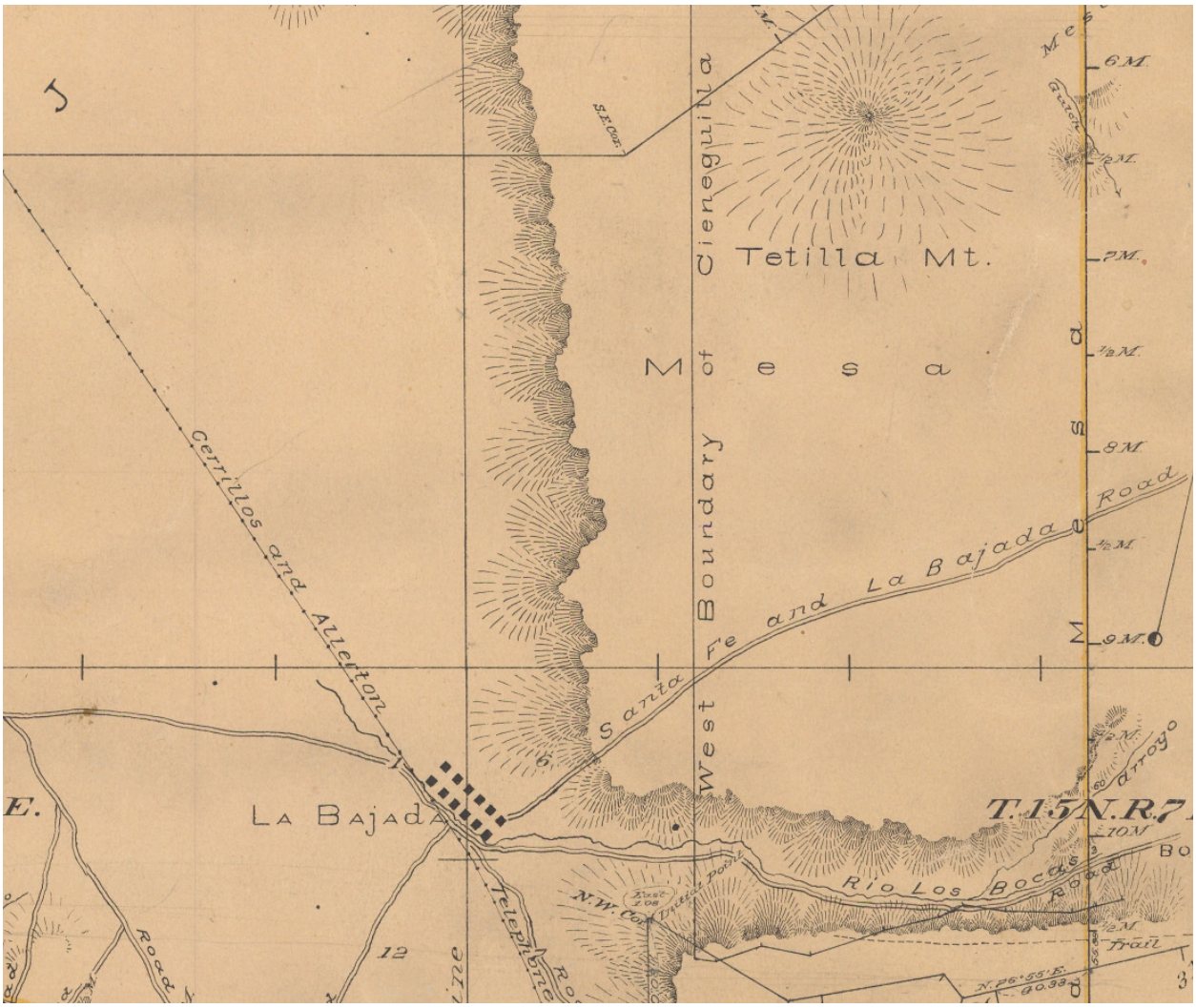

Fig. 71 Detail of the study area from the La Majada Grant plat (BLM GLO Records 1895)

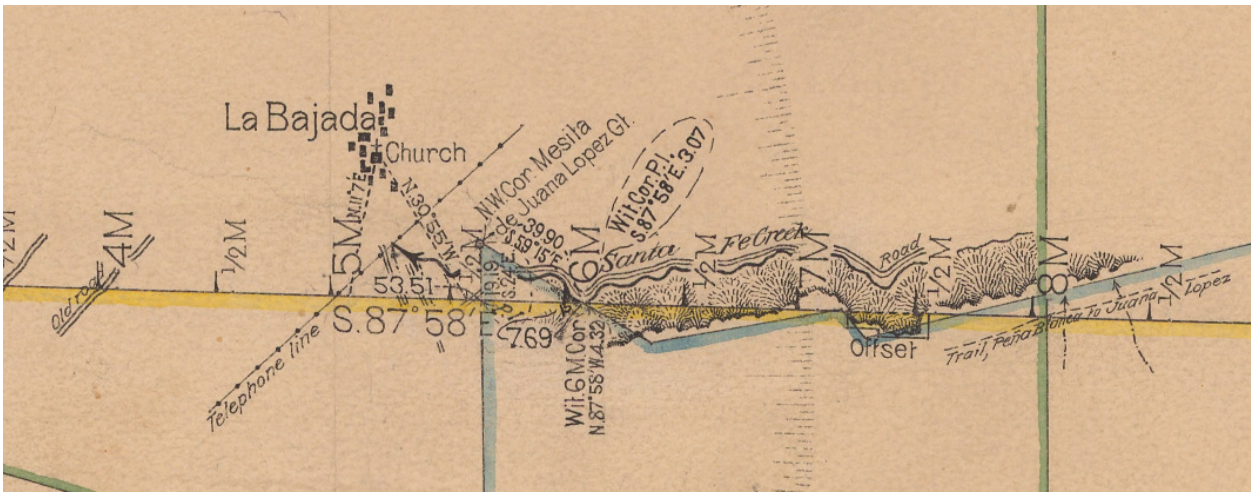

Fig. 72 Detail of the study area from the map of the Santo Domingo Pueblo Grant (BLM GLO Records 1907)

3
Related and Concurrent Studies

Related Studies:

National Register Nomination 2002

In 2002, Dr. David Kammer submitted a nomination to the National Register of Historic Places for the Route 66 and National Old Trails Road Historic District at La Bajada (Kammer 2002). This document established the cultural and historical significance of La Bajada within the National Register system. The 1926 Route 66 alignment and the older 1909 Territorial road, called El Camino Real highway or New Mexico State Highway 1 in the report, are highlighted as valuable historic landscapes with a period of significance from 1909 to 1931 (Kammer 2002:3). The trails are listed as eligible under National Register criteria A and C with an area of significance attributable to transportation and engineering. The Camino Real and the territorial-era wagon roads are not included in the nomination; however, for the first time an in-depth analysis into the construction and meaning of the 1909 and 1926 road alignments was conducted. Kammer details the reduction of the grade from the 28% slope found on the Territorial wagon road to a more reasonable average grade of 7.8% on the 1909 segment (Kammer 2002:11). The inclusion of La Bajada escarpment as part of the National Old Trails Highway is noted by Kammer as "further contributing to the significance" of the road network. Kammer also detailed the construction methods, challenges and triumphs of the two alignments and explains how these road modifications shaped the development of New Mexico. The alignment constructed in 1924 is estimated to have cost $5,000.00 and was created using picric acid to blast cuts into the basalt. The acid was thought to be more efficient than dynamite, which had been used on the 1909 segment (Kammer 2002:13).

Comprehensive Management Plan and Environmental Impact Study 2004

El Camino Real de Tierra Adentro National Historic Trail was added to the National Historic Trails System in October of 2000 to recognize the primary route between the Spanish colonial capital of Mexico City and the Spanish provincial capitals at San Juan de Los Caballeros, San Gabriel, and Santa Fe. A Comprehensive Management Plan and Environmental Impact Study, completed in 2004, was commissioned to study management alternatives for maintaining the trail (LDTG 2004). The Camino Real represents an important period in the history of La Bajada. The reports noted that portions of the trail have been utilized for over four hundred years, and as recently as the 1930s many travelers followed its route atop the escarpment (LDTG 2004:10). The plan provided three recommendations for trail management for the overall trail network. The preferred recommendation calls for the implementation of provisions from the National Trail Systems Act. These provisions include trail administration, resource protection, certification priorities placed upon sites and segments supporting interpretive and educational programming, the establishment of an auto tour route, and a binational approach with Mexico, which when pursued would promote activities such as interpretation, events

and signage (LDTG 2004:v). Another alternative is labeled a "no-action" plan in which there would be no overall administration or coordination of the trail except through the efforts of the Friends of El Camino Real. The El Camino Real Historic Trail Site, formerly the International Heritage Center, is located just south of Socorro off of I-25. Current visitor and recreational activities commemorating or interpreting the trail would continue (LDTG 2004:vi). The final alternative of this report promotes a coordinated visitor experience along the Camino Real and would be structured to promote public understanding and appreciation of National Historic Trails related resources (LDTG 2004:vi). All three recommendations call for joint National Park Service and Bureau of Land Management administration of the trail as well as the recognition of grandfathered and valid existing rights on public lands.

In the plan, La Bajada is listed as a High Potential Historic Site (LDTG 2004: 218). High Potential Historic Sites include "those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use. Criteria for consideration as high-potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion (LDTG 2004: 185)."

HAER Report 2008

Santa Fe County hosted an Intergovernmental Summit in July 2008 to present findings from the (Historic American Engineering Record) HAER Report (SFC 2008). Centered on cultural landscape planning, the summit explored best practices for La Bajada and endeavored to promote an understanding of the spirit of place and its importance to regional identity and community planning. Presenters used Geographic Information Systems (GIS) and aerial photography of La Bajada to illustrate cultural landscape analysis and preservation planning (SFC 2008:2). The challenges of studying the La Bajada cultural landscape, notably the lack of a comprehensive landscape management plan and the multiple governing jurisdictions involved, including the U.S. Forest Service, the Bureau of Land Management, Cochiti Pueblo, La Bajada Village and Santa Fe County, were acknowledged (SFC 2008: 3).

The HAER Report and the Intergovernmental Summit hosted by Santa Fe County emphasize the need for working with the wide array of stakeholders present in the La Bajada cultural landscape to create a management plan for preservation and development. These efforts led to the creation of a report entitled La Bajada Mesa: Balancing Multiple Interests (Lyons et al. 2008). This University of New Mexico student report compiles interviews and stakeholder desires to propose a two-part management plan for the area. Criteria for the plan include the concepts of transparency, feasibility, fairness, communication between the stakeholders and complete and reliable information (Lyons et al. 2008:22). The two-part plan begins with a recommendation that the Santa Fe County Planning Commission meet

with the La Bajada Village Association to develop a community plan that will address historical designation as well as long-term economic and community development options. Currently the village has no long term plan for preservation or development in place. The plan also suggests that the University of New Mexico and McCune Foundation act as advocates for Cochiti Pueblo in a dialog to include Santa Fe County, the U.S. Forest Service, and the Bureau of Land Management (Lyons et al., 2008:23). Part two of the recommended plan calls for the formation of an inter-governmental, extra-jurisdictional organization that would have the power to make decisions across the landscape instead of in a piecemeal fashion. The membership of this governing body would be composed of Cochiti Pueblo, the Bureau of Land Management, the U.S. Forest Service, and Santa Fe County (Lyons et al., 2008:4). The report also details the complexities of all parties involved, further emphasizing the need for collaboration between stakeholders.

Camel Tracks Road Rehabilitation and Fencing Project 2011

In 2011, the BLM published the Camel Tracks Road Rehabilitation and Fencing Project document. The intent was to conduct an environmental assessment and upgrade "3.3 miles of the heavily eroded and braided Camel Tracks Road on La Bajada Mesa (BLM 2011: 7)." The project ultimately upgraded the road from a "primitive" classification to a "road" classification (BLM 2011: 7). The definition of a primitive route is "a route managed for use by four-wheel-drive or high clearance vehicles which does not meet any BLM road design standard (BLM 2011: 7)." A road is defined as "managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use (BLM 2011: 7)." The road, prior to improvement, is described as having "never had drainage issues corrected nor has any kind of gravel surfacing been applied. In the worst spots the road is over 100 feet wide (BLM 2011: 7)." This is generally consistent with the road conditions on the Forest Service portion of the road. The purpose of the project was to "improve and stabilize the road and associated drainage, while eliminating and reclaiming the proliferation of braided routes and reducing opportunities for illegal dumping (BLM 2011: 8)." The proposed action addresses the following BLM management objectives:

"1. To bring the road up to BLM standards,
2. help prevent illegal dumping,
3. control water runoff and erosion to protect soil health and surface water quality, and
4. protect the historic Route 66 that travels the length of the project area and is either within the road bed or within a few hundred feet (BLM 2011: 9-10)."

Final Environmental Impact Statement for Travel Management

In 2011, the United States Forest Service (USFS) compiled an Environmental Impact Statement for Travel Management and implemented a Travel Management Decision in the Santa Fe National Forest (SFNF) which closed

many roads in order to protect natural and cultural resources. This was done in response to a proposal made by the Santa Fe National Forest Supervisor to make changes to the current system of roads, trails, and areas open to motorized travel.

The Final Environmental Impact Statement (EIS) for Travel Management recommends reducing the number of roads, motorized trails and specific areas designated for motorized uses, with an emphasis on the elimination of motorized cross-country travel to keep from compromising the natural and cultural resources of the SFNF (USDA 2012:i).

Five primary issues were identified through public consultation in the environmental impact study: (1) the negative impacts of public motorized travel on natural and cultural resources, (2) the negative impact on public motorized experiences caused by the reduction of the amount and type of motorized vehicular access, (3) motorized access for the retrieval of big game, (4) motorized access for camping, and (5) conflict between motorized and non-motorized uses (USDA 2012: iv-v).

These issues informed the development of five action alternatives. The relevant alternatives are 2 and 2M, as we will indicate.

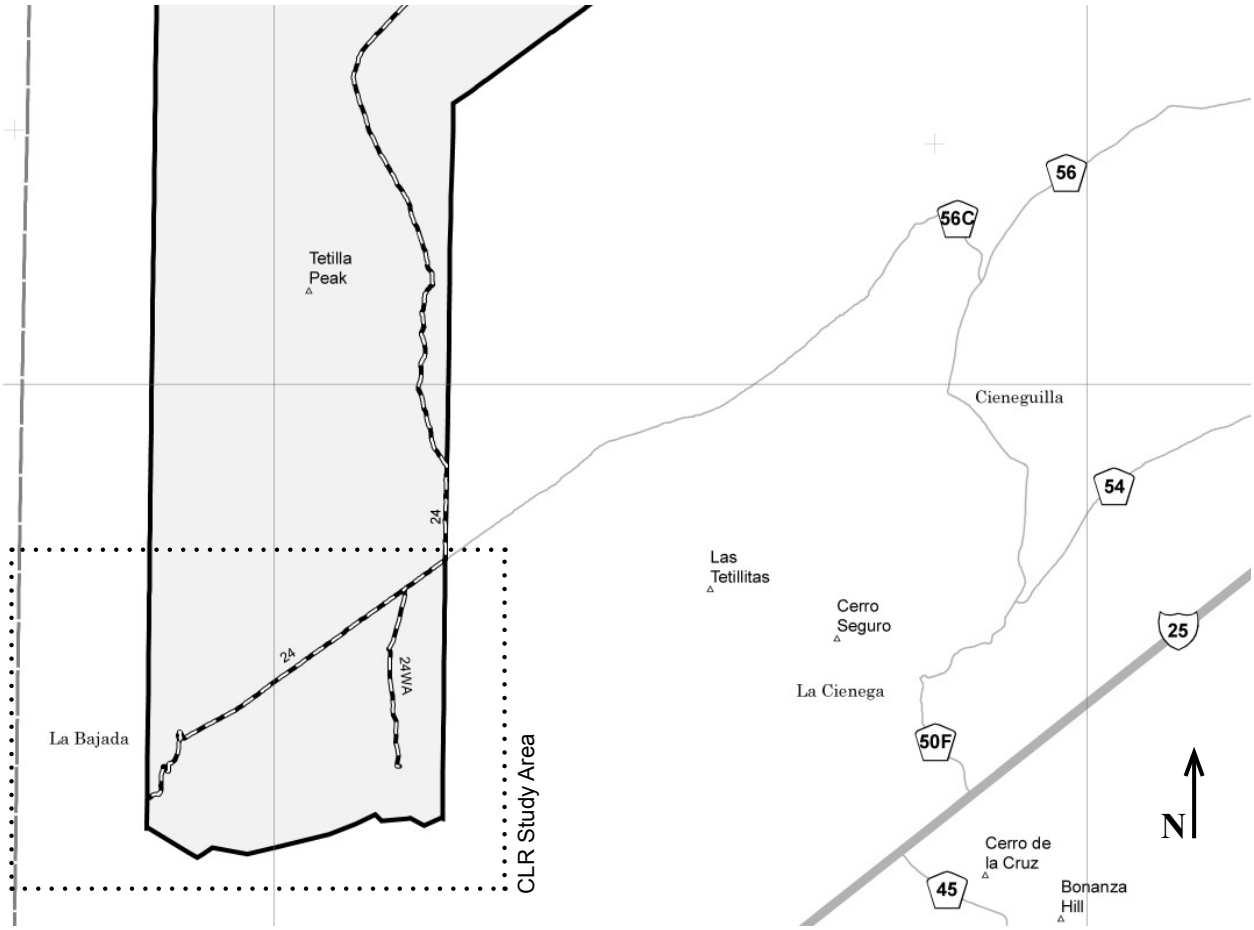

Fig. 73 Enlargement of Santa Fe National Forest Motor Vehicle Use Map showing the roads that were left open and accessible under the Record for Travel Management decision, as well as the CLR study area and adjacent context. (USFS)

Under alternative 2, La Bajada would no longer be designated as an area open for cross-country motorized vehicular travel. The motorized use of the area would be dramatically reduced, as all roads are proposed to be closed except NM-1 (FSR 24) and a north-south road designated FSR 24WA south of NM-1, which would remain open to all vehicles (see vehicle use map below). All motorized cross-country travel off designated National Forest system roads, trails and areas shown on the motor vehicle use map would be prohibited except as allowed by permit or other authorization. Motorized access to dispersed camping would be maintained in those corridors where it currently occurs except for areas where Forest Service staff has identified unacceptable resource damage during field surveys. Motorized access for dispersed camping and big game retrieval share the same corridors. Any impacts to cultural resource sites or traditional cultural properties are to be addressed and mitigated by the Forest Service. There is also a provision for several seasonal closures.

Alternative 2M is similar to Alternative 2, but reflects modifications that are a result of public comment and subsequent analysis.

Similarly to alternative 2, under 2M La Bajada would no longer be designated as an area open for cross-country motorized vehicular travel. All existing roads would be closed except Forest Service Roads (FSR) 24 and 24WA. These existing designated roads would be maintained and kept open to all vehicles.

Likely due to the area's susceptibility to soil compaction and braiding, under 2M the roads at La Bajada are not designated as dispersed camping/big game retrieval corridors.

A Record of Decision for Travel Management on the Santa Fe National Forest was issued in June 2012, adopting option 2M. A vehicle use map was published to be used for the implementation and enforcement of the decision.

The direct application of this ruling to La Bajada is the closure of all mesa-top roads except Forest Roads 24 and 24WA. FR24 runs from approximately the fork on the western escarpment where the NM1 and Route 66 switchbacks diverge from one another east to the Forest Service/BLM fence line before turning north toward Tetilla Peak. In the eastern part of the study area, 24WA leads south off 24 to the corral and water tank cluster discussed below. The remaining roads are only open to permittees (grazing and outfitter guides).

Concurrent La Bajada Studies

Including this phase of the Cultural Landscape Report, there are four concurrent projects that concern the La Bajada cultural landscape. The other three include an interpretive plan for the site, an escarpment road evaluation and stabilization project, and a metal detecting archeological survey.

La Bajada Interpretive Plan

Completed in October 2015 by Valenzuela Preservation Studio, this report is a compilation of the outcomes

of meetings with the Forest Service, partners, and stakeholders for the planning at La Bajada Mesa. It identifies and addresses the issues connected to the current use and proposed uses of La Bajada Mesa in an attempt to increase the quality of interaction between users and the land through the establishment of interpretive resources.

The main management goals include:

Administration:

- Establish interagency agreements between Forest Service, BLM, and NPS.
- Develop partnerships with regional organizations and communities to promote the site.
- Encourage promotion of La Bajada by conservation groups.

Resource Protection:

- Encourage stewardship of the site by native tribes and traditional communities.
- Promote volunteer activities that assist in research, inventory, and protection of the resources of La Bajada Mesa.
- Create research-needs plan to engage associated groups in site-specific research that can be incorporated into future educational materials.

Visitor Experience:

- Educate users through recreation.
- Install kiosks at two entry points to La Bajada Mesa and explore low-impact interpretive media options to educate existing users.
- Promote and support off-site events related to the significance and history of La Bajada Mesa.

The following are the main issues identified in the interpretation plan:

- The location of the site is remote and hard to reach without a high-clearance vehicle.
- The site is not accessible to people with mobility or vision impairments.
- There are no Forest Service staff members solely assigned to La Bajada.
- The attraction of new users and their effect on the landscape will increase with the proposals put in place.
- Stakeholders are concerned that with increased users there is a possibility of damage to property, trespassing, increased vehicle traffic, and negative impacts on native people's access to traditional cultural resources.

The meetings identified what appear to be conflicting desires: how to attract more visitors to the site while protecting it from increased usership.

The current users have been identified as three groups (Valenzuela 2015:12):

1. Recreational
2. Educational
3. Traditional

By implementing the plan, the Forest Service hopes to attract well-informed and responsible visitors to La Bajada. A comparative study of similar federally-managed sites within the region was put together to evaluate how they operate around this topic. The 11 sites covered many issues shared by La Bajada. The following is a list of what the group

determined to be the best course of action for a Future Interpretive Program for La Bajada:

- Streamline the permit process. Make it available online (Valenzuela: 20).
- Include education about the importance of the landscape and features as part of the permitting process (Valenzuela: 16).
- Offer guided tours which are partnered with local historic sites, museums, and educational sources. Formats may include audio tours, GPS guided tours, online/virtual tours, or installed wayside panels. All tours should be offered in both English and Spanish (Valenzuela, 18).
- Utilize the BLM's Site Stewardship Program which is "dedicated to protecting and Preserving Cultural and historical resources." (Valenzuela, 19)
- More resource-based research, images, and data files should be made available through the website. Partner with education programs that provide outreach to schools (Venezuela, 23).
- With the increase of visitors it is important to track who is visiting the site; where are they coming from; how they are hearing about it; and what they think of their experience.

Valenzuela recommends hiring a quarter-time employee as an outreach coordinator for La Bajada Mesa. All of these suggestions lead to attracting visitors who are educated about the landscape while managing and minimizing the impact of the users on the site.

Valenzuela proposes an implementation plan with goals identified and prioritized as high, medium, or low priority. High priority goals would start within one year and be completed within two years of the start date and have a significant impact on the interpretation of La Bajada Mesa. Medium priority goals may be a several-year project to be started in two to five years and will impact future interpretive endeavors. Low priority goals can be implemented in the long term and are not critical to interpretation at La Bajada mesa (Venezuela, 33-37).

High Priority

- Develop special programs and events.
- Expand staffing and training in interpretation at La Bajada.
- Continue site stewardship program.
- Install wayside panels.
- Develop exhibitions with partners.
- Develop resource library.
- Identify collections needs.
- Create lesson plans.

Medium Priority

- Update permit process.
- Develop guided interpretation program.
- Enhance online representation.
- Create audio tour.
- Install carsonite markers.
- Create bilingual materials.
- Conduct visitor based research.
- Develop junior site stewardship program.

Low Priority

- Create GPS tour.
- Create online/virtual tour.
- Create eBook/study guide.

Road Stabilization Plan

Between September 13-14, 2013, the La Bajada area experienced approximately 4.5 inches of rainfall in a 24 hour period. These 4.5 inches constituted a 2000-year storm event and resulted in much erosion damage along the steep escarpment roads (Stevens, et. al. 2015: 6).

The NPS entered into an agreement with Cornerstones Community Partnerships (CCP) to conduct reconnaissance and compile a condition assessment of the escarpment roads, which was then used to guide the treatment recommendations. This project was enabled from funds provided by the USDA through the USFS regional national trails office.

The escarpment road evaluation and stabilization was conducted by CCP between 2014 and June 2015. CCP, in conjunction with NPS and USFS, identified eight high priority road segments in need of repair, stabilization, or both (see map below).

Prior to this storm event, F. Scott Worman (University of New Mexico Office of Contract Archeology) assessed some of the retaining wall conditions on Route 66 descending the escarpment road and noted their current state in 2006. A comparison of these two reports allows us to know what damage existed prior to the storm and what action needs to take place to remedy any further deterioration.

Generally speaking, all treatment recommendations advocate following the natural course of water flow down the escarpment while reinforcing existing structures and taking means to reduce the erosive potential of the water and moving it off the road.

Section one as noted on the map consists of road erosion and a wall breach (Estrada 2014: 4) caused by "runoff flowing down the depressed segment of the road and the natural drainage from the hillside to the east of the road." (Stevens, et. al. 2015: 7) Worman also noted several gaps where the wall had fallen and areas where the wall was leaning outward (Worman 2006:104).

At section one, Cornerstones recommends mitigating road erosion by filling ruts with local stone, stabilizing the wall breach, but leaving the breach as a location to move water off the road (Stevens, et. al. 2015: 9).

Section two consists of several wall breaches and road erosion (Estrada 2014: 15) caused by runoff concentrating from the eastern hillside and in the depressed segment of the road (Stevens, et. al. 2015: 7). Gaps along the switchback in particular were noted by Worman (Worman 2006:104.

Along section two, treatment would be approached in a manner similar to that at section one. Several wall breaches would be selected to be reinforced and used as locations for moving water off the road (Stevens, et. al. 2015: 9).

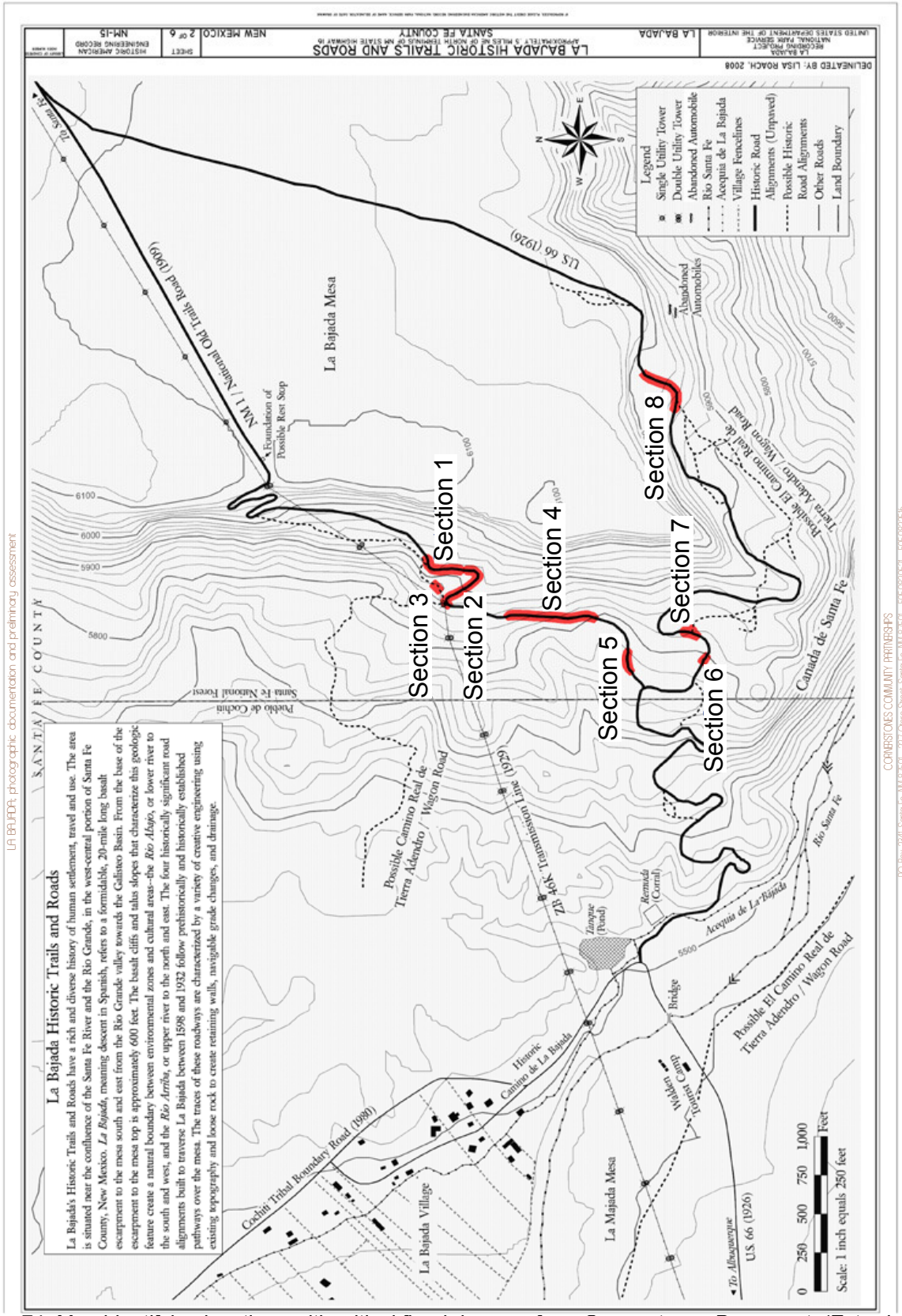

Fig. 74 Map identifying locations with critical flood damage from Cornerstones Document. (Estrada 2014: 4)

Section three is an arroyo cut formed below one of the segments of territorial wagon road (Estrada 2014: 26) by the concentration of runoff from at least four different sources (Stevens, et. al. 2015: 7).

Section three currently has a naturally formed arroyo just west of the segment. It is serving as an effective way to remove water from the mesa and direct it to the Camino Real. No maintenance is recommended in this section (Stevens, et. al. 2015: 9). (Despite the Cornerstones recommendation, long-term care of the Camino Real will be compromised by concentrated water erosion, since other priorities were identified that demand more immediate attention.)

Section four is a long (approximately 140 meter) segment of road with road bed incision and several wall collapses (Estrada 2014: 36). The road in this segment is less steep than other locations, and has a lower peak flow(Stevens, et. al. 2015: 7), but the lack of opportunity for the road bed to shed water means water is concentrated, thus increasing its velocity and erosive potential. It is important to note that in Worman's 2006 report he observed that the wall in this area was in good condition (Worman 2006: 104).

The wall breaches in Section four need to be repaired and the wall stabilized. The openings in the wall where the natural drainage crosses the road should be retained, thus allowing the water to exit the road (Stevens, et. al. 2015: 9).

Section five consists of a severe, deep erosion cut upslope from the intersection between NM1 and Rt. 66 (Estrada 2014: 61). The main cause of this cut seems to be that "runoff from the hillside to the southeast divides at the top of the segment, some of the flow remains on the southeast side while the rest flows down the northwest side of the road. At the bottom of the segment the two flows come together at right angles to each other (Stevens, et. al. 2015: 8)," forming a vortex and exacerbating an already highly erosive condition. In addition to the erosion, which was also noted by Worman to a lesser degree, he speaks about a 4 meter collapse near the lower end of the section (Worman 2006:104).

The division of water at the top of section five should be stopped and the flow of water on the southeast side of the road should be maintained. This will mitigate the whirlpool effect by stopping the convergence of the two channels. Check dams should be put in place using local stone to control the erosion in the large arroyo (Stevens, et. al. 2015: 9).

Section six consists of an erosion cut along Route 66 below the convergence of 66 and El Camino Real (Estrada 2014: 66). "A small gap of 1.5 m has fallen," Worman noted of the adjacent retaining wall (Worman 2006:105).

The section six repair is minimal. Small check dams should be constructed at 20-ft intervals in the existing arroyo to slow water flow (Stevens, et. al. 2015: 9).

Section seven consists of erosion along Route 66 downhill from where runoff from 66 and two parallel alignments of the Camino intersect (Estrada 2014: 71).

Although there were several portions of the retaining wall that had collapsed, Worman noted that the majority of the wall was intact (Worman 2006: 106).

Cornerstones does not provide any treatment recommendations for section seven (Stevens, et. al. 2015: 9).

Section eight consists of severe erosion along Route 66, resulting in exposed fiber optic conduit (Estrada 2014: 74). Several parallel routes have been created around the eroded portion of the road. In 2006, several segments of wall had collapsed (Worman 2006:106).

Due to the high velocity of water movement through section eight and the delicate nature of the exposed conduit, first priority is to slow the water. The recommended improvements include placing check dams to spread and slow water uphill from the erosion and "filling the eroded area with natural stone" (Stevens, et. al. 2015: 9).

Metal Detection Survey - Summary

The metal detection survey team has completed the sample survey of approximately 3.6 of 4.6 miles of the Camino Real on land administered by USFS. They have also completed 2.3 of 3 miles on land from the BLM. The survey includes 0.8 miles of road segments on the escarpment, which are associated with NM 1/ Route 66. All data identified on the escarpment segments is reflective of pre-1890 utilization (Haecker: 2015).

The sample survey has recorded 1,132 artifacts; the majority of these date to the Territorial-early Statehood periods (circa 1870-1920). Transportation of these artifacts was by wagon, horseback, and automobile. Notably, a 15 inch-long stake was found with an attached ring at the head thought to be used to shackle prisoners during the period of construction of the NM 1 retaining walls.

Many cans and bottles have been found reflecting the consumption of food and beverages in the area. Ammunition cartridges have also been found, dating from the 1870s into the early twentieth century.

Four Spanish Colonial artifacts were discovered on USFS land and two more on BLM land. These artifacts include a horseshoe nail, awl, and two Spanish-type bridle jingles (Haecker:2015).
The survey of the Camino Real on La Bajada Mesa was completed in August 2015. However, completion of the survey within the Caja del Rio is dependent on access being granted by Cochiti Pueblo. The two-track area on Cochiti Pueblo land is currently not open to the public.

4
Existing Conditions, Statement of Significance, Analysis and Evaluation, and Determination of Integrity

Existing Conditions

The following discussion consists largely of the Existing Conditions discussion from Phase 1, with some key updates following developments over the course of the four years between phases. The primary focus of this CLR is the road network as it exists on USFS land. Other studies have focused on the village and escarpment, and these have been summarized in the literature review (Appendix 1) and included in the bibliography. We have also included discussions of the Puebloan agricultural features, grazing features, boundary features (fencing, etc.), and vegetation.

For the purposes of this document, the investigators conducted a number of reconnaissance trips to the landscape and road network. All information presented is the result of visual observation conducted during these trips. An archeological investigation was not conducted as part of this CLR. However, numerous archeological studies have been conducted in the general area that have informed the CLR, which are summarized elsewhere in this document.

As mentioned, there have been some important changes to the landscape since the completion of Phase 1 of the CLR in 2011 -- notably, the continued establishment of user-created roads parallel with some of the worst sections of mesa-top roadway as well as flood damage to several locations along the escarpment roads. Additionally, most roads atop the escarpment on USFS lands have been closed to vehicles (administrative) per the SFNS travel management decision of 2012 (USDA 2012).

Puebloan Agricultural Complex

The top of La Bajada mesa is the site of an extensive Puebloan agricultural complex that seems to have been in cultivation in the 1300s (Gauthier 1982: 2). Generally speaking, the remaining structures seem to be in good condition. Most structures are made of basalt cobbles and include cairn gardens, grid gardens, linear cobble berms, cobble check dams, and the remains of field houses.

The Puebloan agricultural features are diverse and extensive. By and large, these features remain intact. A few are threatened by their proximity to roads, but with some notable exceptions, the features are far enough from any road so as to not be greatly impacted by the level of use at present (in 2015). The USFS Travel Management Decision will also likely help protect these features from accidental destruction.

Since 1915, archeologists have been visiting La Bajada and documenting their many findings. These include agricultural sites, pueblos, and historic artifacts from people's visits to the area. Archeologist Rory Gauthier documented Puebloan agricultural features covering approximately 100 acres of the mesa top in 1982 (Gauthier 1982:3). One of the larger of his discoveries is the agricultural rock piles that cover a vast area of land on the mesa.

Gauthier suggests that these rock piles were likely used to "create a warm and wet micro climate which was

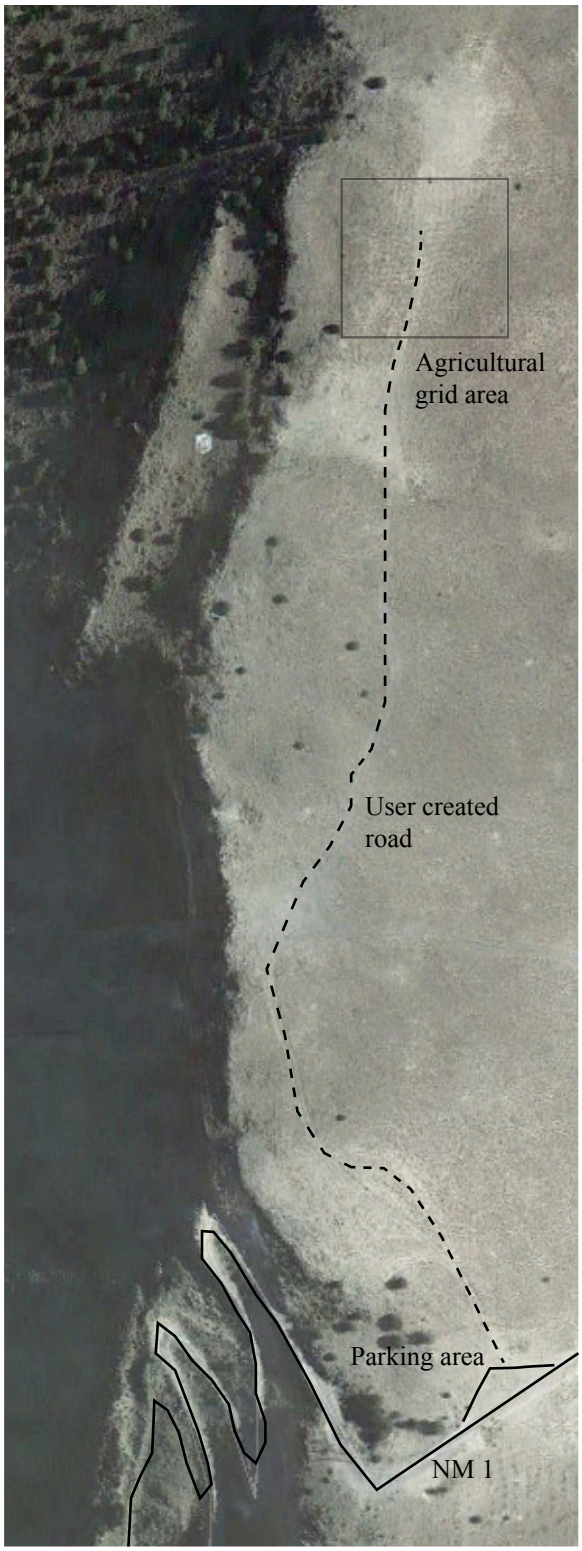

Fig. 75 Google Earth image showing the user-created road extending north from the point where NM 1 heads down the escarpment face. Note the faint grid pattern of the cobble piles at the northern extent of the road. Image date: 6/26/14.

used by the Puebloans for agricultural production" (Gauthier 1982: 2-3). It is believed these piles were constructed and used from the fourteenth to the early fifteenth centuries. They are placed two to three meters apart in a regular grid pattern (Gauthier 1982: 5). Also studied by archeologist Peggy Gerow, the rock pile field is bisected by the old Route 66 road and stretches "approximately 360 m long by 25 m wide" (Gerow 2004: 97). Individual rock piles vary in size from only a few rocks that have clearly been displaced, to piles made up of 100 or more stones. The shapes of the piles also differ. They are found in round, oval, rectangular and irregular forms. During a study of the area in 2005, 124 piles were identified directly northeast of the escarpment in the area north of Route 66 (Gerow 2005: 72).

Due to the period of time that has elapsed since their use and the elements coming into contact with them, many of these formations have become slightly buried through sedimentation or moved from water flow. Even with the deterioration of the individual mounds, they are still visible, especially from an elevated vantage point. They are highly visible from aircraft, which speaks to the expansiveness of the layout (Worman 2004: 217).

General consensus is that the piles were used in agricultural production to support the village below. It is believed that they functioned by collecting condensation on the surface of the rocks and channeling that water down to the ground and plantings below. This is consistent with rock piles found in many other locations around New

Mexico and the rest of the southwest (Worman 2004: 218).

Due to the topographic nature of the escarpment, storms are more likely to develop in this area. Summer storms as well as winter precipitation track along the edge, producing more water in this area than in the nearby mesa top and even the lowlands to the south (Gauthier 1982: 6).

These features are innovative in that prior to this time the collection of water to ensure a successful harvest had been limited to two methods: diversion and conservation methods. "Diversion consists of changing the course of a permanent water source or an intermittent source into ditches or canals which then take water to the agricultural fields. Conservation is simply constructing various types of features to slow moisture evaporation from the soil (Vivian 1974)."

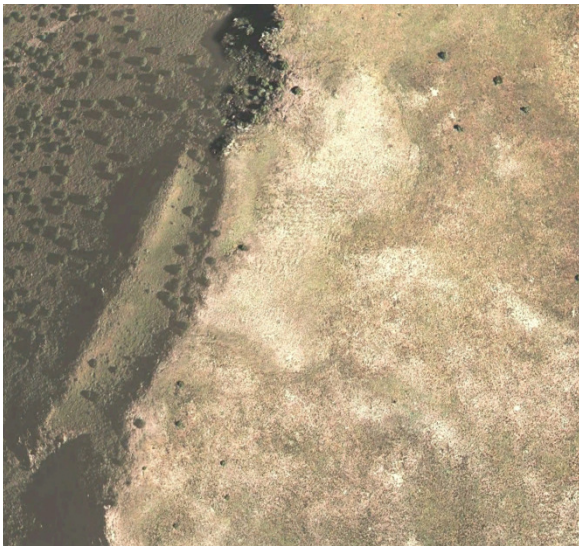

Fig. 76 Google Earth image from 2005. Note the linear and gridded features. At the time this photo was taken, there appears to be comparatively little disturbance to the area in question. Image date: 4/7/05.

With a couple of notable exceptions, most grids are located away from roads and are, therefore, not likely to be impacted by any vehicle activities.

One exception consists of those gardens located just south of FR 24 at the top of NM 1. It appears that drivers frequently turn around in this area, and are driving close to a linear cobble feature and several cobble piles.

The other notable exception is an area where the agricultural features are actively (though likely unintentionally) being damaged by users by the creation of roads.

Two recent user-created roads extend north from NM 1 and converge at a point approximately one-tenth of a mile north of the area noted above where people park. From the point of convergence, another road extends north/northeast. This road bisects

Fig. 77 Google Earth image from 2013. At the date this image was taken, the road through the field feature is well-established. Note the presence of what appears to be a carpet remnant in the lower left corner of the picture. Image date: 10/4/13.

what appears to be a large gridded field of cobble piles. Based on aerial photography, the field measures approximately 250′ (north-south) by 100′ (east-west). At the northern end of the field, it appears that users have been parking and turning vehicles around. Cobble cairns are being driven over and flattened out and the cobbles dispersed.

The area seems to be the location where local hang-gliding clubs launch and land.

There are a number of stainless steel anchoring stakes in the area as well as flags along the escarpment edge that

Fig. 78 Two linear cobble features bisected by user-created road. Photographed on May 1, 2015.

Fig. 79 Steel anchor. Photographed on May 1, 2015.

Fig. 80 Basalt gravel strip. Photographed on May 1, 2015.

Fig. 81 Area where carpet remnant was located in the 2013 aerial photo. Note the lack of vegetative cover, leaving the area more susceptible to damaging erosion. Photographed on May 1, 2015.

Fig. 82 Steel anchor, chain, and strap. Photographed on May 1, 2015.

appear to be for judging wind direction. At the northern edge, someone has laid out a strip of basalt gravel. The strip measures approximately 25′ by 10′.

The vehicle use and other activities appear to have caused substantial damage to the archeological resources in the area.

Road Network

The mesa top and escarpment face represent two distinct underlying conditions as they relate to the existing roads, their level of use, and patterns of use. For this reason, the discussion of existing road conditions at La Bajada has been broken into two categories: escarpment roads and mesa top roads. The greatest impacts on road conditions on the escarpment come from water erosion and destruction of retaining walls. Erosion is likely partially tied to vehicle use on the steep slopes of the escarpment. The strongest impacts on the mesa top come from erosion and braiding. Braiding is the spontaneous creation of parallel routes by users.

The road network discussion is further broken up into US66/NM1 and Camino Real sections. The Camino Real is largely unused, and therefore not under the same degree of user-generated stress as US66/NM1.

U.S. 66/NM 1:

Escarpment Roads

Erosion of the roadbed and the slow collapse of retaining walls have deteriorated road segments on the escarpment. The investigators have

Fig. 83 Facing northeast up U.S. 66.

Fig. 84 Condition 1. Note the vehicle tracks immediately adjacent to the retaining wall.

Fig. 85 Condition 1. Note the vehicle tracks immediately adjacent to the retaining wall.

observed five conditions that seem to be contributing to the collapse of retaining walls.

1. The roadbed is narrow and eroding above the retaining wall. The outward pressure on wall structure from vehicles seems to be gradually pushing the retaining walls out. The investigators have observed vehicles driving up and down the escarpment on several site visits.

2. Erosion directly behind the walls is causing the back side of retaining structures to crumble into the road. This causes the wall face to become unstable and fall outward, down the slope.

3. Destruction by hikers and livestock. This occurs when hikers venture off the road over retaining walls and cut across the landscape and when livestock wander off the road to graze the grassy areas alongside it. The dry-stacked rocks are knocked loose over time.

4. Unclear wall expansion. In this situation, the wall does not appear to be affected by erosion, vehicle activity, or hikers and livestock, but the walls are expanding outward from the slope. Possible explanations are freeze/thaw action (hydrostatic pressure), improperly consolidated or unconsolidated fill behind the walls, plant roots pushing out the walls from behind, or comparatively poor roadway construction in certain locations.

5. Destruction by all terrain vehicles (ATVs). In 2011, during Phase 1, a number of ATV tracks were observed off-road on the escarpment face. However, in 2015, it appeared that ATV

Fig. 86 Condition 2. Wall is crumbling in the foreground due to the roadbed eroding away from the back.

Fig. 87 Condition 3. Hikers cutting up-slope between switchbacks have knocked the boulders comprising the wall loose.

Fig. 88 Condition 4. The wall just to the left of the shrubs is beginning to spread outward and, if not stabilized, will eventually fall.

use had decreased, or at least is now taking place on the roads. However, because off-road ATV use has such a great potential for destruction of natural and cultural resources, we have decided to include the discussion in this document.

Road and wall destruction occur when ATVs are driven off-road, many times following the paths of the hikers or livestock trails over retaining walls and further damaging them. The ATVs being driven off roads are also resulting in many new ATV paths throughout the landscape. These secondary roads imprinted on the landscape are creating a new road network, or 'spaghetti' traffic pattern, that can destroy the integrity and undermine the structure of the historic routes.

Generally speaking, where the roadbed is not eroding and the lane of travel is set back from edges two or three feet minimum, with no hikers taking shortcuts over them, the retaining walls are in remarkably good shape for dry-stacked masonry.

Perhaps the most detrimental recent impact to the escarpment roads came from a series of remarkably intense rainfalls and resultant flooding between approximately September 10-18, 2013 (NOAA 2015), following several months of drought. A number of retaining walls were damaged and required repair and treatment. These are outlined in the Cornerstones document "La Bajada: Historic Roadbed and Retaining Walls Assessment and Stabilization." (see Management Summary) Cornerstones identified eight priority sections of damaged roads along NM1, Route 66, and the possible Camino Real/Wagon road north of the ZB-46KV transmission line.

Erosion cuts were observed prior to treatment in the roadbed in many locations. Erosion above and below the road could become a problem in the future if not addressed.

The roadbed will continue to channelize and degrade unless steps are taken to stabilize it. Channelization changes historic drainage patterns for which the road was designed and can result in destruction of hillside features other than the roadbed itself. Historic drainage patterns along the roads should be maintained as much as is practical.

In 2015 and early 2016, Cornerstones Community Partnerships enacted a series of repairs (as discussed previously) to several sections of the road and retaining walls that were damaged in the 2013 flood (see map, page 59).

At Segment One, they installed rock in the roadbed to curb erosion and repaired the wall on either side of

Fig. 89 Segment One repairs. Note the cobble in the cut in the road bed and the repairs to the wall breach.

Fig. 90 Segment One repairs. Facing upslope toward the breach. Note the repairs to the wall on either side of the breach.

Fig. 91 Segment Two repairs. Breach has been repaired and a low point created.

the breach. The repairs should help stabilize the roadway and provide outfall for water that may otherwise concentrate on the road. This should help preserve the walls and roadbed over time, but the Investigator recommends further monitoring to verify there are not additional erosion problems created downhill of the breach.

At Segment Two, Cornerstones repaired the breach and created a low point in the wall for the water to escape. A small amount of cobble and rock was installed at the low point to help minimize erosion. Similarly to the breach at Segment One, this should be monitored to ensure additional erosion does not occur downhill of the breach.

Segment Four is a relatively long, straight wall segment with several breaches. Cornerstones repaired several breaches as described above. At one particularly threatened location, they installed a stone curb approximately 18″-24″ into the roadbed from the back of wall with a smooth-wire and T-post fence behind that to keep vehicles away from the wall. Though not historical,

Fig. 92 Segment Four repairs. Stone curb and fence to hold vehicles back from the top of wall.

Fig. 93 Segment Five repairs. Cobble installed at erosion head cut adjacent to roadway.

this is a good, temporary solution for protecting particularly threatened wall segments, and is 100% reversible.

Segment Five includes a severe erosion cut on the side of the road, with the head cut located immediately adjacent to the roadway. Cornerstones has installed cobble at the head cut in order to prevent it cutting across the roadway. This is a good short term solution, but additional repairs will likely be required at this location.

Segment Six is a large cut down the length of the road. It has been largely filled in with cobble at its upper reaches. Over time, additional cobble will likely be required at the lower end in order keep the erosion cut from expanding.

Segment Eight consisted of severe and extensive erosion along the upper Rt. 66 portion of the escarpment road. This was largely filled in by Century Link in February, 2015 (Stephens 2015: 23).

Mesa Top Roads

As mentioned, one of the greatest impacts to the landscape on the mesa top is road braiding. Braiding is the creation of parallel/interwoven tracks outside the main roadbed that result in a wider roadway than that which was present historically. The cause of road braiding seems to be dependent on the slope of the road and the nature of the soils.

In flat areas, there tends to be more deposition and soil creation, resulting in a deeper layer of soil over the basalt substrate than in sloped areas. The clayey soil that comprises the roadbed

Fig. 94 Segment Six repairs. Cobble installed in cut in roadway.

Fig. 95 Vehicles have begun swerving to the left around the rocky roadbed, widening the road.

Fig. 96 Drivers will seek alternate routes around areas where rocks protrude as little as three inches. The cell phone is three inches long.

in these areas turns very slick when wet and drains poorly. Because of this, the road has become deeply rutted, in places up to 18" deep.

In these areas as well, the pursuit of alternate routes seems to be a function of the established route being saturated, muddy, and deeply rutted. This combination of conditions compels drivers to drive parallel to the road in the grasslands. These new routes then become rutted and slick themselves, and the process perpetuates itself.

Additionally, in recent decades the introduction of lower-ground-clearance four wheel drive SUVs and cars seems to have resulted in people seeking parallel routes even when the road is dry simply to avoid the technical challenge of driving in the ruts.

In sloped areas, where there are more surface rocks, the establishment of alternate routes seems to be driven by the desire for a less rocky roadway. In these areas, soil is more readily eroded than on the flats, leaving the underlying basalt nearer the surface. Consequently, when soil erosion is increased through the removal of vegetation in roadbeds, the tightly packed, angular basalt substrate becomes exposed. As erosion continues, the rocks and boulders protrude from the ground more and more, and people begin driving around them. Thus, the main cause of braiding in sloped areas seems to be drivers seeking less rocky routes, as opposed to the muddy, rutted-out conditions in the flats. As new routes become devoid of vegetation, the process of erosion spreads, more rocks are exposed,and

Fig. 97 Vehicles have created an alternate route around a rocky portion of the road.

Fig. 98 The beginning of braiding. Vehicles have driven off the main road into the grassland.

Fig. 99 Braiding eventually widens the roadbed, destroying adjacent grassland. Here, vehicles have created a new route to the right of a large hole.

the road widens. The investigators have observed multiple parallel routes in places where rocks protrude as little as three inches.

The remaining segment of U.S. 66 below the escarpment west of the village of La Bajada is approximately 45 feet wide from the back of the berms on either side of the road. The investigators have observed locations on the mesa top where the main route and associated braiding combine to a remarkable total width of 95 feet, doubling the road's impact on the landscape.

Braiding is a maintenance issue. If roads are maintained in such a way that cars can easily traverse them, braiding will be reduced along with its environmental implications. This can be seen on the BLM roads leading to the USFS property which have been upgraded. While there is still some off-road traffic on parallel routes, the majority of users stick to the established routes. This may, however, result in increased visitation and use, an issue for USFS management to address.

Other recent damage has been caused by well-meaning but misguided Route 66 enthusiasts who erected a replica of a sign that was once present along NM1 at the top of the escarpment without SFNF permission. They augered two holes adjacent to the roadway, installed sonotubes, and filled them with concrete as the footings for the sign. Forest Service staff removed the sign, but the concrete footings remain. While this type of activity may seem relatively benign, allowing it to continue unchecked can result in damage to or loss of cultural resources.

Fig. 100 Concrete footing of illegally erected sign at the top of NM 1. Photographed September 22, 2014.

Overall, NM1 and Route 66 are in fair condition. There has been clear deterioration of the important historical features as a result of lack of maintenance, erosion, and excessive use. However, the roadways still occupy their original location, and the overall pattern and grade is still intact. One of the most distinctive aspects of the roadways historically was the feeling evoked by them in travelers, particularly those not from the American West. They roads still convey that sense of awe on visitors today.

El Camino Real de Tierra Adentro:

Escarpment Roads

The remaining Camino Real segments up the escarpment are generally stable. U.S. 66 and NM 1 were built along alignments similar to that of the Camino and cut across it in several locations on the escarpment. On the mesa top, the Camino is largely intact largely due to

Fig. 101 Eroded segment of El Camino Real on the mesa top with at least two parallel alignments to the right of this one. Facing southwest.

Fig. 102 El Camino Real on the escarpment.

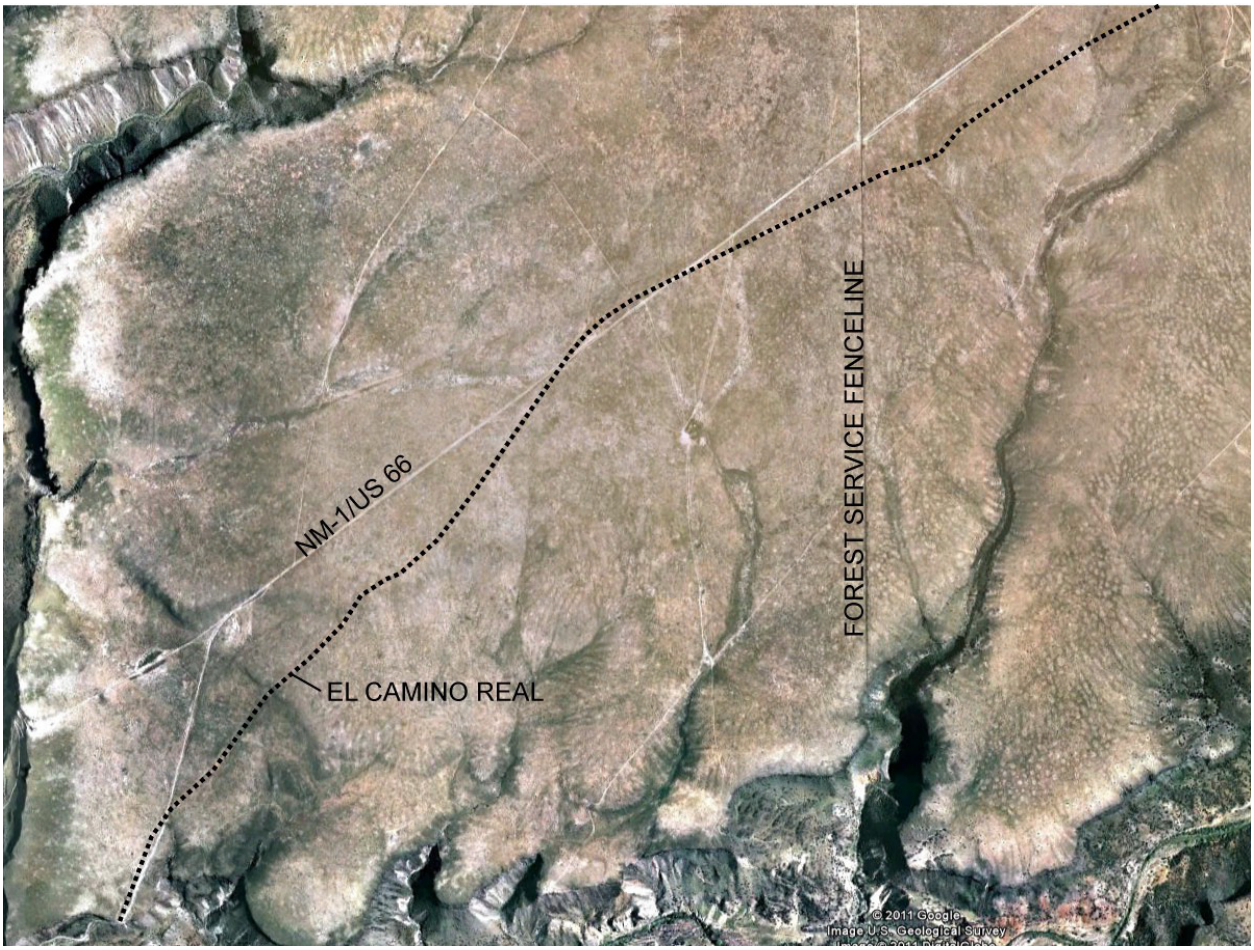

Fig. 103 Route of El Camino Real on the mesa top.

the fact that the general public does not know where the segments are and hence they have not been affected by recent vehicular use.

Mesa Top Roads

The alignment on the mesa top emerges from the escarpment face in approximately the same location as U.S. 66. It generally runs south of U.S. 66 and NM 1, except for a short portion. The road runs northeast from the edge of the escarpment approximately 1.7 miles, crosses U.S. 66/NM 1, turns east/northeast for approximately 0.3 mile, and crosses back over U.S. 66/NM 1, where it continues across the mesa for approximately 4.6 miles on USFS and BLM lands. Close to the mesa edge above La Cieneguilla, the Camino is located on private land.

The road is stable for the most part. There are no remaining ruts. Instead, the road is evident as a shallow, vegetated swale. The southern mile of the road is marked by a cow path. Concentrations of snakeweed are more dense in some segments of the roadbed and serve to highlight the route.

Fig. 104 El Camino Real atop the mesa. Note the cow paths and heavy concentration of snakeweed in the middle of the photo.

The road form varies with the terrain. In flat areas, the road seems to widen, resulting in a swale of variable depth, the main trail being the deepest part. When the trail ascends steep terrain, it seems to follow between one and three narrow routes up the slope, widening again as it reaches more level ground. This pattern mimics that seen on U.S. 66 and NM1 with braiding.

<u>Grazing Features</u>

The major features associated with grazing include a corral, a water feature cluster located approximately half a mile south of Forest Road 24 (FR 24),

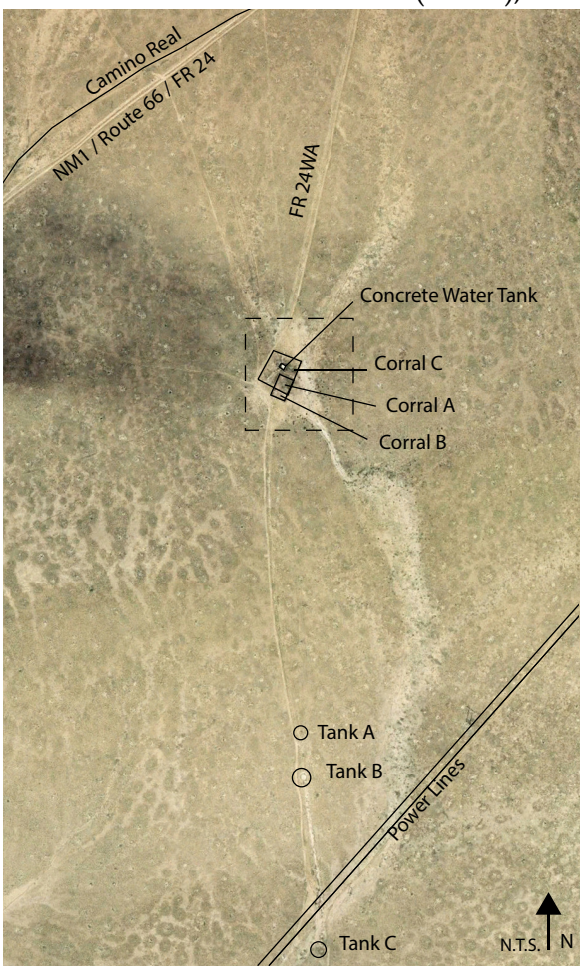

Fig. 105 Primary cluster of grazing features.

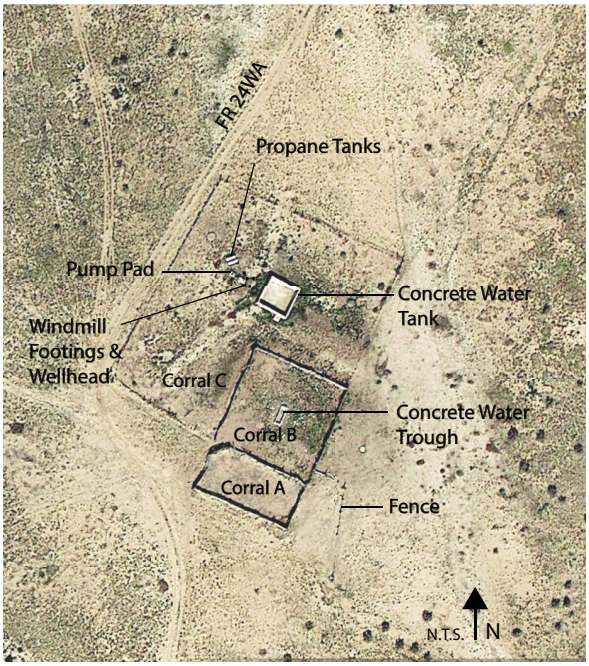

Fig. 106 Corral cluster.

Fig. 107 Detail of the construction of Corral A and B. Photographed on February 10, 2015.

Fig. 108 Corral B with concrete trough. Photographed on February 10, 2015.

and a check dam located approximately one-third mile north of FR24. The cluster consists of three conjoined animal enclosures, with their associated features.

Corrals

The southernmost enclosure (Corral A) measures approximately 80 feet by 40 feet. The enclosure immediately to the north (Corral B) measures approximately 80 feet by 80 feet. The enclosures share a fence on the north side of the southern enclosure. The third enclosure (Corral C) is roughly L-shaped, sharing a fence with the north and west sides of Corral B. The westernmost fence of Corral C measures approximately 180 feet, the northernmost measures approximately 157 feet.

Fig. 109 1920's era homesteader corral, Manzano Mountains. The construction is similar to that of the corrals at La Bajada. Photographed on July 5, 2015.

Fig. 110 1930's era animal pens at El Malpais National Monument. The construction is similar to that of the corrals at La Bajada. Photographed on September 12, 2009

Fig. 111 Corral cluster, facing south from access road. Note power line corridor in the background. Photographed on February 10, 2015.

Corrals A and B are both constructed of paired juniper posts between which logs or lumber are stacked in alternate layers. The posts are strung together with baling wire and barbed wire.

Corral C is a 5-strand barbed wire fence constructed of railroad ties, juniper posts, t-posts, and juniper stick stretchers.

Corrals A and B exhibit a vernacular style of animal pen construction of the period observed similar to that elsewhere in New Mexico. The authors have observed examples in El Malpais National Monument as well as on private land that were constructed in the 1930s and 1920s, respectively.

Fig. 112 Facing south toward Corrals A and B through Corral C. Photographed on February 10, 2015.

Water features

Water features include the footings of a steel windmill tower, the remains of a pump at the well head associated with the windmill, two propane tanks which likely were used to operate the pump, a large concrete water tank, a small concrete water trough, two steel and concrete stock tanks, and the concrete base of a steel stock tank.

Fig. 113 The windmill tower and water pump, photographed on October 28, 2010

Fig. 114 Former windmill and pump location. Photographed February 10, 2015.

Fig. 116 Concrete water tank. Photographed on February 10, 2015.

Fig. 115 Tank A. Photographed on February 10, 2015.

Fig. 117 Concrete water trough. Photographed on February 10, 2015.

Features associated with grazing have recently come under threat by scrap metal thieves. Indeed, several features have been cut up and stolen.

Since the economic downturn sparked by the real estate collapse in 2008, metal theft has emerged as a common problem. The windmill tower and pump were present during the first phase of the CLR in 2011, but have since been removed (likely stolen) along with one of three historic metal water tanks.

The large concrete water tank measures approximately 25 feet square by approximately 5′ tall and is degrading. The concrete is reinforced by 1/2 inch smooth rebar and has an irregularly sized aggregate of river rock up to 6″ in diameter.

The outlet from the tank is a concrete box, approximately 4′ square, on the east end of the south side of the tank.

The concrete trough is of similar construction to the tank. It measures approximately 15 feet by 5 feet by 18 inches in height. It appears to have been filled via a float valve toward the north end of the trough.

The first stock tank (Tank A) is located approximately one-third of a mile south of the corrals. It consists of a steel ring,

Fig. 118 Concrete foundation of destroyed stock tank (Tank B). Note the remains of walls jutting out of the concrete. Photographed February 10, 2015.

Fig. 119 Tank C. Photographed on February 10, 2015.

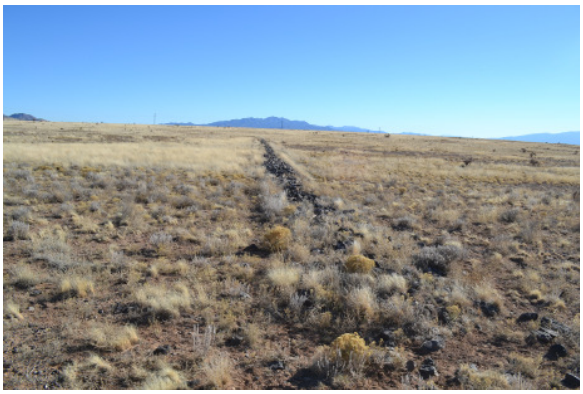

Fig. 120 Check dam. Photographed February 10, 2015.

approximately 11 feet in diameter, set into a concrete base, approximately 14 feet in diameter, with a concrete box on the east side that protects an inlet and float valve.

A crude gabion-like structure is located along the southeast side (downhill) constructed of basalt cobbles, horse wire, and t-posts.

Approximately 225 feet south of Tank A is the concrete base of Tank B. The steel ring of Tank B has been cut up and removed (discussed below). The tank was slightly oval in shape, measuring approximately 30′ from east to west and 33′ from north to south. The tank inlet still remains on the east side of the concrete base.

The third tank (Tank C) is located approximately 940 feet to the south of Tank B on the other side of the power corridor. The construction is nearly identical to Tank A, but with a 12 foot diameter. A similar gabion-like structure is located along the south and west sides of the tank.

Approximately one mile west of the corrals is a long check dam extending across a wide draw. The dam is constructed of basalt cobbles, and measures approximately 350-360′ in length by approximately 3′ wide. The dam is very straight and is aligned perpendicular to the flow of the draw. The grass is substantially more dense and tall immediately upstream of the dam, the result of retained water. The dam does not appear to be present in the 1935 aerial, but is visible in the 1947 photo, indicating it was constructed in

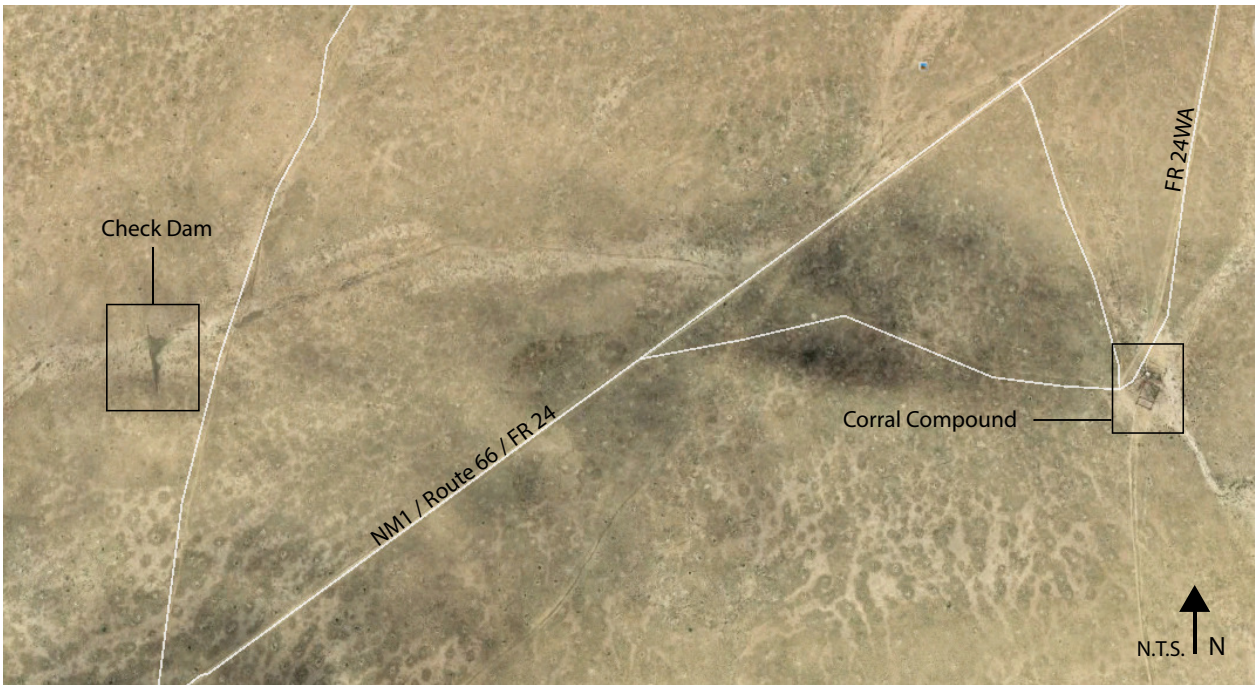

Fig. 121 Location of check dam in relation to the corral cluster. Distance between check dam and corral cluster is approximately one mile.

the same time period as the rest of the grazing features in the study area.

Forest Service Fence and Gate Features

The gate features include a gate made of horsewire and galvanized pipe which is in poor condition and does not appear to be in use. North of that gate is a lockable steel gate which is used to close the road when necessary. There is a cattle guard at the lockable gate. There are several shot-out Forest Service and BLM signs in the vicinity of the gate.

The Forest Service/BLM fence appears to be a four-wire barbed wire fence. The fence is almost completely covered in Russian thistle, so it is difficult to tell if it is four wire or five wire. Posts are a combination of juniper posts and t-posts. The fence line runs perpendicular to NM1. The gate can be closed across NM1.

Fig. 122 Forest Service/BLM gate and fence. Photographed February 10, 2015.

Fig. 123 Forest Service/BLM fence. Photographed February 10, 2015.

The Village of La Bajada as a Desert Oasis Landscape

One of the rarest forms of historic human-made landscapes in New Mexico is the desert oasis. There are only three known characteristic sites, dating from late Spanish Colonial and Territorial or early statehood times. These landscapes are typically agricultural and consist of fields and orchards as well as home gardens in a desert setting, all made possible by a dependable spring or stream originating in nearby mountains or hills.

La Bajada Village is an excellent example of this landscape form, which in New Mexico comprises, in two instances, an entire village complete with church grounds, and in one instance a ranch complex in a deep-cut valley located on a desert plain. These landscapes feature characteristic or typical wild and cultivated plant species.

La Luz, New Mexico, in Otero County just north of Alamogordo, includes an entire community made possible by the channels of conveyed water that derive from a vigorous stream flowing out of the nearby Sacramento Mountains. Small gardens are the rule here, and there is an abundance of edible figs – in both tree and shrub forms- that are the unusual and characteristic feature of the settlement.

The A-Spear ranch, west of Truth or Consequences in Sierra County, is in upper Palomas Canyon. A clear stream of water supplies this ranch complex, which, like La Bajada, incorporates the site of an earlier Native American settlement. Arizona ash trees and desert hackberries are characteristic plants. Ranching, more than farming or gardening, is the primary agricultural activity. The very hot and dry desert plain into which Palomas Creek has cut its channel lies just above this oasis.

La Bajada Village and its component landscape of small fields and gardens watered by acequias drawn from the Santa Fe River have been well described by Kaisa Barthuli in her comprehensive study. La Bajada also includes important landscape features such as corrals, stock tanks, and fences that are associated with ranching landscapes. La Bajada Village is easily viewed from the top of the nearby escarpment, making it a key visual component of the La Bajada Study area, and it is the only one of New Mexico's three primary desert oasis landscapes that may be seen and appreciated in its entirety. It also lies very near the ancient Camino Real, which runs southwest-northeast on the plain south of the village. Another segment of the Camino Real comes right into the village, thus tying two historic landscapes together in a remarkable combination.

Fig. 124 La Bajada Village.

Statement of Significance, Puebloan Agricultural Complex:

During the Puebloan Period of Significance (900-1598), La Bajada escarpment appears to have been an important landscape to the Native people. Within the study area, the basalt cobble cairns arranged in loose grids, grid gardens, linear cobble berms, check dams, and the remains of field houses were likely used in agricultural production. Gauthier estimated the area of the gardens at approximately 100 acres (Gauthier 1982: 3) He further mentions "Many different types of agricultural field systems were established in the upper Rio Grande Valley during the Rio Grande Classic period (1325-1600). However, small stone piles, such as those that make up most of the La Bajada Mesa site, have not been reported in the literature. The distribution of this type of agricultural field appears to be concentrated in and around the Cochiti and La Bajada Mesa area and extends east into the Galisteo Basin (Gauthier 1982: 8) As mentioned earlier, there is a prehistoric copper mine dating back to the Pueblo II period (900 -1100AD) (Alper et al., 2008:9) located on the north side of the Santa Fe River Canyon, and a multi-room pueblo, Pueblo Quemado, which appears to have been originally occupied in the late 13th or early 14th century and may have still been occupied at the time of the arrival of the Spanish in 1598. These features may be related, and together they can help us understand the Puebloan landscape as a whole.

According to Gauthier:

> "The significance of the La Bajada Mesa Agricultural Site can be discussed under several different topics. First, it is an excellent example of a large, fourteenth century, pueblo agricultural site (Criterion A). Second, retrievable data contained at this site could add to our information on the subjects as the reasons behind the establishment and abandonment of this site (Criterion D). And third, detailed environmental studies of the immediate vicinity around the La Bajada Mesa Agricultural Site would yield additional data on why this specific location was utilized for agricultural purposes (Criterion D) (Gauthier 1982: 3)."

Finally, the assemblage of the basalt field structures and field houses, the Pueblo Quemado settlement, the prehistoric copper mine, and other associated archeological sites make it reasonably clear that La Bajada was a major town beginning in the Pueblo II period (900-1100) with its apex falling in the Pueblo III/Pueblo IV periods (1100-1598). Though most of the features associated with other periods of significance lie between the fields and the pueblo, the archeological record indicates concurrent occupation. Therefore, the investigators feel these represent a significant and distinguishable entity, and are therefore eligible as an Archeological District under Criterion C.

Statement of Significance, El Camino Real de Tierra Adentro:

Merlan et al (2010) provide an extensive and thorough Statement of Significance for the Camino Real, which is included as Appendix 7 in this document.

According to Merlan:

> "The Camino Real de Tierra Adentro, hereinafter referred to as the "Camino Real," is directly associated with historic events of universal importance, including the colonization of North America by Europeans. For two hundred and eighty-three years (1598-1881), the Camino Real was the principal link between central Mexico and the northernmost province of New Spain. The road has national and international significance.
>
> The significance of the Camino Real is, first, that it was the primary route for exploration, conquest, and colonization of New Mexico and the northern Southwest; second, that it had a profound social and cultural influence on New Spain, conveying music, sculpture (primarily religious), household furnishings, textiles, ceramics, styles of architecture, and methods of construction of buildings, acequias (ditches), dams, and bridges, and other arts and practices, as well as adverse phenomena, such as European diseases…, into the northern Southwest; and third, that it was the primary route of trade, supply, transportation, and communication between New Mexico and the northern provinces of New Spain and Mexico City (Merlan et. al. 2010: 5)."

Merlan's statement of significance is extensive, but he provides justification for inclusion under Criterion A for the Camino's role in the colonization of North America by Europeans, particularly the Spanish; Criterion C, for its assemblage of routes, landmarks, parajes, and other associated features; and Criterion D, in that future archeology may reveal additional alignments and associated sites.

Statement of Significance, Territorial Period:

The Territorial period is marked by the first documented official attempts to make the escarpment roads passable for wheeled vehicles (coaches and wagons). This effort was largely undertaken by the U.S. Military as part of a greater national effort to improve stream and river crossings between Ft. Smith, Arkansas and Albuquerque, and a Territorial government effort to improve roads between Albuquerque and Santa Fe. By extension, the improvements are some of the first investments in basic infrastructure undertaken by the latest government to claim ownership of La Bajada. The remaining road segments dating to this period are eligible under Criterion A as they are part of the pattern of events associated with New Mexico's inclusion as a Territory of the United States.

Statement of Significance, NM 1 and Route 66:

Kammer (2002) provides an excellent and succinct Statement of Significance for the NM 1 and Route 66 segments at La Bajada in the Route 66 and National Old Trails Road Historic District at La Bajada NRHP Registration Form:

> ” Dating to Spanish settlement in New Mexico and the Camino Real, until 1931 the escarpment at La Bajada posed a formidable challenge to the development of a transportation network along the Rio Grande Valley. During the Territorial period attempts to cut a roadway up the escarpment resulted in a series of wagon road alignments, the evidence of which remains today. In 1909 with the coming of the automobile, the Territorial Highway Commission undertook a project to improve the alignment. With its cuts into the solid basalt caprock and dry masonry retaining walls, the project was heralded as an engineering wonder along New Mexico’s Scenic Highway that soon became a part of the National Old Trails Road Ocean-to-Ocean Highway. In 1924, the road was realigned along the upper slopes of the escarpment, again with much publicity regarding its engineering feats. With the creation of the federal highway system in 1926, this improved roadway became a part of the U.S. 66 and 85 alignment. That same year construction crews widened some of the hairpin turns to accommodate the buses of the newly created Fred Harvey Indian Detours. They also installed a timber bridge to replace a concrete ford across the Rio Santa Fe at the foot of the escarpment near where a rural tourist camp and service station had opened the previous year. The alignment remained a part of the highway system until 1931 when a new alignment was completed along a gentler slope three miles to the south. With its high degree of integrity, the historic district is eligible at the state level under Criterion A for its role in the rise of early automobile travel in New Mexico. The district is also eligible at the state level under Criterion C for its historic alignments reflecting siting, design and engineering practices and materials common in road and bridge construction during the period of significance (Kammer 2002: 11).”

Statement of Significance: 20th Century after US 66

After centuries of constantly increasing development, the period between 1937 and the present represents a marked retraction in the use of La Bajada. Where it was once a major feature on the main north-south corridor through New Mexico, it is now of relatively minor importance outside of its historic value in the Forest Service road network.

With construction of US 85 to the south and the subsequent loss of traffic along the old road, the population of La Bajada Village shrank, ultimately leading to its gradual abandonment in

the years after the second World War. The village was eventually resettled in the 1960s, but the construction of Cochiti Dam and Reservoir led to the condemnation and abandonment of the Village's northern fields. Finally, in the 1980s, the land adjacent to the irrigable land was transferred to Cochiti Pueblo by the USFS, leaving the Village at its current size of approximately 60 acres (Barthuli 2007:4). Dating to the 1700s, the village was present during much of the Camino Real Period of Significance and all periods afterward. It is an important and critical component of the assemblage of historical features at La Bajada.

According to Barthuli:

> "La Bajada Village is potentially significant under Criterion A for its association with Spanish Colonial settlement/land grants during the reconquest period; its role in transportation as a paraje on El Camino Real de Tierra Adentro; and for its continued service to travelers during the rise of early automobile travel on the National Old Trails Highway, NM State Highway 1 and US 66/85.
>
> The village may also be eligible under Criterion C for its high degree of integrity and expression of Spanish Colonial settlement patterns, including siting, design, and technological practices of the era. The period of historical significance ranges from 1795, when Governor Don Diego DeVargas made the La Majada Land Grant to Captain Don Jacinto de Palaez to 1931, when drought, the Depression and realignment of Route 66/85 led to a population decline (Barthuli 2007: 13-14)."

The current primary use of the landscape at La Bajada is as rangeland for livestock. This is an important topic in the history of land use in the western US, as much of our public land is used in the same way. There are a number of interesting features associated with this activity in the landscape. These features are eligible under Criterion A, as they are representative of the broad pattern of use of public rangeland in the western U.S. and its manifestation in New Mexico, as well as under Criterion C, as the features are more significant as an assemblage than as individual entities.

Analysis and Evaluation:

The analysis of landscape characteristics is based on guidance found in the NPS 2009 Cultural Landscapes Inventory Professional Procedures Guide and 1999 Guide to Cultural Landscape Reports. It seeks to establish the historic character of the landscape as designed and/or constructed and relate it to the existing condition of the La Bajada landscape and its component elements. Each characteristic is analyzed. The list of features following the analysis discussion notes the characteristic type of each feature.

An item listed as "contributing" is a landscape pattern or feature that adds to the historic significance of a property and that retains historic integrity. For the purpose of this report, all items listed as contributing can be traced to being either designed or constructed within one of the periods of significance. A "compatible" item is defined as a landscape pattern or feature that was constructed, planted, added, or changed after the period of significance in a way that continued and reflected the initial design and construction intent. A "non-contributing" item does not add to the historic architectural qualities or the historic or traditional cultural association for which the property is significant because:

- It was not present during the periods of significance or does not relate to the documented significance of the property.
- Due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity or is not capable of yielding important information about the period.

An item listed as "missing" was present during the periods of significance, but is no longer extant. A listing of "undetermined" means that there is insufficient evidence available to ascertain if an item is contributing, compatible, non-contributing, or missing.

1. Natural Systems and Features:

The geomorphology of La Bajada is largely unchanged from the earliest period of significance until now. The massive 600′ rugged, but terraced basalt escarpment is still a formidable geologic feature running north-south through a vast grassland plain. The upper plain is a rolling grassland periodically interrupted by arroyos. Juniper and other shrubs grow in the arroyos. The upper grassland is bordered by Tetilla Peak and other smaller hills to the north and the Santa Fe River canyon to the south. The lower plain is cut by the Santa Fe River flowing northwest and the Galisteo River flowing east-west. Each flows into the Rio Grande to the west. The lower grassland extends to the Cerrillos Hills to the southeast and south-southwest into Albuquerque and beyond.

The climate is similar to the surrounding areas, generally speaking, but is punctuated by slightly wetter microclimates atop the escarpment caused by the sudden uplift and slightly warmer microclimates along the south- and west-facing basalt walls. These microclimates are manifested in unusual vegetative phenomena, such as the mesquite and hop tree groves discussed

below.

Night Sky:

The night sky at La Bajada is subject to light pollution from several sources. The major source of light pollution comes from the Albuquerque metropolitan area, including Rio Rancho and Bernalillo, to the southwest. The glow is quite bright, and it silhouettes the Sandia Mountains. The State Penitentiary complex to the east is, for its size, a substantial source of light pollution. North of that is Santa Fe. Combined, they wash the entire eastern sky with light. To the north/northeast, Los Alamos, White Rock, Pojoaque, and Española combined create an even wash of relatively low-level light across the sky, silhouetting Tetilla Peak.

Despite the sources of light pollution listed, the wide-open landscape of La Bajada still affords an expansive view of the night sky.

The biggest threat to the night sky at La Bajada is continued urban expansion and its associated light footprint in Santa Fe and its suburbs, Albuquerque Metro Area, and Rio Rancho.

Acoustical Environment/Soundscape:

Acoustical environments are broken down into two types of acoustic resources: natural sounds and cultural and historic sounds (NPS 2011). Soundscape is "the human perception of the acoustical environment (NPS 2011)."

Natural sounds at La Bajada include wind, the songs of birds, and the sounds of other wildlife.

2. Spatial Organization:

Puebloan Agricultural Complex:

The Puebloan Agricultural Complex is located primarily on the mesa top near the edge of the escarpment. Rock piles are arranged in loose north-south grids. Small stone terraces are arranged along contours.

Roads:

Spatial organization of the roads, on a macro scale, was largely determined by the shortest possible route between two destinations. Generally, the Camino Real was oriented east-northeast from Santo Domingo Pueblo toward the Santa Fe River Canyon and the escarpment. Once it reaches the top of the escarpment, the Camino heads almost directly toward Santa Fe.

On the escarpment itself, the Camino Real likely originally followed existing paths dating from the Puebloan period. The road followed the route to the south, above the Santa Fe River Canyon. Over time, the route of the Camino Real likely shifted to account for changing conditions along the trail, or newly discovered or developed routes. Once it reached the mesa top, the Camino Real headed northeast before turning slightly east-northeast before descending the eastern edge of the escarpment and approaching Agua Fria and Santa Fe.

Territorial wagon roads incorporated switchbacks and reduced the grade of the road in order to accommodate wagon traffic, building over several segments of the Camino. The road followed a route to the north, away

from the Santa Fe River Canyon. Once it reached the mesa top, it seems to have headed east-northeast directly toward Santa Fe.

New Mexico 1 incorporated additional switchbacks up the escarpment in order to further reduce the grade to accommodate the automobile. It followed, roughly, the same route as the Territorial roads, to the north up the escarpment, and then headed east-northeast, apparently along the same route as the territorial road.

Finally, Route 66 further reduced the grade of the road by rebuilding many of the lower NM 1 switchbacks, and following the southern route above the canyon, similar to the Camino Real. Once Route 66 reached the mesa top, it headed north/northeast to intercept with NM1.

La Bajada Village:

La Bajada Village follows the general pattern of Spanish Colonial settlements in New Mexico. It is laid out parallel to the adjacent river with lots arranged perpendicular to the river and an upslope ditchk, or acequia, for irrigation. Houses and the main road are arranged, for the most part, uphill from the main acequia, with the fields below that.

3. Land Use:

Land use activities principally include travel by foot, horseback, mule, wagon, or automobile, farming (both prehistoric and historic), and livestock grazing.

Important historic features associated with travel include the road networks, including the Camino Real, Territorial wagon roads, NM 1, and Route 66. Threats to the integrity of the road network include overuse by four wheel drive vehicles, braiding, and erosion. The road network is oriented southwest to northeast, generally. In the flat areas above and below the escarpment, the roads are generally straight, but snake up the escarpment following the topography.

Features associated with prehistoric farming include the Puebloan Agricultural Complex. Current threats to the integrity of prehistoric farming features primarily consist of the user-created road leading to the apparent hang glider launch point.

Historic farming features include the whole of La Bajada Village, with its agricultural focus. The overall pattern of land division in the village is based on cultivation, and follows the general pattern of Spanish Colonial settlements in New Mexico as discussed in #2 above. Threats to the integrity of the village include anything that severely alters the overall pattern of lots, is out-of-scale to the rest of the buildings and structures, or is otherwise markedly different from the traditional scale, use, and quality of the landscape of the village as a whole.

Livestock grazing features include the cluster of 20th century grazing features atop La Bajada Mesa and the open grassland.

4. Cultural Traditions:

The cultural tradition of dryland farming techniques utilized by Puebloan

residents of the area in the 1300s and 1400s is clearly reflected in the landscape of La Bajada. Their fields are large and well organized. They represent a clear and sophisticated understanding of how best to collect and maximize the use of limited water resources for crops.

Cultural traditions are reflected in the road networks as well. The form of the networks is influenced by the prominence of the region in relation to its governing body as well as the form of travel. During the Camino Real Period, the area was of relatively minor importance in the context of the global Spanish Empire but of transcendent inportance to the province of New Mexico.

The road network is generally little more than a dirt swale in the plains. On the escarpment, it descends into numerous spaghetti trails, weaving their way up the slopes with no single well-established route. There is little invested in these roads because there was little to invest in terms of capital, but also because of the form of travel. Most people ascending or descending the escarpment were traveling on foot, mule, or horseback. These forms of travel do not require a well developed and refined roadbed.

With the Territorial period, we see an increase in investment, as the United States sought to improve its new territory. The road was improved to facilitate wagon travel, as commerce picked up due to access to new markets, and settlers began to arrive.

The invention and adoption of the automobile by the public at large spurred the next series of investment and improvements during the NM 1 period. This was then further refined as car culture took hold in the United States during the Route 66 period, before the escarpment was ultimately bypassed altogether by an even easier route to the south.

Acoustical Environment/Soundscape:

As mentioned earlier, acoustical environments include cultural and historic sounds (NPS 2011).

Cultural traditions come accompanied by specific sounds.

Cultural and historic sounds on the mesa top are largely absent as few of the traditional uses of the landscape are still found. The sole remaining cultural sounds include car and truck engines along the old automobile roads and the noises of livestock. Also present is the occasional airplane or helicopter (Santa Fe Municipal Airport is 6 miles to the NW), and the buzz from power lines if a visitor is in close proximity.

Cultural and historic sounds within the village include those associated with traditional village life, including cultivations noises, animal husbandry, dogs, the sound of the nearby river and the acequia trickling through the village, and the noises made by people going about their daily lives. Since the walls of the escarpment can accentuate the sound of voices, many times people's voices along the escarpment can be heard clearly in the village.

La Bajada is remote and quiet, with infrequent intrusions into its soundscape. The only real source of noise pollution comes from airplanes occasionally flying overhead to and from the Santa Fe Airport.

5. Topography:

As discussed earlier, the escarpment rises 600' above the plains of La Majada. It consists of rugged, broken natural terraces and basalt outcroppings. The principal cultural adaptations to the topography are most evident in the road network, particularly from the NM 1 period. The road was constructed atop multiple retaining walls that wove their way up the escarpment, reducing the grade of the road.

The swales of the roads in the grasslands above and below the escarpment are another contributing topographic feature. The Camino Real below the escarpment is especially visible because of its deeply cut roadbed. The same road at the top of the mesa is a relatively shallow swale.

6. Vegetation:

The vegetation in the La Bajada area consists of four fundamental types: grasslands in the flatter areas atop the mesa and on La Majada below, mixed shrub/grassland on the escarpment face, riparian along the river, and juniper woodlands in the deeper mesa-top draws and on Tetilla peak.

The majority of the landscape is grassland. According to Robbie in the Assessment of Grassland Ecosystem Conditions in the Southwestern United

Fig. 125 The plains plant group.

Fig. 126 The arroyo plant group with juniper.

Fig. 127 The escarpment plant group.

States, La Bajada falls into the Plains Grassland ecosystem, specifically the shortgrass prairie (USDA 2004: 13). The dominant species of this ecosystem include blue grama (*Bouteloua gracilis*) and buffalo grass (*Buchloe dactyloides*) (USDA 2004: 13). Other species observed at La Bajada include dropseeds (*Sporobolus spp.*), galleta (*Pleuraphis jamesii*), Indian ricegrass (*Achnatherum hymenoides*) and sideoats grama (*Bouteloua curtipendula*). A number of small shrubs and forbs are also present. Generally, patterns in the grassland at La Bajada seem to be at least partially influenced by soil conditions, specifically the depth of soil and/or the volume of basalt in the soil. The following observations are based on surface observation of the plant communities on the mesa top.

The typical condition of the mesa-top landscape at La Bajada seems to include deeper soil with less rock, which, when undisturbed, supports the typical mixed grassland as described above with scattered forbs and small shrubs and incidental, shrub-size, single-seed juniper.

As the volume of rock increases in the soil, the diversity of species appears to decline. Grass diversity seems to decrease. Blue grama becomes the primary species followed by ring muhly. Hardy species which are the first to colonize previously disrupted ecosystems and are known as pioneer species take hold. In this area, they appear predominantly as snakeweed, wildflowers, and Russian thistle, with snakeweed serving as an overstory of sorts.

Vegetation within the roadbeds generally follows similar patterns, but disturbed areas in unused road beds appear to exhibit an increase in the occurrence of pioneer plants and invasives. Sections that have remained undisturbed for some time appear to demonstrate an increase in grasses, both in terms of species diversity and number of plants, while simultaneously exhibiting a decrease in the number of pioneer species.

On the Camino Real, the route is not always clear to a visitor simply walking on the surface. However, careful observation reveals what appear to be slightly denser plant concentrations and slightly taller grass. This is likely due to the slight swale created by the roadbed.

The juniper woodlands are found in the deeper parts of draws and on slopes (such as at Tetilla Peak). Trees are found in greater density on north-facing slopes. The junipers improve the soil and even support perennial bunch grass growth (Pieper 2008, 8). Several species of grasses coexist with the junipers, including Indian ricegrass, blue grama, mutton grass, bottlebrush squirreltail, and needle and thread grass (FFO, 3). Another benefit of junipers is that they provide cover for numerous wildlife species in the hollow cavities of their trunk and root structure (Miller 1994, 465).

As stated in the United States Department of Agriculture, Forest Service *Assessment of Grassland Ecosystem Conditions in the Southwestern United States:*

"The plant association/vegetation type in the vicinity is Pinon-Juniper and Mixed Woodland. More fine grained vegetative land cover data compiled by the Southwest Regional Gap Analysis Project shows the study area is highly diverse, with Inter-Mountain Basins Semi-Desert Grassland on top of La Bajada Mesa, Rocky Mountain Cliff and Canyon below the rim, and Southern Rocky Mountain Juniper Woodland and Savanna with patches of Inter-Mountain Basins Shale Badlands for the remainder of the descent to the Santa Fe River valley. Plants observed during the 2008 field visit include narrowleaf yucca (*Yucca glauca*), fernleaf verbena (*Glandularia bipinnatifida*), Indian paint brush (*Castilleja integra*), Apache plume (*Fallugia paradoxa*), perky sue (*Tetraneuris argentea*), evergreen mahogany (*Cercocarpus ledifolius*), snakeweed (*Gutierrezia sarothrae*), blackfoot daisy (*Melampodium leucanthum*), threadleaf groundsel (*Senecio flaccidus*), one-seed juniper or Cypress (*Juniperus monosperma*), fringed sage (*Artemisia ragada*), winterfat (*Krascheninnikovia lanata*), and cholla cactus (*Cylindropuntia imbricata*). A patch of honey mesquite found along the Route 66 alignment was considered a vegetative anomaly." (USDA 2014, 5).

The small patch of shrubby mesquite noted above is growing along the Route 66 segment of switchbacks. What makes this stand remarkable is that it

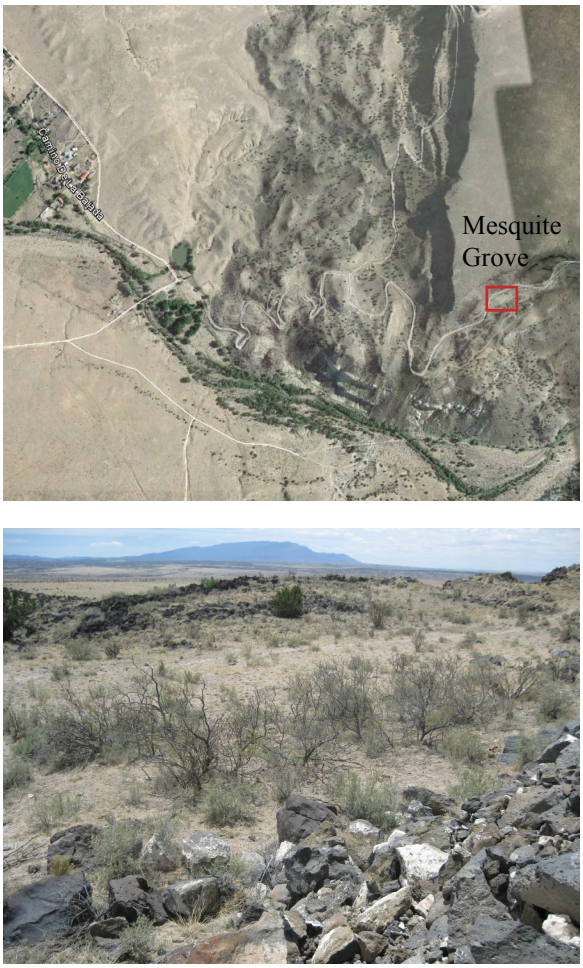

Fig. 128 The mesquite grove.

is quite far north and high in elevation compared to where mesquite is typically found. The stand is discontinuous - there are likely very few, and possibly no other, comparable clumps of mesquite for fifty or more miles to the south. The Jemez River valley exhibits a few individual mesquites near Zia Pueblo.

Cattle grazing is known to be a major factor in the spread of mesquite throughout the west. The cattle eat the mesquite beans, are trucked to a new pasture, and deposit the undigested beans in a new location, where the beans sprout and grow. This is likely the situation at La Bajada. The mesquite

probably would not have survived if it weren't for the southerly aspect and small microclimate created by retaining wall #27 along Route 66. The mesquites are in a low, relatively flat area that appears to retain a very small amount of water right up against the south facing retaining wall. The increased moisture combined with the radiant heat from the basalt wall creates a microclimate that has allowed the mesquite to survive. The mesquite are directly attributable to cultural practices, but probably post-date the periods of significance. However, the stand is sandwiched in between Route 66 and a segment of the Camino Real. This raises the possibility, though slight, that the stand could date to a much earlier period, originating from seeds brought up with livestock along the Camino Real.

An equally enigmatic scattering of hop trees (*Ptelea trifoliolata*) lies just to the west of the mesquites and throughout other parts of the study area on the escarpment.

Additionally, there are some invasive non-native species in the area including Siberian elm, salt cedar, and Russian olive.

7. Circulation

During the Puebloan period of significance, the primary mode of transportation would have been on foot, likely over existing paths and trails. These trails would likely have been narrower than later roads, which had to be wider to accommodate wagons, etc. This investigation has not identified any paths that can be directly attributed to the Puebloan period of significance. However, it is likely some of the earliest segments of the Camino followed existing paths and trails. Additional archeological investigation may reveal the existence of intact Puebloan paths or trails.

During the Camino Real period of significance, modes of transportation

Fig. 129 Hop tree cluster west of mesquite grove.

expanded to include horses, mules, and wagons. The Camino itself extended from Mexico City in the south to Ohkay Owingeh in the north, and formed part of the global circulation network of the Spanish Empire.

The Camino takes two distinct forms in the study area. On the plains above and below the escarpment, it is represented by long, relatively straight swales in the landscape where the soil has been compacted, displaced, and eroded over the centuries. Where erosion is not a problem, the swales are vegetated. The concentration of water within the swales has let to an apparently higher concentration of plants along their length.

On the escarpment, the Camino snakes its way upward along many different routes. It's likely the route shifted as conditions changed from use and erosion. The escarpment segments are present as eroded cuts and shallow swales with basalt rocks kicked to the side. Similar to the plains segments, where erosion is not an issue, the segments have grown in with vegetation after not being used for years, though the density of plants is not as obviously different from surrounding areas as on the plains.

During the Territorial period, the road on the escarpment was again improved to better accommodate wagon traffic. It incorporated switchbacks on the lower segments and followed the more gradual ascent and natural terraces to the north of the Camino routes. On the mesa top, it established a route that would later be used by NM 1 near the escarpment edge. As it crossed the mesa toward Santa Fe, it is not clear if it continued along in the current route, or if it intercepted and followed the Camino Real.

As mentioned earlier, in the New Mexico 1 period the automobile was emerging as the prominent means of transportation in the U.S. The improvements during this period were specifically aimed at improving the road grade to better accommodate automobile traffic. On the escarpment, this led to the construction of additional switchbacks atop well-constructed dry-stacked stone walls. The route then crossed the upper mesa in a relatively straight line to the northeast toward Santa Fe.

Route 66 saw a further refinement of the roads for automobile use, as many of the lower switchbacks for NM 1 were rebuilt to further reduce the grade. Just east of what is now the boundary with Cochiti Pueblo, Route 66 swung south, abandoning the upper switchbacks of NM 1 and crossing over several segments of the Camino. Once it reached the mesa top, 66 headed northeast to intercept with NM 1, following that route into Santa Fe.

Other circulation features include segments of the Camino that head up the canyon as well as the circulation network of La Bajada Village.

Non-contributing circulation features include Cochiti Dam road, and the Cochiti tribal boundary road.

8. Buildings and Structures

Buildings and structures associated

with the Puebloan period of significance include the cobble structures within the Puebloan Agricultural Complex as well as Pueblo Quemado. The features within the agricultural complex, as discussed previously, are primarily designed to harvest and maximize the use of water. All of these features are archeological sites.

Buildings and Structures Associated with Livestock and Grazing:

There is at least one structure related to livestock and grazing that seems to pre-date the 20th Century After Route 66 period of significance. Worman (2011: 2, 8) notes the presence of a series of stone corrals or lambing pens on the escarpment, which he notes have been subject to bioturbation and grazing disturbance.

Livestock-associated structures within the village (corrals, etc.) may have been built over several periods of significance, and are contributing or compatible, depending on age.

Other livestock-associated structures include the features on the mesa top. These are all associated with the 20th Century period of significance, and include Corrals A, B, and C as described in Existing Conditions. The footings for the windmill and pump are also contributing structures, though the windmill and pump themselves are missing. Finally, the long cobble check dam as described in existing conditions, seems to be associated with this period. Its specific function is unclear, but it may have been used to retain water. Typically, check dams are used to control erosion, but that does not seem to be a problem at this location.

Buildings and Structures Associated with the Road Network:

All of the retaining walls described by Worman as features of LA 49903 that help define the road beds of NM 1 and Route 66, respectively, are contributing. The overall condition of the walls is fair.

Buildings and Structures in the Village of La Bajada:
All buildings and structures in the village of La Bajada are contributing with the exception of the large, new house with the pitched roof, the modern power lines, and the transformer.

Buildings and Structures Related to Electrical Distribution.

The ZB46KV transmission line is contributing to the Route 66 period of significance. It was constructed in 1929 of riveted-lattice steel poles set in concrete foundations. The poles were spaced 500 feet apart, a much greater span than previously achievable, thanks to improved aluminum cable steel reinforced wire technology (Alper 2008: 4).

Other power lines are non-contributing; these include the 345kV and 115kV power lines on the mesa top and the modern power lines and transformer in the village.

9. Cluster Arrangement

The Puebloan Agricultural Complex constitutes a cluster arrangement associated with the Puebloan period of significance. Located near the edge of

the escarpment on the mesa top, the complex includes all of the cobble rock piles, terraces, field houses and other features discussed by Gauthier (1982) in the NRHP Nomination form for LA 38918.

La Bajada Village constitutes a cluster arrangement related to the Camino Real, Territorial, NM 1, Route 66, and 20th Century periods of significance. All features are contributing except the new, large, pitched roof house, the power lines, the transformer, Cochiti Lake road, and the Cochiti boundary road.

Finally, the corrals and water features on the mesa top associated with livestock grazing are contributing to the 20th Century period of significance. Contributing features include corrals A, B, and C, the windmill footings, the well head, the pump foundation, the large concrete water tank, the small concrete water trough, tank A, the remaining foundation materials of tank B, and tank C.

10. Views and Vistas

In determining which views were contributing, the investigators reviewed historic photographs, aerial photographs, and documents and compared them to current conditions. Because of the scale of the landscape and views, the presence of non-contributing features does not render any of the following views non-contributing.

This section is broken up into two categories: Views and Vistas of La Bajada Mesa and Escarpment from La Majada Mesa, and Views and Vistas of the Study Area and Surrounding Landscape from Within the Study Area.

Views and Vistas of La Bajada Mesa and Escarpment from La Majada Mesa.

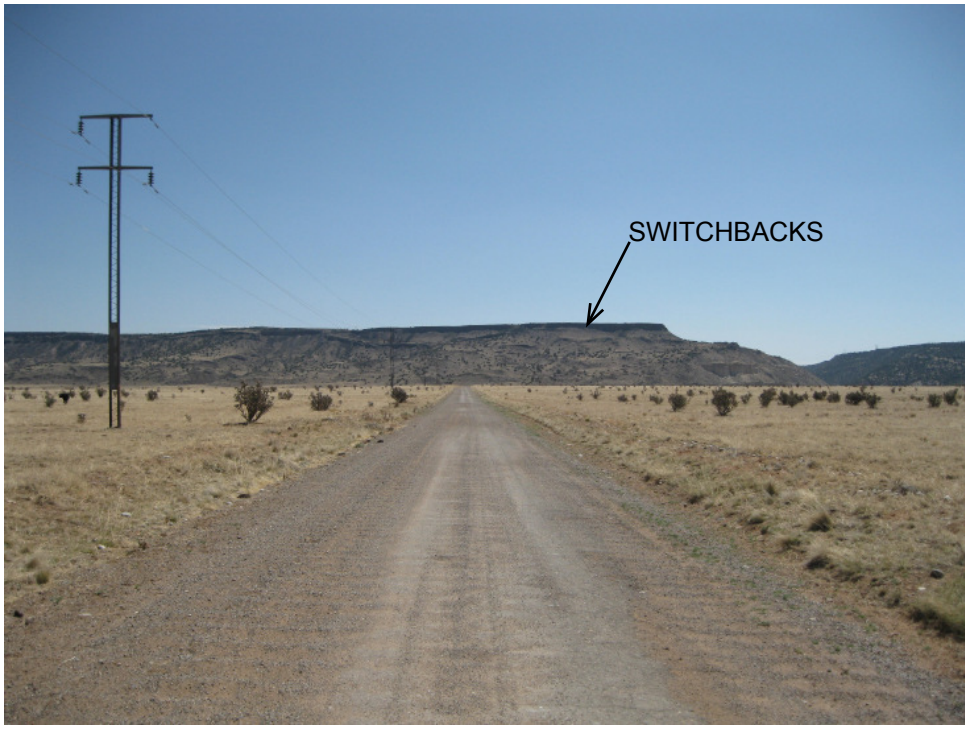

Fig. 130 Facing east along Route 66, or La Majada Mesa, approaching the village of La Bajada. Switchbacks for both NM 1 and Route 66 can be seen heading up the escarpment. The ZB46KV transmission line runs parallel to the road on the north side. Photo by investigators.

Fig. 131 View of the Village of La Bajada from Route 66 facing north/northeast on La Majada Mesa. Photo by investigators.

Fig. 132 Facing northeast, El Camino Real de Tierra Adentro is visible from NM 16 as it approaches La Boca as the grassy area in the center of the photo. Photo by investigators.

Views and Vistas of the Study Area and Surrounding Landscape from Within the Study Area

Fig. 133 NM 1/U.S. 66/85 on the mesa top facing southwest toward the edge of the escarpment just after entering Forest Service land. ZB46KV runs along the north side of the road. The Sandia Mountains are visible to the south/southwest. On clear days, the volcanoes west of Albuquerque are visible just above the center left horizon line. Photo by investigators.

Fig. 134 Facing southwest, just above the point where Route 66 and NM 1 converge on the mesa top. The Sandia Mountains (blue) are visible in the left center as well as the shadow of the Santa Fe River Canyon. Photo by investigators.

Fig. 135 Facing northeast, a view of the Sangre de Cristo Mountains above Santa Fe from Route 66/NM 1. ZB46KV line runs parallel to the road to the north. Photo by investigators.

Fig. 136 There are several contributing and non-contributing views from the base of the ZB46KV tower at the edge of the escarpment. In this photo, facing south-southwest, several of the contributing features are visible. In the immediate foreground, NM 1 can be seen descending the escarpment from the lower right of the photo up toward the center left and then turning back toward the upper middle. Four towers of the ZB46KV line can be seen between the center and center right of the photo. The Territorial Wagon Road descends from just below NM 1 to the lower left of the basalt ridge and hooks around into the eroded area in the center/center right of the photo leading down toward the lower right corner. Finally, the Camino Real is barely visible as a dark line (emphasized by the black dots) through the grassland at the top of the photo. Photo by investigators.

Fig. 137 In this photo, Route 66 can be seen crossing the Santa Fe River on the far left, southeast of the main body of La Bajada Village. Route 66 runs parallel to ZB46KV (the powerline) until it diverges toward the bridge and former service station. Running parallel to these to the northwest is a newer, non-contributing power line that currently serves the village. The new, non-contributing Indian Service Road 481 is visible as a diagonal line above the village. It crosses the Santa Fe River at the northern terminus of the village. Missing from this landscape are the village fields on the north side of the new road that were condemned as part of the construction of Cochiti Dam. The view of La Bajada and its associated features, Route 66, and ZB46KV are all contributing. Photo by investigators.

Fig. 138 Facing northwest from the same location as the previous two photos, Cochiti Dam (non-contributing) is visible in the center left. The bosque that has formed along the Santa Fe River (visible just below the dam) is also non-contributing, as its existence is made possible due to the presence of the dam. Indian Service Road 481 (non-contributing) is also visible running from the middle left toward the center of the photo. The rest of the view is contributing. The Jemez Mountains are visible in the distance. Photo by investigators.

Fig. 139 Facing east, a segment of the Camino Real is visible in the center of the photo (the footpath follows it) with Route 66 running parallel to it to the left. Photo by investigators.

Fig. 140 The Camino Real approaching the Santa Fe River canyon. View is from the Route 66 switchbacks facing southwest. Dotted line highlights the route. Photo by investigators.

Fig. 141 The Camino Real atop La Bajada Mesa. The ruts are cow paths found along the historic trail. Cattle, horses, and other livestock accompanied parties traveling the Camino Real during Spanish Colonial and later periods of use, and thus helped to create the road. Note the short grass in the foreground and the cluster of snakeweed growing in a linear pattern immediately above it. These are the typical plant patterns seen on the Camino Real on the mesa top. Photo by investigators.

Fig. 142 360 degree panoramic view, east tracking to west, of mountain ranges visible from the top of La Bajada Mesa.

11. Constructed Water Features

The La Bajada village acequia system was constructed during the Camino Real period of significance and remains intact and functional today. According to Barthuli, the main acequia ditch runs NW-SE, with irrigable land to the southwest and habitable land to the northeast (Barthuli 2007: 8). A secondary ditch was constructed downhill from the main ditch (Barthuli 2007: 8).

The headgates of the acequia system are located east of the village on the Santa Fe River, where it enters the ditch and flows to a holding pond. It is released as needed down the main ditch across the upper end of all of the fields, where it is allowed to flood fields through floodgates as needed. A series of diversionary acequias have been built off the main ditch. (Barthuli 2007: 8, 9)

Two water storage tanks associated with the 20th Century after Route 66 period are present in the village. The first is a domestic tank associated with a residence; the second is a livestock tank built by the Soil Conservation Service in the 1940s (Barthuli 2007: 10).

There are at least two possible constructed water features associated with the NM 1 period. There are historical accounts of a water tank on the mesa top at the edge of the escarpment being constructed by local stockmen for motorists whose vehicles overheated scaling the escarpment. The first possible location for this tank is a large excavated swale at the top of NM 1 approximately 250′ east of where the road reaches the escarpment top and straightens out. It measures approximately 90′ long by 20′ wide, and is approximately 2.5-3′ deep.

The second is a concrete and wood post foundation just southwest of the swale. The foundation measures approximately 15′ by 15′ square by 1′ wide with a series of 14 wooden posts, approximately 1′ in diameter, installed integral to the concrete. The posts appear to be utility poles, and have been cut off flush with the top of the concrete. It is possible the poles may have served as legs to a raised water tank, although no evidence has been found to verify or disprove this theory.

In the 20th Century period, the water features associated with grazing are contributing. These include the windmill footings, the pump footing, the well head, the large concrete tank, the small concrete trough, tank A, the remains of tank B, and tank C.

The sole non-contributing constructed water feature is Cochiti Dam.

12. Small-Scale Features

Small scale features include all petroglyphs and rock art. These are associated with the Puebloan through Route 66 periods and are located throughout the escarpment.

A short fence, likely associated with the 20th Century period, is located near the top of NM 1. The fence includes a removable gate probably used for controlling livestock grazing patterns.

13. Archeological Sites

La Bajada contains a number of archeological sites. These sites contain features from every period of significance. All archeological sites within the study area are contributing.

List of Features
The following list consists of both Contributing and Non-contributing features. Much of the list is derived from the documents generated by Richard Chapman, Peggy Gerow, and F. Scott Worman at the University of New Mexico Office of Contract Archaeology (Worman, et al. 2011) as well as from the La Bajada Village Landscape Reconnaissnce Report by Kaisa Barthuli (Barthuli 2007). Please note: All references to Barthuli's work refer to the village and its immediate surroundings and not to the study area in its entirety. All references to the Worman/ Gerow 2011 work are fron the archeological survey along roadways on the escarpment, and not on the Majada or La Bajada mesas. List begins on following page.

Note: The list of features is keyed to the Analysis and Evaluation Section above.

Landscape Characteristic Types are numbered as follows:

1. Natural Systems and Features
2. Spatial Orgainzation
3. Land Use
4. Cultural Traditions
5. Topography
6. Vegetation
7. Circulation
8. Buildings and Structures
9. Cluster Arrangement
10. Views and Vistas
11. Constructed Water Features
12. Small-Scale Features
13. Archeological Sites

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
1	LA 169386, Pre-1860 wagon segment	Territorial	2, 3, 4, 5, 7, 9, 13	Contributing	Large portions remain intact with significant deterioration to cart track alignment due to water erosion. Modern disturbance minimal. Historic Alignment of NM 1 was built over uppermost section. Also water erosion and grazing impact.	Worman, LA 169386, 2011: 2, 8
2	Petroglyphs associated with LA 169386 Features 1-4	Territorial	4, 12, 13	Contributing	Intact; feature 4 includes 13 panels.	Worman, LA 169386, 2011: 2, 7
3	LA 169387, Component #1: Archaic to Prehistoric habitable cave, Feature # 6		1, 4, 13	Contributing	Majority of site appears intact, possible minor looting may have taken place. Also bioturbation and grazing disturbance.	Worman, LA 169387, 2011: 2, 6, 9
4	LA 169387, Component #2: Corrals, Dry-Stacked Walls, Feature # 1, 2, 4, 5	Camino Real and Territorial	3, 4, 8, 13	Contributing	Majority of site appears intact, possible minor looting may have taken place. Also bioturbation and grazing disturbance.	Worman, LA 169387, 2011: 2, 7, 8
5	LA 169387, Component # 2: Cave	Puebloan and Territorial	1, 4, 13	Contributing	Majority of site appears intact; possible minor looting may have taken place. Also bioturbation and grazing disturbance.	Worman, LA 169387, 2011: 2, 7, 9
6	LA 169387, Component # 2 Pecked Rock Art	Camino Real and Territorial	4, 12, 13	Contributing	Intact but not well defined visibly, forming a "B" shape roughly 6 cm wide and 9 cm tall.	Worman, LA 169387, 2011: 7, 8
7	LA 169388, Segments of the El Camino Real de Tierra Adentro	Camino Real	2, 3, 4, 5, 7, 9, 13	Contributing	Older routes are bifurcated in multiple places; in addition, some areas are obscured by vegetation. Majority is intact; however, some areas have been disturbed due to water erosion. Also, grazing and vandalism disturbance.	Worman, LA 169388, 2011: 1, 2, 8
8	LA 169388, Petroglyph: Feature 1,	Puebloan	4, 12, 13	Contributing	Pecked glyph in the shape of an oval with the long axis upright, bisected at the midpoint by a horizontal line. It measures 18 cm top to bottom, and 9 cm across the widest. It is on a bedrock outcrop where the road crosses a steep ridge. Vandalism has occurred and glyphs have been defaced.	Worman, LA 169388, 2011: 2, 7
9	LA 169389, Component # 1: Archaic to Prehistoric habitable cave/ rock shelter. Feature 3		4, 13	Contributing	Stable with little erosion; sooting on part of the ceiling. Possible looting may have occurred. Also bioturbation and grazing disturbance as well as vandalism (graffiti).	Worman, LA 169389, 2011: 2, 7, 8
10	LA 169389, Component # 2: Corrales or Lambing pens, Features 1, 4, 5, & 6	Camino Real, Territorial, NM 1	3, 4, 8, 13	Contributing	Stable with some areas of open wall where it may have fallen. Some walls obscured by brush. Bioturbation and grazing disturbance.	Worman, LA 169389, 2011: 2, 8
11	LA 169389, Component # 2: Petroglyph	Camino Real, Territorial, NM 1	4, 12, 13	Contributing	Intact; however, vandalism disturbance. "PH" scratched on a bedrock outcrop between features 1 and 4. Measures 15 cm tall and 15 cm wide.	Worman, LA 169389, 2011: 2, 8
12	LA 169389, Component # 2: Fire Ring	Camino Real, Territorial, NM 1	3, 4, 8, 12, 13	Contributing	Intact, made up of seven small basalt boulders placed in an arc open to the north and standing in a single course to a height of 50 cm.	Worman, LA 169389, 2011: 2, 8
13	LA 169390 Component # 1: Artifact scatter and windbreak Feature 2 and 3	Puebloan	3, 4, 8, 13	Contributing	Incorporates both large, in situ boulders and large stacked cobbles. Many of the stacked sections have collapsed inward. Minor water erosion at south boundary. Wind erosion, water erosion, bioturbation and grazing disturbance. Location provides excellent views to La Bajada Village, the pre-Hispanic and historic pueblo, and across the basin to the Rio Grande.	Worman, LA 169390, 2011: 2, 8
14	LA 169390 Component # 2 : Artifact Scatter	Territorial	12, 13	Contributing	Scattered along cart track. Wind erosion, water erosion, bioturbation and grazing disturbance.	Worman, LA 169390, 2011: 2, 8

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
15	LA 169390 Component # 1 &/or # 2, Pecked Rock Art: Feature 1 and 4	Puebloan and Territorial	4, 12, 13	Contributing	Feature 1: abstract geometric design, possibly a floral motif, pecked on a boulder. Intact and measures 30 cm tall and 25 cm wide. Feature 4:Poorly rendered bird motif, with proportions reminiscent of a roadrunner, pecked on a boulder. Intact and measures 18 cm tall by 25 cm wide.	Worman, LA 169391, 2011: 2, 8
16	LA 169391 Component #1 agricultural terraces; Features 2-16	Puebloan	2, 3, 4, 5, 8, 9, 13	Contributing	Intact series of single course of basalt boulders, spaced 1.5 to 2 m apart and oriented across the slope. Water erosion, bioturbation, and grazing disturbance.	Worman, LA 169391, 2011: 2, 7, 8
17	LA 169391 Component # 1 small check dams: Features 17-19	Puebloan	2, 3, 4, 5, 8, 9, 13	Contributing	Three small basalt boulder dams placed across a small drainage at the southeastern edge of the site. The dams have been breached by water erosion and filled with sediment. Water erosion, bioturbation, and grazing disturbance.	Worman, LA 169391, 2011: 2, 7, 8
18	LA 169391 Component #2 Hunting blind/windbreak /artifact scatter Feature 1	Puebloan. Hunting blind may have been used during Territorial Period	2, 3, 4, 5, 8, 13	Contributing	Intact, semicircular alignment of large in situ boulders and smaller locally outcropping basalt boulders that were stacked between them to create a small windbreak or hunting blind. It is located on a small basalt ridge that provides expansive views of the village of La Bajada and the valley beyond to the south and west, and of the La Bajada Mesa to the east and north. Water erosion, bioturbation, and grazing disturbance has occurred.	Worman, LA 169391, 2011: 2, 8
19	LA 49903 Historic alignment New Mexico 1 (NM 1)	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Water erosion, bioturbation, grazing, and vandalism disturbance. Recreational vehicular traffic, including ATV's, have caused road and retaining wall deterioration.	Worman, LA 49903, 2011: 2, 7
20	LA 49903 Historic alignment of Route 66	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Water erosion, bioturbation, grazing, and vandalism disturbance. Recreational vehicular traffic, including ATV's, have caused road and retaining wall deterioration.	Worman, LA 49903, 2011: 2, 7
21	LA 49903 Feature 1: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Located below NM 1, left side of road going up. Total length: 73 m. Maximum height is approximately 1.25 m, 6 courses, most of wall 40-50 cm tall and 2-3 courses. A length of roughly 4m has collapsed near lower end; there is some degradation along the entire length, and a gap where a newer 2-track crosses it.	Worman, LA 49903, 2011: 2, 14
22	LA 49903 Feature 2: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Located below NM 1, left side of road going up. Total length 13 m. Maximum height is approximately 2 m, 10 courses. The wall crosses and blocks a small drainage. Roadbed width at upper end of segment is 4.4 m.	Worman, LA 49903, 2011: 2, 14
23	LA 49903 Feature 3: Rock art	NM 1	4, 12, 13	Contributing	Rock art panels on boulders that are part of a small diversion or retaining wall above NM 1, right side going up. Legible inscriptions include “1917”	Worman, LA 49903, 2011: 2, 14
24	LA 49903 Feature 4: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 3, retaining wall below NM 1, left side of road going up. Total length: 8 m. Maximum height is ~ 1.3 m, 5 courses, the majority is lower, and there are several gaps where the wall has fallen. There are informal “push pile” curbs above and below the formally stacked wall.	Worman, LA 49903, 2011: 2, 14
25	LA 49903 Feature 5: Rock art	NM 1	4, 12, 13	Contributing	Rock art panels on a boulder along NM 1. Most are pecked and appear to be initials. Roadbed width at feature 5 is 5 m.	Worman, LA 49903, 2011: 2, 14

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
26	LA 49903 Feature 6: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 4, retaining wall below NM 1, left side of road going up. Total length: 55 m. Maximum height is ~ 2 m, 8 courses, most of the wall is .5 – 1.25 m high, 3 – 5 courses. There are large gaps as long as 12 m where the wall has fallen, and longer segments leaning outward badly. Most of the wall is in danger of collapse.	Worman, LA 49903, 2011: 2, 14
27	LA 49903 Feature 7: Rock art	NM 1	4, 12, 13	Contributing	Scratched rock art panel, includes smiley face and "NA". Roadbed width: 4.3 m.	Worman, LA 49903, 2011: 2, 14
28	LA 49903 Feature 8: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 5, low retaining wall and curb below NM 1, left side of road going up. Total length: 9.5 m. Maximum height ~.5 m, mostly somewhat lower, 2 – 3 courses. The wall segment is in good condition, with few fallen elements.	Worman, LA 49903, 2011: 2, 14
29	LA 49903 Feature 9: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 6, retaining wall below NM 1, left side of road going up. Total length: 25.2 m. Maximum height ~ 2.8 m, 10 courses. Most is lower as the wall forms a lenticular shape crossing and filling a drainage. The wall is mostly intact, with some outward leaning.	Worman, LA 49903, 2011: 2, 14
30	LA 49903 Feature 10: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 7, low retaining wall below NM 1, left side of road going up. Total length: 25 m. Maximum height of 50 cm, mostly lower with 1 – 2 courses. There are several large gaps, particularly along the switchback.	Worman, LA 49903, 2011: 2, 14
31	LA 49903 Feature 11: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 8, retaining wall below NM 1, left side of road going up. Total length: 169 m. Maximum height is ~ 1.8 m and 10 courses around the outside of curves. Most is lower, roughly 1 m tall. There are at least six gaps 1 – 4 m long where the wall has fallen, and small segments are leaning outward/ downhill.	Worman, LA 49903, 2011: 2, 14
32	LA 49903 Feature 12: Rock art	Territorial	4, 12, 13	Contributing	Pecked rock art panel below NM 1. "MiTERio MONTOYA DELA BAJADA NM 1889" [date is barely legible, may be different] Location indicates that it is probably associated with the older wagon road, site 1060-1. Width of NM 1 on the curve above the panel: 6.7 m.	Worman, LA 49903, 2011: 2, 14
33	LA 49903 Feature 13: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 9, retaining wall below NM 1, left side of road going up. Total length: 18.75 m. Maximum height of ~1.25 m and 5 courses, mostly somewhat lower. The wall rises above the roadbed, forming a low curb. Most of this segment is in good condition.	Worman, LA 49903, 2011: 2, 14
34	LA 49903 Feature 14: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 10, retaining wall below NM 1, right side of road going up. Total length: 15 m. Maximum height is ~ 1.6 m and 9 courses. Most is lower. The segment is in good condition. Features 13 and 14 raise the road across a drainage. Roadbed width between the two: 5.2 m.	Worman, LA 49903, 2011: 2, 15

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
35	LA 49903 Feature 15: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 11, retaining wall below NM 1, left side of road going up. Total length: 311 m. This segment is very long and not uniform in dimensions, with the tallest portion near the top reaching a height of ~ 1.25 m and 4 – 5 courses. Most of the lower section is poorly stacked and 2 – 3 courses, up to ~ 70 cm tall, and long portions are jumbled and fallen. The more formally stacked sections are in good condition.	Worman, LA 49903, 2011: 2, 15
36	LA 49903 Feature 16: Rock art	NM 1	4, 12, 13	Contributing	Rock art scratched on boulder adjacent to NM 1. Roadbed width: 3.9 m.	Worman, LA 49903, 2011: 2, 15
37	LA 49903 Feature 17: Rock art	NM 1	4, 12, 13	Non-contributing	Rock art scratched on boulder adjacent to NM 1. "WP 2003"	Worman, LA 49903, 2011: 2, 15
38	LA 49903 Feature 18: Rock art	NM 1	4, 12, 13	Contributing	Rock art scratched and pecked on boulders adjacent to NM 1. Various initials. Dates of 1927 and 4-14-24	Worman, LA 49903, 2011: 2, 15
39	LA 49903 Feature 19: Rock art	NM 1	4, 12, 13	Contributing	Rock art scratched and pecked on boulders adjacent to NM 1. Various initials. Dates of 1978 and Nov 1 24	Worman, LA 49903, 2011: 2, 15
40	LA 49903 Feature 20: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 12, retaining wall below NM 1, right side going up. Total length: 36.65 m. The segment is a tall, formally stacked wall on a steep switchback with a maximum height of ~ 3 m and 17 courses of large roughly-shaped elements. It includes a high curb (~ 40 cm above roadbed) at the top of the wall. At the upper end, the curb extends beyond the retaining wall and is built to a height of .8 m and 3 – 4 courses.	Worman, LA 49903, 2011: 2, 15
41	LA 49903 Feature 21: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 13, retaining wall above NM 1, left side going up. Total length: 9.65 m. 2 – 4 courses of very large elements stacked to a height of ~ 1.5 m, across from feature 20. Roadbed width between 20 and 21: 4.8 m.	Worman, LA 49903, 2011: 2, 15
42	LA 49903 Feature 22: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 14, retaining wall above NM 1, right side going up. Total length: 11.1 m. The segment is up to 1.6 m tall, 7 courses, and is in good condition.	Worman, LA 49903, 2011: 2, 15
43	LA 49903 Feature 23: Rock art	NM 1	4, 12, 13	Contributing	Scratched rock art on outcrop along NM 1. Various names, including Fred Tapia and Anthony Daniel.	Worman, LA 49903, 2011: 2, 15
44	LA 49903 Feature 24: Rock art	NM 1	4, 12, 13	Contributing	Scratched and pecked rock art on outcrop along NM 1. "12/21/1(?)7, R. Kirk"	Worman, LA 49903, 2011: 2, 15
45	LA 49903 Feature 25: Rock art	NM 1	4, 12, 13	Contributing	Scratched and pecked rock art on outcrop along NM 1. Various initials, "TOM" with a possible excavation indicator for blasting of NM 1, paw(?) pattern, and various modern etchings.	Worman, LA 49903, 2011: 2, 15
46	LA 49903 Feature 26: Rock art	NM 1	4, 12, 13	Contributing	Pecked rock art on boulders adjacent to NM 1. Various initials.	Worman, LA 49903, 2011:
47	LA 49903 Feature 27: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 15, retaining wall below NM 1, left side going up. Total length: 4.75 m. It is a short segment of stacked wall with rubble on either end and is up to 3 courses and 1.4 m tall. Roadbed width at the wall is 3.2 m.	Worman, LA 49903, 2011: 2, 15
48	LA 49903 Feature 28: Fence	20th Century After 66	2, 3, 4, 7, 8, 12, 13	Contributing	Fenceline near top of escarpment that runs perpendicular to (can be closed across) NM 1. Consists of wire and 3 juniper fence posts, 2 of which are standing and form a gate to close access on the road. The opening at the fence is 4.9 m.	Worman, LA 49903, 2011: 2, 15
49	LA 49903 Feature 29: Curb	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Curb stacked on rubble alongside NM 1 on the left side going up. Total length: 21 m. It is up to 2 courses and 50 cm tall. Across road from feature 30/ wall segment 16.	Worman, LA 49903, 2011: 2, 15

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
50	LA 49903 Feature 30: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 16, retaining wall below NM 1, right side going up. Total length: 46 m. The segment is a tall, formally stacked wall in good condition that is constructed of large elements and is up to 12 courses and 3 – 3.5 m tall.	Worman, LA 49903, 2011: 2, 15
51	LA 49903 Feature 31: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 17, retaining wall below NM 1, left side going up. Total length: 15 m. The segment is a tall, formally stacked wall that raises the roadbed at a small low point and is mostly in good condition. It is up to 10 courses and 2.5 m tall.	Worman, LA 49903, 2011: 2, 16
52	LA 49903 Feature 32: Rock retaining wall	NM 1	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 18, small retaining wall below NM 1, left side going up. Total length: 7.1 m. The segment is in good condition and is 2 – 3 courses and up to 40 cm tall. The roadbed between features 31 and 32 is 6.8 m wide.	Worman, LA 49903, 2011: 2, 16
53	LA 49903 Feature 33: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 19, double retaining wall below Rte. 66, right side going up. Total length: 11.65 m. A small portion (~ 1m) of the upper wall is collapsed, the remainder is well preserved. The lower wall is up to ~ 60 cm tall and 10 courses, the upper wall is up to ~ 1.25 m tall and 12 courses. Roadbed width is 7.3 m.	Worman, LA 49903, 2011: 2, 16
54	LA 49903 Feature 34: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 20, a low retaining wall and curb below Rte. 66, left side going up. Total length: 18 m. A small gap of ~1.5 m has fallen, the remainder is standing to a height of ~ 40 cm and 5 courses. The roadbed width at the lower end is 8 m.	Worman, LA 49903, 2011: 2, 16
55	LA 49903 Feature 35: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 21, a long retaining wall below Rte. 66, left side going up. Total length: 111.2 m. The segment is generally well made and of variable height and condition. The dimensions range from ~ 30 cm tall at 2 courses and ~ 50 cm thick to tall segments up to 2 m in height, 12 courses, and 2 courses and 1 m thick. Several portions as long as 3 m are collapsed, other portions are leaning, but the majority is intact. Roadbed width at the lower end is 5.5 m.	Worman, LA 49903, 2011: 2, 16
56	LA 49903 Feature 36: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 22, a long retaining wall below Rte. 66, right side going up. Total length: 97.8 m. The wall is of variable height and condition, generally less formal in construction than the walls along NM 1, in poor condition, with large portions collapsed. It stands up to 1.8 m tall, with as many as 7 courses of mixed size elements up to 1 m in maximum dimension. A large borrow pit below the wall is mapped as part of the feature. Roadbed width at the lower end of the wall is 6 m.	Worman, LA 49903, 2011: 2, 16
57	LA 49903 Feature 37: Rock art	Route 66	4, 12, 13	Contributing	Pecked rock art on boulder along Rte. 66, “LAG”	Worman, LA 49903, 2011: 2, 16
58	LA 49903 Feature 38: Rock art	Route 66	4, 12, 13	Contributing	Pecked rock art on boulder along Rte. 66, “E M 84”	Worman, LA 49903, 2011: 2, 16
59	LA 49903 Feature 39: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 23, a retaining wall below Rte. 66, right side going up. Total length: 104.65 m. The wall segment is mostly stacked, but informally with mixed sizes of elements; some portions are jumbled fill, others are collapsed. At the highest point, it is ~ 2 m tall, 7 courses. Roadbed width at the lower end is 6.4 m.	Worman, LA 49903, 2011: 2, 16
60	LA 49903 Feature 40: Rock art	Route 66	4, 12, 13	Contributing	Pecked and scratched rock art on boulder along Rte. 66. Mostly initials, including “HP 57”, and “O… LUCERO”.	Worman, LA 49903, 2011: 2, 16

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
61	LA 49903 Feature 41: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 24, a retaining wall above Rte. 66, right side going up. Total length: 6.6 m. The wall is semi-formally stacked with some portions of jumbled fill and the ends are collapsing. It is up to ~ 1.2 m tall and 4 – 5 courses at the highest point. Roadbed width adjacent to the segment is 3.9 m.	Worman, LA 49903, 2011: 2, 16
62	LA 49903 Feature 42: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 25, a retaining wall below Rte. 66, right side going up. Total length: 31 m. The wall is more formally stacked than most along Rte. 66, with uniformly sized elements, standing to a maximum height of ~ 2.2 m and 11 courses. There are 2 fallen sections, 3 – 5 m in length. Together with wall segment 26 (F 43), it raises the roadbed across a small basin.	Worman, LA 49903, 2011: 2, 16
63	LA 49903 Feature 43: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 26, a retaining wall below Rte. 66, left side going up. Total length: 27.8 m. The construction is similar to wall segment 25 (F 42), with one large fallen section ~ 4 m long, and a shorter fallen section ~ 1 m long. The wall stands to a maximum height of ~ 1.5 m, 8 courses. Roadbed width between segments 25 and 26 is 4 m.	Worman, LA 49903, 2011: 2, 16
64	LA 49903 Feature 44: Rock retaining wall	Route 66	2, 3, 4, 5, 7, 8, 9, 13	Contributing	Wall segment 27, a retaining wall below Rte. 66, on the right side going up. Total length: 218.5 m. The wall is mostly pushed rubble, short sections that are poorly stacked. The maximum height of stacked sections is ~ 1.5 m and 4 – 5 courses. Several segments 2 – 3 m long are collapsed. The uphill portion of the wall begins to incorporate metal strapping in the pushed rubble.	Worman, LA 49903, 2011: 2, 17
65	LA 49903 Feature 45: Rock art	Route 66	4, 12, 13	Contributing	Pecked rock art on boulder along Rte. 66, possible shield motif?	Worman, LA 49903, 2011: 2, 17
66	LA 49903 Feature 46: Rock art	Route 66	4, 12, 13	Contributing	Scratched rock art on boulder along Rte. 66, appears to be a sketch of an avanyu with an arrow pointing to the cliff band above.	Worman, LA 49903, 2011: 2, 17
67	LA 49903 Feature 47: Rock art	Route 66	4, 12, 13	Contributing	Pecked rock art on boulder along Rte. 66, M shape.	Worman, LA 49903, 2011: 2, 17
68	LA 49903 Feature 48: Rock art	Route 66	4, 12, 13	Contributing	Scratched and lightly pecked rock art on boulder along Rte. 66, “33”, “O” and other letters.	Worman, LA 49903, 2011: 2, 17
69	LA 49903 Feature 49: Rock art	Route 66	4, 12, 13	Contributing	Scratched rock art on boulder along Rte. 66, “SI”	Worman, LA 49903, 2011: 2, 17
70	LA 49903 Feature 50: Painted rock art	Route 66	4, 12, 13	Contributing	Painted sign on cliff band along Rte. 66, “Santa Fe Camp”, “La Bajada Shop”	Worman, LA 49903, 2011: 2, 17
71	LA 49903 Feature 51: Spray Painted rock art		4, 12,	Non-contributing	Modern spray paint tag along Rte. 66, “GOTS”	Worman, LA 49903, 2011: 2, 17
72	LA 49903 Feature 52: Painted rock art	Route 66	4, 12, 13	Contributing	Painted sign on outcrop along Rte. 66, “1 ¾ MI EVERY T…”, covered with lichen.	Worman, LA 49903, 2011: 2, 17
73	LA 49903 Feature 53: Rock art	NM 1	4, 12, 13	Contributing	Scratched rock art on boulder above NM 1, square man with illegible text.	Worman, LA 49903, 2011: 2, 17
74	LA 49903 Feature 54: Rock art	NM 1	4, 12, 13	Contributing	Pecked rock art on boulder above NM 1, anthropomorphs?	Worman, LA 49903, 2011: 2, 17
75	La Majada North Road (LA 80007)	Puebloan, Camino Real, Territorial	2, 3, 4, 5, 7, 13	Contributing	Deeply cut roadbed with two parallel routes passing La Bajada Pueblo. Includes eight road segments as described by Marshall and one archaeological site: LA 80004.	Marshall 1990: 119-127
76	La Majada South Road (LA 80008)	Camino Real, Territorial	2, 3, 4, 5, 7, 13	Contributing	Prominently defined roadway including seven road segments as described by Marshall and one archaeological site: LA 80009.	Marshall 1990: 128-131

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77	Las Bocas Road (LA 80013)	Camino Real, Territorial	2, 3, 4, 5, 7, 13	Contributing	Roadway through Las Bocas Canyon including seven road segments as described by Marshall and two archaeological sites: LA 80005 and LA 80006.	Marshall 1990: 133-144
78	La Bajada Mesa Road LA 80014)	Camino Real	2, 3, 4, 5, 7, 13	Contributing	Segment of El Camino Real atop La Bajada Mesa from the edge of the escarpment east as described by Marshall.	Marshall 1990: 145-150
79	La Bajada Village Agricultural Patterns	All except Puebloan	2, 3, 4, 5, 6, 9, 11	Contributing	The principal use of village land was historically and remains today the cultivation of fields via an acequia system. The fields are the visually dominant, character-defining feature of the village, and likely date back to 1737 (first documented presence of the village). The long, narrow, parallel fields are oriented in a NE-SW direction following the topography of the land. The Acequia Madre (Mother Ditch), incorporated as La Bajada Ditch in 1927, defines the NE edge of the irrigable fields; the Santa River defines the SW edge. A prominent secondary ditch or "sangria" was constructed in the 1980s through the top 1/3 of the fields, effectively splicing each linear field into two sections. Water is released from the acequias into the fields, where it flows down slope; uncaptured water is returned to the river. Today, approximately 75% of the fields are cultivated. The remaining 25% are owned by older and/or absentee village members, and are fallow.	Barthuli, 2007: 4, 5
80	Livestock Management	All except Puebloan	3, 4	Contributing	Livestock management or ranching is another primary land use, both historically and today. Corrals, stables, and water tanks dot the landscape. Livestock graze the fields within the village. Permits allow grazing on surrounding tribal lands.	Barthuli, 2007: 5
81	La Bajada Village Domestic and Community Land Use	All except Puebloan	3, 4	Contributing	Land is used for residential and communal purposes, including houses, the church and roads. Sheep ranching was the leading livestock industry historically, today it is primary cattle.	Barthuli, 2007: 5
82	Other historic land use in La Bajada Village	All except Puebloan	3, 4	Contributing	Historic land uses within the village/La Majada Land Grant are metate manufacturing utilizing basalt from La Bajada Mesa; gypsum mining from quarries to the east; and copper and uranium mining in the Santa Fe River Canyon to the east. Land south of the Santa Fe River along El Camino Real and the automobile highways was also used for commercial purposes (mercantile, gas, overnight lodging).	Barthuli, 2007: 5
83	Spatial Organization of the fields in La Bajada Village	All except Puebloan	2, 3, 4	Contributing	From an aerial perspective, agricultural fields dominate the village landscape relative to land used for other purposes such as livestock and residential. Field locations have not changed substantially since the village was established. The fields generally comprise the NW 2/3 of the village, and topographically are located below the acequia ditches.	Barthuli, 2007: 5
84	Spatial Organization of the orchards in La Bajada Village	All except Puebloan	2, 3, 4	Contributing	The present orchard stands were planted during the resettlement period, and are located primarily around the acequia and village center.	Barthuli, 2007: 5
85	Spatial Organization of the corrals/livestock pens in La Bajada Village	All except Puebloan	2, 3, 4, 8	Contributing	Like the other structures and buildings of the village, the majority of corrals and livestock pens are located above the acequia system along the NE edge of the village. An exception is a collection of active livestock pens at the NW corner of the village established in the 1980s.	Barthuli, 2007: 5

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
86	Spatial Organization of the buildings in La Bajada Village	All except Puebloan	2, 3, 4, 8	Contributing	Most of the buildings are located along the NE edge of the village above the acequia system. Traditionally they clustered around Camino de La Bajada and the village center. Recent trends include buildings constructed further away from the village center with an orientation toward the Cochiti Tribal Boundary Road.	Barthuli, 2007: 5
87	Response to natural environment: Santa Fe River	All except Puebloan	1, 2, 3, 4, 7, 11	Contributing	The Santa Fe River Canyon served as the easiest and most used corridor for travelers moving between the higher lands of La Bajada Mesa and the lower lands of La Majada Mesa. The paraje (rest stop) and village developed at La Boca (mouth of the canyon) to serve travelers. Water from the river served critical needs of settlement including the acequia system, domestic/ stock tanks, and the community water system established by the Atchison Topeka & Santa Fe Railroad in 1927.	Barthuli, 2007: 5, 6
88	Response to natural environment: The Escarpment	All except Puebloan	1, 2, 3, 5, 7, 8	Contributing	The 600-foot high La Bajada Mesa creates a formidable obstacle for north-south bound travelers. During the Spanish Colonial period a paraje and village developed at the base of the mesa to provide needed services to travelers.	Barthuli, 2007: 6
89	Response to natural environment: La Majada Mesa	All except Puebloan	1, 2, 3, 5, 7, 8	Contributing	La Majada Mesa slopes southward from the base of La Bajada Mesa, which made acequia or contour farming possible. In addition, the topsoil of the mesa is extremely fertile, and has nurtured grasslands for livestock grazing and fields for agriculture.	Barthuli, 2007: 6
90	Cultural traditions: Religious Institutions	All except Puebloan	4, 8	Contributing	The village is primarily Catholic, influenced by the Spanish Colonial Catholic Franciscans. The community is served by Father Cecil Kleber, who travels from Pena Blanca to offer mass on the first Wednesday of every month as a mission outreach of the Pena Blanca Our Lady of Guadalupe Church. San Miguel Church is regarded as the traditional center of the village and is the focus of the annual San Miguel Feast Day, a community celebration.	Barthuli, 2007: 6
91	Cultural traditions:Acequia Management/Government	All except Puebloan	3, 4, 11	Contributing	The acequia system was established during the Spanish Colonial era and remains in use today. It fulfills essential needs for agriculture, and provides the governing structure for the village. The governing body is known as La Bajada Community Ditch, Inc., which is led by a Mayordomo.	Barthuli, 2007: 6

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
92	Cultural traditions: Agriculture	All except Puebloan	3, 4, 6	Contributing	Agriculture is a cultural tradition rooted in Spanish Colonial subsistence practices. The village continues to utilize the Colonial-style method of agriculture including long narrow fields, contour farming and the acequia system. Commonly grown crops during the Spanish Colonial period included corn, beans, squash, tomatoes, chile, and wheat. By the early 20th century, corn, beans, squash and chile continued to be grown, as well as alfalfa, which was used to feed village livestock, and cut and bundled for widespread distribution/sale. Since the drought of the 1930s and the resettlement of the village in the 1960s, the primary crop has been alfalfa used to feed village livestock. Small, localized concentrations of other crops including tomatoes, chile, corn and culinary herbs are also grown. Orchard crops commonly grown during the Spanish Colonial period included apples, pears, peaches, cantaloupe, watermelons, and grapes from Europe. Peaches, plums, cherries and apricots were reestablished after the drought. A vine restoration initiative begun in the 1970s is still in progress. Stands of wild grapes left from the Mexican Period still grow near the banks of the acequia.	Barthuli, 2007: 6, 7
93	Cultural traditions: Medicinal Plants	All except Puebloan	3, 4, 6	Contributing	It is unclear what medicinal plants/healing herbs may have grown historically in the village. Today however, wild sunflower, calabacitas, mullein, globe mallow, Canutillo del Llano, yarrow and Yerba Mansa grow wild and/or are cultivated for medicinal purposes.	Barthuli, 2007: 7
94	Cultural traditions: Livestock	All except Puebloan	3, 4	Contributing	Livestock introduced to New Mexico during the Spanish Colonial era included chickens, sheep, goats, pigs, horses, cattle and burros. Today, chickens, geese, horses and cattle are kept in the village. Many of the cattle graze by permit on the adjacent Cochiti Pueblo lands – land that was once part of the Majada Land Grant (Exhibit 25).	Barthuli, 2007: 7
95	Cultural traditions: Traditional Building Style	All except Puebloan	4, 8	Contributing	Historic buildings of the village reflect the regional style of adobe brick with flat timber roof. While many of the new buildings do not reflect the traditional style, they do possess the relative size, scale and settlement patterns of the historic buildings.	Barthuli, 2007: 7
96	Cultural traditions: Light Commercial	All except Puebloan	4, 8	Contributing	Located at the southeast terminus of Camino de la Bajada and to the south of the Santa Fe River is the Walden Tourist Camp. This site is now used as a private residence, but has served a rest stop/trade/commercial function throughout much of the village's history from the Camino Real through US 66/85.	Barthuli, 2007: 7
97	Circulation Networks: Camino de La Bajada	All except Puebloan	2, 3, 7, 8	Contributing	Historically, Camino de La Bajada was and remains the sole community route through the village. It enters the village at the southeast, and travels in a northwest direction through the village. Historically, it passed the Valentin Adobe and continued northwest to connect with Cochiti Pueblo. Today its path has been adjusted at its northwest end to connect with the new Cochiti Tribal Boundary Road.	Barthuli, 2007: 7, 8

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
98	Circulation Networks: Acequia Easement		2, 3, 7, 11	Non-Contributing / Compatible	A five-foot public pedestrian easement exists along the La Bajada Community Ditch to enable residents to access their floodgates and sangrias which branch off perpendicular to the acequia in order to irrigate each parcel of land.	Barthuli, 2007: 8
99	Circulation Networks: Major Historic Transportation Routes	All except Puebloan	2, 3, 4, 5, 7, 8	Contributing	El Camino Real de Tierra Adentro and the subsequent automobile routes that followed its path historically connected the village to neighboring communities and beyond. A segment of the historic route between the southern terminus of Camino de la Bajada and the Cochiti Dam Road is still used today to provide access to modern arterial routes. The historic route east of this segment is accessible and extends up the escarpment. The historic route west is abandoned. Both the east and west segments are on tribal lands.	Barthuli, 2007: 8
100	Circulation Networks: Secondary Roads	All except Puebloan	2, 3, 7, 8	Contributing	A number of secondary roads exist, such as the road to the headgate of Acequia Madre. Prior to the Cochiti Dam Road and Highway 16, other routes were in use to connect villagers to neighboring fields and communities. These are largely abandoned but still visible in aerial photographs.	Barthuli, 2007: 8
101	Circulation Networks: Informal Routes	All except Puebloan	2, 3, 7	Contributing	Informal, localized "shortcuts" have developed around the village over time. These were created by residents as the most practical way to get to local points of interest and as alternative routes when primary roads were flooded or inaccessible. These are clearly visible from aerial photographs.	Barthuli, 2007: 8
102	Circulation Networks: Cochiti Dam Road		7	Non-Contributing	The Cochiti Dam Road or Tetilla Peak Recreational Road was built in the 1970s by the Army Corps of Engineers to connect Hwy 16 to the east side of Cochiti Lake. This dirt road is adjacent to the NW edge of the village and connects to the village via the Camino de La Bajada extension road to the west and the Cochiti Tribal Boundary Road to the east.	Barthuli, 2007: 8
103	Circulation Networks: Cochiti Tribal Boundary Road		7	Non-Contributing	In the 1980s, the Cochiti Tribal Boundary Road was built as a 40-foot easement to establish a tribal boundary line. This was built over an informal path that had been used for livestock and ranching activities. The new easement enabled vehicular access to the NE edge of the village. This has led to new home construction with driveway access oriented to the Cochiti Tribal Boundary Road rather than the traditional Camino de La Bajada.	Barthuli, 2007: 8
104	External Boundaries: Cochiti Tribal Land		3	Non-Contributing	Cochiti Tribal land surrounds the village on all sides and is defined by the Cochiti Dam Road to the northwest; Cochiti road to the northeast; El Camino Real to the southeast; and the Santa Fe River to the southwest, which are all visible in the project area. Parcels of Cochiti Tribal land are also located within the village itself.	Barthuli, 2007: 8
105	Internal Boundaries: Acequia	All except Puebloan	3, 11	Contributing	The acequia runs in a NW-SE direction, and generally demarcates the irrigable fields to the southwest and habitable land to the northeast. The construction of the secondary acequia has altered this general tendency, and a few buildings have subsequently been built in irrigable fields south of the main acequia.	Barthuli, 2007: 8
106	Internal Boundaries: Fences	All except Puebloan	3, 8	Contributing	Fences defined private land parcels and fields historically and continue to do so today.	Barthuli, 2007: 8

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
107	Vegetation Related to land Use: Fields	All except Puebloan	3, 4, 6	Contributing	Predominant field vegetation today is alfalfa.	Barthuli, 2007: 8
108	Vegetation Related to land Use: Orchards	All except Puebloan	3, 4, 6	Contributing	Most fruit trees are growing adjacent to the acequia and near residences. Predominant plants are pears, peaches,plums, cherries, apricots and grapes.	Barthuli, 2007: 8
109	Vegetation Related to land Use: Native	All except Puebloan	6	Contributing	Cottonwoods grow in small density near the Santa Fe River and the acequias. A small number of prickly pear cactus, cholla cactus, rabbitbrush and chamisa grow within areas of the village. Grasses and juniper trees are also a part of the native landscape; they are growing in the adjacent tribal lands, but generally are not found within the village.	Barthuli, 2007: 8
110	Vegetation Related to land Use: Invasive/Exotics		6	Non-Contributing	Elm trees grow in relative abundance around the Santa Fe River and the acequias. Russian olive trees are sporadic through the village.	Barthuli, 2007: 8
111	Buildings, Structures, Objects: Acequias	All except Puebloan	3, 4, 8, 11	Contributing	The acequia system is perhaps the most significant feature of the village, as all other features exist in relation to it. The headgates of the system begin at a point east of the village on the Santa Fe River. Water is released here into the La Bajada Ditch where it closely parallels the river to the north before entering a holding pond. Water is released from the pond in a regulated manner to a second segment of the ditch, where it follows the contour of the land into the village along the northeast edge of the fields. The fields are oriented in a linear NE-SW direction so that the northeast edge of each has access to the ditch. Floodgates control water from the ditch to the individual fields. Water flows through the fields in a southwest direction, following the contours of the land, and then drains into the Santa Fe River in a complete cycle (Exhibits 10, 15, 36). A series of diversionary acequias or sangrias have been built off the main ditch. Although a concrete headgate, flumes and sluices were added to the acequia system by the Soil Conservation Service in the 1940s, the acequia retains its original earthen form and a high degree of historic integrity.	Barthuli, 2007: 8, 9
112	Buildings, Structures, Objects: Church	All except Puebloan	3, 4, 8	Contributing	According to uncatalogued church records, a mission or morada was established in the village by 1737. The Church of San Miguel was first catalogued by the Catholic Archdiocese in 1837. In ruins by the early 20th century, it was rebuilt in 1975/1976 to its current appearance during the resettlement period. The church is built in the regional style of adobe brick with flat timber roof and adobe floor.	Barthuli, 2007: 9

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
113	Buildings, Structures, Objects: Historic Residences	Route 66/NM 1	3, 4, 8	Contributing	The Montoya Adobe, Sanchez Adobe and Valentin Adobe are extant historic residences of the village. They are constructed of adobe brick with flat roof, reflecting the regional building tradition. Exact age of the buildings is uncertain, but they are estimated to be at least 100 years old. The Montoya Adobe is currently vacant but in stable condition; the Sanchez Adobe is in use as a part-time residence (the Sanchez Adobe includes the historic Walden tourist camp buildings); the Valentin Adobe is in a collapsed state.	Barthuli, 2007: 9
114	Buildings, Structures, Objects: Non-Historic Resicences		3, 8	Non-Contributing, Non-contributing / compatible	Residences established since the resettlement period number approximately 30. The residences are primarily modular style with low, pitched-roofs and trailers, and Spanish-Pueblo Revival style built with modern materials. At least five of the new residences established at the beginning of the resettlement period have distinctive origins, and in time may be considered historically significant. Rather than build from scratch during this time, a number of pre-existing buildings were brought in from other communities. This included two Waterman Barracks from Los Alamos; a one-room schoolhouse from Cerrillos; and a house removed from 5th Street in Albuquerque during Interstate-40 construction. The schoolhouse was attached to one of the Waterman Barracks for use as an art studio by Flora Barrera, a matriarch of the resettlement. All these buildings remain in use today by descendants of the founding families. A fifth residence is a geodesic dome built during the resettlement period, which reflects national, experimental architectural trends of the time. While most of the new residences are not built in the traditional regional style, they do reflect traditional size, scale, and spatial settlement pattern. A recent house is an exception to this pattern, however, with its large size, height, massing and mountain village/pitched roof style.	Barthuli, 2007: 9, 10
115	Buildings, Structures, Objects: Ruins	All	8, 13	Contributing	An unknown number of ruins are present. They are primarily adobe, though some are stone. They appear to be a mix of residential buildings and livestock pens/corrals, including a pig pen.	Barthuli, 2007: 10
116	Buildings, Structures, Objects: Corrals	All except Puebloan	3, 4, 8	Contributing, Non-contributing / compatible	Corrals dot the village landscape. Some are historic, and in various conditions and stages of use. Others are new, and may have replaced older, historic ones. They are primarily of wood pole and/or barbed wire construction, though some newer ones are steel pole.	Barthuli, 2007: 10
117	Buildings, Structures, Objects: Agricultural		3, 4, 8	Non-contributing / compatible	A small, unknown number of agricultural sheds are present.	Barthuli, 2007: 10
118	Buildings, Structures, Objects: Water Storage Tanks	Route 66	3, 4, 11	Contributing	Domestic and livestock water tanks are present in the village. Two tanks were investigated by the author; one was a domestic tank constructed in association with the Casa de Flora (Barrera). The second is a concrete livestock tank built by the Soil Conservation Service in the 1940s.	Barthuli, 2007: 10

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
119	Buildings, Structures, Objects: Wells	Route 66	3, 4, 11	Contributing	Two private wells are documented in the village. A community water system constructed by the Atchison Topeka & Santa Fe (AT&SF) Railroad in 1927 is still in use by the community, though it is not visible on the landscape.	Barthuli, 2007: 10
120	Buildings, Structures, Objects: Fences	Route 66/NM 1	2, 3, 8	Contributing, Non-contributing/compatible	Fences are present in abundance. The majority are wood pole and barbed wire. They define private property and field boundaries.	Barthuli, 2007: 10
121	Buildings, Structures, Objects: Transformer		8	Non-contributing	A transformer is a prominent feature located on the Camino de la Bajada at the entrance of the village. The transformer brought electricity to the village for the first time in the 1970s courtesy of the Army Corps of Engineers during the construction of the Cochiti Dam.	Barthuli, 2007: 10
122	Buildings, Structures, Objects: Utility Lines		8	Non-contributing	Two sets of utility lines are dramatic features on the landscape. One set runs across the village carrying power from the Cochiti Dam, but does not serve the village. Coming from the dam, it enters the village at its northeast corner, extending across the agricultural fields to the southwest edge. A second set runs south of the village, and serves the village.	Barthuli, 2007: 10, 11
123	Clusters: Fields	All except Puebloan	9	Contributing	Fields are clustered below the acequias to take advantage of gravity flow/land contours.	Barthuli, 2007: 11
124	Clusters: Vegetation	All except Puebloan	9	Contributing	Native and exotic trees and shrubs cluster around waterways such as the Santa Fe River and acequias; buildings; and along road easements/drainage swales.	Barthuli, 2007: 11
125	Clusters: Buildings	All except Puebloan	9	Contributing	Buildings are clustered above and northeast of the acequias. Traditionally, they clustered around Camino de la Bajada and the church (village center), although this tendency has shifted with new/recent growth along the Cochiti Tribal Boundary Road.	Barthuli, 2007: 11
126	Archaeology: Prehistoric Sites	Puebloan	13	Contributing	Evidence of prehistoric activity is present around the village, including sherds and stone debitage. This may be associated with a Pueblo IV artifact scatter that was recorded in 1976 as LA 14892. Pueblo Quemado is located east of the village on the west side of the Santa Fe River.	Barthuli, 2007: 11
127	Archaeology: Historic Sites	All except Puebloan	13	Contributing	A number of historic archeological sites exist within and outside the village. This includes a remuda (horse exchange pen), and various ruins including reservoirs, acequias, houses, pig pens, corrals and more.	Barthuli, 2007: 11
128	Small Scale Elements: Junkyards		3, 12	Contributing	There are two junkyards within the village that are privately owned. One is located at the northwest corner of the village. The other is on the northeast bank of the secondary acequia.	Barthuli, 2007: 11
129	Possible agricultural features	All	2, 3, 4, 13	Contributing	19th and 20th century agricultural elements as well as some likely pre-Columbian planting terraces are visible at the base of the escarpment near the Route 66 bridge. These are just a few of many agricultural features found throughout the area in the canyon, on the escarpment face itself, and atop the mesa.	Field observation

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
130	Fiber optic cable		8	Non-contributing, negative impact	Fiber optic cable in steel conduit. Cable runs up the escarpment in conduit with spray foam insulation that seems to have been painted in an attempt to match the basalt. After intercepting the US 66 segment at the last major switchback, the cable follows the road bed of the US 66 segment and is buried.	Field observation
131	Asphalt cold patch	Route 66	8, 12	Contributing	Located at top of hill and in a deteriorated state.	Field observation
132	La Bajada Village	All except Puebloan	2, 3, 4, 5, 6, 7, 8, 11, 12, 13	Contributing	Vista from escarpment of traditional Spanish village with a linear arrangement along the Santa Fe River with long-lot fields oriented perpendicular to the river and acequia system with a primarily agricultural economy. Village includes historic buildings, imported, intact houses,traditional adobe homes, a historic church, and one contemporary building out of scale with the rest of the village. Historic buildings are in a range of conditions from ruins to currently occupied houses.	Field observation
133	Cochiti Dam and Lake		8, 11	Non-contributing	View of Cochiti Dam and Lake in distance from both NM 1 and Route 66. Recent development maintained by U.S. government. Construction started in 1965 and was completed by 1975.	Field observation
134	Remnants of concrete for culverts	Route 66/NM 1	8, 12	Contributing	Located along areas of new road and Route 66 alignment. Not intact and may be out of context.	Field observation
135	Large excavated swale, possible water tank.	NM 1	8, 11	Contributing	Located at the top section of NM 1. Possible area where water was made available to motorists.	Field observation and Heaphy, 2005: 222
136	Concrete and wood post foundation at the top of the NM 1 switchbacks.	NM 1	8, 12	Contributing	A series of approximately 14 wood posts approximately 1' in diameter set into a formed concrete foundation approximately 1' wide. Posts appear to have been utility poles and have been cut flush with the top of the concrete foundation. The structure's function is unknown.	Field observation
137	Large collections of caliche-encrusted boulders	Route 66	3, 7, 12	Contributing	Segments of Route 66 have had numbers of large boulders pulled out of the roadbed. It is unclear if this is a result of maintenance or construction activities. NM 1, by comparison, has very few large boulders pulled from the roadbed. Boulders that have been pulled from the NM1 segment were deposited immediately adjacent to the roadbed, whereas those pulled from U.S. 66 tend to be further away. Evidence of caliche-encrusted boulders indicate the boulders were recently displaced from their original location in the ground. Caliche naturally forms on the underside of boulders/stones as caliche-laden moisture migrates upward through capillary action, thus causing formation of calcium carbonate.	Field observation
138	Mesquite Grove	Route 66 / 20th Century After 66	3, 6	Contributing	Grove of stunted mesquite likely present due to modern practice of transporting livestock great distances by truck. Seeds were probably deposited by livestock moved up from the south.	Field observation
139	Hop Tree Grove		6	Contributing	Isolated group of hop trees (Ptelea sp.) located west of mesquites and elsewhere along the escarpment; unusual species for the area, and completely out of context.	Field observation

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
140	Large retention pond	NM 1	8, 11	Contributing	Road bed is raised through what appears to have been a natural depression. Earth to construct roadbed appears to have been scooped from the immediate vicinity. Pond is approximately 525' x 45' to the south of the road and 375' x 100' to the north. The remains of a culvert are located toward the east end of the pond. These remains consist of large basalt cobbles placed in concrete that once anchored two ends of a corrugated metal culvert. The metal culvert itself is missing.	Field observation
141	Prisoners' Campsite	NM 1	9, 13	Contributing	Though it has yet to be located, the campsite of prisoners who helped construct NM 1 is included as a contributing feature. According to Worman and Gerow (2011: 124), isolated occurences on the mesa top and LA 169389 are likely starting points in the search for the campsite.	Worman/Gerow 2011: 124
142	Tetilla Peak	All	1	Contributing	Tetilla Peak is a tall, conical hill atop La Bajada Mesa that likely serves as a landmark/wayfinding element in the landscape. It is visible from at least as far away as Algodones, approximately 20 miles to the southwest.	Field Observation
143	Forest Service gate features	20th Century After 66	2, 3, 8, 12	Non-Contributing	The features include a gate made of horsewire and galvanized pipe which is in poor condition and does not appear to be in use. North of that gate is a lockable steel gate which is used to close the road when necessary. There is a cattleguard at the lockable gate. There are several shot-out USFS and BLM signs in the vicinity of the gate.	Field Observation
144	Forest Service/BLM boundary fence	NM I / Route 66	3, 8	Non-Contributing	The Forest Service/BLM fence appears to be a four strand barbed wire fence. The fence is almost completely covered in Russian thistle, so it is difficult to tell if it is four strand or five strand. Posts are a combination of juniper posts and t-posts.	Field Observation
145	Corrals	20th Century After 66	3, 4, 8, 9	Contributing	The corrals consist of three distinct but connected enclosures that appear to have been constructed at separate times with livestock watering structures.	Field Observation
146	Water Tanks	20th Century After 66	3, 4, 11	Contributing	There are three steel and concrete livestock tanks to the south of the corrals. The largest has had the steel tank cut away. Only the concrete foundation remains. The other two tanks are intact.	Field Observation
147	Windmill and associated features	20th Century After 66	3, 4, 11	Contributing	The windmill and pump are gone, but the footings for the windmill and pump, wellhead, large concrete water tank, and small concrete trough all remain and are intact.	Field Observation
148	Modern Electrical Transmission Corridor		8	Non-Contributing	The modern powerline corridor consists of two transmission lines: a 345kV line and a 115kV line. The 345kV line consists of tall tubular steel towers. The towers have paired legs with a cross arm and two cross-beams for support. Each tower has two grounding wires (one per leg). Each arm holds one insulator with paired wires. Between the legs and below the cross arm is a forked insulator, also supporting two wires. The 115kV line's towers are shorter than the 345kV line and are wooden constructs with wooden crossbeams for support and steel angle-iron cross arms. Each tower supports two grounding wired and three insulators: one on each arm and one in the middle. Each insulator supports one wire.	Field Observation

Feature Number	Feature Name	Period of Significance	Landscape Characteristic Type	Contributing/Non-Contributing/Compatible	Condition/Description	Citation
149	ZB46KV Transmission Line	Route 66	5, 8	Contributing	The installation of this line occurred between May and October 1929. Originating in Bernalillo, the ZB 46KV transmission line runs northwest for 3 miles across the landscape following the road alignment of the National Old Trails Road and Route 66. Three different styles of riveted-lattice, concrete-set steel poles (corner pole, single pole, and double pole or h-frame tower) elevate this section of the power line and carry it over the escarpment and on to Santa Fe. Arthur C. Wallen of Bronxville, New York, and Trusco Steel of Youngstown, Ohio, patented the towers in 1932 (Patent No. 1,880,000). The towers are between 40' and 60' tall and are spaced 500' apart, which was an engineering feat in 1929. This expanded spacing was accomplished through the use of a new wire technology consisting of aluminum cable, steel reinforced (ACSR), which was lighter than the copper wire generally in use at the time. At the ends of the lines, wooden poles were used. These were spaced more closely together, sometimes less than 150' apart.	Alper 2008:4
150	Puebloan Foot Paths and Trails	Puebloan	3, 4, 7, 13	Undetermined	Prior to the arrival of the Spanish, Puebloan people would have moved around the landscape on foot, likely over well established footpaths and trails. This investigation has not identified any paths that can be directly attributed to the Puebloan period of significance. However, it is likely some of the earliest segments of the Camino followed existing paths and trails. Further archeological investigation may reveal the existence of intact Puebloan paths or trails.	
151	Long Basalt Check Dam	20th Century After 66	3, 4, 8	Contributing	Low check dam approximately 1 mile west of the corrals and water tanks on the mesa top. Measures approximately 350-360' in length by approximately 3' wide.	Field Observation

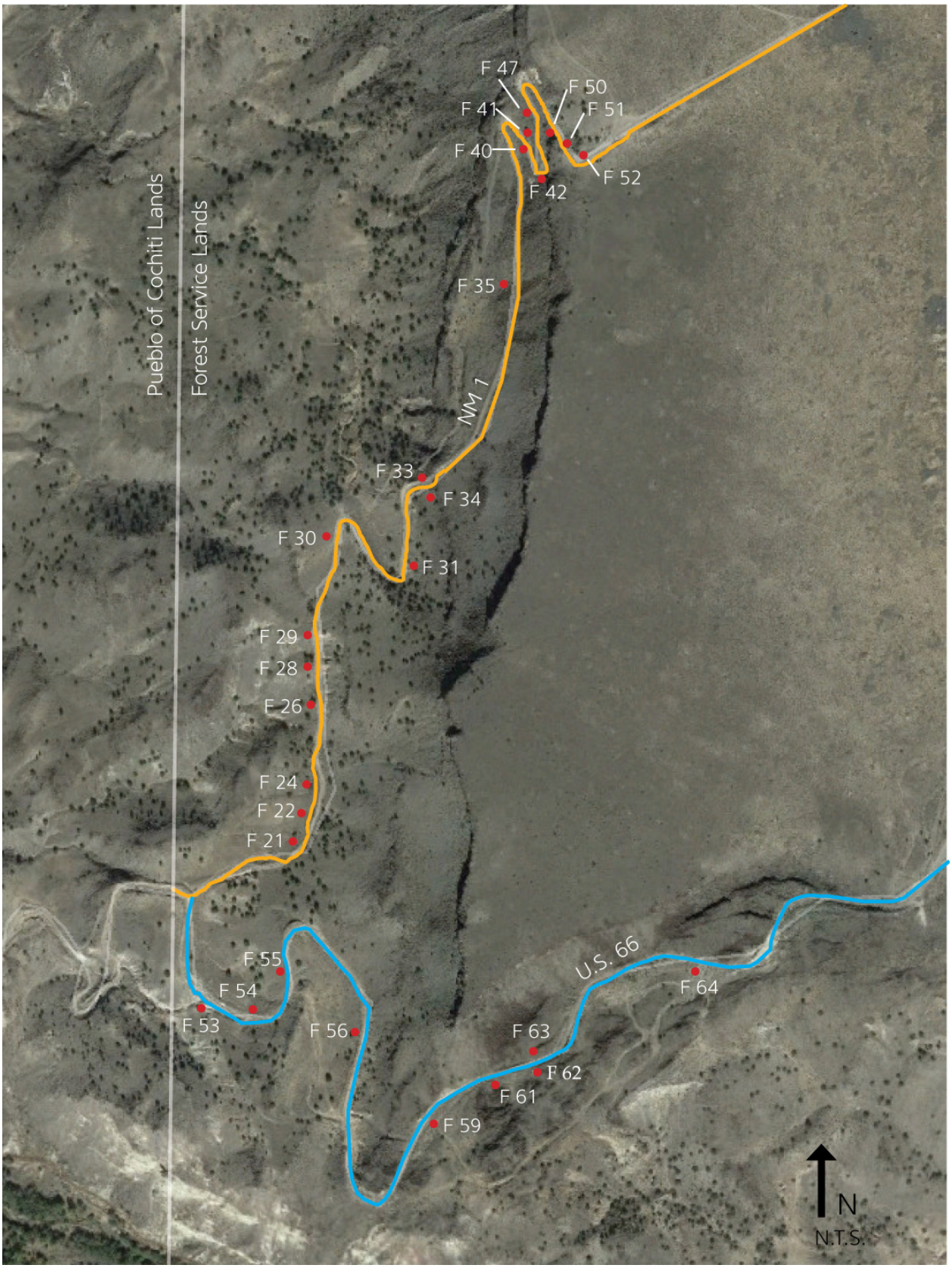


Fig. 143 Retaining walls of NM 1 and Route 66, as adapted from Worman (2011). Additional features are included on the maps in Appendix 2.

Integrity, Puebloan Agricultural Complex:

The Puebloan Agricultural Complex retains integrity of location. It has not been moved.

The Complex is an archeological site, but enough remains to reveal the design intent behind it, particularly in aerial photographs. Cairns are arranged in loose grids, often covering several acres. Check dams and low terraces are arranged on contours, and were most likely used to slow, direct, and retain water. The remains of likely field houses have been found which may have served as seasonal shelters for the people working the fields. Overall, the design reads as an extensive agricultural complex designed to maximize limited water resources by exploiting microclimactic conditions. The Complex has integrity of design.

Similar to the Camino Real, the natural setting of the Complex remains largely intact, though the man-made setting has changed since the Puebloan Period of Significance. Effectively, everything constructed in the area since 1598 has changed the setting. Prehistoric pathways likely existed, linking the fields with each other and Pueblo Quemado below. These no longer exist in any recognizable form.

As is the case with the Camino Real, despite these changes the core topography of the escarpment remains the same, as do the rest of the major geologic features. The Santa Fe River and Rio Grande follow essentially the same courses, though Cochiti Reservoir has altered the appearance of each. The overall pattern of vegetation, that of a grassland, remains the same. During the period of significance, it is likely the fields were largely void of grasses. Instead, it is likely the vegetation pattern changed with the seasons. During the growing season, the fields were probably populated with crops and beneficial pioneer species. In the off-season, they would have been largely fallow, with some pioneer species growing where the opportunity presented itself. The Santa Fe River and Rio Grande follow essentially the same courses. The Complex retains integrity of setting in terms of the natural aspects of the setting, but the man-made aspects have changed or no longer exist.

Remaining materials consist primarily of basalt rock, though these were likely the primary historic building materials of the complex. It is possible some remnants of other materials remain buried within the archeological remnants of some structures, but on the surface only the basalt remains. Because basalt represents the primary building material, the Complex has integrity of materials.

The workmanship of the Complex is expressed through the sophistication with which the builders were able to read and respond to minor topographic and microclimatic variations across the landscape. This skill allowed them to arrange and construct their fields in such a manner as to utilize limited water resources in order to maximize crop yield. The Complex has integrity of workmanship.

The Complex effectively evokes a feeling of Puebloan agricultural life in the 1300s

and 1400s, working vast cobble fields by hand in an open grassland. Most of the fields are relatively isolated and intact (for archeological sites). The Complex has integrity of feeling.

Integrity: El Camino Real

The Camino Real retains integrity of location. Several alternate routes snake their way up the escarpment, and combine to make one on the mesa top.

Though much of the Camino on the escarpment was built over by later roads, a great deal still remains. The remaining segments on the escarpment are still able to convey some sense of the design. The segment across the mesa top, however, is very much intact, and retains integrity of design.

Some aspects of the setting of the Camino Real have changed since the period of significance. The construction of later roads has changed the character of the escarpment. Fences and power lines have been constructed. Views have changed. As mentioned earlier, Santa Fe and Albuquerque and the town of Cochiti Lake are all visible. Cochiti Dam has been constructed. Modern roads cross the landscape. Evidence of the Puebloan use of the landscape was likely much more obvious and pronounced in earlier times.

Despite these changes, the core topography of the escarpment remains the same, as do the rest of the major geologic features. The overall pattern of vegetation, that of a grassland, remains the same. The Santa Fe River and Rio Grande follow essentially the same courses. The Camino retains integrity of setting in terms of the natural aspects of the setting, but the man-made aspects have changed or no longer exist.

The Camino Real within the study area was, by and large, a dirt path. It's likely any constructed features would have been from local materials, likely basalt, though none have been identified up to this point. The existing segments of the Camino remain dirt paths, and though they are overgrown now through disuse, they retain integrity of materials.

Workmanship is expressed in the vernacular pattern of the Camino Real as it follows different routes up the escarpment face, each one likely supplanting the others as conditions changed over the centuries. The paths are narrow and follow the topography, seeking out the easiest routes, which is what would be expected of a traveler on foot, mule, or horseback. Once the road hits the mesa top, it largely straightens out, heading more-or-less directly to Santa Fe. The pattern of the route retains integrity of workmanship.

The upper segment of the Camino Real retains integrity of feeling. It is more continuously intact as a route than the escarpment segments. However, despite the many incursions of structures from other periods of significance, there are several locations where the escarpment segments do convey the feeling of traveling the Camino.

Overall, the Camino Real in the study area has integrity.

Integrity: The Territorial Period

The remaining segments of the Territorial wagon roads and other features from the Territorial Period of Significance have not been moved from their original locations.

Along the remaining segments of wagon road, the design is evident. At the lower elevations, outside the study area, there are some switchbacks to help begin reducing the grade in order to better accommodate wagon traffic. As the road travels up the escarpment, there is more "engineering" than in previous roadways in the form of cuts through and around steep obstacles. Where possible, the road takes advantage of relatively flat natural terraces on the escarpment. Despite the construction of later road segments over portions of the territorial road, enough remains to effectively convey it's design.

Similar to the Camino Real, some aspects of the setting have changed since the period of significance. The construction of later roads has changed the character of the escarpment and cut across territorial roads. The ZB46KV power line was constructed across several segments of the road. Other changes to the setting mentioned in the discussion of integrity for the Camino Real period are applicable to the Territorial period as well.

Much like the Camino Real, materials include the native basalt and naturally occurring dirt surface of the roadway. Overgrown with vegetation from disuse, the remaining segments nonetheless retain integrity of materials.

Workmanship is evident in the form and layout of the roadway on the escarpment. Whereas the route of the Camino Real up the escarpment was largely the result of the informal process of travelers seeking an increasingly efficient route, the wagon roads were designed and laid out with the deliberate intent of reducing the grade for wagon travel.

The combination of all of these elements helps convey the feeling of the Territorial wagon roads along intact segments. Despite the intrusion of later roads and features atop and through portions of the road, the character of the remaining segments remains largely intact. The remaining segments of the road effectively convey their association with wagon travel in the Territorial period and have integrity.

Integrity: NM 1 and Route 66:

Both roadways are in their original location.

The design of each road is clearly expressed within the study area. The road grade remains similar to its original design. All of the switchbacks are intact, as are most of the associated retaining walls. Though there has likely been some loss of minor features since the roads were in regular use, enough features remaining to convey the overall pattern and design of the roadways.

The setting is largely unchanged from the period of significance. The escarpment remains an impressive geological feature, and the grasslands are open. Santa Fe and the Albuquerque area have grown larger, and are visible

from the escarpment top. Major changes to the surrounding area include the construction of Cochiti Dam and the town of Cochiti Lake to the north. Related to this, the northern fields of La Bajada Village were condemned and abandoned. Overall, though, the immediate setting of the roadways remains the same.

Regarding materials, historic photography indicates that NM 1 was likely never paved. Therefore, its materials, consisting of local basalt used in the retaining walls and a dirt road bed are intact in their original configuration. It is not clear if the Route 66 road was ever paved, but the basalt retaining walls remain, and the roadway remains in its original configuration.

Workmanship is evident, particularly, in the dry-stacked retaining walls of the NM 1 segments. Constructed by hand by laborers from Cochiti Pueblo and prisoners from the State Penitentiary, the walls have stood for over 100 years and are largely intact. On Route 66, workmanship is less evident. Though there are some dry-stacked retaining walls, they were not built with the same skill or attention to detail as those on NM 1. Both roadways retain integrity of workmanship.

The combination of all of the historical features and setting effectively convey the feeling of early automobile travel in the west through one of the more impressive and memorable segments of two of the earliest east-west routes in the United States.

These historic roadways form a direct link to early automobile culture in the United States.

For these reasons, the NM 1 and Route 66 segments at La Bajada have historic integrity.

Integrity: 20th Century After Route 66

Following the abandonment of Route 66, La Bajada Village largely acquired its current form, and the primary use for the land was as rangeland for livestock.

The location of the village has remained unchanged since the 1700s, and the livestock features have been in their current location since they were constructed beginning in the 1930s.

The design of the village reflects Spanish Colonial traditions of long lots arranged perpendicular to the river, with houses and other structures occupying the high ground downhill from the main circulation route, followed downslope by an acequia madre, and then agricultural fields. Though many of the houses were brought in from other locations in the 1960s, most still are in scale with the original houses of the village. The exception is the new, large house with the pitched roof.

The design of the livestock features is typical of those found elsewhere in New Mexico in the mid 20th century. Corrals were constructed with logs and posts from native species, barb wire, and baling wire. Concrete structures use large ungraded aggregate and are crudely formed. A windmill and pump were constructed inside one of the corrals. Water was stored in a large concrete tank, and water was distributed to lower tanks and troughs downhill of

the storage tank via gravity and float valves.

The setting around the village has likely remained largely unchanged since the abandonment of Route 66. On the mesa top, the major change to the setting are the 345KV and 115KV transmission lines to the south of the main cluster of grazing features.

Materials remain intact. Much of the village reflects the vernacular traditions of construction and materials present throughout similar villages in northern New Mexico. These include, but are not limited to, wood (milled and unmilled), adobe, wire fences, corrugated metal, vegetation clustering around water sources, earth lined ditches, concrete lined ditches, and dirt roads.

Materials for the grazing features are discussed above under design.

Workmanship in the village is expressed through the vernacular traditions of construction, land use, and arrangement of features in the landscape. There is clearly a great sense of pride among the residents of the village.

Workmanship at the grazing features is similarly expressed as being typical of vernacular traditions among stock growers in New Mexico. Features are robustly constructed of durable materials that are minimally refined and easy to acquire. There is some evidence of materials being salvaged from other structures and made to work in the structures of which they are part of now. This is particularly evident in milled lumber.

Given that both the village and grazing features are active landscapes used on a daily basis, they retain a greater expression of feeling than any other features on the landscape. Each clearly expresses their association of life at La Bajada since the abandonment of Route 66.

The village and grazing features retain their integrity.

5
Treatment Recommendations

Treatment Recommendations

Treatment Recommendations for La Bajada are focused on Preservation (with limited Rehabilitation) as expressed in the Standards for Preservation and Guidelines for Preserving Cultural Landscapes. The goal is to retain the landscape's existing form, features, and materials. These actions are intended to result in a non-degraded landscape condition and not to threaten historic resources while also making minor allowances for changes that will be compatible for adjusted visitor use and erosion control. Ongoing maintenance and repair of the site is a preventative measure to reduce future rehabilitation. Repair is recommended for features whose existing conditions require additional work. These recommendations are kept to a minimum to retain the original materials and character of the historical feature. If new materials must be introduced, it is suggested that the USFS use as few as possible in order to keep as much integrity as possible.

Review of Phase 1 Recommendations

In Phase 1, the investigators made a series of thirteen recommendations for treatment and future study. These recommendations will be tailored in this phase in order to more closely align with the management capabilities and goals of the US Forest Service regarding the highly sensitive resources within the study area as well as the Forest Service's desired level of recreational use. (See the Update that follows) To summarize, the recommendations from the first phase are as follows:

1. Grade the mesa top road to provide a more stable, smooth surface for vehicles, thus reducing the need to travel outside of the established road and increase braiding.

2. Continue consultation with landowners to pursue documentation of traditional uses.

3. Close escarpment roads to vehicle traffic in such a way as to not detract from the "feel" of the landscape.

4. Conduct a comparative study of plant communities, plant succession, and soil conditions along the various road segments to determine if there is a pattern to be observed between road segments of different ages.

5. Attempt to date the mesquite grove and wafer ash (hop tree) scatter.

6. Engage a structural engineer to evaluate the condition of retaining walls on the escarpment and provide treatment and stabilization recommendations.

7. Implement temporary shoring in locations along roads where walls may be in danger of collapse.

8. Conduct a night sky assessment following the guidelines outlined by the NPS Air Resources Division.

9. Implement a sound monitoring program to better understand the acoustical environment.

10. Incorporate information from the BLM viewshed analysis into Phase 2.

11. Study the possibility of a limited amount of road stabilization on the mesa top to prevent further braided road development.

12. Explore the possibility of a looped hiking trail that includes interpretive signage.

13. Consider expanding study area to BLM lands and plains below the escarpment.

Update of Phase 1 Recommendations

Some of the recommendations from the first phase of the CLR are inconsistent with the USFS's management philosophy and management realities. The following discussion tailors the Phase 1 recommendations to better fit the USFS as a management body and provides additional recommendations.

1. Road grading:

Road improvement projects on BLM land appear to be making a positive impact on the road braiding problem there, while the situation on USFS roads appears to have worsened somewhat since Phase 1 of the CLR was completed in 2012, with some braids becoming established as regularly traveled roads.

It is likely the rough road conditions through BLM land have limited the number of visitors to the study area in the past. Improved conditions on the BLM road provide access to the area to a greater number of users. The buffer formerly enjoyed by the Forest Service lands is no longer present.

Currently, the USFS is limited in its ability to allocate resources for road improvement projects. Grading the road along the mesa top is permissible under its current classification, but installing a surface on the road, such as that installed along the BLM portion, would change the USFS classification of the road and require conformance with NEPA. This action might be financially prohibitive and would change the character of the road and visitor experience. Road maintenance crews undertook some maintenance activities in December, 2014, but these activities are not conducted annually. Crews move about the Santa Fe National Forest (SFNF) based on priority.

This study recommends monitoring of road conditions and regular grading of the roadbed in order to maintain a relatively easy-to-drive route. Keeping the route well maintained should reduce braiding. Areas whose poor condition has caused them to be bypassed by users and are now beginning to revegetate and stabilize, may be blocked with boulders, earthwork, or other natural materials to better guide traffic.

Proper drainage of the roadbed is critical considering the soil conditions present at La Bajada. In order to maintain proper drainage, it may be more practical to use a relatively newly established braid than to attempt to refurbish a badly degraded roadbed at the bottom of a swale. Efforts should focus primarily on maintaining the road corridor in as sustainable a state as possible.

Regular maintenance of the corridor with a focus on crowned or simply sloped drainage should largely

eliminate the braiding problem. Care should be taken to not negatively impact Route 66.

2. Consultation with Landowners/ Traditional Users:

Phase 1 included consultation with Cochiti Pueblo and the Village of La Bajada. This phase included another meeting with the same groups as well as several other stakeholders on March 23, 2015. (See La Bajada Interpretive Plan in this report)

3. Closure of escarpment roads:

Most roads on the mesa top have been closed since the conclusion of Phase 1 of the CLR as per the previously discussed USFS Travel Management decision.

An exception to this ruling lies with grazing permittees and outfitter guides, who are permitted to use all roads with the exception of the Route 66 escarpment road.

For the general public, FR 24 (NM 1) is still open from the gate down the switchbacks to the fork with Route 66 (See Travel Management Plan).

The USFS desires to close NM 1 on the escarpment to vehicular traffic to protect the cultural resources via an amendment to the travel management decision, but this would require NEPA compliance and further consultation with grazing permittees, the residents of La Bajada Village, and other stakeholders.

There are several options for keeping vehicles off closed roads, but the preferred method used by the Forest Service is the placement of large rocks or boulders across closed roads. This is simple, effective, inexpensive, and reversible if need be.

4. Plant Succession, Plant Communities, and Soil Condition in Old Roadbeds:

See discussion of vegetation under Existing Conditions.

5. Mesquite grove and hop tree dating:

We believe dating the mesquite grove may be beneficial in assigning it to its period of significance. Our investigation has led us to understand that mesquite's internal structure makes it a poor candidate for dating by dendrochronology, and any conclusions drawn from the results of dating would be purely speculative, as there are any number of ways the plants could have ended up on the escarpment.

However, given the grove's anomalous nature in terms of its isolation from mesquite's normal range, we feel its presence at La Bajada may be due to cultural activity (see Vegetation). Specifically, we believe the mesquite seeds may have traveled up Route 66 or I-25 to La Bajada in cattle being transported by truck from a more southerly grazing allotment. We therefore conclude that the mesquite grove, along with the hop trees (also isolated and of unknown origin) scattered near it, are character-defining features because they serve to punctuate the unusual micro-climate created at the escarpment.

6. Structural Engineer to evaluate retaining walls:

Cornerstones Community Foundation is conducting this work concurrently with this report as was discussed earlier.

7. Temporary shoring of unstable walls:

No shoring is planned at this point. For more information see the summary of Cornerstones work.

8. Night Sky:

See discussion of night sky under Analysis and Evaluation. Further study of the night sky was not included in the scope of this CLR.

9. Sound monitoring program:

See discussion of the acoustical environment/soundscape in Analysis and Evaluation.

10. Incorporate information from BLM Viewshed Analysis:

Document is not available.

11. Limited road stabilization to prevent further braiding:

See discussion under #1, Road Grading.

12. Looped Hiking Trail between US 66 and NM 1:

This study recommends, at a minimum, planning for the establishment of both a parking area and a hiking trail that primarily utilize the old roadbeds. This will allow visitors to experience the expansive mesa-top landscape and to take in views of the escarpment and landscape below while avoiding sensitive natural and cultural resources.

The trail should be designed with consideration for interpretive opportunities. It should loop back to the parking area and incorporate concepts of sustainable natural surface trail design to minimize environmental impact and maintenance requirements.

This will be discussed further below.

13. Expand study area

The study area has been expanded slightly from Phase 1 to include more of the mesa top on USFS lands resulting in the discussions of grazing features and Puebloan agricultural features. The USFS asked the investigators not to conduct field surveys in the canyon itself. The discussion of the mine was compiled exclusively from previously published sources.

<u>Phase 2 Recommendations</u>

Visitorship and Planning for Growth

Visitorship to La Bajada is likely to continue to increase. The City of Santa Fe is growing along its southwest edges beyond Route 599, east of the study area. The City, County of Santa Fe, and BLM are planning or have built recreational trail systems into the La Cieneguilla area and BLM land to the east, drawing increasing numbers of visitors to the area. The study area has a good buffer from this development in the large tract of BLM land to the east but will very likely see an uptick in users, especially as more people explore

the improved BLM roads to the east.

A somewhat analogous example of a cultural landscape negatively affected by incomplete planning can be found in the nearby Petroglyph National Monument (PNM), which is located on the western edge of Albuquerque. At this Monument, natural and cultural resources are negatively affected by bicyclists, dog waste, vandalism, off-trail hiking, and social trails. This example perhaps demonstrates the need for a proactive planning approach in areas where increasing use can be reasonably expected. While the impacts to La Bajada are not likely to be as intense, many similarities can be found between these two resources.

As mentioned above,this study recommends establishing a trail route

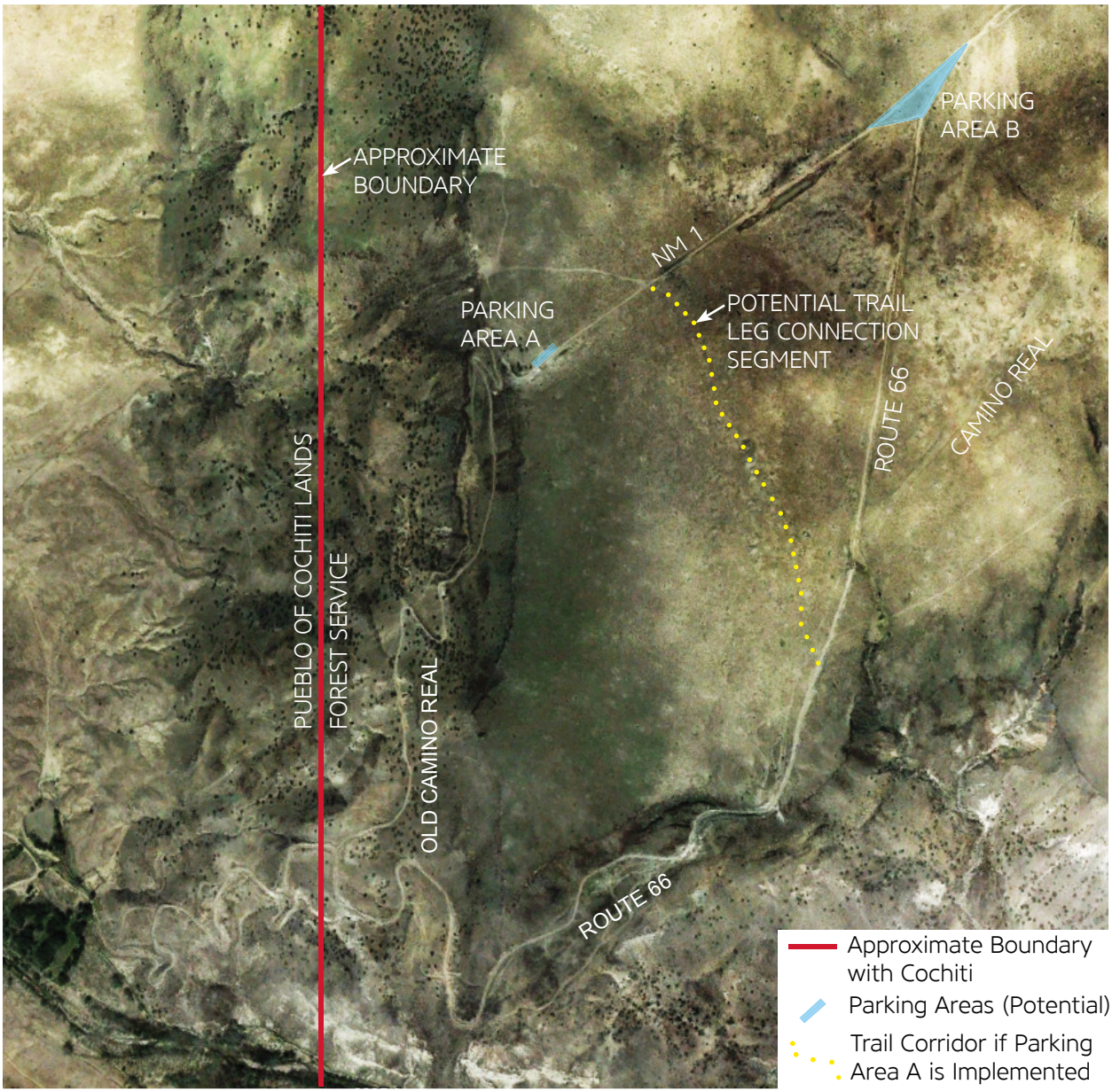


Fig. 144 Proposed parking area and possible mesa-top trail corridor. Note: No trail corridor is required with Parking Area B. Background image courtesy Google Earth.

and parking area (Parking Area A). Ideally, the trail would simply follow the natural loop of the roads. However, in an open setting like the mesa top grasslands, where there are no natural funneling elements to keep people on the trails, the establishment of social trails is highly likely. Social trails are user-created trails, also known as desire paths, that are used to short-cut across the landscape. They can lead to the destruction of both natural and cultural resources through trampling, erosion of fall-line trails, etc. Early establishment of a well-designed natural surface trail that guides people while avoiding these resources is an critical component of a resource protection plan.

A major component in the design of a sustainable trail is anticipating desire paths (typically, the shortest or easiest route between two locations) and either providing a sustainable route along them or eliminating them all together. The powerline tower at the top of NM 1 is a very clear landmark. For hikers coming up onto the escarpment from a hike up the Route 66 switchback, it marks the location of where the parking area would most likely be placed. This is likely to draw hikers out across the grassland through the agricultural fields. Establishment of a trail through the area, but around the field features, may help preserve them. Another option (Parking Area B) would be to establish the parking area at the mesa-top fork between NM 1 and Route 66. This gives hikers an option of which direction to hike the escarpment and all paths lead directly to it. (See trail graphic above.)

These recommendations apply to US Forest Service property exclusively, but agreements may be reached with adjacent landowners to provide additional recreational opportunities on nearby lands.

In their interpretive plan, Valenzuela recommends installation of wayside panels as a "simple way to offer interpretation or information" (Valenzuela 2015: 21). This is a good recommendation provided the design of the panels is unobtrusive and doesn't detract from the feel of the landscape.

In locations where a wayside panel may not be appropriate, Valenzuela recommends Carsonite Markers. These require less excavation to install than wayside panels, and may be a better option near fragile cultural features. Care needs to be taken when locating and installing panels or markers so as not to damage cultural features.

Road Grading Recommendations

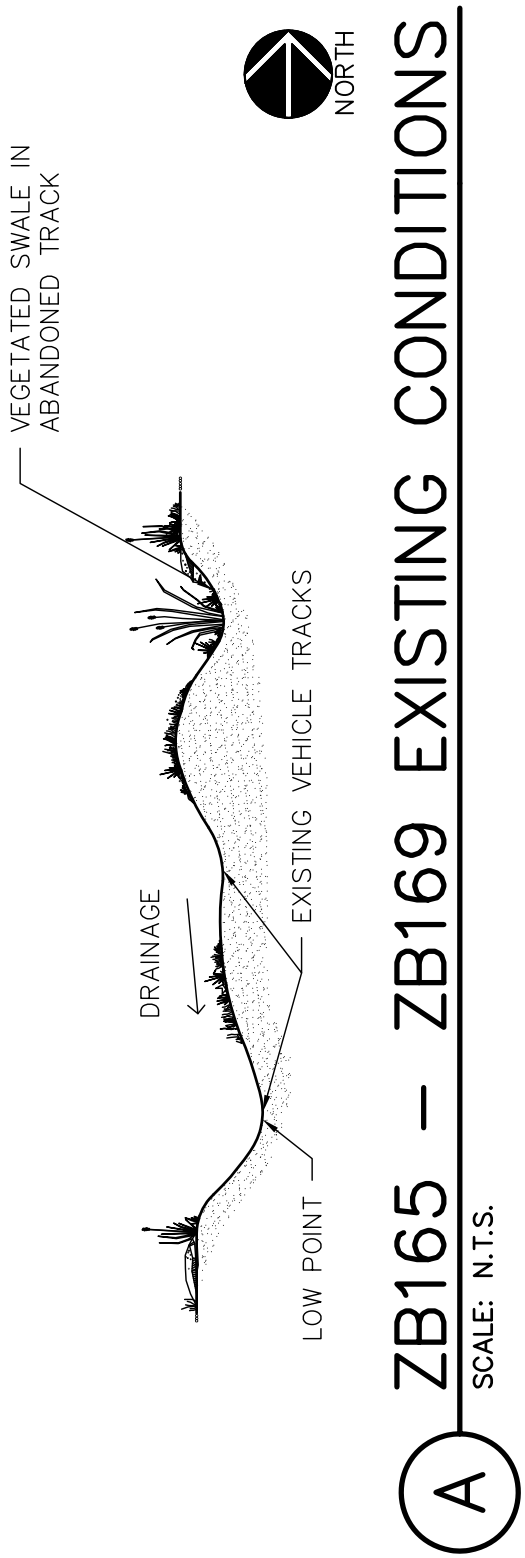
As mentioned earlier, the current road classification within the study area permits the USFS to grade the road routinely as part of regular maintenance. The following discussion provides several recommendations for grading in site-specific locations. All locations are indicated by adjacent ZB46KV tower numbers.

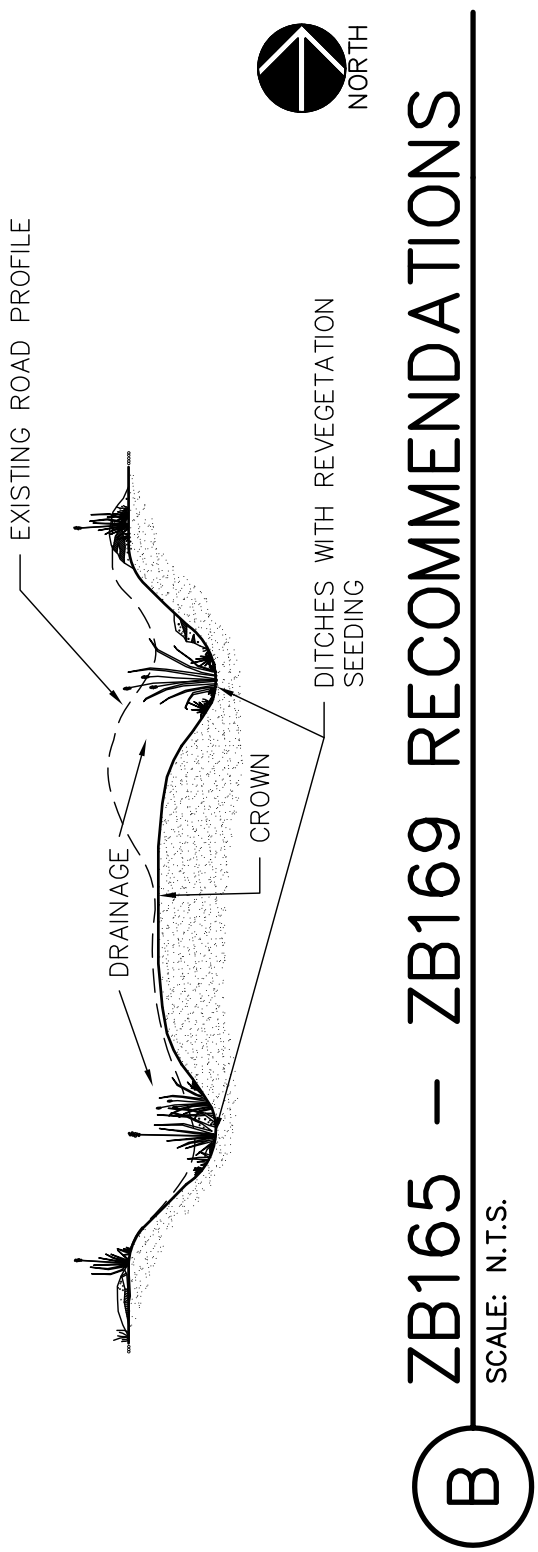
Detailed recommendations follow, but the intent of all recommendations is to achieve a well drained road with a crowned profile free of obstructions that includes effective, efficient drainage.

ZB 165-ZB 169:

This portion of road is characterized by three parallel tire tracks. The track to the north has fallen into disuse, likely due to its being too deeply rutted for most vehicles to use. The middle and southern tracks constitute the current roadbed. The southern track was likely originally a ditch. In wet conditions, cars tend to slide across the roadway to the low point. If the road is not repaired, drivers are likely to begin driving on the adjacent grassland, exacerbating the braiding along this road segment.

This report recommends grading the roadbed to achieve a crowned road profile and establishing swales along both sides of the road to handle runoff. It is further recommended the Forest Service seed the swales with revegetation seed mix including the major plant species of the grassland within the study area.



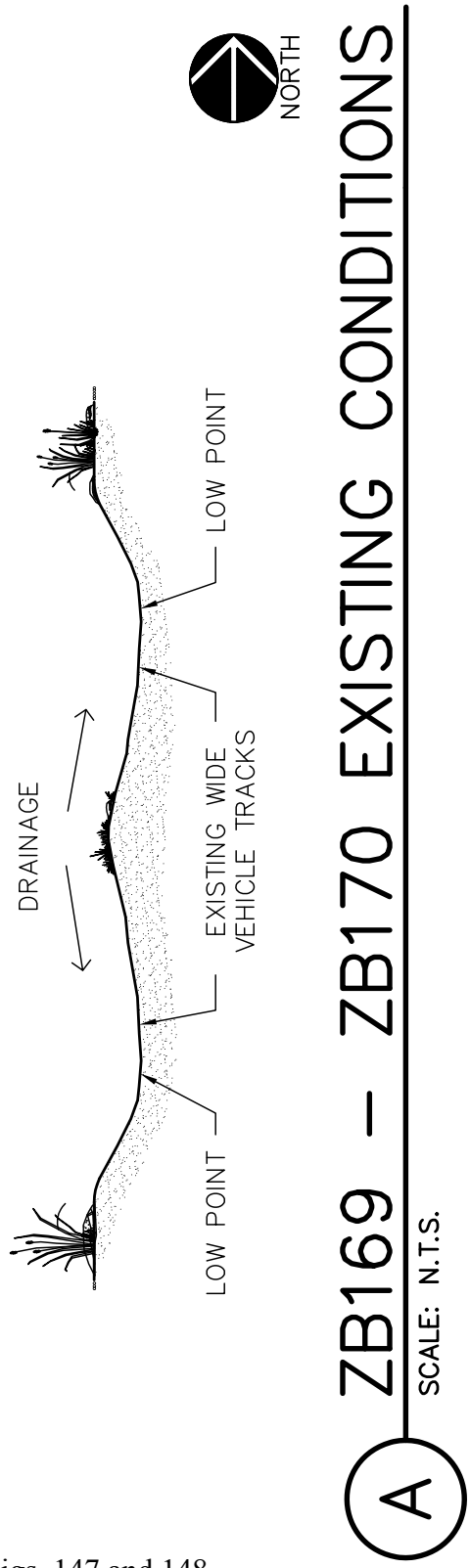


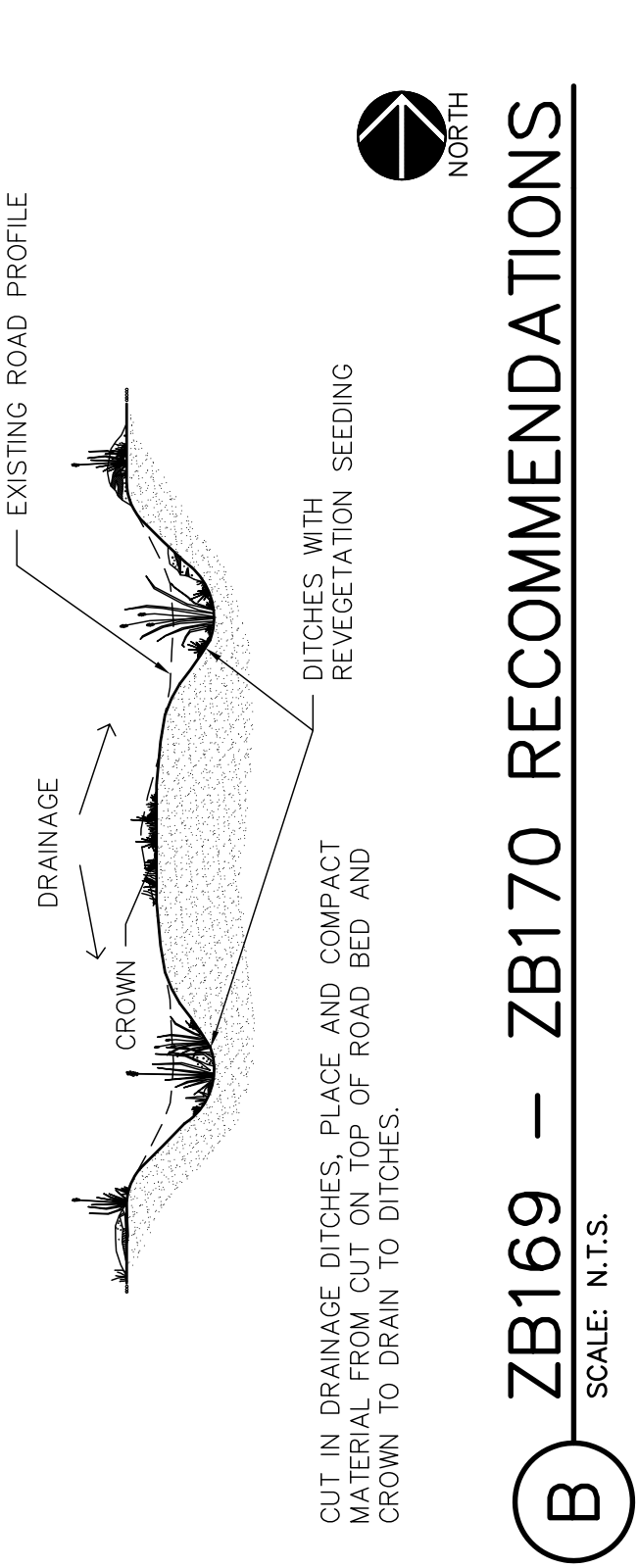
Figs. 145 and 146

ZB 169-ZB 170

Between ZB 169 and ZB 170, the road has a relatively good profile, with two tracks and drainage to the outside (away from the center and off the roadbed).

This report recommends cutting the ditches deeper on either side to improve drainage and more clearly define the desired roadbed.



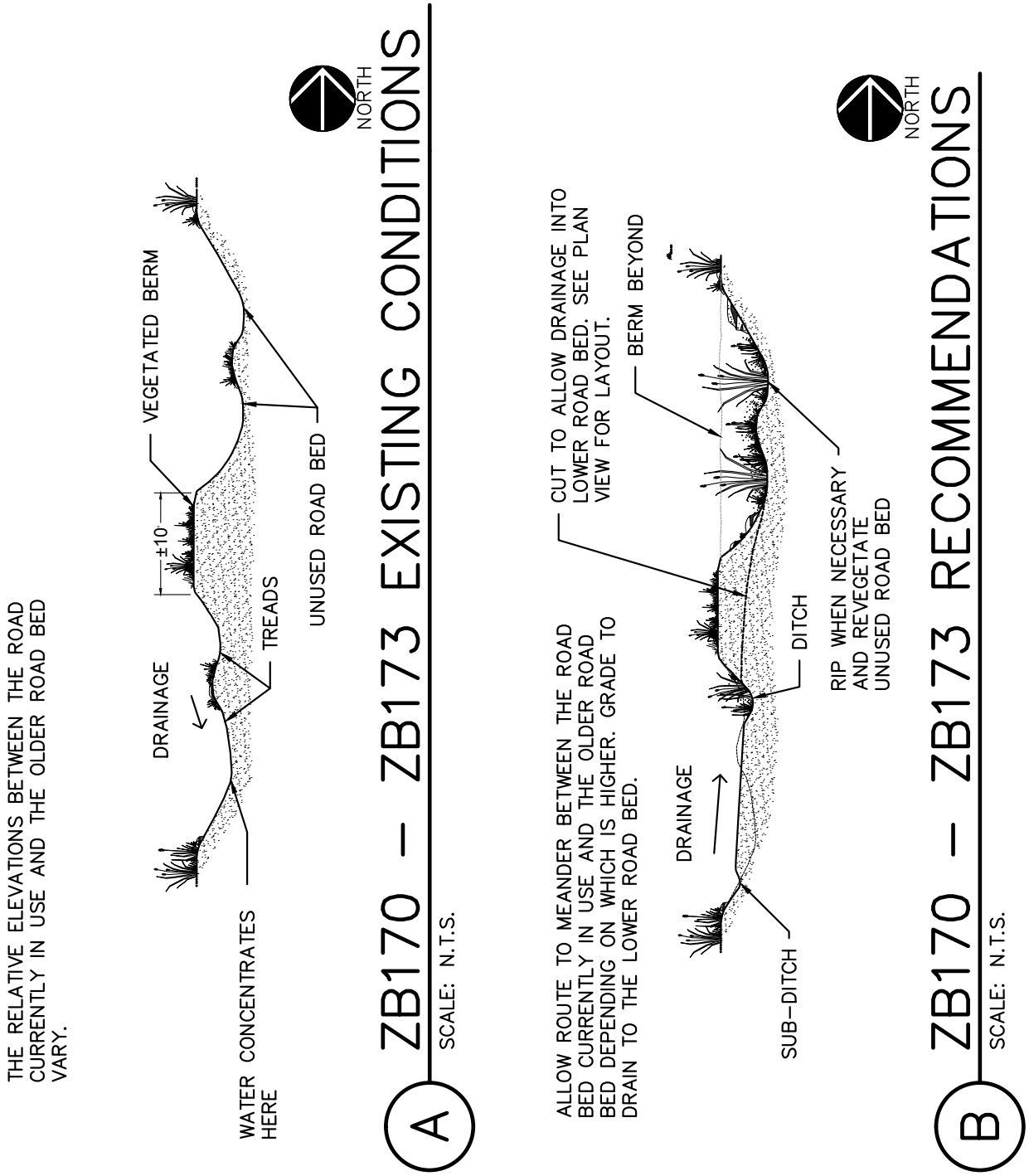


Figs. 147 and 148

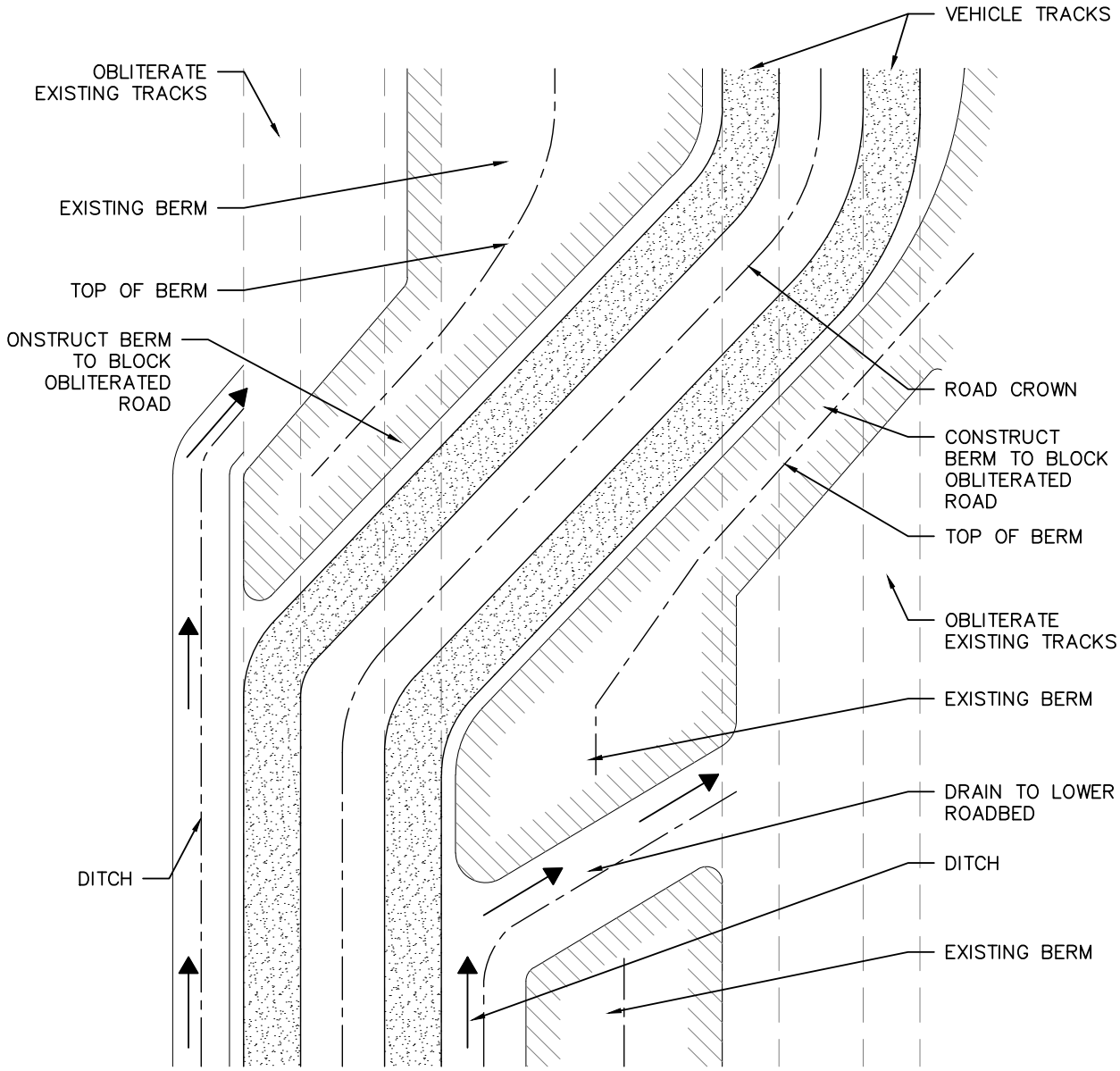
ZB 170-ZB 173

Currently, between pole ZB 170 and ZB 173 there are two distinct roadbeds: one currently in use to the south and another to the north that has fallen into disuse. The roadbeds are separated by a relatively undisturbed strip of grassland. The roadbeds are depressed and generally do not drain into one another. The relative elevations between the two roadbeds varies: at times the northern road is lower, and at other times the southern is lower.

It is recommended the USFS grade so the higher road is always draining into the lower road. This will give the road a slight meander. On long stretches, cut a drainage swale from the high road to the low road. Obliterate and revegetate the low roads to serve as drainage swales. To keep drivers in the preferred road, berms and large rocks may be used to block those segments converted to swales.



Figs. 149 and 150



GENERAL NOTES

A. ROAD SWITCHES TRACKS TO STAY ON HIGHER SIDE.
B. ADD REVEGETATION SEEDING ON ALL DISTURBED SURFACES.

C ZB170 – ZB173 PLAN VIEW

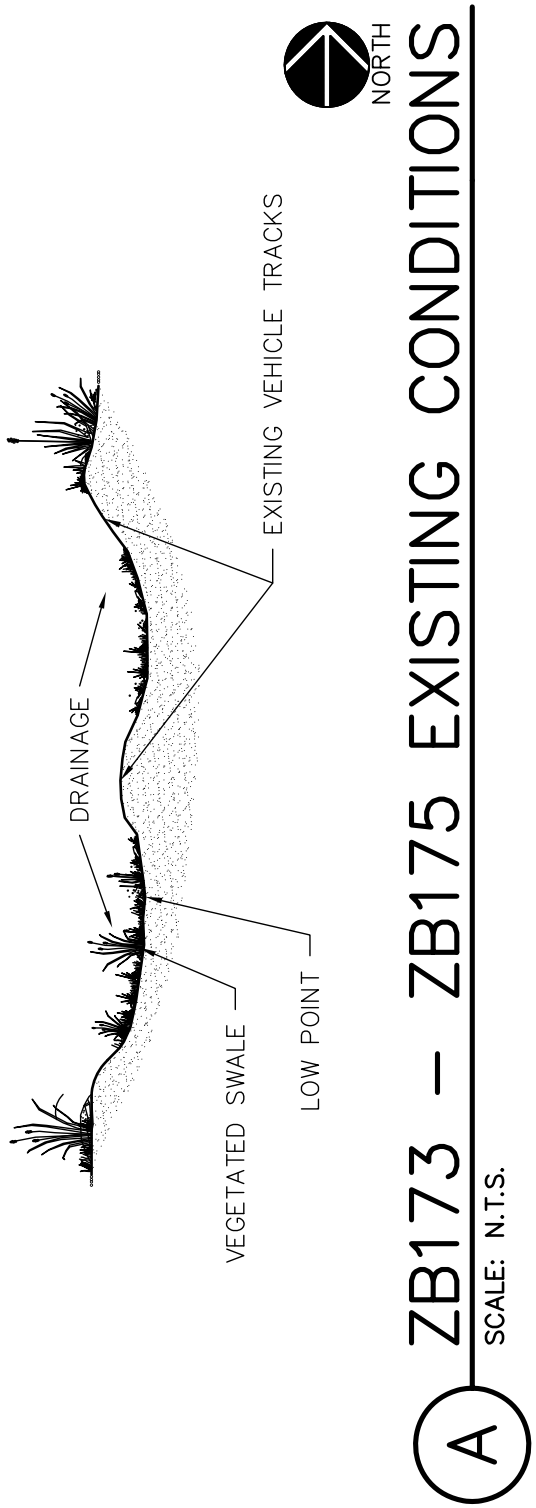
SCALE: N.T.S.

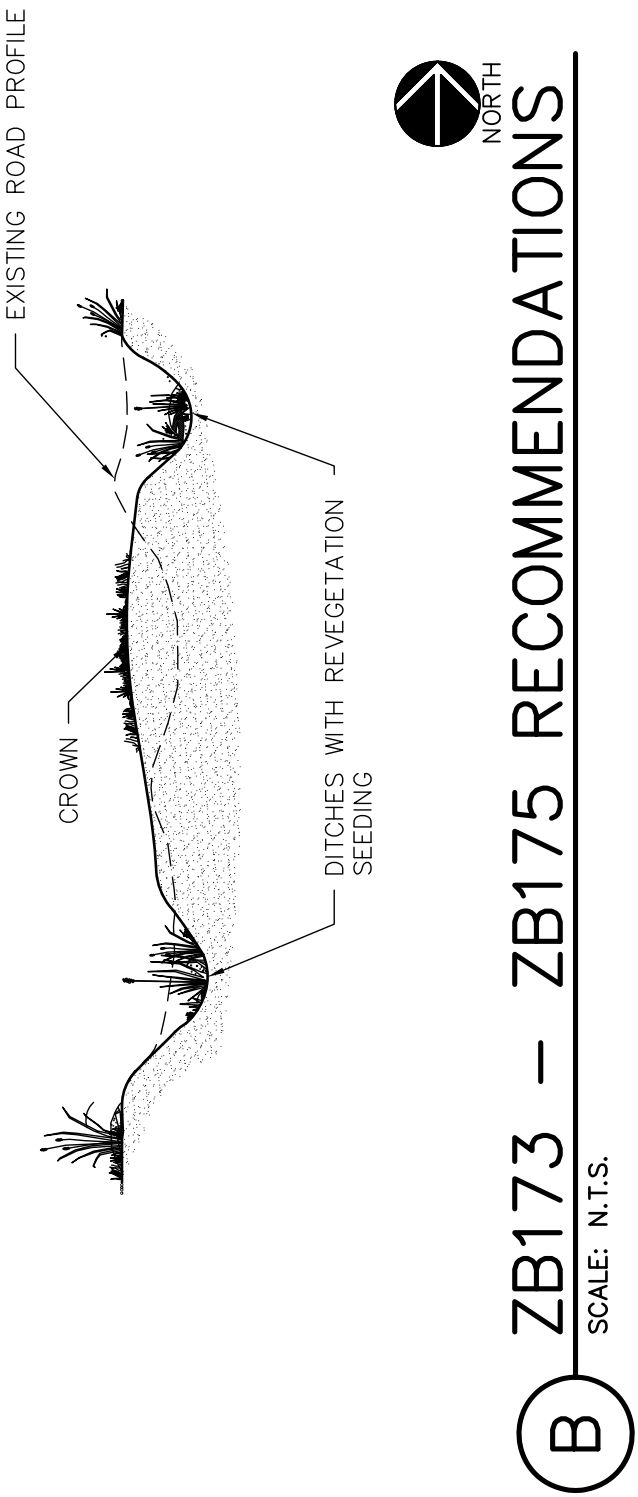
Fig. 151

ZB 173-ZB 175

Current tracks have been established at the crown and road edge due to poor drainage of the intended roadbed.

Grade to establish a ditch on either side of the road and a crowned road profile.





Figs. 152 and 153

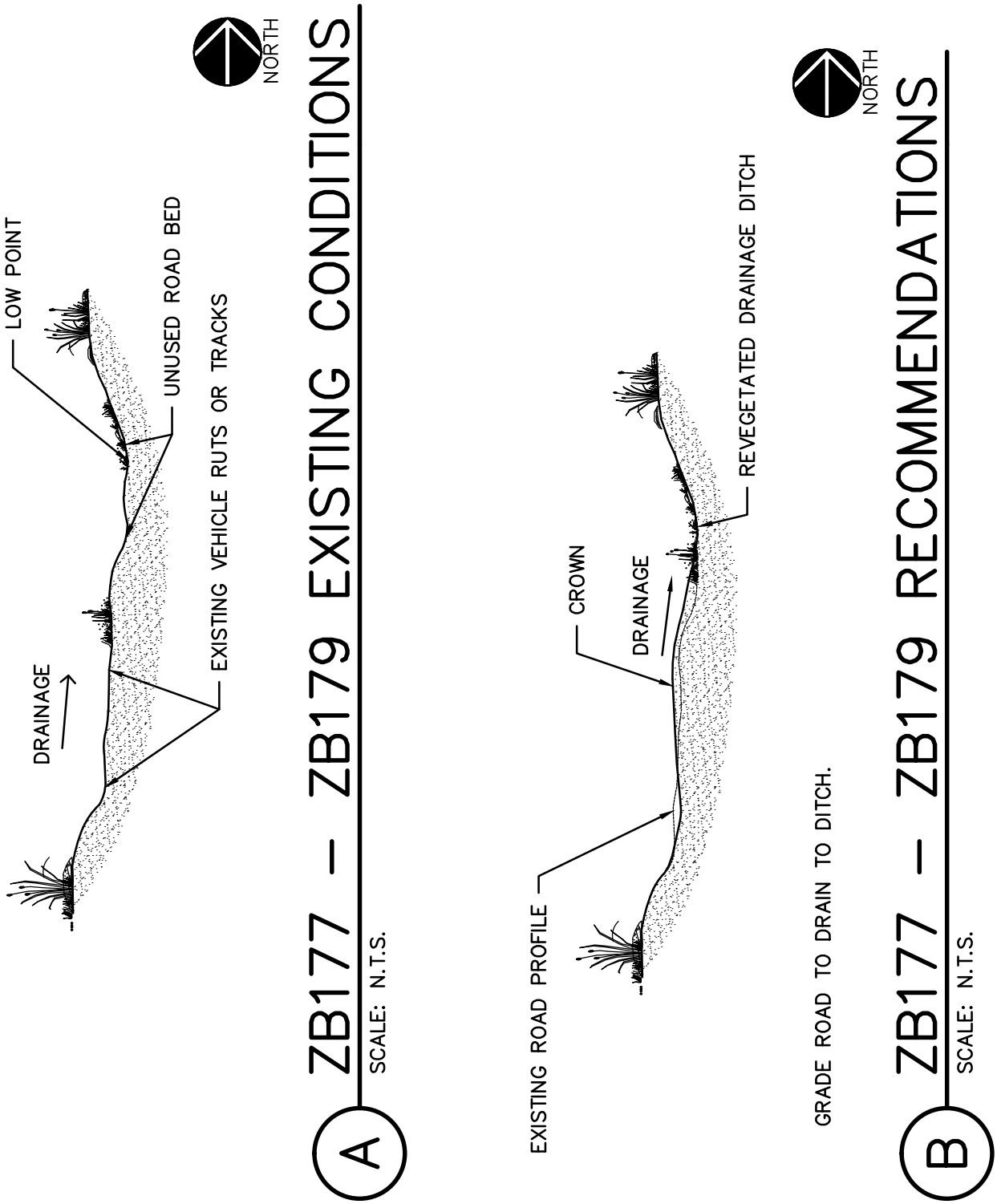
ZB 175-ZB 177

Road is in relatively good, well-drained condition. Grade per usual to maintain positive drainage and crowned surface.

ZB 177-ZB 179

This segment is characterized by two parallel routes, draining to the north, with one set of high tracks and another of lower tracks.

Establish a ditch on the south side with a crowned road to the north of it. Obliterate the roadbed to the north and revegetate, converting the northern road to a drainage swale for the southern road.



Figs. 154 and 155

ZB 179-ZB 183

Similar to the previous segment, this segment is characterized by two parallel routes separated by a low berm.

Establish a ditch on the south side with a crowned road to the north of it. Obliterate the roadbed to the north and revegetate, converting the northern road to a drainage swale for the southern road. Cut drainage swales through the berm periodically to allow for positive drainage of the southern roadbed.

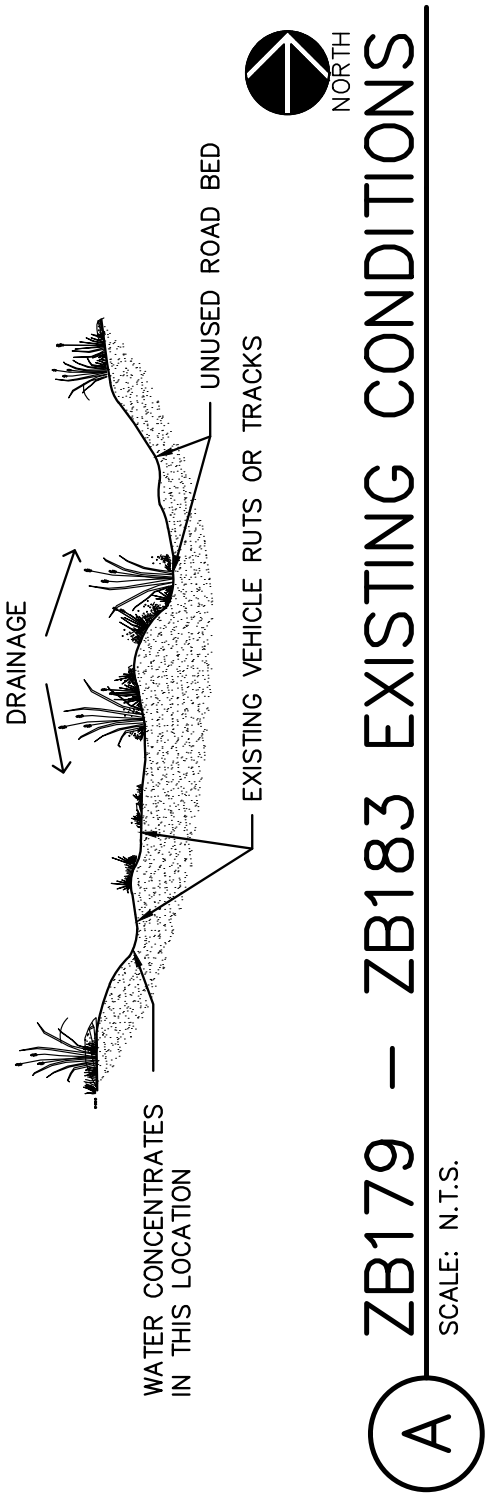
ZB 183-ZB 186

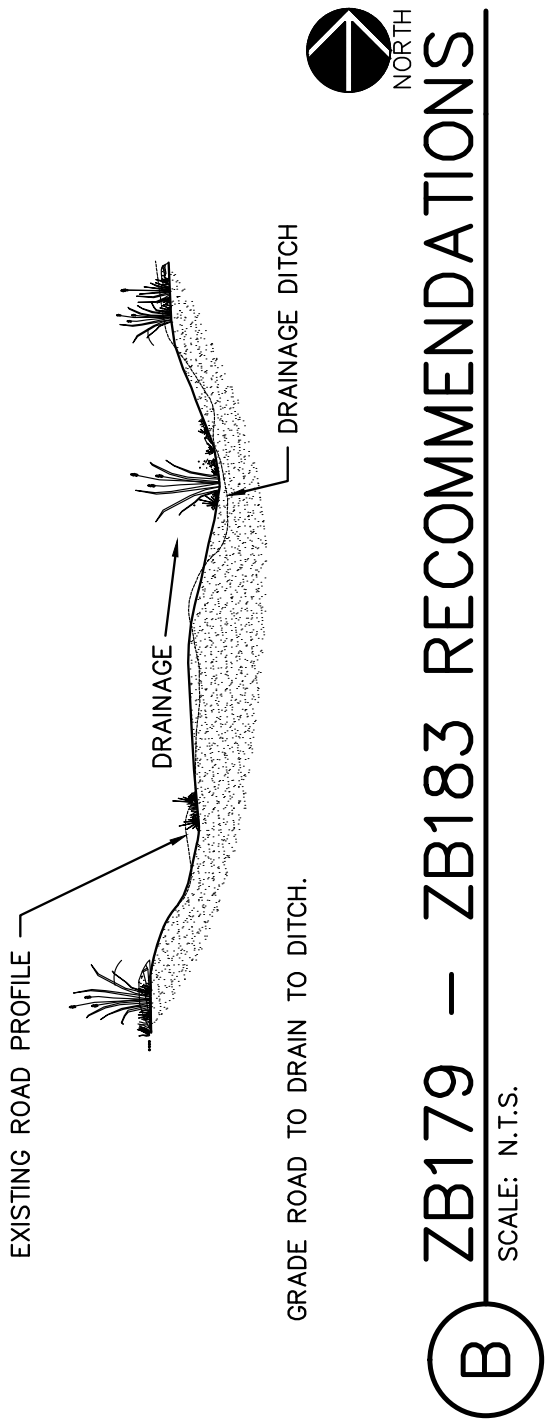
The roadbed has a great number of large, angular basalt rocks and boulders that protrude, creating an impassable condition for low-ground-clearance vehicles.

This report recommends removing the larger rocks from the roadbed (these can be used elsewhere on the road where rocks are needed), filling resulting voids, and grading to maintain positive drainage and a crowned surface.

ZB 186-Escarpment

Road is in relatively good, well-drained condition. Grade per usual to maintain positive drainage and crowned surface.





Figs. 156 and 157

Conclusion

The periods of significance for La Bajada span approximately 1100 years, from approximately 900 AD through the 20th century. All of the major features from these periods are historically significant and retain integrity. La Bajada is a fomidable geologic feature upon and near which are a complex system of roads and trails, field structures, a village, and many other significant and important historical features that offer a remarkable and literal glimpse into past centuries of New Mexican history.

This historic cultural landscape is best explored on foot, and a series of interpretive wayside panels would help the visitor to better understand its nature and importance. (The Interpretive Plan for the site includes recommendations to accomplish this.) For example, the view of the Camino Real crossing the plain below the rim is probably the best in the entire Southwest. The view of La Bajada Village, which is a rare "oasis" landscape served by the lower Santa Fe River, is also extraordinary.

La Bajada is an active historic landscape, continuing to serve its users and visitors in important ways. With a little care and a bit of practical adjustment, its pioneering roadways, Puebloan mesa-top gardens, and tumbling slopes can continue to inspire and inform the public for many years to come.

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Appendix 1: Literature Review

It was evident early in New Mexico's statehood that La Bajada escarpment was an important feature of the landscape. Archeologist Nels C. Nelson visited the area in 1915, noting the presence of Puebloan artifacts and architectural remains. Preservation of the cultural landscape of La Bajada began in June of 1975 when Stewart Peckham submitted an application for registration with the New Mexico State Planning Office, Register of Cultural Properties for Pueblo Quemado (Peckham 1975). Pueblo Quemado is a large Pueblo dating to approximately the fourteenth century at the bottom of the escarpment on the bank of the Santa Fe River. The site and associated artifacts were listed as important cultural elements worth protecting.

In 1982, archeologist Rory Gauthier submitted a National Register Nomination to the U.S. Department of the Interior for the La Bajada Mesa Agricultural Site (Gauthier 1982). This document titled La Bajada Mesa Agricultural Site, documented Puebloan agricultural features covering approximately 100 acres of the mesa top. The artifact assemblage indicates these sites were contemporaneous with Pueblo Quemado (Gauthier 1982:1). Gauthier includes a brief environmental assessment discussing how the geology seems to have helped create a relatively warm, wet microclimate which was used by the Puebloans for agricultural production (Gauthier 1982:2-3). The site is in excellent condition. Though Gauthier believes that the existing 1929 power line detracts from the sense of place, this feature is now considered to be contributing to the overall history of the landscape. (Gauthier 1982:3) This report, like the previous 1975 application, makes no mention of the network of trails that traverse the escarpment. Gauthier recommends further study of the environment, geology, and soils in order to better understand the placement of the agricultural features (Gauthier 1982:4).

James Moore documented two prehistoric sites and a historic roadbed and railroad grade in his 1984 survey for the Mountain States Telephone and Telegraph Co. cable right-of-way near La Bajada and Buckman, New Mexico. The Anasazi sites located within the southern survey area of the right-of-way along the La Bajada road included remains of a possible fieldhouse and grid gardens that have been impacted by three roads, two of which are now abandoned and one that is still in use (Moore 1984).

Fig. 158 View toward Santa Fe from atop the escarpment. Note the Sangre de Cristo mountains in the background.

In 1990, Michael P. Marshall studied several sections of the Camino Real throughout New Mexico.

At La Bajada, he divided the study area into several groups based on location: the Majada Mesa Study Area, consisting of La Majada North Road and La Majada South Road; Las Bocas Road, which follows the Canada de Santa Fe; and the La Bajada Mesa Study Area containing the La Bajada Mesa road including the road segments up the escarpment as well as those sections atop

the mesa. (See Marshall 1990, Figures 28 and 29.)

La Majada road is described as "an alternate avenue of the Camino Real which extends southwest from the area of La Bajada Pueblo (LA:7), southwest 6.1 kilometers to its junction with the La Majada South Road on the Galisteo Wash Escarpment." (Marshall 1990:119) Marshall conducted an archeological survey of the eastern 3.5 kilometers of the road.

According to Marshall, La Majada North road links La Bajada Pueblo with Santo Domingo Pueblo (Marshall 1990:119). He goes on to discuss that ceramic artifacts found within the Pueblo seem to indicate there was a reoccupation of it in the Colonial period. He further raises the possibility that the Pueblo may have served as a *paraje* (stopping place) in the early colonial period, but there is no historic documentation to back this possibility up. (Marshall 1990:119) Ceramics dating to between 1650 and 1725 found along the road validate the assertion that the road was in use during the colonial period (Marshall 1990:119).

The road is obvious in the area not so much because of a marked change in vegetation as by the deeply cut roadbed. (Marshall 1990:119) Marshall notes one section of road is cut approximately 12 meters wide by 2 meters deep. He also observes that the road appears to have two parallel roadbeds and speculates they may be for north-bound traffic and south-bound traffic. He further notes the presence of a stock trail along the side of the road for part of the route (Marshall 1990:120).

Marshall goes on to describe artifacts indicating that the road continued to be used through the Territorial Period and one can which may have held brake fluid, indicating some level of early automobile use. (Marshall 1990: 120) Intermittent bits of coal and small coal piles indicate coal was transported by wagon over the road. (Marshall 1990:120)

Finally, he notes the presence of scattered prehistoric artifacts, including hoe fragments, indicating that a large portion of La Majada mesa was farmed during the early glaze period (Marshall 1990:120).

Marshall concludes his discussion of La Majada North Road with a description of eight road segments and two archeological sites.

Fig. 159 View toward the southwest of La Majada Mesa from U. S. 66.

The La Majada South Road extends "west from the mouth of Santa Fe Canyon across the plains of La Majada Mesa toward Santo Domingo Pueblo" (Marshall 1990:128) and is "the direct route from Santa Fe Canyon to Santo Domingo Pueblo" (Marshall 1990: 128). He goes on to note that Pre-revolt ceramic artifacts indicate that the La Majada North Road was likely the original route, with the South Road being established after the abandonment of La Bajada Pueblo as a more direct route between the canyon and

Santo Domingo (Marshall 1990:128).

The South Road is described as "a prominent scar on the grassland plains of La Majada Mesa" and as a "well defined and re-vegetated swale" (Marshall 1990:128). Single and double tracks are visible and there are two locations where the swale cut is 2-3 meters deep and up to 20 meters wide (Marshall 1990:128).

He surmises the "prominent roadway definition" (Marshall 1990: 128) is the result of considerable traffic, but notes that there are relatively few artifacts linking its use to the Colonial Period. Most artifacts found were from the Territorial Period and early twentieth century (Marshall 1990: 128).

The Las Bocas Road is the segment of the Camino Real that passes through Santa Fe Canyon between the mouth of the canyon near La Bajada Village to La Cienega (Marshall 1990:132). It was the primary wagon route between Santo Domingo Pueblo and Santa Fe in the early Colonial Period (Marshall 1990:132). Its use tapered off during the Mexican and Territorial periods as alternate routes were constructed (Marshall 1990:132).

The route followed the canyon floor, on the benches above the river when possible, but often crossing the river (Marshall 1990:132). Frequently, the road was blown out by flooding and blocked by large boulders. Maintenance was constant and repair was frequently required (Marshall 1990:132).

The preservation of the road is poor, due largely to the fact that it exists in a turbulent environment and maintenance is non-existent (Marshall 1990:132). The road is discontinuous.

Marshall concludes his discussion of the route with a chronological summary of user accounts beginning with De Vargas in 1692 and concluding with Molhausen in 1853. Finally, he discusses seven route segments and two archeological sites.

The La Bajada Mesa Road is "an alternate section of the Camino Real which led directly from Santa Fe across the open elevated plain of La Bajada mesa to the steep escarpment at La Bajada village (Marshall 1990:145)." The road was in use as early as 1776 and, because of the rough, steep nature of the sections up the escarpment, was likely originally used for stock and not wagon traffic (Marshall 1990:145).

Several sections of the Camino on the escarpment were destroyed by subsequent road construction. Despite this, much of the road remains intact, though it is fragmented (Marshall 1990:145). Most of the constructed road features on the escarpment are believed by Marshall to be the result of the U.S. Army's 1860 construction efforts (Marshall 1990:145).

The road does not appear to have been heavily used during the Territorial Period,

Fig. 160 An eroded segment of the Camino Real on top of La Bajada Mesa, facing east.

as most accounts of travel through the area refer to the passage through the canyon (Marshall 1990:147).

Marshall concludes by describing four road segments along the mesa top. No survey was conducted of the escarpment road segments.

The National Historic Trail Feasibility Study Environmental Assessment: El Camino Real de Tierra Adentro, published by the National Park Service in 1997, discusses the importance of this road and what it has contributed to the travel of different groups of people in northern New Mexico over four centuries.

Early in the colonial period, roads that connected major cities became part of a network of trunk routes known as caminos reales, or royal roads. El Camino Real de Tierra Adentro, which ran from Mexico City to Santa Fe, New Mexico, was one of these roads. This road "followed the path of miners, ranchers, settlers, soldiers, missionaries, and native and European emigrants who settled places along the way" (USDI: 1997,19). This route was used throughout the 16th, 17th, 18th, and 19th centuries. The road made it possible for "exploration, conquest, colonization, settlement, and military occupation of a large segment of the borderlands"(USDI: 1997, 15). Many new historic, ethnic, and cultural traditions were transmitted along the Camino Real, including music, folk tales, medicine, sayings, architecture, geographic place names, language, irrigation systems, and Spanish law.

Other discoveries on La Bajada Mesa illustrated the extended history of use of the landscape. Prehistoric early Glaze period ceramics were found. The artifacts help demonstrate that the area was farmed by Puebloan people prior to the arrival of the Spanish. Three ceramics clusters have also been identified from the colonial period. These included two Tewa polychrome pieces believed to be from 1650-1825. These findings show that this landscape has been used by people over many centuries (USDI: 1997, 29).

In 1996, the New Mexico National Guard contracted archaeologists from the University of New Mexico Office of Contract Archeology (OCA) with the task of conducting a Planning Level Survey (PLS) on their Camel Tracks Training Area on BLM land near the La Bajada Escarpment as part of the Guard's renewal of a Special Use Permit issued by the Bureau of Land Management (Gerow and Doleman 2002, Gerow and Kurota 2004, Gerow and Hogan 2005). In 2002, 2003, and 2004, the OCA conducted several resource inventories in the area. This work led to three phases of reports, published from 2002 to 2005, noting artifact assemblage and archeological sites from the Paleo-Indian period through to the early twentieth century. Continued usage of the Camino Real through the Camel Tracks Training Area from its creation through the twentieth century was verified through the artifact assemblage, which includes glass and metal can remnants dated from the early nineteenth century through the 1930s (Gerow and Kurota 2004:131-132). The three reports investigate the history of the La Majada land grant and date the earliest Spanish occupation of the area to 1695 (Gerow and Doleman 2002:34).

In 2002, the OCA published the results of the first cultural resources inventory to identify and evaluate cultural resources, their spatial relation to training activities conducted by the National Guard in the

training area, and potential eligibility of the resources for nomination to the National Register of Historic Places (NRHP) (Gerow and Doleman 2002:1). The inventory of the 8,357-acre site was completed in two phases in 1996 and 2000.

The inventory documented 157 new sites and 947 isolated occurrences dating from the early Archaic (7500 BP - 2800 BP) to the post World War II periods (Gerow and Doleman 2002:127). Eighty-three sites were deemed eligible for nomination to the NRHP. The data collected indicate seasonal uses of the site including hunting and wild plant gathering during the Archaic period and dry farming during the Puebloan occupation (14th Century). Evidence of permanent habitation in the area was not found. Puebloan "occupational intensity ranges from short-term to seasonal residences" (Gerow and Doleman 2002:127). Gerow suspects that seasonal occupants came from larger villages in the Santa Fe River Canyon and at the base of La Bajada escarpment (Gerow and Doleman 2002:127).

Historical use of the area is indicated by campsites and corrals that were used for livestock grazing. Petroglyphs were found with dates of 1848, 1889, 1892, and 1897. Additional artifacts were found that indicate use from statehood through both World Wars and beyond. There are remnants of the Camino Real which meet up with previously documented segments of the trail near the edge of La Bajada Mesa (Gerow and Doleman 2002:132).

In 2003 the OCA completed archeological investigations at 15 sites in the southern portion of the 9,035-acre Camel Tracks Training Area in Santa Fe County. The study area is located just east of the La Bajada CLR study area. The thematic focus of the data recovery program was on Puebloan agricultural strategies and prehistoric hunting strategies (Gerow and Kurota 2004:1).

The investigation was unable to obtain the artifacts and evidence needed to address questions of prehistoric hunting strategies in relation to the site. The investigations into the Puebloan sites were more successful. There were eight Puebloan sites investigated. Mostly seasonal agricultural facilities, the sites varied in terms of occupational intensity and duration, facility type and construction technique. The facility types included windbreaks, half-walled ramada-like structures, and single surface rooms. At LA 131812 a rock-lined, semi-subterranean structure was unexpectedly found. Its function was likely storage, but it could also have been a shelter; this indicates a more intense occupation than originally believed (Gerow and Kurota 2004:254).

Located at the edge of a field area, a possible shrine was discovered at LA 131793. Diagnostic ceramics indicate the site may have been used from the twelfth century to the mid-sixteenth century. There are discussions of field shrines in the literature for Pueblo peoples including the Tewa, Zuni and Hopi groups (Gerow and Kurota 2004:256-257).

"The ceramic assemblages from the Puebloan sites indicate the heaviest occupation of the Camel Tracks area was during the early Pueblo IV or Glaze A period" (Gerow and Kurota 2004:257). These synonymous terms refer to the time period from 1350-1600 AD.

Rock piles are found frequently on La Bajada Mesa, especially near the edges

of the escarpment. Tests conducted on these piles show clear differences in the temperature, moisture and stratigraphic profiles as compared to the surrounding area. Worman hypothesizes that these characteristics made the rock piles ideal locations for growing crops (Gerow and Kurota 2004:257). Worman also used the data obtained from the rock piles to surmise that sites studied in this investigation were occupied during wetter years. This information, combined with ceramic mean dates for five of the sites, allows a tighter time frame of 1370 to 1391 to be assigned to the occupation of these sites (Gerow and Kurota 2004: 258).

LA 131824 contained artifacts that indicate that the portion of the La Bajada branch of the Camino Real that runs through the Camel Tracks area was abandoned around the turn of the twentieth century (Gerow and Kurota 2004:258). Historical artifacts "consisted primarily of bottle glass fragments followed by lesser quantities of food cans, horseshoes, and miscellaneous metal items (Gerow and Kurota 2004: 127)." Most historic artifacts date from the mid-nineteenth century to the early twentieth century (Gerow and Kurota 2004: 127).

New sites were also recorded as a part of this study, indicating additional agricultural facilities of a Puebloan occupation (Gerow and Kurota 2004:260). Some of the sites have "potential to yield information regarding Puebloan agricultural strategies" and are therefore eligible for nomination to the NRHP under Criterion D (Gerow and Kurota 2004:265).

In 2004 the OCA completed a final data recovery program at 10 sites in the Camel Tracks Training Area. Gerow quotes noted southwestern archeologist Kurt Anscheutz, who is known for his analysis of ancient pueblo landscapes in the La Bajada and Jemez Mountain areas. Anscheutz theorizes that the population increase during the 13th and 14th centuries in the Middle Rio Grande region was supported by "intensifying agricultural technologies" and an "expanding range of locations used for agricultural purposes" (Gerow and Hogan 2005:7). Pueblo groups took advantage of upland settings and a "variety of agricultural features designed to control water, retain soil, and enhance temperature conditions in horticultural plots" (Gerow and Hogan 2005:7). The OCA investigated nine Puebloan sites. At least one structure was found at each, as well as agricultural features including rock piles and grid gardens at seven of the sites (Gerow and Hogan 2005:226). Data recovered by Gerow indicated structures were likely occupied seasonally at different times during the growing season (Gerow and Hogan 2005:226). The difference in occupational length and use is indicated by the style of the field structures.

Gerow quotes Moore (1979), who "defines five patterns of site uses for fieldhouses: (1) daily, returning nightly or most nights to the habitation; (2) bi-seasonal, during the spring planting and fall harvest; (3) late-seasonal, as the crop approaches maturity and during and shortly following the harvest; (4) sporadic, as fields and crops require attention; and (5) continual, more or less steadily through the agricultural season (1979:89)." (Gerow and Hogan 2005: 230)

No evidence of seasonal residences was found in the study area, indicating that the field complexes documented were used by nearby villages. Based on a 5-mile radius from nearby villages and petrographic analyses and temper comparisons of

glazewares, Gerow concludes that the sites in the Camel Tracks study area were likely occupied by people of La Bajada, La Cienega, or La Cieneguilla (Gerow and Hogan 2005:235).

No conclusive evidence was found to identify what crops were grown at the Camel Track sites (Gerow and Hogan 2005:236).

New information about Puebloan dry-land farming techniques was found through geomorphological studies confirming that "most of the rock pile fields were probably used to grow crops within them as these piles evidenced an increase in moisture, soil buildup, and temperature" (Gerow and Hogan 2005:236). One site, LA 131810, showed that "the piles were strategically placed to direct the flow of run-off across the site, and to serve as check dams within the small, now-buried channels" (Gerow and Hogan 2005:236).

Mary Lou Heaphy published *A Cliffie Experience: Tales of New Mexico 1902 - 1940* in 2005 chronicling the adventures of her mother (Heaphy 2005). Heaphy's memorable stories of Cliffie, her mother, include a chapter discussing travel over La Bajada in the early twentieth century. The book provides colorful accounts of cars and wagons negotiating NM 1 at the peak of its use (Heaphy 2005:220). Automobiles ascending the grade in reverse and the hazards of descending the road with pack animals reiterate a number of the personal accounts from the residents of La Bajada Village (Heaphy 2005:226). Heaphy details numerous facets of the La Bajada grade in the 1920s, including the deaths of pack animals and the lack of rest rooms along the climb. These stories are a combination of her personal experiences and the recollection of stories her mother recounted to her. Heaphy also recalls her mother describing a large water tank at the top of the mesa used to assist overheating vehicles. (Heaphy 2005:222).

The unique geological features of La Bajada have resulted in a number of geologic surveys. As a result of regional hydrogeologic investigations in the Albuquerque Basin, Santa Fe, and the Pueblo of Cochiti, the U.S. Department of Interior authorized a geological survey of the La Bajada Constriction in 2006 (Sawyer and Minor 2007). This study, in conjunction with previous surveys by the U.S. Geological Survey, sought to better quantify estimates of future water supplies for northern New Mexico's growing population (Sawyer and Minor 2007:2). The volcanic and tectonic processes that transformed La Bajada into an imposing six hundred foot cliff also affect the flow of water at the escarpment, both through aquifers as well as over the surface. This, in turn, affects the quality of the water. Researchers report that the water quality from subterranean sources at La Bajada is generally of poorer quality than other nearby regions because buried Precambrian granite and granitic gneiss basement rocks alter water until it is only suitable for local domestic water supply or for watering stock (Sawyer and Minor 2007:19). Pockets of brackish subsurface water are present throughout the area.

In 2007 a Landscape Reconnaissance Report was completed by Kaisa Barthuli on the village of La Bajada (Barthuli 2007). With investigations already underway regarding the Puebloan history of La Bajada and the transportation network of the American late territorial and statehood eras, an analysis of the village and its roots as a Spanish Colonial settlement was considered integral to a complete understanding of

La Bajada cultural landscape. Barthuli compiled a detailed history of the village and its relationship to the system of trails and roads crossing La Bajada. The report clearly noted these routes as contributing to the village's historical development, and it traces the evolution of the community through the evolution of the passage across the escarpment (Barthuli 2007:2).

Interviews with local community members and a study of the physical history and cultural characteristics of the village correlate with the history of the escarpment itself in many ways. From the formation of the Camino Real to the abandonment of the Route 66 alignment in 1931, the fortunes of the village are tied to the condition and use of the historic escarpment trails and roads (Barthuli 2007:4). The report includes diagrams, historical photographs, 2007 photographs and current aerial imagery. Barthuli characterizes the integrity of the village as under threat from new development and a lack of ordinances to manage the existing resources (Barthuli 2007:14). She also states that the village may be potentially significant under Criterion A and C of the National Register of Historic Places for its association with Spanish Colonial settlement and role in transportation, with a period of significance ranging from 1695 to 1931 (Barthuli 2007:13). Statements of eligibility and significance require further evaluation by the New Mexico State Historic Preservation Office.

Further study of the historic trail system at the La Bajada escarpment occurred in 2008 when a report and field studies were coordinated by the Historic American Engineering Record (HAER) and included partners from the National Park Service, National Trails System, and the University of New Mexico's 2008 Southwest Summer Institute for Preservation and Regionalism (Alper et al., 2008). This investigation effort differs from earlier studies in project scope, bringing the Spanish history of

Fig. 161 A segment of the Camino Real on top of La Bajada Mesa, facing east.

the trails together with the later American efforts. Brief attention is given to the Pueblo remnants present in the region, but the main focus is on the trail network starting with the blazing of El Camino Real de Tierra Adentro in 1598. An in-depth historical narrative was provided that built on Barthuli's village reconnaissance to track the evolution of the transportation system over La Bajada escarpment. The various eras and features of the escarpment are clearly defined and encompass the Prehistoric Period (briefly), El Camino Real, U.S. Military Wagon Roads, New Mexico Highway 1, and U.S. Highway 66/85. Dates of construction are listed as 1598, 1860s, 1909 and 1926 (Alper et al., 2008:1). The 1909 alignment used dynamite as a means to move tons of basalt, which according to the investigators was the first time this method was recorded in the route's history (Alper et al., 2008:11). The researchers note that the road gained prestige in 1913, when it was proposed to Congress as an "interstate highway," and again in 1914 when the Southern California

Automobile Association mapped the entire route (Alper et al., 2008: 12). The 1929 transmission line, listed as ZB46KV, and recent developments, including the reclamation of a nearby uranium mine, are also mentioned and evaluated. Included in the report are historic photographs, current photographs, field recordings and measured drawings.

In 2008 Richard F. Weingroff of the Federal Highway Administration published a report entitled The National Old Trails Road, Part 1: The Quest for a National Road (Weingroff 2008). This report traces the desire for a transcontinental highway in the nineteenth and early twentieth centuries. Weingroff summarizes the political and engineering struggles involved in creating a national road from the 1890s through the early 1900s in New Mexico (Weingroff 2008:1). He notes that by 1911, the idea of a transcontinental highway was receiving increased attention and a route was endorsed that would include following the Santa Fe Trail west to Santa Fe and then continuing on to Phoenix, most likely using the La Bajada escarpment in the process (Weingroff 2008:4). An organization called the Old Trails Association of Missouri is noted as having the Governor of New Mexico as a member and is shown as evidence that the state was interested in having a transcontinental highway run through it (Weingroff 2008:8). All early routes for the envisioned road ran through Santa Fe and down south to Albuquerque via the alignment of El Camino Real. This path inevitably took users over the La Bajada escarpment, indicating that this part of the passage would need modifications as traffic increased. Weingroff notes that by 1912 the states of New Mexico, Arizona and California were meeting to formally agree on the layout of the east-west route

Fig. 162 The village of La Bajada from La Bajada escarpment.

to the ocean and New Mexico settled on an alignment that went though Santa Fe, headed south to Albuquerque, and then west to Gallup (Weingroff 2008:19). This decision once again affected the La Bajada escarpment as it was included in the road agreement and had been modified in 1909 to make it easier to pass. Further negotiations between the states are shown, ultimately culminating in the creation of the National Old Trails Road (Weingroff 2008:37).

In 2009 the New Mexico Department of Transportation published a report on the history and condition of U.S. Route 66 through the state (Kelley and Reynolds 2009). This report, entitled Route 66 & Native Americans, provides a detailed history of the iconic road and notes its impact on the culture, traditions, perceptions and depictions of Native Americans. The New Mexico Department of Transportation initiated this report to document the importance of Route 66 to the Pueblo people and recognize their contributions to the historic road. Cochiti Pueblo members, whose ancestors were part of the one hundred man crew who helped build the 1909 road over La Bajada, were interviewed by the authors to gain insights into the route they remember from their youth (Kelley

and Reynolds 2009:34). Those interviewed describe how they mostly travelled to the village of La Bajada by wagon and then boarded buses to venture to Albuquerque or Santa Fe (Kelley and Reynolds 2009:35). Route 66 is shown as both a boon and a dilemma for the Pueblo people, carrying business to them like never before but also used as a means to exploit their culture for tourism and transport their children to schools aimed at "Americanizing" them. The advertising of the 1920s illustrate the Pueblo people as "a commodity to be consumed visually" and Route 66 was the venue to take people there (Kelley and Reynolds 2009:9).

Most recently, a plan for land management was written in 2010 by several University of New Mexico students, to once again attempt to balance the needs of the numerous stakeholders in the La Bajada cultural landscape (Anderson et al., 2010). Aimed at creating a management approach for Santa Fe County Planning Department, this plan attempts to lead a multi-jurisdictional planning effort by identifying the major stakeholders in the area and offering suggestions that can allow these entities to work together (Anderson et al., 2010:4). Recommendations for the area include: encouraging and assisting private landowners in joining a land trust that prioritizes natural and cultural resource sustainability; a request that the U.S. Forest Service and the Bureau of Land Management designate special management areas that will give priority to local concerns; a request asking the Santa Fe County Planning Department to work with Cochiti Pueblo to change the "traditional use" language in the Santa Cruz Spring Tract to allow economic development options; and, finally, the consideration of a designation of La Bajada

Fig. 163 ZB46KV transmission line to the left of U.S. 66 facing northeast toward La Bajada escarpment.

Village as a Traditional Cultural Property to add protection to its cultural and natural resources (Anderson et al., 2010:5). The Santa Cruz Spring Tract mentioned in the recommendations includes land that is currently held in trust in the La Bajada area that was deeded to the Cochiti Pueblo by the U.S. Government. This land has been designated solely for agriculture, mining and grazing (Anderson et al., 2010:5).

In 2011, an HAER report titled La Bajada Community Ditch and Mutual Domestic Water Association was undertaken by students of the University of New Mexico under the direction of Professor Arnold Valdez for a Cultural Landscape Planning course. The goal of the course was to compile the documentation found in both reports so that it may assist in the preservation of the cultural features. The first of these draft reports focuses on the 1737 acequia system, which runs along the base of the basalt escarpment of La Bajada, and is utilized by the village. The report describes the acequia system, summarizes its history and significance, and includes photographs and drawings. The report also serves to outline the integrity of the acequia, which includes its operation in a setting similar to historic times. It is the most

dominant and historic feature of the Village of La Bajada, and it lies close to El Camino Real de Tierra Adentro, NM 1, and Route 66 (Barrett et al., 2011). The second of the HAER reports focuses on the La Bajada Community Water system, particularly the 1880 infiltration gallery and six mile long pipeline of the water system, which was originally built to serve the railroad town of Wallace. The report includes a detailed description, history, drawings, and photographs, as well as a statement of significance of the system. The report notes the significance of the location of the gallery structure, which is found at the springs deep in the canyon; this construct "has likely been important for many hundreds, if not thousands of years" (Valdez et al., 2011:3).

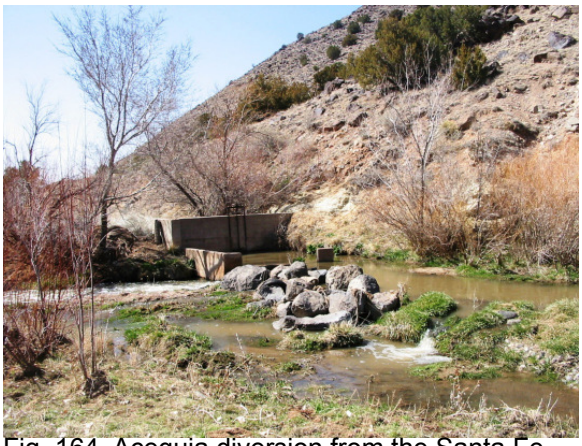


Fig. 164 Acequia diversion from the Santa Fe River (Barrett et al. 2011: 8).

Fig. 165 Remnants of a concrete, basalt, and corrugated metal culvert alongside NM 1.

In 2011, the Bureau of Land Management (BLM) received funding to acquire private land (the Rael Acquisition) within the La Cienega Area of Critical Environmental Concern (ACEC) (BLM 2011, 2). The ACEC is a conservation ecology program managed by the BLM, in which the bureau acquires land that needs to be protected based on threats to riparian corridors, threatened and endangered species habitats, cultural and archeological resources and unique scenic landscapes.

The proposal was to "purchase 30.14 acres of non-federal lands and 12.9 acres of water rights from the Trust for Public Lands (TPL), which will acquire the property from the Estates of Leonides Rael and Alonzo Rael (BLM 2011, 2)" in order to "consolidate BLM ownership of real property in the area, provide access to the Santa Fe River and enhance management opportunities of La Cienega ACEC. (BLM 2011, 2)" Further, "By acquiring this property, the BLM would be able to ensure protection of petroglyphs, archeological sites, and natural resources from degradation of potential future development such as subdivisions (BLM 2011, 3)." The BLM is still in the process of acquiring the lands.

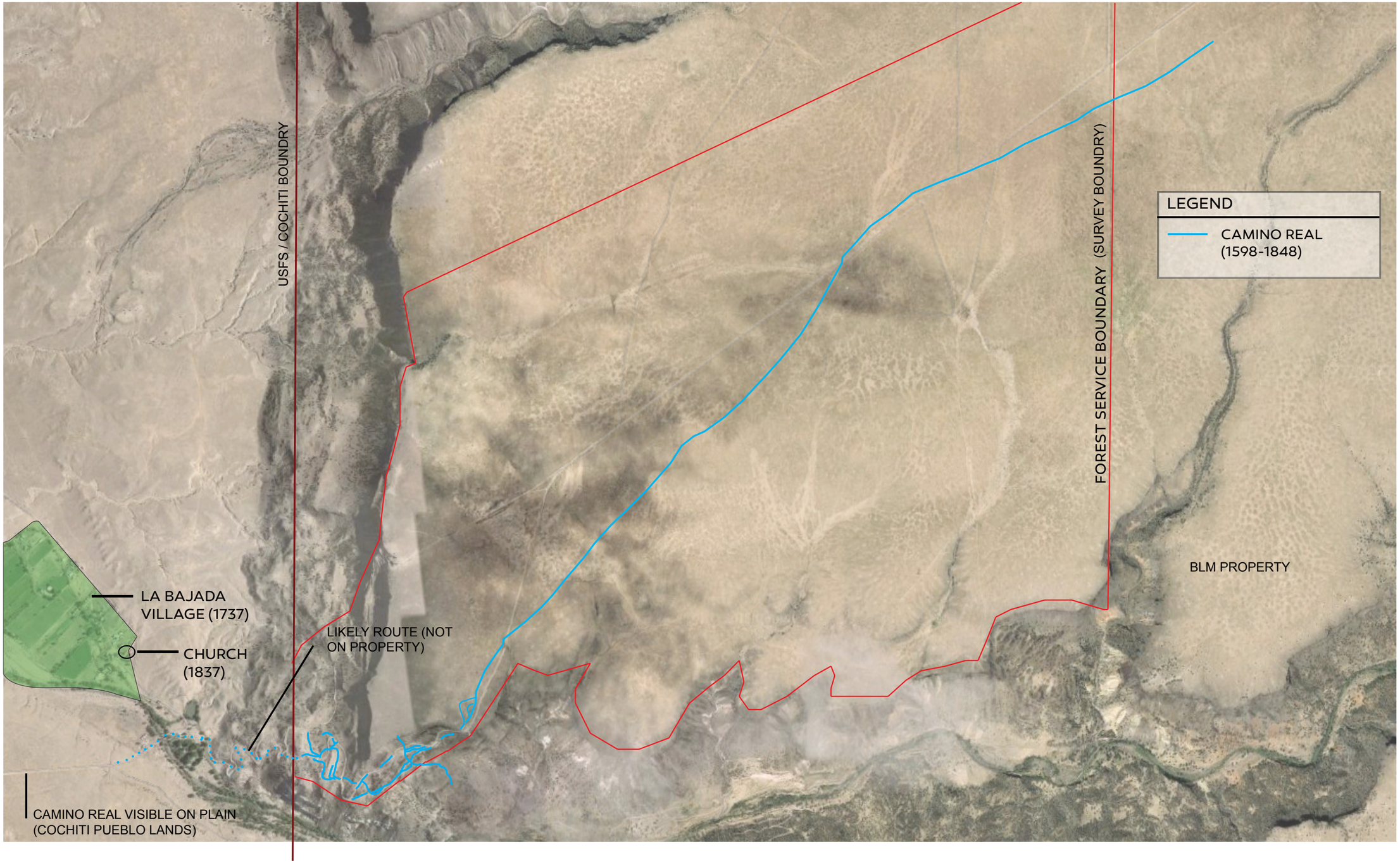
Santa Fe's location in the landscape only allows it to grow in a few limited directions. The Sangre de Cristo Range to the east and Tesuque Pueblo to the north keep large scale development limited to the south (into the Galisteo Basin) and west (toward La Bajada). In an article published in the Santa Fe New Mexican in April of 2015, a "mega project" was discussed. Set to be developed in the near future, "This development will encompass 371 acres on the Santa Fe airport side of N.M. 599 and another 34 acres of land adjacent to Tierra Contenta." The

developer pointed out that on the southwest side of town" there are bigger chunks of land". All of this means that in order for Santa Fe to grow it will push ever closer to La Bajada. This development will be "one of the largest commercial real estate developments in the history of Santa Fe (Santa Fe New Mexican 2015: 1)." The cultural landscape of La Bajada will need to be protected from the potential impacts from the increased population associated with this type of development.

The amalgamation of these papers, plans and nominations represents a wide breadth of information and resources to better understand the La Bajada escarpment. In conjunction with the current research and field study efforts, a clear understanding of the area's uses, history and significance will lead to informed recommendations for the preservation of this unique cultural landscape.

Fig. 166 Facing west down U.S. 66 where it crests the escarpment.

Appendix 2: Graphic Chronology Maps



CAMINO REAL PERIOD 1598 - 1848

LA BAJADA CLR PHASE II • 2016

MAP A

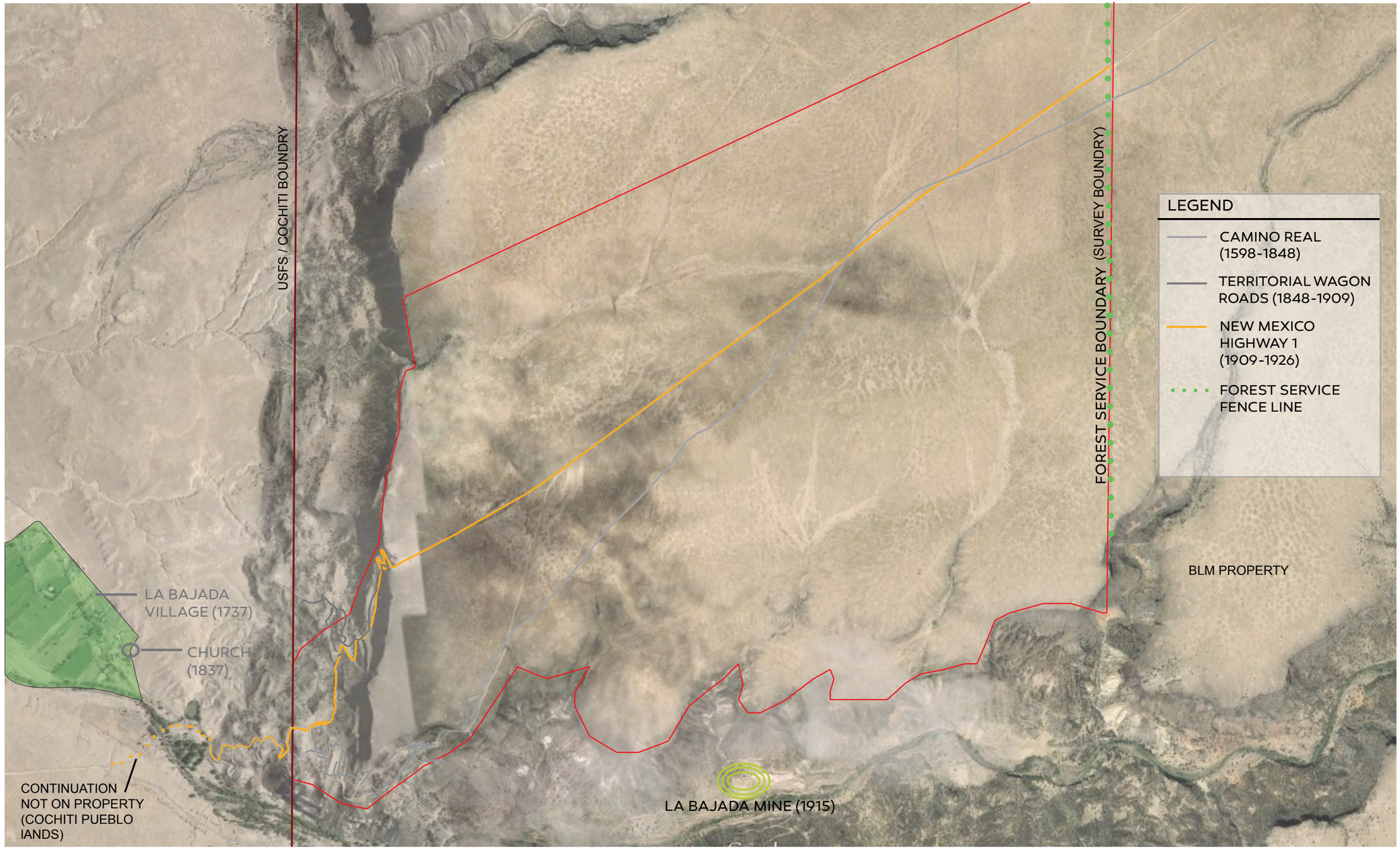
MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.

TERRITORIAL PERIOD 1848 - 1903

LA BAJADA CLR PHASE II • 2016

MAP B

MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.

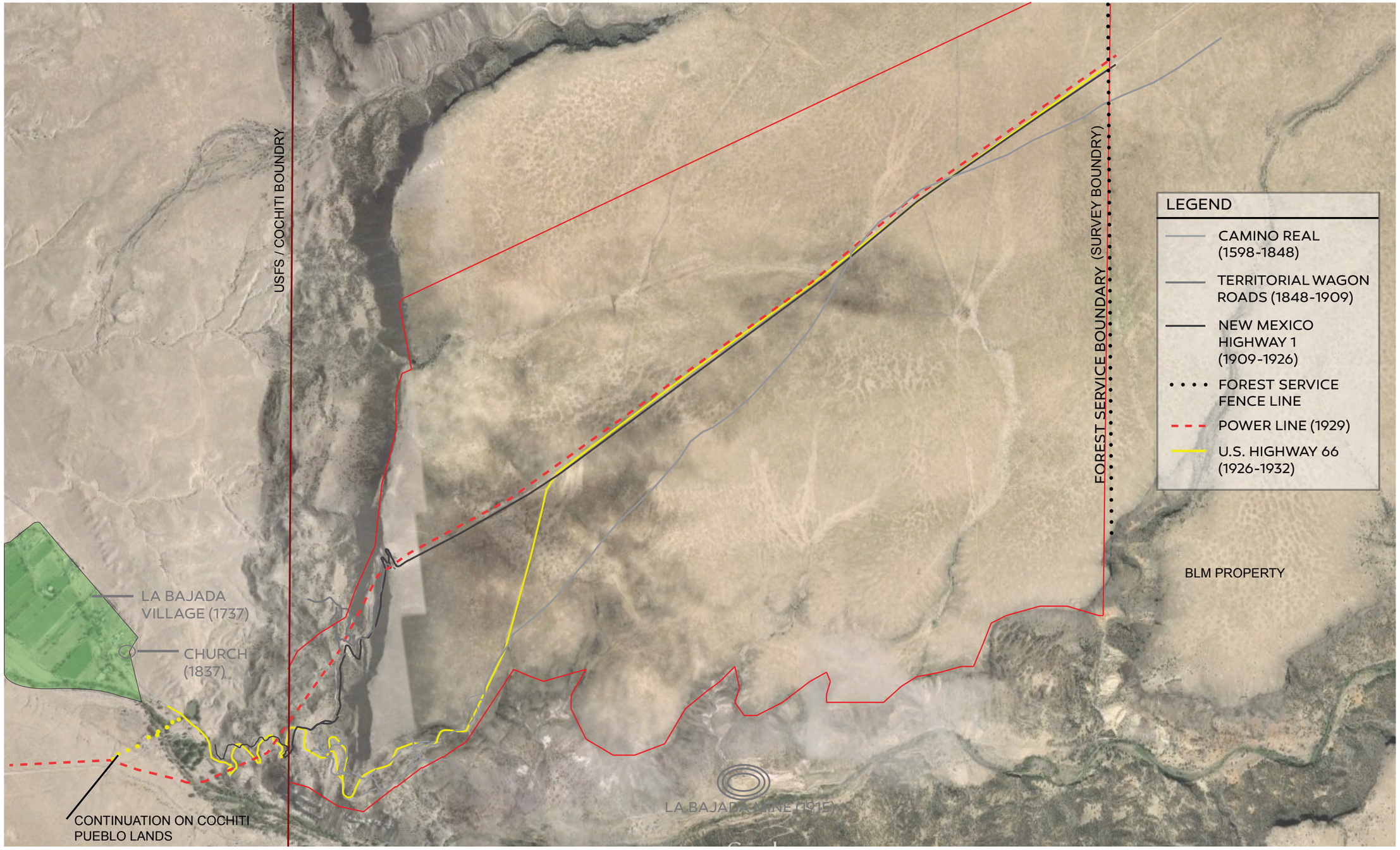


NEW MEXICO HIGHWAY 1 1903 - 1926

LA BAJADA CLR PHASE II • 2016

MAP C

MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.

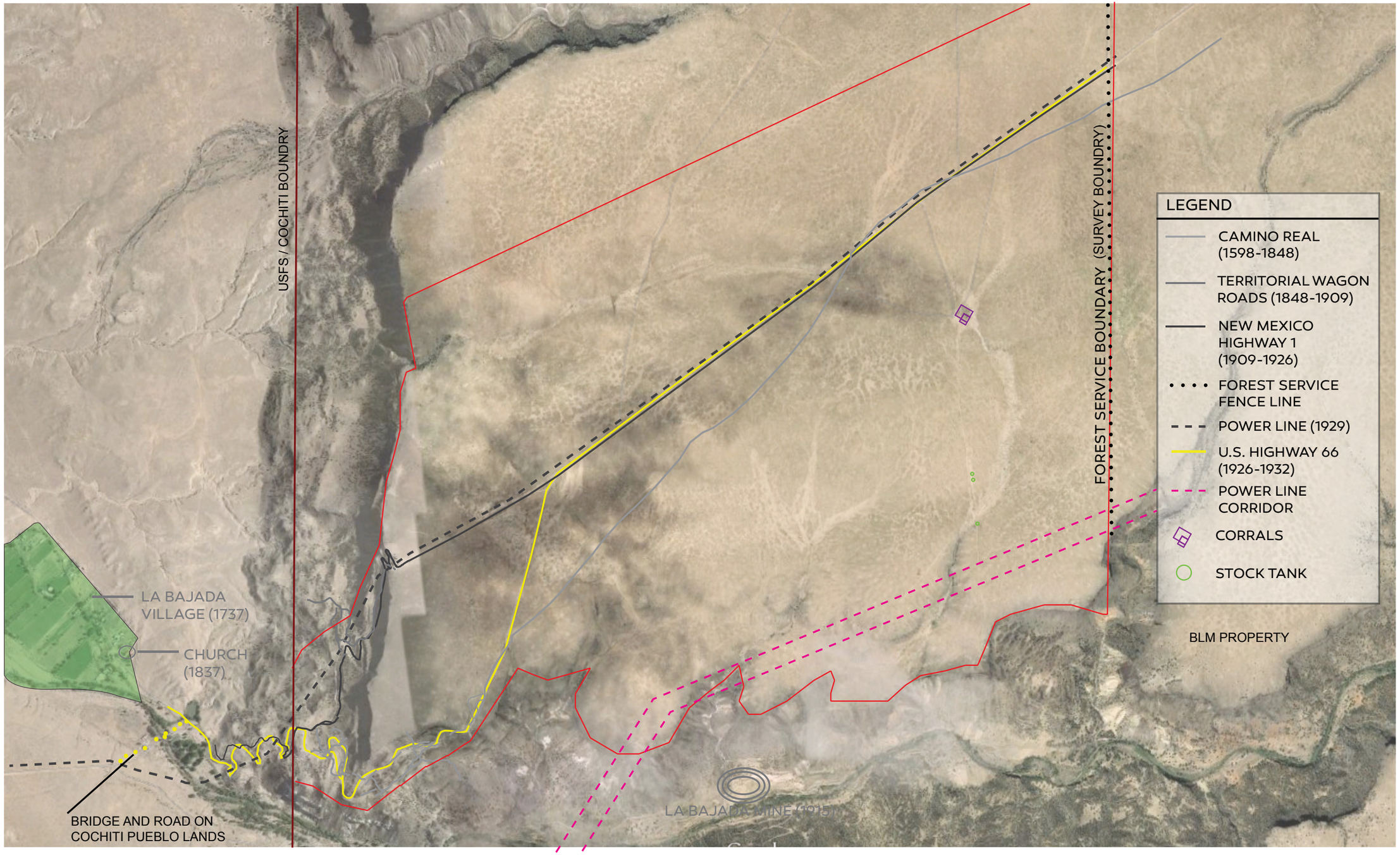


U.S. HIGHWAY 66 1926 - 1937

LA BAJADA CLR PHASE II • 2016

MAP D

MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.



20TH CENTURY AFTER ROUTE 66 1937 - 1965

LA BAJADA CLR PHASE II • 2016

MAP E

MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.

Appendix 3: Consultation and Review

As part of Phase 1 of this CLR, in July 2011, a landowner meeting was held to inform the various landowners and other interested parties about this study and document. NPS, together with the Investigators, met with representatives from Cochiti Pueblo, the La Bajada Traditional Village Committee, the U.S. Forest Service, and Santa Fe County.

Cochiti Pueblo expressed concerns that many people who hike up the switchbacks are trespassing on their land. An effort should be made to educate the public that the lower half of the escarpment is tribal land. NPS noted there are several tour groups that include the roads at La Bajada on their tours without Cochiti permission.

Regarding land ownership, Cochiti brought up the fact that Kewa (formerly Santo Domingo) Pueblo owns much of the land within the viewshed.

Permission to conduct any investigations on Cochiti land will have to be granted by the Tribal Council.

La Bajada Village expressed support for continued documentation of the cultural landscape for the purpose of preservation and public education and for more proactive management of the cultural resources. The village representative mentioned that many people who hike the escarpment park on private land at the base of the escarpment before hiking. They would like the public to be educated about the limits of private, tribal, and public land.

La Bajada Village would like to include the segment of El Camino Real between Santa Fe Canyon and NM 16 within the study area as well as the condemned fields (from flooding) and reservoir north of the village. Further investigation of these features will require permission from Cochiti Pueblo.

The U.S. Forest Service would like to see the creation of an interpretive planning team to plan and implement appropriate interpretation/education materials. Prior to this, however, the Forest Service would like to put together some sort of interpretive flyer to educate the public about the cultural landscape of La Bajada.

Finally, Santa Fe County suggested the inclusion of the La Bajada acequia system and community water system in the study. The county provided the Investigators and MRWM with draft copies of the HAER documentation for these features, which was subsequently entered into this report.

Copies of the 75% submittal of the Phase 1 document were provided to all parties along with the NPS review comments. No written review comments were received.

As part of Phase 2 of the CLR, on March 23, 2015, members of the investigative team for the CLR, the interpretive study, the NPS, and USFS conducted a stakeholders' meeting in order to update the public on the progress of the CLR and to receive their input into the interpretive plan.

Notes from that meeting follow:

STAKEHOLDERS' MEETING
STAKEHOLDER COMMENTS AND CONCERNS
3/23/15

1. USFS and Pueblo of Cochiti – Consultation – April (Upcoming)

2. Parking at toe of slope is common.

3. Four-wheel drive clubs and access

4. Route 66 Association access and use

5. Respect the area

6. CLR may have recommendations - no land acquisition proposed / no monument proposed.

7. CLR includes multiple stakeholder concerns

8. USFS: no general La Bajada recreation plan is proposed

9. Special use permits for specialized, repeat uses – USFS

10. Archeological studies? Yes – little removal/vandalism, etc. at La Bajada

11. Three gates on roads – difficult to maintain – often left open – permittee responsibility.

12. La Bajada Village Residents' Concerns

    a. Organize parking

    b. Provide direction and info

    c. Respect by visitors

    d. Manage use

13. Look at overall La Bajada management

14. USFS management capacities

15. Corps of Engineers currently manages Cochiti Lake (& environs) with Pueblo of Cochiti

16. Tent Rocks; Pueblo of Cochiti/BLM – good joint management example

17. Change in use over the years? – more and faster vehicles. Damage to petroglyphs

18. Traditional uses

    a. Native American activities

    b. Grazing – cattle management

    c. Quarrying

    d. Farming

    e. Collection of cultural materials (plants, ocher, other)

19. Can area be closed?

    a. Note tribal management plans

    b. USFS management plans

20. BLM – Diablo Canyon – Law Enforcement – more cars, grazing impacts

21. BLM – 14,000 acres to the east of study area– new A.C.E.C. Management plan to come

22. Need to manage recreational uses to protect traditional uses and resources

    a. Seasonal use

    b. Reservations for use

23. BLM: woodcutting sometimes suspended / USFS: wet roads sometimes closed – coordinate these

24. La Bajada Village: Community Site Stewards – Similar to Zion National Park – Coordinate with existing USFS stewards' efforts.

25. Maintain recreational use access

26. To what degree do we popularize La Bajada as a destination?

Appendix 4: Role of Student Employees

Phase 1 of the CLR employed two students: Todd Frier and Marissa Barrett, both graduate students at the University of New Mexico. Todd and Marissa conducted extremely valuable research during the initial phase of the CLR, discovering many of the resources and images used in this document. They also assisted with fieldwork, offering thoughtful input through many field discussions and taking many of the photographs included in the document. Finally, they helped complete the literature review, flesh out the history, produce graphics, and edit the document.

Phase two of the La Bajada CLR has also used two student employees: Marissa Joe and Meredith Gresham.

Ms. Joe began work on the project in November, 2014, and concluded her research in March, 2015. While she was involved, she conducted archival research at the University of New Mexico and wrote several segments of the literature review.

Ms. Gresham was able to start quickly in March, 2015, and has since assisted with field work, research, production of graphics, editing of the 75% submittal, and other tasks. She has also assisted with the incorporations of additional comments following the 75% submittal and the production of additional graphics.

Appendix 5: Statement of Significance from the NRHP Registration Form for LA 38918, the La Bajada Mesa Agricultural Site

8. Significance (continued)

Many different types of agricultural field systems were established in the upper Rio Grande Valley during the Rio Grande Classic period. However, small stone piles, such as those that make up most of the La Bajada Mesa site, have not been reported in the literature. The distribution of this type of agricultural field appears to be concentrated in around the Cochiti and La Bajada Mesa area and extends east into the Galisteo Basin. Additional studies could further define the distribution of these features and concentrate on questions such as why this particular farming method was utilized within a limited geographical area.

Data, such as pollen analysis, recovered from excavations at La Bajada Mesa may indicate a period of decreased rainfall which would have required the construction of various moisture retaining devices. Or perhaps population pressure was responsible for establishing this agricultural site. In fact, archeological surveys in this area indicate that population peaked shortly before the La Bajada Mesa site was utilized (Dickson 1979:40). Causes behind abandonment may also be studied from data retrieved from the La Bajada Mesa Site. It has recently been suggested that salt build-up in the soils may be a major factor behind abandonment of many prehistoric agricultural fields (Fosberg and Hustler 1979:307). Soil analysis at La Bajada could easily determine if this was a major variable leading to abandonment of the fields.

Finally, detailed environmental studies, including precipitation patterns, ground moisture availability and ground temperature studies will help us better understand the placement of this site. Preliminary observations suggest that three variables are important considerations: basalt outcrops, shallow soils over basalt bedrock and proximity to the mesa edge. These variables have been discussed in the Environmental Section and are believed to have helped to create a favorable agricultural area by moderating ground temperature, keeping ground water close to the surface and locating in an area frequented by precipitation. If it can be determined that the Prehistoric Pueblo Indians were indeed aware of these factors, it would reveal an extremely sophisticated knowledge of the surrounding environment. Such knowledge would be of considerable value to the prehistoric agriculturalists in order to produce a successful harvest.

Appendix 6: Statement of Significance, Rt. 66 and National Old Trails Road Historic District at La Bajada Vicinity of La Bajada Village, Santa Fe County, New Mexico

STATEMENT OF SIGNIFICANCE:

Dating to Spanish settlement in New Mexico and the Camino Real, until 1931 the escarpment at La Bajada posed a formidable challenge to the development of a transportation network along the Rio Grande Valley. During the territorial period attempts to cut a roadway up the escarpment resulted in a series of wagon road alignments, the evidence of which remains today. In 1909 with the coming of the automobile, the Territorial Highway Commission undertook a project to improve the alignment. With its cuts into the solid basalt caprock and dry masonry retaining walls, the project was heralded as an engineering wonder along New Mexico's Scenic Highway that soon became a part of the National Old Trails Road Ocean-to-Ocean Highway. In 1924, the road was realigned along the upper slopes of the escarpment, again with much publicity regarding its engineering feats. With the creation of the federal highway system in 1926, this improved roadway became a part of the U.S. 66 and 85 alignment. That same year construction crews widened some of the hairpin turns to accommodate the buses of the newly created Fred Harvey Indian Detours. They also installed a timber bridge to replace a concrete ford across the Rio Santa Fe at the foot of the escarpment near where a rural tourist camp and service station had opened the previous year. The alignment remained a part of the highway system until 1931 when a new alignment was completed along a gentler slope three miles to the south. With its high degree of integrity, the historic district is eligible at the state level under Criterion A for its role in the rise of early automobile travel in New Mexico. The district is also eligible at the state level under Criterion C for its historic alignments reflecting siting, design and engineering practices and materials common in road and bridge construction during the period of significance.

A prominent landmark since pre-historic times, the volcanic-capped escarpment known as La Bajada presented a formidable barrier to north-south movement that the Spanish colonists first encountered as they sought to establish the El Camino Real de Tierra Adentro (the Royal Road to the Interior Land) in the late 16th century. During the colonial period as caravans and settlers traveled the Rio Grande corridor, many attempted to scale the 600 ft. high barrier by following a trail up the rocky, flood-prone gorge of the Rio Santa Fe, the only canyon bisecting the escarpment. Others bypassed it by following the Rio Galisteo eastward along the foot of La Bajada and climbing it just west of the Cerrillos Hills; still others traveled even farther east, opting for the gentler ascent offered at the western edge of the Galisteo Basin. So significant was La Bajada that the escarpment served to divide New Mexico into two distinct regions: the Rio Arriba or upper river, and Rio Abajo or lower river. Even today, this geographic feature functions as a significant cultural, environmental, and historical line of demarcation within New Mexico's historic Rio Grande corridor.

During the colonial period as trade developed within the region, the canyon route from its mouth, or *boca*, to the village of La Cienega at the head of the canyon was the principal trade route between the colonial capital at Santa Fe and Santo Domingo Pueblo. Given the canyon's susceptibility to flooding and the subsequent boulders strewn along the trail, however, an alternative trail gradually developed, extending southeastward from the village of Cienguilla across La Bajada Mesa to the steep escarpment where travelers carefully descended the

sheer precipice. It was this route that Zebulon Pike followed after being captured by Spanish soldiers in 1807 before spending the night at the village of La Bajada. Following the American conquest of New Mexico in 1846, the Treaty of Guadalupe-Hidalgo in 1848, and the creation of the New Mexico Territory in 1850, the military undertook some road improvements. While more attention at first was given to improving a roadway several miles to the southeast, in the 1860s the army worked to open the mesa road to wagon traffic. An account of the descent by Lt. Bourke in 1869 describes the volcanic caprock as "an overhanging vertical wall" and the escarpment as a "sheer precipice of five hundred" feet (Marshall: 12). "The only orthodox way of going down La Bajada in those days" concluded Bourke, was for stage passengers to alight and make the descent on foot while the stage descended with its brake locked.

Efforts to improve the road increased during the late territorial period as the potential for automobile travel became apparent and pressure increased to improve the road from Santo Domingo to Santa Fe for the shipment of fresh produce. The Territorial Highway Commission appropriated funds in 1903 and then again in 1909 to open the road to automobile traffic. Using laborers from nearby Cochiti Pueblo as well as penitentiary inmates, who lived in temporary camps near the project site, engineers dynamited the solid basalt rock, using the resulting large rocks to fashion roughly coursed retaining walls (see Figure 8-1). Laborers then used the rubble to build up the roadbed and construct a curb along the outside of the roadway. Along the inside, they dug a gutter that they sometimes lined with concrete to drain the road and to catch falling rocks. In some instances, iron culverts were placed below the rubble bed and extended slightly away from the retaining walls to facilitate drainage. The template consisted of an 18-foot wide bed, standard for road construction during that period, with little additional width at the seven hairpins appearing in the section just below the rim. Some of the district's best remaining examples of these dry masonry walls appear along the basalt section of this 1909 alignment.

Completion of the project resulted in the reduction of the former wagon road's grade of 28% to 7.5% (*Second Biennial Report*, 1910:183). It prompted state officials to conclude that the practice of using convict labor offered the territory a means of reducing road construction costs, a practice that reappeared at La Bajada 15 years later when the project to improve the alignment occurred. It also led the Territorial Engineer to conclude that Rio Grande Valley farmers would experience greater success in getting their produce to market, a conclusion that was underscored with a 121% increase in traffic a La Bajada in the months following the project's completion.

Perhaps the most significant consequence of the completion of the roadway, however, was the increase in automobile tourism. As discussed in the historic context, the 1910s were marked by a popularization of the automobile in which groups led by the nationwide Good Roads Association lobbied both state and federal government for an improved network of roadways. While it wasn't until 1926 that a federal highway system was initially designated, as in other states a numbered state highway system developed, emerging shortly after statehood in New Mexico. Accompanying these state systems was the emergence of several hundred intra and inter-regional private highway associations. These organizations were comprised of boosters, many who were merchants along prospective routes, who sold log, or guidebooks promoting their routes and roadside

businesses.

In New Mexico, the main highway was NM 1 extending from Raton at the Colorado border to Anthony near the Texas border at El Paso. Essentially a linking together of the state's two best-known historic roadways, the Camino Real and the Santa Fe Trail, the roadway was the subject of the first promotional effort of the State Highway Department when it printed a booklet entitled *Through New Mexico on the Camino Real* (NMSHC 1915). Published in 1915, it provided images of the new state's main highway. Designed, in part, to entice motorists travelling to the Panama-Pacific Exposition in San Diego to visit New Mexico, the booklet sought to reassure motorists about the quality of the state's main highway, including its primary engineering feat, the road at La Bajada. Describing the work of the penitentiary inmates and Cochiti workers as "having moved a considerable amount of rock by hand and constructed stone retaining walls at every hairpin turn," the booklet termed the turns as some of "the most dramatic engineering accomplishments" undertaken by the State Highway Commission.

Further contributing to the significance of the highway at La Bajada was its inclusion as part of the alignment of the National Old Trails Highway. Regarded as one of the most important of the many privately designated highways developing across the nation in the decades preceding the creation of the federal highway system, the National Old Trails Ocean to Ocean Highway Association, as its full title read, represented a splicing together of historic trails associated with the westward movement. Extending from Maryland's Cumberland Turnpike and following the National Pike to the Mississippi River, it followed the Boone Lick Road across Missouri to Kansas City, where it then followed the Santa Fe Trail southwestward. In New Mexico it turned west following the approximate route of Spanish exploration westward to southern California. In the early days of automobile tourism, it was one of the most significant roads to cross New Mexico. Several state leaders actively promoted it, including Col. D.K.B. Sellers, mayor of Albuquerque, and Ralph Emerson Twitchell, a leading historian and booster during the late territorial and early statehood periods.

First conceived in 1907 as the Missouri Trails Association and promoted by the Daughters of the American Revolution to memorialize western pioneers as well as to promote the ongoing a national healing pertinent to the Civil War, in April 1912, the highway was renamed to encompass its transcontinental character. It gained additional prestige in 1913 when it was proposed in Congress as an "interstate highway," and in 1914 when the Southern California Automobile Association decided to map the route, erecting markers along the way. Its standing was further enhanced in 1923 when the *Automobile Blue Book*, the most prestigious guide book for motorists, included the highway as only one of two crossing New Mexico in its mile-by-mile road description section. Even after the designation of the federally numbered highway system in 1926, the organization boosting the National Old Trails Highway continued, with Harry Truman, during his tenure as junior senator from Missouri, serving as its president and proclaiming that traveling it offered Americans an opportunity to learn history (Truman).

Addressing the road at La Bajada, the *Log Book for the National Old Trails Highway*, described it as "wide

enough for two cars to pass easily anywhere, with a volcanic rock wall on the outside" and as "absolutely safe for the most timid driver" (*Log Book*: 19). Referring to the recently completed realignment descending the escarpment along the wall of Santa Fe Canyon before resuming the original alignment about a mile downhill, the log book entry also included a brief description prepared by James A. French, the State Highway Engineer since statehood. Seeking to reassure drivers, French listed the lower grades, banked roadway and retaining walls, and elimination of seven hairpin turns as evidence of an improved road. Characterizing the drive as one of "safety and beauty," he nevertheless informed readers that despite its reputation, the old road had also been relatively safe, that "even the danger of the old road was largely mythical."

Despite French's reassurance about the older alignment, engineers and the public alike recognized that the numerous hairpin turns with short turning radii and steep grades necessitating that some cars back up the hill to compensate for the era's primitive fuel pumps required improvements. In 1924, French again engaged the penitentiary to supply inmates, and plans were made to realign the roadway along the upper portions of the escarpment.

While federal and state monies had been used to improve sections of the road above and below the escarpment, the highway department itself undertook the realignment, estimating that it would cost about $5,000 (*NMHJ* Feb.1924:19). Accompanied by a crew from the Fox Film Company, engineers detonated multiple charges of picric acid to blast cuts along the escarpment facing Santa Fe Canyon. Sufficiently removed from the earlier alignment, the blasting caused only a five-minute delay in traffic flow. Working with the rubble from the blast, crews installed corrugated metal culverts as they constructed retaining walls. Descending along a more gradual grade set more on a sedimentary surface than on the solid rock of the earlier alignment, none of these walls are of the height nor do they exhibit the coursing apparent in the earlier retaining walls. Along the common alignment remaining on the lower slopes, workers installed dry rubble masonry guard walls with a one-foot by two and one-half foot cross-section. Less than two years later, the road improvement project at La Bajada was completed when the timber bridge at the foot of the escarpment was constructed to replace a concrete ford laid in 1918 to replace an earlier timber bridge that had been washed out in a flood. Unlike the escarpment projects, the bridge was partially constructed with federal money provided under the federal government's Federal Aid Project (FAP) and designated FAP 88-C (*New Mexico* Oct. 1931:10).

With the improved highway, traffic increased. Although the highway department had begun conducting traffic counts a few years earlier, its specific categories and locations sometimes varied so that precise comparisons are sometimes difficult. Despite this obstacle to comparative analysis, the overall figures pertinent to La Bajada show that the average daily traffic count rose from 617 in 1927, the year following the completion of the bridge and realignment projects, to 1,068 in 1928 and 1,565 in 1930. With the increased traffic and the lingering image of La Bajada as a challenging roadway for vehicles and drivers, a service station and small tourist court appeared at the base of the hill, much as similar facilities appeared near other geographical obstacles located along highways in New Mexico.

In 1925, Herb and Wallace Walden opened a small tourist camp and service station located west of the concrete ford across the Rio Santa Fe. With the realignment of the road and anticipated completion of the timber bridge, the site, a former stagecoach stop, was ideal for a roadside business. From there the brothers used their Dodge truck to rescue overheated vehicles and to tow Pickwick buses up the hill while passengers rode in the truck to give it additional weight for the pull. As with other rural service stations, they also constructed a series of small cabins behind their residence, arranging them in a line similar to the spatial organization of other rural cabins. Mary Montoya Walden, who had been born at the village of La Bajada in 1911 and married Herb Walden later recalled that the hairpin turns at La Bajada offered other economic opportunities as well (Ripp: B-1). Motorists sometimes hired local drivers to negotiate the hill, and tourist camp operators in Santa Fe dispatched boys to hand out camp flyers as motorists slowly wound their way around the turns. The painted advertisement for the Santa Fe Campground located along Francisco Street in the late 1920s recalls those advertising efforts.

Even with the improvements brought with the realignment and new bridge, the roadway at La Bajada continued to be regarded as an obstacle. When the Fred Harvey Company initiated the Indian Detours in 1926 and the new venture's director, Major R. Hunter Clarkson, approached New Mexico Governor Arthur T. Hannett about the detour's itineraries and their suitability for the White buses, Clarkson anticipated using on some excursions, Hannett quickly sought to support this effort at bolstering the state's growing tourist industry by ordering highway crews to widen the hairpin turns. A year later, however, an editorial in the *New Mexico Highway Journal* proclaimed that "The jinx at La Bajada must be overcome or tourist travel will be reduced to a minimum on the old trail" (in Carter: 3). Acknowledging that even improving its turns could never entirely "offset stage-fright or careless driving," the editorial concluded that the best way to advertise the hill was as a "beautiful stretch of scenic highway."

Thus, it was with little surprise that in the fall of 1931 the State Highway Commission announced that it was completing construction of a "broad, safe, permanent highway connecting Santa Fe and Albuquerque (*New Mexico,* October, 1931:8). Dividing the project into multiple units under FAP 88, it had designated the hill section FAP 88-F and shifted the alignment three miles south of the former roadway. Augmenting the traditional road construction equipment of fresnos, wagons and teams with gasoline-powered shovels, air-compressors, several 2 and 6-yard end dump trucks, and Caterpillar tractors, crews cut and filled a new alignment located approximately where the I-25 alignment now ascends La Bajada. Grades were reduced from an average of 5% to 1.4% with the maximum grade at 6%. By late summer, the project was complete, and the 1924 alignment had become obsolete. Over the next few years, further changes occurred as U.S. 66 was realigned to pass through Albuquerque on an east-west axis in 1937, leaving only U.S. 85 aligned on the Albuquerque-Santa Fe highway.

While some writers lamented the closing of the old roadway, yearning for the adventure it had offered, most motorists were pleased with the new roadway. By 1936, the new roadway carried an average of 2,173 vehicles, a number that would have made travel along the older alignment even more precarious. In the decades since its closing, some of the land included within the district has changed ownership so that all of it now lies within the Santa Fe National Forest and Cochiti Indian Reservation. For Cochiti tribal members the old highway alignment

recalls their ancestors' contribution to early road construction in New Mexico. Aware of the significance of the old alignment, the Santa Fe National Forest maintains its portion of the land for multiple uses, including hiking and recreation.

Appendix 7: Statement of Significance from the National Register of Historic Places Multiple Property Documentation Form for the Camino Real in New Mexico, AD 1598-1881

E. Statement of Historic Contexts

Summary:

This Multiple Property Documentation Form describes the oldest wagon road in North America. This road was developed by travelers, caravans, and expeditions over most of the sixteenth century, but it reached its full historical length with the passage of the Oñate expedition of 1598. This colonizing expedition added a northern segment to the Camino Real so that it extended from Mexico City to the silver district of northern Chihuahua (the community of Santa Bárbara) to Ohkay Owingeh (San Juan Pueblo) in New Mexico. After 1609, when the Viceroy of New Spain ordered New Mexico Governor Pedro de Peralta to establish a new capital city, the new settlement of Santa Fe became the generally recognized terminus of the Camino.

The northern segment of the Camino Real (the portion in New Mexico), which we are here proposing for listing, was established by Juan de Oñate ten years before the first English colonists landed at Jamestown, Virginia. The Camino Real was the connection between Spain's northernmost province and Mexico City, the capital of the viceroyalty of New Spain.

There were various *caminos reales* in Spanish America. The term "camino real" means literally a royal road, but these roads were neither authorized by the king nor laid out by government officials. They were trails defined and developed over time for the use of colonists, merchants, ecclesiastics, government officials, and visitors [Jones 1999:342]. They served as primary routes for transportation, communication, and colonization.

The name "Camino Real de Tierra Adentro" is used throughout the modern literature of the road. It is a designation that may have been commonly used in Mexico City and New Spain. It was intended to distinguish this road from other caminos reales [Simmons 1993:29]. Alexander von Humboldt, writing from his travels and observations in New Spain in 1803–1804, says that "los caminos más frequentados y más importantes para el comercio son . . ." [here he lists the road from Mexico City to Veracruz; the road from Mexico City to Acapulco; the road from Mexico City to Guatemala, and finally the fourth] "El de Mexico a Durango y a Santa Fe de Nuevo Mexico, vulgarmente llamado *el camino de tierra adentro*" – that is, the roads most used and most important for commerce are . . . fourth, the road from Mexico City to Durango and to Santa Fe in New Mexico, popularly [or commonly] called *el camino de tierra adentro*" [Humboldt 1966:462].

The qualifying phrase "de tierra adentro" was likely not used in New Mexico. As Humboldt and Simmons explain, this name was used in central Mexico to refer to the far north, but it was a common, not an official, designation. Simmons has not found it in documents or correspondence [Simmons, personal communication, 2009]. In New Mexico, any place beyond New Spain's northernmost frontier, but Mexico in particular, was referred to as "tierra afuera" [David H. Snow, personal communication, 2009]. Snow notes that his review of more than four hundred original colonial and Mexican period documents has not produced any reference to

"tierra adentro." "Tierra afuera" does appear several times—for example, in a matter of inheritance in 1739, in which the deceased is said to have brought certain personal property from "tierra afuera," most likely the interior of Mexico [Snow ibid. citing SANM II:427, Roll 7, fr. 1023-25]. It is unlikely on its face that New Mexicans would call their own homeland "tierra adentro," a description that views New Mexico or the far north of New Spain in general, from a distance.

A sixteenth-century route connecting Gijón, Leon, and Madrid was referred to as a camino real. The route through the Isthmus of Panama that linked Panama with Nombre de Dios and Portobelo was also referred to as a camino real. The pre-European roads of Peru remained in use after the arrival of the Spaniards and were sometimes called *caminos reales.* The relationship between prehistoric trails such as the Rio Grande Pueblo Indian Trail and the Camino Real is somewhat comparable (see below, Context 2, pp. 19–21).

The designation *camino real* is also more broadly understood to include the maritime routes that connected Spain's possessions in the New World and the Far East (e.g., the sea lane to Manila, in the Philippines; Comité Nacional Español de ICOMOS: 53). A Manila galleon (la Nao de la China) arrived at Acapulco once a year, bringing goods from the Far East, such as porcelain, some of which were then transported up the Camino Real after ca. 1600 [Fournier 1999].

Two other, later caminos reales were designated in the American Southwest: the Mission Trail in California and the route from Monterey in present-day Mexico through Texas to Robline, Louisiana.

The Camino Real or Mission Trail that ran through western Mexico to San Diego, California, and then on to San Francisco was established in the 1760s. This trail, as its cognomen suggests, was primarily used by the mission fathers and for mission commerce, although it was also a cart road. This camino real has largely lost its integrity, being overlain by modern roads and development.

The camino real that ran from Monterey, Mexico, through Texas to Robline, Louisiana, was somewhat similar, both physically and historically, to the Camino Real in New Mexico. However, it is a century younger, and its history primarily has to do with the efforts of Mexico to retain Texas by establishing a physical link with the province.

The road from Durango to Santa Fe was also known as the Camino de Chihuahua [Fournier 1999]. The part of the road in present-day Mexico, connecting the northern mining towns with Mexico City, was known as the "Camino de Plata"—the silver road [Fournier 1999:161].

New Spain or Nueva España was the name given by Hernan Cortés to the lands he conquered in 1521. A viceroyalty after 1535, New Spain was ruled by a viceroy who was the representative and immediate subordinate of the king. It included the southeastern and southwestern regions of North America—that is, the area that later became the American Southwest (New Mexico, south Texas, Arizona, California, southern Utah,

and southern Colorado); Louisiana and the Floridas; Mexico as far south as Guatemala, but not including Panama; and the Philippines.

Statement of Significance

The Camino Real de Tierra Adentro, hereinafter referred to as the "Camino Real," is directly associated with historic events of universal importance, including the colonization of North America by Europeans. For two hundred and eighty-three years (1598–1881), the Camino Real was the principal link between central Mexico and the northernmost province of New Spain. The road has national and international significance.

The significance of the Camino Real is, first, that it was the primary route for the exploration, conquest, and colonization of New Mexico and the northern Southwest; second, that it had a profound social and cultural influence on New Spain, conveying music, sculpture (primarily religious), household furnishings, textiles, ceramics, styles of architecture, and methods of construction of buildings, acequias (ditches), dams, and bridges, and other arts and practices, as well as adverse phenomena, such as European diseases (all of which are discussed in the following contexts), into the northern Southwest; and third, that it was the primary route of trade, supply, transportation, and communication between New Mexico and the northern provinces of New Spain and Mexico City.

The Camino Real encompasses the route along which the Hispanic colonists retreated from New Mexico after the Pueblo Revolt of 1680; the route on which expeditions of reconquest, including those of Governor Diego de Vargas in 1692–1693, reentered the province; the route of invasion of New Mexico, Arizona, and California by U.S. forces in 1846; and the route of invasion of New Mexico by Confederate forces in 1862; as well as their line of retreat when U.S. forces recaptured New Mexico. Thus it has been not only the route of culture change and cross-fertilization of civilizations but the line of invasion, battle, and military conquest as well.

Public Law 106-307 [114 Stat. 1074], designating the Camino Real a National Historic Trail, notes that the Camino Real is a symbol of cultural interaction among nations and ethnic groups, as well as commercial exchange resulting in development and growth of the borderland of two nations.

Gustavo F. Araoz of US/ICOMOS, speaking in April 2006 to an international colloquium on the Camino Real, offered this characterization: "The intercontinental Camino Real [was] the first successful global network intentionally established on the principles of economic interdependence among many world regions." Araoz noted that the Camino Real linked the silver mines of Zacatecas with the mercury mines of Almadén, Spain (whose product made silver extraction possible), and that "the Camino Real's full significance [could] not be understood outside the context of its full global network of economic interdependence and cultural exchange over several centuries" [Araoz 2006].

For three centuries, the Camino Real has facilitated the interchange of ideas, values, and customs under the governments of colonial New Spain, independent Mexico, and the United States. This exchange created the social, religious, economic, and political landscape of the border region. The trail promoted cultural interchange among Spaniards, Indians, Mexicans, other Europeans, and Anglo-Americans. It made possible the exploration, conquest, colonization, settlement, and military occupation of a large segment of the borderlands. The Camino Real facilitated the immigration of Hispanic colonists to New Mexico and other areas of what would become the United States. It fostered the spread of Catholicism, the growth of mining, ranching, and the development of networks of commerce.

Historic, ethnic, and cultural traditions that were transmitted along the Camino Real included music, folk tales, medicine, architecture, geographic place names, language, irrigation systems, and the laws of Spain's New World possessions. Among the concepts currently employed in the American legal system that made their way north via the Camino Real are community property laws, the concept of first use-first priority in water rights, mining claims, and the idea of sovereignty, especially as applied to American Indian land claims.

A variety of foodstuffs, including chile peppers, was introduced into New Mexico and exported down the Camino Real to the rest of the world via this trade route. Eventually, the Camino Real became part of an international network of commerce that culminated in the transportation and exchange of merchandise among Europe, the United States, New Mexico, other provinces of the Mexican republic, and throughout what is now known as the American Southwest.

Trail activities had a major effect on the landscape along the corridor, affecting biotic communities and promoting horticultural diffusion. The introduction of the horse and of cattle and European agriculture, the introduction of exotic flora, and the transportation of large herds of sheep along the trail all contributed to a dramatic alteration of the regional landscapes and ecosystems.

In short, the physical landscape, economic structures, cultural landscapes, legal systems, cultural characteristics, and arts of the American Southwest were largely determined by the effects of trade, colonization, and commerce made possible by the Camino Real. In order to understand the cultural characteristics of much of the western United States, it is necessary to understand the central role that the Camino Real played in shaping the human values and cultural systems of this region.

The contexts discussed below are designed to encompass the long and complex history and significance of the Camino Real: a pattern of conquest, colonization and settlement, supply, exchange and distribution of goods and materials, dissemination of religious and secular ideas and information, and encounters among different ethnic groups, languages, and world views. The history of the Camino Real is a history of transportation, agriculture, war, religion, custom, commerce, art, and culture. This history and these associations are so long and complex that they present extraordinary problems of definition [see Fosberg 1999:307].

Roney and Marshall have carried out a reconnaissance of the Camino Real in Chihuahua (from Ciudad Juarez to Ciudad Chihuahua and continuing further south, to the San Bartolomé area) and have identified physical traces of the route [Roney 1993:99; Marshall 1999:15–39]. They are manifest variously as lenticular strata; long, straight arroyos that may be at variance with prevailing drainage patterns; deep swales; and linear areas of dense vegetation.

Context 1: Geography and Natural Character; Physical Character and Setting of the Road

Concept or theme: geography, topography, and natural character, including flora and fauna, climate and weather, and soils and other factors, are the environment of the road and dictate its physical characteristics.

Geographical area: Rio Grande corridor from international boundary (including sections of the Camino in west Texas in and near El Paso) to Ohkay Owingeh (San Juan Pueblo).

Chronological period: AD 1598–1881

Narrative

The region between Ciudad Chihuahua and Socorro, New Mexico, was known in the early colonial period as *tierra incognita* [Moorehead 1957:107–108, 1958: 8–9, cited by Scurlock 1993:1]. It is now known as the Chihuahuan Desert, the second largest of the four great North American deserts. It is a high desert with sparse vegetation, occasional springs, and a few perennial streams. Temperatures vary widely. Precipitation is low and erratic, winds are high and humidity low. Rates of evapotranspiration are high and sunlight is strong [Vivó Escoto 1964:198–209].

Most of this region lies within the Mexican Highlands section of the Basin and Range province, with north-northwest trending mountain ranges and coalescing basins, or *bolsones.* Some of these bolsones or basins contain pluvial lakes (*lagunas*) [Hunt 1967:320–323; Schmidt 1973:12].

Between Albuquerque and Santa Fe, the Camino lies within the Southern Rocky Mountain province. The Camino follows the Rio Grande Rift, which is flanked by mountain ranges that are the results of anticlinal uplifts and intrusive stocks. Major ranges include the Jemez, Ortiz, and Sangre de Cristo mountains [Hunt 1967:246–249].

Elevation of the Camino drops from 4709 feet at Ciudad Chihuahua to 3719 feet at Ciudad Juarez [Schmidt 1973:20], then rises to just above 7000 feet at Santa Fe and drops again to about 6,000 feet at the lowest elevations (the farmlands) of Ohkay Owingeh. (Ohkay Owingeh is the original [Tewa] name of the pueblo and is its name today. The Hispanics, as they did in most places, gave the pueblo a saint's name: San Juan.)

The mountain ranges, formed in the late Tertiary period, have eroded to create the *bajadas*, gradually sloping surfaces that extend from the base of the mountains to the edge of the basins. Most of these basins or bolsones are internally drained. Some of them have filled with aeolian or alluvial deposits and have turned into flat, dry plains composed of limestone or gray gravels, or have formed sand dunes, such as the extensive dunes at White Sands in New Mexico and Samalayuca in Chihuahua [Brown 1982:176].

The diverse physiographic features in the region and its other geographic characteristics affect the annual precipitation. This varies within New Mexico from 14.2 inches at Santa Fe to 6.7 inches at Las Cruces [Gabin and Lesperance 1977]. Most of the rainfall takes the form of thunderstorms in summer. The only significant snowfall is in the higher mountain regions and along the Rio Grande Valley from Socorro north to Ohkay Owingeh.

Summers are typically hot and winters are cold. The shortest frost-free season, at 140 days, is in the northern reach, and the longest is in Chihuahua, at 250 days [Brown 1982:170; Tuan et al. 1973:87]. Average temperature in Santa Fe in January is 32° F, and in July, 70° F. Average annual temperature at the international boundary is 62.6° F, with a low in January of 41.9° F and a high in July of 81.7° F [Schmidt 1973:20; Tuan et al. 1973:76]. The available moisture and temperature range are the main determinants of amount and type of vegetation [Scurlock 1993:4].

Most of the lowlands south of Socorro are a desert scrub in which the main types of vegetation are creosote bush (*Larrea tridentata*), tarbush (*Fluorensia cernua*), and whitethorn acacia (*Acacia neovernicosa*). On finer-grained soils, saltbush (*Atriplex* spp.) predominates. Mesquite (*Prosopis gladulosa* var. *torreyana*) is usually found on sandy, wind-eroded hummocks. Above the plains, on outcrops, arroyos, bajadas, and foothills, plants and shrubs include *Yucca* and *Agave,* sotol (*Dasilyrion leophyllum* and *wheerleri*), sacahuiste (*Nolina* spp.), ocotillo (*Fouquieria splendens*), and catclaw acacia (*Acacia greggi*) [Brown 1982:173–174].

Between the uplands and the lowland plains are semi-desert grasslands dominated by perennial bunch grasses, including grama (*Bouteloua* spp.) and tobosa (*Hilaria mutica*). Historically these lands have supported cattle. Shrubs, which used to be scattered sparsely over this region, have increased substantially in the past hundred and twenty years or so because of cattle grazing and the suppression of range fires [Brown 1982:127].

The bolson depressions contain semidesert grasslands dominated by tobosa or alkali sacatons (*Sporobolus wrightii* or *airoides*), mesquite, Mormon tea (*Ephedra trifurca*), or soapweed yucca (*Yucca elata*). On the downwind side of these bolsons are dune fields populated by sand sagebrush (*Artemisia filifolia*), *Yucca elata*, mesquite, Mormon tea, and dropseeds (*Sporobolus* spp.) and Indian ricegrass (*Oryzopsis hymenoides*) [Brown 1982:176–177].

Until recent times there were extensive canopy forests of valley cottonwood (*Populus fremonti* var. *wislizenii*) with an understory of willows (*Salix* pp.) and saltgrass (*Distichis spicata*) along the few perennial streams.

Periodic floods destroyed portions of these riparian woodlands. On large streams, such as the Rio Grande, floodwaters cut new channels and deposited sediments across the floodplain. Before parts of the Rio Grande were channelized and dammed in the twentieth century, periodic flooding and avulsions of the river caused shifts in the channel which made it necessary for travelers to create other routes. Thus the Camino Real was not a single road, but a braided system of roads.

After the abandonment of the Camino Real at the close of the nineteenth century, the introduced salt cedar (*Tamarix chinensis*) and Russian olive (*Elaegnus angustifolia*) invaded the *bosques* (riparian woodlands) and became the dominant vegetation in some areas [Brown 1982:242; Scurlock 1988a].

Travelers on the Camino hunted various game animals. On the semidesert grasslands they found black-tailed jackrabbit (*Lepus californicus*) and pronghorn antelope (*Antilocapra americana*). In the desert scrub they hunted mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus auduboni*), desert bighorn sheep (*Ovis canadensis*), and scaled and Gamble's quail (*Callipepela squamata, C. gambelii*) [Brown 1982129–130, 178; Schmidt 1973:34–38]. Along the main valleys and on the lagunas were sandhill cranes (*Grus canadensis*), various kinds of ducks and geese, wild turkey (*Meleagris gallopavo*), grizzly bears (*Ursus horribilis*), and black bears (*Ursus americana*). Bear grease was used to lubricate the axles and wheels of travelers' carts (*carretas*) and wagons (*carros*), and bear hides were used as robes. During the late historic period, most of these animal populations were drastically reduced by hunting and habitat loss; rabbits and mule deer are the exceptions.

Physical Character and Setting of the Road

The development of roads is a necessary part of the development of nation states (Beal 1999:27). The Camino Real, furthermore, is based on a system of regional trails that were created long before the arrival of Europeans and that sustained trade from major manufacturing centers—for example, from the Valley of Mexico to outlying areas, including northern New Mexico.

The environment dictated the route of the Camino, the location of campsites (*parajes*), and the means of transportation. The road usually stayed on flat, passable terrain and ran from one dependable water source to another [Scurlock 1988b:3].

The northern part of the Camino extended up the Rio Grande Valley from El Paso to Santa Fe. It departed from the river for a ninety-mile-long cutoff through the Jornada del Muerto. The terrain was mostly flat. Most of the Camino had dependable water sources, wood for fuel, and sheltered camping places. The neighboring uplands provided grass and forage for the draft animals of the travelers, although in the nineteenth century, as traffic on the trail increased and more of the grasslands came to be used for grazing by villages along the Camino, the grasslands and bosques offered less and less grazing.

To avoid seasonal floods and deep sands, the Camino was split into various alternate routes at several points. One route below Albuquerque followed the east bank of the Rio Grande to just north of Socorro, but its sandy areas sometimes forced wheeled vehicles to take the alternate along the river's west bank, where the ground was firmer. During periods of flooding, travelers might have to take the road through the sandhills bordering the eastern edge of the floodplain [Simmons 1982:167]. It would be incorrect, however, to conclude that one route was more important than another. All alternates experienced periodic use depending on conditions.

Throughout most of the colonial period, El Paso del Norte (The Pass of [or to] the North) was the outpost between the distant settlements of Parral to the south and the southern frontier of the Piro pueblos far to the north. El Paso del Norte, also called El Puerto del Norte, was a narrow canyon where the Rio Grande passes between the Franklin Mountains and Cerro Cristo Rey. This was the site of Oñate's Rio Grande crossing, the El Paso river ford, and of the first colonial bridges constructed across the Rio Grande. El Paso del Norte and the Valle Bajo del Norte are a cultural-historic landscape unique to the trail system.

The Camino Real at El Paso del Norte followed the west river bank below the high hills of the Sierra de Muleros (of which the Cerro Cristo Rey is a feature) and crossed over to the east side of the river below the Franklin Mountains. The crossing was made on the hard cobblestone floor of the canyon, rather than in the quicksands of the river above and below the canyon. From this ford the caravans headed north to Paraje de Salinera, a small alkaline lagoon where travelers camped.

The long road up the Mesilla Valley followed the river's east bank. The plains descending from the desert mountains on the east were barren and dry, and marked by dunes, alluvial sands, and mesquite hummocks. Here, the trail followed the river's edge and passed parajes at Punto de Estero Largo, El Bracito, and others. There were no Hispanic settlements in the Mesilla Valley until the establishment of Doña Ana in 1839 and Las Cruces and Mesilla in the late 1840s. The Sierra de Los Organos, east of the valley, was named by the early colonists for their resemblance to organ pipes. The bare and rugged desert mountains of the Sierra Doña Ana, further to the north, rise like an island from the mesquite-covered plains. Sierra Robledo, a towering limestone wall, is on the opposite (west) bank. Robledo was the northern edge of the desert lowland and Mesilla Valley.

North of Robledo, the river is closed in by steep embankments and incised by deep arroyos, low cliffs, dunes, thickets, and other obstacles to travel. This was the beginning of the Bosque de Santa Bárbara, which extended far to the north and made travel along the river difficult or impossible for loaded wagons. Here, the Camino climbed out of the valley and onto the level desert plain east of the river. From the earliest days of Oñate, the trail struck out to the north from Robledo across the plains and low dunes. During the first day's travel from the river, a tall, rotund butte loomed on the edge of the plain. San Diego (Tonuco) Mountain, an important landmark on the Camino Real, is a large basaltic plug located on the edge of the Rio Grande valley, and it can be seen for a considerable distance along the Camino. This was the first camp or paraje entrance to the Jornada del Muerto, a long desert bypass east of the river. Travelers made camp on the desert rim of the valley below the shadow of the black butte, where they lit fires with small twigs of mesquite and creosote. They set the

wagons on the rim of the plain, like a small traveling village, and drove the livestock two miles down the slopes to water at the river.

The name "Jornada del Muerto" means literally "the stage or day's journey of the dead man," perhaps a reference to Bernardo Grüber, who was also known as the German ("el Alemán)." Grüber, a hawker of charms who had come up from Sonora, had been imprisoned by the Inquisition, escaped from jail, and headed down the Camino Real. He probably died of illness and thirst. It appears, then, that the subsequent discovery of the remains of "the German" became part of the history and lore of the trail and he was often referred to in lieu of a landmark. [See individual Yost Draw nomination]

Water could sometimes be found at Alemán. When the Jornada del Muerto was devoid of water, travelers frequently journeyed at night to avoid the heat of the day. The travelers looked back to the black knob of San Diego and turned away from it to traverse the vast plain. The Jornada del Muerto, in the basin range of the northern Mexican Highlands, it is a long corridor and gateway into the upper province of New Mexico. It is separated from the river by the uplifts of Las Peñuelas (Caballo Mountains) and the Fra Cristobal Mountains. Some travelers described the Jornada del Muerto as a vast sea with the distant mountains looming above like islands (Moorehead 1958:112–113).

The caravans and small groups of travelers went out into this sea of creosote and came to the *charcos* (waterholes) at Ojo de Perrillo. They passed the low outcrops at Point of Rocks, continued north past La Cruz de Alemán, and came down to the desert lakebeds at Laguna del Muerto. Travelers often made camp in the mesquite thickets of this usually dry lake. They unhitched the wagons and sometimes drove the livestock seven miles west across the plain, into a narrow canyon and gorge to the cottonwood-covered Ojo del Muerto.

The road continued north and passed another dry lakebed. Travelers would scan the dune-lined horizon, looking for two tall cottonwoods that marked a hole of muddy water (Ojo de Anaya) that was dug into a low embankment. From the bank above this spring they could see the northern reach of the Jornada del Muerto. Beyond it were the blue mountains of the Sierra San Mateo. These snow-streaked mountains were a heartening prospect for the weary traveler in the dust of the hot desert lowlands, but before them was the black edge of El Contadero lava flow, yet another obstacle to the crossing.

The northern run of the Camino Real in the Jornada del Muerto passed between the lava flow and limestone uplift of the Fra Cristobal Range at a place later called Lava Gate, where the traveler could once again see the green line of the Rio Grande. Caravans soon reached the north riverside camp and resting place at Paraje de Fra Cristobal. The paraje was a campground on the river's edge in the cottonwood bosque. A small village, now abandoned, was established there in the 1850s. It was a famous resting place for travelers going north and south across the Jornada, and it is delineated on the earliest Spanish maps of the region. The Rio Abajo refugees from the Pueblo Revolt in 1680 waited here for news of refugees coming down from Rio Arriba. The captive Texan

Santa Fe expedition slept here in their thin, ragged attire under a blanket of snow on the morning of November 1, 1841, before beginning their long and deadly march south into the Jornada.

For most travelers, the green canopy and riverside road leading north were a blessing. This was the beginning of New Mexico, known in colonial times as La Cabeza de la Provincia (the head of the province). In the colonial period, before the great abandonment of the lower valley in the 1670s–1680s, it was the home of the Piro Pueblos (Southern Tiwa speakers) and the site of a series of Pueblo villages extending from the southernmost mission site at San Antonio de Senecú to the north mission establishment of San Luis Obispo at Sevilleta. The Rio Grande valley leading north of Fra Cristobal was a verdant and welcome sight to the travelers of the Camino Real. They named it Valverde (Green Valley). But the road was still barred by deep sand, broken rocks, and long dry hauls.

North of Fra Cristobal, Mesa Contadero forms a high wall on the east edge of the river. This singular landmark is a black basaltic slab that extends down to the river at San Marcial. The pueblo of San Antonio de Senecú was located across the river from the mesa. To the north was the hacienda and later settlement of Valverde.

The main branch of the Camino Real passed across the eastern side of Contadero Mesa and then followed along the river's edge through the dunes north to the base of the low limestone mountain of San Pascual. This section of the trail entered the Bosque del Apache and made its way either through heavy dunes or along the clay flats on the valley floor. The caravans continued north to the base of the red-black butte at the place now known as San Pascualito. San Pascual, the largest Piro pueblo, was located here [see individual nomination]. It was a great multistoried adobe apartment with four plazas and perhaps a thousand rooms. In the seventeenth century, San Pascual was ravaged by smallpox and measles and was so weakened that it was overcome by Apaches and abandoned during the Pueblo Revolt of 1680. Many of the Piros at San Pascual and other pueblos went south to join the Spanish refugees in El Paso during the Revolt. Travelers along the Camino Real noted the broken walls and ruins of the great pueblo. In 1760 Bishop Tamarón, riding north on his episcopal visit to New Mexico, saw the walls of a small chapel. Many travelers camped in the ruins, finding shelter in the fallen walls.

Further north are the ruins of another Piro village, Qualacú [see individual nomination]. The Oñate party camped near Qualacú for a month in 1598. Archeological excavations in the pueblo have identified three major periods of construction and twelve occupational horizons spanning the period ca. 1150 to 1680. For many years following the Pueblo Revolt, Qualacú consisted only of low adobe walls.

In the north, more desert mountains descend to the edge of the river. Settlements (inhabited from 1598 to 1680 and 1800–present) were located on both banks. Some travelers crossed over at Valverde to take the west bank road. A series of deep arroyos backed by high gravel benches on the river's eastern bank cut off the road between the benches and the edge of the valley floor. These gravel benches and sandy arroyos were known as the Vueltas de Luis Lopez or Vueltas de Socorro and were seen by some as marking the worst section of road and the most difficult passage between El Paso and Santa Fe. Here the *volante* (carriage) of Bishop Tamarón

overturned because the road had eroded out—a fairly common accident, as noted by Nicolas de Lafora a few years later [Lafora 1939:95].

Across the river was the Piro pueblo of Teypama, where the inhabitants had made a gift of food to the Oñate caravan: hence its name, Socorro (*succor*). Later the name was transferred to the village of Pilabó and the mission site of San Miguel de Socorro. The Vueltas de Socorro continued north to where a tall volcanic butte, El Acomilla (little Acoma), stood above an *angostura* or narrows, where the river flows between two outcrops of basalt. The Peñol de Acomilla is yet another famous landmark and historical setting along the long trail to the north. It was the site of a Piro pueblo, a watchtower, and the Estancia de Acomilla, occupied by Gerónimo Marquez from 1631 to the 1670s. The Rio Abajo refugees of the Pueblo Revolt in 1680 stationed a sentinel on the summit of Acomilla to watch for the arrival of refugees from the north.

The pass along the river above Acomilla to the ancient Piro pueblo of Sevilleta (ca. 1300–1680), and the later frontier town of La Joya (1800 to present), is also a section of difficult passage, with high hills and gravel benches extending to the river's edge. This section of the Camino landscape was known as the Vueltas de Acomilla and was occasionally avoided via a branch road onto the open plains east of the river across El Valle de La Joya and El Valle del Ojo de Parida. The village of La Joya de Sevilleta, named for the nearby Piro pueblo, is situated at the base of some high gravel bluffs. The colonial pueblo, like its namesake (Seville, Spain), is located on a high section of land—at La Joya, the summit of the bluff. La Joya was the southernmost village in New Mexico during the early nineteenth century, and the site where caravans gathered in the plaza in the fall before entering the long *despoblado* (uninhabited lands) that extended all the way to El Paso. La Joya was for a time the edge of the northern frontier. Here, the traveler going north was welcomed back into the towns, settlements, pueblos, and cultivated fields of the province of New Mexico.

The Camino Real climbed from the valley edge to the summit of the high bluffs and passed the Mission of San Luis Obispo at Sevilleta. The adobe nave, capped with a bell tower, was burned to the ground by enemy Apaches in 1672. For two centuries after the Pueblo Revolt of 1680, travelers passed near the mission ruins and followed the road into the lowlands and mesquite plains to the north. It was a long march across sandy flats with low gravel-filled arroyos. This area had been occupied by Southern Tiwa Pueblos during the early colonial period and was abandoned for nearly a century following the Pueblo Revolt. It was reoccupied with small Hispanic villages in the 1700s. In 1778, 30 families were living in a tent settlement at La Vega de Las Nutrias. The road went north and crossed the lower reach of Abo Arroyo and the red clay silt of the arroyo floor. The adobe from this red silt was used to build the plaza at Casa Colorado (Red House) in the 1820s.

North of Casa Colorado is a high gravel bluff overlooking the river near Belen. This highest point along this section of the river was known as Las Barrancas. It was the site of the colonial period Estancia Las Barrancas. The ruins of an old Tiwa pueblo (El Alto del Pueblo) were situated on the bluff, and from here the travelers looked further north into the settled valley of the Rio Grande and over cornfields fed by irrigation canals. The road went down the bluff, continued along the desert flats fringing the river, and approached a rotund volcanic

plug at Cerro Tomé. One of the roads passed east of the hill and the other went down to Tomé Plaza and into the scattered farms and ranches of this community.

The road left Tomé and followed the low bluffs and flats along the valley edge, coming to the villages of Valencia, Peralta, and the hacienda at Bosque de Los Pinos. The Camino then continued along the base of some sandy bluffs and passed the ancestral pueblo of Yellow Earth Village across the river from the pueblo of Isleta. Isleta pueblo was the Tiwan capital of the province and site of the mission establishment of San Augustín. Isleta ("little island"), on a low lava outcrop above the river, was the largest village that travelers had seen on the Camino Real since leaving the villages at El Paso. Across the river, a black mesa stands like a volcanic island overlooking the Albuquerque Valley and the ranchos of Los Padillas and Pajarito. On the summit of the isolated mesa was an early colonial period pueblo, said by some to be the original Isleta or rock island above the valley.

A sandy stretch along the edge of the eastern valley led down to the Villa de Albuquerque. Many travelers preferred to cross the river at Isleta and come up the firm valley floor north to Atrisco. They recrossed the river at El Vado de Barelas and followed Barelas Road to the plaza of Albuquerque, established in 1706. From the church tower at San Felipe de Neri, one could see the outlying ranchos and settlements of Los Barelas, Los Duranes, Los Candelarias, and perhaps further north to Los Poblanos, Los Ranchos, and others. Two main roads and a braided network of subsidiary roads linked these settlements, all a part of the greater Camino Real system. Travelers headed north to Rio Arriba and followed the hard and dry road (Camino del Lado) on the eastern edge of the valley. They soon passed the ruins of Puaray Pueblo, where the first Spanish priests in New Mexico were martyred. Others with time to spare and visits to make followed the valley floor roads, perhaps along the Camino de Guadalupe under the cottonwood trees to Alameda.

From Puaray the Camino continued north, following the base of the high gravel benches descending from the great uplift of Sierra Sandia. Here, the southernmost extension of the Rocky Mountains came close to the river, and its rocky crags towered above the ancient Tiwa pueblo of Sandia and the mission site of San Francisco de Sandia, built in 1610. In 1680, Governor Otermín and a band of refugees left the burning pueblo and abandoned the province. Sandia Pueblo remained in ruins until 1748, when it was reestablished by colonial authorities with a new population, mainly Pueblos who had moved to the Hopi towns in Arizona in the late 1600s.

The village of Bernalillo was not far to the north of Sandia Pueblo, with settlements scattered over the valley floor along the tree-lined acequias. Further to the north, a large, flat mesa with cliffs to the west of the river and high gravel bluffs to the east formed La Angostura, the famous narrows of the river. La Angostura was the gateway to the north and the frontier between the Tiwa and Keres pueblos. This was also the entrance to the Rio Jemez and the doorway to the pueblos and settlements of the Puname and Jemez provinces on the west and the mountain villages of Las Huertas de San José and Las Placitas to the east.

North of La Angostura, at the base of a high volcanic bluff and on the western bank of the river, is the Keres pueblo of San Felipe. The Camino led up to the edge of the river on the opposite bank. A bridge, which had

been built sometime before 1791 and was washed away by 1846 [Moorehead 1957:122; see "Fords Bridges, and Campsites," p. 17] crossed to the village. The old colonial pueblo with its black rock roomblocks and mission church stood on the edge of the mesa top, but the community moved to the foot of the mesa following the reconquest of New Mexico by Diego de Vargas in 1692–1696. North of La Angostura the river raced over a rocky bottom, and the traveler sensed that he was leaving the desert plains and the chocolate-colored waters of the lower river and was beginning to climb into the foothills of the Rockies.

Further along the east bank of the river from San Felipe to the large pueblo of Santo Domingo (now officially known by its traditional name, Kewa), the Camino Real led to another road (the Juana Lopez Road), which went east to bypass the steep slopes ahead and linked the Rio Grande to the settlements of the Galisteo Basin. Following the main road, the caravans rested under the tall adobe walls of Santo Domingo Pueblo and the bell tower of the mission church.

Still to the north, beyond the Pueblo of Cochiti, the Rio Grande pours out from a deep canyon incised in the basaltic mesa of the Caja del Rio (River Box). At Santo Domingo the Camino Real left the river to bypass the Caja del Rio. Still looming to the north was the tall black escarpment of the mesa known as La Bajada. La Bajada was the landmark that divided the Rio Abajo and Rio Arriba provinces of New Mexico. The branch trail at San Felipe headed east and around this barrier, while the main trail ran across a long yellow grassland plain to the entrance of Santa Fe Canyon. The canyon opens like a great mouth, the only corridor through the tall volcanic wall of La Bajada to Santa Fe; hence the name Cañon de Las Bocas. [see individual nomination]

Travelers then reached a stream that issued from the walls of the cañon. By around 1700 the large Tano pueblo at La Bajada had been reduced to an abandoned shell of melted adobe walls and was probably a paraje on the Camino. There was also a paraje at the entrance to Cañon de Las Bocas, located below the high fluted rocks known as Peñasco Blanco. The Camino Real ran up into the canyon and followed along its narrow floor between gigantic boulders, crossing the stream repeatedly. After passing through the canyon, the trail led to the outskirts of La Cienega.

Another trail (La Bajada Mesa Road), used by pack mules and travelers on horseback, ascended the steep slopes of La Bajada and crossed the open flats of the mesa top. This pack trail was in use during the colonial period and was improved for wagon traffic by the U.S. military in the 1860s. Much later it became the old automobile highway at La Bajada (NM Highway 1, El Camino Real, National Old Trails Highway, and US Route 66).

Ranchos and haciendas were scattered in La Cienega in the 1700s, many built around the springs known as Ojo del Alamo and the site of Hacienda El Alamo. From here, the road followed the stream to Rancho de las Golondrinas, where one branch crossed a low divide to rejoin the stream at Quemado (Agua Fria). The other branch continued north and followed the long descent of Ancho Arroyo to the river near present-day Buckman and then north to Ohkay Owingeh (San Juan Pueblo).

The Santa Fe branch followed close to the Rito Santa Fe into the streets of the capital city, which lay below the forested and snow-capped mountains of the Sangre de Cristo range. The trail ran down to the plaza and the Palace of the Governors, the provincial capitol begun ca. 1610. The road leading into Santa Fe was identified as the Camino del Alamo on colonial maps and was appropriately called the Great South Road on early U.S. military maps.

The northern branch of the Camino continued along the Rio Grande past the high volcanic mesas on the west until it came to the pueblo of San Ildefonso and entered the Tewa Pueblo province. North of San Ildefonso the road passed below the high black butte of Tunyo (site of a great battle during the reconquest) and continued north to Santa Clara and Ohkay Owingeh. On this northern reach of the old road, the Rio Grande spilled out from yet another deep black rock canyon and the waters of the Rio Chama joined the Rio Grande. It was here that the Spanish colonists of the Oñate caravan established the first capital of New Mexico, San Gabriel del Yunque (in Tewa, *yungé*) on the west bank of the river opposite Ohkay Owingeh. This was the end of the Camino as first established by Oñate and his colonists.

Fords, Bridges, and Campsites

The Camino Real crossed the Rio Grande at various fords (*vados*), which made it possible to access settlements, reach alternate branches of the road (*ramales;* see Kessell 2008:82), avoid floodwaters, and find grass or fuelwood. During late April and May, when snowpack was melting, or from July to late September, the period of summer storms, the fords could be dangerous. The Barelas ford just south of Albuquerque, for example, gave access to the west bank road, which provided easier going for heavy carts than the sandier east bank did [Simmons 1982:167].

Oñate used the lower of two fords at El Paso, where the Rio Grande has cut a narrow gorge called "Las Puertas." On May 4, 1598, about forty Manso Indians helped the caravan, including sheep, to cross the river [Moorehead 1958:18–19]. There was another ford near Brazito, an important paraje about twenty-five miles north of El Paso, named for the "little arm" or tributary of the Rio Grande [Horgan 1954(II):822]. About twenty-three miles north of Brazito was the San Diego ford, which may date to the nineteenth century or earlier [Horgan 1954(II):787]. Boundary Commissioner John Bartlett [1965(I):167] crossed at this ford on April 7, 1851, and called it "the old fording place." Further north, the Valverde ford was used by Oñate and many later travelers [Moorehead 1958:23, 107]. The Socorro ford, about 25 miles above Valverde, was also used by Oñate, who crossed to the Piro pueblo on the west bank of the Rio Grande [Simmons 1991a:106]. The ford at Isleta Pueblo ("the little island," so named because the flooding Rio Grande flowed through channels east and west of the pueblo) was used by travelers and military expeditions up until the late nineteenth century. At the Barelas crossing, three miles south of Albuquerque, southbound caravans and military expeditions crossed from the Camino Real east of the river to avoid the deep sands from here to Isleta Pueblo. Wagons traveling upriver could avoid the sands by crossing at Isleta Pueblo or further south, then returning to the west bank at the Barelas

ford. Upriver there were smaller fords at Bernalillo, Santa Ana Pueblo (after the early 1800s), Kewa (Santo Domingo), San Felipe, and Cochiti.

Rafts were used to cross the river at San Felipe in the late 1600s [Strong 1979:392]. Footbridges existed at San Felipe and Cochiti in the mid to late 1800s, and possibly earlier [Jones 1999 143–144; Lange 1959:57–60].

At least three bridges were built across the Rio Grande in historic times. The bridge built at El Paso in the early 1800s was about 500 feet long and 17 feet wide, and was constructed of pine logs or lumber and supported on eight caissons. It was probably built in an attempt to avoid a treacherous ford. This bridge washed away in the late 1800s.

Another bridge for foot and animal traffic spanned the Rio Grande at San Felipe Pueblo. It was constructed of pine logs and supported on eight caissons. It was built before 1791 but washed away by 1846 [Moorehead 1957:122]. A bridge also existed at Cochiti Pueblo in the late 1800s [Lange 1959:57–60]. The U.S. Corps of Topographical Engineers also built a bridge (LA 80003) across a lateral arroyo of the Galisteo Wash in 1859 [see Los Alamitos nomination].

Campsites or parajes were established where travelers had access to water, fuelwood, and grass. They received names and sometimes became settlements. La Joya de Sevilleta became a settlement where southbound caravans or *conductas* and livestock herds could meet and regroup before continuing south [Baxter 1987:63; Torrez 1999:112]. El Contadero, between the lava flows of Contadero Mesa and the wetlands or *cienegas* (marshes) east of the Rio Grande, was the last point where caravans could rest and find grass and forage at the north end of the Jornada del Muerto [Wilson 1976].

The road itself, fords, ferries, bridges, parajes, and other resource types are discussed below under "Section F: Associated Property Types."

Important Landmarks along the Camino Real

Major landmarks along the Camino (see discussion of this property type on pp. 71–72).

El Paso del Norte (Canyon and River Crossing)
Sierra de los Muleros (Cerro Cristo Rey)
Sierra de los Organos
Sierra Robledo–Sierra Doña Ana
San Diego Butte
Sierra Las Petacas
Perrillo Hills and the Point of Rocks

Black Hill
Laguna del Muerto
Ojo del Muerto Canyon
Lava Gate
Sierra Fra Cristobal
Contadero Lava Flow
Mesa Contadero (Mesa Senecú)
Bosque del Apache Dunes–San Pascualito Mesa
Vueltas de Luis Lopez and Socorro
Acomilla and Angostura de San Acacia
Vueltas de Acomilla
La Joya Sevilleta Bluffs
Abo Arroyo and Confluence
Las Barrancas
Cerro Tomé (Listed on the State [HPD 1637] and National [424889] Registers)
Black Mesa at Isleta
La Angostura (Gateway to the North)
San Felipe Mesa and Mesita
La Bajada (Landfall Boundary, Rio Abajo/Rio Arriba)
Cañon de las Bocas
Ancho Draw–White Rock Canyon
Black Mesa and Revolt Period Site at San Ildefonso (Tunyo, HPD 346 State Register)
Rio Chama Confluence

Except for the mountain ranges (Sierra De Los Organos, Sierra Robledo–Sierra Doña Ana, Sierra Petaca, and Sierra Fra Cristobal) and Black Mesa at Isleta, all of these landmarks were located on or immediately adjacent to the Camino.

The Camino Real in New Mexico (from the Texas state line to Ohkay Owingeh) is approximately 300 miles long in its shortest alignment, which includes the Jornada del Muerto route as opposed to the Rio Grande route. The alternate and braided roads that we have noted add at least 100 miles.

Context 2: Exploration, Settlement, Invasion, and War

Concept or theme: the Camino Real was created by explorers and colonizers. It was the route and the means of exploration and settlement of New Mexico, as well as the route of invasions and wars over a period of about three hundred years.

Geographical area: Rio Grande corridor from international boundary to Ohkay Owingeh

Chronological period: AD 1598–1881

Narrative

Pre-Spanish routes and trails

The West Mexican Interior Trail was an ancient roadway that extended along the eastern flank of the Sierra Madre Occidental and connected western Mesoamerica with the Chalchihuites culture of Durango and Zacatecas [Riley 1993:13]. In Durango this route was joined by a trail that brought goods from the west coast of Mexico across the Sierra Madre to the Chalchihuites region. This interior trail eventually continued north. Sometime after AD 1000 it linked to the major trading center of Casas Grandes in Chihuahua [ibid.].

An extensive series of trails radiated from Casas Grandes to various destinations across the Southwest. One segment ran from around El Paso to the upper Rio Grande. This segment, which Riley [1993:15] refers to as the Rio Grande Pueblo Indian Trail, eventually became the northern part of the Camino Real.

Somewhere in the area of El Paso and Las Cruces, another trail ran from southeastern Arizona to the lower Conchos Valley [ibid.].

By about AD 1500 the great trading center of Casas Grandes had fallen into ruin, but the Rio Grande Pueblo Indian Trail became incorporated into a second trail system linking trading communities in northern Sonora to the Pacific coast, southeastern Arizona, southwestern New Mexico, and the town of Cibola (modern Zuni) in present-day New Mexico.

This branch to Zuni was noted by early Spanish expeditions, which began to use it for slaving raids as early as 1530. In 1540 Francisco Vasquez de Coronado used it as the route of a major expedition into New Mexico.

One trail from Zuni ran to the Pueblo of Acoma and then to Taos Pueblo. Hernando de Alavarado and Fray Juan de Padilla, on orders from Coronado, went east on this trail in the fall of 1540, reaching Acoma and exploring north to Pecos Pueblo before retracing their trail to Zuni. Another trail cut across the northern side of the Plains of San Agustin to the vicinity of modern-day Socorro. The Rio Grande Pueblo Indian Trail also ran south to the country of the Manso and Suma Indians around modern El Paso.

The Jornada del Muerto was well known to Indian traders. They either used it or went by the Rio Grande route [Riley 1993:16–17]. When Spanish expeditions began moving up the Rio Grande, they obtained Indian guides to take them through the Jornada since pack trains and wagons could not cross the arroyos west of the Rio Grande or the mountainous terrain east of it.

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North of the Jornada the main trading route probably followed the Rio Grande through the Keres, Tewa, and northern Tiwa pueblos. Spur routes also extended to the Piro Indian towns east and north of Socorro, to the Galisteo country, and over Glorieta Pass to Pecos Pueblo. From Pecos, roadways radiated out to the Plains (predecessors of the Santa Fe Trail, linking the Plains and the Pueblos).

Early Spanish Exploration

The route that would become the Camino Real within Mexico came into use in the early 1500s. It ran from the City of Mexico to Zacatecas (est. 1546) and was commonly known as the Camino de Plata. As its name indicates, this route was used to transport silver from the mines at Zacatecas to central Mexico. The first developer of these mines was Cristobal de Oñate.

In 1527 Pánfilo de Narvaez, who had succeeded Ponce de Leon as governor of the region known to the Spanish colonizers as La Florida, led an expedition into northern Florida in search of a region that the Indians had spoken of, a certain Apalachen. The natives were hostile. Narvaez and his men retreated to the coast, built five horsehide boats, and started down the Gulf Coast toward Mexico. They were wrecked by a hurricane near present-day Galveston. One of the survivors was Alvar Nuñez Cabeza de Vaca. Traveling on foot, he hoped to reach the nearest Spanish settlement in Mexico. He was captured by Texas Indians but escaped into the interior and became a trader and medicine man. Five years later he encountered three other survivors of the Narvaez expedition. These were Castillo, Dorantes, and Estévan or Estevanico, a Moor who had been Dorantes' slave. The four headed southwest in an attempt to reach Nuñez' original destination of Panuco on the Mexican Gulf coast. To avoid natives who might not be friendly, they turned inland. They went up the Rio Grande to near El Paso, then turned west and crossed the Sierra Madre. On the way, they met Indian farmers (Opatas). They reached Sonora, and then turned south to Sinaloa. They finally arrived in Mexico City in 1536, bringing reports of the Indian farmers to the north [Bolton 1949:8–9].

The first viceroy of New Spain, Diego de Mendoza, appointed in 1535, authorized expeditions to discover the northern reaches of New Spain, still unknown to Europeans. Among these were explorations into New Mexico, Texas, and California. In 1539 the viceroy sent Fray Marcos de Niza, a French priest, to investigate Cabeza de Vaca's story about Indian farmers. Fray Marcos went by way of the west coast of Mexico. Estévan went with him, traveling ahead and sending back reports. Estévan reached the Zuni pueblos, where he was killed, probably because he was posing as a divinity and demanding tribute, possibly in the form of Pueblo women. Fray Marcos and the rest of the expedition turned back to Mexico City, where they recounted stories of another group of farmers, the Zunis.

The viceroy considered Fray Marcos' report and another from an expedition authorized by Francisco Vasquez de Coronado, the governor of Sinaloa. The viceroy ordered Coronado to explore further. Coronado left northern Mexico in 1540 and reached Zuni. He used Zuni guides to follow the Indian trade route across the northern edge

of the San Agustin Plains to the Rio Grande Trail near modern Socorro. All subsequent Spanish expeditions, however, followed new routes east of the Sierra Madre Occidental.

Marching north along the Rio Grande, Coronado was on a stretch of the future Camino Real [Schroeder 1999:23]. He reached the northern New Mexico pueblos and turned east, exploring as far as the Big Bend of the Arkansas River in Kansas. He then returned to the Rio Grande and to Mexico.

Since Coronado had not found great wealth in the far north, this distant and seemingly unprofitable area was ignored by the Spaniards for about forty years. In this period the frontier advanced north to rich mines in the Santa Bárbara vicinity of southern Chihuahua. Here a local priest, Fray Agustín Rodriguez, heard stories from slave traders about settled Indians to the north. He obtained the viceroy's permission to investigate. In 1581 he and Captain Francisco Chamuscado, with a small party of soldiers, went north by way of the Conchos River and the Rio Grande. When they reached the junction of the rivers, Indians told them about Cabeza de Vaca and about settled Indians who could be reached by going up the Rio Grande. Traveling up the river from the El Paso area to Kewa (Santo Domingo Pueblo), they were the first Europeans to traverse what became this segment of the Camino Real. They then went east into the Plains, west to Zuni, and then back to the Rio Grande, down to the Conchos River, and back to Santa Bárbara. Their reports contained significant information about the various Indian communities, or pueblos, that they had seen. The Rodriguez-Chamuscado expedition left two friars with the Pueblos of the Albuquerque-Bernalillo area.

In 1582 Antonio de Espejo led a small party north from southern Chihuahua to find out what had happened to the two friars. Eventually he discovered that they had been killed by the Pueblos. He went west to Zuni and Hopi, south into the Verde Valley, back to Acoma Pueblo, then to Pecos Pueblo, where he captured an Indian to take with him back to Mexico to serve as a teacher of the language (the Spanish had learned that the Pueblos spoke various languages). He then returned to Mexico down the Pecos River, the lower Rio Grande, and the Rio Conchos [Schroeder 1999:26].

By about AD 1590 the Spanish were becoming sufficiently familiar with these far northern areas to realize that going down the Conchos and up the Rio Grande meant swinging in a wide arc to the west, and that it would be possible to head straight north from the vicinity of modern Chihuahua City to the El Paso vicinity. In 1590 Gaspar Castaño de Sosa, in the mining town of Almadén in Chihuahua, also heard stories of the settled Indians to the north. He led an unauthorized expedition (using carts—the first expedition into New Mexico to do so) north along Espejo's return route, the Pecos River, rather than by way of the Conchos. His party reached Pecos Pueblo, where the people rose up in arms to drive them away. Castaño's expedition visited the northern Tiwa area, going as far as Picuris, and the Tewa pueblos in the Rio Grande Valley. The Tewa towns he saw may have included Tesuque, Nambe, Pojoaque, Jacona, Cuyamungue, San Ildefonso, Ohkay Owingeh (subsequently the northern terminus of the Camino Real) and the southern Tewa or Tano pueblos in the Galisteo Basin. Castaño noted that the Tewa towns had extensive acequia agriculture. His party returned to Kewa, where they set up a main camp.

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None of these expeditions entered New Mexico by the route that would become known as the Camino Real. Juan de Morlete was sent from Saltillo to arrest Castaño for illegal entry into New Mexico. He returned by a route described as 200 leagues shorter than the way he came—probably along the Rio Grande to what later became known as El Paso del Norte—indicating that he likely took a route approximating the Camino Real [Hammond and Rey 1966:46–47; Roney 1993:86; Schroeder and Matson 1965:175–176].

Antonio Gutierrez de Humaña and Francisco de Leyba y Bonilla entered New Mexico in 1595 without viceregal sanction. Although their route is unknown, they probably went by way of the Conchos and the Rio Grande [Schroeder 1999:26]. They went to San Ildefonso, to Pecos, and into the Plains, possibly as far east as the Missouri River. Here Leyba killed Gutierrez in a quarrel over who was in charge. One Indian from this expedition finally managed to get back to New Mexico, where he reported to Juan de Oñate at Ohkay Owingeh in 1599.

Juan de Oñate, a son of Cristobal de Oñate, had led a colonizing expedition in 1598 from near modern Chihuahua to the El Paso vicinity, and then north on the Rio Grande Pueblo Trail. Oñate's expedition was the first, for which we have firm evidence, to use the entire Camino Real.

Traditional Native American use of the Rio Grande Pueblo Indian Trail diminished in the early 1600s. Most of the trade goods that had come over this trail in prehistoric times were ceremonial, and the Spanish suppressed Pueblo religion at the same time as the Pueblo population shrank rapidly from hunger, dislocation, and disease. After Vargas' reconquest of the province at the end of the century, the Camino became primarily a Spanish trade route used by all segments of the regional population.

Colonization

Cristóbal de Oñate had been lieutenant governor of Nueva Galicia in the Coronado administration and had discovered the silver mines of Zacatecas. His son, Juan de Oñate, had participated in campaigns against Chichimec Indians and had administered silver mines for his father, and thus had both military and administrative experience. In September 1595, after two years of contract negotiation and numerous bureaucratic delays, the viceroy granted him the title of governor and a contract to establish a permanent colony in New Mexico [Hammond and Rey 1953:6]. Oñate assembled an expedition of 129 soldiers, their families and servants, a cart train of supplies, and a huge herd of livestock. In early 1598 he finally began the trip north.

He proceeded directly north from the silver district of Santa Bárbara, established in 1567 in Nueva Vizcaya, now the state of Chihuahua. Santa Bárbara was a mining town in the foothills of the Sierra Madre. It was about 900 miles from Mexico City and 700 from the small valley where Santa Fe would be established ca. 1607. The Santa Bárbara of 1598 was a small settlement, with a population of perhaps 35 heads of families [Roney 1993:87]. It would become an important stopping place on the road north.

Oñate continued to the crossing of the Rio Grande at El Paso (modern Ciudad Juarez). On April 30, 1598, near the pass to the north, at the site known as San Juan de la Toma (St. John "of the taking"—that is, the taking of the lands to be colonized), Oñate performed a ritual act of possession, asserting Spanish ownership of and dominion over New Mexico in the name of the king [Hammond and Rey 1953(5):314].

On May 5, 1598, the expedition passed the seven-year-old ruts of the ten carts that Castaño de Sosa and Morlete "took out from New Mexico" [Simmons 1991a:101].

When one of Oñate's officers, Pedro Robledo, sixty years old, died at the upper end of the Mesilla Valley—perhaps overcome by the rigors of the trip—Oñate named the campsite where Robledo was buried the Paraje de Robledo. The chronicle of this first expedition does not name most of Oñate's camps, but over time, the parajes were given names by travelers.

Robledo was buried on May 21. Oñate then left the main party and rode due north with a small party for ninety miles to scout the desert and select campsites. The main expedition followed until they came back to the river at Fray Cristóbal, which was named for Oñate's cousin, Cristóbal de Salazar, a missionary with the expedition.

A chronology of Oñate's colonizing expedition is as follows:

May 23 – the expedition found waterholes when "a dog appeared with muddy paws and hind feet" [Hammond and Rey 1953(5):317]. This would become the camp known as El Perrillo. In his 1630 *Memorial,* Fray Alonso Benavides, Father Custos of New Mexico, would refer to "La Provincia de los Apaches del Perrillo" [Ayer 1965:165], indicating that the place name of this paraje had been applied to the local Apache populations and the Jornada del Muerto district in general.

Governor Otermín, following the Pueblo Revolt and during his attempted reconquest of New Mexico in 1681, also describes the paraje of Perrillo: "In only one place (in the Jornada del Muerto) which they call El Perrillo, was there found a little water fit for the people to drink and with which to water some of the beasts, all the rest being dry and without water" [Hackett and Shelby 1942(11):202, 365]. Eleven years later, Governor Diego de Vargas and his military caravan, traveling north on the Camino Real after a forced march from Robledo, reached El Perrillo on August 27, 1692. Vargas' journal says that "through the divine providence of our Lord there were heavy showers from dusk until about mid-night, and even though all of the members of the expedition grew weary of the drenching, they obtained water" at the Perrillo paraje [Espinosa 1940:62].

May 27 – the expedition came to the marsh of Mesilla de Guinea, so named "because it was of black rock" (near San Marcial).

May 28 – the expedition camped across the river from Qualacú (also near San Marcial).

June 14 – the expedition reached the pueblo of Teypama, which the Spanish called Socorro "because it furnished us with much maize."

June 15 – the expedition camped at Sevilleta; "this was the first pueblo in which we camped, as we considered it safer to take refuge in the houses for protection in case the Indians of the country should decide to attack" [Hammond and Rey 1953:318]. Sevilleta was a Piro pueblo about twenty miles north of Socorro.

June 24 – the expedition reached the pueblo of San Juan Bautista, so named because that was John the Baptist's feast day. The pueblo was "deserted because of our coming" [Hammond and Rey 1953:319]. This small pueblo was about 16 miles north of Sevilleta.

June 26 – "we spent the night on the bank of the river" (ibid.).

June 30 – the expedition reached San Felipe Pueblo, then Santo Domingo Pueblo [Hammond and Rey 1953(5):317–321].

After this, the main body of the expedition detoured east to avoid the 900-foot-high volcanic escarpment of La Bajada. About July 11 Oñate reached the pueblo of Ohke Ouinge (Ohkay Owingeh), which he renamed San Juan. On August 18 the main body of the expedition reached the pueblo.

By blazing the trail in Mexico and following the Rio Grande in New Mexico, the expedition created the Camino Real (as noted above, however, Coronado's men had marched up the Rio Grande from the vicinity of Socorro, New Mexico, to the northern pueblos, on or close to the same route, and Morlete may also have approximated the route).

"They had travelled, with few oxen and very weary, 161 leagues, the distance by the cart road, from the valley of San Bartolomé to this pueblo [San Juan]. Of the eighty-three carts and wagons which began the expedition, sixty-one arrived. The other twenty-two, as each was unburdened of provisions, had been left on the road in order to relieve the oxen and to spare us trouble as they were so little needed" [Hammond and Rey 1953:320].

Oñate held councils with local Indians at Kewa (Santo Domingo) and Ohkay Owingeh (and eventually at five other pueblos, including Acoma, Zuni, and Hopi), where he asked the Indians to make acts of obedience and vassalage. He believed that the Indians had made such acts and understood them.

Oñate decided to establish his capital at Ohkay Owingeh as he thought it would be central to what he called the Kingdom of New Mexico and because the Indians seemed friendly and were good subjects for exploitation. Not long after this, Oñate moved his settlers across the Rio Grande to the pueblo of Yungé, which he renamed San Gabriel. The Indians moved out, joining their relatives in Ohkay Owingeh. The Spanish apparently believed that the Indians abandoned their pueblo voluntarily [Riley 1995:247–248; Simmons 1991a:49, 100, 111, 195, and

map pp. 94–95; Hammond and Rey 1953:16–17]. This may have been in part because colonial laws forbade Spaniards to frequent (much less occupy) Indian pueblos.

Maese de campo Juan de Záldivar was killed at Acoma Pueblo on December 4, 1598, while trying to obtain blankets and provisions from the Acomas. Oñate mounted a punitive expedition. After two days of fighting, Vicente de Záldivar, Juan's brother, and his men captured the pueblo. Oñate conducted a trial of 70 or 80 Acoma men and 500 women and children. He enslaved most of them and placed the girls younger than twelve under the supervision of a priest and the boys under the supervision of Záldivar [Hammond 1953:19-21; see discussion of slavery below]. The girls were sent down the Camino Real and placed in nunneries across Mexico as novices. We have no further account of them. In all probability, none ever came home to Acoma

In 1608 Oñate may have been planning to move the capital from San Gabriel to a more convenient location somewhat to the south (he always calls San Gabriel "my headquarters"—*mi campo*—not "my capital" and may not have intended it to be permanent). Some of his settlers had already moved to a narrow valley at a place they called Santa Fe [Simmons 1991a:182]. Viceroy Don Luis de Velasco, Marques de Salinas had doubts about the New Mexico enterprise. He was not sure it could survive, and he considered shutting it down. The Franciscan Order "belatedly awoke to the realization that it might actually lose its rich missionary province in New Mexico" [Simmons 1991a:183]. The friars in New Mexico may have received an order from their superiors in Mexico City to get busy baptizing converts. In the summer of 1608 they performed mass baptisms among the Pueblos—about 7,000, they said. Fray Lázaro Ximénez went down the Camino Real to Mexico City to report to his superiors. He told the viceroy that many thousands more were asking to be baptized, and Velasco, delighted, reported this to the king. King Philip, impressed, decreed that New Mexico should be taken under crown patronage and converted to a royal colony, which meant that its expenses would be paid by the royal treasury rather than by the governor. Early in 1609 the viceroy named Pedro de Peralta governor and recalled Oñate [Hammond and Rey 1953 (I):6, 42-57, (II): 1042–1045; Simmons 1991a:182–185].

One of Peralta's first tasks was to relocate the capital from San Gabriel to a location that was closer to the largest Indian populations but was not itself occupied by Indians. As noted above, settlers were instructed by the Laws of the Indies to avoid contact and communication with the Indians—a prohibition that Oñate had ignored. His treatment of the Indians was one reason for his being recalled. In the winter of 1609–1610, Peralta either chose the site of Santa Fe or accepted the new location and the new community as an accomplished fact. Santa Fe became the Camino Real's effective northern terminus, although several branch roads communicated with the northern, eastern, and western limits of the province.

1600s

The continuous development along the Camino Real in the 1600s included mining, ranching, farming, and the building of animal-driven or water-powered mills.

The New Mexico of the seventeenth century was understood by its Hispanic settlers to be a part of Mexico, rather different from the "somewhat more rural backwater it became in the eighteenth century" [Ivey 1999:177]. This strong integration with interior Mexico was maintained by the Camino Real.

The colonizers distinguished between the Rio Arriba, the entire settled area from the 900-foot-high escarpment of La Bajada Mesa north to the Tiwa pueblos of Taos and Picuris, and the Rio Abajo, south of La Bajada and embracing the settled area down to the Piro pueblos.

As the new colony was being established and new missions were being set up at many of the Rio Grande pueblos, the Franciscan order created a mission supply program that came up the Camino Real from Mexico City to the Santa Bárbara area and from Santa Bárbara to Santa Fe. The Spanish crown assumed support for the missions in 1609 [Snow 1999:73; see "Mission Trade" in Context 4].

A Portuguese Franciscan, Fray Alonso de Benavides, was the third custodian of missions in New Mexico and the first commissary or agent of the Inquisition in the province [Morrow 1996:xi]. In 1630 the royal printshop in Madrid published his Memorial, in which Benavides described the missions, the Pueblos, the nomadic tribes, the Hispanic settlements, and life in New Mexico.

Revolt and Reconquest

In 1680 the Pueblos revolted against Spanish rule. Spanish missionary zeal and the quest of the Spanish colonizers for fortune had led Oñate to believe that the Pueblos had accepted King and church, that the people of Yungé had given up their pueblo voluntarily, and that the Pueblos had acquiesced in their status as Spanish vassals. The characteristic reticence of the Pueblos probably fostered this impression. By 1680, however, Spanish hegemony and the conditions that accompanied it, including forced labor, hunger, and disease, had reduced the Pueblo population to one-fourth, perhaps less, of its precontact numbers. Moreover, the Franciscans were asking the Pueblos to give up their religion.

The Pueblos revolted on August 10, 1680, in fire and blood, led by an Ohkay Owingeh religious leader usually known as Popé. They killed the priests who lived in the pueblos, then spread out to neighboring farms and ranches, killing whole families of whites. Within five days they overran the Spanish settlements in northern New Mexico. They systematically burned and destroyed churches and the *santos* (statuary or paintings of saints), vestments, and religious paraphernalia in them. They took a few captives, mostly women, who are listed and whose children are referred to in a report of 1692 [Kessell and Hendricks 1992:525–531]. It is likely that some of these children had Pueblo fathers. And the Pueblos did not or could not reject the things the Camino Real had brought them and that they could no longer do without: wheat and garden vegetables; horses, sheep, and goats; and metal tools.

About 500 survivors from the Rio Arriba got to Santa Fe, while those in the Rio Abajo, about 1,500 people, gathered at Isleta Pueblo, which remained loyal to the Spanish. On August 14 they began a retreat down the Camino Real under Lieutenant Governor Alonso García. The people in Santa Fe, led by Governor Antonio Otermín, retreated by a cart road into the Galisteo Basin. Otermín may have avoided the Camino Real because the Keres people south of Santa Fe were part of the revolt; he may have thought that La Bajada was too difficult and dangerous to descend during the uprising [Hendricks 1993:78]. From San Marcos in the Galisteo Basin the people from Santa Fe went down Galisteo Creek to Santo Domingo, then down the Camino Real. At Fra Cristobal they caught up with the larger body of refugees.

After the retreat of the survivors down the Camino, traffic through the area came to a virtual end. The Pueblos of Isleta fled with the Hispanics. A capital in exile was created at El Paso, and three new settlements for the exiles were also created along the river to the south.

In November 1681, Governor Otermín attempted the reconquest of the north with an expedition of 150 men. He went north from El Paso to Robledo, left the river and crossed the Jornada del Muerto. He sent a smaller force from Isleta up to the Keres and Tiwa pueblos, but the Pueblos met them with armed resistance. By February 1682 the invading Spanish had retreated to El Paso [Hendricks 1993:79].

In 1688 a new governor, Pedro Reneros de Posada, led another expedition north. He burned Santa Ana Pueblo (on top of Black Mesa). In 1689 the succeeding governor, Domingo Petrís de Cruzate, raided Zia and killed a large number of its inhabitants and took the governor of the pueblo, Bartolomé de Ojeda, captive.

The Otermín and Reneros expeditions were not much more than brief incursions or raids. Then on August 10, 1692, a new governor, Diego de Vargas, led 60 troops and 100 Indian auxiliaries on yet another expedition of reconquest.

Juan de Oñate had established the Camino Real as the road to the colony that he founded; Diego de Vargas returned on the Camino Real to restore the colony to New Spain.

Vargas was a son of the middling Spanish nobility. He was born in Madrid in 1643. He was orphaned young and may have dropped out of college—he claimed to have attended classes at the University of Valladolid, but he did not get a degree. He had come to New Spain in 1672, at the age of twenty-eight, as royal courier to the viceroy. Witnesses who testified before his departure described him as of average height, with straight hair and wide face. He lisped—not a Castilian lisp, but a speech impediment. He had been the capable and energetic administrator of two different mining districts, first at Teutila in Oaxaca in southern Mexico, then at Tlalpujahua 160 kilometers northwest of Mexico City. He hoped for a post in Guatemala or Peru, but in 1688 he settled for the governorship of New Mexico, a colony in exile. He assumed the governorship in El Paso—as with Oñate before him, after bureaucratic delays lasting more than two years. He was dauntless, ambitious, formal, and stubborn. His correspondence does not suggest any sense of humor. He negotiated forthrightly with

the Pueblos in 1692 and seems to have gained a measure of their respect [Kessell and Hendricks 1992:27–30; Kessell, personal communication, 2010]. Oñate founded New Mexico but was recalled and died in Spain. Vargas restored New Mexico, which he called "remote beyond compare" (*remoto sin igual*) [Kessell and Hendricks 1989]. He longed for Spain and his family there, but never succeeded in being posted back home, dying in New Mexico in 1704.

Vargas traveled up the Camino Real to the south end of the Jornada del Muerto. Here he divided his force to make better use of the scarce water available at El Perrillo, Las Peñuelas, and the Paraje del Muerto. The forces reunited at Fra Cristobal and proceeded north on the west bank of the Rio Grande. The expedition reached Kewa (Santo Domingo) and continued up the Cañon de Las Bocas road. Vargas describes the poor road conditions and refers to a camp site at the mouth of the canyon called "Las Bocas" [see Las Bocas nomination].

> The entire force was gathered in readiness at about five o'clock in the afternoon, at which time I sallied forth from the pueblo [Santo Domingo] with the said camp. After traveling less than a league, we found the road and slope so rough and washed away, due to continuous rains and a long period of disuse, that it was necessary to reopen the way, and by hand and the strength of strong arms we pulled through the two wagons and the gun carriages with the piece of ordnance and the large bronze stone mortar. For this reason I encamped at a place called Las Bocas. The entire camp arrived after dusk. And since the road was so rough and difficult, we were obliged to spend the night on the plain which surrounds the ridge or mountain there [Espinosa 1940:77].

Vargas went as far north as Taos Pueblo, then turned west and went as far as the Hopi pueblos. He returned to the Rio Grande, went south to Robledo, crossed the river, and went down the Camino to El Paso. All this was a reconnaissance, and there does not appear to have been any fighting.

Vargas submitted a plan of resettlement to the Viceroy, proposing the relocation of many Spanish and Indian communities closer to the Camino Real. This plan was approved but was never carried out [Hendricks 1993:80]. Vargas enlisted soldiers and gathered former residents of New Mexico. He headed north again in October 1693 with 70 families, 100 soldiers, and a group of Franciscans—more than 800 people.

Because shrubs and brush had grown up in the ruts of the Camino, Vargas sent sheep, cattle, and horses ahead to trample the roadway, making it smoother for riders and wagons. He also had men ready to repair the road where it had been damaged by runoff [Hendricks 1993:81].

Vargas and some of his men left the main body of the expedition at San Diego, near the south end of the Jornada, crossing the river. At Fra Cristobal Vargas crossed again and rejoined the wagons.

The Franciscan *procurador general* gathered another group of settlers that did not assemble in El Paso until after Vargas had left. This group of about 230 people joined Vargas in Santa Fe in the spring of 1694. In 1695 a third body of settlers—44 families from the Zacatecas area—also went up the Camino Real to Santa Fe.

Thus, in the late 1600s the Camino Real served as a line of retreat, a route for military incursions to reconnoiter and reconquer the province, and then a road for recolonization.

The Pueblos rose in arms against Vargas in 1693. They revolted again in 1696. Vargas and his settlers and soldiers defeated both of these uprisings.

In 1697 Lázaro de Mizquia, a member of the *cabildo* of Santa Fe, made another proposal for reorganization of the province. As Vargas had done earlier, he proposed the resettlement of the towns and pueblos of New Mexico on the east bank of the Rio Grande along the Camino Real. This plan was never implemented. Evidently, however, the importance of the Camino Real as a line of communication, as well as a possible route of retreat, was recognized by both Vargas and Mizquia.

1700s

Over the next few years the Hispanics recolonized parts of the Rio Arriba and the Rio Abajo. They were forced to recognize the limits of Pueblo tolerance. A somewhat symbiotic relationship and a measure of social integration replaced the brutal exploitation of the previous century.

The Camino Real became if anything even more important to the province of New Mexico. Trade caravans, originating in Santa Fe, began to descend the Camino. However, the purpose of the province of New Mexico changed after the reconquest. The colony was no longer a government-subsidized mission to the Pueblos, but a defensive outpost intended to protect the frontier against incursions by the enemies of Spain. The caravans were now more secular and more oriented to commerce [Torrez 1999:11]. These caravans, no longer organized by the Franciscans, were irregular. There was one, for example, in May 1712 [Moorehead 1958:42]. By 1750, however, regular caravans had been reestablished. They left Santa Fe every December for Chihuahua [Moorehead 1958:42].

Bishop Pedro Tamarón y Romeral went up and down the Camino in 1759–1760 during an episcopal visit. This caravan was made up of 22 regular soldiers, 55 Spanish and Indian militia, 17 other persons, 429 horses and mules, 28 bulls, and 450 sheep [Adams 1953:299–300].

Going north, Tamarón watched water barrels being filled at the Paraje of San Diego preparatory to crossing the Jornada del Muerto. At Luis Lopez, across the river from the deserted pueblo of Socorro, the *volante* (a light open carriage with two tall wheels, a top, and two long shafts for a single horse or mule) in which the bishop was riding capsized where a ravine had sheared off the side of the road. The Father Custos who was riding with

the bishop was injured. The bishop escaped injury, he says, because he fell on top of the Father. The bishop continued the journey on horseback [Adams 1954:42].

The goods that came up the Camino included imported fabrics, boots, hats, shoes, shirts, medicines, soap, rice, chocolate, sugar, tobacco, liquors (especially El Paso brandy), paper, ink, horses, and mules. The *efectos del pais* (products of the country) that went south with these caravans included sheep, raw wool, wild animal hides, wool blankets, salt, and piñon nuts [Minge 1979:21–22; Moorehead 1958:49].

In 1722 Felipe V ordered an inspection of the presidios in the northern provinces [Naylor and Polzer 1988:1]. Brigadier Pedro de Rivera Villalón consequently made a military inspection of northern New Spain in 1726. He passed along the Camino Real [Lafora 1939] and examined the defenses, including the garrisons of New Mexico. He describes the Presidio of the Exaltation of the Cross in Santa Fe [Naylor and Polzer 1988:110]. He seems to have been a rather crusty and exacting senior civil servant: "I dismissed twenty men who with the title of *reformados*, [former prisoners] were a waste of money" [Naylor and Polzer 1988:111]. The governor objected, and Rivera noted that he was protesting the loss of his income—the difference between the governor's allowance for the soldiers and what it actually cost to feed and maintain them. "All the commerce of New Mexico consists of goods brought in by the Governor for his soldiers . . . which amount to a significant part of their trade" [Naylor and Polzer 1988:151]. Rivera added that "credence should not be lent to the solicitations of the inhabitants, because it is customary for them to sign any document, regardless of its content" [ibid.]. He mentions the Camino Real near Mapimi in Chihuahua [Naylor and Polzer 1988:75] and says that the soldiers of Mapimi "did not provide any escort, because they were not on the Camino Real," and again, "the soldiers are there only to protect that place, without having to escort travelers, because the camino real is quite distant" [Naylor and Polzer 1988:148] He traveled up the Camino to Santa Fe and down again to El Paso [Naylor and Polzer 1988:79]. The trip north took sixteen days; Rivera arrived on June 4, 1726. He says that "convoys and persons going to Santa Fe at New Mexico do not go whenever they please but only twice a year" [Naylor and Polzer 1988:170]. He ordered that any bishop who traveled to New Mexico or any other northern province be provided an escort "corresponding to his dignity and safety" [ibid.]. He describes "the kingdom and province of New Mexico [Naylor and Polzer 1988:215–216], referring to the map "Provincia de el Nuevo Mexico" by Alvarez Barreiro [1727; reproduced in Wheat 1957:82–83]. Rivera was not interested in the Camino itself and refers to it only in passing (see reference to Rivera in the San Diego North-South nomination).

About 1754, Governor Tomás Velez Cachupín or one of his aides wrote a sixteen-page description of New Mexico. It included three tables dated 1752 and contained some of the earliest census materials for the province. It also describes the Camino Real:

> The territory of New Mexico has annual trade with that of Nueva Viscaya through the mining towns of San Felipe de Chihuahua. To do so, in the month of November after completing their harvest, [representatives from] the settlements rendezvous and depart together, convoyed by soldiers from the presidios of Santa Fe, to El Paso del Norte, one hundred leagues [south]. There the convoy returns and is

> replaced by another from El Paso that serves as escort until they reach San Felipe de Chihuahua itself, another ninety-five or one hundred leagues [south]. They proceed in close order, camping at the water holes and areas that offer sufficient pasture for the horses and livestock being transported, and that are defensible against the ambushes and attacks made throughout this long journey by nomads in rough and rugged places in the intervening area. Sometimes coming and going to New Mexico they lose many lives and are ruined commercially by the loss of their chief items of trade. These consist of buffalo and deer skins, and fruits of the country which they distribute in the mining camp of San Felipe and haciendas of that area and with whose products they return, supplying their families with needed clothing, according to their means, and supplied with arms and ammunition. By the middle of April they are home to start planting. [Representatives of] the settlements must make these annual trips, because in their province there is no way to obtain the necessary garments since merchants do not go there, being only attracted to places where there is mining of silver, which New Mexico lacks. [Trade] is made extremely difficult by the barbaric tribes as well as the limited facilities of the inhabitants, whose only commerce is that which they must carry out with so much effort and over so much distance.
>
> For the security, conservation and well-being of the province it would be desirable if the route to the presidio of El Paso were settled; the land would permit it, being of good quality and located all along the banks of the famous Rio [Grande]. . . . With those settlements we would succeed in keeping the enemies away from the indispensable highway, and it would not be as easy for them to assault and interrupt the trade. Even though it is a project involving great expense for the royal treasury, if the plan is not carried out one fears the depopulation and ruin of New Mexico since the forces of this province are so limited that they do not exceed eight hundred arms-bearing men, including those from fifteen to sixty years of age [Miller 1975:170–171].

Nicolas de Lafora was a military engineer who accompanied his superior officer on an inspection of military installations on the northern frontier in 1766. He came up the Camino from San Bartolomé in four days. On the fifth he crossed the Rio Grande [Lafora 1939:90]. With the specificity and detail befitting an engineer, he notes each day's travel and each camp, as follows:

> Day five: "pasado en balsas el Rio Grande del Norte, en el paraje llamado el Vado de Balisan" [having crossed the Rio Grande on rafts, at the paraje known as the Ford of Balisan—here they are in Texas].
>
> Day six: "Anduvimos seis leguas al N . . . llevando a la izquierda el rio . . . y a de tres a cuatro [leguas], sobre la derecha, la sierra de los Mansos, llamado vulgarments de los Organos" [we went six leagues north . . . with the river on our left . . . and at a distance of three or four leagues, on our right were the Manso Mountains, commonly called the Organs].
>
> Day seven: "Anduvimos ocho leagues al N.O. . . entre el rio . . . y la sierra de los Organos que dista una legua. . . . Fuimos a campar a la orilla del rio en le paraje de los Bracitos" [we went eight leagues to the

northeast . . . between the river . . . and the Organ Mountains that are a league away. . . . We camped on the bank of the river in the paraje of Los Bracitos], "tres leguas al E., de él, demora el Puerto de los Organos . . . hay una cañada . . . donde habitan continuamente unas Rancherias de apaches" [three leagues to the east is the Pass of the Organs . . . there is a cañada . . . where there are some permanent Apache camps].

Day eight: "Anduvimos nueve leguas al mismo rumbo . . . por terreno . . . con bosque tan espeso de mesquites, huisaches etc, que con dificultad permitían paso a los carruajes" [we went nine leagues in the same direction, through terrain with growth so thick with mesquite, acacia etc., that it was difficult to get the wheeled vehicles through]; "dejamos a la derecha la sierra de Doña Ana. . . . Corre la de Da. Ana sur a norte como quarto leguas, y demora al E. del Ancon de Roblerito" [on our right we passed the Dona Ana mountain . . . which runs south to north some four leagues, and stops east of the river bend of Roblerito [Lafora 1939:91] "donde campamos a orillas del rio" [where we camped on the banks of the river].

Day nine: "paraje de Fray Cristobal" [Lafora 1939:92] "donde se vuelve a encontrar el rio" [where one comes back to the river], "caminada la distancia de treinta leguas; nosotros dejamos San Diego a la izquierda, y dirigiéndonos al Perrillo, campamos a orillas de una zanja en que habia alguna agua llovediza" [having covered a distance of thirty leagues, we left San Diego on the left, and proceeding to El Perrillo, we camped on the banks of a gully in which there was some rainwater] [ibid.].

Day ten: "paraje del Alemán . . . donde en lloviendo suele recogerse alguna agua en varios charcos que hallamos secos, y a ocho leguas adelante está la Laguna del Muerto, donde campamos aunque estaba seca" [where some water collects in several pools when it rains, but which we found dry, and eight leagues further is the Laguna del Muerto, where we camped although it was dry] [Lafora 1939:92–93].

Day eleven: "anduvimos diez leguas al N.E., las cinco primeras hasta la punta de la Sierra de San Cristóbal . . . [y] sigue el camino el espacio de cuarto leguas . . . hasta el paraje de Fray Cristobal, donde campamos en la orilla del rio" [we went ten leagues, the first five to the point of the San Cristobal Mountains . . . and the road continues four leagues to the paraje of Fray Cristobal, where we camped on the bank of the river].

Day twelve: "anduvimos doce leguas . . . a una legua se halla el peligroso paso llamado el Contadero, que se extiende tres leguas por lomas y hondonadas, formando un mal desfiladero, hasta la mesa de Senecú . . . dos leguas mas adelante está el paraje de San Pascual, en la orillla del rio, y las seis leguas restantes, hasta el bosque del Apache, donde campamos" [we went on twelve leagues . . . and at another league is found the dangerous pass called el Contadero, that extends for three leagues over hills and depressions, making a difficult passage, to the mesa of Senecú . . . two leagues further on is the paraje of

San Pascual, on the bank of the river, and then six remaining leagues, to the bosque del Apache, where we camped] [Lafora 1939:94].

Day thirteen: "entra el camino un buen trecho por una cañada donde empiezan las vueltas de Acumilla, o de Luis López que son varias lomas bastante altas, con muchas cuestas muy agrias, con algunos pedazos del camino en las laderas, en que van muy expuestos a despeñarse los carruajes; se extienden estas vueltas por el espacio de tres leguas" [the road enters a gap through a cañada where the bends of Acomilla begin, or Luis Lopez, where there are several rather high hills, with many sharp ridges, and where some sections of the road are up on the sides, and the carts are very likely to tip over, and these hills continue for the space of three leagues] . . . [and further on the] "ruinas del pueblo del Alamillo, sitado a la orilla izquierda del rio, donde campamos" [ruins of the pueblo of Alamillo, on the left bank of the river, where we camped] [Lafora 1939:95].

Day fourteen: "las ruinas del pueblo de Sevilleta, que está sobre la orilla izquierda del rio" [ruins of the pueblo of Sevilleta, which is on the left bank of the river]. There is no specific reference to a camp. Since he then describes the road as far as the settlement of Belen, they probably stopped there and stayed an extra day] .

Day fifteen: "no marchamos" [we did not travel].

Day sixteen: "Fuimos a parar a la villa de Albuquerque" [we went on and stopped at the villa of Albuquerque].

Day seventeen: "yendo a parar a Sandia, habitado por indios tiguas y moquinos" [we went on and stopped at the pueblo of Sandia, inhabited by Tiwa and Hopi Indians].

Day eighteen: [here he describes the road as far as Santo Domingo Pueblo, suggesting that they stopped there].

Day nineteen: they reached Santa Fe.

It appears from these notes that they made the entire trip on the east side of the Rio Grande. A map of the "derrotero seguido por D. Nicolás de Lafora, en su viaje a las provincias septentrionales de la Nueva España" [Lafora 1939:8] indicates this, and shows as well that on their return south they stayed on the east bank.

In the eighteenth century, military installations were established along the Camino Real as part of a system of frontier defense.

Mail was carried in the caravans to Chihuahua and exchanged there for incoming mail. Regular mail delivery from El Paso to Santa Fe began in 1783. At first, mail bags from Santa Fe were sent out four times a year—on the first day of April, July, September, and November, escorted by several officers and a small party of soldiers [Simmons 1978:17–18]. In 1810 a monthly mail service was inaugurated, with mail from the north exchanged for mail from the south at the Fra Cristobal camp [Moorehead 1958:46].

In 1776, Father Visitor Francisco Atanasio Dominguez, a Franciscan and a native of Mexico City, was sent to New Mexico by church authorities to report on the state of the missions. He came up the Camino Real from El Paso to Santa Fe (March 1 to 22, 1776).

He approached Santa Fe on La Bajada Mesa road (Adams and Chavez 1975:127 [1956]), an alternate route of the Camino Real discussed in detail in the individual nomination.

His is the first description of this segment of the Camino:

> Taking the highway down from there (Santa Fe), I find it necessary to refer to the description of its outlying district down river, because through them the road forks into two like the consonant V.
>
> One road leads up through Cieneguilla, and in this vicinity a mesa rises, which, flattening out on top, continues for about two leagues to a very steep slope that leads down to the plain where the Rio de las Bocas which I mentioned under Cieneguilla flows out and continues until it joins the Rio del Norte. The other road leads from Quemado (present-day Agua Fria) down Ciénega Grande, and from there it enters the canyon between mesas mentioned in that place, crossing the Rio de las Bocas many times until it joins the road down from the mesa that I have just described. Now that the roads have joined, they run over a high plain for more than a league until they go down a gradual slope which descends toward the meadows of the Rio del Norte about a league farther on [ibid.] [See La Bajada Mesa nomination]

With the founding of the California missions in the 1760s, officials in Mexico City and in California saw the need to establish a route of communication and trade between California and New Mexico. New Mexico Governor Pedro Fermín de Mendinueta asked Fray Silvestre Vélez de Escalante, stationed at the Zuñi mission, for a report on communication between New Mexico and Sonora; a possible route from New Mexico to the recently established provincial capital at Monterey, California; and a report on means to pacify the Hopis, who were outside the range of colonial authority and were a barrier to communication between California and New Mexico. Escalante and a small party explored from Zuñi north to Hopi, reaching Walpi on June 25, 1775. He tried to convert the Hopis, but they weren't interested. Escalante went back to Zuñi, then to Santa Fe to report to the governor.

In 1776 Fray Francisco Garcés was stationed at San Xavier del Bac in present-day southern Arizona. He set out to explore west and north from Tubac to the Mojave country, west into the San Joaquin Valley in California,

then east and north through Hualapai country in Arizona, further east and north to Havasupai Canyon, and to the west side of the Grand Canyon, where he turned back south to cross the Little Colorado River and went on to Oraibi (July 2, 1776). The next day he wrote a letter to the friar at Zuñi—Escalante—about opening a route to California, and paid an Acoma boy who was at Hopi to deliver it. He noted that Hopis were not friendly (Adams and Chavez 1975 [1956:282]). Escalante went back to his post at San Xavier. He was killed by Yumas in 1781.

On April 15, 1776, Escalante was requested by his ecclesiastical superior, Father Visitor Dominguez, to join Dominguez in another expedition, to work out a route to Monterey. Dominguez had planned to leave on July 4, but preparations took longer than he had expected. While they were organizing the expedition, Escalante received the letter from Garcés.

The expedition left Santa Fe on July 29, 1776. Dominguéz and Escalante got as far as central Utah, where they ran into severe winter weather and realized that it could take eight months to get back to Santa Fe. They turned back on October 9, 1776.

Juan Bautista de Anza, governor of New Mexico for ten years (1777–1787), is best known for his Indian policies, including campaigns against the Comanches, Apaches, and Navajos. Anza succeeded in making a long-term peace with the Comanches (at Pecos Pueblo in 1786; Thomas 1932:76) after a battle near Greenhorn, Colorado, that severely punished allied Comanche bands and led them to negotiate the peace. Anza's journals reference the Camino Real as the main stem of travel in the province and the connection between New Mexico and Sonora, where Anza had served for twenty-five years before becoming governor of New Mexico.

After the establishment of peace with the Comanches, the traditional barter system in New Mexico grew into a cash economy. Two caravans went down the Camino Real to Chihuahua in 1787, carrying livestock, fruit, cotton, and woolen textiles. Within a decade, sheep and wool had become important trade items [Cunningham and Miller 1999:99].

1800s

La Joya de Sevilleta was founded in 1800. Merchants and sheep ranchers from the Río Abajo began to rendezvous with the *conducta* (caravan) coming down from the Rio Arriba. They established August as the regular time for travel, to take advantage of the grazing and water that resulted from the summer rains [Scurlock 1990:16].

In 1806 the government-regulated annual train left Santa Fe in late October so as to arrive in time for the annual fair at the Valle de San Bartolomé in Chihuahua. In March 1807 about 300 New Mexicans, mostly ranchers, escorted by 35 to 40 soldiers and driving about 15,000 sheep, went down the Camino [Moorehead 1958:43, 45]. Lt. Zebulon Pike, U.S. Army, and his men were being escorted down the Camino when they passed the encampment of this caravan near Socorro (Pike was told he was not under arrest, but he was not free to leave

his escort, either). Pike was taken down the Camino Real through Chihuahua, then up the Rio Conchos and Rio Florido to Guajoquilla (Ciudad Camargo) [Roney 1993:92].

In November 1816, Governor Pedro Maria de Allende issued instructions to Jose Maria de Arze for the conduct and return of a caravan to Chihuahua. The governor told de Arze to take a squad of troops, pick up at Sevilleta any *vecinos* (citizens of the province) who wanted to go south, and while at Sevilleta make an inventory of "all its contents, flocks, livestock, weapons for defense, equipment, and horse herds that each person is taking." On the Camino they were to be vigilant about any enemies—the Apaches were particularly mentioned, although they were understood to be at peace at this time. The caravan was to proceed to El Paso, stay only as long as needed "for everyone to conduct their specific business," and proceed to Chihuahua, conduct all necessary business, and "depart, reporting the same to the commanding general by the weekly mail from said villa" [Torrez 1999:113–114].

Mexican Period

In 1821, with Mexican independence from Spain, the Camino Real became a *camino nacional* and was linked in the same year with the trade route from Missouri to Santa Fe (the Santa Fe Trail). Merchants from Missouri who first reached Santa Fe in 1821 quickly saturated the local market and used the Camino Real to push further south, to Chihuahua. They brought cotton cloth, linen, thread, buttons, pins, needles, stockings, handkerchiefs, shoes, gloves, suspenders, parasols, combs, mirrors, metal tools, locks, knives, razors, candlesticks, vermilion dye, and spices to Santa Fe and down the Camino. Both Anglo and Hispanic traders took hides of elk, pronghorn, and beaver down the Camino for sale or exchange [Minge 1979:29; Weber 1971:57, 120].

An Anglo observer described the Camino as "a good coach road from Santa Fe through El Paso" [Bowen 1979:7], indicating that it was in generally good repair.

In 1832 Pablo Salasar of Tomé drove two flocks of wethers to northern Mexico, delivering 3,000 to Chihuahua or Durango and 1,800 more to Puebla [Baxter 1987:103].

In 1841 the Texan Santa Fe Expedition was formed by the President of Texas, Mirabeau Bonaparte Lamar, who was persuaded that "nine tenths of the inhabitants [of New Mexico] were discontented under the Mexican yoke, and anxious to come under the protection of that flag to which they really owed fealty" [Kendall 1935(1):15]. The expedition, nominally a trading venture, was taken into custody by New Mexican troops near San Miguel del Vado [Kendall 1935(1):281] and subsequently escorted down the entire length of the Camino Real to Mexico City, and then to Vera Cruz, where they were allowed to board an American cutter and leave Mexico. They had been on the road for a year [Kendall 1935 (2):406], and some had died of exposure and mistreatment by their guards [see section on Thomas Falconer under "Literature," below].

From 1852 to 1856, territorial trade fairs were held at several locations along the road [Bancroft 1889:644].

American Period

In 1846, with the outbreak of the Mexican War, the Camino Real became an invasion route for American troops. U.S. forces led by Col. Alexander Doniphan went down the Camino through the Jornada del Muerto. A large merchant caravan of about 300 wagons accompanied them. Doniphan's officers had ordered the merchants to wait at Valverde until Doniphan returned from an expedition against the Navajos [Gardner 1999:232]. Doniphan's forces fought Mexican troops at Brazito. Doniphan then occupied El Paso and (two months later) the City of Chihuahua [Gardner 1999:247; Connelly 1907:372–384].

While Doniphan was in El Paso, Pvt. Odon Guitar went down from Santa Fe to join him, leading a provision and ammunition train. Because Doniphan's army and animals had used most of the forage near the Camino, the oxen pulling the relief train were starving. When the train came out of the Jornada del Muerto at Robledo the oxen were staggering from exhaustion. Eight miles north of Doña Ana they quit. Guitar and two others set out for El Paso and reached Doniphan, who sent out a party with fresh teams to bring Guitar's wagons the rest of the way [Connelley 1907:381].

Gen. Stephen Watts Kearny led a column from Albuquerque to Tomé on September 5, 1846, down the east bank of the Rio Grande. His men found a religious festival in progress, with about 1,500 people in the plaza, walking and riding in coaches, carts, and other conveyances. That night there was a Spanish folk comedy, with luminarias on housetops and roofs to illuminate the scene, plus skyrockets and ringing of bells. At sunrise there was a service in the church, and muskets were fired in celebration [Simmons 1982:140–141].

John Mix Stanley was a topographic engineer serving under Lt. W. H. Emory in Kearny's command. He sketched travelers on the Camino at Valencia. This sketch appears as a lithograph in Emory's 1848 report to Congress [Weber 1985:9-11, Plate XX].

After the occupation of New Mexico, Arizona, and California by U.S. troops in 1846, international commerce continued on the Camino Real between Santa Fe and the city of Chihuahua. Forts and garrisons to protect and control the route were established between Mesilla and Socorro. These included Fort Fillmore, six miles south of Las Cruces and one mile east of Brazito (1851); Fort Selden, fifteen miles north of Las Cruces on the east bank of the Rio Grande (1865); Fort Thorne, at the upper end of the Mesilla Valley on the west bank of the Rio Grande (1853); and Fort Craig, on the west side of the Rio Grande thirty-five miles south of Socorro (1851).

James Augustus Bennett was eighteen in 1849 when he enlisted in the U.S. Army under an assumed name. He was ordered to Jefferson Barracks in Missouri, and then down the Santa Fe Trail to New Mexico. Here he served for the next six years. Military discipline may not have agreed with him; he was promoted to sergeant but later reduced in rank to private, for reasons we do not know. He reenlisted in 1854 but deserted into Mexico two years later. On February 14, 1855, Bennett was a soldier in Company I of the Third Infantry. During a campaign against Apaches, the company crossed the Jornada del Muerto on the Camino Real. Bennett notes in

his diary that "this is a sandy place where no water is to be had. It is 90 miles in length and is noted for murders and massacres by the Indians" [Bennett 1996:63]. On February 15 the company passed through Socorro and Valverde and reached Doña Ana, "which is quite a little town of some 2000 inhabitants. Soldiers had quite a dance" [ibid.]. The company arrived at Fort Fillmore, where they had to tell the wife of Capt. Henry Stanton that her husband had been killed by Apaches in a fight on January 19.

In the company's pursuit of Indians it went up and down various lengths of the Camino Real. Bennett notes towns and natural features: "Lamitar [sic] a very pretty town [Bennett 1996:64]; "Fort Craig, the best and prettiest fort in New Mexico" [ibid.]; "El Paso . . . a city of 10,000 inhabitants. It is a rendezvous for rascals, cut-throats, and knaves. Murders are committed almost nightly in the streets" [ibid.].

Bennett also describes natural features:

> Mar. 13 [1855] – Last night at a spring called San Augustine in the Organ Mountains. These are an abrupt narrow chain of mountains with sharp peaks covered with tall pines. Crossed a plain with a salt lake 40 miles in length and from 3 to 5 miles in width at the center. Salt is in such abundance here that it lies from 3 to 8 feet deep as far from the shore as 3 miles. Wagons are driven to the shores and loaded with shovels. No other process is necessary to procure salt [Bennett 1996:65].

In an unusual military experiment, camels were used on the Camino in 1857. In 1853 Secretary of War Jefferson Davis had proposed the creation of a camel military corps for "military purposes, and for reconnoissances [*sic*]" in the far West [Lesley 1929:5]. When this proposal was approved by Congress in 1855, with an appropriation of $30,000 to buy and import camels and dromedaries, a government expedition to the Near East bought camels in Egypt and Turkey and shipped them back to Indianola on the Texas coast and overland to Camp Verde, outside San Antonio. Lt. Edward Fitzgerald Beale, Superintendent of Indian Affairs in California and Nevada, was a supporter of this idea of using camels for military purposes in the American West. Beale commanded an expedition that brought the camels from San Antonio to El Paso. Beale then surveyed a wagon road from Fort Defiance, New Mexico, to the Colorado River. The citizens of Las Cruces and Doña Ana were greeted with the sight of the camel corps assembled on the central plaza on July 30, 1857. Beale and his men went up the Camino and the Jornada. "Nothing," Beale noted, "could exceed the beauty of the country we have traveled over this morning. The whole extent, as far as vision reached, was a level plain, covered thickly with the most luxurious grass, and filled with beautiful wild flowers, while on each side the mountains in the distance, covered with clouds, loomed up grandly. Hundreds and hundreds and thousands of acres, containing the greatest abundance of the finest grass in the world, and the richest soil are here lying vacant, and looked upon by the traveler with dread, because of its want of water" [Lesley 1929:173]. This description, very different from most, suggests a good monsoon season. Beale notes that "we have had abundant rains; all the more remarkable, as the people here say that these are the first rains that have fallen on them for more than a year" [Lesley 1929:174]. [See individual Yost Draw nomination]

The caravan continued on the east side of the river, seeing Fort Craig on the west side but not crossing to it. They camped about sixteen miles north of the fort. "The scenery of the river," Beale notes, "especially the green meadow and the trees is very pleasant, and to us, who have been so long without the sight of running water, and kept constantly anxious on the subject of a good square drink, the abundant river is a very grateful object of view" [Lesley 1929:176]. Beale exchanged pleasantries with the people of the South Valley, who were amazed by the camels, and reached Albuquerque on August 10, eleven days after leaving Las Cruces. From Albuquerque the troop turned west, through Cubero and Zuni, finally reaching the Colorado River in January 1858.

This was the only military experiment with camels in the United States. Escaped camels were sighted in New Mexico as late as 1902.

The Civil War

At the outbreak of the Civil War, Fort Craig remained a Union Army post manned by regular army troops. In 1862, Confederate troops under the command of General H. H. Sibley invaded New Mexico. They marched up the Camino Real on the west bank after capturing military installations in the El Paso and Las Cruces areas. On February 21, 1862, thousands of Sibley's Confederate troops engaged Union forces led by Colonel R. S. Canby. The Battle of Valverde near Fort Craig was the largest land battle of the Civil War fought in the West. Some historians describe the battle as a Confederate victory because the Confederates then advanced further north. However, Union forces succeeded in holding the fort, and half the critically needed Confederate supply wagons were destroyed. The Confederates marched up the Rio Grande and captured Albuquerque and then Santa Fe. The loss of their remaining supplies at the Battle of Glorieta, east of Santa Fe, on March 28, 1862, forced the Confederates to retreat to Texas. They retired down the Camino Real on both banks of the river. Those on the east bank were attacked by Union troops after camping at Pinos, near Peralta, and driven back after a day-long battle. They crossed the river to Los Lunas, where they joined the other body of troops. The Confederate retreat continued down the west bank road through Los Lunas and Belen; the pursuing Union troops went down the east bank through Valencia and Tomé [Alberts 1993:200–202]. This ended southern aspirations for military conquest in the West.

Fort McRae was a Civil War post established on April 3, 1863, near the Ojo del Muerto, about five miles west of the Jornada. The post was named for Capt. Alexander McRae, who died at the Battle of Valverde. It was intended to protect travelers and supplies on the Jornada and to curtail Apache raids along the Rio Grande [Thompson 2008:135]. On June 16, 1863, the post adjutant, Lt. Ludlam A. Bargie, was killed by Apaches near the Perrillo paraje. When Bargie's body was found, he had been decapitated and his head taken as a trophy [Thompson 2008:136]. Speculation had it that the killing was revenge for the death of Mangas Coloradas, murdered by soldiers of the California Column earlier in the year at Fort McLane, south of Pinos Altos (Mangas Coloradas had been decapitated, apparently to make a trophy of his extraordinarily large skull).

Fort McRae was maintained through the Civil War and for twelve years afterward. It was abandoned on October 30, 1876. The military reservation was transferred to the Department of the Interior. The site was inundated by the Elephant Butte Reservoir, but in July 2002 the lake receded and the outlines of adobe and rock foundations emerged [Thompson 2008:136].

Post-Civil War

James G. Bourke was a second lieutenant stationed at Fort Craig in 1880. His company marched down the Camino Real to Fort Craig. Of the wagon road down La Bajada he says:

> They came to La Bajada a very severe grade, having an overhanging vertical wall of some hundred of feet on one side and a sheer precipice of five hundred on the other. The descent was so risky that stage passengers always alighted and made their way on foot, while the driver found abundant occupation in taking care of his train and slowly creeping down with a heavy brake on the wheels locked and shod and the conductors at the head of the leaders. That was the only orthodox way of going down La Bajada in those days [Bloom 1934:50–51]. [See La Bajada Mesa nomination]

Bourke describes Fort Craig as:

> …a four company post (occupied by two companies) surrounded by an earthen rampant, with ditch, and five bastions. . . . There wasn't much to do; the post was a lonesome sort of a hole maintained at the northern end of the "Jornada del Muerto" for the protection of travelers against prowling Apaches. . . . The villages of Paraje, San Marcial, and Contadera, none of them of any size or consequence, gave us an excuse for horse-back rides; the inhabitants were very poor and the houses, of adobe, ill-furnished, the peculiar feature being that the main room was well-supplied with settees and matrasses [*sic*] upon which the men of the house could take their "siesta" [Bloom 1934:41].

Bourke goes on to say:

> On marching down from Fort Craig, we took the right or west bank of the river, to avoid the "jornada del muerto" ("the day's journey of the dead man") so called because a wanderer could just about reach the end of it before dying of exhaustion and thirst. This desert of ninety miles in length was formerly greatly dreaded, there being no water upon it. Now there are two places, the "tanks" at Aleman and Jack Martin's artesian well, so situated that marches need not be more than 30 miles without water. At the north end of the Jornada is the Peak of San Cristóbal, with an upper contour rudely resembling the face of a man asleep [Bloom 1934:43].

Bourke's company marched west to the San Mateo Mountains in search of hostile Apaches.

40

The Railroad

Railroad surveyors used the Camino in 1867 [Bell 1965:241]. In 1872 or 1873, county workers began repairs on the Camino near Tomé [Scurlock 1999:237], and in 1876, the territorial legislature passed an act declaring the route a public road [Scurlock 1990:30–31].

The Santa Fe Trail was replaced as a trade route by the railroad, which reached Santa Fe in 1880. The railroad was extended south from Albuquerque down the west side of the Rio Grande in 1880 [Myrick 1970:18–20], taking much of the commercial traffic away from the Camino. In 1881, when rail lines reached El Paso, the traditional use of the Camino Real as the main line of transportation and trade ended.

In 1901 the territorial legislature passed a "tax" law that required all male residents of New Mexico between the ages of 21 and 60 to work on public roads in their respective counties from 2 to 5 days a year, furnishing their own tools and horse teams. This work was supervised by county employees [Rose 1992:38–39].

Between 1903 and 1907 the Eastern Railway Company built the Belen Cutoff through Abo Pass, west to the Rio Grande and across the river to Belen [Myrick 1970:35–37], taking even more traffic from the road. Parts of the Camino, notably the segment in the Jornada, were entirely abandoned. Others became local roads.

As the Camino fell into disuse, more and more all along its length was destroyed by natural processes. On May 20–23, 1905, torrential rains poured water down the Camino in Tomé and vicinity, making it "an arroyo impossible for travel" [Ellis and Baca 1957:19].

Around the same time, parts of the road were graded to serve as modern routes. In 1905, the territorial assembly designated the east road, which it referred to as "El Camino Real," State Road 1. The road was rebuilt in 1905–1917 with convict labor [Rae et al: 1987; Rose 1992:2].

U.S. Highway 85, now N.M. 314, was designated in 1926 [Scurlock 1999:238]. The road on the east side, known then as U.S. Highway 47 and now N.M. 304, was rebuilt in 1917 and first paved in 1946 [ibid.]. [see Context 4: Economic and Commercial Significance]

Context 3: Social, Political, and Cultural Significance

This context and Context 4 (economic and commercial significance) are not easy to separate, but they are useful in organizing a large body of material. In this MPDF, *cultural significance* relates to ideas and their expression in forms of art, whereas *economic significance* is expressed in terms of goods and money.

Concept or theme: the Camino Real was the means of transmission and dissemination of social structures, political ideas and events, and cultural phenomena in New Mexico. It carried these structures, ideas, and phenomena into New Mexico and into the Mexican interior.

Geographical area: Rio Grande corridor from the international boundary to Ohkay Owingeh

Chronological period: AD 1598–1881

Narrative

Social and Cultural Environment

The *caravana* or *conducta* that passed up and down the Camino Real from Santa Fe to central Mexico was a vehicle for the transmission of elements of culture—food, clothing, religious objects, and religious ideas [Taylor y Romero 1999:293]. Its importance in the diffusion of objects and forms of art, furniture, church furnishings, and musical instruments has been studied by Bargellini, Gavin, Pierce, and Snow, among others [see Bibliography].

The cultural significance of the Camino Real transcends national boundaries. The Camino was the means of cultural exchange between indigenous people and Europeans, including transmission of language, religion, science, medicine, literature, and architecture.

Ethnicity

In documents dating between 1693 and 1823, more than twenty terms were used in New Mexico to denote race [Bustamante 1991:142–163]. Ethnic identification was determined by various factors, including the community where a child was raised, his or her paternity, if it was known or acknowledged, and further, the ethnic identity that an adult might ascribe to himself or herself [ibid.]. The *casta* or caste system employed throughout Spanish America identified Spaniards, Indians, Orientals, blacks, and every combination thereof. Representatives of all races and ethnic mixtures entered New Mexico on the Camino Real and contributed to all aspects of its society and economy.

In a letter to the Tribunal of the Inquisition dated January 19, 1667, Fray Juan Bernal mentions two children at or near Quarai whom he designates *zambiagos*—that is, an admixture of Indian and Chinese [Hill and Peterson 1999:149; Hackett 1937:272]. These were the children of José Nieto and his wife, Luc Lopez de Garcia. Her first name suggests that she may have been Chinese. The most likely way for an Oriental to come to the Americas would be on the Manila galleon [see above: Manila was considered part of New Spain].

Indians

When Antonio de Espejo arrived at Pecos Pueblo in 1582 and took a Pecos native back to Mexico to serve as a language teacher [Schroeder 1999:96], his evident purpose was to enable future missionaries to communicate with their flock. The people of Pecos spoke Towa, which survives today only at Jemez Pueblo. However, we have no record of a friar who arrived at Pecos speaking Towa.

As noted below, the conductas sometimes employed Indians as guides. Usually these were Plains people, such as the Comanches. The conductas also included women who served as cooks—these were more probably Pueblos.

Engineer Nicolás Lafora takes note of Manso Indians—that is, peaceful Indians—leading sheep ahead of the caravan at Perrillo where they were attacked by the Apaches [Lafora 1939:92].

Nomadic Indians, the Apaches in particular, appear throughout the history of the Camino Real, usually as enemies preying on the passing caravans or attacking military expeditions. Note the frequent references to these encounters throughout the nomination.

Although their use is not recorded as fully as that of whites, it is likely that Indians—both Pueblo people and nomadic groups—used the Camino much as whites did, for trading and visiting other communities [see Riley 1993:16-17].

Religion

The Camino Real brought the religions of the Pueblos and of the Spanish into direct contact.

> La caravana in a collective sense was a vehicle, a real moving vehicle, which linked Santa Fe, the northern outpost in the kingdom, with New Mexico's more southern neighbors. . . . In their lives on the frontier . . . the greatest sustainer of all was the faith [Taylor y Romero 1999:293].

The religion of the Pueblos embraced and explained their world. It resided in the landscape, and it guided every aspect of life. The new religion brought up the Camino Real by the Spanish was similarly all-embracing and constituted the traditional explanation of life and nature. The Pueblos adopted Catholicism and accommodated their calendar to its feasts and saint's days while maintaining their aboriginal beliefs and practices as well. No society in North America has been more deeply and pervasively religious than that of New Mexico. The Camino Real was the path for the importation of Christian belief, bringing its practitioners, rituals, art, and artifacts northward and tying the multicultural society of New Mexico to the larger society of interior Mexico and the world at large.

The Franciscans who used the Camino Real predominantly in the 1600s taught the Pueblos Christian doctrine. They also had more far-reaching goals: to teach the Indians to live like Europeans—albeit of a subject class—and to embrace European ideas [Levine 1999:3].

Until the mid-1700s, most religious images were brought up the Camino Real from interior Mexico [Boyd 1998:23]. Probably the best known is a statue carved from willow in Spain sometime in the early 1600s and originally named "Our Lady of the Assumption." This figure, or *bulto*, was brought to New Spain and came up the Camino Real in 1625 in the care of Fray Alonso de Benavides, the Portuguese Franciscan and agent of the Inquisition mentioned above. Benavides installed the statue in the parish church, or *parroquia*, in Santa Fe. The statue was variously known as Our Lady of the Assumption, Our Lady of the Conception, and Our Lady of the Rosary, but it was commonly referred to by New Mexicans as La Conquistadora, or Our Lady of the Conquest. When the Pueblos revolted in 1680, they burned the church. The colonists rescued the statue and took it down the Camino Real with them to El Paso.

The reconquest brought the image back to New Mexico. In a letter to the Viceroy of New Spain written in El Paso on January 12, 1693, Governor Diego de Vargas states that he will return the little image to its place in Santa Fe [Kessell, Hendricks, and Dodge 1995:112].

> The glory and pride are mine in that I am the one who brings her back. . . . She will govern my actions so that they will foster, not only the propagation of our holy faith, but also the royal service [Kessell et al. 1995:384].

He brought the image back up the Camino Real to Santa Fe and placed it in the Chapel of San Miguel [Kessell et al. 1995:477]. In 1717 the parish church was rebuilt on its original adobe foundations, and the image was housed there. Archbishop Jean Baptiste Lamy built the present Romanesque cathedral (constructed between 1869 and 1886) around the parroquia, which was then demolished, except for the side chapel where the image of La Conquistadora is still venerated. She is the patroness of Santa Fe's annual fiesta, which celebrates the reconquest led by Vargas.

By the mid-eighteenth century it became more common for New Mexican carvers (*santeros*) to create religious figures (*santos*) for themselves and their churches and other places of worship (this art continues to flourish in the work of well-known practitioners). Nevertheless, religious figures and paraphernalia continued to be brought up the Camino and to provide models for images made in New Mexico. Doña Rosa Bustamante of Santa Fe mentions in her 1814 will the statues of Saint Francis and Saint Anthony that had been freighted from the Mexican interior at the considerable cost of 140 pesos [Taylor y Romero 1999:301]. The importation of such icons was a practice of the better-off, while figures made in New Mexico served the purposes of poor people [see "Graphic Arts," below].

Until 1851 the northern province was under the jurisdiction of the Bishop of Durango. However, the long distances and the danger of travel made episcopal visits infrequent. Bishop Benito Crespo visited New Mexico in 1730. The visit of Bishop Pedro Tamarón y Romeral took from October 22, 1759 to January 15, 1761, and represents the time to travel from Durango to Santa Fe and back [see p. 29]. An episcopal visit was an occasion for confirmations. Tamarón confirmed 1,742 inhabitants in El Paso, 732 in Albuquerque, and 1,532 in Santa Fe [Taylor y Romero 1999:294].

The Inquisition

As noted in Context 2, a Portuguese Franciscan, Fray Alonso de Benavides, was the third custodian of missions in New Mexico and the first commissary or agent of the Inquisition in the province [Morrow 1996:xi].

The Holy Office of the Inquisition had judicial authority throughout New Spain in matters of faith and morals [Simmons 1991b:20]. Its powers in outlying provinces like New Mexico were restricted by the officials of the Holy Tribunal in Mexico City after they became aware of the case of Grüber [see Context 1: Geography and Natural Character, above].This case, tried in 1668–1670, related directly to the Camino Real and is probably the source of two important place names: Alemán and the Jornada del Muerto.

Bernardo Grüber, a German who had come to New Mexico from Sonora, was selling magic charms—pieces of paper with talismanic writing on them, which he said had the power to make anyone who swallowed them invulnerable—at Quarai Pueblo on Christmas Day, 1668. He was arrested by local agents of the Inquisition and imprisoned in a room on a ranch near Sandia Pueblo for almost two years without trial or any action being taken in his case. He escaped with the help of one of his servants, an Apache boy named Anastasio. The two rode south on the Camino Real. Fray Bernal, an agent of the Inquisition, sent messages to other agents of the Inquisition in Chihuahua and Sonora to be on the lookout for him and to apprehend him if he entered their jurisdictions. Grüber and Anastasio camped at Fray Cristobal. They got separated when Grüber collapsed and sent Anastasio for water. Grüber's remains were later found by searchers near the place that acquired the name Alemán ("German"), on the segment of the Camino Real that became known as the Jornada del Muerto, which may mean the stage or day's journey where the dead man was found (although it could also be of one several uses of the term "muerto" in this area and have no particular association with an individual).

A review of Grüber's case by the Holy Tribunal in Mexico City found criminal negligence and abuse of authority by the local officials of the Inquisition in New Mexico and decreed that local commissaries of the Inquisition in outlying areas, including New Mexico, would have no authority to make arrests without express authorization from the Holy Office. Only one other case was prosecuted before 1680 [Sanchez 1993:121–131].

The judicial authority of the Inquisition was not reconfirmed after the Reconquest of 1692–1696.

Music

As early as 1600 one of the friars who came to New Mexico, Fray Bernardo de Marta, was renowned as an organist [Chavez 1965:310]. A few years later the first organ in New Mexico was brought up the Camino Real in the Franciscan conducta and installed at San Felipe Pueblo [Spell 1927:27–30]. By 1641 no fewer than sixteen missions had organs [Scholes 1929]. An inventory in 1672 of some of the missions, including Tajique and Chilili, listed "sets of trumpets, flageolets and all musical instruments, with which the feasts are celebrated with the greatest harmony of voices and instruments" [Scholes and Adams 1952:27–38]. Plainchant or plainsong was also a component of the liturgy in the 1600s [Spiess 1965:5].

Music continued to be a part of domestic life throughout the Camino Real period.

Describing New Mexico in the mid-1800s, a historian refers to the importation of musical forms from Spain and Mexico:

> There were no polished poets in New Mexico, but *cantadores* (troubadours) existed and were held in high esteem among the people of all classes. . . . These popular poets were in constant demand to compose, recite or sing their *versos* (octasyllabic quatrauns) or *romances tradicionales* (popular ballads) at baptisms, weddings, and other social events. Some of these ballads and versos were introduced from Spain and remained almost as they were sung in the time of Cervantes, but many of them were composed in New Mexico [Rodriguez 1949:267].

Lt. John Bourke (U.S. Army), coming up the Camino in November 1881, attended mass at Isleta Pueblo:

> There is something peculiar about the church-music of the Rio Grande valley: the solos are stridulous and strained, but the choruses have in them something weird, soft and tender, not to be described. The hymn finished, the Rosary was recited, the hum of voices filling the church with the echoes of prayers which these old walls had given back for so many generations. The priest began the service of the mass; his assistants, two male Indians in shirt-sleeves, leggings, mocassins [*sic*], red Pueblo girdles and hair in a queue at the back [Bourke 1938:197].

Graphic Arts

The retablos that were the centerpieces over church altars in the seventeenth century were brought up the Camino Real [Ivey 1999:177]. Because they were custom-fit, they could not be designed until the church was fully planned or under construction. Then they would be ordered from Mexico City, and since they were expensive, the fields, herds, and industries of the mission had to be developed first in order to pay for them. The most common alternative to installing the retablos on the altar was to hang the painting(s) on the wall, and *nichos* (niches) inset in the wall or fastened to the wall to hold the sacred images [Ivey 1999:178].

The retablos and other carved and painted objects, such as saints' figures, were made mainly in Mexico City, as noted in the 1672 inventory, which includes the three altars at Acoma Pueblo, and also reflected in shipping records (Scholes and Adams 1952:34–35). The retablos created in the workshops of Mexico City were made in the general style called Late or Herreran Renaissance. Baroque retablos probably came into use about 1650.

The missionary would send his proposed design, dimensions, the saints to be represented, and the desired theme of the retablos to Mexico City for production, along with the details about how they were to be paid for. In areas closer to Mexico City, the commissioned artists would send a proposed design to the missionary before starting work. For New Mexico this was impossible [Ivey 1999:180].

As early as 1820, official American exploring parties in the Plains, the Rocky Mountains, and west to the Pacific included artists such as George Catlin, Karl Bodmer, and Alfred Jacob Miller [Weber 1985:4]. George Wilkins Kendall's *Narrative of the Texan Santa Fe Expedition* includes five engravings. The one of two women smoking cigarillos in a doorway has been reproduced frequently in books about the Southwest but is actually a scene in the city of Puebla in central Mexico [Weber 1985:7].

Official exploring parties in the Southwest included artists brought along to record landscapes, communities, and individuals. One of the best known is Richard Hovendon Kern, who was hired by Lt. James H. Simpson of the U.S. Army Corps of Topographical Engineers to accompany Simpson's military exploration of the Navajo country in 1849. After this job, Kern lived in northern New Mexico for about a year and a half. Between December 29, 1849, and January 6, 1850, he went down the Camino Real from Santa Fe to El Paso with a merchant friend, William Skinner, who probably had business in Chihuahua [Weber 1985:115–118]. Sixty of Kern's sketches from this trip have survived, including one of Parida, on the east bank of the Rio Grande north of Socorro (he subsequently made a watercolor based on this sketch [see Weber 1985:56].

John Mix Stanley, the official artist with Gen. Stephen Watts Kearny's Army of the West, contributed the illustrations to the report of the expedition, giving people in the United States a first view of the captured territory [White 1993:169].

Balduin Möllhausen, a German artist and novelist, served as "topographer or draughtsman" on the Whipple expedition that crossed New Mexico on the 35th parallel in 1853. The report of this expedition notes that "the drawings made on the spot by Mr. H. B. Möllhausen, the artist of the expedition, greatly aided the work and were made use of, and even partly copied, especially in the plates exhibiting cylindric Opuntiae" (cholla cactus) [Whipple 1856:58].

Architecture

The seventeenth-century missions built by the Pueblos under the direction of the Franciscan Fathers include those at Acoma, Jemez, Quarai, Abo, Pecos, Tajique, Chilili, Socorro, Zuni, and Las Humanas. The mission

churches of the province spanned an area from the Hopi jurisdiction on the west (Halona, Hawikuh, Kechipauan) to the Salinas jurisdiction on the east (Pecos being furthest east), and from Santa Fe and Jemez in the north to El Paso in the south.

These missions followed the Great Church model—imposing structures that reflected the primary reason for Spanish occupation of New Mexico, the missionization of the Indians. Despite their location on a distant frontier, the great mission churches of seventeenth-century New Mexico rivaled some of those in central Mexico in everything except carved stone decoration on the walls and facades (Ivey 1999:193). The priest's chapel next to the sacristy was an element shared with the mission churches of the Mexican interior.

These "great churches"—the nave of the one at Pecos was 133 feet long, 40 feet wide, and 40 feet from floor to ceiling—reflect the connection between central Mexico and the far frontier; that is, the connection provided by the Camino Real. They also reflect the enormous labor exacted from the Pueblos: a particular cause of the Pueblo Revolt of 1680, and one reason why Popé, the Ohkay Owingeh religious leader who was the chief director of the Revolt, ordered that all the churches and their furnishings be destroyed, leaving most of these churches as ruins. One that survived the Pueblo Revolt, San Esteban de Acoma, is still in use.

The Hispanic idea of what a church should look like, established in the seventeenth century, is the basis of New Mexico's ecclesiastical architecture in the 1700s, the 1800s, and up to the present.

When the Pueblo Revolt broke out in 1680 and the colonists retreated down the Camino Real, they stopped at Isleta Pueblo [see Context 2 above]. Here eight or nine Pueblos and two Hispanics who had witnessed episodes of the Revolt were interviewed in December 1681 by order of Governor Otermín. They talked about the Revolt's causes and events and listed things that had been destroyed. Popé had commanded that anything relating to a church—the churches themselves, the bells, saints' figures, rosaries, and all paraphernalia—be demolished or destroyed. Some of the churches, including the great church at Pecos Pueblo, were burned and pulled down. The bells were heated over fires, then smashed. The era of great church architecture in New Mexico ended with the Revolt, the religion represented by the churches having been one of the Revolt's principal causes.

Law

When Juan de Oñate reached Yungé in 1598, he brought with him the laws of the Indies. The Council of the Indies had begun to write laws for the viceroyalties of the New World, including New Spain, for the king's approval and signature in the 1520s. The laws were compiled in 1681 as the *Recopilación de Leyes de los Reynos de las Indias* [Solorzano Peyreira 1681]. This body of laws continued to grow through the eighteenth century.

Although Oñate's arrival preceding this compilation of laws by almost a century, the individual laws were well known. As we have said, Oñate's decision to ignore the law prohibiting Spaniards from frequenting the pueblos was decisive in the founding of the new colony, and also in his being recalled. His successor, Pedro de Peralta, moved the capital to Santa Fe.

The practice of religion fell under its own separate body of church law. It was a *fuero*, or exception—a concept well known in the Spanish world. This body of law came up the Camino Real not with Oñate, but with the friars who walked beside him.

When Governor Diego de Vargas and his troops came back up the Camino Real in 1692, they brought back the Laws of the Indies, which directed civil administration, the granting of lands and waters, relations with the Indians—virtually every aspect of civil life in New Mexico.

In 1985 New Mexico's federal district court made the decision known as *Aamodt* [State of New Mexico ex rel. S. E. Reynolds, State Engineer, Plaintiff, v. R. Lee Aamodt, et al., Defendants. No. 6639 – Civil. 618 F. Supp. 993 (D.C.N.M. 1985). United States District Court, D. New Mexico. Sept. 18, 1985]. In this and several subsequent decisions, the United States District Court found that the land and water rights of the Pueblos were transmitted by the Treaty of Guadalupe Hidalgo (1848) to the new government, and thus became part of the law of the United States. Accordingly, these decisions are central to the lives and fortunes of non-Indians as well (R. Lee Aamodt, an Anglo, was the first named defendant in the case). The laws that came up the Camino Real in the sixteenth century are active principles in the life of New Mexico in the twenty-first.

Literature

The history and literature of the Camino are parts of the same phenomena—e.g., discovery, exploration, trade, war. However, some records of the Camino have literary merit as well as historic value and have become known to generations of readers principally as works of literature. They are part of the historic record but should also be considered a class by themselves.

Zebulon Pike

Zebulon Montgomery Pike was a U.S. Army lieutenant who was the subordinate and protégé of James Wilkinson, the commanding general of the Army and governor of the Louisiana Territory. Wilkinson was closely associated with Senator Aaron Burr. The two had a scheme to mount a filibustering expedition that may have been intended to separate the West from the United States, or to capture part of New Spain for the United States; it was not clear what they intended. At the same time, Wilkinson was a salaried double agent for Spain (and sent word to Spanish friends in Louisiana that Pike was coming toward Santa Fe). Pike may not have known very much about Wilkinson's intrigues, but he did know that he was leading a spying expedition and that he and his men might be the advance guard of an American army. Pike was already a seasoned explorer of

the American West when he set off on this venture with a small band of soldiers. They were taken into custody by New Mexican troops on the Rio Grande in southern Colorado on February 26, 1807. Pike told the New Mexicans that he mistook the Colorado for the Red River, and that he did not know he was in Spanish territory. The New Mexican troops escorted them to Santa Fe. Acting Governor Real Alencaster met the foreigners in their worn and ragged blue uniforms at the front door of the Palace of the Governors. Alencaster guessed their purpose and kept them under close watch, while assuring them that they were not prisoners. As we have noted, Pike and his men were taken down the Camino Real through Chihuahua, then up the Rio Conchos and Rio Florido to Guajoquilla (Ciudad Camargo) [Roney 1993:92]. They were eventually released.

On March 5, 1807, Pike saw Santo Domingo: "a large village, the population being about 1000 natives . . . the Rio del Norte on our west; the mountains of St. Dies [Sandias] to the south, and the valley round the town, on which were numerous herds of goats, sheep and asses; and upon the whole, this was one of the handsomest views of New Mexico" [Terrell 1968:194]. His escort took him into the church, and Pike "was much astonished to find enclosed in mud-brick walls, many rich paintings, and the Saint – Domingo – as large as life, elegantly ornamented with gold and silver" [ibid.]. At Algodones, Bernalillo, and Sandia Pueblo, Pike said "the citizens were beginning to open the canals, to let in the water of the river to fertilize the plains and fields which border its banks on both sides; where [I] saw men, women and children of all ages and sexes at the joyful labor which was to crown with rich abundance their future harvest and ensure them plenty for the ensuing year . . . everything appeared to give life and gaiety to the surrounding scenery" [Terrell 1968:195].

Josiah Gregg

Josiah Gregg was born in 1806 in Tennessee and moved west with his family, to Illinois when he was three and then to Missouri when he was six. He tried studying law, but he was sickly and gave it up. Doctors said he should go to the high prairies. In 1831 he joined a merchant caravan to Santa Fe. He had a talent for figures and a facility with languages—he learned serviceable Spanish on the way to New Mexico. During the period of 1831 to 1940, Gregg traveled up and down the Santa Fe Trail four times, and in 1834 continued down the Camino Real into interior Mexico.

> The road we travelled passes down through the settlements of New Mexico for the first hundred and thirty miles, on the east side of the Rio del Norte. . . . In about ten days' drive we passed the southernmost settlements of New Mexico, and twenty or thirty miles down the river we came to the ruins of Valverde… This village was founded about twenty years ago, in one of the most fertile valleys of the Rio del Norte. . . . Our next camping place deserving of mention was Fray Cristóbal, which, like many others on the route, is neither town nor village, but a simple isolated point on the river-bank, a mere *parage* [*sic*] or camping-ground. We had already passed San Pascual, El Contadero, and many others, and we could hear Aleman, Robledo, and a dozen such spoken of on the way, leading the stranger to imagine that the route was lined with flourishing villages. The *arriero* will tell one to hasten – "We must reach San Diego before sleeping." We spur on perhaps with redoubled vigor, in hopes to

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rest at a town, but lo! upon arriving, we find only a mere watering-place without open ground enough to graze the *caballada.* Thus every point along these wilderness highways used as a camping-site has received a distinctive name, well known to every muleteer who travels them. . . . We arrived at Fray Cristóbal in the evening . . . this being the threshold of the famous Jornada del Muerto. . . . The road over which we had hitherto been travelling, though it sometimes traverses upland ridges and undulating sections, runs generally near the border of the river, and for the most part in its immediate valley; but here it leaves the river and passes for nearly eighty miles over a table-plain to east of a small ledge of mountains, whose western base is hugged by the circuitous channel of the Rio del Norte. The craggy cliffs which project from these mountains render the eastern bank of the river altogether impassable. As the direct route over the plain is entirely destitute of water, we took the precaution to fill our kegs at Fray Cristóbal, and late in the evening we finally set out. . . . Early the next morning we found ourselves at the *Laguna del Muerto*, or "Dead Man's Lake," where there was not even a vestige of water. . . . We were still sixty miles above Paso del Norte, but the balance of the road now led down the river valley or over the low bordering hills. During our journey between this and El Paso we passed the ruins of several settlements, which had formerly been the seats of opulence and prosperity, but which have since been abandoned in consequence of the marauding incursions of the Apaches.

On the twelfth of September we reached the usual ford of the Rio del Norte, six miles above El Paso, but the river being somewhat flushed we found it impossible to cross over with our wagons. . . . The reader will doubtless be surprised to learn that there is not a single ferry on this "Great River of the North" till we approach the mouth. . . . we succeeded in finding a place shallow enough to haul our empty wagons across; but for this good fortune we would have been under the necessity of taking them to pieces (as I had before done). . . . This river, even when fordable, occasions a great deal of trouble, being, like the Arkansas, embarrassed with many quicksand mires. In some places, if a wagon is permitted to stop in the river but for a moment, it sinks to the very body. . . .

On the fourteenth we made our entrance into the town of *El Paso del Norte* [Gregg 1954:268–273].

Thomas Falconer

Falconer was a British lawyer who came to the United States in 1841 with the intention of settling in the Republic of Texas [Falconer 1930:9]. In Texas he heard about a proposed expedition to Santa Fe and decided to join it. This Texan Santa Fe Expedition was nominally a trading venture; actually it was a reconnaissance to scope out New Mexico and if possible to capture it and join it to Texas, just as Texas had been separated from Mexico a few years earlier. Falconer was among the members of the expedition captured by New Mexican troops near San Miguel in the Rio Arriba and sent south to Chihuahua. The prisoners starved and froze; some of them were summarily shot on the way.

Falconer recounts the harrowing passage south. The vecinos of Algodones and the Pueblo of Sandia came out to give the men watermelons, eggs, tortillas and bread, "but it was not all who obtained even a part of this charity" [Falconer 1930:57].

> Upon the 30th of October we reached Fray Cristobal. There is no house or settlement near it. A strong "norther" blew during the day, and at night there was a severe snow storm. None of us had more than one blanket, in addition to our light clothing, and we suffered much. In the morning there was more than two inches of snow upon us. We commenced, in the morning, the march of the Grand Jornada; it is so called, on account of its distance, and the difficulty with which it is performed. There is no water to be obtained on the road. We moved off at noon of the 31st, and our march continued throughout the night. In the morning, we halted for about an hour and a half, when the march recommenced, and was continued throughout the day, until sunset. We rested for about three hours, and then went on during a second night, and until about ten o'clock the next morning. During the whole of this time, no provisions, or water, were given to the men [1930:55–56].

When the prisoners reached Chihuahua they were held in the courtyard where Father Hidalgo, who had proclaimed the Mexican Revolution in 1810, had been executed.

Frederick Wislizenus

Frederick Adolf Wislizenus was a German medical doctor who practiced in Zurich, Paris, and New York. He was also an acknowledged geologist and naturalist. He came down the Santa Fe Trail in May 1846 with the caravan of Santa Fe trader Albert Speyer. Wislizenus intended to examine the geography, natural history, and resources of the Southwest. When he reached Santa Fe he learned that war had begun between the United States and Mexico. Nevertheless, both he and Speyer obtained passports and continued into Chihuahua. He was taken prisoner and held in the Sierra Madre Occidental, where he was paroled and allowed to collect plant and other specimens in the vicinity of Cusihuiriachic. He was eventually freed and returned to the United States with Alexander Doniphan's troops. Five thousand copies of his journal were printed by the U.S. Senate at the request of Missouri Senator Thomas Hart Benton.

Wislizenus describes the Camino Real as he saw it on his way south to Chihuahua:

> In the evening we travelled six miles further; passed the "ruins of Valverde," (in prosaic translation, the mud walls of a deserted Mexican village,) and camped at the foot of some sand hills, in a beautiful grove of cotton trees. By the accession of several traders and travelers our caravan was increased to 50 wagons, and made quite a respectable appearance. When the whole caravan was encamped here under the many broad cotton trees, and the camp fires illuminated the different groups of wagons, horses, and men, belonging to most different nations, it made quite a romantic picture, worthy of being sketched [1969:37].

> August 1. Travelled this morning about five miles and camped between one and two miles off the river. The camping place is known as *Fray Cristobal,* but there is neither house nor settlement here, and one may fix his camp close on or at some distance from the river, the limits of Fray Cristobal are not so distinctly defined as those of a city, and generally the last camping place on or near the Rio del Norte before entering the *Jornada del Muerto* is understood by it. This awful Jornada, a distance of about ninety miles, with very little or without any water at all, has to be resorted to because the Rio del Norte below Fray Cristobal takes not only a very circuitous bend, but rough mountains, too, along side of it, make it most difficult to follow the water-course. In the rainy season there is generally plenty of water in the Jornada, as everywhere else, but in the dry season often not a drop is found [1969:38].

[See also individual nomination of Jornada Lakes segment]

James William Abert

In 1846 Col. John James Abert, chief of the Corps of Topographical Engineers, gave his son, who had graduated from West Point, the assignment of accompanying Stephen Watts Kearny on his expedition to capture New Mexico for the United States. James W. Abert was instructed to write a scientific report on New Mexico. Abert's report shows his detailed knowledge of the flora, fauna, and minerals of the Southwest; it also has distinct literary merit. Abert went down the Rio Grande, and some adjacent areas, with wagons, mule teams, and a group of assistants. He interviewed well-known New Mexicans, including Ceran St. Vrain and Charles Bent, the governor installed by Kearny. Two editions of his report were published, one as a Senate executive document, the other as a House of Representatives document.

Abert has several descriptions of river crossings on the Camino:

> November 11. – "This morning we started off in hopes of being able to cross the river and go down the opposite side. At two of the fords we could not have crossed without getting our provisions and bedding wet. At last we found a good crossing a short distance above the town, but as the prospect of obtaining wood and grass on the other side was not very favorable, we concluded to camp directly in front of Socorro." [Abert 1962:120–121]

> December 19. – "We found the west side of the river to be much the best for loaded wagons; one thus avoids those terrible sand hills at Joyeta, at Socorro, and at Bosquecito; however, one must be cautious in crossing the Rio del Norte with wagons containing such immense loads as the trader's wagons, for some of the traders told me that the bottom of the river is not sufficiently firm to bear great weights." [Abert 1962:137]

> December 22. – "When we reached Galisteo creek we found plenty of water, which, although covered with ice, yet that could easily be broken." [Abert 1962:138].

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[see Galisteo—Los Alamitos individual nomination]

George Ruxton

George Frederick Ruxton was a British adventurer who had been traveling in Mexico and came into New Mexico from Chihuahua in December 1846. He joined Abert's expedition at Fra Cristobal.

> Crossing the Del Norte, we proceeded on its right bank ten or twelve miles, encamping in the bottom near the new settlement of San Antonio, a little hamlet of ten or twelve log huts, inhabited by *pastores* and *vaqueros* – shepherds and cattle-herders. The river is but thinly timbered here, the soil being arid and sterile; on the bluffs, however, the grass is very good, being the *gramma* or feather-grass, and numerous flocks of sheep are sent hither to pasture from the settlements higher up the stream [Ruxton 1916:51].

Ruxton went up to Santa Fe with the Abert party. He took an immediate dislike to New Mexico: Socorro was "a small, wretched place" where "every countenance seemed marked by vice and debauchery" [Ruxton 1916:52]; Bernalillo was "a more miserable place than usual." The women were beggars, the men were thieves and murderers, the wealthy families—the Armijos, Chaveses, Pereas, Ortizes—were "a grasping set of people" and "hard hearted oppressors of the poor" [ibid]. The only people Ruxton had less regard for were the approximately three thousand Americans who had just arrived in Santa Fe: "the dirtiest, rowdiest crew I have ever seen collected together" [Ruxton 1916:61].

Ruxton went up the Santa Fe Trail to Missouri with a wagon train in May 1847. He subsequently returned to England, where he published his books, *Adventures in Mexico* and *Wild Life in the Rocky Mountains*. He returned to the United States, intending to go back to the life of a mountain man in the Rockies, but died of yellow fever in St. Louis and was buried there. He was twenty-eight years old.

Susan Shelby Magoffin

Magoffin, wife of trader Samuel Magoffin, was eighteen in 1846–1847. She described in her diary the couple's travels from Independence, Missouri, to Bent's Fort in Colorado, then down the Camino Real to El Paso and then to Monterrey. This trip took place during the Mexican War; the Magoffins reached Santa Fe only two weeks after the arrival of the U.S. Army under Gen. Stephen Watts Kearny, and Magoffin's brother, James, was instrumental in obtaining Governor Manuel Armijo's agreement to surrender New Mexico without a fight. Susan Magoffin's diary records the aftermath of the Battle of Brazito [Drumm 1962:180–181].

Magoffin describes people and customs; she says very little about the Camino itself. One entry in her diary reads:

> Moved camp today three miles – the road is entirely of sand and exceedingly hard pulling and as we are in but very little hurry only, we are moving very slowly. Mr. Harmony [another merchant going to Chihuahua] has crossed the river with his wagons and we are alone now, at least for a few days" [Drumm 1962:160].

[see also individual nomination: Jornada Lakes section]

John R. Bartlett

Bartlett, born in Connecticut, was a historian and ethnologist who decided to go into federal service to support a large family. In 1850 he was offered the job of Commissioner of the United States Boundary Survey Commission (a job created by the Treaty of Guadalupe Hidalgo). He served from 1850 to 1853. His counterpart was Mexican commissioner Pedro Garcia Condé. The treaty provided that the American and Mexican commissioners would determine the boundary line, and that this would then become legally part of the treaty. Parts of the boundary were easy to figure out—the Gila, the Colorado—but the southern boundary of New Mexico was more difficult to decide. El Paso was named in the Treaty as being south of the boundary, but the map reference was off by a half degree of latitude. So Bartlett and the Mexican commissioner compromised on a line, but other officials disagreed. Beyond that, it became apparent that the line put some Apache territory in the United States, which gave the United States the responsibility under the treaty for suppressing Indian raids into Mexico, which the U.S. Army had not been able to do. In addition, the line the commissioners had agreed on gave Mexico the Mesilla Valley, which could be a route for a railroad to the Pacific. Official wrangling ensued, and while it was going on, a new Democratic administration took office (replacing the Whig administration that had appointed Bartlett), and members of the U.S. Senate denounced Bartlett for giving up the Mesilla Valley (most of whose people were Mexicans who had moved down from Doña Ana in order to be in Mexico – a move the treaty provided for). The Senate stalled the Boundary Commission's appropriation and the administration sent James Gadsden to buy the disputed area. Bartlett was replaced as Commissioner and went back to his home in Providence.

While on the survey, Bartlett kept a journal which was published in 1854 as a *Personal Narrative of Explorations and Incidents in Texas, New Mexico, California, Sonora and Chihuahua*. It was published commercially (as the word "personal" indicates), not as a government document, because the administration could not forgive Bartlett for agreeing to leave the Mesilla Valley to Mexico.

Bartlett describes the Mesilla Valley and Doña Ana. His caravan of twelve wagons went north on the Camino to the Jornada and turned off to the San Diego ford:

> April 27. Left Doña Ana at nine 9 [*sic*] a.m., accompanied by all the assistants, and others attached to the Commission. . . . My train consisted of twelve wagons, drawn by five or six mules each, and my travelling carriage with four mules. . . . We continued on our course towards the north, and soon struck

> the great *Jornada del Muerto* (Deadman's Journey), on the Santa Fe road, which we followed for nine miles, when we turned off to San Diego, the old fording place. There is no village nor even a rancho here, although marked on the map as a town. A great reddish bluff, composed of a conglomerate of jasper, quite detached from the adjacent hills, lay on our left. As we descended into the valley our eyes were gratified with the sight of trees and shrubbery, and more grass than we had seen since leaving El Paso. In fording the river, one of the wagons, in consequence of diverging a little from the proper course, got into a quicksand, and was near being lost. Continued our course eight miles up the stream, and camped at half-past 6 p.m., in a beautiful grove of cottonwoods, having made twenty six miles. There was excellent grass here, and in great abundance. . . . A train of wagons belonging to the Commission, in attempting to cross a few weeks after, when the water was somewhat higher, got into the quicksand. The mules in struggling to free themselves sank deeper, and before they could be extricated, all six were drowned [Bartlett 1965: 215–216].

Heinrich Balduin Möllhausen

Möllhausen was a German from the Rhineland who came to America in 1849. He had no special skills and had not entered any profession; in the United States he did odd jobs on the frontier of southwestern Illinois. But when he heard about a scientific expedition being formed by Duke Paul Wilhelm of Württemberg, he joined it and traveled through the west for a year or more. By the beginning of 1853 he was back in Germany with a collection of specimens for the Berlin zoological garden. The director introduced him to the geographer Alexander von Humboldt, and King Friedrich Wilhelm IV read his sketches of American subjects. Möllhausen now had friends in high places, and he went back to the United States with dispatches for the Prussian ambassador and a letter of introduction from von Humboldt. He was appointed topographer and naturalist for an expedition headed by Lt. Amiel L. Whipple. On October 3, 1853, after a long trip across the country, they were in Albuquerque. The expedition then went west to Los Angeles.

Möllhausen returned to Germany, but came back to the United States as a member of an expedition to explore the basin of the Colorado River. He returned to Germany again, published reports on the expeditions, and then turned to fiction. For twenty years he was Germany's most popular novelist [Möllhausen 1969:v–vii].

Both Whipple and Möllhausen described going down the Cañon de Las Bocas [see Las Bocas individual nomination].

Susan E. Wallace

Susan Wallace was the wife of Lew Wallace, who had risen to the rank of major general in the U.S. Army during the Civil War and was appointed governor of New Mexico in 1878. Susan Wallace came with him to New Mexico and subsequently wrote a reminiscence, parts of which appeared in national magazines, which was published as *The Land of the Pueblos* in 1888. In 1879 she went down the Camino Real with a military escort.

She describes Martin's Well at Alemán:

> The centre of the ninety-mile desert is now broken by a watering-place, the cheering oasis which relieves the long strain on body and soul. In 1871 [she is wrong as to the date – see individual nomination] Major John Martin dug one hundred and sixty feet, and struck a sweet, abundant fountain, deliciously cool, soft, with a slight taste of sulphur. Its depth is forty feet, and the heaviest draughts have never lessened the supply. It is pumped by a windmill, which the wind sometime makes his own; and the gurgle and splash as the stream falls into the huge tanks, is a sound in the ear of the traveler sweet as his first hearing of the nightingale. Before the well was made water was hauled in barrels to the station from the Rio Grande, fifteen miles away. The nearest fuel at this point is eighteen miles distant [Wallace1888:146].

She also describes crossing the Jornada at night in an Army ambulance:

> The sun-glare is so hard to bear that night is often the accepted time for the mournful crossing. As the sun declines, the lonesome dark falls like a drop-curtain. The stars flash out; the sky above, intensely clear, is a steel-blue shield, set thick with diamonds. A tragic brilliance fills it with a glow like the mild twilight of other latitudes, and the moon's splendor makes beautiful even the seared and jagged cliffs of the Sierra de los Organos. Three thousand feet above the level of the river are their shafts, pale grey in the silvery light; masses of granite up-heaved in some mighty convulsion, long stilled, standing against the rainless blue like tombstones over a buried world.
>
> If there is talk in the ambulance, it is in subdued tones. The assumption of cheerfulness by humming snatches of old songs is a dreary impertinence. Hour after hour we travel in silence, unbroken but by the grind of the wheels plowing through the sandy soil. In answer to your utmost listening, you may catch the yelp of the red fox, or from the far-off mountain the coyote's shrill cry. Sometimes the driver drops to sleep, and the wagon stops. Lift the canvas curtain, and look out. The soft wind blows in even cadence and swell, but meets only the hushed night and its burning lights. The Milky Way is a solid white gleam, where the invisible gods are walking. The missing stars are here. How low they swing in their serene and silent spaces. Beneath the solemn grandeur of the heavens, the work of Him in whom is no haste, no rest, no weariness, no failure, we bow in awe. What a little speck is our wagon-train; what an atom is self, the object round which our weak thoughts revolve [Wallace 1888:147].

And she sees graves in the Jornada, where Apaches (usually referred to as Gilas, probably eastern Chiricahua) are still preying on caravans:

> Ominous crosses by the wayside mark the graves of travelers, scalped, tortured, and mangled. The weight of the tragedy is on us. We feel a near kinship to the sleepers below, and we would not tremble to see them rise and shake their gory locks at us. The vacant space lies stark and unmoved, as it lay

centuries ago, when the first gold-hunters, in fear and yet in triumph, braved its unknown depths. The prostrate plain, the rigid outlines of the naked landscape, the intolerable dumb lifelessness are indeed del Muerto [Wallace 1888:148].

Disease

The Camino Real was a corridor for the passage of disease, including smallpox, measles, cholera, and other respiratory diseases [Reff 1993]. These followed the road northward. They contributed to the steep decline in population of the Pueblos in the seventeenth century, which was a factor in the Pueblo Revolt of 1680. At least twenty epidemics are documented in New Mexico's sacramental records between 1636 and 1916 [Levine 1999:9]. Epidemics in 1623–1625 may have spread to New Mexico via the annual caravan from Zacatecas [Reff 1993:167]. Children inoculated with live cowpox were transported up the Camino Real to Valverde, Sevilleta, and Sabinal in New Mexico in 1804 to be used as the sources of vaccine that was distributed throughout the province [Bloom 1924:5].

It is not likely that a person obviously sick with a transmissible disease would have been allowed to accompany the caravan, but typhoid, malaria, typhus, and other diseases might have come up the Camino without being detected [Levine 1991:9].

Women on the Camino Real

There are few documents relating specifically to the women who came up the Camino Real in the colonial and Mexican periods. Reference to them usually has to do with their relationship to the men of the caravans, the names of their children and servants [Cook 1993:147].

Artifacts from archaeological investigations at San Gabriel and the Palace of the Governors in Santa Fe that may indicate the presence of women include jewelry, buttons, and Chinese porcelain [Museum of New Mexico, Palace of the Governors Collections].

In 1599 when an Indian attack at Ohkay Owingeh seemed imminent, Doña Eufemia de Sosa Peñalosa gathered twenty-two women on the rooftops to fight beside the men [Cook 1993:152].

In 1600, Captain Antonio Conde de Herrera came up the Camino Real with his wife, children, and brothers and sisters-in-law. He listed the wardrobe that his wife, Doñ Francisca Galindo, brought with her to the capital at San Gabriel (Yungé), which had been occupied by Juan de Oñate two years earlier. The family's baggage required two large carts (carretas) [Cook 1993:149].

Also in 1600, when the expedition was about to leave Santa Bárbara in Nueva Vizcaya, Captain Bernabé de las Casas, the commander of reinforcements bound for the new colony at San Gabriel, ordered that all the women

in the expedition appear and be listed. Indian women from various communities in Mexico, including Pachuca, Tecama, Puebla de los Angeles, Peaca, Toluca, and Tepeaca, were noted [ibid.].

Among the women was Isabel de Olvera, whose ethnicity is given as "mulatta." She was a native of Pachuca, Mexico. She had appeared before a magistrate in Querétaro earlier in the year. She provided an affidavit declaring that she was free, not a slave, unmarried, and a legitimate daughter of a black father and an Indian mother. She did this in order to protect herself from harassment by "some individuals" who might fail to recognize her status as a free woman. The alcalde gave her the certified and signed affidavit [ibid.].

Inventories of items taken up the trail in the seventeenth century list tablecloths, napkins, sheets, pillowcases, mattresses, and tents [Cook 1993:150], indicating that the presence of women and children in the caravans led to an usual level of attention to comfort.

After the Pueblo Revolt, Spanish and Indian families were recruited from Zacatecas by Juan Páez Hurtado for resettlement in New Mexico. Páez Hurtado was captain of the presidio of El Paso, now Ciudád Juarez, Mexico. He paid bonuses of 320 pesos for a family of four, and a stipend for living expenses while the expedition was being organized [Cook 1993:151]. Of the forty-six families recruited for this trip, ten were headed by widows with children who ranged in age from one to twenty-five.

Francisca Gigosa, seventeen, was among these colonists. She was married, but when her husband died in New Mexico, she petitioned for and received a land grant which she used to raise sheep and goats.

Antonia Moraga fled from New Mexico in the retreat of 1680. She came back with the Páez Hurtado expedition and was among the "Españoles Mexicanos" who returned to the Santa Cruz valley, settling at the site called Chimayó [Cook 1993:151–152].

Doña Ana Robledo, the wife of Juan Robledo, may have given her name to the settlement north of Las Cruces on the Camino Real.

The will of Juana Luján (1762) lists items imported from Brittany, Cambrai, and Rouen (France) and from China through Mexican ports [Ahlborn 1990].

Josefa Bustamante became a widow when her husband, Nicolás Ortiz, died in 1769. She came up the Camino from Chihuahua to Santa Fe. She is best known for establishing the Cofradía de Nuestra Señora del Rosario and the annual fiesta in honor of the statue of the Virgin known as La Conquistadora. The fiesta is celebrated in Santa Fe every year (see above).

In 1821, with Mexican independence and the beginning of trade with the United States, the Camino Real linked to the Santa Fe Trail (see Context 1, above). The merchants and traders who came from Missouri to Santa Fe

and went on into interior Mexico sometimes traveled with wives and families. About 1816, a couple named Barceló, of Catalonian descent, came from Bavispe in northeastern Sonora to Valencia, a village south of Albuquerque. In the 1830s, Gertrudis (Doña Tules or La Tules) Barceló became a professional gambler in Santa Fe. She also went down the Camino Real into Mexico to gamble at fairs. Her favorite game was monte. The traders were Mexicans, New Mexicans, and Anglos; gambling was their passion. They sometimes won big but just as frequently lost everything. La Tules bought properties in Santa Fe, including her gambling sala in Burro Alley. As one of very few people in the community who had large amounts of cash, she was also a banker and a benefactress to the poor of the city. She loaned money and sued to collect debts, hiring Anglo lawyers who were beginning to arrive in Santa Fe. When another woman accused her of adultery, she went to the alcalde's court, where she and the accuser signed an act of conciliation [Cook 1999:241–245].

One of Santa Fe's early Anglo lawyers, James M. Giddings, who came from Fayetteville, Missouri, in the 1830s, married one of Tules' daughters [ibid.].

When the invading U.S. Army entered Santa Fe in 1846, Doña Tules became part of a new social circle, in which gambling was a favorite pastime. U.S. Army officers frequented the sala in Burro Alley; Tules rented part of her house to some of them. She loaned one thousand dollars to Lt. Col. David Dawson Mitchell, which he used to fund an expedition of American troops to fight in central Mexico [ibid.].

Doña Tules became one of Santa Fe's most prominent citizens, certainly its best known. In 1839 she was written up in the New Orleans *Picayune,* and in 1854, after her death, she was pictured in *Harper's New Monthly Magazine,* published in New York City [ibid.].

There is no record of Tules going east on the Santa Fe Trail (although her son-in-law, a trader from Chihuahua named Santiago Flores, did so at least once, in May 1843 [Barry 1972:475]). Doña Tules did travel on the Camino, speculating in various merchandise, including, in 1843, a large herd of mules that was driven north from the Mexican interior [Cook 1999].

Her adopted daughter, María del Refugio, married Santiago Flores in Santa Fe. Flores traded in Mexico and in New Mexico, sometimes accompanied by his wife. María del Refugio bore several children in Santa Fe and at least one in Chihuahua [Cook 1993:155].

Doña Tules died in 1852. She is the central figure in Ruth Laughlin's Southwestern classic *The Wind Leaves No Shadow*.

Santos and Santeros

The *santos* or religious figures made in New Mexico in the colonial period differ somewhat in the two districts of the Rio Arriba and the Rio Abajo [Gavin 1999:221]. Gavin attributes these basic differences in construction,

style, and aesthetic to the fact that the communities of the Rio Abajo had earlier access to materials brought up the Camino Real and were more often visited by artisans from Nueva Vizcaya (Chihuahua) than were the more remote communities of the north.

The period 1790 to 1860 was a golden age of New Mexican colonial art. The Camino Real was instrumental in the introduction and dissemination of forms of worship and objects of veneration in New Mexico. Esquibel and Carrillo note that:

> A constant ebb and flow of commerce ensured contact with the urban centers of the south. Sheep and wool, along with other locally produced items, were traded in cities such as Parral, Chihuahua, Durango, Queretaro, and Mexico City. Bartered and purchased items were in turn brought back to New Mexico. In addition, imported influences found fertile ground in New Mexico, as illustrated by the establishment of the devotions to *Nuestra Señora de Esquipulas* (with roots in Chihuahua and Durango), to *Nuestra Señora de San Juan de Los Lagos*, to the *Santo Niño de Atocha* (Fresnillo), and to *Nuestro Padre Jesús* (los Penitentes), which spread in the early 1800s to Santa Fe and also to the jurisdictions of Santa Fe, Abiquiú, Taos, and Tomé [Esquibel and Carrillo 2004:10].

Context 4: Economic and Commercial Significance

Concept or theme; the Camino Real was the means of exchange of goods and other items of value, everything from slaves to ceramics to foods, between New Mexico and the Mexican interior.

Geographical area: Rio Grande corridor from the international boundary to Ohkay Owingeh

Chronological period: AD 1598–1881

Trade

Trade was a way of life in the Southwest in prehistoric times. With the establishment of the Camino Real at the beginning of the seventeenth century, the road became the artery of trade between New Mexico and the Mexican interior.

After the opening of the Santa Fe Trail in 1821, the focus of trade in New Mexico gradually shifted from the Mexican interior to the United States [Pierce and Snow 1999:82].

Mission Trade

The missions of New Mexico were among the Spanish Franciscan establishments that covered much of the Western Hemisphere, from South America to the American Southeast and Southwest [Ivey 1993:41].

The Franciscans introduced religious items such as crosses, paintings, vestments, statues, and vessels to New Mexico over the Camino in the seventeenth century [Cunningham and Miller 1999:91].

When sergeant major Juan de Ulibarri went to El Cuartelejo, a Plains settlement occupied by Picuris Pueblo people after the reconquest, he observed that the Apaches in various communities wore crosses, rosaries, and Catholic medals, attributing magical powers and success in battle to these items [Kenner 1965:29].

A Franciscan mission supply expedition usually consisted of 32 wagons with a military escort and was generally accompanied by priests, merchants, and government personnel [Scurlock 1999:231]. A supply caravan reached New Mexico approximately every three years during the seventeenth century [Ivey 1999:41]. In 1631, the Franciscan order and the government of New Spain entered into a contract standardizing these caravans or conductas [ibid.]. Under this agreement the viceregal treasury advanced the money for an expedition, and the Franciscan procurador-general for the province of New Mexico bought all the goods and stored them in a warehouse in Mexico City until they were loaded for departure. He organized the conducta, including all purchase of supplies, outfitting, and personnel, such as drivers, guards, guides, and cooks. The procurador-general made each round trip personally.

Supply wagons carried at least two tons, sometimes as much as three, and averaged about 10 miles a day on the Camino Real. The trip to Santa Fe, around 1,600 miles from Mexico City, took about six months. The wagons were four-wheeled vehicles similar to the Conestogas built two centuries later in Pennsylvania. They had iron-tired, spoked wheels and a canvas cover mounted on ribs. Each wagon carried a supply of extra tires and axle parts.

The supply train was divided into two *cuadrillas* or sections of sixteen wagons. Each wagon had a driver (*chirrionero*). The train usually employed four Plains Indians as guides and sixteen Indian women as cooks. The wagon crew, then, consisted of fifty-two people. There was also a military escort of unspecified size [Ivey 1999:43].

Each wagon had two teams of eight mules that alternated in harness. An additional thirty-two animals were brought to replace any that died. A herd of cattle was brought for food. Each friar going to New Mexico for the first time also got ten heifers, ten sheep, and forty-eight hens with which to start an agricultural enterprise at his mission in New Mexico.

Items brought up the Camino to the missions usually included retablos, gold and silver items for the churches, priestly vestments, clothing for priests and servants, tools for the workshops, musical instruments, chocolate, and horses [Scurlock 1999].

When the train reached Kewa (Santo Domingo), the Franciscan capital, it split up into smaller trains for other parts of the province. One section went to Acoma, Zuni, and Hopi. Another went to Santa Fe and the Rio Arriba

missions. From these destinations, the wagons returned to Santo Domingo. They remained there for four to six months, and then returned to Mexico City loaded with local and regional produce. The conducta that went south from Santa Fe in 1660 included 10 new carts, at least 160 oxen, and more than 60 pack mules. Its cargo consisted of 1,350 deerskins, an unspecified number of buffalo hides, 600 pairs of woolen stockings, 300 fanegas of piñon nuts, salt, and various items of clothing [Minge 1979:11].

Captives and Slaves

As noted above, during the Oñate administration, sixty or seventy girls under the age of twelve were captured at the battle of Acoma Pueblo and were apportioned to various convents in Mexico. They were sent south on the Camino Real [Brugge 1999:104].

Captives and slaves were an important trade item on the Camino. Governors in the seventeenth century enslaved and sold Plains people captured in raids. The use of captives within New Mexico society became pervasive in the eighteenth century [Brugge 1999:106]. A new policy established in 1772 required Indian captives to be shipped to Mexico City so the viceroy could decide what was to be done with them [ibid.]; the captives were sent down the Camino Real. Trade in captives continued in the Mexican period, although there is no evidence that captives continued to be shipped over the Camino Real in the Mexican and territorial periods [ibid.].

It would be difficult to estimate the monetary value of slaves and captives since prices are rarely stated in the historical record, and captives were often traded or put into service rather than sold for cash. Their labor, however, had long-term and irreplaceable value in New Mexico, and *genizaros* (acculturated Indians) formed a socioeconomic class that became a significant element in New Mexican society [Brugge 1985:41–125; Horvath 1979].

Goods

The Oñate colony brought trade goods into New Mexico, including beads, rings, bells, amulets, buttons, and hats; musical instruments; religious items; and tools and materials, such as butcher knives, thimbles, scissors, needles, and awls [from the 1597 Salazar Inspection Report; Hammond and Rey 1953:220–222]. Archaeological excavations at New Mexico pueblos and mission sites have unearthed awls, knives, thimbles, hawks' bells, glass beads, crosses, and religious medals [Kidder 1932:306–308; Toulouse 1949; Vivian 1964].

As noted above, early exports (*productos de la tierra* and *efectos del pais*) carried south in the Franciscan caravans on the Camino Real included hides, piñon nuts, salt, furs and textiles.

The economic significance of the Camino Real in the eighteenth and nineteenth centuries has been studied by José de la Cruz Pacheco Rojas and Susan Boyle, respectively [see References].

The trade in hides in the eighteenth century made the Plains peoples, including the Comanches and Apaches, participants in a world trade network [Levine 1991]. This trade sustained Plains–New Mexican relations for two hundred years [ibid.].

Luxury Goods

Snow states that luxury items brought up the Camino Real to New Mexico in the seventeenth century included items of everyday use, announced the status of the individuals who owned them, and represented a "resistance to change when faced with life on the frontier" [Snow 1999:69]. In this period, New Mexico, via the Camino, was more closely related to central Mexico than would be the case after the reconquest. Snow lists items from central Mexico, such as clothes, silver, and jewels, and items from other parts of the world, such as Chinese porcelain. The Franciscan Fathers enjoyed many luxury items—special foods such as chocolate, as well as vestments and furnishings for the missions.

Furniture

Colonial New Mexicans used furniture made locally but also imported more sophisticated items from guild-trained carpenters working in the major craft centers of New Spain [Bakker 1999:118]. The Oñate colonizing expedition brought woodworking tools as required by Oñate's contract. Fourteen individual settlers also brought tools [ibid.]. The importation of furniture over the Camino Real continued throughout its history. Michoacán clothing chests, for example, were popular throughout the eighteenth century [ibid.]. Paints for decorating locally made furniture also came over the Camino [Bakker 1999:124–125]. The technology of furniture-making also came up the Camino. Pecos Pueblo became famous for its carpenters, making architectural woodwork for churches as well as chairs, tables, beds, kneading troughs, and other items. "These Indians apply themselves to the trade of carpentry," Fray Alonso de Benavides writes in 1630, "and they are good craftsmen since their minister brought them masters of the craft to teach them" [Hodge et al. 1945:67, 102].

Textiles

Traders on the Camino Real brought dyes and materials into New Mexico for the creation of woven items such as serapes [Winter 1999:141]. Forms and styles came up the Camino as well (ibid.). This trade was significant mainly in the period ca. 1750–1800s.

Ceramics

Ceramics used in New Mexico were either locally made (including Pueblo pottery, which had already been produced in New Mexico for at least 1,000 years before the Spaniards arrived) or brought in on the Camino Real. The imported pottery was of two main types: *loza de Puebla*, or majolica, and Chinese porcelain [Hill and

Peterson 1999:148]. All porcelain was made in the factory at Jingdezhen, China [ibid.]. Chinese porcelain has been found in the original Spanish settlement in New Mexico, Yungé or San Gabriel [ibid.].

Probate inventories from Santa Fe, mainly in the 1700s, list majolica from Puebla, Chinese porcelains, and Michoacán earthenwares, all brought up the Camino Real [Snow 1986].

Agriculture and Livestock

Coronado's expedition of 1540–1542 took along oxen, cows, sheep, and possibly pigs, to feed the army [Winter 1999:379]. There were more than a thousand horses and mules. Some of this livestock went along on the march into central Kansas and back to the Spanish winter quarters on the Rio Grande in 1541. It is not likely, however, that any of the livestock left offspring. Baxter [1987:101] states categorically that there was no permanent establishment of Old World livestock species in New Mexico before the Oñate expedition.

The Rodriguez and Chamuscado expedition of 1581 relied on horses for transportation and small droves of cattle and sheep for food [Baxter 1993:101].

An inspector who reviewed Juan de Oñate's stock, supplies, and equipment in December 1597 declared 846 “goats and bucks”; 198 oxen for the carts; 2,517 sheep; 96 colts, 101 mares, and 41 mules and jackasses; 53 hogs; 799 cows, steers, and bulls; 500 calves; and 119 horses. The point of the inspection was to determine whether Oñate had supplied what he had agreed to in his contract, so any shortages are carefully noted. These are Oñate's supplies only; those of his soldiers were separately declared. All of the soldiers had horses; some also owned pack horses, pack mules, oxen, and carts. Pedro Sanchez Monroy, soldier, declared “some irons for branding horses.” A few owned their own cattle or mares. Some of the officers were men of considerable property. Captain Alonso de Sosa took eighty milk cows, thirty steers, sixty-five oxen, thirty-five horses, twenty-three colts, five hundred sheep, and eighty goats to New Mexico.

The horses were probably *caballos criollos*, a breed of Arab and Moorish ancestry that displayed great stamina and intelligence [Baxter1993:103].

The cattle were probably Andalusian range longhorns of varying coloration: the reddish *retintos,* the piebald *berrendas,* and the spotted and speckled semiferal animals. Oñate distinguished 108 head of “black cattle,” which may have been a separate breed, originating in Avila and Andalucia, bred to be turned into oxen.

The sheep were “churros” with thick, shaggy underfur which yields a long-staple, easily matting wool, suitable for hand processing, although they produced as little as a pound of wool per fleece. Churros were hardy, could endure long drives, and were capable of substituting dew and succulent plants for water and of subsisting on either fresh or dry grass. They were the basis for the modern Navajo churro breed.

When Oñate arrived in New Mexico he found the Pueblos cultivating watermelons, an Old World fruit that got to the north faster than did Oñate himself.

In 1598 Oñate established the first permanent Hispanic settlement in New Mexico at Yúngé, which he renamed San Gabriel, and proclaimed it the capital of the province. Oñate ordered the digging of a ditch to irrigate wheat. Construction began on August 11, 1598 [Hammond and Rey 1953:322–323], using about 1,500 Indians as labor ("Some fifteen hundred barbarian Indians gathered on this day and helped us with our work" [Hammond and Rey 1953:323]).

In the 1600s, crops introduced among the Pueblos included lettuce, cabbage, peas, chickpeas, cumin, carrots, turnips, garlic, onions, artichokes, radishes, and cucumbers (Ford 1987:76). Along with new foods, introduced metal tools caused a change in land and resource use, permitting larger areas to be farmed and the harvesting of greater amounts of wood, which would immediately affect the ecology of the upper Rio Grande [Ford 1987:77].

Trade in the Mexican Period

After Mexico won independence from Spain in 1821, the Camino became the link between United States markets via the Santa Fe Trail and the Camino de Chihuahua, extending south to Mexico City. In 1821, William Becknell led a pack train to Santa Fe from Franklin, Missouri, a frontier community platted only five years earlier [Simmons 1984:19]. In 1829, the line of communication that Garcés and Escalante had tried to establish fifty-three years earlier became a trade route between New Mexico and California and came to be called the Old Spanish Trail.

The Santa Fe Trail and the Old Spanish Trail became extensions of the Camino Real, making the Camino the central link in a new international trade system extending from California (and the sea routes leading to it) and from Missouri (and the United States) to Santa Fe, then down the Camino Real to Mexico City (and from Mexico City to Acapulco and Manila, and to Vera Cruz and Cuba and the Caribbean).

In the 1830s James Magoffin became a prominent merchant in the city of Chihuahua. He was an important figure in the Santa Fe–Chihuahua trade, and in 1841 he led a caravan with forty wagons of merchandise from Chihuahua to El Paso, then to Santa Fe.

This trade continued after the Mexican War and the transfer of more than half of Mexican national territory, including New Mexico, to the United States. The inventory of the estate of Manuel Salustiano Delgado, a Santa Fe merchant who died in 1854, shows religious goods shipped north from Chihuahua, as well as other goods such as articles of men's and women's clothing. By 1854, Miguel Romero y Baca, Delgado's son-in-law, had developed a freight line from Santa Fe to St. Louis and Kansas City [Taylor y Romero 1999:301–302], continuing the movement of merchandise from the United States to the Mexican interior and from Mexico to New Mexico and the United States.

James Josiah Webb, an American trader who was in New Mexico just before the arrival of Kearny's invasion, went down the Camino Real in July 1846, at the beginning of monsoon season.

> The rainy season came upon us about this time, and we travelled under great difficulties from bad roads and the number of wagons in the train. The way down the river to Fray Cristóbal was so bad that we could not travel more than two to ten miles a day with all-day travel and very hard work. . . . Parida hill we had heard a good deal about as the worst piece of road between Santa Fé and Chihuahua, except a few miles of road of the same character through the sand hills below El Paso del Norte. . . . At Fray Cristóbal we lay by a day to rest and put everything in order to pass through the Jornada del Muerto, ninety miles without water. Sometimes water is found at the *laguna,* (being a depression in the prairie where surface water gathers and remains for some time), but as yet there had not been sufficient rain to fill it, and we found none and drove on, and on arriving opposite the Gallego spring [Webb means the Ojo del Muerto], concluded to drive off and water. The spring is at the right of the road, and the road is so bad and the water so poor and so limited in quantity that we were almost sorry we had stopped, as it was almost as fatiguing to the animals as it would have been to have gone through without water.
>
> Fray Cristóbal takes its name from a peak at the end of a mountain on the east bank of the del Norte where the river enters a gorge and passes for a long distance through a narrow valley; and the valley being much wider above this point and suddenly contracting, makes the end of the mountain quite prominent for a long distance up the valley. And it is claimed by the Mexicans that [because of] the resemblance to the hand and face of an old friar living among them in early times, they named the mountain for him. . . .
>
> Socorro was the last settlement on the river on the west side and Parida on the east, until we came to Doña Ana. We made the *jornada* through without any loss of animals, but both men and animals appeared greatly relieved when we got to the river and had plenty of water and a day's rest.
>
> After a day's rest we proceeded on our journey down the river without passing any house or settlement (except Doña Ana) on either side of the river until we arrived at El Paso. . . . And a good many people from the town came to our camp to sell provisions, fruits etc., to gratify curiosity and others to show their hatred of the Texans and heretics, and still others to do a little legal work in the mule line.
>
> This was a great trade in El Paso. The Apache Indians would steal mules in the state of Chihuahua and sell them in New Mexico . . . [Webb 1931:189–190].

"Argonauts" (as they were frequently called) en route to the gold fields of California traveled parts of the Camino Real in 1849. After New Mexico became a territory of the United States in 1850, international commerce continued along the route from Santa Fe to Chihuahua. The route continued to be a conduit for trade and immigration to the United States, linking with the Santa Fe Trail to St. Louis or Franklin, Missouri. The

continuing importance of the route was documented by Josiah Gregg in 1835 and Adolf Wislizenus in 1847 (see above).

The economic significance of the Camino Real in New Mexico in the period 1821–1845 has been discussed by Susan Boyle [see References]. The value of merchandise carried into Mexico by New Mexican merchants in this period exceeded 400,000 pesos. The value of goods taken into Mexico in a given year gradually increased over this period. As noted above, goods sent south included flocks of sheep, local manufactures, blankets, hides, and skins [Boyle 1994:41]

David Weber, in *Mexican Frontier 1821–1846,* discusses this period of trade, mentioning Mexican traders going to Missouri [Weber 1982:122–130]. Some must have come up the Camino, but in 1839 others made a cutoff across Texas. The Mexican silver peso was in common use in Missouri in the 1830s [Weber 1982:129].

After 1850, trade and cultural exchange continued on the Camino Real. New Mexico Governor Henry Connelly and New Mexico delegate to Congress Miguel Antonio Otero, among others, were traders on the Camino Real in the territorial period.

Trade in the American Period

After 1848, more people from the United States started to appear in the territory: soldiers, traders, explorers for commercial opportunity, and Anglo residents.

John C. Cremony was an interpreter with the U.S. Boundary Commission when the new international boundary was surveyed in 1849–1851. He had been a major in the California volunteer cavalry during the Mexican War. He traversed the Jornada del Muerto on his way to Socorro to buy sheep.

> At that time Fort Craig had no existence, and the space between Doña Ana and Socorro – a distance of one hundred and twenty-five miles. – is a large desert, well supplied with fine grama grass in some portions, but absolutely destitute of water or shade for ninety-six miles. This intervening strip of territory is known by the unattractive appellation of the *Jornada del Muerto,* or the Dead Man's Journey. Why it ever received this title I never distinctly learned, but suppose it was on account of the very numerous massacres committed on it by the Apache Indians. . . .
>
> At Socorro was a small American garrison, consisting of about half a company of the Second Dragoons. . . . I left Doña Ana about three o'clock A.M., and traveled leisurely until four in the afternoon, when I unsaddled my horse, staked him to a strong picket pin planted in a field of fine grass, and laid down under the lee side of a cactus to catch a modicum of shade. At twelve, midnight, I resumed my journey, and reached Socorro next day about eleven o'clock A.M., having traveled during the cool of the night at a much more rapid pace (Cremony 1868:73–74).

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Cremony describes being chased by Apaches through the Jornada and escaping, covering one hundred and twenty-five miles in twenty-one hours on a favorite horse.

William Bell made a survey for a railroad line to the West Coast in 1867–1868. He searched in the vicinity of Santa Fe for deposits of coal, and then went down the Camino to El Paso. He describes the Rio Grande Valley from Albuquerque to Fort Craig:

> From Albuquerque we traveled in the valley of the Rio Grande, 115 miles, to Fort Craig. For the whole of this distance the valley was studded on both sides with numerous villages, some belonging to Pueblo Indians, the greater number to Mexicans. The largest of the former was Isleta, where [we] enjoyed the produce of a very fine vineyard. The houses were built, like those of the Mexicans, of adobe, but were much larger; many were of two stories; all seemed to contain more than one family. . . . The greater part of the valley is here almost entirely destitute of trees. This may be partly accounted for by the fact that the banks of the river are of a sandy, friable nature, and that the bed of the stream is always changing its position, sometimes to one side, sometimes to the other; thus destroying fields of corn, irrigating canals, and villages. . . . About latitude 32° 15' are two flourishing towns, La Mesilla and Las Cruces. Not long ago the river passed between them, but now they both lie on the left bank, the stream having completely changed its channel without disturbing either [Bell 1965:241–242].

The Coming of the Railroad

In 1822, the year after William Becknell opened the trail from Missouri to Santa Fe, the value of goods going over the Santa Fe Trail was about $22,000 [Bryant 1974:4]. By 1860, 9,000 men, 3,000 wagons, and 27,000 oxen were carrying 16 million pounds of goods to Santa Fe every year. The expense of transporting goods by wagon was high, and Santa Fe Trail merchants recognized that a railroad would make the trade more profitable.

The Atchison and Topeka Railroad Company incorporated in Kansas in September 1860 [Bryant 1974:8] with thirteen directors, men active in Kansas's territorial politics and trade. In October they planned the construction of a route over the Cimarron Cutoff of the Santa Fe Trail into New Mexico. Plans for railroads continued despite the Civil War, a salient reason being that railway construction was viewed as one means of turning Western territories into states that would support the U.S. government in the war. The Pacific Railroad Act of 1862, signed by President Lincoln on March 3, 1863, gave railroad construction federal support with the provision that railroads in the state of Kansas would receive alternate sections on each side of the line, to be sold to pay for the construction. In November the directors of the Atchison and Topeka voted to change the name to Atchison, Topeka & Santa Fe Railroad—and it soon became known regionally as "the Santa Fe" [Bryant 1974:10]. In 1864 the directors planned the line from Atchison to Topeka southwest to the Fort Dodge vicinity, and then down the Cimarron Cutoff to Santa Fe, to Albuquerque, and then along the 35th parallel to Los Angeles and Santa Barbara. However, construction proceeded slowly, first because of the Civil War and then the postwar depression and competition for routes among the various railroad companies that had been

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incorporated in the 1860s. By the end of 1872, the AT&SF had pushed out through Kansas to the Colorado line [Bryant 1974:30]. The town of Granada just west of the Colorado line remained the end of the track until June 1875.

In 1876–1877 the AT&SF extended lines into Colorado, and it took most of 1878 (February–December) to build over Raton Pass. On December 7, 1878, the first train crossed into New Mexico [Bryant 1974:46]. The track reached Las Vegas, New Mexico, in July 1879 [Bryant 1974:61]. Construction crews pushed the track through Glorieta Pass to Galisteo Creek and reached Albuquerque on April 15, 1880. The line moved down the Rio Grande through the summer, reaching San Marcial on September 16 [Bryant 1974:62], then to Rincon in the spring of 1881 [1974:82] and to El Paso, over the section that became known as the "Horned Toad Line" to El Paso in July 1881.

Santa Fe had been bypassed by the AT&SF, but a branch line was built from the railroad station at Lamy to the capital in February 1880.

For 283 years, since Juan de Oñate's colonists created the trail to Ohkay Owingeh in 1598, the Camino Real had been the link between New Mexico and the *tierra afuera*—Mexico, New Spain, and the sea roads to Cuba and Manila, and after 1821, to independent Mexico and Europe. The coming of the railroad ended both the Camino Real's existence as New Mexico's connection to the outside world and New Mexico's centuries-old isolation.

F. Associated Property Types

The list of significant property types is based on functional classifications described in historical literature (e.g., paraje, fort), as well as archaeological phenomena identified during field reconnaissance (e.g., artifact scatter, trail). In order to be considered for inclusion in this listing, a property had to evidence association with the Camino Real during the period of significance, 1598 to 1881. Integrity was evaluated based on strength of historical and archaeological evidence linking the property to the Camino Real during this period. Physical condition and setting were also important considerations in assessing integrity. This nomination includes some of the least-disturbed and most-evocative remaining segments of the trail.

F.1 Name of property type: Landmarks and Land Forms

1a. Description

The cultural geography of the Camino Real includes a variety of place names associated with various landmarks and landforms. These place names are in effect the cultural-geographic atlas of the Camino Real., beginning in 1598. Additions to this inventory of place names continued into the territorial period. Some of the place names along the trail, as well as those of the mountain ranges, hills, and other landforms, were first assigned in the early colonial period (Ojo de Perrillo, Paso del Norte, La Cruz de Robledo) and continued to be used over the life of trail. Others first appear during the Pueblo Revolt and Reconquest period (La Cruz de Aleman, La Bajada, Contadero Mesa, Acomilla, Cerro Tome, Las Penuelas, San Diego, Canon de Las Bocas), while still others were added during the Mexican and territorial periods (Los Alamitos, Point of Rocks). All of these place names are identified in the historic records. Many appear on early maps showing the route of the Camino Real. These place names indicate the landscape that gave form and meaning to the Camino Real.

Some of these locations are on or in close proximity to the trail and can be recognized as properties contributing to the nomination (Point of Rocks, Laguna del Muerto, Contadero Mesa, Cerro Tomé, La Bajada, Canon de Las Bocas). Others, while important to understanding the geography and history of the trail, are regional geographic features (Sierra de Los Organos, San Diego Butte, Cerros de Perrillo, Sierra Fra Cristobal) and are not considered cultural properties in this MPDF.

1b. Significance

Named landmarks and landforms, including rock outcrops, hills, mesas, springs and water holes, ephemeral lakebeds, bluffs and steep slopes, canyon corridors, passes, and difficult crossings along the Camino Real, constitute a cultural-historical geographic atlas of the Camino Real. These place names are identified in the historic records and on historic maps and as such are part of the complex of physical characteristics of the Camino Real. Some of these landmarks and named landforms are located along and in close proximity to the trail, and as such are significant properties which are included in the multiple property nomination. The

preservation and interpretation of these landmarks and landforms as a property type is essential to the preservation and interpretation of the trail.

1c. Registration Criteria

Registration criteria provided below are derived from instructions contained in National Park Service Bulletin 16B (1991, see References).

In order to contribute to the Camino Real multiple property listing, landmarks, landforms, and other physical features must be identified in the historic records of the Camino Real, whether as place names in various diaries and accounts of travel along the trail or in historic maps and diagrams of the trail system. Landforms that do not occur in the historic records are not included, despite their proximity to the trail, because no historic context relates them to the Camino Real.

Landscape features that qualify as contributing properties must also be contiguous with or in close proximity to the trail in order to be included within the boundaries of the National Register nomination. This qualification may include rock outcrops, mesas, canyons, springs, lakes, or other features adjacent to the trail. Named mountains (i.e., Sierra Moreno, Sierra Las Petacas) and districts (Jornada del Muerto, Bosque Santa Barbara, Bosque del Apache) that are not in close proximity to or contiguous with the trail or that extend over a large area do not qualify for nomination.

F2. Name of Property Type: Trail/Wagon Road Section

2a. Description: Road sections usually consist of the physical remains of the trail or wagon road. However, a few urban sections qualify for nomination when modern roads are superimposed on the trail, yet the trail retains integrity of setting and historic context. Except for those few segments in urban areas, a road section usually consists of linear swales, depressions, or traces on the landscape. Archaeological investigations have identified a variety of presentations of the trail as a result of variable environmental and physiographic conditions and differences in the way the trail was used. Road sections may occur as single pathways that may be narrow or relatively wide, as closely spaced parallel roadways, or as multiple and braided paths. Parallel and multiple paths were sometimes the result of wagons moving abreast across the landscape, as noted by Santa Fe Trader Josiah Gregg in 1844, usually to avoid the dust clouds produced by the passing of wagon trains and caravans. In certain cases, multiple paths were created as a result of erosion that could cause the disuse—perhaps temporary—of one road and use of an adjacent but parallel avenue.

Road sections vary in length but usually consist of discontinuous segments crossing a particular landform or geographic area. Segments are often separated by areas where trail preservation is poor, but each section is a clearly delineated unit of the trail system. Sections are identified as individual properties, since it is impossible to define long reaches of the Camino Real as individual property types and inadvisable to include very short

parcels of the trail. Camino Real sections that have been defined archaeologically (Marshall 1991a, 1991b) vary from 0.5 to 10 km long. Road sections are usually identified on the basis of association with a particular physiographic or environmental subarea, a historically recognized area, or a discrete area of trail preservation. Road segments, on the other hand, are shorter lengths within an identified section. Some road sections in New Mexico have been assigned site numbers by the Archeological Resources Management Section, Historic Preservation Division, New Mexico Office of Cultural Affairs; road segments are recognized as components of these sections.

Road sections can be defined by variable types of expression, environmental zones, or structure. For example, a Camino Real roadway section may extend from an identified paraje to a disturbed area where the road no longer exists. In this section the trail may cross a dune area where it presents an intermittent swale (Segment 1), a lowland where it is defined by a linear path of grass (Segment 2), a ridge top where it is defined by a deep swale cut (Segment 3), a ridge slope where it has been captured by an arroyo which promotes the growth of mesquite or other brush (Segment 4), and a gravel-paved creosote flat which is defined by a void in the vegetation (Segment 5). Each road section must be defined with reference to specific landforms, historic area, area of preservation, or archaeological context.

The evidence of the Camino Real is usually a linear road trace, swale, or depression crossing the landscape. These linear expressions are frequently well-defined in the aerial imagery and visible on the ground. In some areas where trail expression is subtle, they may only be visible in the aerial imagery or so difficult to see that aerial imagery is indispensable to identifying them on the ground.

Swales often capture water and promote the growth of brush and grasses, which can be seen as a linear path of vegetation. Drainage along these linear swales often results in erosion and arroyo cutting. These arroyos are characteristically linear, unlike the more typical dendritic or branching arroyo systems. In other examples, the roadway swale is filled but can still be defined by linear growths of vegetation. In a few examples, the roadway has a positive or elevated expression—that is, we see an inverted topography. This is caused when a linear growth of vegetation in a swale stabilizes an area that is subsequently eroded by wind or water, deflating the ground surface and leaving the road as a linear mound. In other cases, the roadway is defined by a linear void or space in the vegetation which has not been able to reestablish itself in the scar of the road since the road's abandonment. This is most often seen where the Camino Real crosses creosote flats on gravel surfaces.

Most of the roadway was created simply by the passage of wagons, livestock, and pedestrians that removed vegetation and created a road or track. Wind and water erosion enhanced the roadway, sometimes forming low earth or gravel mounds or berms along the edges of the roadway.

Limestone cobbles that occur in some areas along the road are scarred or stippled from the impact of livestock and wagons. In a few locations where the trail crosses bedrock, the stone is worn and shows evidence of traffic. Occasional evidence of construction has been identified along the Camino Real. Road construction may include

ramps entering arroyos or other depressions, areas filled with cobblestones to provide a firm roadbed, and removal of stones and boulders from the roadway. Bridges were sometimes built across rivers or major arroyos, but these are recognized as a separate property type.

Road sections are also defined by a light scatter of artifacts within and along the edge of the road. These artifacts are the occasional debris of three centuries of use and discards along the trail. Artifacts that occur within the trail, such as tin cans associated with the territorial period, are usually battered and flattened by the passage of vehicles and livestock. Archaeological investigations of the Camino Real indicate that most of the artifacts associated with the road are within 25 meters of the road. These artifact scatters should be considered part of the road segments; they have been mapped within the road boundaries and are included in the nomination.

In some urban areas, automobile roads and highways follow the established route of the Camino Real. These roads have evolved from the period of continuous use of the Camino into the modern era. To qualify the route for nomination, it must be established by historic maps and records, retain integrity of setting, and must follow the exact route of the historic Camino Real. Some examples of this include Doniphan Avenue in North El Paso, Edith Boulevard in Albuquerque, Barelas Road in Albuquerque, Isleta Boulevard in Albuquerque, and Agua Fria Road in Santa Fe. Urban sections of the Camino Real must also reflect a clear association with historic districts and landscapes that are clearly associated with the Camino Real (e.g., Old Town Historic District in Albuquerque, Paso del Norte Canyon, El Paso Missions Trail, Santa Fe Historic District, Mesilla Plaza Historic District).

2b. Significance

In many areas the road sections of the Camino Real were used for nearly three centuries, from 1598 to 1881. The use of the Camino Real continued from the colonization of New Mexico by Oñate in 1598 until the railroad reached El Paso in 1881. This trail is the oldest and longest continuously utilized mule train/wagon road in the United States. The Camino Real was designated as a National Historic Trail in 2000 (Public Law 106-307) in recognition of the outstanding significance of the trail in the history of exploration, colonization, trade and commerce, emigration, and development of the Southwest borderlands.

Road sections are the physical Camino Real and are the primary cultural property in the trail system. These historic properties, most of which have been abandoned for 120 years, were part of a vast road system that was instrumental in the historic development of the American Southwest. The Camino Real provides the link and the context for a variety of contributing cultural properties associated with use of the road. Individual sections further reflect the significance of certain geographic localities or historic events along the trail system. Crossroads (other roads from the period of significance intersecting the Camino) can also add to the significance of road segments.

2c. Registration Criteria

To qualify for inclusion in the National Register of Historic Places, individual road sections must be physically identified as roadway swales, linear tracks visible in the landscape, or urban sections where existing roads are superimposed on the trail but follow its exact route and have a clear association with historic districts and areas linked to the Camino Real. The inclusion of trail sections in the National Register must be justified by archaeological examination and historical information that clearly identifies the road section as part of the Camino Real system. Well-preserved sections of the Camino Real and those sections with clear historic context and integrity are best qualified for nomination.

Registration of trail sections should focus on the actual roadway but may also include scattered artifacts and materials along the margins of the road. These are mapped within the sections and are considered part of them.

Other contributing properties such as parajes, camps, graves, activity areas, landmarks and landscape features, and other properties may be included as "bump outs"—directly associated with and contiguous to the trail. Certain features along the roadways, such as bridge abutments and fords, can also be registered as property types. Contributing properties associated with the Camino Real must exhibit close proximity or contiguity to the roadway. They cannot be distant or discontiguous. For example, if a landscape is to be included in the nomination of the individual property, it has to be contiguous to or in close proximity to the trail. A distant hill or mountain that may have been a landscape marker is not eligible to the National Register under this MPDF. In contrast, a waterhole, lakebed, rock outcrop, or other feature noted in conjunction with the trail may be included as a contributing feature and registered as part of a road section if it has integrity of association with the road.

Road sections that evoke past use, or sections clearly associated with a landmark, historic site, or historic use area clearly linked to the use of the trail, are eligible for inclusion in the National Register. Historic segments of high potential, as defined by the National Trails System Act of 1968, are "those segments of a trail that would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route" [National Trails System Act, 16 USC 1241–1251]. Road sections that have the potential to yield information important to understanding the use and nature of the Camino Real systems are also eligible for registration.

F3. Name of Property Type: Paraje

3a. Description

Parajes were established and recognized camping locations along the Camino Real. The term *paraje,* from the Spanish *parar* (to stop or halt), refers to a stopping place, site, or station frequented by travelers (*caminantes*) along the trail. Parajes are identified in historic records and maps. Parajes were frequently located near water sources, which were essential to travelers and their livestock. Parajes were encampments that were ordinarily

used for a single night by a given group of travelers, but some parajes with permanent water were used to rest livestock and travelers for a few days after they had passed over arduous sections of the Camino Real. Parajes were simple camping areas devoid of any permanent facilities or structures. Parajes, as identified in the archaeological record, consist of hearth areas and artifact concentrations, often multicomponent (representing multiple periods).

3b. Significance

Parajes were essential to travel on the Camino Real. The chain of parajes represented a kind of road map or place-name geography of the trail. The significance of parajes was associated with their being located at springs or waterholes, often the only water sources for a day's travel or more. The route of the Camino Real was originally traced from water source to water source.

All parajes had names. References to these camps recur throughout the historic literature (diaries, letters, itineraries, campaign journals, and others) of the Camino Real. In many cases parajes provide a geographic context for the historical record. Paraje names often refer to the water source (e.g., La Salinera, Ojo de Perrillo, Laguna del Muerto, Ojo Lucero, Ojo Salmalayuca, Laguna de Pato) or associated landmarks (e.g., Brazcito, Las Barrancas, El Paso del Norte, Peñuelas, Valverde, Bosque del Apache, Contadero, Acomilla, Point of Rocks). In some cases parajes were named after gravesites of travelers who died along the trail (e.g., La Cruz de Alemán, La Cruz de Robledo, La Cruz de Anaya, Las Cruces, Ancón de la Cruz Juan Tellez) or for individuals associated with major expeditions (Fra Cristóbal). Some parajes carried the names of former settlements or pueblos in the vicinity of the trail (e.g., Rancheria, San Pascual, Qualacú).

A paraje includes the archaeological remains of the encampment and the watering places in the immediate vicinity. Archaeological investigations of selected parajes indicate that they are defined by artifact concentrations, hearth areas, possible tent bases, occasional forge areas, and other features located in proximity to the trail. These sites have considerable archaeological value and potential to yield information important to understanding the nature and use of the trail. Many of these camps are mentioned in the historic records of important expeditions, such as that of Oñate in 1598, Otermín's retreat from New Mexico and his attempted reconquest (1680–1682), Diego de Vargas' reconquest of New Mexico (1692–1696), and many others. The association of parajes with these historic events and persons meets National Register criteria of significance.

3c. Registration Criteria

To qualify as a property type, a paraje must be mentioned in historic records and/or appear on historic maps of the trail. The paraje must also be identified with sufficient certainty to establish that the specified location is the one named in the historic record. To establish this identity, the property must conform to map locations, descriptions in historic records, and in most cases must exhibit archaeological remains associated with the Camino Real. Some parajes may be identified by association with a specific landmark, such as La Salinera or

Point of Rocks. In some cases, the paraje is known from records but has not been found on the ground. These parajes will require further archaeological survey and historical investigation to be located with certainty and to be eligible for inclusion in the multiple property nomination.

Parajes as contributing properties must have substantial integrity. This should include archaeological remains, undisturbed landmarks or landscape features, water sources, or other archaeological and historical evidence. Some parajes have been disturbed or effaced by urban or rural development and do not qualify for nomination. However, many parajes are undisturbed. Others have evolved into settlements, missions, forts, or other properties, and evidence of the original encampment no longer exists. These sites do not qualify for nomination as parajes but may qualify for registration as other property types associated with the Camino Real.

F4. Name of Property Type: Gravesite

4a. Description

Gravesites located in close proximity to and associated with the Camino Real are considered contributing properties. These sites are uncommon but are usually found in close proximity to the Camino Real or at parajes. A number of parajes identified in the historic record are named for the graves of travelers who died along the way. Graves were often marked by crosses along the trail, which were mentioned by subsequent travelers. Examples include La Cruz de Alemán, La Cruz de Robledo, La Cruz de Anaya, Las Cruces, and Ancón de la Cruz Juan Tellez. In many other cases, a death on the trail is mentioned in the historic record, but the gravesite has not been identified. Gravesites that have been archaeologically identified include oblong piles of cobbles which may cover burials. Further survey of the Camino Real is likely to identify additional examples of this property type.

4b. Significance

Trailside gravesites are significant in that they illustrate the vicissitudes, dangers, and hardships faced by travelers along the Camino Real. Certain graves may be identified with individual deaths mentioned in the historic records. None of the graves is marked, but it is possible that the buried individual could be identified.

4c. Registration Criteria

Graves located along the Camino Real are frequently mentioned in historic records. The name of a gravesite often became the place name of the paraje. In some cases, information related to the death of an individual at a specific location is in the historic record. In other instances, deaths are mentioned in the records but locations are not specified. The oblong rock piles, cairns, or other features that have been found may indicate gravesites and can be recognized as contributing to the multiple property listing.

F.5. Name of Property Type: Battlefields and Engagement Sites

5a. Description

Battlefields and engagement sites are locations where military conflicts and Indian attacks took place along the Camino Real. The Camino was the route of military invasion and conquest during the Mexican-American War (1846–1848) and the Confederate invasion of New Mexico (1861–1862). During the invasion of Chihuahua in the Mexican-American War the Army of the West (U.S.) engaged 500 Mexican troops along the Camino Real near the paraje of Brazito on December 25, 1846. The location of this battlefield near Mesquite, New Mexico, has been tentatively established [Haecker 1997].

During the Civil War, Confederate troops from Texas invaded New Mexico (1861), following the Camino Real to Mesilla and capturing Fort Fillmore. The Confederates followed the trail north to Fra Cristobal and crossed the Rio Grande to engage Union forces from Fort Craig at Valverde on the Camino Real. The battle of Valverde was the largest engagement in New Mexico during the Civil War. After the Confederates retreated to Mesilla, a detachment of Confederate troops returned north in May 1862 along the Camino Real, crossing the Jornada del Muerto to engage the Union garrison at Paraje de Fra Cristobal [Alberts 1993:141].

Numerous accounts exist of Apache, Navajo, and other Indian attacks on travelers and caravans along the Camino Real. Most of the engagements were raids to capture livestock and goods. They usually targeted small parties. Most of these engagements took place in the area of the *despoblado* [that is, south of La Joya – see above], frequently in the Jornada del Muerto.

Battlefield and engagement sites are sometimes difficult to identify because they were typically occupied only for a few hours or days. Some of the battlefields, such as Brazito and Valverde, are well described in historic records, which include maps. Sites of battles with Indians are often mentioned in the historic records, but precise details of their locations are often unknown. Battlefields and engagement sites are usually identified by scattered bullets, cartridges, and other artifacts, but they may include other items, such as burned goods and wagons, arms, and other materials. The archaeological remnants of battlefields and engagement sites are often subtle. They are best defined where historic records and maps corroborate the archaeological findings. Some archaeological surveys have been done at Brazito and Valverde, but much remains to be discovered and recorded.

5b. Significance

Battlefields and engagement sites are important cultural properties in the documentation and interpretation of the Camino Real. The Camino was the corridor for the American invasion of Mexico in 1846 and the Confederate invasion of New Mexico in 1861. Sites of battles between Indians and whites are also an important part of the history of the Camino, illustrating the conflict among the Spanish, Mexican, and Anglo inhabitants and colonists with the Indian tribes, and the importance of raiding as part of the economy and lifeways of the

Indians. Battlefields along the Camino Real are important properties with direct links to the Camino. They qualify for nomination as sites directly associated with and contiguous to the Camino. They are also significant properties that qualify for preservation and interpretation under the American Battlefields Protection Program of the National Park Service.

5c. Registration

To qualify for nomination to the National Register as part of the multiple property nomination, battlefield and engagement sites must be linked historically to the Camino Real and must be contiguous with or in close proximity to the roadway. Reference to these battlefields and engagement sites in the historic record in direct relation to the Camino Real is one of the primary criteria for nomination. Certain engagement sites may be defined exclusively on the basis of archaeological data, consisting of bullets, cartridges, associated artifacts, or other evidence of a military engagement. Major battlefields sites associated with important military events are well documented but require archaeological evidence to establish their precise location and boundaries in relation to the Camino Real. Indian engagement sites may be defined entirely on the basis of archaeological evidence or by references in the historic record, but they must also possess archaeological integrity as demonstrated by artifacts such as bullets, cartridges, projectile points, burned goods, or associated gravesites.

F6. Name of Property Type: Fords, Ferries, and Bridges

6a. Description

The Camino Real is a desert road for most of its length, and although the obstacles presented by waterways are infrequent, the Camino and its branches cross the Rio Grande in various locations and other streams or seasonal waterways as well. Usually these crossings were simple fords (*vados*) placed in areas of shallow water or in the few locations with firm cobblestone or bedrock floors. Travelers avoided crossings in areas of deep sand (quicksand). The principal Rio Grande fords were at El Paso del Norte, where the trail crossed from the west side of the river to the east, and at Valverde and Las Barelas, where the west branch of the Camino Real joined the east branch. Other fords were located where major branch trails joined the Camino Real. Rio Grande fords were usually impassable during the spring–early summer runoff, when snowmelt from the mountains of northern New Mexico and southern Colorado caused the river to flood.

The crossing of the Rio Grande could be difficult and dangerous. In 1598 at El Paso del Norte, the Oñate caravan crossed the Rio Grande with the help of local Manso Indians. Sometimes caravans had to use canoes or flatboats and would disassemble carts and wagons to float them across the river.

The ford on the Camino Real at El Paso del Norte was later the site of the first wagon road bridge in the American Southwest. This bridge was over 500 feet long and 17 feet wide and consisted of a bed of pine logs supported by eight caissons. The bridge was built in 1798, destroyed by floods, and rebuilt in 1800. The bridge

was repaired again in 1805 and 1816. At some point it was again destroyed by floods and never rebuilt [Bloom 1925:163–182]. Another early bridge across the Rio Grande linked the Camino Real to the pueblo of San Felipe on the opposite side of the river. This bridge consisted of eight caissons built with logs and wicker filled with stone, and spanned by hewn square logs. It was described by Zebulon Pike in 1807 [Coues 1987:617, Vol. II reprint].

Bridges were sometimes built across lateral waterways or arroyos. In 1850 U.S. Army engineers built a bridge at Los Alamitos across a deep arroyo in the Rio Galisteo on the Juana Lopez Branch of the Camino Real [Macomb 1860].

Some of the fords were later the sites of ferries, flatboats that carried wagons and passengers across the river. These ferries were mostly of the territorial period, and most were built by the U.S. Army. There were ferries at El Paso, Salinera, Mesilla, Valverde, Sabino, and Barelas, and there may have been others.

Fords are the features that are easiest to identify. Roadways leading to the river identify the location of some fords. The ferries have disappeared, although some of them are illustrated in early photographs. Some remnants of bridge abutments remain. An example is the 1850 military bridge at Los Alamitos.

Further survey and study are likely to identify additional remnants or features in this property type.

6b. Significance

Fords, ferries, and bridges along the Camino Real are significant cultural properties illustrating an important aspect of travel over the trail. Since most of these locations were a named part of the cultural geography of the Camino Real, they can be linked to the historic record. These crossings illustrate how the route of the Camino Real was structured in relation to the landscape and specifically to water obstacles. Many of these fords, ferries, and bridges are the earliest examples in the Southwest of waterway crossings used by wagons and carts.

6c. Registration Criteria

To qualify for inclusion in the multiple property listing, a ford, ferry, or bridge, must be documented in the historic record or appear on historic maps of the Camino Real. The property must conform to map locations and descriptions in historic records to establish its identity. It must be identifiable on the ground. Fords may have features, such as cobble floors that are clearly cultural. They may be identified by roadways leading to the crossings. These properties may be identified by archaeological remains clearly associated with the Camino Real. Bridges may have left remnants of abutments or other structures.

A significant problem in identifying these sites is their location along waterways. They have all been affected by flooding and erosion.

F7. Name of Property Type: Estancias and Ranchos

7a. Description

Estancias and ranchos were usually small settlements, outlying the main population centers (plazas and villas). They were occupied by extended families and their associated workers, servants, and occasional slaves. These Spanish and later Euro-American settlements tended to emphasize livestock raising, but many included both agricultural and livestock operations. Settlements of this type in the colonial period were called estancias (literally, "stays" or stopovers) and sometimes haciendas, or *haciendas de labor*. Early colonial estancias were often located on land grants and were occupied by *encomenderos*, who had *encomiendas,* granted by the governor, which licensed them to oversee and tax local Indians. Some of these estancias were rather large, nearly self-sufficient communities. For example, the estancia of Thomé Dominguez de Mendoza had a population of about 93, including the encomendero and his family, various relatives, and their servants and slaves [Hammond and Rey1953:138].

Estancia buildings had large rooms, sometimes built around an atrium. There could be several or as many as twenty rooms, with outlying sheds and other structures. Some examples of colonial period estancias along the Camino Real include Valverde, Felipe Romero, Luis Lopez East [Sanchez and Erickson 2000:26], Estancia Acomilla, Estancia Las Barrancas, Estancia Thomé Dominguez de Mendoza, El Alamo, and La Hacienda de Don Tenorio.

After the Pueblo Revolt and the reconquest of New Mexico (1680–1696), estancias tended to be smaller, with fewer people, and were usually called ranchos. The term *rancho* continued into the territorial period, when some of these outlying settlements were established by Anglo-Americans along the Camino Real. Examples of post-Revolt ranchos associated with the Camino Real in New Mexico include Rancho Sabino (LA 8870), Pinos Ranch, Delgados Ranch, Martin's Ranch at Aleman, Chavez Hacienda at Bosque de Los Pinos (ca. 1830), Las Cañas, Rancho Cañutillo, Rancho Brazito, and Tiffany's Ranch.

Estancias and ranchos along the Camino Real were frequently used as stopping places and informal inns where travelers could rest and sometimes resupply or buy livestock, corn, eggs, and other products. Estancias and ranchos, isolated enclaves of Hispanics or Anglos, were vulnerable to Apache, Comanche, and Navajo attack. Some had circular watchtowers (*torreones*) in association with the compounds. Many did not last long. They are frequently noted in the historic record as abandoned ruins.

7b. Significance

Estancias and ranchos along the Camino Real were often outposts and pioneer settlements. They were important stopping and resting places for caravans and travelers and are frequently mentioned in the historic records of the Camino Real. Estancias and ranchos represent the first attempt to civilize or develop the Camino Real by

creating permanent, occupied settlements along the road. The placement of many of these settlements in the despoblado left them exposed to attack, and many were occupied briefly or sporadically. However, even the ruins of these old estancias and ranchos were a welcome sight to travelers along the trail and were used as campsites similar to the undeveloped parajes.

7c. Registration Criteria

To qualify for nomination, estancia and rancho sites must be located along the Camino Real. They must be directly linked to the use and development of the trail. Many of these properties are listed in the historic records pertaining to travel along the Camino Real and in some cases are the first phase of subsequent settlements. Sometimes the reverse happened: an estancia or rancho might be abandoned but continue in use as a paraje (e.g., Valverde). In some cases, estancias and ranchos are mentioned as ruins without specific names. Archaeological study of estancia and rancho sites shows clear evidence of European architecture and material culture, in contrast to Native American *pueblitos* of the same period. Estancia sites have large rooms, frequently built of adobe blocks, with atriums and portals, and artifacts including ironwork and Spanish-Mexican glazeware ceramics. Ranchos frequently include ranch houses that are all of one type, sometimes built around enclosures or corrals (casa-corral type). In some cases estancia or rancho sites associated with the Camino Real may be identified by archaeological evidence and close proximity to the trail.

F8. Name of Property Type: Pueblo

8a. Description

A number of pueblos or Indian villages were located along the Camino Real. These were important locations in the history of the trail and figure prominently in the historic record. These pueblos were located in the El Paso Valley, and in the Rio Abajo and Rio Arriba of New Mexico. Their people were Piro, Tiwa, Keres, and Tewa. Many of these pueblos had been occupied since the fourteenth century and were seen and described by the first Spanish explorers of New Mexico. These pueblos were the largest established settlements during the early use of the Camino.

The main motive in the early development of the northern reach of the Camino Real was to colonize the Pueblo world and to establish Spanish settlements in a region that already had towns—the pueblos—and extensive irrigated agriculture. The Franciscans built missions at many of these pueblos. In the seventeenth century, before the Pueblo Revolt of 1680, New Mexico was primarily a mission field. The missions were linked to the towns of the Mexican interior by the tri-annual mission caravan that traveled the Camino Real.

The Camino Real linked a chain of pueblos along the Rio Grande corridor. It probably followed the general route of earlier Indian trails, as we have noted. The pueblo villages in this region of New Mexico had

architecture built of coursed adobe with terraces and multiple stories and were often centered around plazas. The pueblos mentioned in the records of the Camino Real ranged from moderate buildings of approximately 20 to 40 rooms to massive pueblos with multiple plazas having well over 1,000 rooms and occupied by hundreds of people. The Spanish described the Pueblos in their accounts of the region; they portray an advanced civilization with complex social and religious organization, irrigation works, elaborate architecture, painted wall murals, excellent ceramics and other arts, turkey husbandry, and ornate dress and costume.

Pueblo Indian villages along the Camino Real included Socorro del Sur, Isleta del Sur, Senecu del Sur, Los Tortugas, Senecu, San Pascual, Qualacú, Alamillo, Pilabo-Socorro, Teypama, Sevilleta, Isleta, Alameda, Puaray, Old Sandia, Sandia, San Felipe, Kewa (Santo Domingo), La Bajada, Cuyamunque, Tesuque, Ohkay Owingeh, and Yunque.

8b. Significance

Most of the pueblos identified in the historic records of the Camino Real have been located and documented by archaeological survey. These pueblos are significant both as sources of information about prehistoric and historic Pueblo culture and as components of the Camino Real. The inclusion of these properties in the multiple property nomination recognizes the role of Native Americans in the history and use of the Camino Real.

Although this nomination refers to living pueblos, such as San Felipe and Santo Domingo, it does not nominate them. Living pueblos may be listed individually in the National Register of Historic Places by consent of their own governments. This MPDF includes only the historic (abandoned) pueblos of Qualacú and San Pascual.

8c. Registration Criteria

To qualify as a property associated with the Camino Real, a pueblo must meet the following criteria: (1) it must be located on the Camino Real, so that road segments are near to the pueblo or articulate with it; (2) it must be mentioned in the historic record, or identified on maps of the Camino Real, and must figure in the history of the Camino; and (3) it must be associated with the period of significance (1598–1881). Pueblo villages that postdate the period of significance and those that are inhabited today would more appropriately be part of a thematic group of Pueblo villages of New Mexico and Texas. However, discrete or separate components of these villages that date to the period of significance (1598–1881) may qualify for inclusion in this MPDF. Examples are Old Sandia and the Old Socorro Mission site.

F9. Name of Property Type: Encampment/Activity Area

9a. Description

These properties are locations along the Camino Real that exhibit archaeological evidence of encampments or other activities associated with the Camino. These archaeological sites consist of concentrations of historic artifacts with or without associated hearths and may include other features, such as rock enclosures, corrals, cairns, forges, cargo dumps, and graffiti panels. Encampment sites are sometimes associated with campfires (hearths), but some artifact concentrations without hearths may also have been the location of camps. Encampments and activity areas are not named in the historic records, in contrast to parajes, and may occur at any location along the trail where travelers may have stopped to rest and camp, repair gear and equipment, or visit with other travelers.

Encampments and activity areas are identified only in the archaeological record, not in the historic record. These archaeological sites must be located in proximity to the Camino Real and date to the period of significance (1598–1881). Examples of encampment sites and activity areas identified along the Camino Real include the Thorn Well artifact scatter (LA 80078), Rincon south hearth (LA 80076), Point of Rocks camp and forge (LA 80062), Point of Rocks enclosure (LA 80061), Yost olive jar scatter (LA 80053), San Diego North Fork glaze scatter, and Las Bocas Canyon entrance site (LA 80006) (Marshall 1991a).

9b. Significance

Encampment sites and activity areas represent much of the unnamed and historically unreported use and activity along the Camino Real over 300 years. In order to be identified as an encampment or activity area, these locations must exhibit some archaeological evidence of use associated with the Camino Real. In many cases, activities along the Camino Real are without physical evidence or are defined by a light scatter of artifacts along the trail; archaeologists sometimes call these places “background noise.” This light scatter of trailside artifacts is considered part of the actual roadway and is included in the nominations of the roadway sections and segments. Encampment sites and activity areas are significant when they illustrate the use and history of the Camino Real.

9c. Registration Criteria

In order to qualify as a Camino Real encampment site or activity area, these properties must be located in close proximity to the Camino Real and must exhibit archaeological evidence of use dating to the period of significance (1598 to 1881). These archaeological sites have the potential to yield information important to understanding the development and use of the Camino Real. They also illustrate the day-to-day use of the Camino Real and the experiences of travelers along the road. Archaeological definition of these sites, with site maps and photographs showing their location in relation to the Camino Real, site boundaries, any features within the sites, and an inventory of any artifacts present in the area of the site, are requisites for registration.

H. Summary of Identification and Evaluation Methods

The multiple property listing of the Camino Real in New Mexico is based primarily on a study completed by Michael P. Marshall [Marshall 1991a, 1991b], supplemented by additional archival research and field reconnaissance done for this nomination. Identification of the route of the Camino Real began with a comprehensive review of historic documents and maps spanning its entire history, from 1598 to 1881. These materials provided information about construction and use of the route as well as mention of specific parajes, settlements, and landmarks. Based on this research, the approximate location of the Camino Real was plotted on 1:100,000-scale topographic maps and preliminary study corridors were defined.

The second phase of the identification process involved careful inspection of existing aerial photography, including the 1934 to 1936 Soil Conservation Service imagery. This permitted recognition of many physical traces that were potentially segments of the Camino Real. We also searched the Museum of New Mexico's Archaeological Records Management System (ARMS) during this phase to define the locations of all known historic sites along the route. In this way, suspected segments of the Camino Real could be plotted in detail on 7.5-minute topographic maps and aerial photographs.

The third phase of this project involved archaeological survey and recording of individual trail segments. Using annotated topographic maps and aerial photographs, the authors located the physical traces of the route on the ground and walked their entire length several times, covering an area approximately 100 meters on each side of the road. Notes were made about the physical expression of the various segments, as well as artifacts that document periods of use. This was essential to ensure that identified trail segments were authentic traces of the Camino Real. During the most recent field reconnaissance, we revisited previously recorded trail segments to obtain precise locations using geographic positioning system (GPS) instruments, a technology that was not available during the earlier study.

The geographic extent of this multiple property listing was defined primarily on the basis of historic documents and maps and was restricted to the official route linking the seats of government in Mexico City with the provincial capital in New Mexico. The intent was to include portions of the transportation system that were customarily used for regional transportation and communication, as opposed to segments that were of mainly local importance. The period of significance begins with the earliest historical descriptions of long-distance travel along the route and ends with the construction of railroads, which largely supplanted the Camino Real.

The four historic contexts were determined in sequence. The literature of the Camino Real is extensive. The Camino may appear, over the course of some three hundred years, to be an indispensable element of almost every aspect of New Mexico's history. The purpose of the contexts is to organize that history with the greatest efficiency consistent with an adequate explanation of all the related elements of the Camino.

(1) The first context, the geography and natural character (physical character and setting) of the road contains and describes the road as a physical phenomenon. The road for the most part followed a path or paths of least resistance. It was dictated by geography, weather, and other natural phenomena such as the availability, or lack thereof, of water. Accordingly, the physical history and character of the road are the first consideration and afford an explanation of key historic events.

The other contexts define and describe the uses of the road.

(2) The road was created by invaders, explorers, and colonists. These events and initiatives both explain and are explained by the road as a physical phenomenon.

All other aspects of the road appear to be subsumed in the categories of (3) social, political, cultural, and (4) economic and commercial events. We developed the contexts as a means of explaining and defining all these phenomena. Organizing them was a matter of trial and error. When the categories appeared adequate to take in all aspects of the history of the Camino, we concluded that there was no need to develop more; efficiency and clarity were the main considerations. At the same time, we had to determine that nothing significant was left out. The materials that we have placed in the third and fourth categories were so extensive as to present problems of organization. We divided them into two groups: (a) social, political, and cultural, and (b) commercial and economic. This was another process of trial and error, in which the question was how to achieve a full description and analysis in the smallest practical number of contexts. Again, this organization proved adequate. Subdividing it further had the effect of separating related phenomena and thereby preventing a comprehensible explanation while at the same time causing needless repetition. Once we reached this point we did not make any further attempt to subdivide the contexts.

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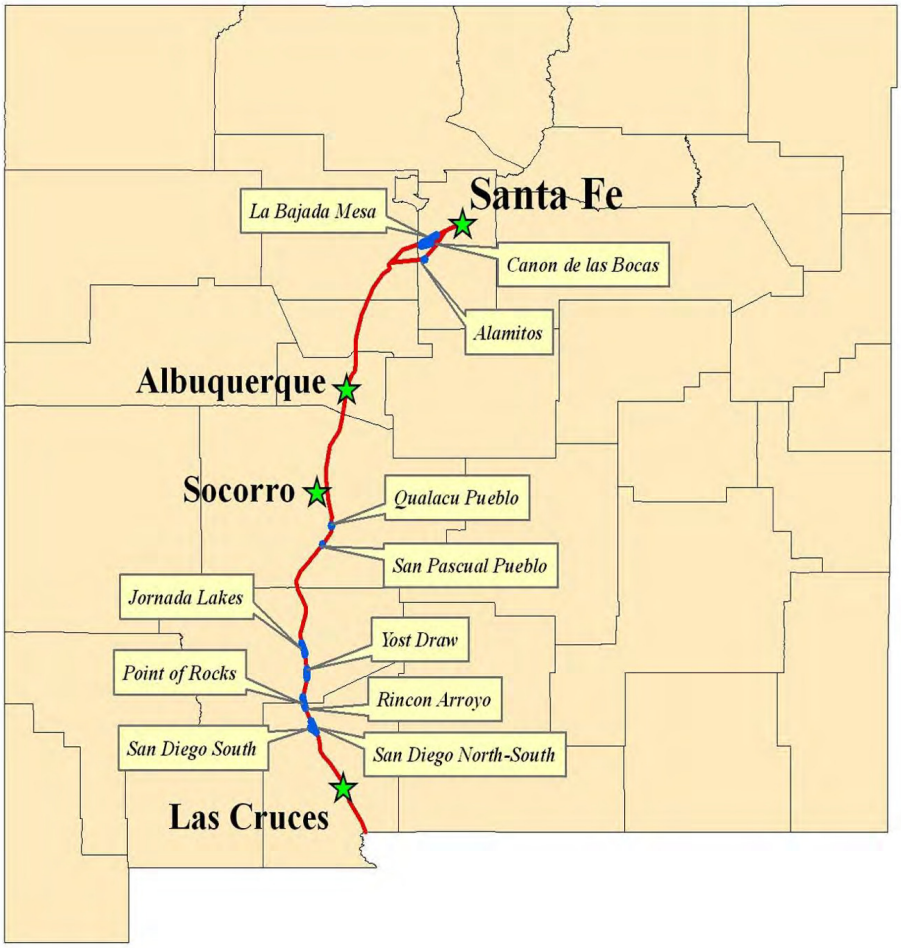
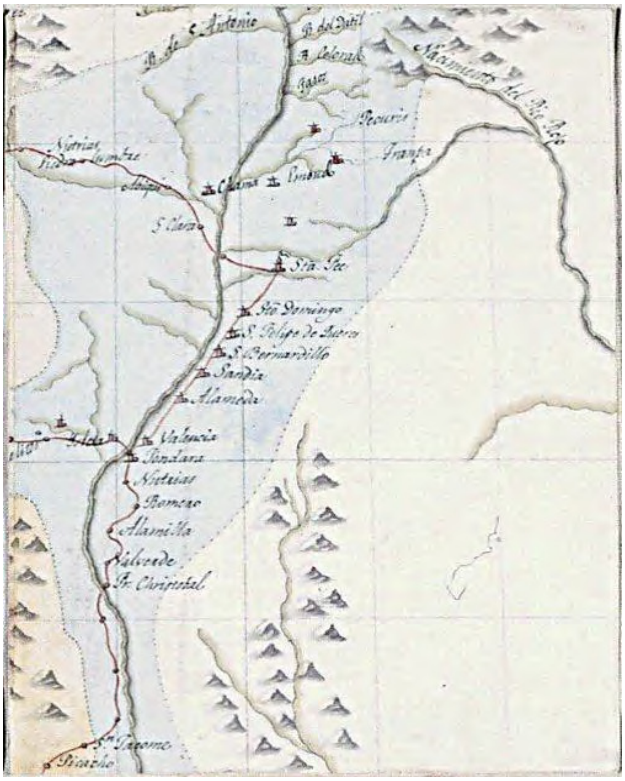
J. Maps



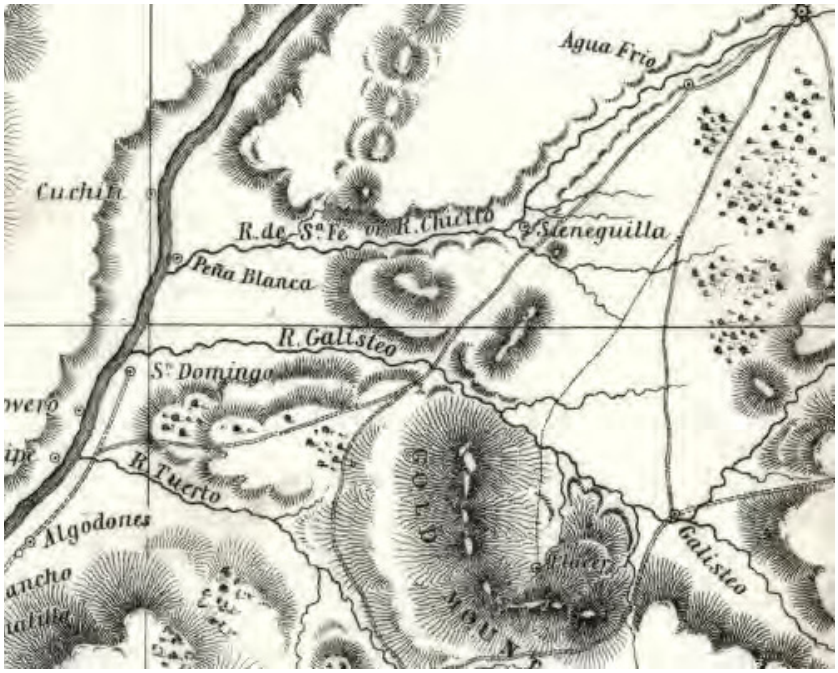
1. Map of the state of New Mexico showing the sections of the Camino Real referenced in the attached National Register nominations.



2. Section of a 1779 map showing the Camino Real between Santa Fe and Fra Cristobal.

Carta o mapa geografico de una gran parte del Reino de Nueva Espana, comprendido entre los 19 y 42 grados de latitud septentrional y entre 249 y 289 grados de longitud del meridiano de Tenerife, formado de orden del Exmo. Sr. Bo. Fr. Dn. Antonio Maria Bucareli y Ursua par indicar la division del Virreinato de Mexico y de las Provincias internas erigidas en Commandancia General en virtud de Reales Ordenes el ano 177[*sic*]. Construyola el Engeniero Dn. Mgl. Costansó y vá aumentado con varias noticias que adquirió en sus viages á dichas Provincias el Ingeniero Ordinario Dn. Manl. Mascaró

Photograph by Thomas Merlan and Frances Levine from an original copy in the Archivo General de Indias, Seville, Spain.



3. Section of Lt. James W. Abert and W. G. Peck's 1846–1847 Map of the Territory of New Mexico showing the Camino Real in the area of La Bajada, Cañon de las Bocas, and Alamitos segments. In *Report of Examination of New Mexico in the Years 1846–1847.* Senate Executive Document 23 (30th Congress, 1st Session, Serial 506). Washington, D.C.