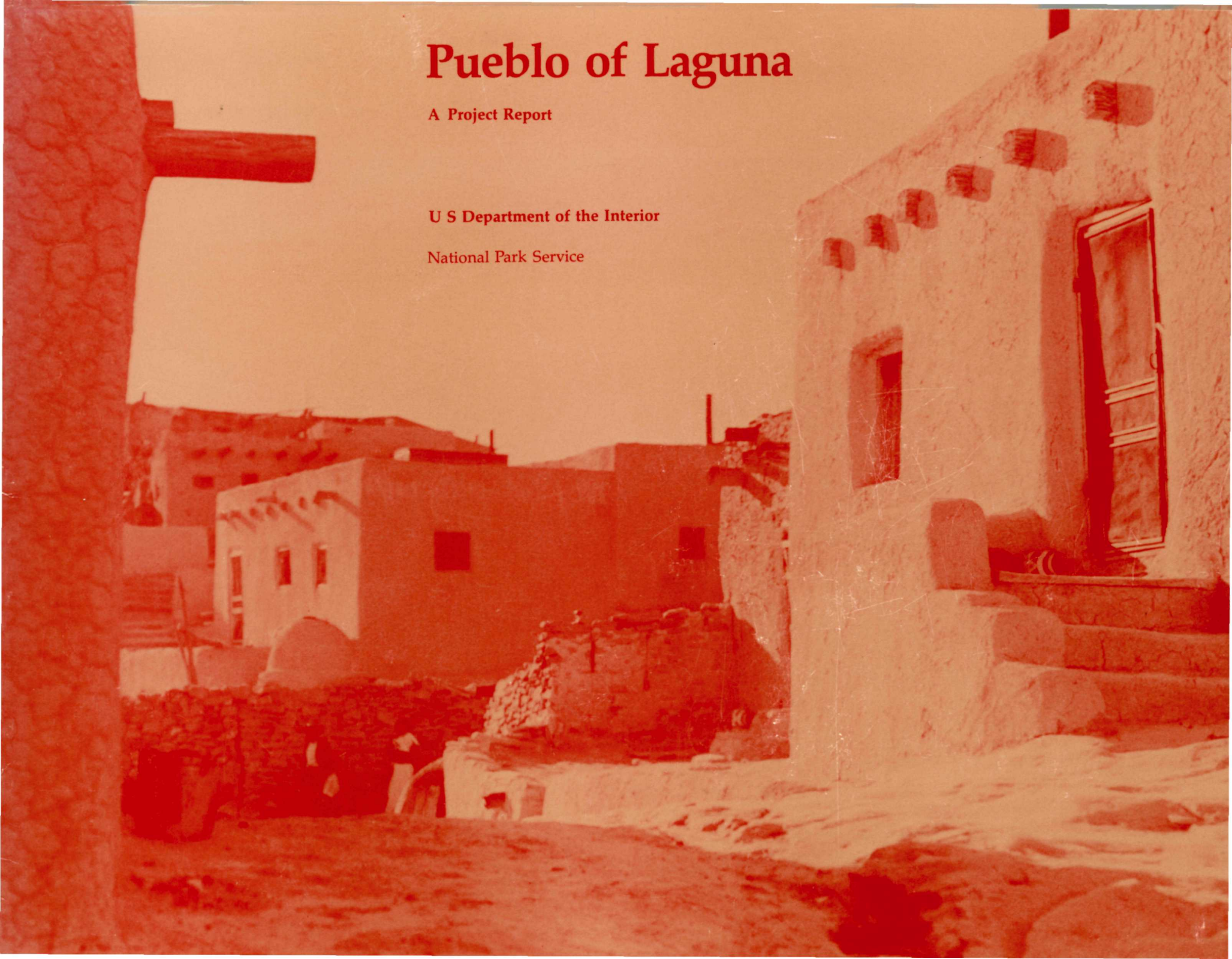


Pueblo of Laguna

A Project Report

U S Department of the Interior

National Park Service



Cover: Historic View of Old Laguna
Courtesy of the Museum of New Mexico

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Pueblo of Laguna

A Project Report

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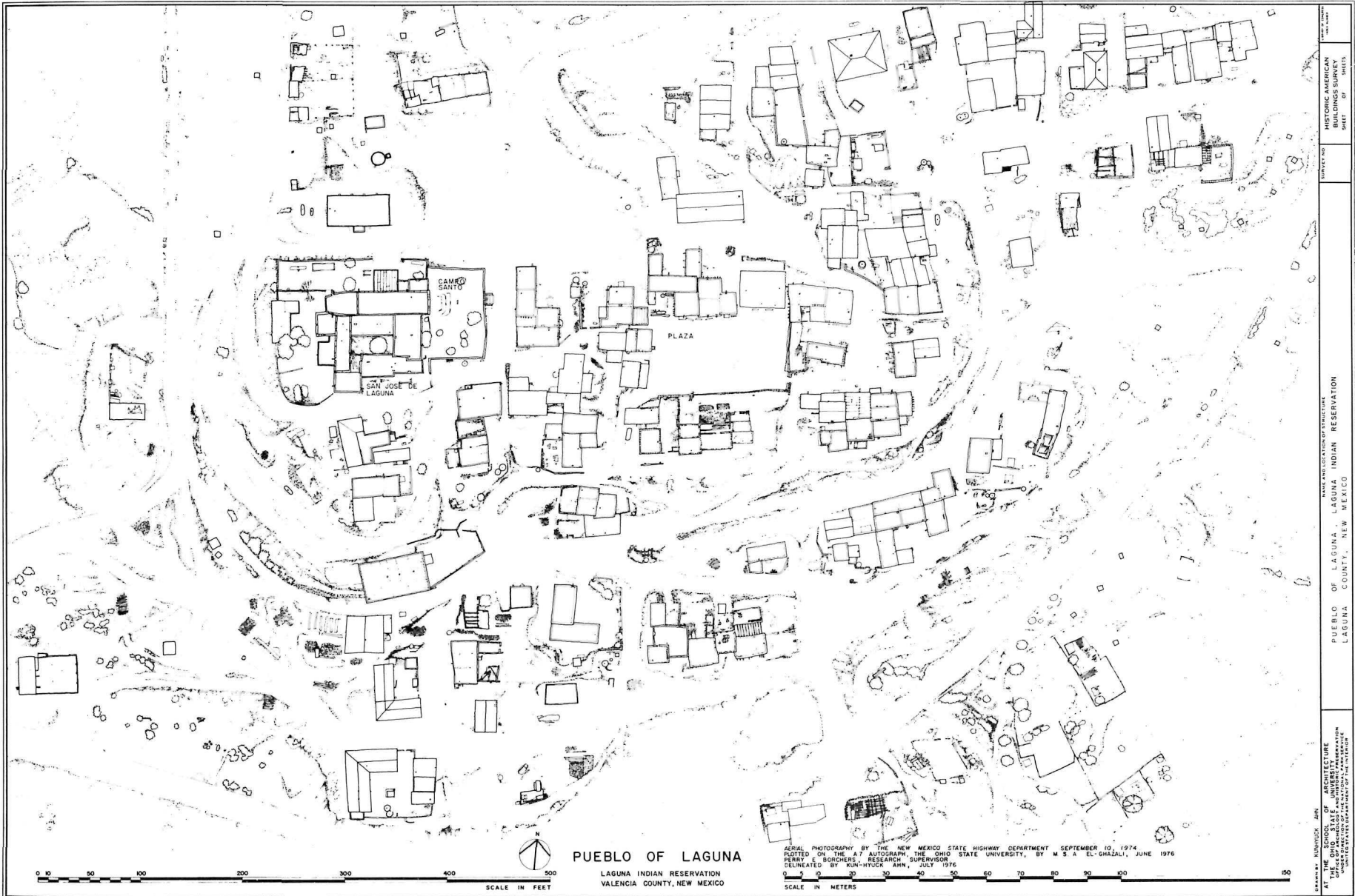
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PUEBLO OF LAGUNA
LAGUNA INDIAN RESERVATION
VALENCIA COUNTY, NEW MEXICO

AERIAL PHOTOGRAPH BY THE NEW MEXICO STATE HIGHWAY DEPARTMENT, SEPTEMBER 10, 1974.
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 BUILDINGS SURVEY
 SHEET 30 OF 30 SHEETS

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No revitalization effort can succeed without the interest and support of the citizens of the community. The Laguna Pueblo Rehabilitation Project was no exception to this rule. The team owes a very great debt to individuals far too numerous to mention by name. Our deep appreciation is extended to all the people of the Laguna Pueblo for their assistance during our working hours and for the welcome they gave us, allowing us to belong for a time to a very special community.

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Narrow paths between the densely packed residences highlight the striking contrast between intensive pueblo land use and the openness of the surrounding terrain.

Laguna: The Place

The date most often given for Laguna Pueblo's settlement is 1699 based on the establishment of the San José de la Laguna Church. Laguna oral tradition, backed up by archeological studies made during the past 30 years, argues that the area was occupied long before the coming of the Spanish Catholic fathers who built the church. The many archeological sites found on the Laguna reservation tell of a people whose lifeways have been shaped by migration and associations with other Pueblo people.

In 1699, the valley of the Rio San José, where the pueblo stands today, had long been inhabited by the Laguna people. The archeological record suggests the main village, known as Old Laguna, may have been occupied as early as 1400 A.D., perhaps even earlier. One traditional explanation tells of splinter groups from Acoma and Santa Ana Pueblos joining forces to create a new group, now recognized as Laguna. A variation of this theory is that Indians from Hopi and Mesa Verde, driven out of their Black Mesa and San Juan homes because of drought, combined with Indians from Santa Ana and Acoma to form Laguna sometime in the 13th century. A third tradition holds that the early Lagunas emerged from the Shipap'u, in the fourth world, looking for their appointed home. Accidentally, they bypassed their intended location and went all the way to Acoma. In time, they recognized their mistake, and a group left Acoma to settle further north.

Archeologists studying the origins of Laguna have looked to the traditional explanations and found support for them in the archeological record. A site called Punyana, on the southwest corner of an old lakebed adjacent to Laguna, shows the remains of a 140-room pueblo. Fragments of Acoma and Mesa Verde pottery dating to the late 13th century,

and found there in significant numbers, and at Old Laguna village as well, confirm the oral tradition. Although their studies have been far from exhaustive, archeologists have found evidence of a great many habitations scattered over the Laguna reservation. The sites represent a wide range of types and eras as well, from Paleo-Indian settlements, to Punyana, to small sheepherding camps like the ones still used today.



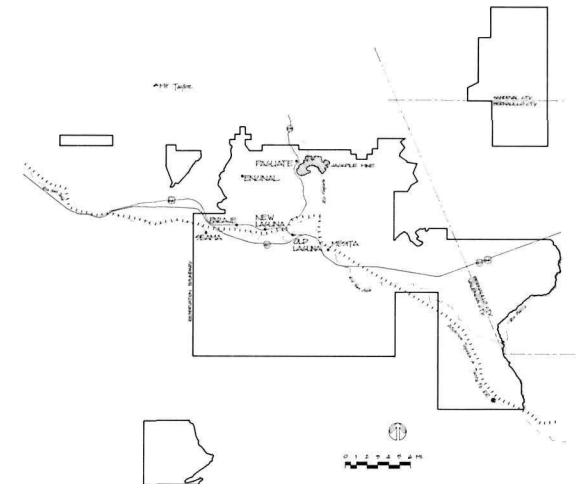
San José de la Laguna Church in the early 1900s, prior to major renovation and application of concrete stucco. Courtesy of the Museum of New Mexico.

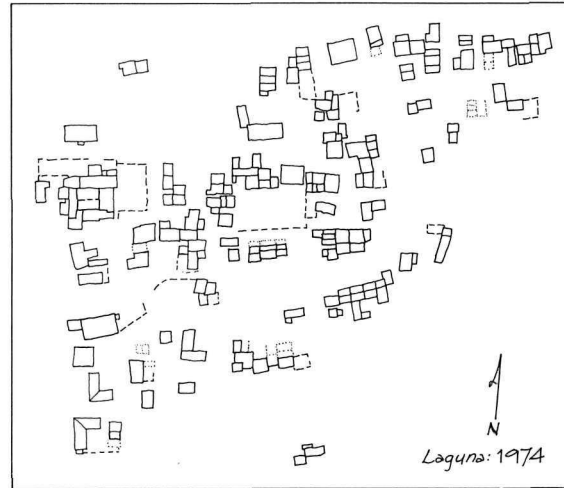
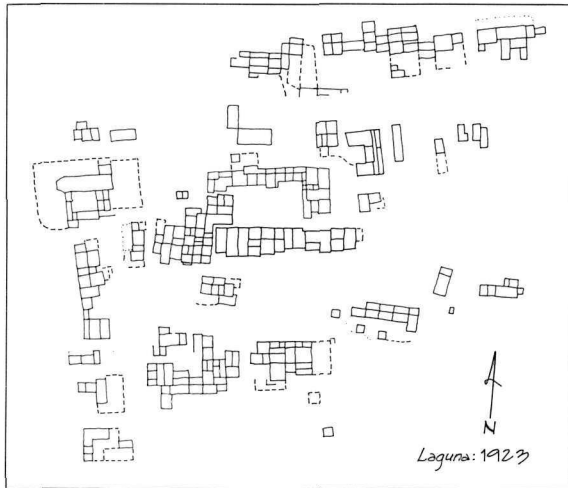
Modern life at Laguna is concentrated in the six main villages of Old Laguna, Paguatē, Mesita, Seama, Encinal, and Paraje. Because of the historical pattern of many small settlements, it is difficult to know precisely when these villages were first formed. Descriptions of Laguna and Paguatē, which suggest they may have existed as the main villages, date to the mid-1600s. In 1776, Laguna was described as a church and convent with seven clusters of dwellings surrounding a ceremonial plaza. Most of the old houses are freestanding now;

the old ring pattern is only faintly suggested. The smaller villages developed as seasonal farming and herding sites and were not occupied permanently until much later. It is also likely that during the 1700s, when Navajo and Apache raids became a serious problem, Lagunas living in isolated settlements moved to the larger, more defensible towns for protection. There is still a watchtower standing in Paguatē, and photographs from the late 1880s show another, this one in ruins, standing in the northwest corner of Old Laguna's plaza. From these towers, a sentry could spot invaders while still a great distance away and warn the villagers in time to bring their families and livestock together for protection. These watchtower, along with the siting and forms of the villages and the homes, are physical evidence of a time when Lagunas used their architecture to meet their defensive needs.

The need for protection, however, is only one reason among many for the particular ar-

Current reservation boundaries.





Plan views of Old Laguna illustrate the progressive deterioration of the original "seven clusters" of dwellings described by Fray Domínguez in 1776. The 1923 view is adapted from Elsie C. Parsons' *Laguna Genealogy*. The 1974 view is adapted from Perry Borchers' photogrammetric interpretation.

rangement of the village structures and the architecture of Laguna. Villages were sited with practical consideration for subsistence as well as for defense. They were placed in locations with favorable soil and geology and with natural boundaries such as rivers and mesa tops.

Prehistorically, small farming settlements evolved from round pithouses, simple shelters dug into the earth. The round form changed to oval, and then to rectangular, with the original round shape often retained for ceremonial purposes. Some of the villages changed further, evolving into the classic C- and D-shaped pueblos, like those at Chaco Canyon or Aztec in northern New Mexico. These large pueblo towns were located on rivers and streams which provided irrigation for the crops necessary to support large populations. At Laguna, the Punyana settlement was representative of this period of Pueblo culture which reached its peak during the 12th

through 14th centuries. With some variation, it is a form that remains in the 19 inhabited pueblos in New Mexico. The classic pueblo form experienced additional alterations. The Hispanic influence became important, and, continuing through the 19th and 20th centuries with the influence of the Anglo-Americans, the architecture of Laguna Pueblo incorporated selected elements from those outside cultures. What stands today as characteristic Laguna architecture is a blend of traditional forms and newer additions, a reflection of the people themselves.

While they share a common tradition of building technology and materials, each of the villages has its own look. Some of the variety stems from their setting in different parts of the reservation landscape; sometimes it derives from the type of stone or the color of the mud plaster used; at other times, the difference evolves from historical function.

In order to devise a plan that could be adapted to fit all of the communities, the communities were all analyzed with reference to a number of visual and spatial qualities. When described according to siting, form, orientation, visual focal points, and building mass, patterns begin to emerge. Of the six main villages, the four oldest—Old Laguna, Paguate, Mesita, and Encinal—possess similar characteristics. The two younger villages, Paraje and Seama, have patterns and characteristics of their own.

The basic form of the four older villages is similar to the patterns seen in their prehistoric forerunners. They were built with an eye to military defense and function and they express the religious and social needs of the community. The four older villages are all sited on top of hills or mesas. Their boundaries are sharply delineated on two or three sides by the terrain, and views from the village are directed outward over the mesa's edges. Homes are built close to the edges. Where the hillside or mesa becomes steep, the village ends. Newer growth occurred naturally away from the physical barriers, and there the settlement edges are less well defined. Such an arrangement protected the residents from easy attack, since enemies would have to approach uphill. Because of the long, undisturbed views permitted by the siting, the Lagunas could generally see the oncoming threat and prepare for defense in time.

Looking toward each village, the church forms an important focal point and occupies a high and visually prominent position. The ceremonial plazas in the older villages are also situated in important positions, but they are not easily seen from outside the village. A visitor might never know they exist. The plazas are located in the physical and spiritual center of the communities, surrounded by closely set



This historic photograph of the east end of Old Laguna illustrates the blend of pre-Hispanic pueblo survivals, Spanish hand-crafted detail, and territorial-era influence that composes "traditional" Laguna architecture. Courtesy of the Museum of New Mexico.



Once used in the defense of the village, years of neglect and vandalism have left little more than a ruin of the Paguate watchtower.



Home life and subsistence activities are often one and the same for the Laguna extended family. Both interior and exterior spaces are used to advantage. This historic photograph shows the home as a living, storage, and preparation area. Courtesy of the Museum of New Mexico.



Use of exterior space is shown in this historic photograph of one of the few extant multi-storied structures in Old Laguna. Small, loosely defined areas alongside the home were, and are, used as storage areas for firewood and tools, and for bread ovens, which are located downwind from the house. Besides their use as "observation decks" for dances, roof terraces were used for drying meats and vegetables, for grinding corn and clay, and as a hot weather sleeping space.



One side of this building, one of the few remaining tiered structures in Old Laguna, faces inward to the ceremonial plaza. When the building was in good condition, the roof was a favorite spot from which to watch dances. Roofs on the other side were a good place to grind corn or dry fruits and vegetables.

View across plaza in Mesita. A newer Laguna village, at the base of a mesa, Mesita is sited with less concern for defense.



Farming was once a mainstay of Laguna subsistence. This c. 1925 photograph of a corn field, now fallow, at the edge of Paquate, is representative of early patterns of local economy. Courtesy of the Museum of New Mexico.





View to west end of plaza in Old Laguna—today, and reconstructed from c. 1880 photographs. The San José de la Laguna Church rises over the western elevation. During ceremonial days the bancos along the plaza walls and the rooftops are filled with people observing the plaza activities.

buildings that protect the privacy traditional Indian ceremonies require. Like the pueblo houses, plazas sit squarely on the east-west axis. During dances and celebrations, the roofs of the surrounding houses are favorite viewing positions. Some plazas have low walls as well, with *bancos*, or wallbenches, built along the inside. The physical placement of the churches and plazas within the village core mirrors the Lagunas' attitude toward the coexisting Christian and Indian religions. Both are part of the culture and most Lagunas adhere to elements in each religion. While Christianity is global, however, the Laguna religion is uniquely their own, and its traditions and rituals are closely guarded.

The early economic activities of the pueblo, farming and herding, were organized around the village according to the time, area, and attention they needed. The oldest homes surround the plazas, the newer ones were built in rings or clusters emanating outward from the village centers. The farmlands along the flood plain of the Rio San José are set away from the residences. Historically, different types of farming ringed the villages. Moving outward, first came irrigated farming, dry farming next, then horse and cattle grazing, and finally sheep grazing. Small sheep camps for seasonal use lay some distance from the permanent settlements. This pattern allowed Lagunas more convenient access to those crops and herds that needed more frequent attention. The mesa-top siting and concentric rings of development, which characterize the older villages came from an earlier pueblo tradition which expressed concern for practicality and military defense.

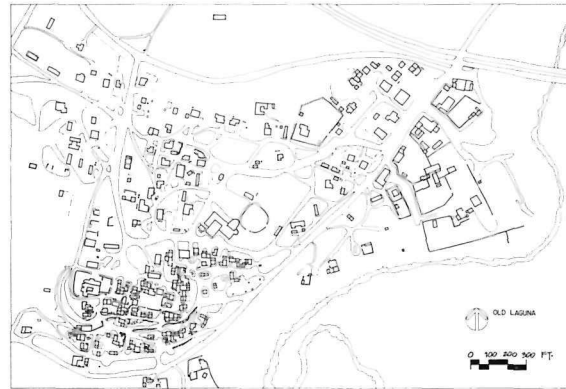
The route of the Rio San José bisects the reservation, bringing it into contact with most Lagunas. Over time, its role in the life-ways of the Laguna people has changed. Still, aesthetically, culturally, and economically it remains a strong source of identification for the pueblo.



Old Laguna

Again, each village is an expression of Laguna life and its expectations. The main village of the reservation, Old Laguna, sits at the top of a hill about 45 miles west of Albuquerque. As one approaches the village, or passes by it on Interstate 40, attention is drawn first to the San José de la Laguna Church, standing out brilliantly white at the peak of the hill. Farther down the hill is the Laguna Tribal Office Building, larger and more modern than the buildings surrounding it.

The village has two main entry roads, one from the northwest, the other from the southwest. The northwest road runs along the ridgeline between outlying flatlands and the northern edge of the village. From this vantage point, there are views in all directions, down into the village and off into the distance toward New Laguna and beyond. The southwest entry is marked by a concentration of commercial establishments: two stores, two gas stations, a post office, a laundromat, and the Tribal Housing Authority. The sense of ar-



Old Laguna plan view.

rival is stronger from this direction than from the upper road but still indefinite. It is not until reaching the Tribal Office Building, with its large parking area, that one arrives at a clear stopping point.

The outer village lies east of the northwest access road. It is low lying and affords few

vistas except toward the church and Tribal Office Building. The individual structures in this area relate only loosely to one another and lack an overall unity. By contrast, the inner village is well focused and forms a unified architectural entity for religious and functional reasons.

When the Atlantic and Pacific Railroad ran through Old Laguna, its roadbed formed an edge between the inner village and the riverfront. The old track bed is now a road which runs along the back of the village. From here, views turn outward to the river below, the interstate, and the mesas in the distance. The few structures that stand below the old railroad grade are generally storage sheds and corrals. They relate to the flatlands, which open out to the west of the village, formerly farm and grazing land.

Old Laguna houses much, though not all, of the reservation's commercial and institutional activity. At the entrance to the village, where the stores and services are, there was once a mill and trading post, a water tower, and other structures used by the railroad. Just

Three views of Old Laguna from the south. Top to bottom: late 1800s, 1930s, and 1979. 1800s and 1930s views courtesy of the Museum of New Mexico.





Early in the 20th century, in addition to the passenger station, water tower, and other structures associated with the railroad, the commercial area of Old Laguna boasted a grain mill and a number of stores.

across the road, a cluster of public buildings comprise the institutional area. Visually, tall elm trees set this area apart from the rest of the village. The old day school and teacher's quarters are now a library and headstart school. Next to the library is a new social service center. In the late 19th and early 20th century, this area was the hub of Laguna's activity with Anglo-Americans. The few houses in this part of the village were meant for the teachers and traders—all Anglos—who made Laguna their home. Then, as now, it was imperative to maintain a distinction between the public parts of the village and the more private residences and religious areas.

Old Laguna's special sense of place is strongest in the inner village. The scale of the community here is close and intimate. Views unfold gradually as one walks about. The brown and beige colors of the stone and plaster and the soft outlines of the old houses set the overall tone for the village. Its defensive needs in its distant past created a built environment that strengthens the sense of well-being.

The newer villages of Paraje and Seama have very different patterns of siting, orientation, and form, differences that suggest changes in the patterns of Laguna life. It is

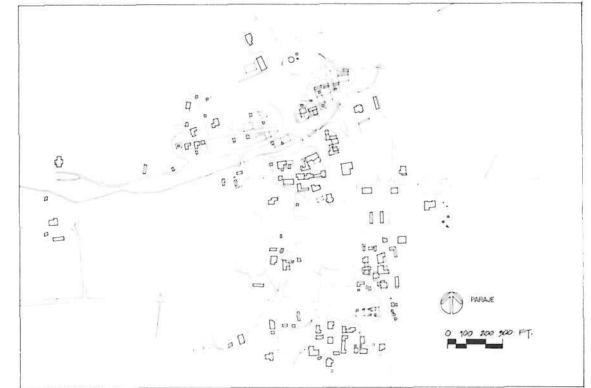
likely these villages began as seasonal farming settlements which were left vacant during the winter months. They are not strategically located and lie low on the Rio San José floodplain, nestled close to the base of their respective mesas. While the agricultural areas of the old villages lie apart from the residences, at Seama and Paraje they are close by. Paraje's farmlands are interspersed between clusters of homes and Seama's begin at the edge of the main village.

Paraje

State Road 124 cuts through the reservation, roughly parallel to Interstate 40 and in some places along the line of old Route 66. Paraje is located on the north side of 124, about half way between Old Laguna and Seama. It sits on a plane that slopes gently to the base of a mesa, which forms a backdrop for the community and defines its northern edge.

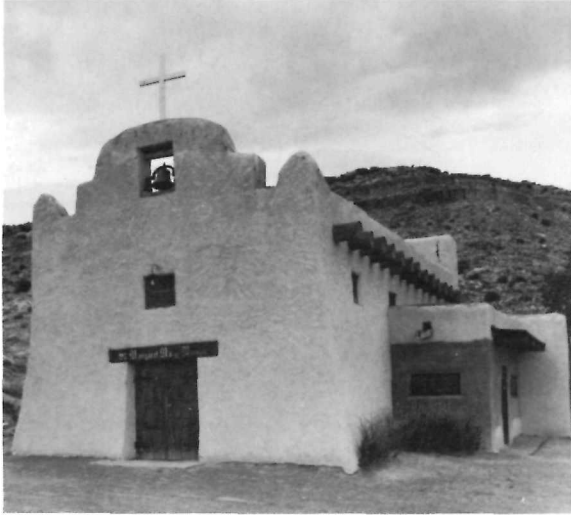
Where the older villages are essentially circular in plan and orientation, Paraje is strongly linear. Four small clusters of buildings are located along either side of its main axis. The visual focal point is the Paraje church, situated across Encinal Creek at the

Paraje plan view.



View across the plaza in Paraje.

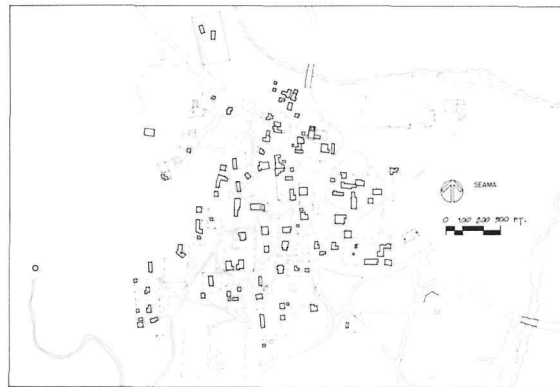




Church in Paraje.

Seama

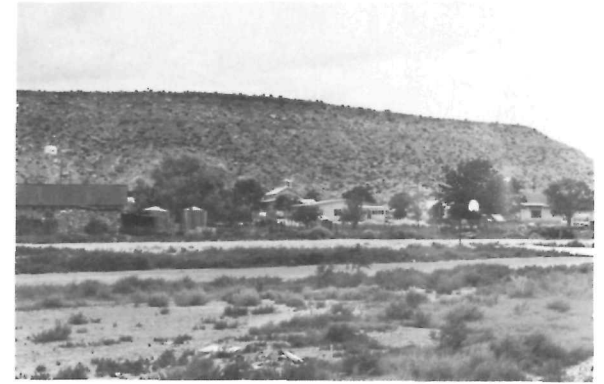
Seama is the westernmost of all the villages. It is situated at the base of the Seama mesa, on the south side of Interstate 40 and the Rio San José. A water tank perched above the community is the only landmark visible from a distance. Until one gets quite close to the village, the buildings seem to blend with the surrounding landscape. Like Paraje, Seama is sited on low land, rather than on top of the mesa, but it is the loose structural fabric of the village that makes it most distinctive. It does not conform to either the concentric pattern of the older villages or to the linear pattern that defines Paraje. This looser fabric gives it both an air of openness and a sense of disorganization. The visual disunity is compounded by the variety of building materials and types of structures that make up the village. Stone structures have been covered by both cement and mud plaster, and new construction stands alongside traditional homes.



Seama plan view.

foot of the mesa. A few years ago, the construction of a new community building directly in front of the church interrupted the continuous view along Paraje's strong north-south line.

Although the four building clusters all branch off the central spine of the village, they also exist as distinct entities. The clusters are separated by gardens and open space, and the houses are grouped around small plazas. This pattern suggests a farming community which perhaps grew from the extended families of the original settlers. As families expanded with successive generations, they built additional houses close to their ancestral homes. The church, situated apart from the residential area of the village, was not built until the mid-1930s, suggesting that Paraje was not always a permanent settlement.



View through Seama.

The geographic center of village activity is the Catholic church, one of the few tall structures and one of the few visually prominent points. The community building is located behind the church, adjacent to an open plaza. The ceremonial plaza for Seama is slightly removed from the center of the village. While neither plaza is shielded by built-up homes as they are in other villages, the ceremonial one is located in a somewhat more protected area.

The edges of the village are not clearly defined. To the west a few houses overlook the main village from the hillside. To the north and east the concentration of buildings tapers off toward open land and the road. The openness of Seama's plan allows long, unobstructed views outward from the village to the surrounding mesas.

Laguna: History

Laguna has long had a reputation for being more “progressive” than other pueblos. Progressive was originally used by Anglo-Americans because their dealings with Lagunas were fairly easy, but the Lagunas also use it to distinguish themselves from their more traditional, conservative Pueblo neighbors. Most of these neighbors would agree. The people of Laguna have shown a remarkable ability to selectively adopt elements of other cultures. With discretion they have been able to change, modernize, and improve the quality of their lives, without losing the special characteristics of pueblo life.

Laguna’s earliest contact with non-Indians was with the Spanish in the 16th century. History of the Spanish conquest has generally treated the Pueblos as a group and not as individual tribes. It is a history marked by cruelty and the near-complete dominance of the Spaniards over the Indians. With the exception of a few minor rebellions and the short-lived freedom following the Pueblo Rebellion of 1680, the Pueblo Indians lived under the political, economic, religious, and civil repression of their conquerors as administered locally by the Catholic fathers.

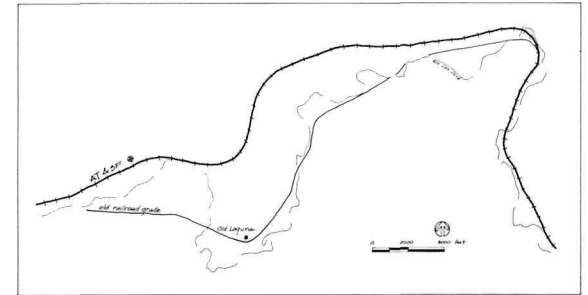
When Mexico gained its independence from Spain in 1821, New Mexico became one of its northern provinces. Under the revolutionary regime, many reforms were declared. New Mexico was long way from the capital, however, and the reforms seldom reached that far. Local priests maintained their authority over the Indians. Although it had originally been imposed by force, Catholicism became a part of the local culture at Laguna and other pueblos. For the most part, native religion became covert, but did not die out. In fact, maintaining Pueblo religious traditions has helped the Lagunas to preserve their identity as a people.

The United States assumed control of the Southwest in 1848, as a result of the Mexican American War. In the wake of the American victory came some of the most dramatic and lasting alterations on the Laguna way of life. The United States military, followed by surveyors, traders, engineers, and settlers, all brought with them new ideas, new technologies, and the seeds of a new kind of economy.

When the Americans arrived, there were only the two permanent villages of the pueblo, Old Laguna and Paguate, and scattered sheepherding and farming settlements dotting the landscape. In the mid-1860s, the military contained the Apaches and Navajos, whose periodic raids had long plagued the pueblos. More permanent villages began to spread out from the original two. The suppression of the nomadic Indians also made New Mexico a more hospitable place for American traders. Under the traders’ influence, Lagunas began to change their subsistence economy to a more market-oriented one. An actual cash economy was still many years away, although some money was occasionally used for exchange. Gradually, many Lagunas became farmers of a particular crop for trade and depended less on raising all their own food; others concentrated on raising livestock, also for trade.

In the early 1880s, the Atlantic and Pacific Railroad—later to become the Atchison, Topeka, and Santa Fe—constructed a line that ran through Old Laguna. The exact reason the company decided to locate in Laguna is not clear. Certainly the topography was favorable there, but it is likely Robert and Walter Marmon, Laguna’s first Anglo governors, negotiated with the railroad for the location.

Walter Marmon originally came to New Mexico to survey and plot the Navajo reserva-



Before the track was realigned in 1912–1913, AT & SF trains ran past the South Prairie Block.

tion for the government. In 1871 he came to Laguna, again employed by the United States government. A few years later he was joined by his brother, Robert. The two became prominent members of the community, married into Laguna families, and set up a trading post and a school. They were accepted by a majority of Lagunas and both were elected governor, Robert in 1880 and Walter in 1886.

Their influence on the pueblo was immense. Their staunch adherence to Presbyterianism brought about the conversion of many Lagunas but alienated others. When Robert, then governor, ordered the destruction of two ceremonial rooms, or kivas, a number of Lagunas moved out of the old village and began a new one. It is likely that the Marmon brothers were also largely responsible for the persistence of a progressive and adaptive attitude among Lagunas and acted as intermediaries between the Pueblo and the Anglo worlds. Their part in Laguna’s agreement with the railroad company probably protected, and possibly even enriched, the quality of native life.

When the railroad was first built, a traveler’s guide of the 1890s wrote, rather condescendingly:

The train runs directly past [the pueblo], affording a most excellent opportunity to the traveler of seeing one of these picturesque village habitations at close range. . . .

Little black-eyed, cotton-clad urchins may be seen among the rocks upon either side of the pueblo, and very modest comely maidens occasionally come down to the train to avail of an opportunity to make a profitable disposition of pottery odds and ends.

The presence of a railroad running through the formerly quiet pueblo once or twice daily brought major changes to the everyday lifestyle. For one, it brought the element of tourism. Passengers could disembark briefly at the Laguna station, located just a few yards from the Marmon trading post and home. Individual Lagunas might make some small profit from the tourist trade. The trading posts (for soon there were several) also had brisker trade. Grants and Albuquerque, previously one- or two-day oxcart trips, could now be reached in three hours by rail.

The railroad also brought new goods to the pueblo and increased the significance of a cash economy. The traditional sandstone and adobe plaster homes of the pueblo began to show sawn beams in place of hand-hewn vigas, and factory-made doors and windows replaced handmade ones. This is not to suggest that conditions improved overnight for the Laguna people. The railroad was not built for their benefit, and many of the products it carried were either irrelevant or inaccessible for some time to come.

In 1912, the Santa Fe straightened its line to take advantage of a more favorable grade and moved it out of Old Laguna. A stop was established at New Laguna, which gave rise to a hotel and restaurant, a boarding house, a new



Few buildings at Laguna were constructed entirely of adobe bricks, although they are common at other pueblos. One example is this large tin-roofed barn, which stands near the site of the first AT & SF railroad station and early trading posts.

settlement in what had formerly been a small offshoot of the larger village. Later, the abandoned roadbed of the Santa Fe was paved and became part of Route 66, one of the first major interstate highways in the country. Sixty-six ran through Old and New Laguna and, for a while, continued to bring tourists and business travelers as the railroad had done.

However, building the railroad had a more significant impact on the Laguna people, the effects of which are evident today. In order to secure the right-of-way through Laguna, the railroad company made an oral agreement

with the tribe, presumably through the Marmons, that Lagunas who desired employment with the line would be given priority in hiring, free housing, and passage anywhere along the line. For the first time, wage employment became an important element in many Laguna lives. Until recently, the oral agreement was reaffirmed yearly when a few officials from the pueblo would visit the Los Angeles headquarters of the Santa Fe Railroad.

The Navajos made a similar agreement with the Santa Fe. However, the Lagunas, unlike

New materials brought into the area by the railroad affected Laguna's architecture. The availability of milled lumber and longer beams had an immediate effect on room dimensions. Twenty-foot beams were used to construct 18-foot wide rooms, and some builders used a double module of overlapping beams to form rooms almost twice as long as the beams. Ceiling heights also increased to 9 and 10 feet.



the more nomadic Navajos, preferred stationary jobs to working in the field on line crews. They took jobs in the repair shops concentrated in Winslow, Arizona and Barstow, Richmond, and Riverside, California. Lagunas could be found living, apparently quite comfortably, in boxcar houses, forming little "colonies." Although the boxcar homes are gone and the Lagunas are no longer so concentrated in their own neighborhoods, the colonies remain in Winslow, Barstow, and Richmond. Laguna colonists participate in politics at home on the reservation, as well as in local communities off the reservation where they elect their own governors.

About the same time the railroad came through the pueblo, Laguna children began to go away to the Carlisle Indian School in Pennsylvania. When they returned they brought back new ideas and new attitudes. They had seen a whole new part of the country, traveled a long distance by train, been away from home for a long time, and had interacted with children from many other Indian tribes. The returning Carlisle students named several small settlements Harrisburg, Philadelphia, and New York, lasting reminders of their eastern experience.

At the turn of the century, educational opportunities became available closer to home, at boarding schools in Albuquerque, Santa Fe, and Riverside. In the early teens, day schools were built in each of the villages on the reservation so children could receive some schooling without going away. The philosophy was largely the same at these schools: "integrating" Indian children into the world implied training them for useful and productive occupations. For boys, this meant manual or industrial instruction; for girls, domestic service.

It is apparent that the Anglo world saw no

real purpose in learning about traditions central to the Laguna way of life: a strong extended family system, informal social controls, and a relative absence of materialism and competition. Although the modern outside world attempted to make the Indians conform to a new lifestyle, the early traders who lived with them learned to accept and to adopt some of the local ways. As late as the 1930s, bartering agricultural goods was a widely accepted means of exchange. Farmers and herders would come to the trading posts with carts full of crops or livestock or meat and would leave with several months' worth of provisions. Credit policies were very liberal. This was considered necessary to maintain good business relations and assure one's welcome on the reservation.

During the early part of the 20th century

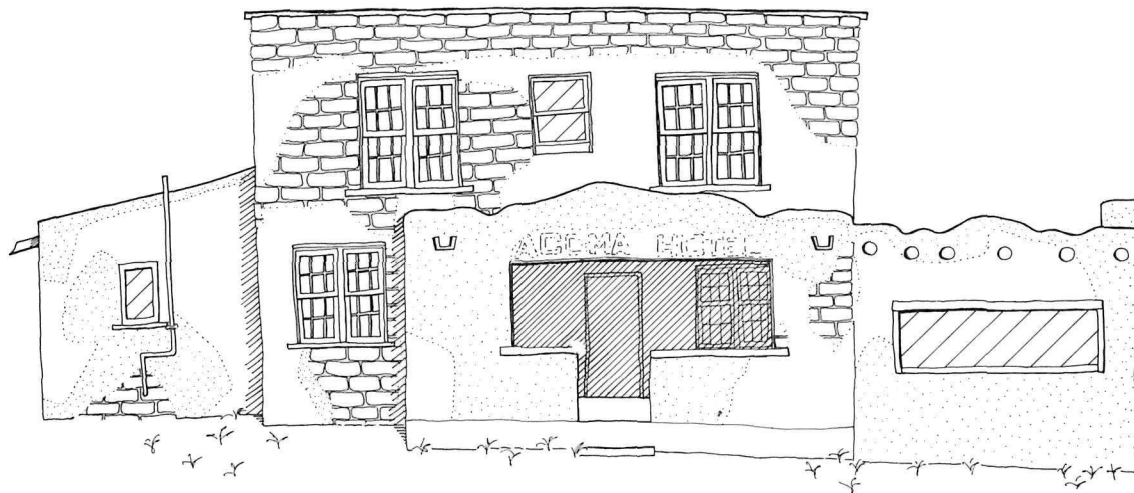
many first and second generation German immigrants settled at Laguna and became a significant part of the pueblo's community and commercial activity. They ran stores and trading posts and the boarding house at New Laguna, and, some married into Laguna families. For a time, there was also a German priest on the reservation. The architecture of the churches built under his direction at Seama, Paguate, and Encinal reflect his heritage and stand in contrast to the mostly Spanish-styled churches at Laguna, Mesita, and Paraje. Laguna pueblo is more cosmopolitan than other pueblos because of the variety of people of different cultures and the diverse styles of buildings.

In the 1920s, 1930s, and 1940s, a small but fairly constant flow of outsiders came through the reservation and interacted with the native

population. The construction of Route 66, followed by other road improvement projects, brought the Lagunas jobs on construction crews and provided ready access for businessmen and travelers. Stores, trading posts, gas stations, and restaurants cropped up along the highways. The proprietors represented many ethnic groups including immigrants of German, Italian, Lebanese, and Hispanic descent. Few of these enterprises lasted more than three or four years.

It is difficult to know what prompted these small businessmen to try their luck on the Laguna reservation or why they failed. Perhaps they believed the new cross-country route would bring financial opportunities or the Indian reservation might develop a tourist market. In any case, in the late 1940s the Tribal Council asserted Laguna's right to greater self-determination by limiting new outside business leases. Those non-Lagunas who held leases were permitted to fulfill their terms, but they were generally not renewed. This implies a kind of compromise with the outside world. While they were willing and able to participate actively and competitively in the Anglo world's free enterprise system, Lagunas preferred to exercise local control over reservation businesses.

Up to this point, the patterns of change at the pueblo were ones of flexibility, selective adaptation from the outside, and a fairly comfortable accommodation of people and attitudes from the Anglo world. Laguna had



The Acoma Hotel built in 1923 in New Laguna is now used as a residence. The original owners built it to accommodate railroad and auto passengers. It, along with the Eckermann rooming house across the tracks, stands as a reminder of the historic importance of railroad commerce and tourism in Laguna life.



Catholic church in Encinal.

changed, but it was able to preserve a sense of its own qualities. That special sense of place still exists, but major changes during the past 25 years have threatened to erase it.

When one asks older Lagunas what changes they have seen take place on the reservation during their lives, they point to two events that have had a dramatic and lasting impact on the lifestyle of the entire pueblo: World War II and the discovery of uranium on reservation land.

Indians played a small role in World War I, and the enlistment of Lagunas was almost

negligible. On the other hand, during World War II, many Lagunas served in the Armed Forces. The effect on the men, their families, and on the villages was immediate and sizable. The population was skewed in favor of older men, women, and children. Like communities elsewhere, relatives and friends relied upon each other for mutual support.

Perhaps even more significant, the war put cash, in the form of compensation checks, into the hands of servicemen's wives. These women had seldom had that power or privilege before. About the same time, electricity

was brought into the pueblo's homes. Previously, it had served only the stores and institutions located on the reservation. Even the day schools had been without electric power and lighting. Home appliances could be found in increasing numbers and dramatically altered the style of living. Just as they did for housewives elsewhere, these luxuries gradually became necessities.

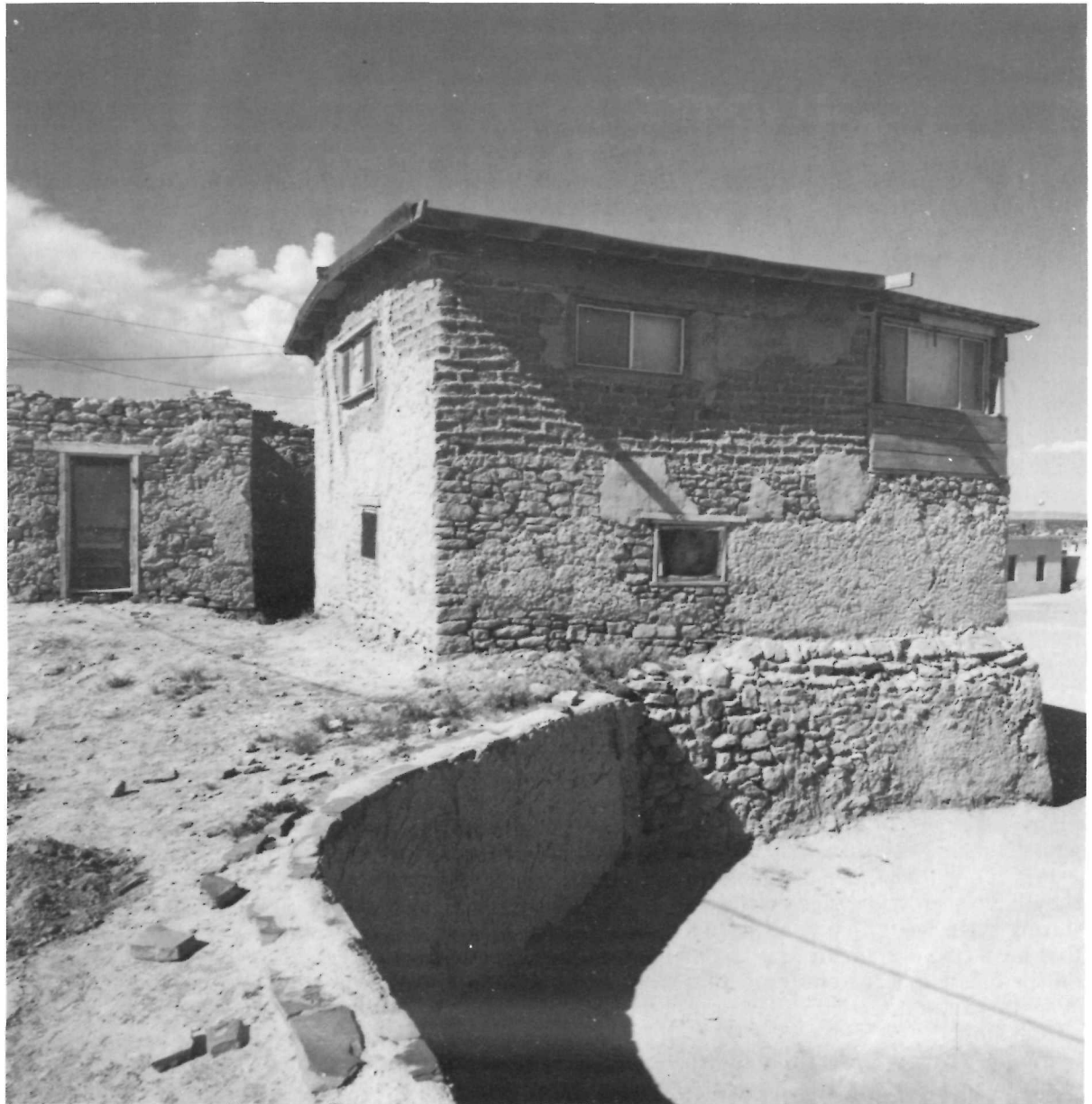
Many older Lagunas feel the war made irreparable breaks in the traditional family structure. They believe that giving independence and financial power to young wives unaccus-

tomed to them brought about new familial problems. The young men, themselves changed by the military experience and the time spent off the reservation, found their lives at home altered. Their return was not always easy and often not permanent.

During the immediate post-war period, unemployment was a serious national problem. The temporary removal of men from the workforce brought women into it in greater numbers than ever before. When the servicemen returned to resume their old jobs, they often found them taken by women or by men who had not been sent away. For Indians, the problems were greater still, because of racial prejudice and their distance from centers of employment.

As one means of alleviating the problem, the government instituted urban relocation programs for reservation Indians. The programs were intended to provide them with marketable skills for work in urban areas. Although training was overwhelmingly slanted toward unskilled, semiskilled, and service industries, it provided employment for many. To take advantage of the jobs, however, the program participant had to be willing to relocate, with his family if he had one, to a city where the program was in operation. The success of the employment relocation programs is one of the reasons that cities such as Albu-

This single structure, with its patchwork of new and old building techniques, is a microcosm of changes in Laguna's architecture. Shaped stone blocks with mud mortar were used above a rough stone foundation. The top section was built of adobe brick, bonded with a cement mortar and patched in places with a cement stucco; wooden siding is also used on this level. Vigas have been replaced with milled boards supporting a modified flat roof. The small windows below are framed in wood, contrasting with the aluminum casement windows above. The small house next door is more uniform in appearance, but it too shows change. The doorway has been altered at least once to accommodate this wooden door.



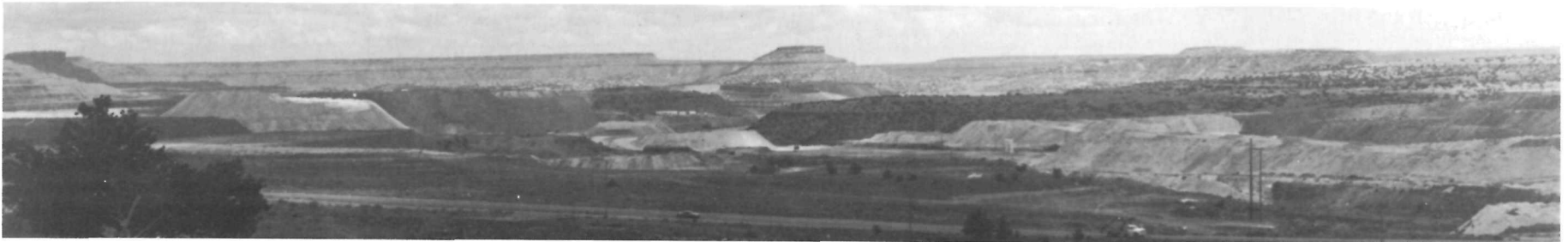
querque, Tucson, Los Angeles, and Chicago have large Indian populations.

Just as the relocation program was drawing Lagunas away from the reservation and into the cities, uranium was discovered east of Paguate, in what became known as the Jackpile Mine. Suddenly there were well-paying employment opportunities close to home, and many men returned from the cities. Many railroad workers also found this a good opportunity to find skilled and semiskilled jobs at

cally changed patterns of a traditional way of life.

The mine operates 24 hours a day, 7 days a week. The customary rhythms of Laguna family and village life have been disrupted by this artificial rhythm of day shift, swing shift, and graveyard shift. It is difficult to gather the people of the pueblo together for ceremonies, village work, or informal socializing. With increased incomes there are fewer handmade articles. Manufactured goods stand alongside

down, took measures to decrease the dependence on a single industry. They negotiated an agreement with an aerospace assembly company, the Burnell Corporation of New York. The Burnell Corporation was given a new assembly plant built by the Lagunas near the village of Mesita. The 240 new jobs were to go to Laguna Indians to help alleviate unemployment problems caused by the fluctuating uranium ore market. Unfortunately, the company failed in the early 1970s and the jobs dried up.



The stark effect of the spoils from the Jackpile Mine are a daily reminder of the influence of the mining operation on Laguna life. Besides the modification of topography adjacent to Paguate, local residents must contend with structural damage to their homes, noise, and excessive dust accumulation resulting from regular blasting.

home. Many sacrificed years of seniority and retirement benefits to come home and work for the new uranium industry. Like the returning GIs, the railroad employees who had spent years away from the reservation returned to Laguna with new ideas.

The opening of the mine was not without its critics. Many believe a sudden increase of ready cash has seriously contributed to the problems of unsupervised children, family breakdowns, and alcoholism. Although it brought many people home, created new jobs for men and women, and brought wealth to the reservation as a whole, the mine drasti-

traditional weaving, pottery, and foods.

Although the mine completely changed the shape of 75 acres of the mesa landscape and no one knows what permanent environmental effects there may be, the most serious and lasting effect of the uranium mine may be the artificial boost it has given the pueblo's economy. When the Anaconda Company opened the mine in 1952, the market for uranium ore was new and booming. In the late 1950s and early 1960s, it took a sudden downturn, giving the Lagunas an inkling of the tenuous nature of the new-found wealth. The tribe's planning commission, in response to the slow-

At the time of the company's departure, most of the positions were held by women, who seemed more inclined than men to adjust to the sedentary regimentation of assembly work. As soon as jobs reopened at the mine, most men preferred to return to work there.

However, the mine will soon no longer be economical to operate. The company projects that it will cease operations sometime in the mid-1980s.

The Laguna Tribal Council and local planning commission have been working to find alternative, stable sources of income and employment for the pueblo. One measure has

been to try to attract other industries to the reservation, including contracting for Indian-operated industry. Other natural resources also present possibilities. The tribe presently leases mineral and natural gas rights to several companies, and is investigating the reservation's other untapped resources for possible development.

Laguna's relative proximity to Albuquerque, about 45 miles to the east, and Grants, about 30 miles west, has made it possible for some tribal members to commute to work, an advantage not available to more remote reservations. If unemployment on the reservation becomes a serious threat, more residents may choose to join the urban labor force. The tribe has been working on a plan to develop housing closer to the eastern edge of the reservation, about a 20-minute drive to downtown Albuquerque, in hopes of better serving those who wish to work in the city and live at home.

The flexibility and adaptability Laguna has shown in the past cannot adequately compensate for all of the change modernization brings. Mining on the reservation presents an economic opportunity that cannot be passed by. At the same time, mining and other modern economic activity challenge the traditional cultural base of the Laguna people. It was the Lagunas' desire to maintain their cultural environment that brought the HCRS project to the reservation. The team's goal for the summer was to extend the usefulness of the historic structures and to make them a part of the Laguna present as well as the past. While it was an unspoken assumption that housing rehabilitation and recreation planning could be social and cultural contributions to the community, the team's overt and primary task was to find a feasible means of keeping traditional houses in use as comfortable, modern homes.

The Lagunas' respect for the environment is mirrored in village architecture. Simple and austere in form, color and decoration, traditional homes were constructed from sandstone blocks plastered with whitewashed adobe.



Introduction to Planning

The rehabilitation planning project at Laguna devised new ways to use jointly the tools of historic preservation and recreation planning to strengthen the community life and cultural continuity of the pueblo. Team strategy has three main components: housing rehabilitation, reuse of public structures, and village-wide recommendations which include buildings, open space, and public improvements.

When Laguna's governor and Tribal Council invited HCRS to the pueblo, housing was their initial priority. Lagunas were concerned about the abandonment and loss of traditional homes in the old villages. Throughout the reservation, new replacement houses appear at the edges of the old villages, and new, government-subsidized subdivisions have been built adjacent to them. While these help meet the demand for housing, the special qualities of Laguna's built environment erode with each stone and adobe house that is lost. Because the pueblo's cultural patterns are so closely tied to its built environment, it was this traditional housing the Tribal Council hoped to preserve. The team's first task, then, was to develop plans to rehabilitate the traditional homes, making them useful and desirable residences once again, and reinforcing the villages as the centers of Laguna life.

The second part of the plan looks at public buildings on the reservation to discover what current community needs they can serve. The people of Laguna are far more cosmopolitan than they were when many of those structures were originally built. With advances in transportation and changes in employment, education, and leisure activities, the urban centers of Grants and Albuquerque have assumed a significant role in the daily lives of many Laguna residents. Village day schools, railroad stations, and other buildings stand empty. Still, the reservation and the villages

remain the major focus of family life, socializing, and religious activities. Recommendations for reusing the vacant public buildings at Laguna focused again on reinforcing the villages as centers of activity. More particularly, they address the requirements of two age groups—the elderly and the very young—whose lives are more often restricted to the reservation.

Finally, the recommendations for preserving old structures needed to be put in the context of contemporary village life as a whole. To accomplish this, the team developed plans for the villages which incorporate recommendations for structural rehabilitation, parks, recreation, landscaping, and erosion control. More importantly, these village plans attempt to establish priority areas for housing rehabilitation and other efforts, priorities that should help build understanding and support for a complete conservation and development program centered on the traditional village.

As outsiders to the pueblo, the team had to gradually learn about the villages' problems and assess the reservation's own resources for dealing with them. Before making recommendations to Laguna, HCRS needed to understand how each community functioned. The team began with studies of the reservation's population, economy, housing needs, recreation facilities, and tourism. It soon became clear, however, that there were still questions to be answered. The nature of life at Laguna cannot be conveyed easily using standard planner's terminology. The studies provided only a statistical picture of the pueblo. To refine this limited picture of the pueblo community, and to add to the ability to make informed recommendations, the team surveyed Lagunas living on and off the reservation. Equally important was the understanding the team gained gradually by living at Laguna, working in the Tribal Office Building, and

talking informally with the people of the pueblo community.

The physical resources of the reservation are extremely impressive. The landholdings of the Laguna Tribe cover nearly half a million acres and are composed of a variety of climates and topography—mountains, mesas, and valleys. The majority of the land is open space; some of it is used for cattle and sheep grazing. Another large area, about 75 acres, is leased to the Anaconda Company, whose Jackpile Mine is the largest open pit uranium mining operation known in the western world.



Reservoir near Paguate provides recreation for all age groups.

Population

Laguna's population is concentrated in the valley of the Rio San José, in the villages of Mesita, Old Laguna, Paraje, and Seama. To the north lie Paguate and Encinal, which contain about one-quarter of the resident population, which totaled 5,978 in 1979. Family groups numbered 1,614, with 207 people living in single-person households. The average

family size on the reservation is 3.7 persons.

Basically the population is young. Fifty-three percent are under the age of 24 with 27 percent in the 25 to 44 age bracket. Only 19 percent of the population is over 45 years old, while less than 7 percent is over 65. Significantly, the number of women in the prime childbearing years (ages 16 to 24) is almost 40 percent of the female population. Since about 30 percent of Laguna's female population is under the age of 16, the proportion of women of childbearing age should continue to be large.

Another 1,493 Lagunas live away from the reservation, many in colonies created during the peak of railroad employment. Barstow and Richmond, California; Winslow, Arizona; and Albuquerque, New Mexico are the major colonies, with Laguna populations of 91, 30, 104,

Table 1
1979 Population by Village

	No.	Family Groups	Single Heads
Encinal	342	90	10
Laguna	1,610	394	58
Mesita	773	199	17
Paguate	1,254	398	43
Paraje	1,063	281	40
Seama	936	252	39
Total	5,978	1,614	207

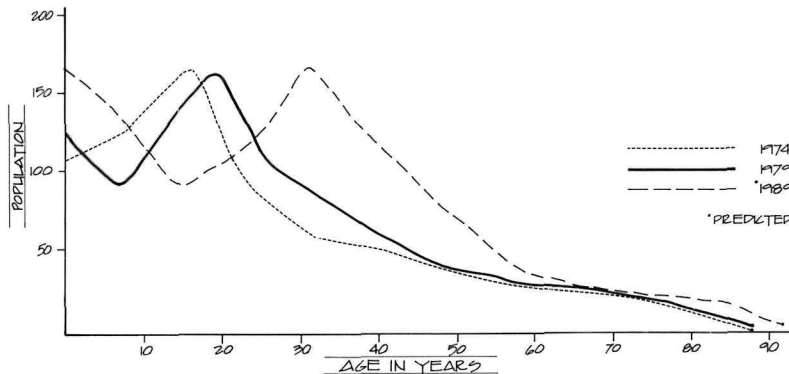
Source: Census Office, Southern Pueblos Agency, Bureau of Indian Affairs.

Table 2
Total Population by Age

Age	No.	Percent
0-4	579	9.7
5-15	1,283	21.4
16-24	1,351	22.6
25-34	955	16.0
35-44	656	11.0
45-64	742	12.4
65+	412	6.9
Total	5,978	100.0

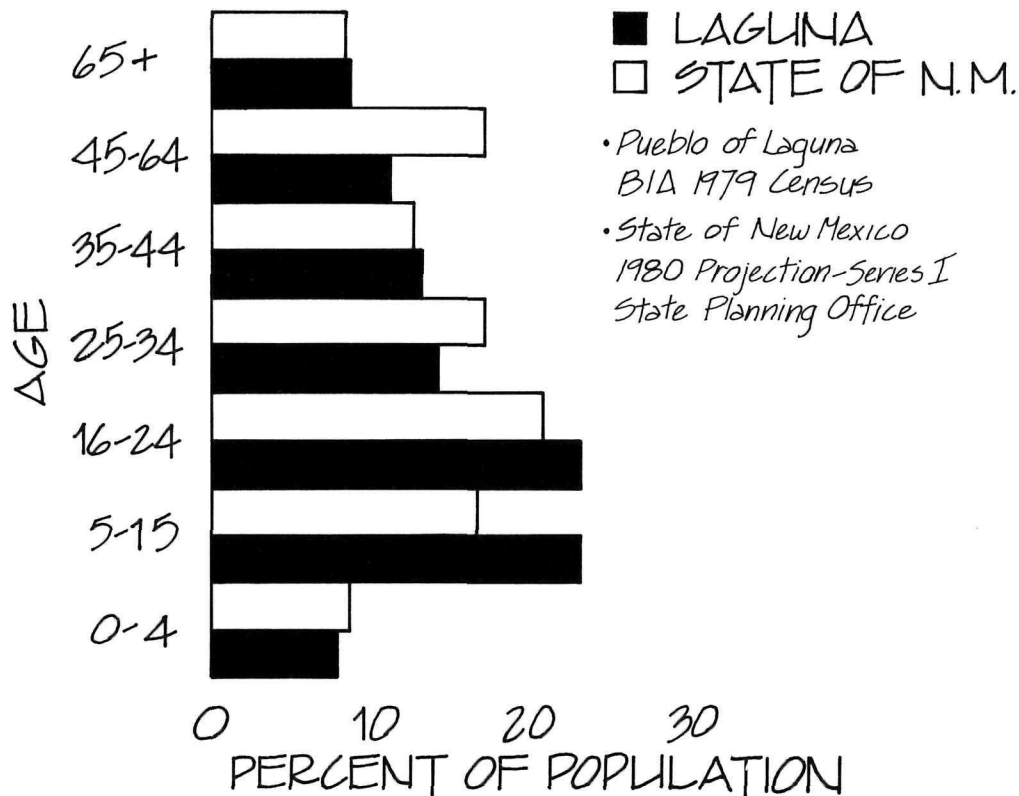
Source: Census Office, Southern Pueblos Agency, Bureau of Indian Affairs.

PIEBLO OF LAGUNA: POPULATION TRENDS



POPULATION COMPARISON

PUEBLO OF LAGUNA : STATE OF N.M.



and 454, respectively. The effect of this out-migration during the railroad years is still evident at Laguna, where a disproportionately small percentage of the residents falls between the ages of 45 and 64. Many of these "colonists" left the reservation at the start of their working years. Whether they intend to return to the reservation is an important factor for planning purposes.

Although many maintain strong ties to the reservation, personal commitments away from the pueblo often prevent their immediate return. However, many Lagunas who were forced to seek employment off the reservation before the opening of the Jackpile Mine are now reaching retirement age and it is likely they will gradually return to Laguna during the next 20 years.

Because migration patterns are important to predicting the future demand for housing and services, HCRS conducted a survey of Laguna residents in Winslow, Barstow, Richmond, and Albuquerque. Of the 331 forms mailed, nearly one-third were returned with complete answers. This high response rate and the attentive replies reflect the strength of the bond the Lagunas maintain with the pueblo. Almost all stated that they return to the pueblo at least once a year, usually for family visits and religious feast days. Seventy-five percent of the Albuquerque Lagunas indicated they intend to return to the pueblo to live, as did 72 percent of those from the other three colonies. The most frequent reasons given in the survey were to retire, to be with their families, and for housing opportunities.

In 1978 it was estimated that 287 people, or about 4.5 percent of the resident reservation population, were non-Indian. Most of these are employees at the schools, the mine, or utilities on the reservation, or those who have married into Laguna families. No signif-

Figure 3**Laguna Colonist Questionnaire Results**

	Albuquerque		Other	
	No.	Percent	No.	Percent
Were you born here?				
Yes	35	54.7	12	55.4
No	29	45.3	17	45.6
How long have you lived here?				
10 years or less	18	28.1	3	10.3
10-20 years	23	35.9	3	10.3
More than 20 years	13	20.3	13	44.8
Have always lived here	8	12.5	6	20.6
Have lived here off and on	0	0.0	1	3.4
No response	2	3.1	3	10.3
Why did your family settle here?				
Job	40	62.5	18	62.0
Marriage	4	6.2	1	3.4
Job and marriage	6	9.3	0	0.0
Born here	5	7.8	3	10.3
Other	2	3.1	2	6.8
No response	7	10.9	5	17.2
What village are you affiliated with?				
Laguna	15	23.4	11	37.9
Mesita	4	6.2	1	3.4
Paraje	3	4.6	3	10.3
Encinal	6	9.3	2	6.9
Paguete	22	34.3	5	17.2
Seama	9	14.0	6	20.7
Casa Blanca	4	6.2	1	3.4
No response	1	1.5	0	0.0
How well do you speak the Laguna language?				
Fluently	25	39.0	14	48.3
I speak a little	29	45.3	8	27.5
I understand it	6	9.3	6	20.7
I do not speak or understand it	3	4.6	1	3.4
No response	1	1.5	0	0.0
Do your children speak the language?				
Yes	11	19.6	6	24.0
No	45	80.4	19	76.0

	Albuquerque		Other	
	No.	Percent	No.	Percent
How often do you return to the pueblo?				
Every week	3	4.7	0	0.0
Several times a year	57	89.0	17	58.6
Once a year	1	1.6	7	24.1
Every few years	0	0.0	1	3.4
Seldom	2	3.1	3	10.3
No response	1	1.6	1	3.4
For what reasons do you return?				
Family visits	12	18.8	8	27.6
Religious feasts	0	0.0	1	3.5
Family visits and feasts	21	32.8	11	37.9
Business	0	0.0	2	6.9
Business and feasts	1	1.5	3	10.3
Family visits and business	6	9.3	1	3.4
Visits, feasts, and business	21	32.8	1	3.4
Other	3	4.7	1	3.4
No response	0	0.0	1	3.4
Does your family have a land assignment on the reservation?				
Yes	39	60.9	19	65.5
No	19	29.6	7	24.1
No response	6	9.3	3	10.3
If yes, what type of assignment?				
Farming	13	31.7	7	36.8
Residential	18	43.9	10	52.6
Business	0	0.0	0	0.0
Farming and residential	7	17.0	1	5.3
Residential and business	0	0.0	1	5.3
No response	3	7.3	0	0.0
Do you own a home at Laguna?				
Yes	20	31.2	12	41.4
No	40	62.5	15	51.7
No response	4	6.3	2	6.9
How is it used?				
Occupied full time	5	25.0	3	25.0
Used during festivals	4	20.0	2	16.6

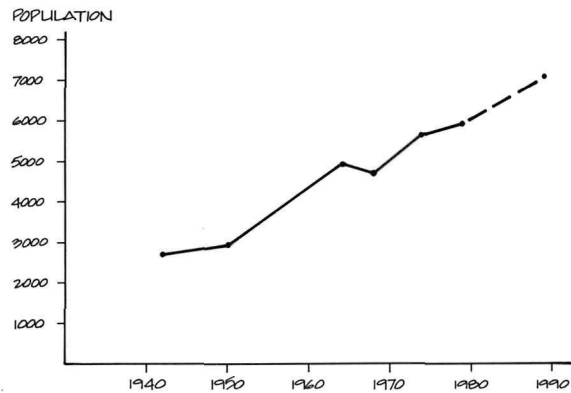
	Albuquerque		Other	
	No.	Percent	No.	Percent
Vacant	7	35.0	5	41.6
Used for storage	1	5.0	1	8.3
Used on weekends	1	5.0	0	0.0
No response	2	10.0	1	8.3
Do you plan to return to the pueblo to live?				
Yes	48	75.0	21	72.4
No	10	15.6	3	10.3
Do not know	3	4.7	4	13.8
No response	3	4.7	1	3.4
If yes, when do you plan to return?				
Within 5 years	20	41.6	21	72.4
5-10 years	7	14.6	3	10.3
10 or more years	4	8.3	4	13.8
Do not know	17	35.4	1	3.4
If you were to return, what would be the reasons?				
Family	1	1.9	3	12.0
Retirement	13	25.4	5	20.0
Job opportunities	0	0.0	0	0.0
Housing	1	1.9	0	0.0
Lower cost of living	2	3.9	2	8.0
Job and housing	1	1.9	1	4.0
Job and lower cost of living	0	0.0	2	8.0
Family and retirement	4	7.8	1	4.0
Retirement and housing	5	9.8	1	4.0
Retirement and lower cost of living	5	9.8	2	8.0
More than two responses	19	37.2	8	32.0
What members of your family would return with you?				
Me, alone	8	16.3	3	11.5
Spouse	14	28.6	10	38.5
Children	6	12.2	8	30.7
Parents	0	0.0	0	0.0
Spouse and children	19	38.7	2	7.7
Other	2	4.1	1	3.8
Do not know	0	0.0	2	7.7

	Albuquerque		Other	
	No.	Percent	No.	Percent
If you do not plan to return, what are the reasons?				
I am married here	2	14.3	1	14.3
I own a home here	5	35.7	0	0.0
I have a job here	1	7.1	1	14.3
Crime at Laguna	0	0.0	1	14.3
Age	1	7.1	0	0.0
Marriage and home	3	21.4	3	42.8
No response	2	14.3	1	14.3
If you were to return, where would you live?				
In: Laguna	8	14.0	7	28.0
Mesita	2	3.5	0	0.0
Paraje	2	3.5	1	4.0
Encinal	3	5.3	0	0.0
Seama	4	7.0	3	12.0
Paguete	12	21.0	4	13.7
Casa Blanca	0	0.0	1	4.0
Outside: Laguna	1	1.8	1	4.0
Mesita	0	0.0	2	8.0
Paraje	1	1.8	0	0.0
Encinal	1	1.8	0	0.0
Seama	2	3.5	2	8.0
Paguete	7	12.3	0	0.0
Casa Blanca	1	1.8	0	0.0
In an area closer to Albuquerque	3	5.3	2	8.0
Other	7	12.2	1	4.0
Do not know	3	5.3	1	4.0
What type of housing would you like?				
Traditional house which has been improved	14	26.9	10	38.5
New house	28	53.8	7	26.9
Mobile home	2	3.8	2	7.6
Apartment	0	0.0	1	3.8
Condominium	0	0.0	0	0.0
Group housing (such as the elderly center)	3	5.7	1	3.8
More than one response	3	5.7	4	15.4
No response	2	3.8	1	3.8

icant increase of non-Lagunas is anticipated for the future.

The outlook for Laguna Pueblo is for continued growth of the population for at least the

PLEBLO OF LAGUNA: POPULATION AND PROJECTIONS



next 20 years. This prediction is assured by the current rate of natural increase and the probability that in-migration patterns will continue. Because of the uncertainty of economic conditions, it is impossible to predict population trends accurately beyond the 1990s.

The trend in the pueblo is to begin families at a relatively early age, and a significant population upsurge will probably occur within 20 years. At the present time, 39 percent of the reservation's population falls within the child-bearing age range of 16 to 24. Another 30 percent will be moving into that category in the next 5 to 15 years. As this younger group moves into the years of family formation and childbearing, there will be an inevitable growth of the population.

Patterns of migration will continue to play

an important part in Laguna's future. Recent improvements in employment opportunities on the reservation, social services, and housing opportunities have slowed out-migration.

In fact, improvements in the quality of reservation life have encouraged more tribal members to return. Still, many of the young and well-educated continue to leave because the

Table 3
Laguna Population Predictions

	1971*	1974*	1979*	1984**	1989**
0-4	470	581	580	766	771
5-9	675	645	500	500	660
10-14	790	775	635	492	492
15-19	546	800	780	639	495
20-24	465	520	720	702	575
25-29	420	400	520	720	702
30-34	335	310	440	572	792
35-39	260	290	350	497	646
40-44	235	265	310	374	531
45-49	210	215	225	324	391
50-54	180	190	200	209	301
55-59	160	165	170	179	187
60-64	135	145	145	149	157
65-69	115	120	125	125	128
70-74	90	95	105	109	109
75-79	60	65	80	88	91
80-84	40	45	60	74	81
85-89	20	20	35	47	58
90-94	—	—	10	18	24
Total	5,231	5,631	5,978	6,584	7,191

*enumerated

**projected

Through the cohort-survival method HCRS projected the 1984 population to be 6,584 and for 1989 to be 7,191 or an increase of 20 percent from 1979. The projections by age group are seen in this chart.

reservation does not hold sufficiently challenging or satisfying jobs. Unless this situation changes markedly, they will continue to move away from the pueblo or to commute to other areas for employment.



The library in Old Laguna is often used as a center for group activity. In this case the resurgence of interest in pottery-making has brought these women together.

Economy/Labor Force

Traditional sources of income for the Laguna people were farming and stock grazing. With the coming of the Anglo-Americans in the late 1800s, first as traders and then with the railroad, the economic system changed dramatically. The opening of the Jackpile Mine in 1953, the reservation's largest single employer, was another watershed for the pueblo's economy. The mine has contributed to the Laguna economy in the form of royalty payments and by employing 350 to 530 Laguna men and women. Of the 530 Lagunas working there in 1979, 462 were employed in the open pit. The availability of these jobs, and a cultural aver-

sion to working underground, have discouraged most Lagunas from the below-ground jobs. Soon, however, there will be fewer open-pit positions and more underground work. The Anaconda Company hopes to change the Lagunas' preference for above-ground work so it may continue to employ them at the mine. Other employment opportunities associated with the mining operations are offered by a private construction firm which subcontracts to Anaconda for waste stripping.

The Laguna tribal government and public agencies provide the second largest number of jobs for reservation residents. The tribal government employs 350 people on a year-round basis and an additional 15 people during the summer. Apart from jobs directly related to the government there are service jobs with the tribally owned rock quarry, service stations, maintenance shop, and with the police, fire, and ambulance forces. Public sector agencies such as the Bureau of Indian Affairs, the Indian Health Service, the State Highway Department, the public school system and postal service also employ Laguna residents.

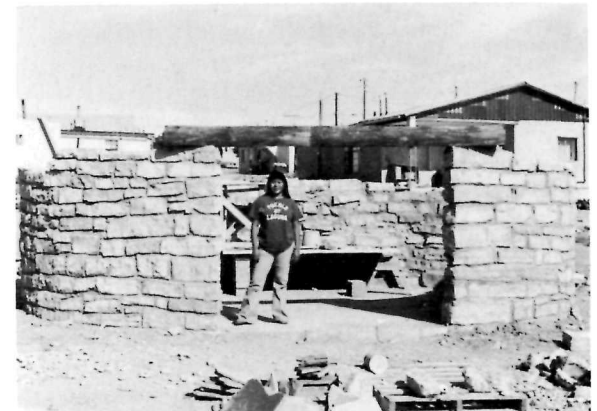
The Comprehensive Employment Training Act (CETA) program employs youths and adults on a part-time and full-time basis. Job opportunities with CETA are varied and range from construction projects to community services. Occasionally work is made available by federally sponsored construction projects for housing, roads, and other improvements, but these are not steady jobs.

A few private businesses operate on the reservation and employ a small number of tribal members. Some individuals supplement their income by producing goods for sale, such as pottery or food. It is difficult to know how many earn money this way, but it is probably not many. Additional outside sources for in-

come coming into the reservation include federal transfer payments and social security. Lagunas participate in the labor markets of Grants and Albuquerque on a small scale. It is estimated that only about four percent of the reservation workforce commutes to work in these cities.

In 1979, the estimated labor force of the pueblo was 1,925 men and women. The proportion of the Laguna population actually holding jobs was 45.5 percent, compared with the national rate of 63.4 percent. At Laguna, the rate is comparatively low because of the age distribution in the pueblo, which features a proportionately young population and a relatively small number in the 25 to 44 age bracket. The result is a heavy dependency ratio; the burden of earning an income is placed on a smaller than normal percentage of the population.

In the spring of 1979, the unemployment rate for Lagunas was 19.5 percent, or 376 persons, compared to a national and statewide



Bus shelter project. Newly trained CETA workers completed the shelter during the summer.

figure of 5.8 percent. This rate is calculated according to those people who do not work but who are actively seeking employment. As such, these figures misrepresent the actual situation and do not take into account "hidden unemployment"—unemployment due to an individual's lack of job opportunities or skills. Some of these people might be encouraged to enter the job market if there were adequate job counseling or training; others simply choose not to work. For other people, unskilled and not preoccupied with job security, short-term jobs are preferable to full-time work. Women are generally not reflected accu-

rately in the unemployment figures. Family responsibilities or a lack of adequate childcare facilities may restrict them from working.

When compared with other areas of New Mexico, Laguna's labor force is considered largely unskilled or semiskilled. An increasing number of tribal members are attending colleges and obtaining advanced degrees, but their employment opportunities on the reservation are few, and many do not stay. No formal studies of the migration rate of college graduates has been made, but it is estimated that fewer than half come back to the reservation to stay.

Income

The yearly income for Laguna Pueblo is estimated at \$23.4 million. For individual tribal members, however, the distribution clusters at the high- and low-income ranges. Over one-fourth of the annual incomes earned on the reservation are under \$4,000. But another large cluster of incomes is around the \$12,000 mark.

This is in part due to the low incomes of the older and younger workers, as opposed to the relatively higher incomes of those in the middle-age range. As noted above, the middle-age range is not well represented at the pueblo. The income characteristics are also inflated by the presence of highly paid mine employees.

Current mining operations in the reservation area, conducted by United Nuclear and Sohio, in addition to those expected by Exxon, Bokum Resources, and Continental Oil, could carry the anticipated employment slack into the year 2000, but timing will make the difference. The Continental Oil mine on Laguna land is expected to begin operations in 1983 and will employ up to 300 Lagunas. If operations do not begin then, there could be a critical employment lag following the expected closure of the Anaconda mine.

At the present time, the Laguna economy is strong, but it is based on a single major employer. Phasing-out operations at the Anaconda mine projected for the mid-1980s will have a considerable effect on the overall economy, although specific predictions for long-term trends are impossible. It appears that the future economy depends upon alternative employment options. A reclamation plan for the mine site, which might absorb a percentage of those laid off at the mine, is currently being negotiated. The reservation itself has assets which will contribute to employment opportunities and economic potential. The availabil-

Table 4

1979 Labor Force Characteristics, Laguna Pueblo

	Total	Male	Female
Total Resident Indian Population	6,067	2,912	3,155
On-Reservation	4,468	2,145	2,323
Adjacent to Reservation	1,599	767	832
At Other Locations	1,493	716	777
Resident Indian Population Groupings			
Under 16 years	1,834	880	954
16-24	1,384	663	721
25-34	981	470	511
35-44	721	346	375
45-64	815	391	424
65 and over	332	162	170
Potential Labor Force	2,301	1,335	966
Total Employed	1,925	1,196	729
Earning \$5,000 or more/year	1,264	984	280
Earning less than \$5,000/year	661	212	449
Not employed	376	139	237
Not Employed, Actively Seeking Work	254	192	62

Source: Southern Pueblos Agency, Bureau of Indian Affairs, US Department of the Interior.

Table 5

Average Laguna Income

	Amount
Per Capita Income	\$ 3,484
Average Income	\$ 8,779
Median Income	\$ 8,600
Average Household Income	\$14,000
Average Jobs per Household	1.4

Note: These figures apply to the area from Cubero to Mesita. The figures for Laguna only would be slightly different.

Source: Laguna Market Study, Office of Indian Affairs, State of New Mexico, January 1979.

ity of utilities, rail linkage, highway access, and mineral resources, and a progressive Tribal Council, will encourage commercial and light industrial development at the pueblo.

Housing

Most of the housing units at Laguna are variations of the traditional stone and adobe structures. The remainder includes new units subsidized by the Department of Housing and Urban Development (HUD), privately constructed homes, mobile homes, and government housing. Because of the cost and the difficulty in qualifying for conventional loans, there is little new private construction being initiated. Most new housing is provided by the Laguna Housing Authority with HUD funds. By 1979, 364 units had been constructed under the jurisdiction of the Housing Authority.

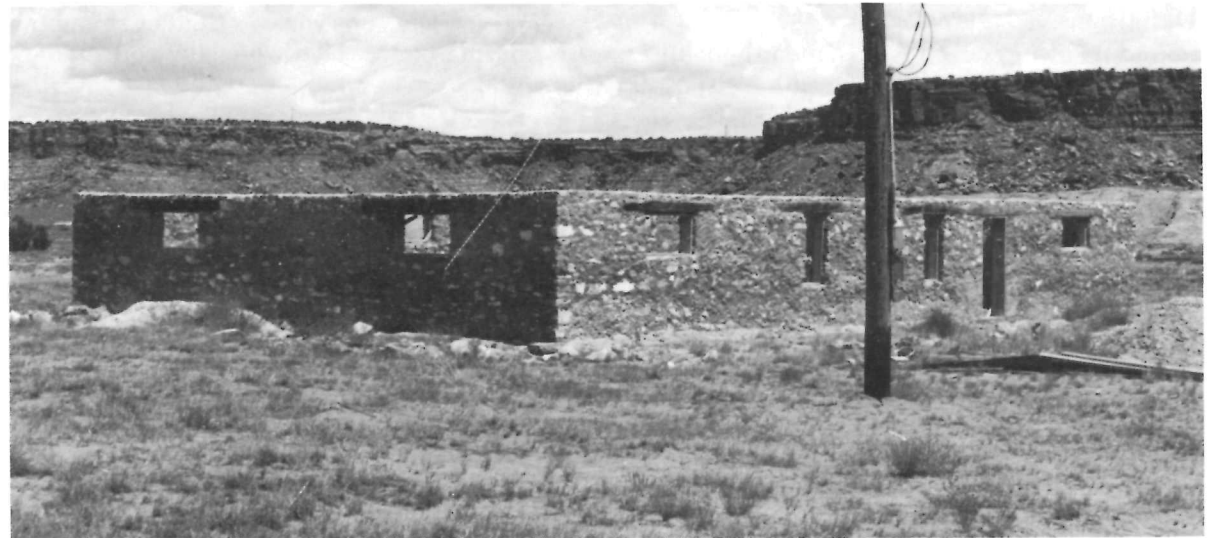
There are approximately 110 mobile homes scattered throughout the reservation. With

some exceptions, they are located outside the central core of the villages. The mobile homes provide relatively inexpensive housing, and are easily obtained and set up or moved. Unlike the traditional homes, mobile homes and other new, inexpensive houses are often visually obtrusive and incompatible with village architecture.

The pueblo government now operates several housing rehabilitation programs. Funds from HUD's Indian Community Development Block Grants are used in conjunction with the Bureau of Indian Affairs' Housing Improvement Program (HIP) and the American Native Programs (Department of Health, Education and Welfare) to rehabilitate existing housing

units. The Indian Action Program, a training project funded by the Bureau of Indian Affairs, also supports housing renovation. Weatherization funded by HEW's Community Services Agency provides for certain types of repair work on a limited basis.

These programs are targeted for the elderly, the handicapped, and the economically disadvantaged. Eligible applicants are selected by village staff officers, although final approval rests with the Tribal Council. The team found that, in spite of these efforts, the need persists for a comprehensive housing rehabilitation plan which would consider the full potential for renovating the existing housing stock.



The traditional stone and adobe structures still comprise the majority of housing units on the pueblo, but variations and completely new types have appeared. The new construction closest in materials and form to the traditional type is the larger scale stone and masonry house with modern details. Most of the houses of this type being built at Laguna are constructed by masons from neighboring Acoma Pueblo.

Supply and Condition

The Laguna housing market is a closed system with little influence from forces outside the pueblo. The team conducted a visual survey of the pueblo in which the exterior of every housing unit was inspected and classified sound, deteriorated, or dilapidated. According

to this survey, there are a total of 1,144 housing units at Laguna. Of this total, 510 (44.6 percent) are sound, 478 (41.8 percent) are deteriorated, and 156 (13.6 percent) are dilapidated.

Interior conditions and the presence of utilities were analyzed in a survey conducted by the BIA in 1971 and updated in 1977. Accord-

ing to this survey, almost all units had electricity, but 22 percent lacked running water, 21 percent did not have kitchen sinks, and 57 percent had neither water heaters nor complete bathrooms. Although these conditions have improved since 1977 because of the tribe's housing programs, much remains to be done.

Table 6

Guidelines for Classifying Condition of Housing

Definitions

Sound: Housing which is of standard quality, providing adequately for the health, safety, and well-being of the occupants.

Deteriorated: Housing that requires more repair than would be provided in the course of regular maintenance. Such housing has one or more defects of an intermediate nature that must be corrected if the unit is to continue to provide safe and adequate shelter.

Dilapidated: Housing which does not provide safe and adequate shelter and which, in its present condition, endangers the health, safety, or well-being of the occupants. Such housing has one or more critical defects, or has a combination of intermediate defects in sufficient number or extent to require considerable repair or rebuilding, or is of inadequate original construction. The defects are either so critical or so widespread that the structure should be extensively repaired, rebuilt, or torn down.

Ruin: The remains of a former structure or cluster of structures. Only portions of the

original walls or roof exist and may need to be stabilized or cleared for safety reasons.

Storage: Storage units exist in all conditions (dilapidated, deteriorated, and sound) and were originally constructed as either storage or housing units which were later converted to storage.

Structural Components

Exterior walls:

Sound: Walls and foundation show no sign of deterioration.

Deteriorated: Walls exhibit minor cracks, holes, or defects.

Dilapidated: Walls exhibit major cracks, holes, or defects and other structural problems such as bulging.

Exterior finish:

Sound: Finish shows no sign of deterioration.

Deteriorated: Finish shows minor deterioration and inconsistencies such as cracks, holes, or water stains.

Dilapidated: Finish is either nonexistent or in an advanced state of decay.

Roof:

Sound: Roof is of sound nature and shows no sign of deterioration.

Deteriorated: Roof shows some signs of deterioration but is intact.

Dilapidated: Roof is in major disrepair; structural deficiencies and discontinuities create unsafe conditions.

Windows and doors:

Sound: Window and door frames are weathertight and all materials are in good condition.

Deteriorated: Window and door frames are in minor disrepair and there is some damage to weather seal.

Dilapidated: Windows and doors show major damage. Cracks and leaks, split frames, and broken lintels are evident.

Utilities (plumbing, electrical, heating):

Sound: All utilities are present, in good repair, and function properly.

Deteriorated: All or some utilities exist in various states of disrepair.

Dilapidated: One or more utilities are nonexistent or are of unsafe or unfunctional quality.

Occupancy

The survey also determined the number of occupied, occasionally occupied, and/or vacant units. There are 925 units on the reservation occupied on a full-time basis; 31 are occupied occasionally, usually for weekend visits or during ceremonies; and 188 are vacant.

Normally, a region's vacancy rate determines how tight the housing market is, and a reserve of vacant housing indicates housing available for occupancy. But at Laguna, this formula does not always apply. A vacant

home remains in the ownership of the same family for generations. It is very rare for a home to change hands, even if it falls into ruin. The home, or the plot of land on which it stood, is passed via the mother's family line and kept, like any other inheritance. In addition, there are homes that appear to be abandoned but are in fact used occasionally by the families who own them. During festivals or vacations the owners may return to their old houses in the villages to spend a few days. When homes are occupied only occasionally,

as there are, minor structural problems or incomplete utilities do not make them unlivable.

It is difficult to estimate the number of units lost from the overall housing stock each year. Few houses are actually demolished or dismantled, but a number are left vacant or used only for storage. These houses do not receive the regular maintenance that a fully occupied home would, and eventually weather and neglect reduce the adobe-mortared structure to its organic origins.

Table 7

Housing Condition and Occupancy

Pueblo of Laguna

	Dilapidated (13.6%)			Deteriorated (41.8%)			Sound (44.6%)			Total
	Fully Occupied	Occas. Occupied	Vacant	Fully Occupied	Occas. Occupied	Vacant	Fully Occupied	Occas. Occupied	Vacant	
Private	61	10	77	259	18	62	172	1	11	671
HUD-Assisted	0	0	1	95	0	28	237	0	2	363
Mobile Home	2	0	5	12	2	2	87	0	0	110
Total	63	10	83	366	20	92	496	1	13	1,144

Demand

Three factors were used to measure housing demand on the reservation: the formation of new families, the need to replace unusable homes, and in-migration to the pueblo. The primary of housing demand at Laguna is generated by new family formation and by the return of tribal members. Replacement demand is created by households wishing to move from existing units to better housing, a need which is strongest among those living in overcrowded, multiple-occupancy units.

Crowding and substandard conditions are strong incentives for seeking new housing, but there are other elements of Laguna community life—not easily measured—which act to keep people in their ancestral homes. The tradition of passing houses down from generation to generation and the pueblo's policies toward landholding reinforce a family's commitment to inherited property and discourage moving away. The strong associations that La-



Structures of cement block construction covered with cement stucco can be made to look like traditional stone and adobe houses. As in other new housing units, these block houses feature modern doors, windows, and interior details.



New HUD-assisted houses are arranged in subdivision settings throughout the pueblo. These modern structures differ in size and layout from the traditional units, but their color and shape are intended to help them blend compatibly with the natural landscape.

gunas attach to kinship and clan groups in a particular village also support the tendency to stay in the traditional family home, particularly among older tribal members. Finally, and perhaps most importantly, the old houses that make up the core of each village are part of the reason many Lagunas—not only the elderly—feel strongly about the special environment in which they live. A home made from stone and plastered with mud has particular qualities—the way it looks and smells and feels—that a modern house lacks. The ancient construction techniques were uniquely suited to the climate and the lifestyle of the pueblo. Renovated traditional homes will not meet all the reservation's housing needs, but they can provide an alternative to mobile homes and HUD-subsidized houses. (See A—3 for federal funding sources for housing rehabilitation.)

To determine the overall housing demand on the reservation and the particular market for rehabilitated traditional homes, the HCRS team compared the number of existing housing units with the latest population figures, interviewed tribal staff members, and conducted a survey of off-reservation tribal members. From these sources, it was estimated that current housing demand in the pueblo calls for approximately 330 new or rehabilitated units. This demand is expected to increase in number and variety in the decades to come, owing to the age of the housing stock and projections for population growth and family formation. Increasing housing costs and taxes outside the reservation will also encourage some Lagunas to return.

As the tribe satisfies its housing demand, there are several distinct segments of the pop-

ulation to consider. The nuclear family, which includes parents and children, requires the greatest amount of housing space. Following the national trend, three groups—young singles, young married couples without children, and older retirement-age couples whose children have grown—are likely to want smaller, low maintenance houses.

Certain factors pertaining to income must also be considered. Lower-income persons cannot generally afford to buy or construct new houses and must depend upon public subsidy programs. Although there has been an extensive HUD-sponsored building program at Laguna, there remains a demand for this type of housing. In the middle-income range, there are many people who do not

qualify for subsidized housing and at the same time are unable to obtain conventional loans. At the upper-income range are those who can obtain loans and can afford the cost of new houses. In general, however, few Lagunas are able to build or renovate without public assistance.

Laguna has reached a critical point. The loss of traditional buildings and the wide-scale substitution of construction materials and techniques that are incompatible with traditional materials and techniques could destroy that which is special to Laguna. The HCRS plan proposes techniques for accommodating development and change while reinforcing the element that has historically been central to the Laguna way of life—the community.

For this reason, HCRS's recommendations for structural rehabilitation are set in the context of three levels of activity within the pueblo and focus on the Lagunas' way of life. First, the plan addresses the villages as a system and incorporate recommendations for visual enhancement, landscaping, street paving, recreation, and target areas for housing rehabilitation. Next, the plan examines ways that recreation planning can work with the preservation of historic buildings as a way of strengthening the community. Finally, the plan demonstrates how a traditional home can be repaired and improved to bring it back into the contemporary Laguna way of life. Specific recommendations are presented as case studies or models. They represent conditions and solutions that are found reservation wide.



Mobile homes are found scattered throughout the pueblo and in some village core areas. Whether they harmonize with other buildings or not depends on siting and landscaping.



Recommendations

The Villages

Recommendations for the villages of Laguna are founded on two main principles: to balance historic preservation concerns with a realistic assessment of contemporary life at Laguna and recognize how the pueblo has changed over time, and to reinforce the old central villages as the primary social and cultural focus for the reservation community.

The tribe's associations with its environment are strong, and they remain central to the culture; but developments in transportation and the economy have altered that relationship. Whereas the tribe once depended entirely upon the immediate environment to provide sustenance and shelter, mobility has made urban centers off the reservation convenient sources for many of the residents' needs. Small grocery stores, gas stations, and other limited services are available in the villages, and the tribe is developing a new commercial center near Casa Blanca. Although they do not serve all the modern retail requirements of the Laguna people, the villages provide highly cohesive social environments.

Using the three village types exemplified by Old Laguna, Paraje, and Seama, the team assembled its recommendations for the villages as shown on the accompanying maps. Public improvements, including street paving, landscaping, and erosion control, define boundaries and areas within the villages. Recommendations for recreation include village parks and facilities such as community centers. Housing rehabilitation, the major reason for the project, is discussed here in terms of target areas based on structural need, visual prominence, and potential for occupancy. This

section concentrates on general recommendations for each whole village.

The tribe's current housing programs select participants on the basis of age, income, and need. Because improving clusters or blocks of buildings can have a wider impact on the whole village than single-structure improvements, the plan concentrates on areas, rather than on individual structures. The recommended strategy areas do not conflict with present selection criteria, however; they do suggest a way to organize individual projects into a cohesive, long-range plan.

The strategy areas are groups formed in response to four main considerations directed at improving the overall community. Houses that are highly visible because of their location are significant not only because of their ability to set the tone of the village, but also because they can encourage other homeowners to maintain their houses. Homes in historically or symbolically important parts of the village, such as those surrounding the ceremonial plaza, are also critical to the overall integrity of the village. A third consideration is the current condition of structures in the area. If many houses are in seriously deteriorated or dilapidated condition, prompt repairs can prevent their falling into ruin. Finally, if there is a good likelihood that the owners of traditional houses, or members of their families, would use the homes once restored, they may fall within a strategy area. Where clusters of homes meet all of these criteria, they are designated as Priority 1; where most of these are present, or where the need is less critical, they are shown as Priority 2. Within these strategy areas, the team recommends that the tribe select individual structures on the basis of personal need, structural urgency, and realistic costs.

In order for these recommendations for

housing rehabilitation to have a maximum benefit to the community, it is also useful for the tribe to maintain an up-to-date record of housing conditions as part of a comprehensive housing rehabilitation program. Other elements of such a program would include complete and current information on funding sources, and a program of technical assistance to homeowners. Builders who are well-versed in native methods of construction can pass on their knowledge by training individuals interested in maintaining their own houses or to contractors and workers who would be responsible for rehabilitating traditional homes on the reservation.

Finally, it must be recognized that not all Lagunas will choose to live in the old stone and adobe homes. Many will prefer to live in newly constructed houses or in mobile homes, and their preferences are to be respected. However, because of the important and irreplaceable character of the historic villages, the team does recommend that sites on the reservation that do not detract from the old village centers be developed for mobile homes and non-traditional houses.

Old Laguna

Public improvements at Old Laguna focus on strengthening the visual and physical edges of the village. Because of similarities in village siting and form, plans for Paguete, Mesita, and Encinal could be adapted from a village model which addresses common concerns.

A visual analysis of Old Laguna revealed that the village lacks clear boundaries. Although the two main roads into the village are paved and suggest the edges of the village, they do not achieve a needed sense of arrival. Using native plants (See A-4) to define these roads more clearly, the concentric form of Old Laguna, culminating at the top of the hill, can

be strengthened.

Where the rocky hillside slopes steeply, landscaping and walls have been recommended to control erosion caused by run-off water. This action would also help establish the visual boundaries of the village, particularly along the southern, eastern, and western edges of the hill.

The village park just across from the Tribal Office Building is part of an earlier project to create outdoor recreation areas on the reservation. When completed, it will provide a welcome gathering place mid-way between the entrance to Old Laguna and the traditional village center. The park is a short walk from the village community building.

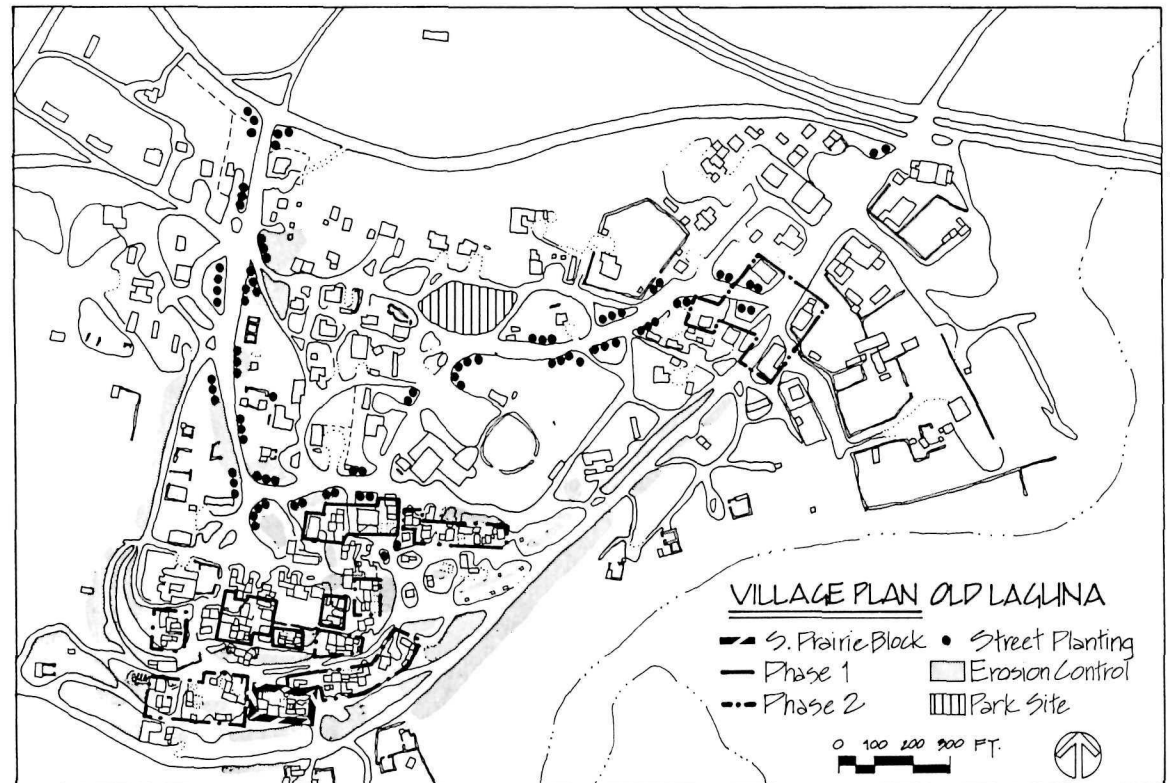
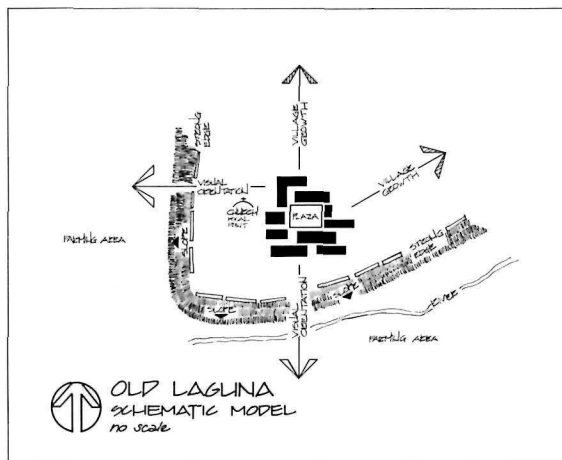
Housing rehabilitation target areas are shown on this map in two major concentrations, one at the center of the old village, the other near the main entry to the village. On three sides of the ceremonial plaza, there are clusters of Priority 1 houses, which are in serious need of repair and rehabilitation. Rehabilitated, they may provide sound housing in one



Renderings from photogrammetric data of Old Laguna. Courtesy of Perry E. Borchers.

of the oldest inhabited parts of the reservation. At present, the houses range from completely vacant to fully occupied, but if neglected much longer, they could become

uninhabitable. Priority 2 strategy areas at Old Laguna lie farther from the plaza than Priority 1 areas. Structures in these areas are in slightly better condition. However, because of

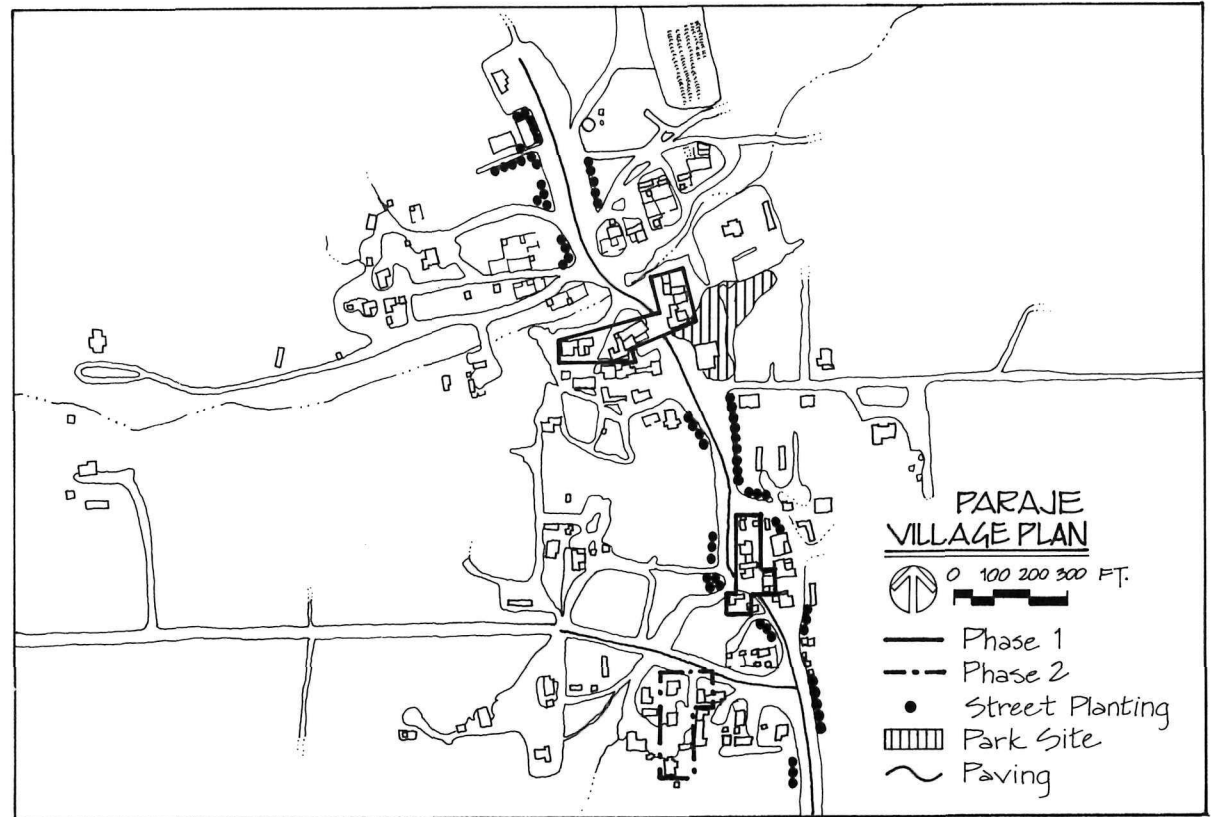
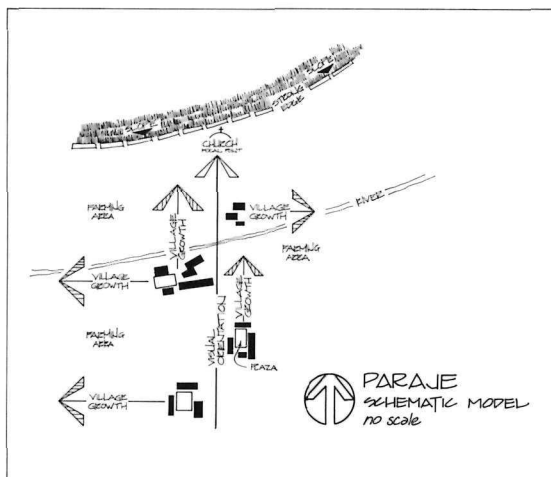


their potential to add to the tribe's stock of useful housing, their declining condition, and their visual prominence, these buildings have been suggested for prompt attention. Deteriorating houses near the entrance to the village have also been designated a Priority 2 area for rehabilitation. At present, they are not extensively occupied, despite their convenient location and potential for reuse. Vacant, they create a gap between the activity of the post office, stores and community services building, and the tribal offices.

Paraje

In Paraje, public improvements have again been suggested that can reinforce the characteristic form of the village. Paving and appropriate landscaping will define more clearly the strong linear axis of Paraje, control erosion, and improve automobile access from Route 124 to the church and among clusters of houses.

The park proposed in this plan takes advan-



tage of a small grove of cottonwood trees. It is centrally located in an area that is currently vacant. With minimal development, the grove can be turned into an attractive outdoor recreation area for the existing community building nearby. The park would also help define the eastern edge of Paraje.

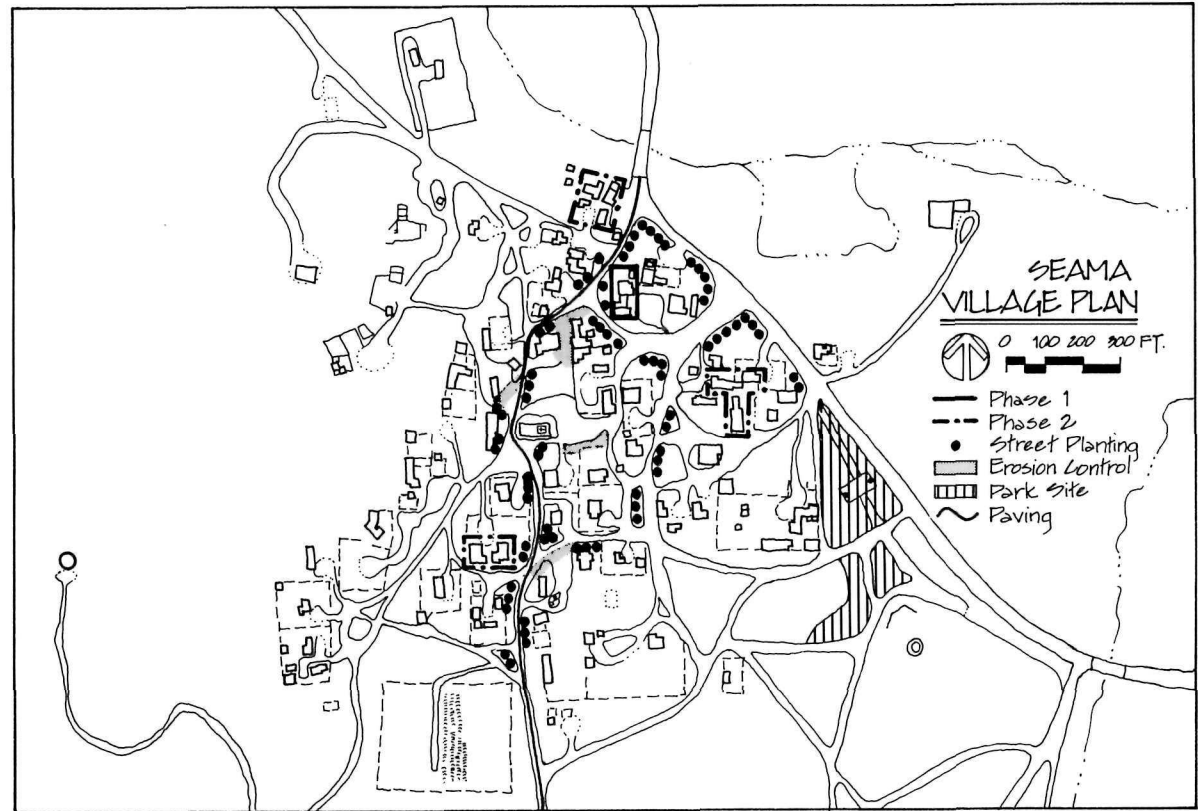
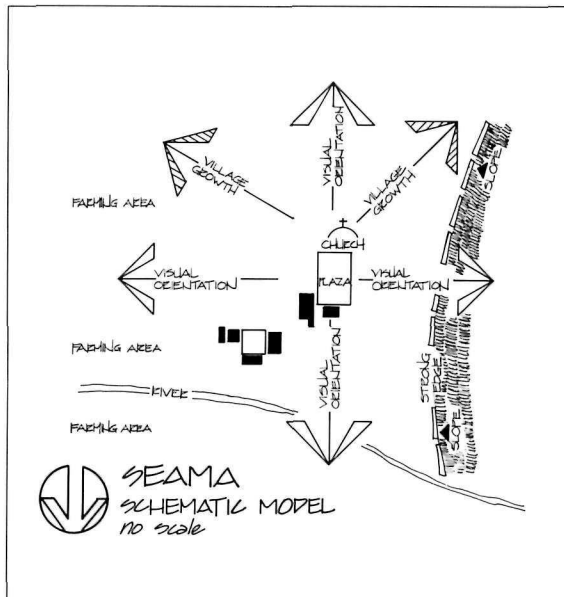
Two areas have been designated Priority 1 for housing rehabilitation because of their rapidly declining condition, the current level of occupancy, their visual prominence, and their

potential for future occupancy. Because clusters of houses in Paraje surround small plazas—some presently used, others historically important—these two Priority 1 areas have symbolic significance to the village as well as practical utility. One area just west of the main entrance to the village has been designated Priority 2 for housing rehabilitation. It is highly visible and in need of systematic repair. It also contains the post office for Paraje and is a center of activity in the village.

Seama

Seama is generally approached from the south where, after crossing the railroad tracks, the entrance is marked by a few tall cottonwood trees and the abandoned Seama day school and teacher's quarters. Beyond the entrance, however, there is no obvious route through the village. Although the overall structural condition of houses in Seama is fairly good, there is no clear pattern or form to the village. The team's plan for Seama recommends paving one main road through the village and then reinforcing that route with landscaping.

Seama is situated on a low-lying flat and has a history of serious erosion problems caused by flash floods. The recommendations for landscaping and other forms of erosion control could diminish this problem, as well



as create a stronger urban pattern within the village. The landscaping will also help to define groupings of houses associated with the open plaza areas in Seama.

The team recommends placing a village park at the eastern edge of Seama using the existing recreation facilities there. In addition to improving the recreation area, this park will give a clearer edge to the village.

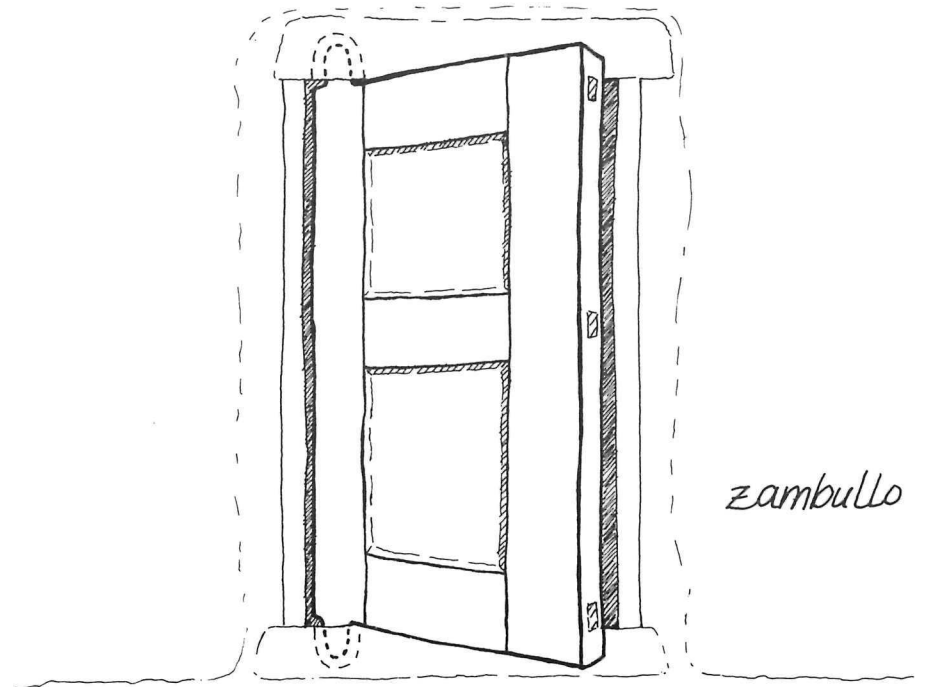
One cluster of houses facing the plaza near

the entrance to Seama has been designated Priority 1 for rehabilitation. Proximity to the plaza makes these structures of major importance to the community as well as to the residents and future residents of the individual homes. Their location near the entrance to the village makes their rehabilitation visually important. The three groups of houses identified as Priority 2 will need work soon to prevent further deterioration.

Stones were laid in double courses and stepped, so that each stone is half-lapped. Corners were interlocked with large stones and bonding courses laid every few rows. A mud mortar was used to hold the stones in place.

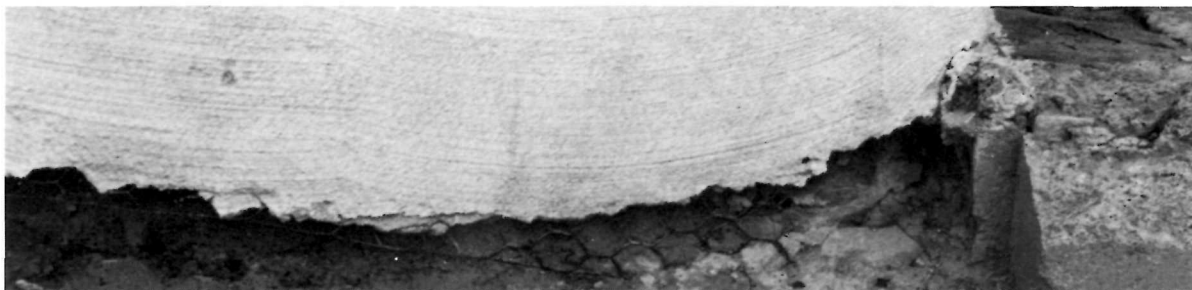


Doors at Laguna have changed over time. During the early period of the pueblo's existence, Lagunas probably covered the small door openings with blankets, skins, or large stones. The arrival of the Spanish brought the introduction of the zambullo, a pintle door. Generally, this ball and socket joint is installed while the building is under construction. The pins are carved as extensions to the hand-planed door and are fitted to rotate freely in the set-in threshold and lintel.



zambullo

While the San José de la Laguna Church interior walls are repainted and maintained in the traditional manner, the exterior has been concrete stuccoed. Though requiring less regular maintenance, it is a procedure that may result in structural damage due to the incompatibility of concrete and mud mortar. This situation is demonstrated in this photograph of coving at the base of the church wall.



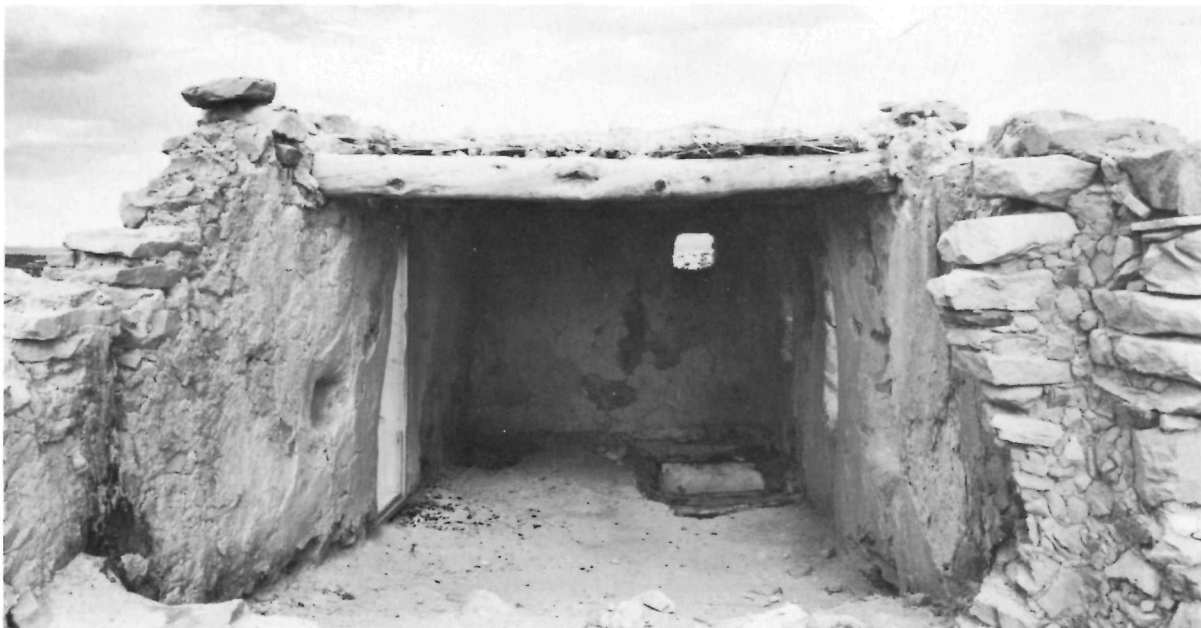
Houses were heated by stone fireplaces covered with adobe. Fireplaces were generally semicircular and set in the corners of rooms. The triangular flues were built up from flat pieces of sandstone angled together. When fireplaces were set away from a corner, they were braced with stepped walls, or paredcitos. Later, many houses added wood stoves for heating and cooking. Courtesy of the Museum of New Mexico.



Although new technologies such as cement plaster and stucco have been introduced, many homes are still plastered with mud applied by hand. An adobe plaster is applied over the sandstone walls. The mud for the mixture is gathered from different areas around the pueblo. Traditionally, it was mixed with water and straw, and sometimes ashes and animal blood, to give the mixture a strong bond. Water was brushed or splashed on the walls to prepare them for plastering. The kneaded mud was then applied and smoothed by hand or a trowel. Historic photograph courtesy of the Museum of New Mexico.



Older windows in the pueblo, often shaped to contain panes of mica or selenite, have wooden pole or stone slab lintels. Windows built after the coming of the railroad are larger and have milled wooden frames. Original window openings are often modified to accommodate these new frames. Both an older, irregular type and the more recent type are seen here.



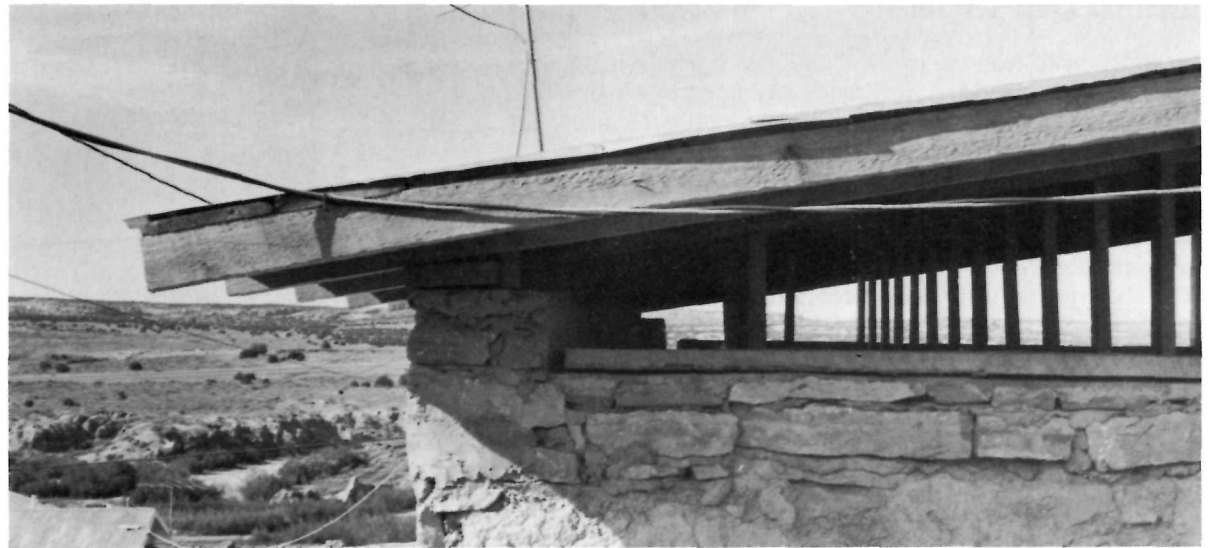
Roofs on Laguna homes have traditionally been flat. They are supported by heavy vigas or beams, which run the short span of the building and project from either side. Using this construction, logs did not need to be cut to fit the roof span. The projecting ends made a convenient place to hang things outside the house. The vigas were usually of Ponderosa pine or juniper trees from Mt. Taylor or the canyons around Laguna. Sometimes the vigas were squared off by hand.



Latias were placed on top of the vigas in a perpendicular pattern. Latias are thin branches, usually 1.5–4 inches in diameter, which were topped by another layer of willows, yucca, or saltbrush, and then covered with a layer of mud.



Drainage from a flat roof can be a problem. Some early houses were built so that the vigas and the entire roof line sloped, directing the drainage water down to the canales, or drainpipes. Before sawn lumber and sheet metal became available, canales were made of stone or hollowed logs.



In recent years, new sheet metal roofs have been constructed over the old flat roofs, eliminating many problems associated with maintaining and repairing the old flat roofs. Wooden trusses placed on top of the old surface support the metal cover and result in a pitched roof shape.

The Arts and Crafts Center encourages Lagunas to learn traditional skills and technology of masonry building, like the bread oven construction pictured above.



Encinal Day School

In addition to homes, each village has a small number of unused or underused public structures, buildings which could be put to good service in the community. For example, there are six old day schools on the reservation, only half of them presently in use. The schools are probably eligible for listing on the National Register of Historic Places, a designation that not only formally recognizes their historic significance to Laguna but also makes available to them a variety of historic preservation grants. The team selected the abandoned day school in Encinal to demonstrate how a public building can be rehabilitated structurally and, by using it to meet known village needs, restored to importance in the community.

The Encinal Day School was built by the government in 1926 and was used by the village through the 1940s. Today, the children of Encinal attend the large elementary school in Old Laguna, along with children from the other villages. Recycling the old school building, finding a new use for it, provides a chance to develop a needed gathering place in Encinal. The reuse plan utilizes the vacant structure and the old school grounds to create a village recreation center. In so doing, it brings together historic preservation and recreation planning to improve the quality of life in Encinal.

As background research to recreation portions of the project at Laguna, two surveys of recreation interests were conducted. The responses confirmed earlier discussions with village officers and the pueblo's recreation department. Together, they indicated that three separate age groups needed to be addressed specifically. Preschool children need space for supervised outdoor play about nine months of



Encinal Day School.

Table 8

1979 Existing Outdoor Recreation Facilities

Old Laguna

- 2 (1 lighted) baseball diamonds
- 1 (lighted) basketball court
- Rodeo grounds
- Sand dunes/mini-bike area
- Archery/rifle range

New Laguna

- 2 basketball courts
- Rifle range (near L-A High School)

HCRS Recreation Complex

- 1 (lighted) basketball court
- 1 (lighted) tennis court
- 1 (lighted) volleyball court (using basketball or tennis courts)
- 4 (lighted) picnic areas, sheltered
- 1 (lighted) outdoor swimming pool/bath house

Seama

- 1 baseball diamond

- 1 softball/Little League diamond
- 1 basketball court

Mesita subdivision

- 1 baseball diamond
- 1 (lighted) softball/Little League diamond
- 1 basketball court

Paraje

- 1 softball/Little League diamond
- 2 basketball courts

Encinal

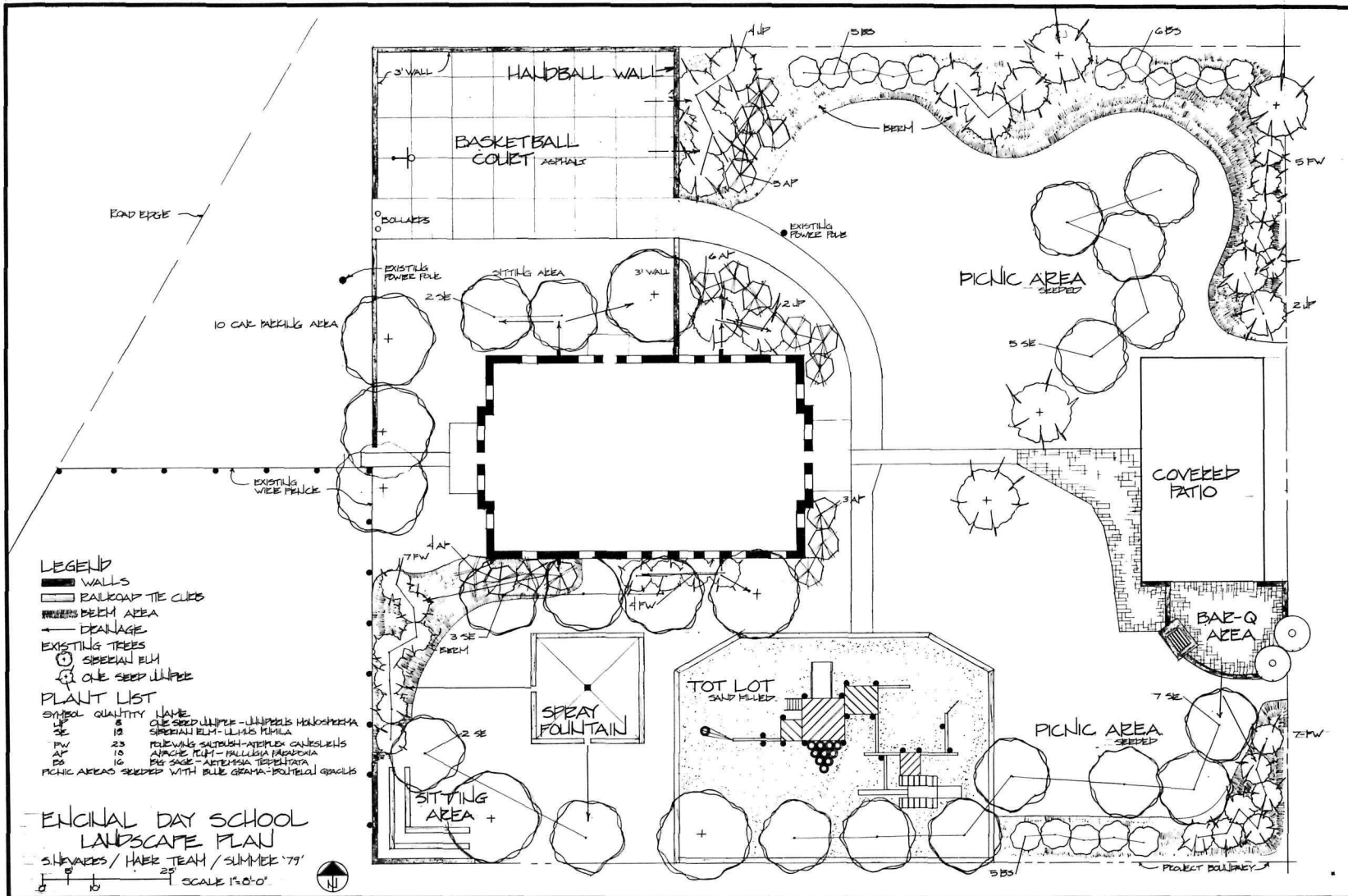
- 1 (lighted) basketball court
- 1 (lighted) tennis court
- 1 (lighted) volleyball court
- 1 (lighted) playground (no facilities)
- 1 (lighted) picnic area (no facilities)

Encinal subdivision

- 1 softball/Little League diamond

Paguete

- 1 baseball diamond
- 3 softball/Little League diamonds
- 2 basketball courts



Encinal Day School. Proposed landscape plan.

the year, as well as indoor areas for games, crafts, and possibly additional Headstart-type programs. Teenagers need space for dances, table games like pool or ping-pong, and movies, as well as a place to socialize informally. Senior citizens expressed a desire for a place to gather informally also—a place for their own dances, crafts, and games. One particular benefit of the recreation center proposed for Encinal is that while it creates separate spaces inside the school to allow for different age groups and different activities, it also brings the generations together under one roof.

A structural analysis of the building revealed no major preservation problems, and the costs for bringing the structure back into full public use are remarkably low. The exterior needs to be repaired, but no structural or architectural alterations are recommended. Plans for developing the grounds stress low cost and low maintenance requirements. The scheme retains all existing trees and shrubs, and calls for additional native plants and sensible landscaping to create shade, separate activity areas, and enclose the yard.

The old restroom outdoors is to be removed, but the concrete slab floor will be kept and used as the base for a covered picnic area. Barbecues and traditional bread ovens have been provided to give families an opportunity to enjoy the site and its varied facilities. Larger groups might also use the entire grounds for organized village celebrations. Basketball and volleyball or other hard-surface games have been placed nearby but a safe distance from picnic and quiet play areas. An enclosed play area for small children is situated close to the adults' portions so that they may be easily supervised.

Inside, old living quarters will be removed to make larger rooms for activities. The former office and storage spaces will be converted to

Table 9

1979 Existing Multi-Service Facilities

Facility	Village Location	Present Use
Arts and Crafts Center	Old Laguna	Adult education Arts and crafts
Library	Old Laguna	Library facilities Senior citizens arts and crafts programs
Laguna Elementary School	Old Laguna	Outdoor sport facilities Softball/Little League field Basketball courts Playground Indoor gymnasium
Laguna-Acoma High School	New Laguna	Outdoor sport facilities Baseball field Football, and track and field (lighted)
Community Recreation Centers	Old Laguna (new) Mesita (new) Paraje (new) Seama (old) Encinal (old) Paguete (old)	Indoor recreation Dances for summer Weekly village meetings Elderly noon meal (5 days per week) Religious activities/ceremonies
BIA Day Schools	All villages	Three vacant, three used for Head Start

restrooms, with a new kitchen and additional storage built off the existing wall on the other side. The main wall dividing the school building in half will be retained to allow for the separation of simultaneous activities such as senior citizens' crafts and a teenagers' dance.

The Encinal Day School is representative not only of the other day schools but also of other unused public buildings on the reservation such as the old Tribal Housing Authority Building. Rehabilitating those structures accomplishes a number of important goals. Most importantly, it permits the reuse of valuable

resources. By combining preservation with recreation in restoring the historic building, it can be returned to a place of prominence in the life of Laguna. From a purely practical standpoint, this program for the Encinal Day School demonstrates how recycling the structure can be more economical—both initially and in the long run—than developing a new site. Appropriate to the structure and its historic and practical role, this project can stand as an example for the rehabilitation of other public buildings at Laguna.

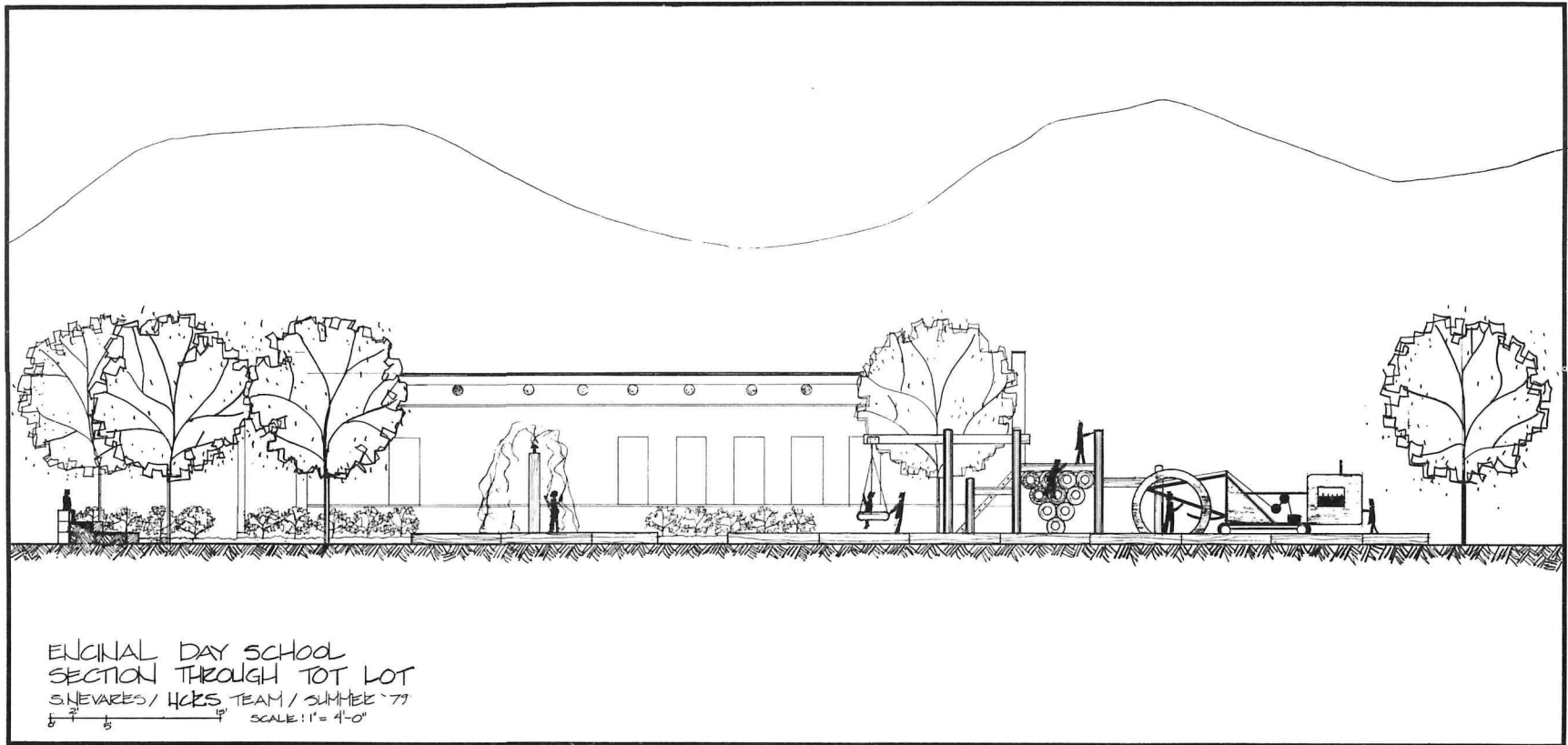


Table 10

Estimated Contractor Completed Costs for the Rehabilitation of Encinal Day School and School Grounds

Item	Cost
School Building	
1. Site work for school grounds	\$ 600.00
2. Demolition and debris removal	1,200.00
3. Wall repair and stabilization	1,400.00
4. Roof, parapet, and canale repair	2,600.00
5. Door and window replacement	3,500.00
6. Building stucco	3,400.00
7. Interior finishes (flooring, walls, ceiling)	6,200.00
8. Equipment and furnishings	3,800.00
9. Mechanical	4,600.00
10. Plumbing	3,500.00
11. Electrical	<u>5,200.00</u>
Sub-total	\$36,000.00
Outdoor Shelter	
1. Demolition and debris removal	\$ 360.00
2. Structure	15,840.00
3. Stone walls and paving	2,400.00
4. Bread ovens and barbeque	<u>600.00</u>
Sub-total	\$19,200.00
Landscaping	Sub-total \$18,250.00
Recreation Equipment	Sub-total <u>\$ 2,500.00</u>
Total Estimated Cost	<u>\$75,950.00</u>

Table 11**Estimated Materials Cost to Complete the Rehabilitation of the Encinal Day School and School Grounds—Donated Labor**

Item	Cost
School Building	
1. Site work, demolition, debris removal, and skilled work to be completed with voluntary labor	\$ 0.00
2. Purchased materials	
a. Adobes and structural lumber	300.00
b. #15 and #90 felt, rough lumber	480.00
c. Doors, windows, and glass	1,600.00
d. Stucco material	800.00
e. Floor tile, lath and plaster, insulation	3,400.00
f. Kitchen and office equipment	1,800.00
g. Mechanical—furnace and ducts	2,100.00
h. Plumbing—fixtures and piping	600.00
i. Electrical—fixtures, wiring, connect	2,800.00
Sub-total	\$13,880.00
Outdoor Shelter	
1. Demolition and debris removal to be completed with voluntary labor; stone material to be collected and used on site	\$ 0.00
2. Purchased materials	
a. Concrete and cement	200.00
b. 6" × 12" rough-cut lumber	2,400.00
c. 8" round wood columns	440.00
d. 2" × 6" × 8'0" rough-cut lumber	800.00
e. #15 rolled felt	170.00
f. Granular asphalt shingles	1,250.00
g. Miscellaneous—nails, paint, etc.	600.00
Sub-total	\$ 5,860.00
Landscaping—Plants and Materials	Sub-total \$11,050.00
Recreation Equipment	Sub-total \$ 2,500.00
Total Estimated Cost	\$33,290.00

SOUTH PRAIRIE BLOCK

HCRS selected one block of homes, named the South Prairie Block by anthropologist Elsie Clews Parsons in the 1890s, to develop as a model for housing rehabilitation at Laguna Pueblo. The South Prairie Block presents the full range of preservation problems found on the reservation and a variety of intended uses—full-time and seasonal, single person, family, and elderly occupants. The nine houses in the block have remained in the same families for generations with very few changes in ownership. By examining historic photographs and the standing structures and by talking with residents of Old Laguna village, the team was able to recreate the block on paper as it looked in the 1880s. Then, after consulting with the owners and prospective residents of individual homes in the block, HCRS devised the program presented here.

Although the block has changed over time—roofs have caved in, walls have collapsed, and parts have disappeared entirely—the structures still retain much of the traditional pueblo character. The walls were constructed of stone and plastered with mud, and whitewashed with gypsum on the inside; the roofs were supported with pine vigas. In some places, the original flat earth-covered roof is still intact. Apart from deterioration, the only major change is the recent complete renovation of the residence in the southwest corner of the block.

Beyond structural rehabilitation, very few changes have been recommended. The rehabilitation proposals encourage preserving the historic architectural context of the block while providing modern conveniences. Native materials and construction techniques are highly efficient and well-adapted to the New Mexico climate. The thick walls collect solar heat,

keeping the inside pleasantly cool during the day and maintaining a comfortable temperature at night. Suggested thermal improvements that will have minimal visual impact on the block have been designed for the roofs. Wherever possible, existing windows and doors are retained and refitted with wooden sashes and frames, and new openings are

sympathetic with traditional scale and proportion. Wall construction, the setting of parapet heights, the location of vigas and canales, and terracing follow historic methods and design. Inside, the traditional open floor plan is maintained. Kitchen and living room areas flow into one another. In the open plan, bedroom partitions are suggested if the occupants de-



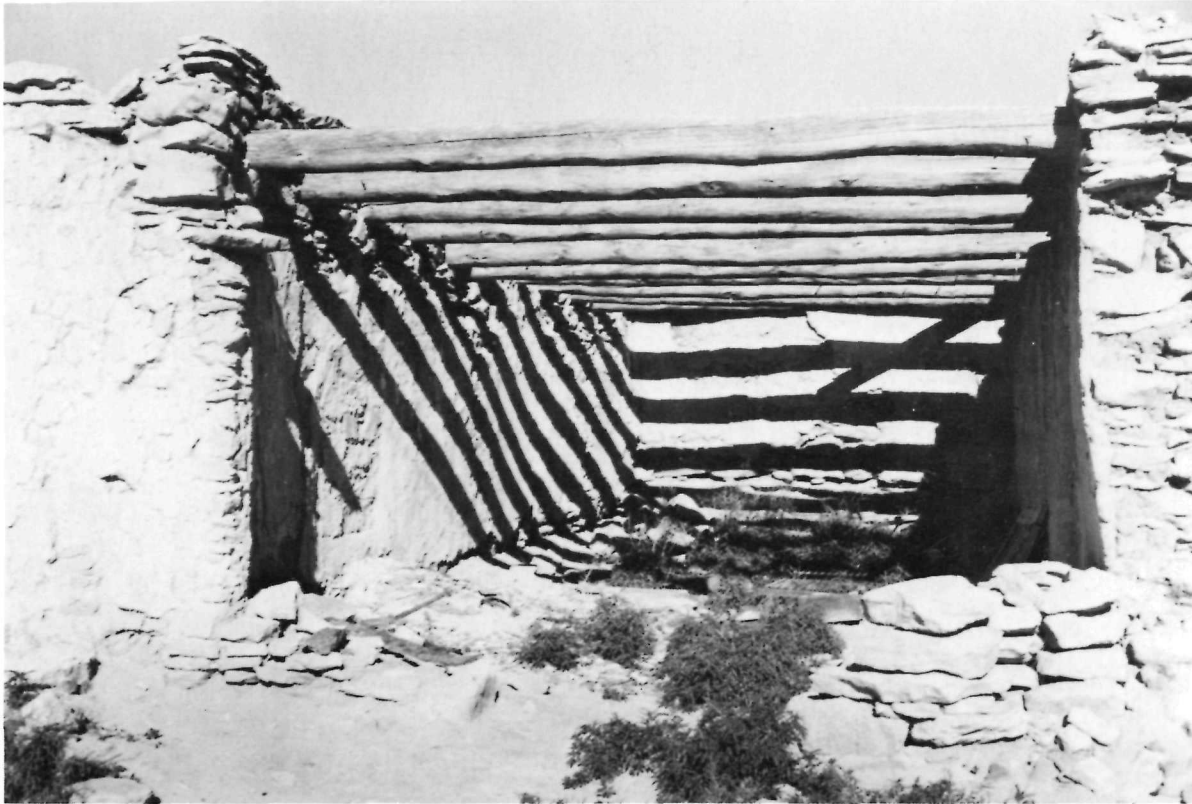
South Prairie Block. South elevation.



South Prairie Block today. South side.



Looking south to the South Prairie Block and the Rio San José beyond.



Room shown is in the South Prairie Block. While vigas are sturdily intact, other structural remnants have long since been removed or deteriorated.

sire to close off portions of the room. Modern kitchen and bathroom facilities and electricity are also included in the rehabilitation plans. Options for replacement of traditional dirt floors with either pavers or wooden flooring are presented. Changes in floor grade are kept to a minimum for the convenience of elderly residents.

All other interior finishes, such as traditional plastered walls with niches and pine

board ceilings with viga supports, are retained. Outside the homes, low walls are used to define property limits, create courtyards, and screen personal property kept outside. Siting for bread ovens outside the home is included, in keeping with tradition and modern need.

(A-5 contains specific recommendations for the South Prairie Block rehabilitation.)



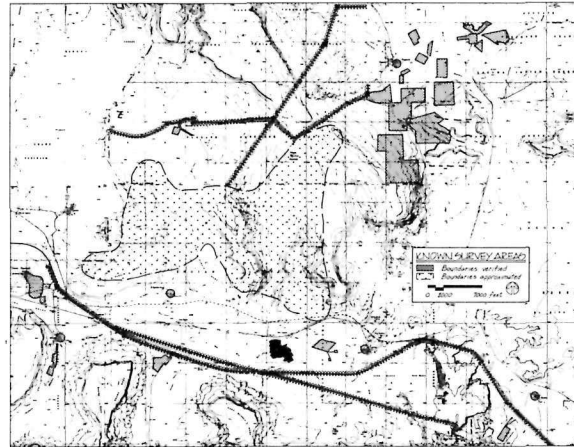
Some of the walls need only to be strengthened and then replastered. Others can be dismantled and the stones reused. Because of New Mexico's dry climate, most of the vigas have been preserved and can be used again for new roofs.

Appendixes

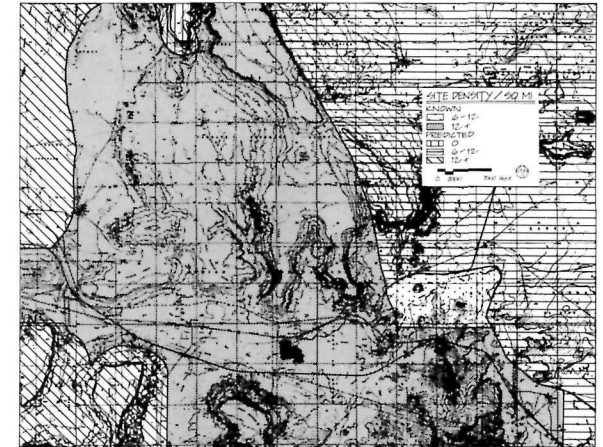
A-1 Compliance

The protection of historic resources is mandated under provisions of the National Historic Preservation Act of 1966 (amended 1976) and Executive Order 11593. Compliance with these protective provisions is mandatory if a project under consideration is to be supported by federal funds and might adversely affect a cultural resource listed on the National Register of Historic Places or one that might be eligible for listing. The agencies concerned with compliance review are the Department of the Interior, the Advisory Council for Historic Preservation, and the State Historic Preservation Offices. Before a project may proceed, its potential impact on historic cultural resources in the area must be reviewed. If the impact will be significant, provisions must be made for mitigating the adverse effects or for altering the original plan to avoid the site.

A prudent and early acknowledgment of compliance requirements can be a cost-effective project planning tool. The project budget can be developed to include archeological and historical research that would be used to evaluate areas of potential impact. Mitigation expenses incurred at this stage would be far less than those resulting from a delay once construction was begun. Results from a research and planning approach that fully considers compliance may also yield a significant body of environmental and cultural data, useful for all parties concerned with the project, as well as in the planning of future projects.



Known cultural resource survey areas. Based on data compiled by various archeological research and contracting organizations.



Known and predicted site densities. Based on Critical Areas Study Maps, 1979; archeological section compiled for the New Mexico State Planning Office by New Mexico State University from Laboratory of Anthropology, Santa Fe, New Mexico data.

Interagency Archeological Services— Washington

One of the programs of HCRS, Interagency Archeological Services (IAS) directs and coordinates a nationwide effort to protect significant archeological and historic remains threatened by federal construction projects, programs, or activities. IAS:

- Assists federal agencies in the fulfillment of their Executive Order 11593 responsibilities by helping them to locate, identify, and evaluate historic properties under their jurisdiction or control, or to conduct data recovery, if necessary, under Public Law 93-291.
- Develops for the Secretary of the Interior national goals and objectives, policies, standards, guidelines, and procedures for

all federal agencies to follow in the administration of the archeological and historic data recovery program under the Archeological and Historic Preservation Act of 1974 (Public Law 93-291).

- Manages the permit system instituted under the Antiquities Act of 1906 (Public Law 59-209) to regulate data recovery projects on most federally-owned or controlled lands.
- Consults with the Advisory Council on Historic Preservation on archeological issues.
- Reports annually to Congress on the scope and effectiveness of the program.

IAS Field Offices

The Interagency Archeological Services program is administered at the field level by the three regional offices, IAS-Atlanta, IAS-Den-

ver, and IAS-San Francisco. Each field office:

- Maintains a day-to-day liaison with other Federal agencies at the regional level in order to identify and plan for needed data recovery projects.
- Identifies firms or institutions capable of performing data recovery.
- Establishes the scope of archeological services required for projects, negotiates contracts, and reviews data recovery proposals.
- Monitors field and laboratory work.
- Reviews and approves final reports submitted following the completion of data recovery.

Because many Federal agencies whose actions may affect significant sites do not have sufficient archeological staff expertise, IAS is able to provide invaluable technical assistance nationwide. With its staff of professional archeologists in Washington and in the field, IAS is in a unique position to coordinate federally-sponsored archeological activities and to help other Federal agencies meet their responsibilities under Executive Order 11593 and Public Law 93-291.

Program Scope

Legislation

Historic preservation in the United States has been shaped by a body of more than two dozen laws that deal with archeological, architectural, cultural, and historic resources. Their intent is to make the Federal Government accountable for any potential impact its actions may have on the cultural environment. Laws that are particularly pertinent to archeology include: the Antiquities Act of 1906 (Public Law 59-209), the Historic Sites Act of 1935 (Public Law 74-292), the National Historic Preservation Act of 1966 (NHPA) (Public Law 89-665 as amended), the National Environmental Policy Act of 1969 (NEPA) (Public Law 91-190), and the Archeological and Historic

Preservation Act of 1974 (Public Law 93-291). As mentioned earlier, Executive Order 11593 assigns certain responsibilities to federal agencies with regard to historic preservation.

Often poorly understood by agency planners, archeological resources frequently receive inadequate consideration during project planning. It cannot be emphasized too strongly in this report that the timely application of the legal requirements cited above are intended to integrate historic preservation goals with the successful completion of agency construction projects without undue costs. The harmful effects of proposed construction projects, if recognized and dealt with during the planning phase, could be avoided or, at least minimized. IAS believes the failure of agencies to follow the historic preservation compliance process is the main cause of the needless destruction of archeological resources as well as costly construction delays. Unfortunately, archeologists have long been accused of obstructing public works projects when just the opposite seems more accurate: a construction project in full compliance with the intent of federal law is seldom delayed by the recovery of significant archeological information.

Complying with the Requirement of the Law

In order to deal responsibly with the cultural environment and to avoid delays caused by the failure to take the "preventive measures" required by law, federal agencies should begin the compliance process in the early stages of planning for a construction project. This process consists of three major steps.

1. *Identification of Cultural Resources within the Project Area.* Executive Order 11593 requires all federal agencies to locate, identify, and evaluate all historic and archeological resources under their jurisdiction or control that will be affected by their actions. The agency must

consult with the State Historic Preservation Officer and ask the Secretary of the Interior to resolve questions of whether properties are eligible for inclusion in the National Register of Historic Places. Where properties eligible for the National Register are involved, the agency should reevaluate the proposed undertaking to consider its impact.

Archeological sites are often the most numerous cultural entities identified during inventory and evaluation. Current knowledge about the distribution of sites geographically makes detailed site predictions difficult; therefore, systematic field surveys should be undertaken for many projects, even when state plans for the protection of cultural resources called for by the National Historic Preservation Act of 1966 have been completed.

2. *Consultation with the Advisory Council on Historic Preservation.* The National Historic Preservation Act of 1966 created the Advisory Council on Historic Preservation to counsel the President and the Congress and established the National Register of Historic Places. The federal agency must consult with the State Historic Preservation Officer to determine whether (1) its undertaking will affect a significant cultural resource in or eligible to be entered in the National Register, and (2) if the resource will be affected, whether the effect will be adverse. The Council must be given an opportunity to comment on the proposed project.

If the Council deems there will be an adverse effect, the agency must submit a preliminary case report to the Council, outlining the project and its impact on the property. The Council staff, the State Historic Preservation Officer, and the agency will then explore methods by which the adverse effects can be avoided or minimized. The final plan to avoid

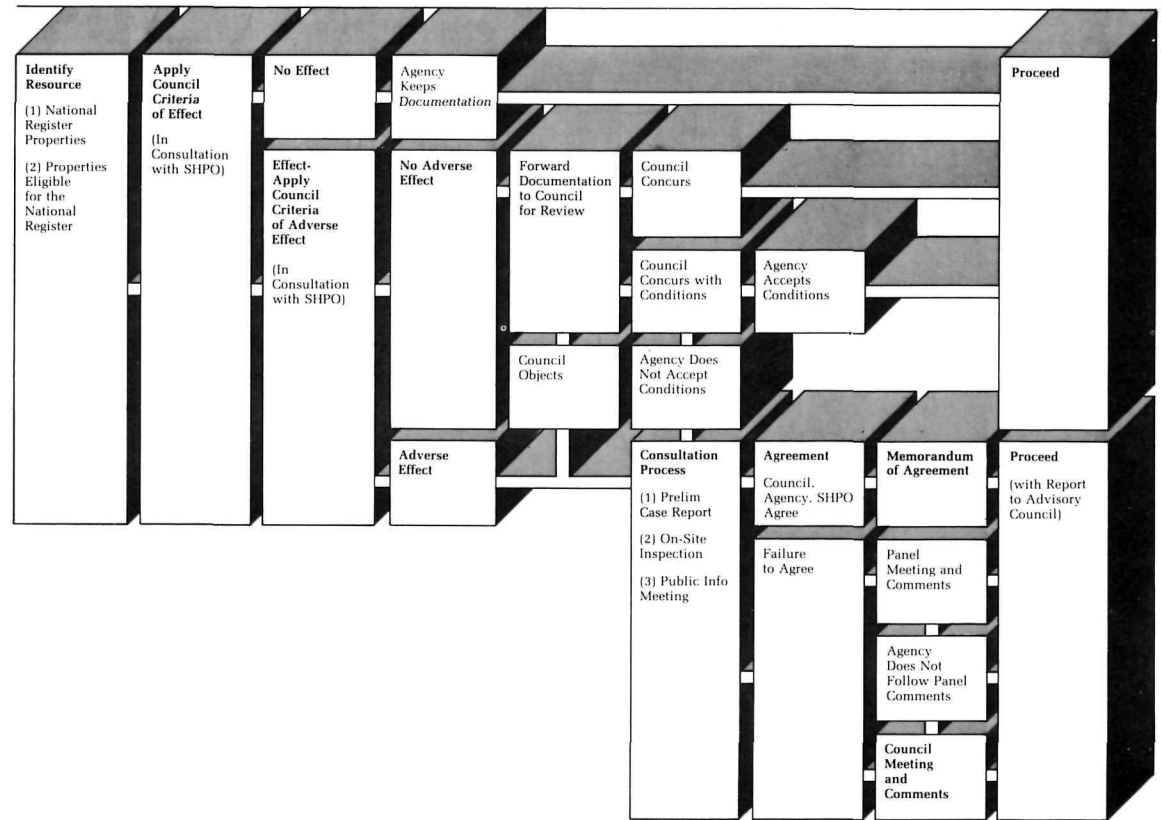
the property or mitigate the adverse effect must be acceptable to all three parties and must be incorporated into a legally binding Memorandum of Agreement. If no agreement can be reached, the full Council must formally comment on the matter. The federal agency is responsible or deciding the ultimate disposition of the property. It may elect to carry out, modify or ignore the Council's recommendations. Current policy of the Council is to view its comments as not legally binding. However, if the federal agency chose to ignore the Council's comments and subsequently had to defend its action in the courts, a position of noncompliance would severely weaken the case.

3. *Data Recovery* is defined as the scientific retrieval and preservation of archeological and historic materials and information that would otherwise be lost and the study of these resources in their original context. Because cultural resources that have been destroyed by construction or by archeological excavation cannot be replaced, their protection and conservation for long-term scientific study is always preferable to immediate excavation. In addition, techniques for recovery are continually improving. Accordingly, data recovery through archeological salvage is undertaken only as a last resort to save important information, while allowing a construction project to proceed.

If the consultation process reveals no way to avoid damaging or destroying the cultural resources and finds that recovery of specimens and scientific information is in the public interest, the agency may use its authority under the Archeological and Historic Preservation Act to undertake archeological excavations. The agency may contract for this work directly, using up to one percent of the author-

ized project appropriation, or may request the Secretary of the Interior to assume responsibility for the archeological investigations on a cost reimbursable basis or through the use of discretionary funds appropriated to him for

this purpose. When significant archeological sites are threatened by issuance of a federal permit or license or in other federally-assisted projects where the one percent proviso cannot be applied, the Secretary of the Interior may



Compliance flow chart. Reprint from Report to the President and the Congress of the United States 1979. Courtesy of the Advisory Council on Historic Preservation.



Tree-ring dating can be a cost-effective, low impact tool in the planning stages of rehabilitation and development. The requisite coring has no effect on the strength or aesthetics of the viga or post, yet can yield impressive results. Cores taken from logs of known provenience may be compared, with much information to be derived regarding cultural development across the pueblo.

elect to fund data recovery as the only prudent recourse to destruction of the resource without prior study. Data recovery, therefore, is the last step taken under preservation law and should only be conducted after a federal agency has fully discharged its responsibilities for identifying, evaluating, and considering cultural resources in the planning process.

A-2 Tourism

Although thousands of automobiles pass by the pueblo daily along Interstate 40, Laguna has not chosen to develop tourism on the reservation. With a fairly strong local economy based primarily on mineral resources, the tribe has left the tourist trade to other pueblos. Occasional visitors, drawn by the scenic overlook of Old Laguna village or by the need to buy gasoline, spend a few minutes at the mission church. Rarely do they stay longer than fifteen minutes, and they almost never visit any of the other villages. Beyond gasoline purchases and perhaps a snack at the grocery store, tourists add nothing to the tribal income.

By the same token, the few outsiders who do visit the pueblo for business or pleasure seldom intrude upon the daily life of the Laguna people. The more public parts of the reservation—the commercial developments, the Tribal Office Building, and the church—are sufficiently separated from the more private residences, and visitors do not usually wander about the village.

The tribal council asked HCRS to investigate the potential for enlarged tourist activity and to make recommendations for how best to integrate tourism into Laguna's present way of life. Recreation planner Katherine Austen developed the following report on the reservation's opportunities for visitors and suggestions for developing them. The goal in this plan is to balance the pueblo's need for privacy and dignity with the potential tourist's interest in an enlightening and pleasant visit. This plan attempts to show how Laguna can capture part of the visitor trade and, at the same time, by simply establishing some ground rules, protect the privacy of the Laguna people. These guidelines can make the visitor experience more pleasant for the tribe and the tourists.

I. Introduction

Several thousand people pass through the Laguna Reservation daily, but development of a tourism program and facilities have not kept pace with the growth in tourist travel. The purpose of this study is to appraise the extent and nature of the market for tourism at Old Laguna village, and to design a program in keeping with the historic and cultural qualities of the pueblo and to create minimum impact on the residents. The plan will identify areas of historic significance that may attract and serve tourists as well as provide income for Laguna residents.

A. Method of Study

In order to determine the feasibility of tourism at Laguna, the extent and character of the potential tourist market must be evaluated. Since I-40 is a direct tourist corridor between the east and Los Angeles, California, many travelers are interested only in traveling the route as quickly as possible in order to reach desired termination points, where tourists may be expected to spend more than a few hours.

B. The Nature of Existing Tourist Attractions

Laguna Pueblo lies approximately 40 miles west of Albuquerque and 30 miles east of Grants, New Mexico, on I-40. Traditionally, Laguna has not shared proportionately in the growth of the tourism industry. A partial reason for this fact is that Laguna does not advertise its attractions to tourists due to the wishes of the tribe. However, the location of the pueblo on I-40 offers positive advantages for tourism in Old Laguna. The principal attractions in the area are Sky City, Enchanted Mesa, and Acoma Lake on the Acoma Reservation located approximately 20 miles from Old Laguna and 60 miles from Albuquerque.¹

The principal existing and proposed facilities related to tourism on the reservation include the following features.

1. The I-40 rest stop and scenic overlook near the Laguna exit is operated and maintained by the New Mexico State Highway Department. The facilities contain port-a-johns and trash containers. Beautification efforts for the area are critically needed.
2. The Arts and Crafts Center located just off the Laguna exit may serve as a crafts cooperative or as an interpretive center.
3. The proposed Casa Blanca Commercial Center at the intersection of I-40 and NM 23 would include tourist oriented retail facilities, which could tap the economic potential of the passengers from over 3 million cars annually.²
4. The Jackpile Mine is the largest open-pit uranium mine known in the Western world and has operated on pueblo lands since 1953 under a leasing agreement with the tribe. The proposed ARCO/Anaconda relocation of Route 279 will pass directly through the Jackpile Mine. Therefore, this route may serve as an interpretive site for the mine and its relation to the pueblo.
5. The library located in Old Laguna eventually may serve as a cultural clearinghouse for the pueblo.

C. Description and Appraisal of Area

Access to Old Laguna is from two directions. One can exit east or west off I-40 at the Laguna exit. A striking view of the San José de la Laguna Church is offered to the traveler using this popular approach. The second approach to Old Laguna is Route 66 at the Mesita and Seama exits off I-40. Each of these access roads is well marked, in good shape, and offers a visually exciting

entry to the village.

The following areas of historical, architectural, and aesthetic interest have potential for attracting tourists.

1. The Domínguez-Escalante exploration route extends approximately 2,000 miles along the course of the 1776 expedition led by Fathers Francisco Atenasio Domínguez and Silvestre Velez de Escalante and originated in Santa Fe, New Mexico, and proceeded northwest to Colorado and Utah; then southward to Arizona, crossing through the current Laguna Indian Reservation, and finally returning to Santa Fe. The National Park Service has been requested to make a National Historic Trail Study in cooperation with affected federal, state, and local government agencies, private corporations, and interested groups to determine if the Domínguez-Escalante Route should be established as a component of the National Trails System.³
2. The village of Old Laguna and the San José de la Laguna Church are listed on the National Register of Historic Places. The San José de la Laguna Church built in 1699 by Friar Antonio Miranda is the primary tourist attraction for the reservation and Old Laguna.
3. Additional sites of historical significance near Old Laguna include the Old Santa Fe Trail, old Route 66 and the right-of-way for the Atchison, Topeka, and Santa Fe Railroad.

II. Market Analysis

Four market indicators have been investigated to determine the feasibility of a tourism program in Old Laguna. The indicators are transportation, population, the New Mexico tourism economy, and the tourist plan for Sky

City on Acoma Reservation.

A. Transportation

The actual number of tourists visiting or passing through the Laguna Reservation is not known. However, the number of potential visitors can be inferred from existing transportation data.

The number of travelers who would be potential users of tourism facilities may be inferred from the number of out-of-state passenger cars visiting New Mexico, and the number of in-state and out-of-state passenger cars passing through the reservation. A reasonably reliable measure of persons who pass through the reservation is provided by the Average Daily Traffic (ADT) count of the New Mexico State Highway Department. Traffic data obtained from a continuous counter between Laguna and Grants is used to estimate the number of vehicles that pass through the reservation.

Although the traffic figures have increased from 1977 to 1978, the New Mexico Highway Department reports the following 1979 traffic patterns:

- The total in-state and out-of-state traffic has decreased 5.4%.
- The total New Mexico in-State traffic for June 1979 is down 11.5%.
- The total I-40 traffic through the reservation during June 1979 has declined 13.2%.⁶

This decline in traffic may indicate:

- The impact of the gasoline shortage throughout the US and New Mexico.
- The possibility of more passengers traveling per car. The Highway Department estimates approximately 2.5 persons per car; therefore, the total passenger figure may rise even though there are fewer cars traveling.

- The increase of one day excursions from metropolitan areas in lieu of longer journeys.

Large metropolitan areas on I-40, such as Albuquerque, are often referred to as "natural" stopping points for tourists because of the multitude of goods and services they offer the traveling public.⁷

However, because of the decline in traffic for 1979 and the tourist attractions and conveniences in Albuquerque, evidence indicates that Old Laguna may still sustain a tourist market based on the premises described below.

- The distance from major metropolitan areas has a significant impact on the growth of tourism in non-metropolitan areas. Old Laguna is within a one-hour drive from Albuquerque and may be combined with a day trip to other attractions.
- The reservation and Old Laguna are easily accessible from I-40.
- The Laguna villages are in close proximity to other areas of interest to the tourist. For example, Sky City, Enchanted Mesa, and Acomita Lake are within a one and one-half hour journey from Albuquerque and approximately one-half hour from Grants and Old Laguna.

B. Population

The population growth for the state and selected areas may serve as an indicator for beneficial and positive tourist development in Old Laguna. The population of New Mexico continues to expand and is growing about three times faster than the nation as a whole. It has grown from 1,017,000 in 1970 to 1,212,000 in 1978, a gain of 195,000 or 19 percent.⁸ Valencia County in which Laguna Pueblo is primarily situated has increased its

Table 12

Out-of-State Passenger Cars Visiting New Mexico

1976	1977	1978
7,941,285	8,223,368	8,240,240

Table 13

Average Daily Traffic Count on Laguna Reservation

In-State & Out-of-State Passenger Cars & Pickups Passing I-40 at the Laguna Exit		
1977	1978	Annual 1978
8,602	9,032	3,296,000
In-State & Out-of-State Passenger Cars & Pickups Exiting I-40 to Old Route 66 at the Laguna Exit		
1977	1978	Annual 1978
1,516	1,592	581,000

Table 14

ADT of High and Low Figures of In-State and Out-of-State Passenger Cars and Pickups that Pass Through Laguna Reservation on I-40⁹

High	July 1978	11,651
Low	February 1978	6,502

population from 40,000 in 1970 to 51,400 in 1977, a gain of 10,800 or 27 percent.⁹

The projected population growth for the Laguna Reservation for 1989 is 7,128. This is a gain of 1,150 persons over the 1979 population of 5,978.¹⁰

Similar to the population trends in New

Mexico, Valencia County, and Laguna Pueblo, the population of the Albuquerque Standard Metropolitan Statistical Area (SMSA) continued to grow through 1977. Nearly 57 percent of the increase of population since 1970 has occurred through net immigration.

Table 15**Population—Growth¹¹: Albuquerque SMSA***

	April 1, 1960	April 1, 1970	July 1, 1977
Albuquerque SMSA	276,400	333,266	402,900
% increase	N/A	20.6	20.9
Albuquerque SMSA as a % of State	29.1	32.8	33.8

*Albuquerque SMSA includes Bernalillo and Sandoval Counties.

C. The New Mexico Tourism Economy

A third indicator for tourism growth throughout the state and its possible impact on Old Laguna is the strength of the New Mexico tourism economy. The 1976 total domestic expenditures spent for travel in New Mexico was \$881.8 million. The expenditure breakdown in 1976 consists of:¹²

Table 16

Activity	Millions of Dollars*	Percentage*
Public transportation	\$ 33.0	32.0
Automobile	223.2	
Lodging	77.4	9.5
Food	297.9	37.0
Entertainment & Recreation	69.9	8.6
Incidentals (gifts)	<u>109.8</u>	<u>12.5</u>
Total	\$881.8	100.0

*Figures may not add up to total due to rounding.

In comparison to New Mexico, travelers in adjacent states spent in 1976 (millions of dollars):¹³

Table 17

Arizona	\$	1,876.8
Colorado		2,229.6
Texas		6,076.1
United States		108,257,000.0

Another indicator of the tourism potential for the state is the increased use of lodging facilities.¹⁴

Table 18

Money Spent on Lodging in New Mexico

New Mexico		Albuquerque		Valencia County	
1977	1978	1977	1978	1977	1978
\$120,316,064	\$144,272,007	\$42,818,000	\$52,062,518	\$1,585,105	\$2,029,776

Between 1977 and 1978, there was a 20 percent increase for New Mexico gross receipts for lodging. It can be suggested that this increase will continue through 1979–80. Other statewide indicators may include the employment resulting from tourism.

Table 19

New Mexico Employment in Tourism-Related Establishments (Annual Average)¹⁵

	1976	1977	1978
Eating and Drinking Areas	21,000	23,300	25,800
Lodging	8,900	9,000	9,200

The visitors' economic impact for Albuquerque is a reliable source for comparison since Old Laguna is approximately one hour's distance, and many visitors may venture to Old Laguna for a short excursion.

Table 20

Summary of Visitor Economic Impact for Albuquerque¹⁶

	April 1, 1977 to March 31, 1978	April 1, 1976 to March 31, 1977
Total Visitors to Area	5,029,701	5,041,696
Total Visitors Spending	\$294,991,957	\$249,664,800

The Indian Pueblo Cultural Center in Albuquerque is operated by the All Indian Pueblo Council (AIPC) and the Indian Pueblo Marketing Service. The center provides and outlet for Pueblo Indian crafts and cultural activities.

From 1977 to 1978 approximately \$540,000 of merchandise was purchased from the 19 pueblos in New Mexico. The projection for September 1978 is approximately \$795,000. There also has been a steady influx of visitors to the center, which indicates an increasing interest in cultural activities.

Table 21

Visitors to Center¹⁷

Year	Visitors
1977	72,044
1978	84,365
1978 (Jan. to June)	32,272
1979 (Jan. to June)	44,839

D. Tourist Development in Sky City on Acoma Reservation

Because of the popularity of Sky City and its proximity to Old Laguna, this area may serve as a model to measure future tourist development in Old Laguna.

Access to Sky City and Acoma Valley is from two directions. One can leave old Highway 66 or I-40 at the NM 23 exit and travel southeast through the Acoma Valley to the site. This approach is principally through the Laguna Reservation, although the last five miles are on Acoma land. An impressive view is offered to the traveler using this approach. Sky City and Acoma Valley can also be reached by leaving I-40 at either McCartys or Acomita and then taking dirt roads that lead south to Sky City.

Sky City is an ancient pueblo built on a massive rock formation rising vertically approximately 300 feet from the floor of Acoma Valley. The towers of the Church of St. Stephen can be seen against the sky.¹⁸

To date, existing facilities in Sky City consist of: an interpretive center, guided tours through Sky City, and crafts sold from individual homes and from general store in Sky City.

While Laguna doesn't share some of the striking geologic features of Sky City, tourist features comparable to those at Acoma are described below.

- The view of Old Laguna and the San José de la Laguna Church off I-40.
- The massive mesa surrounding Laguna with Mt. Taylor serving as a backdrop.
- The pueblo architecture prevalent in Laguna.
- The development of a community park in Old Laguna which may serve as a crafts market during the summer months.

To determine the possible tourist market for Old Laguna, it is necessary to note the monthly visitors to Sky City and the amount of sales generated from their patronage.¹⁹ (The 1977 figures are the only ones available.)

Table 22
1977 Visitors to Sky City*

Month	Visitors to Sky City
Jan.	1,300
Feb.	1,800
Mar.	2,900
Apr.	3,800
May	5,200
June	8,500
July	9,300
Aug.	10,000
Sept.	4,300
Oct.	3,700
Nov.	2,600
Dec.	2,300
Total	55,700

*The average expenditure per visitor at Sky City is approximately \$5.00.

Table 23
Cost Breakdown for Tourists Visiting Sky City

Parking at Sky City	\$.50
Tours for Adults	2.00
Still Camera Permit	2.00
Movie Camera Permit	5.00
Sketching/Painting Permit	25.00

A capture rate was developed for Sky City based on the monthly visitor figures on Table 1, and the ADT count at the I-40 and NM 23 overpass. The average car load equates 2.5 persons.

E. Formula for Model Capture Rate

- 1977 ADT of in-state and out-of-state passenger cars and pickups at I-40 and NM 23. Potential tourists equal 75% of ADT of 10,670 vehicles.
- Average car load is 2.5 persons.
- (75% of ADT) 8,000 × 2.5 passengers × 30 days = 600,000 potential tourists per month.
- Monthly visitors for 1977 to Acoma listed on Table 22.
- Monthly visitors equal X% of cars per month (600,000).

Table 24
Potential Monthly Capture Rate of I-40 Traffic to Sky City for 1977

Month	Percent
Jan.	0.2
Feb.	0.3
Mar.	0.5
Apr.	0.6
May	0.9
June	1.4
July	1.5
Aug.	1.6
Sept.	0.7
Oct.	0.6
Nov.	0.4
Dec.	0.4
Total	9.1

Table 25

Calculations

9.1% annual Acoma capture rate

Monthly average capture rate for Acoma is
75%

$0.75 \times 600,000$ equals 4,500 visitors per month

The average number of monthly visitors to Acoma is approximately 4,500, and the annual visitors to Acoma is 54,000 (1977 data). It can be concluded that the average monthly number of visitors and the annual visitors to Laguna is slightly less since there is no developed tourism program and Laguna has not been widely advertised. The average expenditures from visitors would also be less. Based on the four market study indicators, these recommendations may be applicable to the feasibility of a tourism program in Old Laguna.

1. The reservation and Old Laguna are within 45 miles or approximately a one-hour drive from Albuquerque. Visitors may combine a stop to Old Laguna in their daily outing plans.
2. The reservation and Old Laguna are easily accessible from I-40.
3. The proximity of Old Laguna to the developed tourism program at Sky City and Acomita Lake may encourage visitors to add Old Laguna to their agenda.
4. The population of New Mexico, Valencia County, Albuquerque, and Laguna is increasing annually, which indicates a favorable trend for tourism planning in Old Laguna.
5. The tourism economy for New Mexico and Albuquerque is increasing annually which indicates a favorable trend for tourism

ism planning in Old Laguna.

6. The model capture rate for Acoma, including the monthly and annual visitor rates and the expenditures accrued from their patronage, may be applied to a cost/benefit analysis for a tourism plan in Old Laguna.

III. A Plan for Tourism Development in Old Laguna

A. Introduction

As previously indicated there is a lack of organized facilities to attract and serve tourists, as well as to provide income and employment for the Lagunas. Also, there is no advertising program to alert tourists of the possible attractions in the village. Although extensive development could not be supported by the present volume of tourism, the development package suggested is financially feasible and will fill a real need.

The potential tourism attractions at Old Laguna Village may include:

- Arts and Crafts Center
- I-40 overlook
- Library
- San José de la Laguna Church
- New community park
- Historic trails that pass near Old Laguna which include:
 - Domínguez-Escalante Trail
 - Old Santa Fe Trail
 - Old Highway 66
 - Right-of-way for the Atchison, Topeka, Santa Fe Railroad
- Laguna Mart General Store
- Mount Taylor
- Pueblo architecture (the village is listed on the National Register of Historic Places)

B. Base Data for Old Laguna Village

The ADT for the I-40 on/off ramp to Old Laguna on Route 66 for 1977 and 1978 was approximately 2,000 vehicles.²¹ The most popular stopping points for visitors in Old Laguna are the Laguna Mart General Store and the San José de la Laguna Church.

Two spot checks were done at both sites to determine the volume of in-state and out-of-state visitors. They were asked what their primary reason for visiting Laguna was, and if they would purchase arts and crafts, if available.²²

1. The results of the spot checks at Laguna Mart indicated that most of the patrons are from Laguna Pueblo. Approximately 25 percent of the visitors are from out of state. The visitors stopped at Laguna Mart generally because of the advertisement on I-40, and their principal reason for stopping was to purchase food and gasoline. All interviewed indicated that they would like to buy arts and crafts.

Business generated at Laguna Mart, Inc. indicates an annual business growth of approximately 8 percent from 1976 to 1978.²³ The owners stated that approximately 85 percent of shoppers (food and gas) are local and 15 percent are tourists. However, during the summer months, the tourists may increase to 30 percent.

2. The results of the spot checks at the San José de la Laguna Church indicated that most of the visitors were from out of state who planned to visit the church for approximately 15 minutes to one-half hour. The average number of visitors for the two days was 12 persons. They also showed an interest in purchasing arts and crafts.

The goals of the tourist package are to:

- Provide additional income for Lagunas in the context of selling arts and crafts or culinary goods.
- Adhere to the cultural sensitivity of the pueblo, and establish phasing to facilitate the costs for implementation.
- Allow visitors to experience the values of the pueblo without adversely affecting the residents.
- Create a program that is easy to maintain, and relies on existing facilities and resources.
- Provide alternatives in the plan to allow flexibility in the decision making process by the village members and Tribal Council.
- Establish phasing for immediate short-range and long-range tourism planning.

C. Action Program

Flexibility was a major consideration in developing this two phase tourism "action program." Alternatives are included for each phase.²⁴

The majority of visitors exit I-40 or Route 66 to enter Old Laguna. Many visitors stop at Laguna Mart for food and gas before proceeding to the mission.

The first phase is designed to follow the paved road through Old Laguna to the parking area near the mission. The first stop could be at the community park to the north of the Tribal Office Building. The park would serve as one of the village focal points for the residents and tourist, and crafts and food could be sold by the villagers on this site.

Visitors could proceed to the parking area near the church. As tourists enter the church, a brochure or handout could be available outlining the rules of the pueblo

and the history and cultural events. A donation box could be provided to assist in defraying the cost of the brochure. Photography should be prohibited except in designated areas.

1. Cost—approximately \$200 for 1,000 brochures or handouts.²⁵
2. Implementation—under 1 year, pending construction of the community park.
3. Impact—minimum impact to the residents.
4. Alternatives:
 - A sheltered area for the elderly should be provided at the community park. This area may also serve as a protected area for selling crafts.
 - The Arts and Crafts Center could incorporate scheduled operating hours during the week and weekends for visitation. The center could be an outlet for crafts, displays, and cultural events.

The second phase will incorporate a guided tour through the old village for approximately one-half hour. A student could be located at the church, and one or two tours could be given daily during specified times. Visitors could be charged a minimum fee (\$1.00) for the tours and a minimum fee for the brochure (\$.25).

The tours would provide an opportunity for students or young adults to work as summer tour guides and learn more about the history and other aspects, of the pueblo.

1. Cost—furnishing the room at the church for a visitor registration office and for the tour guides. This may be excess equipment from other tribal offices or private individuals. The tour guides may be students hired for the summer.
2. Implementation—approximately 2-3 years.

3. Impact—controlled minimum impact on the residents. The guided route would traverse the least dense areas of the old village, thereby eliminating the sacred plaza and undue intrusion on individual homes and grounds. However, the visitors would still be able to experience the impressive vistas the south and view the homes and pueblo architecture.

4. Alternatives

- Restore the house adjacent to the church. This could be developed into an early pueblo house and serve as an area to sell crafts, food, and set up displays. This is a dilapidated private home, and the owners are interested in restoring the house to its original condition. Therefore, the tribe or village would have to provide arrangements for leasing or buying it from the owners.
- Restore the former Housing Authority Building as an Interpretive/Visitor Center. This site will serve to collect fees for tours, sell crafts and food, arrange for displays, and provide speakers for visitors and residents.
- Develop the library as an outlet for cultural information, such as old photographs and historic documents, and information on the Keresan language for the residents, visitors, and inter-pueblo use.
- Develop the banks along the Rio San José near Old Laguna for trails and picnicking sites for the residents and visitors.

The costs for restoration are listed.²⁶



Proposed "Display" house.

Table 26
"Display" House

1. Demolition & clean out	\$ 800.00
2. New walls	650.00
3. Bancos, steps, etc.	250.00
4. Electricity	700.00
5. Plaster	<u>2,200.00</u>
	\$4,600.00

Maximum: \$6,000.00



Former Housing Authority Building.

Table 27
Half of Housing Authority Building

1. Clean out	\$ 200.00
2. New walls & fin.	1,800.00
3. Display	1,200.00
4. Electricity	2,000.00
5. Plumbing	1,500.00
6. Mech.	1,200.00
7. Doors & windows	1,200.00
8. Equipment	1,600.00
9. Site improvements	<u>8,600.00</u>
	\$19,300.00

Maximum: \$22,000.00

¹ Chambers and Campbell Inc., Development Plan for Commercial Tourism Facilities along Interstate 40, Laguna Reservation, 1965.

² New Mexico State Highway Department average daily traffic count for 1978 on I-40 at the NM 23 interchange is 11,204; 75% of these vehicles are passenger cars and pickup trucks.

³ US Department of the Interior, National Park Service, Domínguez-Escalante National Historic Trail Study, 1979.

⁴ New Mexico State Highway Department, 1979 percentages of vehicles traveling through Laguna Reservation on I-40. New Mexico passenger cars are 25% of total ADT; out-of-state passenger cars are 29.3% of ADT; and in-state and out-of-state pickups are 20.2% of ADT.

⁵ New Mexico State Highway Department estimates: 1978 July figure is 12.8% of ADT of vehicles that pass I-40 at Laguna exit; 1978 February

figure is 72% of ADT of vehicles that pass I-40 at Laguna exit.

⁶ New Mexico State Highway Department, 1979.

⁷ Chambers and Campbell, Inc., Development Plan for Commercial Tourism facilities along Interstate 40, Laguna Indian Reservation, 1965.

⁸ New Mexico, Economic Report, First New Mexico Bankshare Corporation, 1978.

⁹ US Department of Commerce, Bureau of Census, and the University of New Mexico Bureau of Business and Economic Research, 1978.

¹⁰ Census Office, Southern Pueblos Agency, BIA, 1979.

¹¹ US Department of Commerce, Bureau of Census, 1978.

¹² US Travel Data Center, New Mexico Commerce and Industry Department, and New Mexico Tourism and Travel Department, (most current figures available).

¹³ US Travel Data Center.

¹⁴ New Mexico Department of Taxation and Revenue, Standard Industrial Classification SIC (7000) Lodging: Hotels, Motels, and Trailer Parks.

¹⁵ New Mexico Department of Human Services, Employment Services Division, 1978.

¹⁶ US Travel Data Center, and the Albuquerque Convention Center.

¹⁷ Indian Pueblo Marketing Service, Indian Pueblo Cultural Center, Albuquerque, New Mexico, 1979.

¹⁸ *Kirschner Associates, Albuquerque, New Mexico, Management and Economic Consultants, Development of Tourist Potential, Acoma Indian Reservation, 1965.*

¹⁹ *Acoma Tribal Office, Tribal Treasurer, Acoma Indian Reservation, 1979.*

²⁰ *New Mexico State Highway Department, 1979.*

²¹ *New Mexico State Highway Department, 1979.*

²² *The spot checks were done in August 1979 on a Monday and Friday (8-5 p.m.) by two Laguna students.*

²³ *Dun and Bradstreet Inc., National Rating Service for Business, Albuquerque, New Mexico, 1979.*

²⁴ *The Laguna Village Officer, Mr. Victor Sarra-cino, and the Tribal Governor, Mr. Floyd Correa, provided input to the tourism plan.*

²⁵ *Valliant Printing Co., Albuquerque, New Mexico. Costs represent layout and printing.*

²⁶ *Figures based on 1979 construction and material costs provided by Mr. Andy Acoya, architect.*

A-3 Federal Funding Sources

US Department of Agriculture, Farmers Home Administration

Recreation Facility Loans

Type of Assistance: Guaranteed/Insured loans, technical assistance. The program allows recipients of loans and supervisory assistance to convert all or a portion of the farms they own or operate to income-producing outdoor recreational enterprises which supplement or supplant farm or ranch income and permit carrying sound and successful operations.

Application to Laguna: To assist future development of the Rio San José in Old Laguna for trails, campgrounds, and picknicking areas.

Contact: Farmers Home Administration
US Department of Agriculture
Washington, DC 20250

Community Facilities Loan

Type of Assistance: Guaranteed/Insured loans. To construct, enlarge, extend or improve fire stations, libraries, hospitals, clinics, community buildings, industrial parks, or other community facilities that provide service to rural residents, and to pay necessary costs connected with such facilities. Funds are allocated to states based on rural population and income.

Application to Laguna: To assist in the rehabilitation of community facilities on the reservation.

Contact: Farmers Home Administration
US Department of Agriculture
Washington, DC 20250

Sections 515 and 521—Community Rental Housing

Type of Assistance: Loans. These programs finance economically designed and constructed

rental housing for low- to moderate-income families and senior citizens. Loans can be used to construct, purchase, improve or repair rental or cooperative housing. Interest rates are set at 8.5 percent with a maximum term of 50 years.

Eligibility: Applicants may be individuals, cooperatives, profit, and non-profit agencies. Applicants must be able to assume the obligations of the loan and have sufficient income for repayment.

Application to Laguna: This program is of limited benefit to Laguna since rental housing is not in demand or expected to increase greatly in importance in the future.

Contact: County Supervisor, FmHA

Area Development Assistance Planning Grants

Type of Assistance: Grants to public agencies. Under this program funds are provided to public agencies to prepare comprehensive plans or plans for specific aspects of rural development. Projects may include plans for resource development or preservation of land for residential, commercial, or industrial uses. Grants may be made up to 75 percent of the project cost and can be used to pay salaries, office expenses and supplies, necessary administrative costs, and costs to undertake surveys necessary for the planning activity.

Application to Laguna: This program could be useful for general planning purposes or for setting up a program for housing rehabilitation.

Contact: County Supervisor, FmHA

US Department of Commerce, Economic Development Administration

Grants and Loans of Public Works and Development Facilities

Type of Assistance: Project grants, direct

loans. The program is to assist in the construction of public facilities needed to initiate and encourage long-term economic growth. Grants are for such public facilities as water and sewer systems, access roads to industrial parks, public tourism facilities, and site improvements for industrial parks.

Matching Requirements: The basic grant rate may be up to 50 percent of the project cost. Severely depressed areas that cannot match federal funds may receive supplementary grants to bring the contribution up to 80 percent of the project cost with designated Indian reservations eligible for 100 percent assistance.

Application to Laguna: To assist in the development of tourism facilities including the rehabilitation of historic public facilities.

Contact: Director, Office of Public Works
Economic Development Administration
US Department of Commerce
Washington, DC 20230
(202) 377-5265

Public Work Impact Projects

Type of Assistance: Project grants. To provide immediate useful work to underemployed and unemployed persons in designated project areas. Construction of public facilities to provide immediate jobs to the unemployed or underemployed in the project area.

Matching Requirements: The basic grant rate for special impact areas is 80 percent except for Indian areas, where the rate can be 100 percent.

Application to Laguna: To assist in the construction of the Encinal Day School or rehabilitation of Display House in Old Laguna. Assist with landscaping of these areas.

Contact: Director, Office of Public Works
Economic Development Administration

tration
US Department of Commerce
Washington, DC 20230
(202) 377-5265

US Department of the Interior, Heritage Conservation and Recreation Service

Outdoor Recreation, Development and Planning

Type of Assistance: Project grants. The program is to provide financial assistance to the states and localities for the acquisition and development of outdoor recreation areas and facilities for the general public to meet current and future needs and for the preparation of comprehensive statewide outdoor recreation plans.

Facilities must be open to the general public and not limited to special groups. Development of basic rather than elaborate facilities is favored. Fund monies are not available for the operation and maintenance of the facilities.

Matching Requirements: The Land and Water Conservation Fund Act specifies that not more than 50 percent of the project cost may be federally funded. Under certain conditions all or part of the project sponsor's matching share may be from certain other federal assistance programs. New Mexico supplemental funds for cities with populations under 25,000 may match 25 percent of the local portion.

Application to Laguna: Can be used to assist with development of outdoor recreation facilities.

Contact: Southwest Regional Office
National Park Service
Old Santa Fe Trail
P. O. Box 728
Santa Fe, New Mexico 87501

US Department of the Interior, US Fish and Wildlife Service

Sport Fish Technical Assistance

Type of Assistance: Technical assistance. The program provides planned technical assistance and information to Native American and other state and federal agencies in management of waters for sport fishing. Stocking of fish from National Fish Hatcheries may be one of the management tools considered. The program does not provide financial assistance for construction of ponds or lakes.

Application to Laguna: Can be used to provide fish for existing and proposed reservoirs.

Contact: Office of Fishery Assistance
US Fish and Wildlife Service
US Department of the Interior
Washington, DC 20240
(202) 343-8961

Community Services Administration

Summer Youth Program

Type of Assistance: Project grants. To provide recreational opportunities for low-income children between the ages of 8 and 13 during the summer months. Summer Youth Recreation Program funds may be used for administration and consumable office supplies and for recreation services which include field trip expenses, transportation for participants and program staff, and food provided as an integral part of a recreation activity.

Application to Laguna: Can be used to assist summer recreation programs.

Contact: Director, Office of Program Development
Office of Community Action
Community Services Administration
1200 19th Street, N.W.
Washington, DC 20506

National Trust for Historic Preservation

Consultant Service Grants

Type of Assistance: Grants. This program provides grants on a matching basis to nonprofit or public member organizations to pay for consultants on preservation problems. Grants average \$1,000 to \$2,000 and support projects related to historic district and property feasibility studies.

Eligibility: Public and private organizations are eligible.

Application to Laguna: This program could be used to pay outside consultants for technical assistance concerning the rehabilitation of historic structures on the reservation.

Contact: National Trust for Historic Preservation
1785 Massachusetts Avenue N.W.
Washington, DC 20036
(202) 673-4000

A-4 Plants

This is a listing of plant materials that can be used at Laguna:

Trees Native to Reservation

- * Pinon Pine - *Pinus edulis*
- Ponderosa Pine - *Pinus ponderosa*
- * One Seed Juniper - *Juniperus monosperma*
- Rio Grande Cottonwood - *Populus wislizeni*

Naturalized Trees

- * Russian Olive *Elaeagnus angustifolia*
- * Siberian Elm - *Ulmus pumila*
- Salt Cedar - *Tamarix pentandra*

Adaptable Trees

- * Western Catalpa - *Catalpa speciosa*
- * Western Redbud - *Cercis californica*
- Tree-of-Heaven - *Ailanthus altissima*
- * Smoke Tree - *Cotinus coggygria*
- * Hackberry - *Celtis reticulata*
- * Arizona Cypress - *Cupressus arizonica paniculata*
- Arizona Ash - *Fraxinus velutina*
- * Honey Locust - *Gleditsia triacanthos inermis*
- Glove Willow - *Salix* sp.
- * Fruitless Mulberry - *Morus alba*
- Black Locust - *Robinia pseudoacacia*
- Golden Raintree - *Koelreuteria paniculata*
- Japanese Pagoda Tree - *Sophora japonica*
- Sycamore - *Platanus acerifolia*
- * Wisteria - *Wisteria* sp.
- * New Mexico Locust - *Robinia neomexicana*

Fruit Trees—Apples, pears, peaches, apricots, plums, and cherries will also grow on the reservation and are useful in landscape situations.

**Recommended trees*

Shrubs Native to Reservation

- Indigo Bush - *Amorpha fruticosa*
- Indigo Bush - *Amorpha fruticosa nana*
- Black Sage - *Artemisia nova*
- Big Sage - *Artemisia tridentata*
- Four-wing Salt Bush - *Atriplex canescens*
- Mountain Mahogany - *Cercocarpus montanus*
- Dwarf Rabbitbrush - *Chrysothamnus depressus*
- Rubber Rabbitbrush - *Chrysothamnus nauseosus*
- Tall Rabbitbrush - *Chrysothamnus speciosus*
- Cliffrose - *Cowania mexicana*
- Winterfat - *Eurotia lanata*
- Apache Plume - *Fallugia paradoxia*
- New Mexico Privet - *Forestiera neomexicana*
- Common Chokecherry - *Prunus virginiana*
- Skunkbush - *Rhus trilobata*
- Yucca - *Yucca* sp.

Adaptable Shrubs

- Siberian Peashrub - *Caragana arborescens*
- Dwarf Siberian Peashrub - *Caragana arborescens pygmaea*
- Shrubby Cinquefolia - *Potentilla fruticosa*
- Curl-leaf Mountain Mahogany - *Cercocarpus ledifolius*

Vines

- Virgin's Bower - *Clematis ligusticifolia*
- Virginia Creeper - *Parthenocissus inserta*

Grasses

- Western Wheatgrass - *Agropyron smithii*
- Little Bluestem - *Andropogon scoparius*
- Side-oats Grama - *Bouteloua curtipendula*
- Blue Grama - *Bouteloua gracilis*
- Galleta - *Hilaria jamesii*
- Indian Ricegrass - *Oryzopsis hymenoides*

A-5 South Prairie Block Rehabilitation Recommendations

General Notes for Rehabilitation

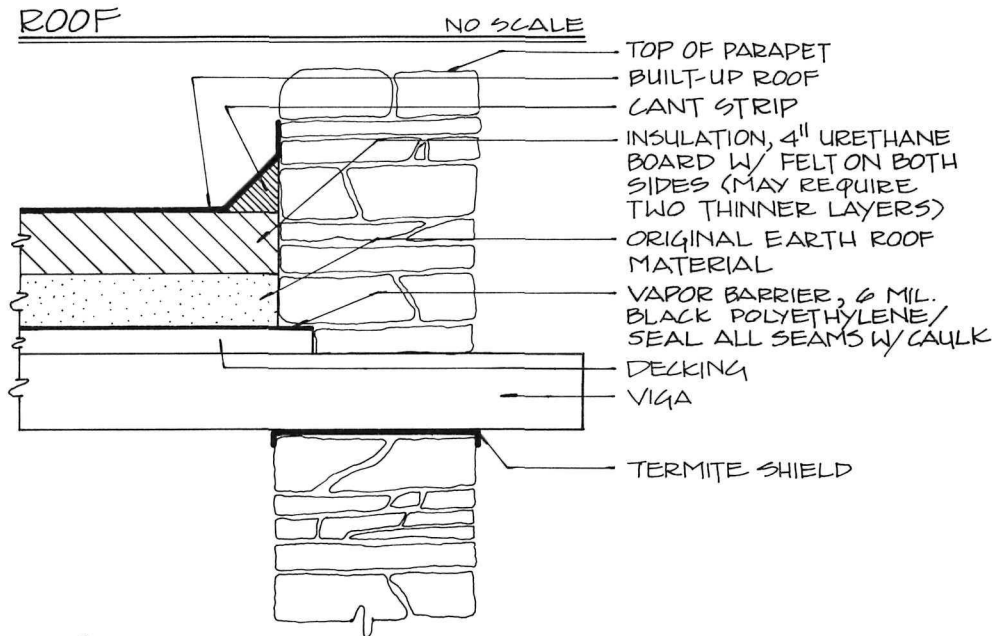
Roof construction—vigas with termite shield, pine planks, vapor barrier, insulation, built-up roof, earth covered with light sand.

Skylights—double insulated with reflector to control sunlight.

Walls—traditional construction of sandstone with white plaster exterior. Interior dividing walls are wood frame construction with plastered wall board.

Windows and doors—wood sash and frame.

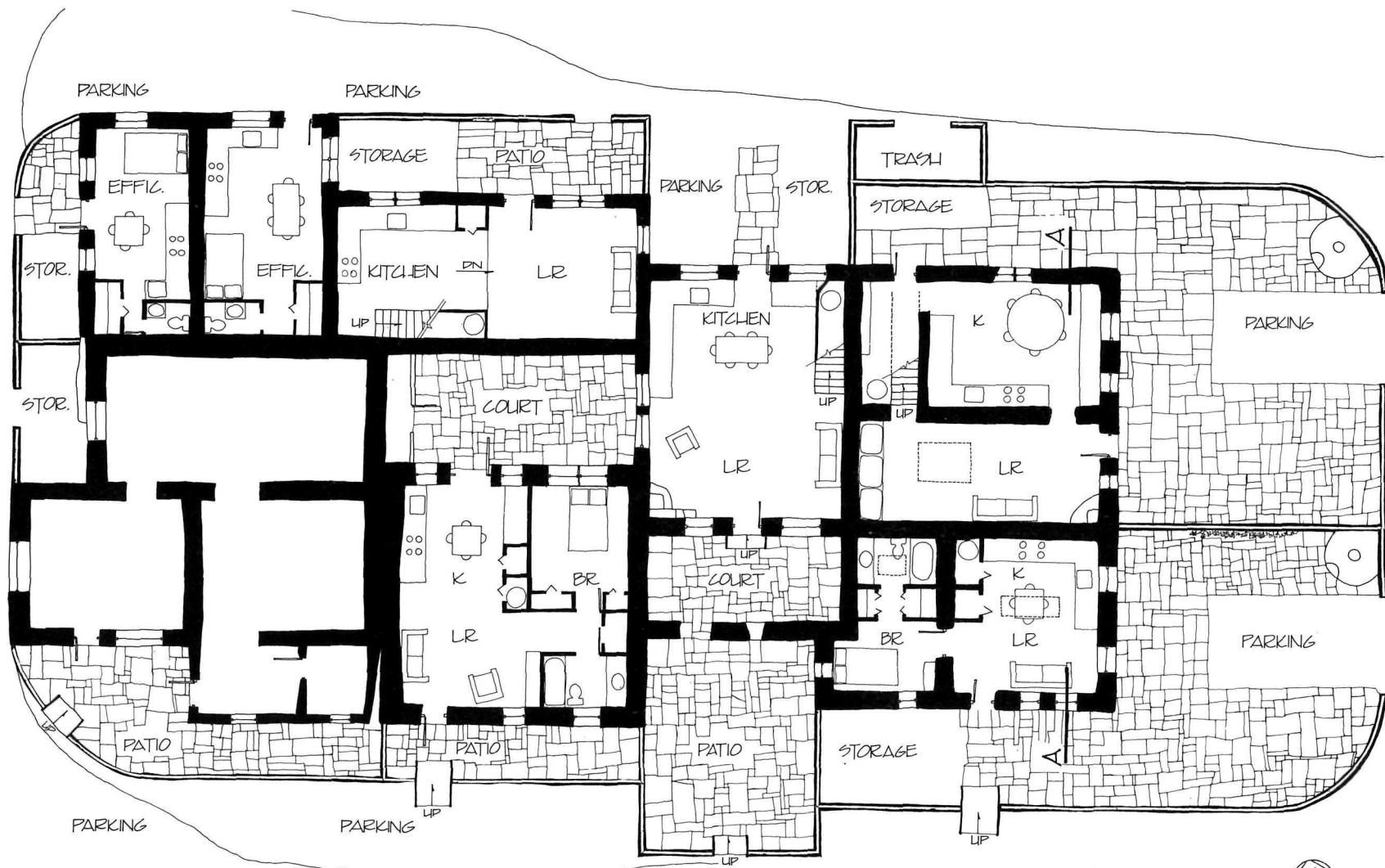
Interior floors—clean out fill, fumigate, and construct wood floor on sleepers, or inlay large pavers in sand base.



NOTE:

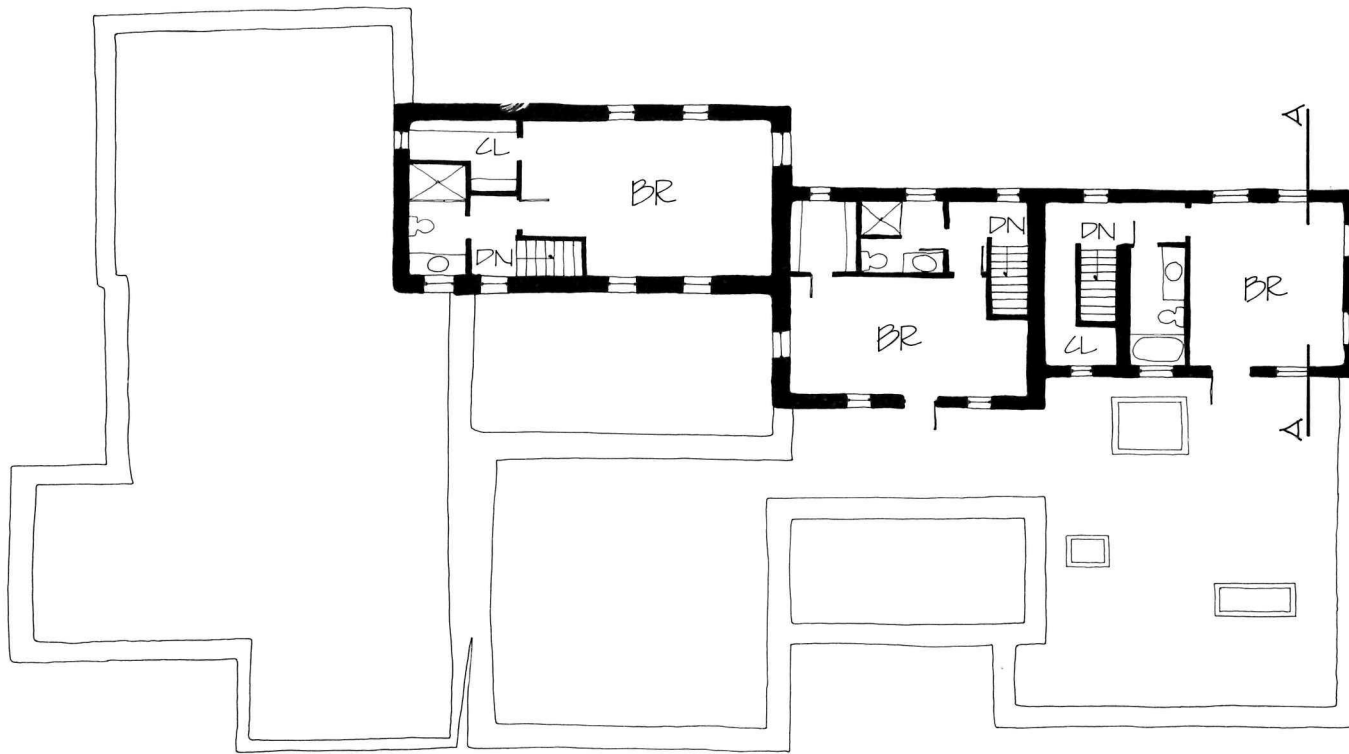
- IN BUILDINGS IN WHICH ROOF IS NOT TO BE REMOVED PRIOR TO RENOVATION, AND WHERE DIRT FROM CEILING HAS BEEN NO PROBLEM, POLY VAPOR BARRIER MAY BE PLACED ABOVE ORIGINAL ROOF MATERIAL, DIRECTLY BELOW URETHANE.
- WHERE PEDESTRIAN USE OF ROOF IS ANTICIPATED, A PROTECTIVE DECK SHOULD BE PLACED OVER THE BUILT-UP ROOF.
- MINIMUM ROOF SLOPE $\frac{1}{4}$ " PER FOOT.

Proposed roof construction cross-section.

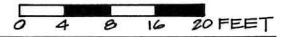


SOUTH PRAIRIE BLOCK // PROPOSED FLOOR PLAN

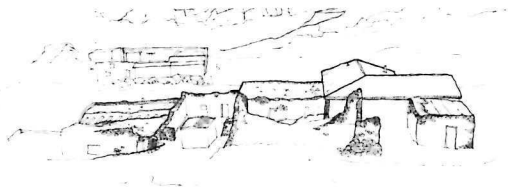
South Prairie Block. Proposed first-floor plan.



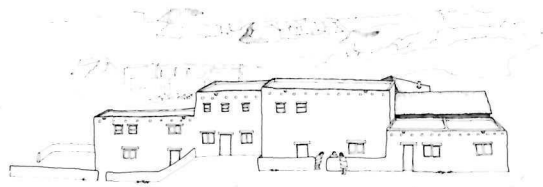
SOUTH PRAIRIE BLOCK / 2ND STORY FLOOR PLAN 
PROPOSED



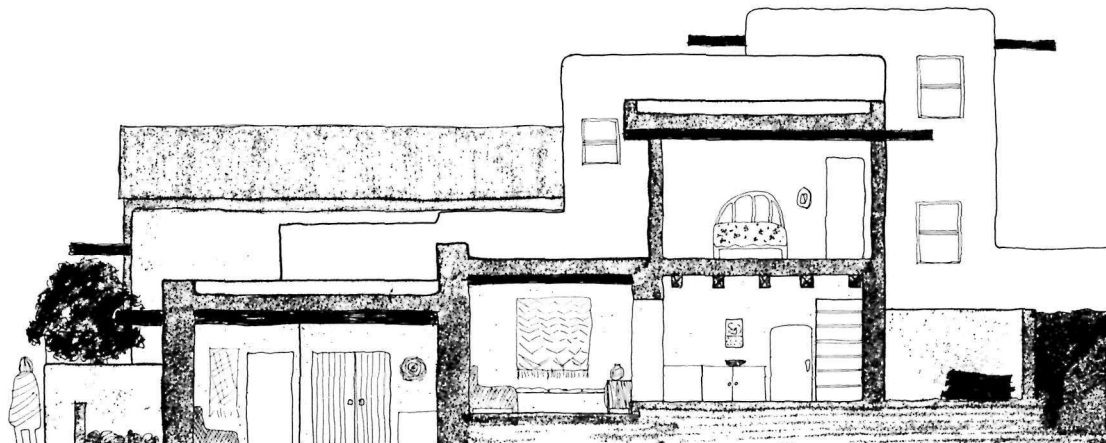
South Prairie Block. Proposed second-floor plan.



South Prairie Block today. North side.

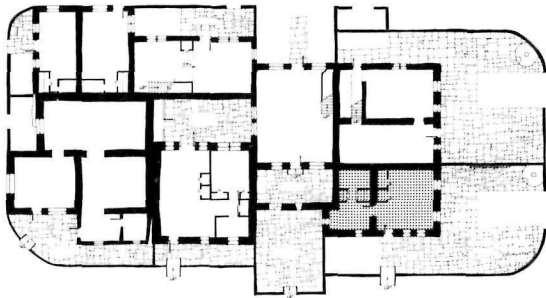


South Prairie Block—proposed rehabilitation. North side.



South Prairie Block. Section A-A, through proposed rehabilitation.

Specific Notes for the Rehabilitation of Homes in the South Prairie Block



House 1

Two rooms (east, west) dilapidated. Formerly a Flint Society house, it is in a predominant location and appears in historic photographs. Vacant for ten years with possessions inside.

West room Was used as a kitchen, has wood-burning stove.

Condition— Roof sagging, but vigas salvageable. Windows out, walls wet but salvageable. Dirt floor.

Treatment— Take fill out of houses 2 and 3 to dry out walls. Build bath in north end. Keep stove.

Ceiling: Reuse vigas, install skylights as indicated in bath and bedroom.

Walls: Reuse all walls, patch where necessary.

Doors and windows: Keep doorway between east and west rooms.
New wood frames and sash in windows.

East room Was a sleeping and living area.

Condition— Walls intact, roof in good shape, windows out. In better condition than west room.

Treatment— Will be kitchen and living room.

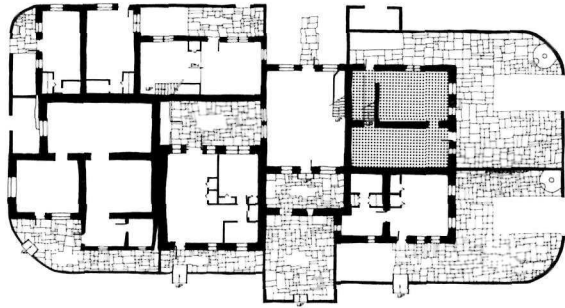
Ceiling: Save all vigas. Skylight over kitchen.

Walls: Retain all walls. Save all niches.

Doors and windows: Block-up east door to make window. New wood frames and sash in existing window openings. New door in south wall.

Exterior Build new wall, oven, parking for two cars.

Proposed new use: This 400 square foot home could be used comfortably by one of the following:
a) single person, young or old; or
b) childless couple; or
c) one parent with child.



House 2

Four rooms (north, south, storage, and reconstructed second floor). Vacant since 1940s.

South room

Condition— Roof removed, vigas still in place. East wall gone, fill and trash in room.

Treatment— To be living room. Remove fill.

Ceiling: Save vigas. Install skylight as indicated on plan.

Walls: Use all existing walls. Rebuild east wall. Save niches in south wall. Fireplace in southeast corner. Build 2' 8" high *banco* on west wall due to moisture problems from higher adjacent unit.

Doors and windows: New door and window in east wall, reopen door to stairway. Wood frame and sash.

North room

Was a kitchen.

Condition— Hole in roof. Ceiling sagging. Window openings broken up.

Treatment— To be kitchen and dining room.

Ceiling: Save all vigas.

Walls: Rebuild $\frac{1}{3}$ east wall, $\frac{1}{4}$ of south wall. Keep all other walls.

Windows and doors: Rebuild window openings. New door in east wall.

Storage room

Was part of another dwelling.

Condition— Filled in, missing north wall.

Treatment— Remove fill. Add stairs to second floor.

Ceiling: Use new vigas.

Walls: Rebuild north wall.

Doors and windows: Door in north wall.

Second floor

Was standing in 1920s. Reconstruct second floor, which appears in historic photos.

Treatment— Construct bedroom, bath, closet, and stairway. Additional bedroom walls to be installed by owners.

Walls: Traditional construction (see general notes).

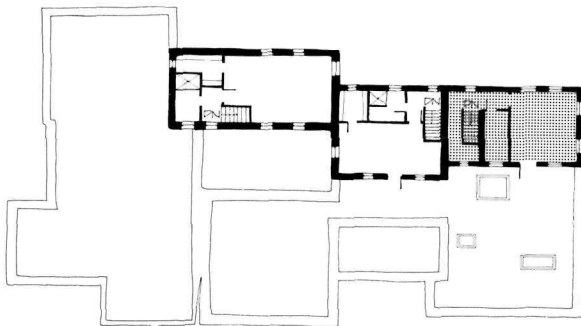
Floor: Wood construction.

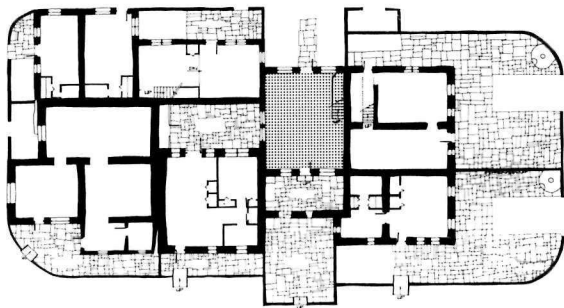
Doors and windows: As indicated on plan.

Exterior

Rebuild walls in yard, oven, and locate parking as indicated.

Proposed new use: This two-story, 1,000 square foot home could be used by an extended family.





House 3

Two rooms (ground floor, reconstructed second floor). Was two residences at one time. Vacant past 60 years.

Ground floor

Condition— Ruin, no roof, no vigas, filled in. North wall gone, remains of fireplace. South wall has evidence of burned pintle door jamb.

Treatment— To be living room and kitchen with entry court. Remove fill.

Ceiling: New vigas and ceiling.

Walls: New wall on north end, new south wall as shown to make courtyard. Rebuild fireplace. Save niches in walls. Rebuild west walls as indicated. Install stair.

Windows and doors: Wood frame and sash.

Second floor Reconstruct second floor, which appears in historic photos.

Condition— Construct bedroom, bath, and closet.

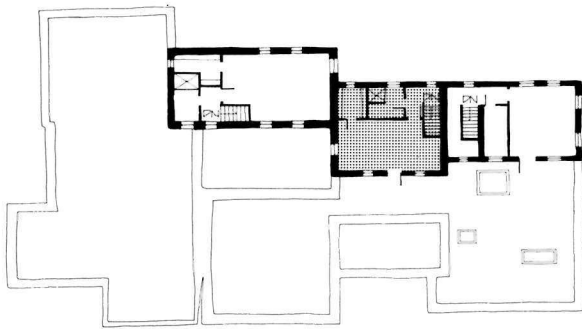
Walls: Traditional construction (see general notes).

Floor: Wood construction.

Doors and windows: As indicated on plan.

Exterior Patio and courtyard on south, parking at north end.

Proposed new use: This tiered, two-story, 820 square foot home could be used by an extended family.



House 4

One room. Dilapidated. Unique center span viga layout. Was part of house to north. Possibly 200 years old. Vacant 15 years.

Condition— Roof has hole. Walls in excellent condition except by front door. Has fill. Vigas in good condition.

Treatment— Remove fill. Make living room/kitchen, bath and bedroom. Install wood-burning stove.

Ceiling: Keep existing vigas in their layout. Repair roof.

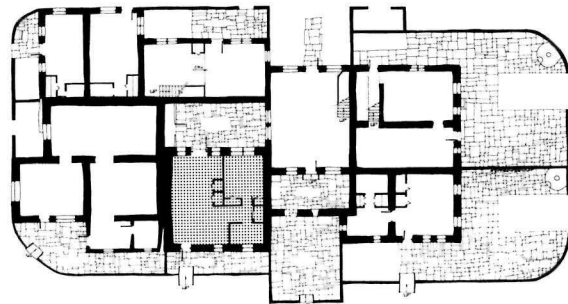
Walls: Repair hole in southwest corner.

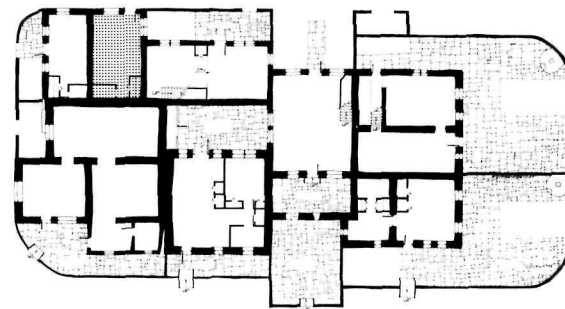
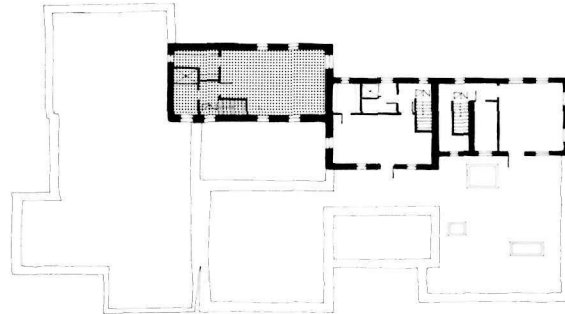
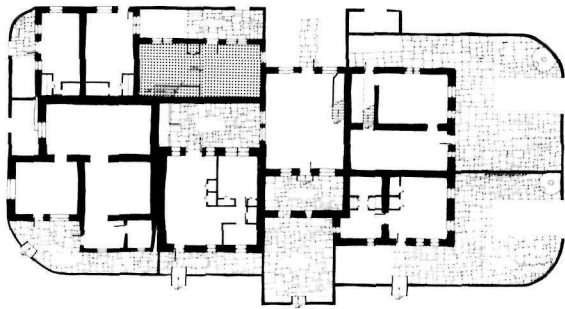
Windows and doors: New wood frame and sash in openings. Re-open north door.

Exterior Pave rear courtyard. Small entry patio at front, ramp with rail for elderly access.

Proposed new use: This 560 square foot home could be used for:

- a) single person, young or old;
- b) adult with small child; or
- c) childless couple.





House 5

Two rooms (ground floor and reconstructed second floor) ruin. Was two floors with basement. Abandoned 80 years, may be 200 years old.

Ground floor

Condition— All walls gone, demolished in last year.

Treatment— Reconstruct house. Put in kitchen and living room.

Walls: Build four new walls.

Ceiling: New vigas and ceiling.

Doors and windows: Located as on plan.

Second floor Reconstruct second floor.

Treatment— Construct bedroom, closet, bath.

Walls: Traditional construction (see general notes).

Floor: Wood construction.

Doors and windows: As indicated on plan.

Exterior Entry patio on north side.

Proposed new use: This two-story, 900 square foot home could be used by an extended family.

House 6

One room, ruin.

Ground floor

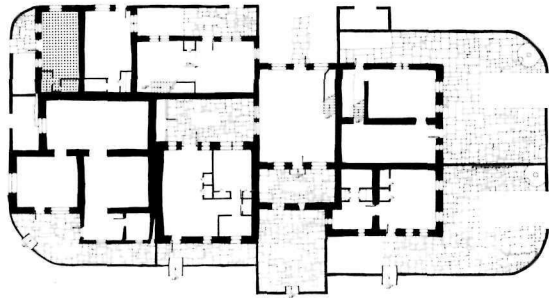
Treatment— Efficiency unit with kitchen and bath.

Walls: Two useable walls, west and south. Construct new walls on north and east (shared with house 5) of traditional materials.

Ceiling: New vigas and new roof.

Windows and doors: Locate in north and east walls as indicated on plan.

Proposed new use: Seasonal home for Laguna citizens participating in festivals



House 7

One room, dilapidated. Ten years old.

Treatment— Efficiency unit with bath and kitchen.

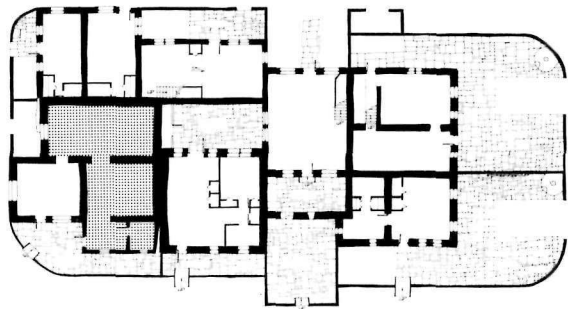
Walls: Repair hole in west wall.

Ceiling: Keep existing.

Windows and doors: Relocate north door to west wall. Locate windows as indicated.

Exterior Entry court as indicated.

Proposed new use: Seasonal home for Laguna citizens participating in festivals.



House 8

Two bedrooms, living room, dining room, kitchen, bath. Renovated 1979. North end of house appears in c. 1880 photographs. Built on sacred path to river. South addition built in 1978.

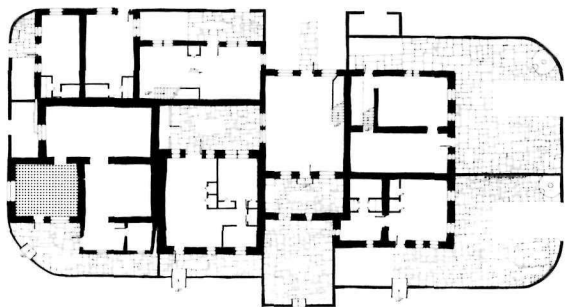
Condition— New structure in need of minor repairs.

Treatment— Removal of fill in adjacent units will remove source of damage to walls.

Walls: Repair damaged plaster in dining room. Repair or replace tile in bathroom where necessary.

Windows and doors: Reframe front door.

Exterior Site needs drainage on west side.



House 9

One room, renovated in 1979. Used for storage and needs no modification.

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to insure the wise use of all these resources. The Department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

