

Bandelier

Historic Structure Report: CCC Buildings



HISTORIC STRUCTURE REPORT CCC BUILDINGS

Bandelier National Monument
New Mexico

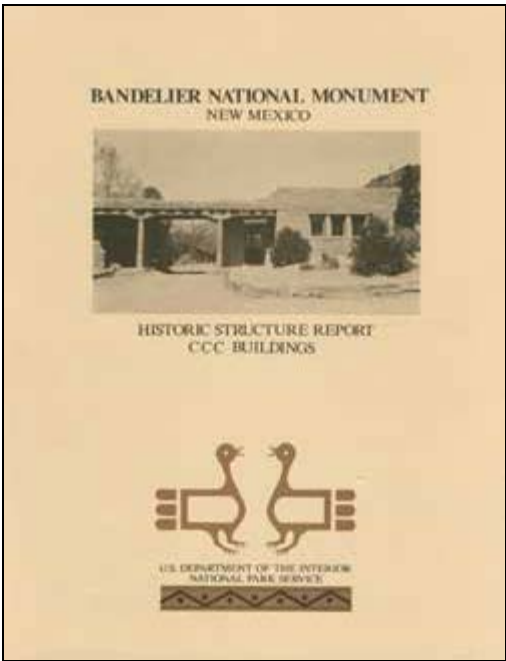
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1988

United States Department of the Interior
National Park Service
Denver Service Center



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PREFACE

A number of people helped us prepare this document. We thank Superintendents John Hunter and Jose Cisneros and the staff of Bandelier National Monument for their assistance during the research phases and their patience during the building investigations and construction phases. Virginia Robicheau helped us sift through the Bandelier photo archives and provided technical assistance throughout the project. Chris Judson copied a number of the historic photographs for our research. Bill Sweetland assisted us in figuring out the probable content of the elusive Pojuaque mud mortar and may have even discovered the borrow pit it came from. David Paulisson helped us keep track of project expenditures. The late Mrs. Evelyn Frey, who lived in the canyon for nearly six decades, furnished considerable information on the buildings from the time of their construction to the present. Architect Jared Morse gave us a sense of what Bandelier was like in the 1930s.

Alison Kerr, archivist at the J. Robert Oppenheimer Library of Los Alamos Laboratory, was indispensable in providing documentation for the 1940s uses of Frijoles Canyon Lodge. Dr. and Mrs. Richard Taschek of Los Alamos furnished insight into life in the canyon during the summer of 1943, at the early stages of the Manhattan Engineer District project. Hedy Dunn and Linda Aldridge at the Los Alamos Historical Society gave free access to the information they had in their files. Edie Ramie of the Denver Service Center (DSC) and Mary Greenwalt and Marsha Druker of the Rocky Mountain Regional Office assisted us in getting information out of old federal filing systems. Sherry Smith-Gonzalez of the New Mexico Archives and Records Center helped out with a series of good research leads. Thanks to Jay Bright and George Thorson of the DSC for approving the project. Particular thanks go to Melody Webb, former regional historian for the Southwest Region, for her constant support and constructive criticism.

Undoubtedly, we owe our greatest debt to retired National Park Service (NPS) architect Lyle E. Bennett (deceased) and to the Civilian Conservation Corps (CCC) forestry foreman Jim Fulton. Their enormous contributions to the study made the past come alive. More important, their hard work in the 1930s left us with an enduring landmark of the New Deal.

Laura Soullière Harrison
Architectural Historian

Randall Copeland
Historical Architect

Roger Buck
Landscape Architect

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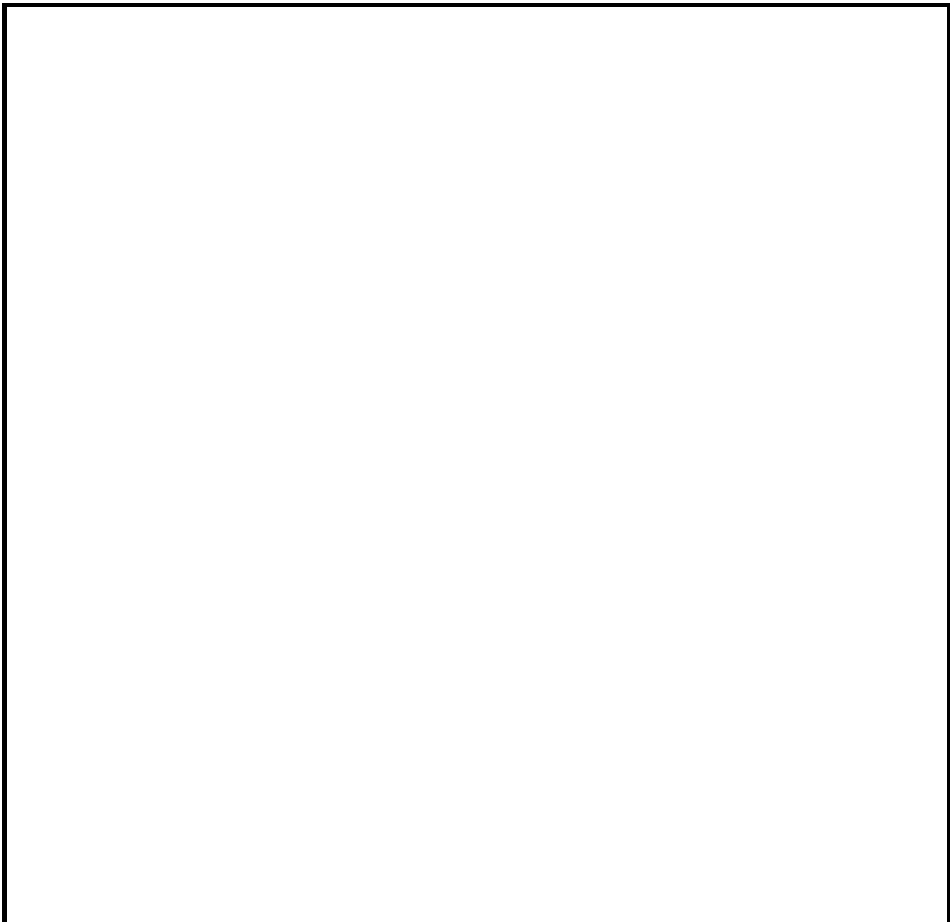
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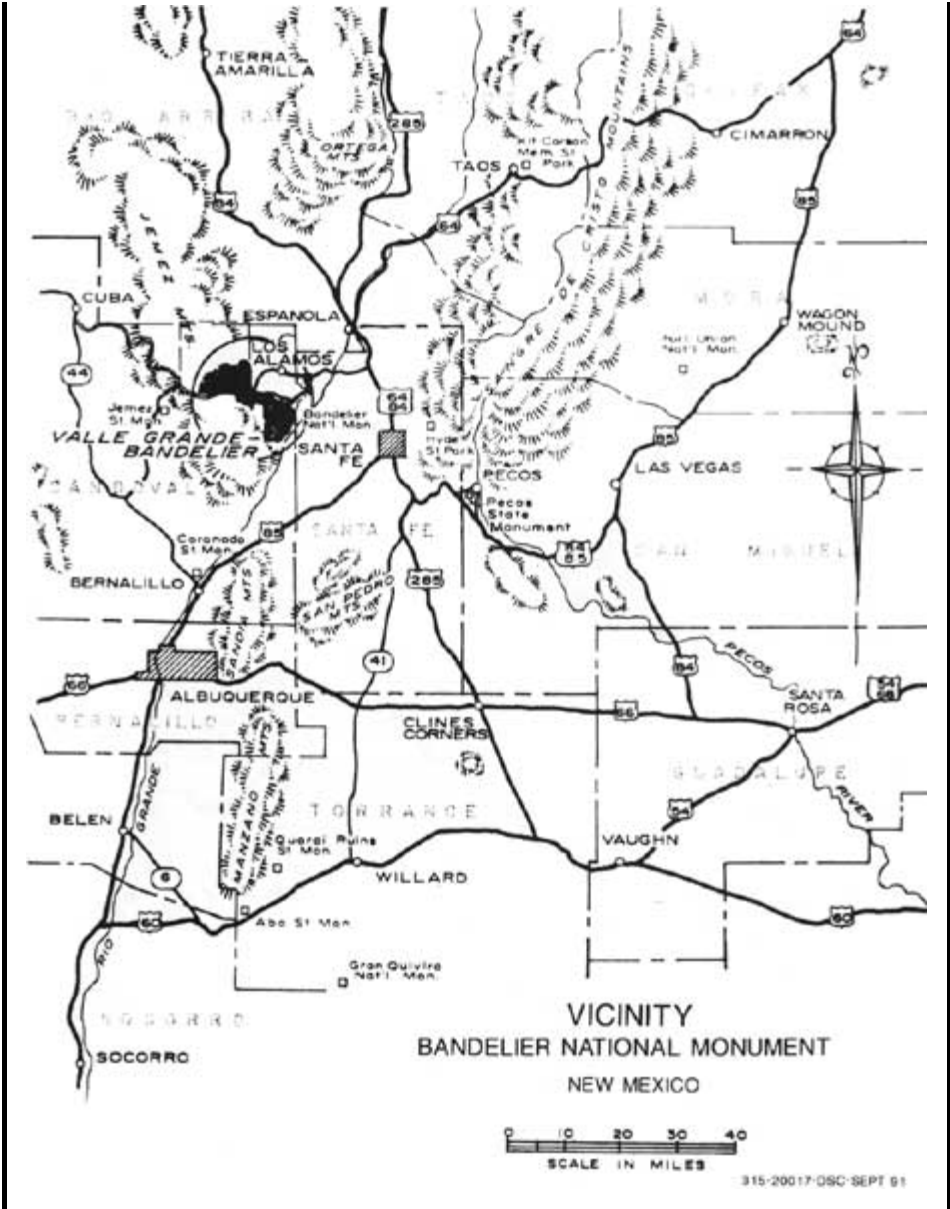
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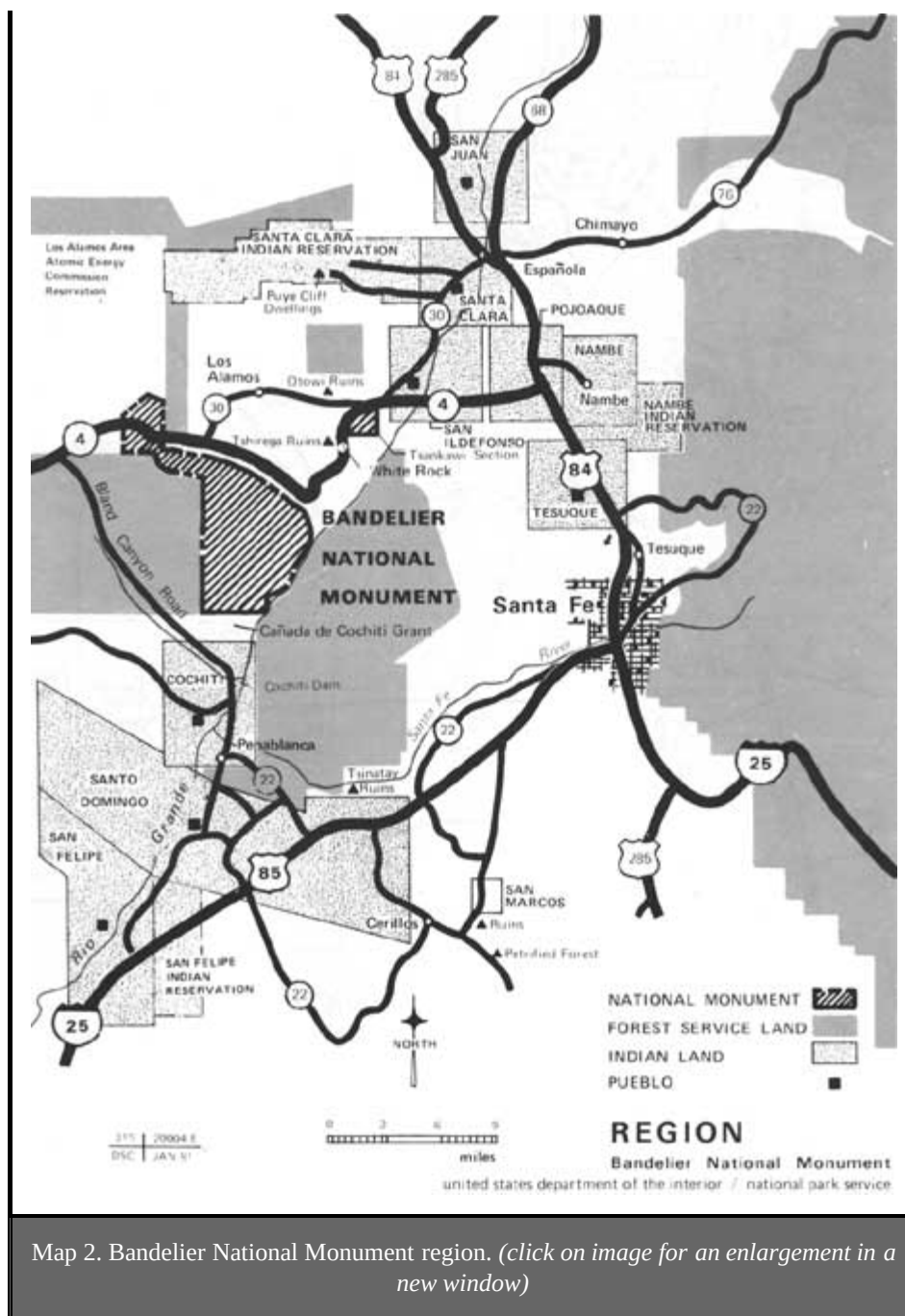
INTRODUCTION

The Civilian Conservation Corps (CCC) building complex sits at the bottom of Frijoles Canyon and forms the general interpretive introduction to the significant cultural resources of Bandelier National Monument (figure 1). The park's other noted features — its natural and geophysical resources, which are integrally linked to its cultural resources — are obvious as one travels the mesa and descends into the canyon. For years, the subject buildings received little recognition as historic structures significant for their own intrinsic merit, an understandable fact given the value of the park's resource — the prehistoric Indian ruins of the 12th to 16th centuries. However, this situation has changed, and the buildings are now considered historically and architecturally significant structures consistent with the park management objective to "preserve and maintain the cultural and natural features of the monument." The buildings are nationally significant. In 1987 the secretary of the interior designated the group a national historic landmark district. Included in this study area are the 31 CCC buildings in Frijoles Canyon in the residential, administrative, maintenance, lodge, and campground areas, and the fire lookout and entrance station on the entrance road. The landscape features in the immediate vicinity of the residential, administrative, lodge, and main parking area are also included. Excluded from this study are the campground, entrance road, and surrounding landscape features.





Map 1. Bandelier National Monument vicinity. *(click on image for an enlargement in a new window)*



The earliest 20th century development in Frijoles Canyon was a small ranch known as Ten Elders, which belonged to a retired judge named Abbott. Mr. and Mrs. George Frey bought the ranch from the Abbotts in 1925 and turned it into a guest ranch. This ranch, located on the edge of Frijoles Creek near the Tyuonyi ruins, approximately 1/4 mile upstream from the current visitor center, afforded limited accommodations to canyon visitors. Early access to the canyon floor was via steep foot and horse trails more than a mile long opposite the ranch. A small tramway for supplies and the later 1930s entrance road opened the monument to a larger public. The subsequent need for expanded visitor services and the required park administrative and operational facilities led to construction of the building complex. Initiated in 1934, the growth of this complex continued over the next eight years, resulting finally in 31 buildings, which, to a large degree, have maintained their original functions. With the exception of interior partitions, color scheme, roofing, and utility modifications over the years, the buildings basically reflect their historic appearance.

The 31 buildings fall into four basic locational groupings: the headquarters, cabin, canyon,

and entrance road areas. The only exception is the comfort station (B-1) in the Cottonwood picnic area, west of the headquarters area. The entrance road area contains the fire lookout (B-30) and entrance station (B-26), and the canyon area contains five residential units (B-7, B-8, B-10, B-11, and B-32) and the park stables (B-25). The headquarters area contains eight service-oriented buildings (B-3, B-4, B-5, B-6, B-12, B-13, B-14, and B-22), the visitor center and museum (B-2), comfort station (B-9), administrative headquarters (B-15/6), curio shop and snack bar (B-17), and VIP quarters (B-18). These latter two buildings historically belong with the remaining eight buildings (the cabin area), because they are part of the complex originally built as the cabin and hotel development area. Today, three of these buildings (B-19, B-20, and B-28) are residential quarters, B-24 and B-27 are combination residential-office use, B-23 and B-29 are offices, and B-21 has been converted to a laundry and storage facility. Excluding the two entrance road structures, the overall complex encompasses approximately 8 acres.

This report is only one component of the current five-part Development/Study Package 224. Other components include rehabilitation of water, sewer, electrical, and gas services; rehabilitation of decaying wood structural members; rehabilitation of flagstone and curbing; and installation of insulated windows and fire alarm systems. These other four components are scheduled for design and construction over several years. Because of the intended focus of this historic structures report and subsequent construction work, the following findings and observations are based on class B investigations, as defined in part IV of *National Park Service Professional Standards*.

The basic format for this document is that of NPS-28, slightly modified for this project. The first section contains the administrative data. It is followed by a short narrative history of the buildings and a summary of their significance. Other sections include the physical history of the buildings, including site and building-specific data, a discussion of existing conditions, treatment recommendations, a framework for assessing accessibility and adaptive use issues, and recommendations for further study. An annotated bibliography is provided.



Figure 1. This 1987 aerial photograph of the CCC building complex at Bandelier National Monument shows the majority of the structures and their layout around the central parking plaza. The structures are nestled into the narrow building site in Frijoles Canyon. The rito (creek) serves as the western edge, and the talus slopes of the canyon cliffs define the eastern edge. Some character-defining features of the pueblo revival style are evident, including the courtyards, parapets, building masses, and terracing.



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ADMINISTRATIVE DATA

NAMES AND PROPOSED USE OF STRUCTURES

Bldg. no.	LCS no.	Date begun	Original name/use	Current name/use	Proposed name/use*	Size**
B-1	23272	1934	Comfort station	Same	Same	500
B-2	23231	1935	Headquarters and museum	Visitor center	Offices	5,000
		1936				
B-3	23230	1935	Maintenance warehouse	Same	Offices	1,200
B-4	23229	1936	Garage and blacksmith shop	Carpenter shop and welding shop	Same	1,100
B-4A	23229	1939	Heater room	Same	Same	120
B-5	23228	1935	Gas and oil house	Same	Same	180
B-6	23220	1936	Garage	Equipment shed	Same	2,000
B-7	23227	1936	Residence 1	Same	Same	1,400
B-8	23226	1937	Residence 2	Same	Same	1,500
B-9	23224	1935	Comfort station	Same	Same	650
B-10	23222	1937	Ranger dormitory and garage	Quarters and garage	Same	1,400
B-10A	23222	1940	Laundry	Same	Same	180
B-11	23223	1937	Residence 3	Same	Same	1,200
B-12	23225	1937	Storage	Same	Same	650
B-13	23221	1937	Garage	Training room	Same	1,300
B-14	23219	1937	Gas and oil house	Office storage	Same	400
B-15	23218	1937	Dining room, kitchen, and lunchroom	Offices	Same	2,800
B-16	23218	1938	Employee dormitory	Offices	Same	2,300
B-17	23217	1939	Lodge lobby and salesroom	Snack bar and curio shop	Same	2,000
B-18	23216	1938	Operator's residence	Offices	Same	1,200
B-19	23215	1939	Cabin group A	Quarters	Same	1,000
B-20	23283	1939	Cabin group B	Quarters	Same	1,200
B-21	23271	1939	"Kiva," comfort station, linen storage, and boiler room	Laundry and storage	Same	800
B-22	23270	1939	Powerhouse	Same	Same	400
B-23	23269	1940	Cabin group D	Offices	Quarters	800

B-24	23249	1939	Cabin group C	Quarters (A and B) Offices (C and D)	Same Quarters	1,400
B-25	23248	1939	Stable and quarters	Stable	Same	1,800
B-26	23247	1940	Checking station	Entrance station	Same	170
B-27	23246	1940	Cabin group E-1 and linen storage	Quarters (A and B) Darkroom (C) Storage (D)	Same	1,500
B-28	23245	1940	Cabin group E-2	Quarters	Same	1,100
B-29	23244	1940	Cabin group E-3	Library (A) Storage (B)	Same Same	1,100
B-30	23243	1941	Fire lookout and quarters	Same	Same	600
B-31***	23242	1934	Entrance road and wall	Same	Same	N/A
B-32	23241	1941	Residence 4	Same	Same	1,600

* Planning under way at this time may alter some of these proposed uses.

** Gross square footage.

*** This structure, although a part of the CCC legacy in the park, is outside the scope of this study.

LCS — List of Classified Structures.

N/A — not applicable.

PLANNING DOCUMENTS

Maintenance and operation of these buildings is in accordance with the "Bandelier General Management Plan" (May 1977) and the "Cultural Resource Management Plan" (November 1981).

Because Bandelier is a national historic landmark district, all these historic structures fall within management category A (must be preserved).

PROPOSED TREATMENT

The treatment proposals herein are in the nature of maintenance and preservation, including emergency measures to arrest ongoing and prevent further deterioration. All treatments are consistent with "Management Policies of the National Park Service," chapter V, and NPS-26, release 3. The national historic landmark status of the buildings mandates their preservation.

COOPERATIVE AGREEMENTS

A concession contract is in force between the superintendent of the park and a concessioner to operate a curio shop and snack bar in B-17.

A cooperative fire agreement is in force among the superintendent of the park, several land management agencies, and the city of Los Alamos.

RECOMMENDATIONS FOR CONSERVATION OF PRODUCTS OF THIS STUDY

The oral history tapes will be accessioned into the park collection. The photographs taken for this document and the copies of the historic photos made for this study will be given to the park for inclusion in the park's photo archives. Paint and mortar samples will be accessioned into the park collection.

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HISTORY AND SIGNIFICANCE

THE MONUMENT'S EARLY YEARS

Bandelier National Monument came into being on February 11, 1916, under the jurisdiction of the U.S. Forest Service (USFS), U.S. Department of Agriculture, as a part of Santa Fe National Forest. Bandelier was a well-known archeological area and one of a group of southwestern sites for which Representative John Lacey of Iowa and archeologists such as Edgar Hewett and Jesse Nusbaum fought for federal protection. [1] Even as early as 1888, the Bandelier area, under the names of City of Cliffs and later Pajarito National Park, was proposed for national park status. Finally, in 1916, Woodrow Wilson signed the bill setting the area aside as a national monument to protect "certain prehistoric aboriginal ruins . . . of unusual ethnologic, scientific and educational interest." [2] Included in the monument were a series of cliff dwellings and pueblo ruins in the southern section of the Pajarito Plateau. The green valley of Frijoles Canyon, the most dramatic section of the monument, contained 12th through 16th century archeological features and a permanent stream.

By September 1930, Horace Albright, director of NPS, was expanding and rounding out the national park system. Bandelier was one of a number of areas that he scrutinized for possible inclusion. [3] Albright asked archeologist Jesse Nusbaum to assist him and other park experts in studying the feasibility of including Bandelier within the national park system. Albright also wanted to consider expanding Bandelier's boundaries to include other archeological sites of similar importance in the vicinity. Nusbaum, a former superintendent of Mesa Verde National Park, was then director of the Laboratory of Anthropology in Santa Fe and a consulting archeologist to the Park Service. In October 1930, Albright and Nusbaum, accompanied by Roger Toll (Yellowstone superintendent) and M. R. Tillotson (Grand Canyon superintendent), toured the Rio Grande valley, Puye ruins, Santa Clara Pueblo, sections of the Pajarito Plateau, Bandelier, Cochiti Pueblo, Bland, Valle Grande, and Jemez Pueblo to assess the various resources and their suitability to the national park system. [4]

Jesse Nusbaum favored having Puye ruins included in any national park proposal. He noted that visitation at Puye was considerably higher than at Frijoles Canyon in Bandelier. Puye had easier access, and most people could see at least part of the ruins there. [5] The only access into Frijoles Canyon was down a steep foot trail. One look at the trail turned away many, who peered over the edge of the canyon and decided that the climb was too difficult. Neither the beauty of the canyon nor the small hotel at its base could draw the less hardy visitor. Director Albright felt that Bandelier should remain a national monument and that legislation for including it in the national park system should include a provision for acquiring the more accessible Puye. Albright saw a need to protect the rights of the Indians in the Santa Clara Pueblo as well as a need to give "the Park Service the same opportunity for protection of the ruins and for the handling of the visitors in these areas." [6] Albright asked Nusbaum, as consulting archeologist to NPS, to proceed cautiously with negotiations with USFS and the local Indian agent. Albright sought a solution acceptable to all parties. [7]

Nusbaum did proceed. USFS agreed to the proposition with one stipulation: that the Park

Service work things out with the Santa Clarans. In addition, USFS was willing to trade the best dry-farm lands available in the area, immediately to the west in Jemez National Forest, for Puye. They understood that the people of Santa Clara Pueblo had wanted these lands. [8]

In early February 1932, the Santa Clarans decided not to allow NPS to take over management of Puye. They agreed with the recommendation of Ed Lowrie, a newspaper writer from Washington, D.C., and an acquaintance of Nusbaum. Lowrie was working at the Brookings Institution in Washington, studying law and order in pueblo societies. He boasted to Nusbaum about his success in uniting three opposing factions in the pueblo against the Park Service in this matter. [9] The Park Service complied with the pueblo's wishes. The matter of Puye's inclusion in the national park system was dropped, to the disappointment of Albright, Nusbaum, and others. They had been hoping to have Puye cliff dwellings as Bandelier's prime visitor attraction. On February 25, 1932, Herbert Hoover signed a proclamation turning Bandelier National Monument over to the Park Service, enlarging it to include nearby Otowi and Tsankawi ruins and excluding it from Santa Fe National Forest. [10]

When Bandelier came under Park Service jurisdiction, it became part of the Southwestern Monuments — a group of 14 national monuments and reserves — under the superintendency of Frank "Boss" Pinkley. Boss's headquarters were in Coolidge, Arizona. From there Pinkley traveled extensively, managing his resources and his talented, dedicated personnel with, as he termed it, "microscopic" funding. Among the early management actions he undertook for Bandelier was the appointment of one Park Service employee to run the area. He chose Edgar Rogers, a ranger who had been working in the Southwestern Monuments for several years.

On June 13, 1932, Edgar Rogers, the first custodian of Bandelier, arrived. He and his wife, Gay, moved into the leaky old Forest Service ranger residence — one of a group of buildings in the canyon — and set up a small office. Four days later, he put in his first modest request to the procurement office of the Southwestern Monuments and asked for some simple supplies to run his new monument: two flags, a 70-foot flag rope, stationery, a gum eraser, and paper clips. [11] Most of Rogers's time was taken up in guiding tours of the ruins for the visitors who did make it down into the canyon. Rogers was called back to Arkansas about a month later because of his father's death. Gay began leading the tours as a volunteer while her husband was gone. She was such a smash that Director Albright wrote her a congratulatory letter at the end of the summer praising her fine work. Edgar, a troubled soul, wrote to Pinkley later that summer: "From what Gay writes, she makes a better ranger than I. Please excuse the pencil." [12]

Because funding was so meager, Edgar Rogers's appointment as park custodian was only a summertime assignment. Pinkley took Rogers out during the winter and moved him to another Southwestern Monuments area, leaving Bandelier with problems. With the lack of federal presence, 21 Cochiti Indians took the opportunity to set up a hunting camp in Alamo Canyon to hunt deer a few days after Rogers left. George Frey, Rogers's neighbor who ran the hotel in the canyon, contacted Jesse Nusbaum in Santa Fe and apprised him of the situation. Frey and two deputy game wardens ordered the Cochiti out. The Indians complied. Nusbaum brought the matter to Director Albright's attention, and Albright questioned Pinkley about the lack of full-time Park Service staffing. The need for better federal control of the monument was evident. Bandelier was never again left without NPS personnel after that winter. [13]

In a regional context, the need for development of the Southwestern Monuments became so overwhelming that Albright and others planned for more personnel and better facilities to manage and protect the resources and to accommodate the growing numbers of visitors. Because so much would be going on in the Southwest, and Santa Fe was more centrally located, Horace Albright had mentioned to Boss Pinkley the possibility of moving the

headquarters for the Southwestern Monuments to Santa Fe. Bandelier and Canyon de Chelly were gearing up for development, and a land situation at Chaco needed some resolution. Also, the Laboratory of Anthropology was a regional archeological center, and Albright felt that it would be to the advantage of NPS to be closely allied with an organization of such similar interests. Nusbaum had even written to Alfred Kidder to see if the laboratory could give office space to Pinkley. Although Boss chose to remain in Coolidge for the time being, this early movement resulted in the establishment of NPS's Region III headquarters in Santa Fe several years later to serve those needs. [14]

Bandelier had been a limited tourist attraction for some time when NPS took control of the area. George and Evelyn Frey arrived in Frijoles Canyon in 1925 and bought their property from Judge Abbott and his wife, who had been living there since 1907. The Freys expanded some of the buildings of the small dude ranch they acquired from the Abbotts and built additional ones. The Freys's first house was near the rito (creek). They later moved up the canyon, closer to the Tyuonyi ruins. Other historic occupation of note included a cabin ruin toward the southeast end of the canyon proper and a circular stone floor to the southeast of Tyuonyi.

The Freys's development consisted of a small lodge for tourists, quarters for the help, six cabins, two bathrooms, a barn and chicken yard, a workshop, a storage room, a garden, and an orchard. Another larger barn, with a loft and an apartment, was built later. The Freys had multiple occupations — running the lodge in the tourist season and raising chickens, ducks, horses, mules, and cattle. They raised the smaller animals in the canyon and ran about 20 head of cattle on South Mesa. They had an extensive orchard and garden, which they irrigated with water from a ditch dug by the Abbotts. The orchard had plum, cherry, nectarine, peach, apple, and pear trees. They raised stock and produce for their lodge and themselves. Because no road into the canyon existed, they brought in supplies, luggage, and linen by a tramway that Mr. Frey constructed. The tram had phones at the top and bottom. When visitors arrived in groups, such as the Harvey Indian Detours (a touring operation allied with the Atchison, Topeka, and Santa Fe Railway), they phoned from the top. [15] The wrangler then rode up, met the group, loaded the luggage on the tram, and brought the tourists down on horseback. [16] The hotel did a reasonable business, and a 1925 tour guide put out by USFS noted the attraction of a "small ranch hotel on the banks of the Rito." [17] By 1929, visitors to the canyon numbered 3,200, despite the difficulty of access. [18]

Part of Albright's plan in establishing a Park Service presence in Bandelier to protect the resources and allow better visitor access involved constructing a road into the canyon. Boss Pinkley, NPS Chief Architect Tom Vint, and landscape architect Charles Richey studied development possibilities on a visit to the monument in June 1932. [19] They began discussions and schematic drawings.

After a couple of months at the monument, custodian Rogers wrote to Pinkley:

We like our monument a lot but it is not perfect. The trail from the top of the hill to the floor of the canyon is the one we like the least. From careful inquiry I think I am safe in saying that at least 15% of the visitors do not even attempt the descent after they have driven to the top. While the trail is only five-eighths of a mile long, it is very steep. Then there is a walk of two miles or more up and down the ruins. Of course, there are always a few people who would not walk a small distance to see anything. [20]

In his typically meek fashion, Rogers only hinted about his monument's need for a road. Verne Chatelain, the chief historian for NPS, also visited the site. He concluded that, although Bandelier might not be the most unusual archeological site in the Southwest, the monument

had greater possibilities for "popular treatment" than any other southwestern area. He wrote to the chief engineer Kittredge that a road into the canyon should be built, and soon. [21]

The general consensus in NPS was that the road was necessary, but the subject of a road into the canyon was a sensitive local issue. NPS Chief Engineer Frank Kittredge sent his assistant Walter Attwell out to review options for the road but asked him to do it quietly, avoiding public contacts and fielding all questions to Pinkley and Nusbaum. [22] Custodian Rogers had left for his winter assignment elsewhere in the Southwestern Monuments. In response to a query from Director Albright, undoubtedly prompted by local concern, Kittredge wrote that Attwell was ascertaining "the possibilities of routes of various types and standards and their costs and that he is not making a survey." [23]

By October 1932, acting director A.E. Demaray was writing to Jesse Nusbaum asking him to make discreet inquiries on local feelings toward a road into the canyon. Both Boss Pinkley and Verne Chatelain felt that opposition came from a group in Santa Fe. [24] Pinkley, who never seemed to lack an opinion on any subject, had written earlier in a letter to Albright:

I am looking for a small group of conservatives . . . to start an insurrection about the time we start that road . . . I have gone over the situation a good many times so I am going to push it ahead I don't see the sense of keeping 15,000 people a year out of that canyon and making the 4,000 people who go there walk down and up that trail, when the road would make things so easy and could be so located as to not be seen from the inside of the canyon at all. I am willing to go pretty far to be artistic and hold things after the old styles, but if those conservatives want to hold things just as they used to be around Santa Fe, they will have to go to business every morning with about 60 pounds of pot metal armor on and ride mules instead of automobiles when they travel. The mud hut nuts are all right and I am for them, but we can't refuse 15,000 visitors admission into a national monument just because the Spanish didn't use automobiles 300 year ago: it just doesn't make sense. [25]

Nusbaum's formal response to the director's inquiry recommended that NPS hold off on constructing the road until the political climate became more favorable and the park was permanently staffed. He wrote that not only the artists in Santa Fe protested the road, but also others "in all walks of life who have always thought of Frijoles as a sanctuary that should never be entered by automobile highway." [26] The *Santa Fe New Mexican*, owned by U.S. Senator Bronson Cutting, also pushed for the canyon to remain relatively pristine. [27] Demaray responded that the Park Service had a responsibility to make the canyon accessible to all visitors, and that "the practice of the Bureau of the Budget is to grant increased expenditures for personnel only after the number of visitors is such as to make an increase overwhelmingly necessary. And it is not hard to see that the easiest way to get visitors to Bandelier is by building a good road." [28] The Park Service's stance on how Bandelier would be developed was becoming evident: the agency saw the road as absolutely necessary to increase visitation and thereby increase personnel and justify development.

EMERGENCY CONSERVATION WORK PROGRAMS AT BANDELIER

When the Emergency Conservation Work (ECW) Act passed on March 21, 1933, creating what became known as the Civilian Conservation Corps or CCC, Bandelier was one of the few NPS areas with no master plan. Because of its placement under NPS only a year earlier, Bandelier had only minimal direction in its development scheme. Early NPS directors Stephen Mather and Horace Albright had both stressed the importance of park planning, and most park areas were equipped with six-year master plans. [29] With the passage of the ECW

Act, which provided personnel and some funding, NPS now had the ability to complete long-term projects, the designs of which were sitting on Park Service shelves waiting to be implemented. Areas with existing master plans began work quickly. Bandelier's early projects were done in a more spontaneous fashion: its first six-year plan did not exist until more than one year later. [30]

The CCC had multiple purposes: to train unskilled men and improve their morale by giving them productive work in national and state forests, parks, and related areas; and to improve the economy by providing work relief. Enrollees signed up through the Department of Labor, were moved, fed, and housed by the Army; and were sent to work for the Departments of the Interior and Agriculture. Robert Fechner, director of the CCC, provided specific guidelines for work that could be done by the CCC. Approved, with certain limitations, were the following types of work:

- construction and repair of structures such as trail and campground shelters, comfort stations, custodian's residences, and other minor facilities that would enhance visitor use

- construction and maintenance of campground facilities (picnic tables, fireplaces, pavilions, and so on)

- construction and maintenance of bridges (connected with the park road system) and trails

- construction and repair of water supply systems and waste disposal facilities

- construction and maintenance of park roads

- construction and maintenance of dams

- construction and maintenance of fire towers and other fire control features [31]

A formidable battery of men oversaw CCC projects in the western national parks. Arno Cammerer, who had replaced Horace Albright as director of NPS, approved all park-related CCC projects after Chief Forester John D. Coffman reviewed them. Frank Kittredge, the chief engineer, Verne Chatelain, the chief historian; and Thomas Vint, the chief architect, kept a close eye on all park developments, deciding among themselves how park facilities could best be built to serve the dual mandate of resource protection and visitor use. Kittredge's and Vint's offices reviewed and signed off on all construction drawings, whether done in their offices, as was frequently the case, or done in the field by engineers and landscape architects. [32] District inspectors examined CCC projects and camp conditions usually monthly and reported their findings to Washington. The normal chain of command for park CCC projects consisted of a project supervisor overseeing and coordinating the work of an engineer, a forester, a landscape architect, and various technicians. [33]

The development of park structures and facilities was guided by standards of architecture and landscape architecture that had gelled under the direction of Chief Architect Tom Vint. From the earliest days of NPS, architects, landscape architects, and Park Service directors all had definite ideas about the sorts of structures they felt were suitable for national parks. Great landscape architects of the private sector such as James S. Pray of Harvard University, J. Horace McFarland of the American Civic Association, and Frederick Law Olmsted lobbied for appropriate development in national park areas. Their efforts paid off when the Park Service issued its first statement of policy. On May 13, 1918, NPS called for harmonizing all improvements such as roads, trails, and buildings with the landscape. The policy required the "employment of trained engineers who possess either a knowledge of landscape architecture

or have a proper appreciation of the aesthetic value of park lands." In addition, the statement required that all improvements be done "in accordance with a pre-conceived plan developed in special reference to the preservation of the landscape." [34]

Drawing from this first statement of policy, experimentation in building style and site design throughout the 1920s resulted in the formulation of the principles of what is now termed *rustic architecture*. Vint pulled recent graduates and young apprentice architects and landscape architects into the Park Service and schooled them on the job in this type of environmental design.

The basic precept of rustic architecture — or *parkitecture*, as it was sometimes called — was that any structure built in a park should harmonize with its environment. This principle applied to everything: fireplaces, picnic tables, comfort stations, ranger cabins, large visitor centers, and community buildings. The structure harmonized with its natural environment through the use of on-site or locally available materials, such as granite and massive timbers in Yosemite. The structure also related to the surrounding topography through shape and form — by being designed to fit the small promontory on the edge of the Grand Canyon, for example. In addition, the structure reflected local cultural traditions through the use of simple stylistic elements, such as the flat roofs and projecting vigas (peeled log beams) of pueblo revival architecture in the Southwest.

Most often, the structure was designed to be subservient to its environment. Because of the blend of the materials with the setting, the careful incorporation of the building's form with its site, the frequent emphasis on horizontality through the use of battered stone walls, and the use of other natural materials such as exposed wood, buildings merged so well with sites that they often looked as if they had grown out of the landscape rather than having been constructed on it. Careful landscape planning — down to staining rocks to make them appear weathered — contributed greatly to the overall effect. Sometimes buildings emphasized the natural setting, such as at Chiricahua National Monument; other times they more strongly reflected the cultural traditions, such as at Bandelier. Rustic architecture was not a style, even though its practitioners often referred to it as such. Rather, it was a design ethic that incorporated any number of styles from pueblo revival to colonial revival depending on where a structure was built. [35]

Pinkley sent the first request for an ECW camp at Bandelier to the director a month after the CCC was established. Walter Attwell, the floating engineer out of Kittredge's shop in San Francisco, had written to Boss Pinkley requesting a camp to perform trail construction and fire protection at Bandelier. Attwell believed that Bandelier deserved a camp, especially considering that camps already existed at Great Smoky Mountains, Glacier, Sequoia, and Platte national parks. [36] Pinkley wrote to Albright with his request three days later. [37] Edgar Rogers, Bandelier's custodian, had similar ideas. He recommended to Pinkley that they get money for an entrance road and other improvements first, then for administration buildings and living quarters, possibly through the National Industrial Recovery Act. [38]

The request for the CCC camp had gone in during the spring, and by summer there was still no response from Washington. Pinkley wrote to the director again at the end of August, reinforcing his arguments. Pinkley still believed that a sufficient amount of trail work, "highway improvement," forest cleanup, and other work existed at Bandelier to justify a camp. He realized that the best time for construction was passing quickly and wrote: "I myself would much prefer to have the camp work there in the summer, but if it is a case of take a camp in winter or not get it at all, I believe we can make it efficient enough to make the attempt worthwhile." [39] A week later the approval came through with a request that Walter Attwell be made engineer in charge. [40] Associate Director Demaray wrote to Pinkley that the approval of the winter camp at Bandelier was not a problem, especially

because camps at higher elevations had also been approved. [41]

With the camp approved, the wheels of bureaucracy ground into action. Pinkley recommended that the army first construct a service road into the canyon so that supplies, materials, and men could be brought into the monument more efficiently than by the old trail and tramway. [42] NPS still needed to acquire a right-of-way easement over the Ramon Vigil grant (USFS land) to build the service road. [43] The army was scheduled to begin construction of the camp on October 1, and forestry work was due to start on October 15, 1933. [44] Custodian Rogers became anxious about the size of the project and wrote to Pinkley that he saw the winter camp as a mistake. He noted that the camp needed an enormous amount of wood to heat the temporary buildings. He reminded Pinkley that under CCC regulations only small truck trails necessary for protection could be built and that the entrance road was not yet approved. He fretted that he was not even certain what the CCC would do when it arrived so late in the year. [45] His letter clearly showed how overwhelmed he felt. A week later he complained to Pinkley that the excavation and fill for the CCC barracks was leaving a scar that would be hard to eliminate once the camp was gone. [46]

Apparently Edgar Rogers's vision was not as broad as that of Pinkley and others. He did not understand that the unspoken idea was to build the road as a truck trail. This approach temporarily circumvented the required approval for an entrance road, and the increased visitation resulting from the new truck trail into the canyon would mandate subsequent development. Pinkley and others had gambled on that road. If it were built properly, leaving minimal scars, the road would provide such fine access and serve such a great purpose in putting men to work that the political opposition from Santa Fe could be placated.

Rogers was at a loss about how to manage the onslaught of the CCC and the army. His anxiety over the enormity of the situation culminated in his taking his own life in the middle of October 1933. [47] Boss telegraphed his family in Arkansas: "Seemed advisable bury Ed at Santa Fe this morning stop Committed suicide stop Apparently despondent over unfamiliar work stop No other reason discovered stop Letter follows stop Park Service extends fullest sympathy stop." [48]

After that hard blow of losing one of his people, Pinkley acted quickly. He moved his procurement officer from Coolidge into the position of acting custodian. Martin O. Evenstad arrived toward the end of October 1933 and took over the task of running the monument and mobilizing the CCC. [49]

Evenstad set up a general office and a drafting room for engineer Attwell and landscape architect Lyle Bennett in cabins 1 and 6 of the old lodge. [50] The army moved in and had 30 men construct the temporary CCC camp buildings and build a waterline to supply the camp. The army officers, who had been staying in the old lodge cabins, moved into the new temporary buildings, and the CCC began moving in about November 5-7, 1933. [51]

Early projects for the CCC that winter included eradicating tent caterpillars from the canyon, installing and repairing a phone line, constructing a 12-foot-wide truck trail into the canyon, renovating the old ranger cabin, constructing trails and drift fences, fencing the detached area, removing barns and other buildings in the canyon, and repairing the ruins. [52] From December through April, men from the Civil Works Authority (CWA) also worked in the monument. Under CWA funding, they widened the 12-foot CCC truck trail to 22 feet.

The first car drove into the canyon on December 9, 1933. As Acting Custodian Evenstad recorded, the honor of riding down in that first car "was reserved for Engineer Attwell, and Mrs. Frey, who runs the Frijoles Canyon Ranch hotel, and who said she had waited for this ride for nine years. Althou the road as yet is only passable, most of us chose the road in

preference to the 'long, long trail.'" [53] Boss Pinkley now had his entrance road completed and a 200-man camp ready to continue work. His scheme was falling into place.

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Bandelier

Historic Structure Report: CCC Buildings



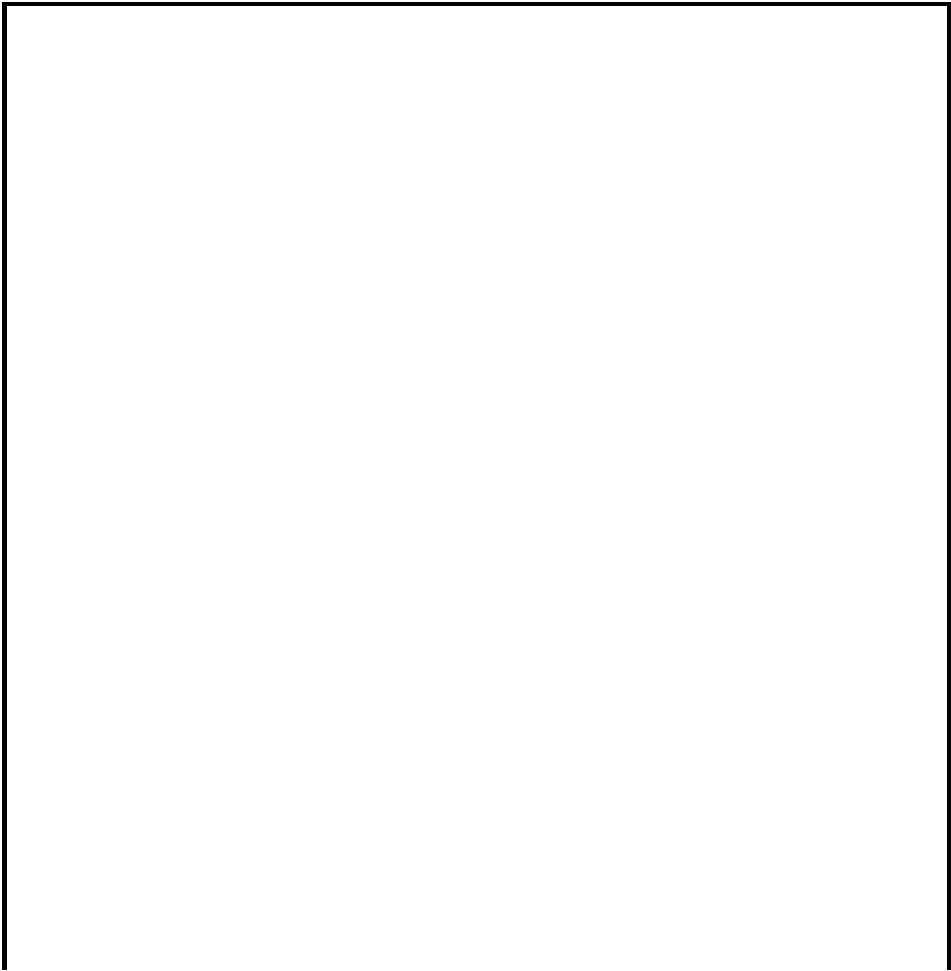
PHYSICAL HISTORY

THE SITE

General

Included in this study area are the 31 CCC buildings in Frijoles Canyon in the residential, maintenance, administrative, lodge, and campground areas, and the fire lookout and entrance station on the entrance road. The landscape features in the immediate vicinity of the residential, administrative, lodge, maintenance, and parking areas are included. Excluded from this study are the campground and the entrance road and their surrounding landscape features. The boundaries of the national historic landmark district are stated in the nomination form in appendix E.

All the elements of the built environment exemplify a southwestern interpretation of the rustic design ethic. The landscape (figure 10) is one of the primary unifying characteristics of the national historic landmark district. The development is a geographical area that possesses a significant concentration of historic landscape features typical of the CCC era.



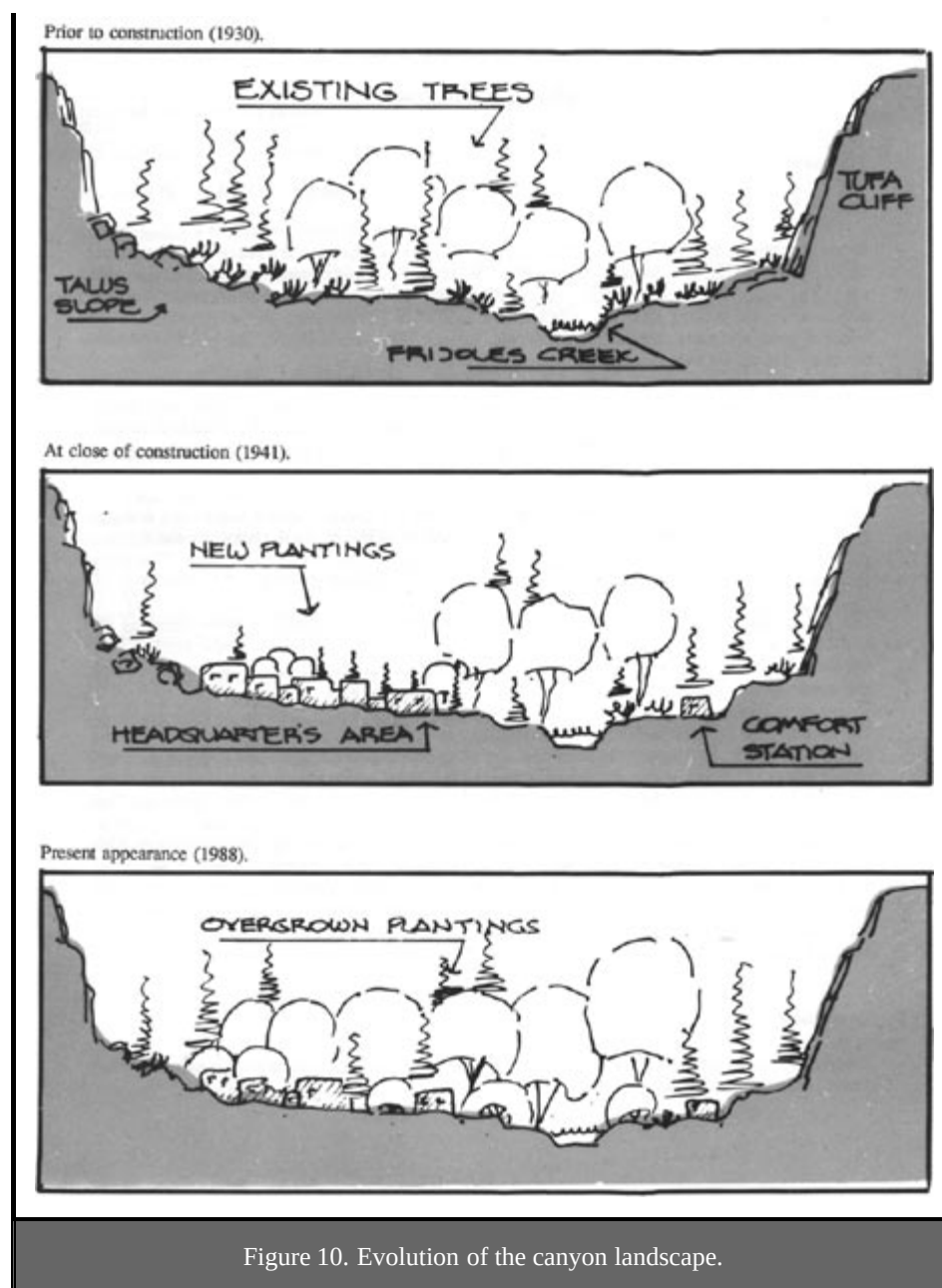


Figure 10. Evolution of the canyon landscape.

The components of the landscape include natural features; circulation systems; vegetation; drainage systems; topography and grading; the constructed elements of buildings, walls, walkways, and the like; site furniture; vistas; the spaces between the buildings; and patterns of spatial organization. This study focuses on only the vegetation, drainage, and some of the constructed elements.

The general location for the Frijoles Canyon development was determined by such factors as the availability of water, the location of the cultural resources, politics, and physiographic features. The site development in the canyon was divided into four principal use areas: the campground, the lodge and administrative area, the maintenance area, and the residential area.

The region's dramatic and significant geomorphology serves as a backdrop for the Bandelier building site in Frijoles Canyon (figure 11). The canyon's 400-foot vertical north face of exposed rock and niches relates to activity within the Jemez volcanic field where recent events, geologically speaking, have left deposits of silicic tuff and pumice, which give the region much of its unique character. This porous tuff that underlies much of the Pajarito

Plateau is a pyroclastic igneous rock composed of fragments of ash and gas-rich rock material broken and deposited through volcanic action. This abundant and easily worked stone was used for many of the region's prehistoric structures, as well as the historic ranch, Forest Service, and CCC buildings. For the latter, the bulk of this stone was quarried and cut on the mesa at the current amphitheater site and transported to the canyon valley. The valley itself was cut over the years by the flow of Frijoles Creek toward the Rio Grande, and it was beside the creek that the historic buildings were built.

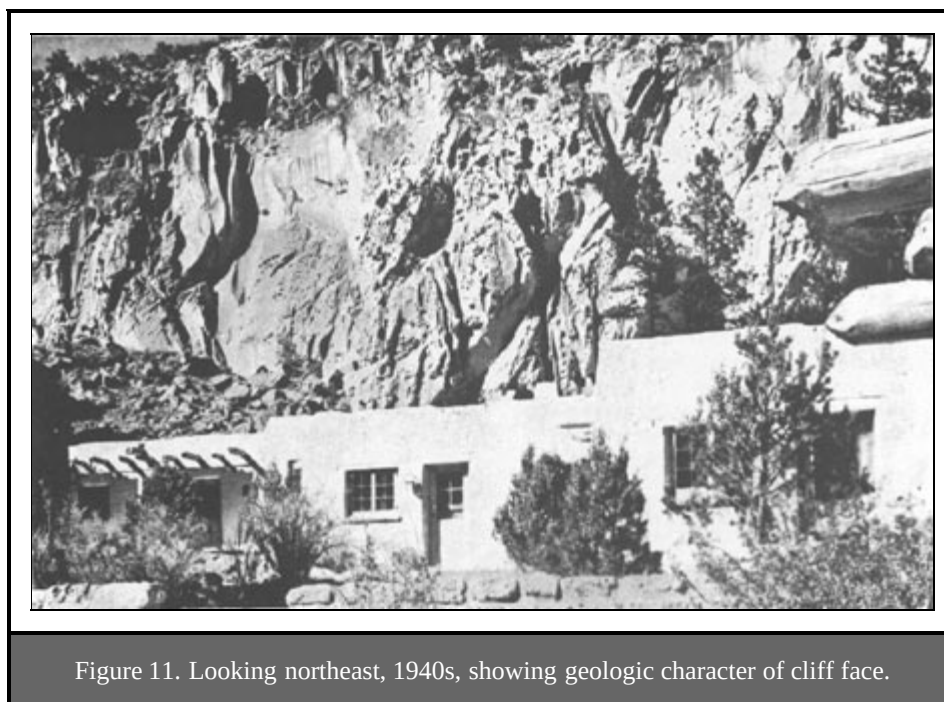


Figure 11. Looking northeast, 1940s, showing geologic character of cliff face.

Circulation

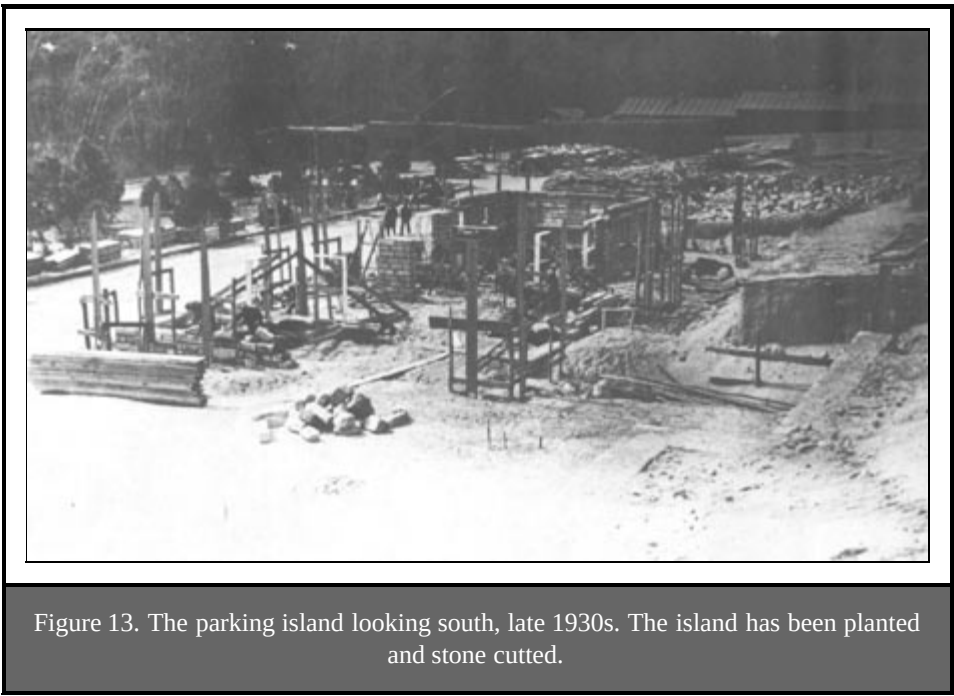
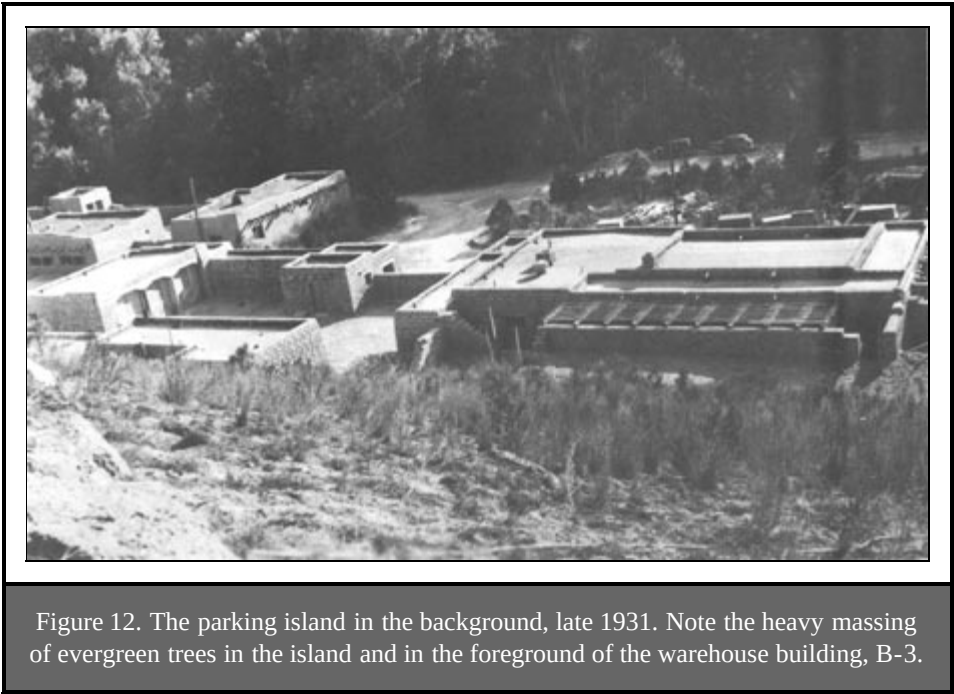
The primary access for vehicular traffic was the entrance road. Secondary circulation systems included paved pedestrian paths linking the four use areas.

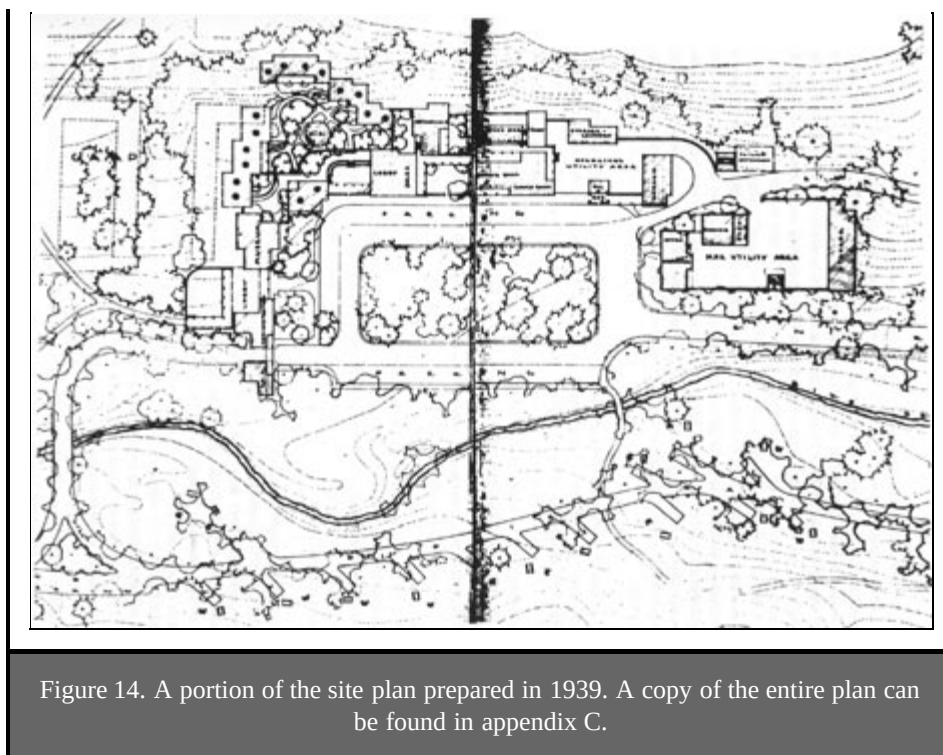
The paved entrance road that was initially constructed in 1934 (over much local protest) as a gravel road made a tremendous impact in terms of opening up the park. That the road was well received is evidenced by this excerpt from a 1934 "Southwestern Monuments Monthly Report": [1]

Letter from M.O. Evenstad, acting custodian to Boss, . . . 'widening of the road from a 12-foot truck trail standard to the 22-foot width must be credited entirely into the CWA program and makes the road a real highway. As a safety factor, the wider road is very important, especially along the cliff side where the road drops off into the canyon. A 12-foot road there would have been far from safe, especially for people not familiar with the road. The maximum grade along this part is only eight percent. We are rather proud of this road, both from its appearance and its utility, and the fact that it gives the public a way of getting into the canyon without resorting to a tiresome walk up and down the trail.'

Initially this entrance road passed underneath the portal between B-2 and B-9, crossed the creek, and extended to the guest ranch and overnight campground farther up the canyon. Historically, visitors stopped their cars at B-2 and checked in with the monument staff. This practice had ceased by the time the entrance station (B-26) was constructed in 1940.

The original parking spaces were along the perimeter of the buildings and along the curbed sidewalk near the rito. A central planted island screened the visitors' view of the principal buildings as they approached from the entrance road (figures 12-14).



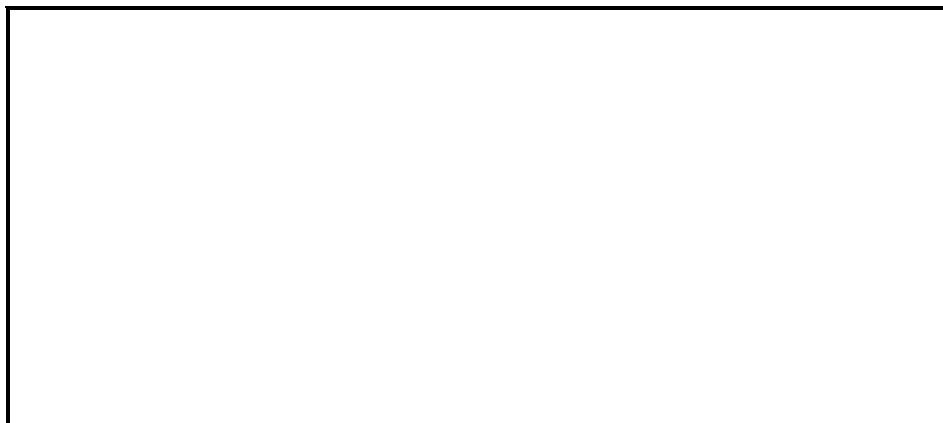


Two small paved parking areas were to the east of the dining room and within the maintenance complex of B-3 through B-6, both shielded from public view by masonry walls integrated with the adjacent buildings.

Landscape Structures and Related Features

All the buildings were constructed in the southwestern pueblo revival style with characteristic design elements, including battered stone walls, vigas, portals, parapet roofs, canales, and small changes in level to reflect the local topography. Masonry walls, portalled patios, flagstone walks, terraced courtyards, indigenous vegetation, and rock outcroppings integrated the various buildings into a unified complex. Primarily in the cabin and canyon court areas, rock ledge retaining walls created terracing that further accentuated the site's topography (see figure 14). Although this terracing gave the site much of its endearing quality, it also imposed certain limitations in terms of handicapped accessibility.

Early photographs show that the complex had a strong pueblo character in its geometric massing, scale, and texture. As viewed from the parking area, the cabin-hotel development area had a particularly unified massing, largely because of the foreground portal wall, which visually blended the buildings into one (see figure 15).



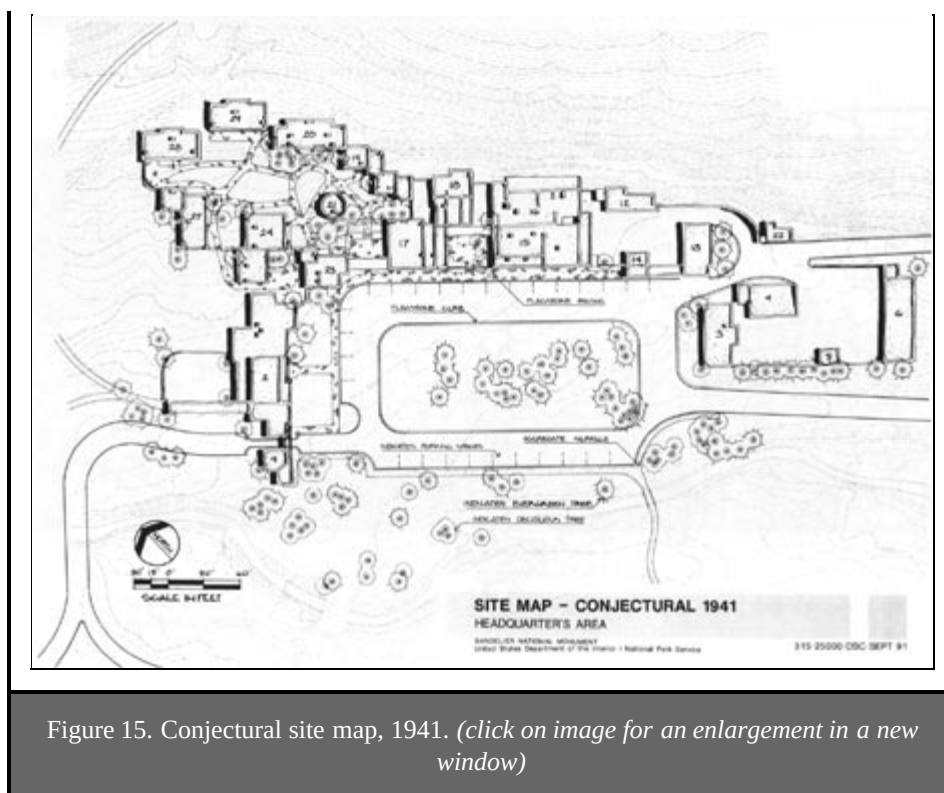


Figure 15. Conjectural site map, 1941. *(click on image for an enlargement in a new window)*

The built features, which included masonry walls, portals, patios, flagstone walks, gates, courtyards, and site furniture such as lighting fixtures, picnic tables, and signs, were all elements that helped to unify the building complex. The use of local stone, wood, and mud plaster typified CCC construction techniques at Bandelier. The result of this work was a naturalized environment harmonious with the setting and cultural resources.

Vegetation

The underlying intent for the vegetative plantings at the site was based in the rustic design ethic. Landscape architects concentrated on using native plant materials in a fashion that made the development — both the buildings and the vegetation — seem as natural as possible in the setting. At Bandelier, the landscape men planted large confined areas like the parking island and the campground area in a manner that mimicked the surrounding vegetation. The CCC men restored large open fields.

Native grasses were transplanted from the mesa top to provide a ground cover around the visitor center and in the cabin courtyard. Originally, indigenous grasses and vegetation were planted and gave a much stronger regionalism to the developed area. In addition, these grassed areas were top dressed with forest duff and strategically placed boulders. This landscaping provided a harmonious introductory image to visitors' contact with the park's prehistoric Indian culture in addition to a sympathetic site relationship with the buildings.

The vegetation that existed in the canyon when the landscape architects and CCC workers arrived included indigenous yucca, shrubby plants, grasses, and vines. Cottonwoods, ponderosa pine, and box elder trees lined the valley floor along the creek.

That the vegetative character appealed to early NPS officials is indicated from the following quotation taken from the July 1933 "Southwestern Monuments Monthly Reports" [2]:

On June 20 Ben Thompson and George M. Wright, Chief of the Wildlife

Division, made an inspection of Bandelier. We were accompanied on this trip by Mr. Pinkley and Mr. Vint. We were guided by the ranger in charge Ed Rogers. The following observations bear on the development of this monument: The luxurious growth of box elder wood, alder willow, and other trees and shrubs which fairly buries the stream of cool water in Frijoles Canyon is perhaps the greatest charm of Bandelier certainly the factor that will contribute to the comfort and pleasurable relaxation of visitors above all else.

After buildings were completed, plantsmen were detailed to revegetate the building sites. From 1934 to 1940 the CCCs carried on this planting program. Occasional lists of plant quantities and information have surfaced, and from these we can visualize the planting operation. As soon as a portion of the building construction was completed, the grading and planting started immediately; thus a continuing effort (four months per year) toward planting was taking place for the entire seven-year span. Plants were primarily transplanted from native surroundings. During April 1940, large numbers of seedlings were obtained from a local nursery of the Soil Conservation Service (SCS) (appendix C). These seedlings were not natives, but all could survive Bandelier's conditions and many exist today. The exact numbers and species of plants transplanted into Bandelier are not known, but a reasonable estimate of the number of trees and shrubs planted is in the hundreds.

Usually an estimated 100 trees and 150 shrubs were transplanted annually. During an efficient month, however, three crews with good hauling equipment could plant as many as 220 trees and 160 shrubs. This planting effort was broad in scope, covering not only the headquarters area but also the entrance road, stable, residential area, campground, the old CCC camp area, and the old hotel area.

The planting technique improvised by these men varied from park to park. The slip blade technique developed at Mesa Verde National Park did not apply without shallow bedrock, and the bare root or loose ball techniques of the East were not successful.

The preferred transplanting method at Bandelier was to move the tree with the ball frozen. Following selection of a tree within 5 miles of the site, the tree would be partially dug and root pruned in spring, then left to root heal until winter. After the tree ball was frozen, a belt of chain harness was slipped over the ball and pulled tight, and the ball was hoisted from the ground with a truck crane. Trees with root ball diameters of up to 3 feet were moved. The expedient field techniques developed by these plantsmen were very successful, judging from the low plant mortality. Many of the trees remain today along with many volunteer trees and shrubs.

In addition to transplanting natives and planting seedlings, the landscape crews had to deal with occasional infestations of insects attracted to the weak, newly planted pines. A concerted effort was established in May 1939 to eradicate exotic plants such as silverleaf poplar, Lombardy poplar, and peach trees. This task indicates that an underlying philosophy existed, defining both acceptable and unacceptable plants for Bandelier.

The foremen also followed instructions to plant vegetation in the traditional styles seen in the surrounding culture, such as framing entrances with native plants or adding vegetation at the bases of walls to soften the architectural lines.

Research on this project uncovered no actual plant lists or planting plans for this developed area. Although lists may have existed, most of the work probably was done under verbal direction from landscape architect Jared Morse, forestry foreman James Fulton, and a landscape foreman named Mr. Blinks.

Drainage

Drainage was a designed element of the Frijoles Canyon landscape. Causes of drainage problems included sheet wash from downpours, spring runoff, and creek flooding in the steep-walled canyon, all of which forced the designers to take proper drainage into account.

Any drainage philosophy is usually driven by facility-siting techniques (or vice versa). Because this facility was placed on a southwest-facing talus slope, the techniques of draining the site were to use a major upslope diversion ditch, depend on percolation of runoff into porous soil, develop sheet surface drainage around buildings and across parking areas, and (for trapped water) install an occasional subsurface to drain to the creek (see Existing Storm Drainage map in "Existing Conditions" section).

A major drainage diversion swale was installed on the steep and loose soils upslope of the highest tier of buildings in the cabin area. Periodically, the creep of the slope filled the ditch and caused debris flow and maintenance problems (see memo, appendix B). High on the mesa top, other diversion ditches were cut into the soil to divert major storm runoff away from this building complex.

Foundation drains were not shown on the original design drawings and no evidence of their use was apparent, at least not for the upper tier of buildings. Because of the side slope of this building complex, surrounding sheet surface drainage was used very effectively. Positive drainage from the building masses was designed as part of the building siting. The original intent was to drain from fiat roofs through canales to sloped courtyards. At some point, water in the courts found a drop inlet that either tied into a major drainpipe or opened into the parking area. Parking and road surfaces were designed to drain toward Frijoles Creek.

Curbing around the parking controlled the sheet drainage and directed the water to small drop inlets to finally fall into the creek. Minimal underground drainage lines are apparent on the original plans. A major 24-inch trunk line originates at a catch basin at the south end of the diversion ditch and serves as a trunk line for minor tributary lines and for draining surface water from the service area. This line also leads directly into the creek.

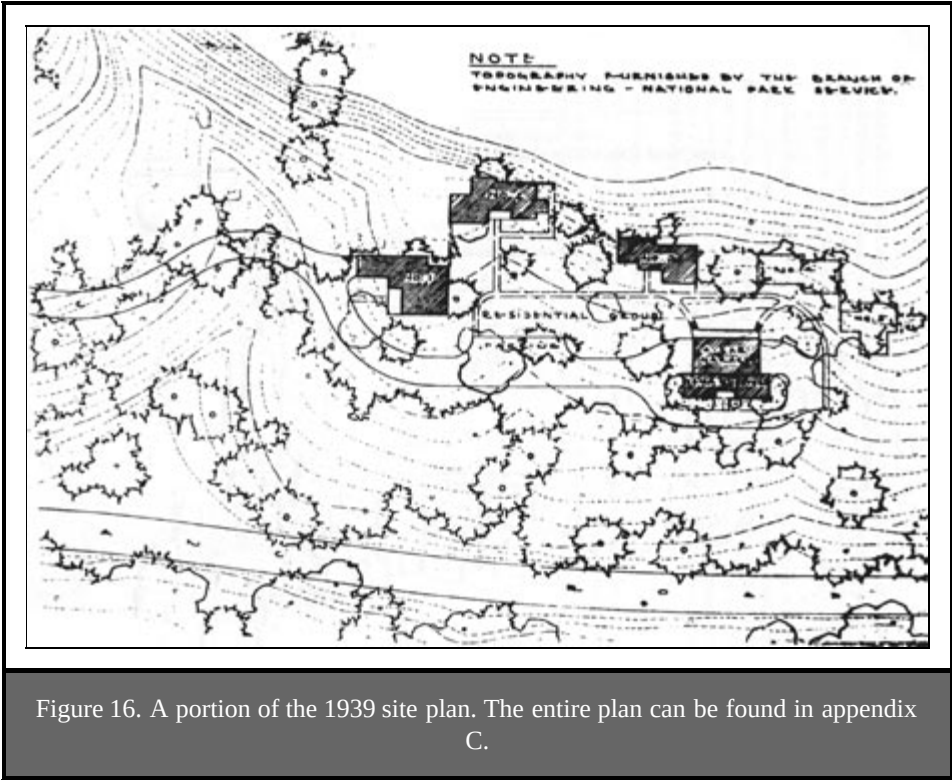


Figure 16. A portion of the 1939 site plan. The entire plan can be found in appendix C.

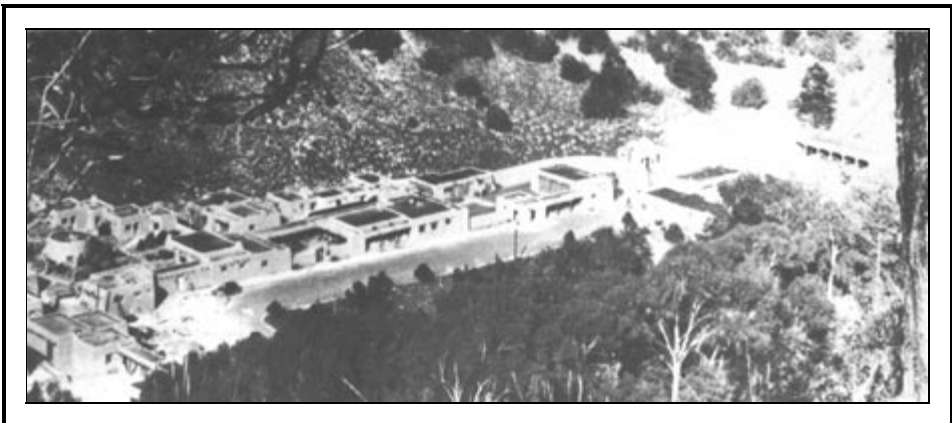


Figure 17. The 1940 view from the southwest side of the mesa top, showing the entire complex. Note the size and shape of the parking area. Planting in the island is complete.

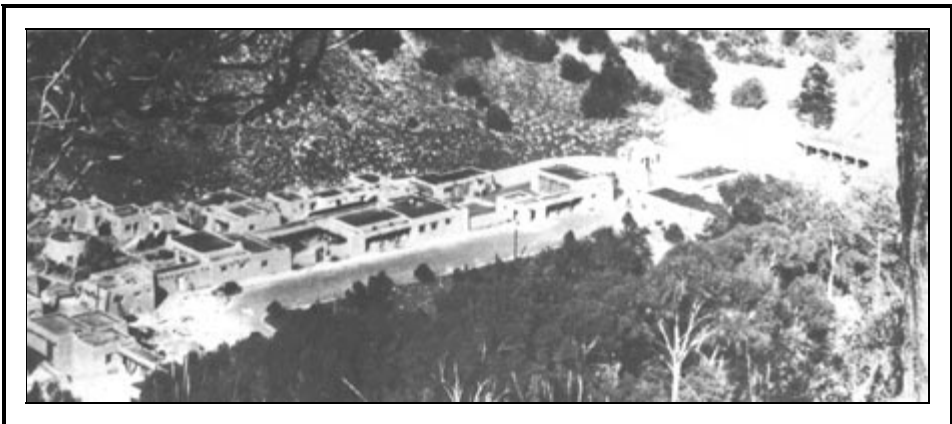


Figure 18. The 1940 plan for the west side of the cabin courtyard (drawing 315/2049A, sheet 1). Note the careful detailing of rock ledges.

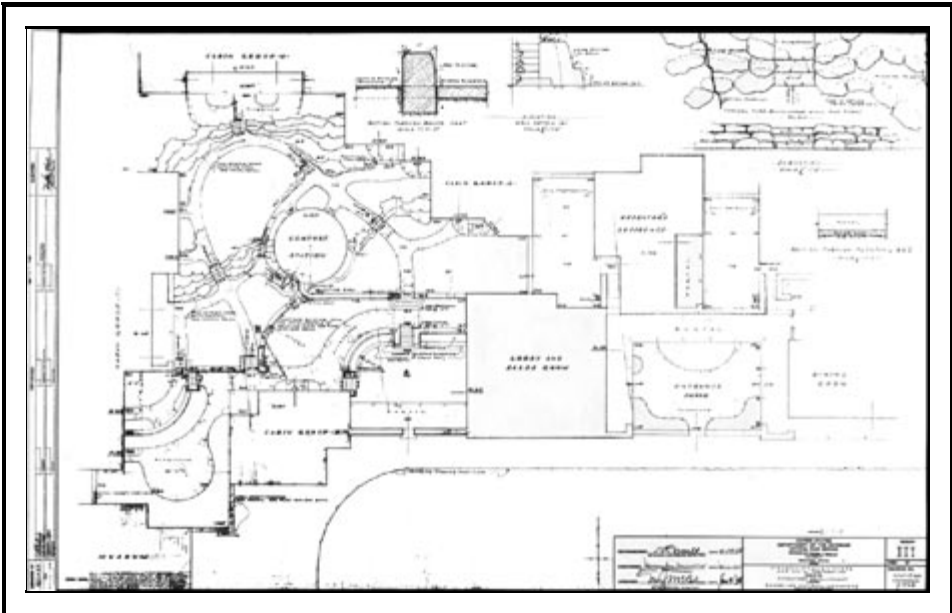
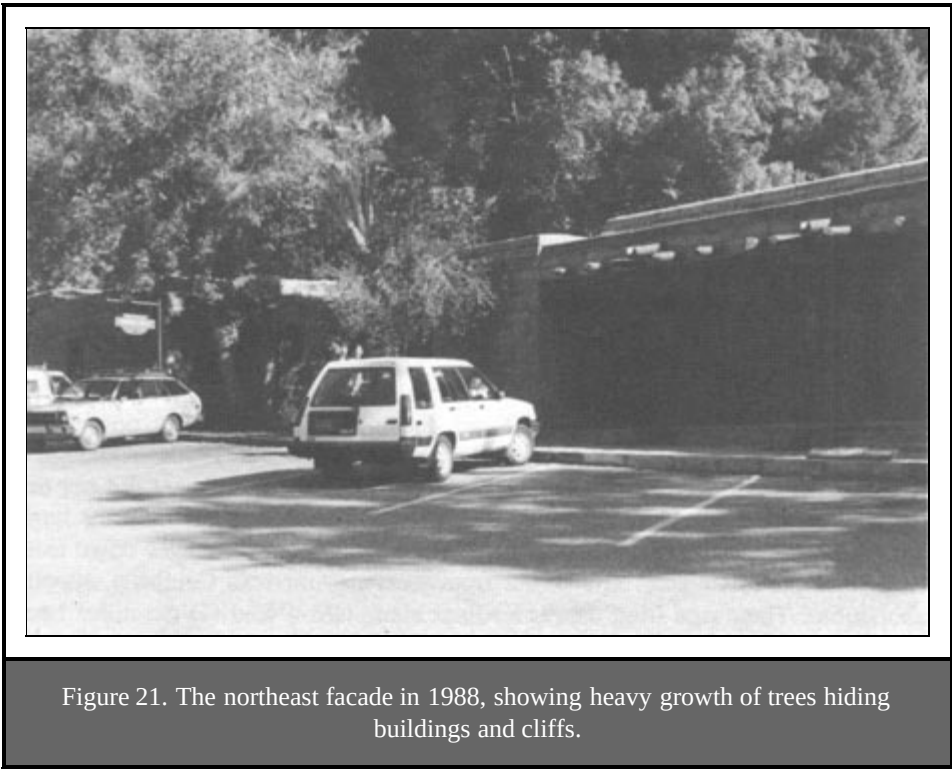
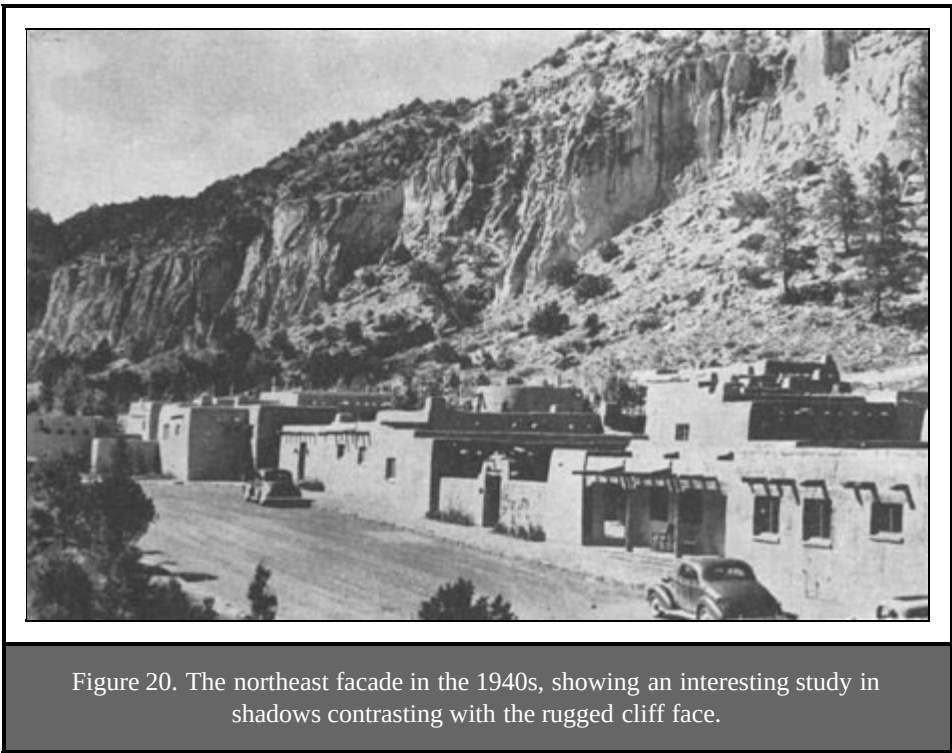


Figure 19. The 1940 plan of the east side of the cabin courtyard (drawing 315/2049, unnumbered). See the step and ledge detail in the upper right corner.



Bandelier

Historic Structure Report: CCC Buildings



EXISTING CONDITIONS

THE SITE

General

A few site modifications have occurred over the years, some of which have slightly altered the character of the area. Despite these changes, the district retains nearly all of its original feeling and character (figure 141).

Although the physiographic features have remained the same, major changes have been made to the parking area. Landscape structures such as paving and curbing have been altered to accommodate changing visitor use or replace deteriorated material, or both. Through a long period of neglect, vegetation has overgrown original confines and encroached upon structures, visitor areas, and vistas. Exterior drainage has not been successful. A diversion ditch built to protect the rear of the cabin and lodge area is often overrun by heavy rains, causing talus slope movement, flooding, and subsequent seepage into the building walls.

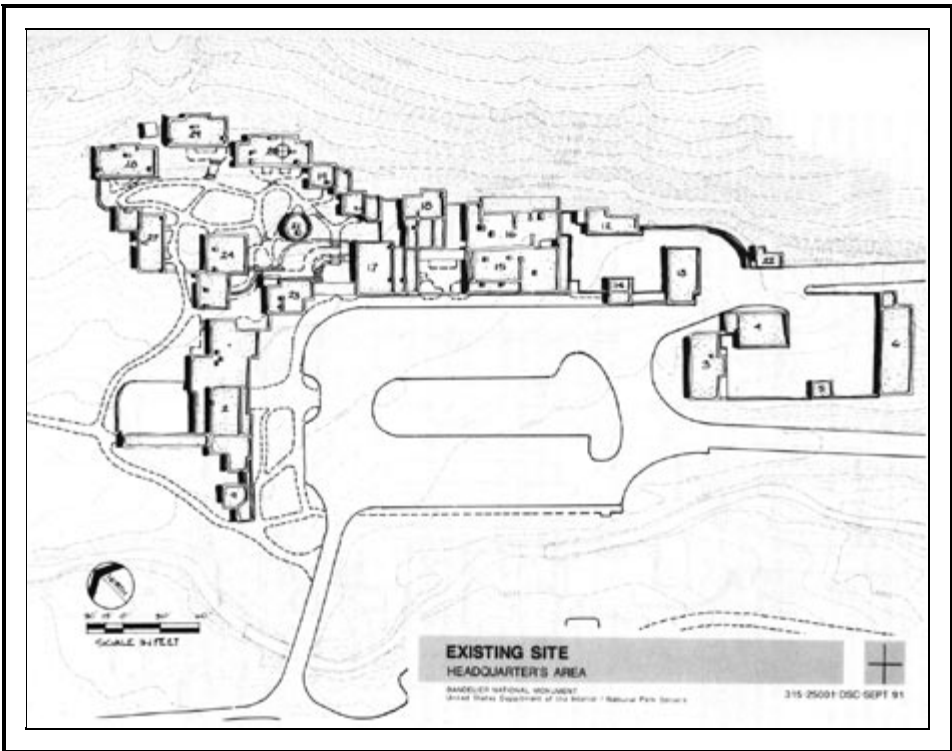


Figure 141. Existing site map. *(click on image for a enlargement in a new window)*

Circulation

Although the entrance road has undergone only minimal change, parking in the headquarters

area has changed over time to accommodate additional spaces. At first, this area had 27 parallel parking spaces. The diagonal parking capacity was increased by 40 cars by cutting into the center island.

In general, pedestrian paths have retained their original configurations, although new ones have been added to accommodate changing functions and increased visitation. A new bridge, constructed in the 1950s, crosses the rito south of the location of the original bridge. This new bridge provides access to the picnic area and backpacker parking area in the former campground.

Landscape Structures and Related Features

The condition of the landscape structures varies throughout the developed area. Some replacement walls, steps, and flagstone areas look original at first glance, but critical examination reveals some differences.

Because of the degradation of the flagstone over time through spalling and chipping, and because of changes in configuration brought about by more recent construction, new areas paved with flagstone now exist (figure 142). The replacement flagstone does not match the original in color or shape. The sandstone replacement is much redder, and the paver sizes are larger.

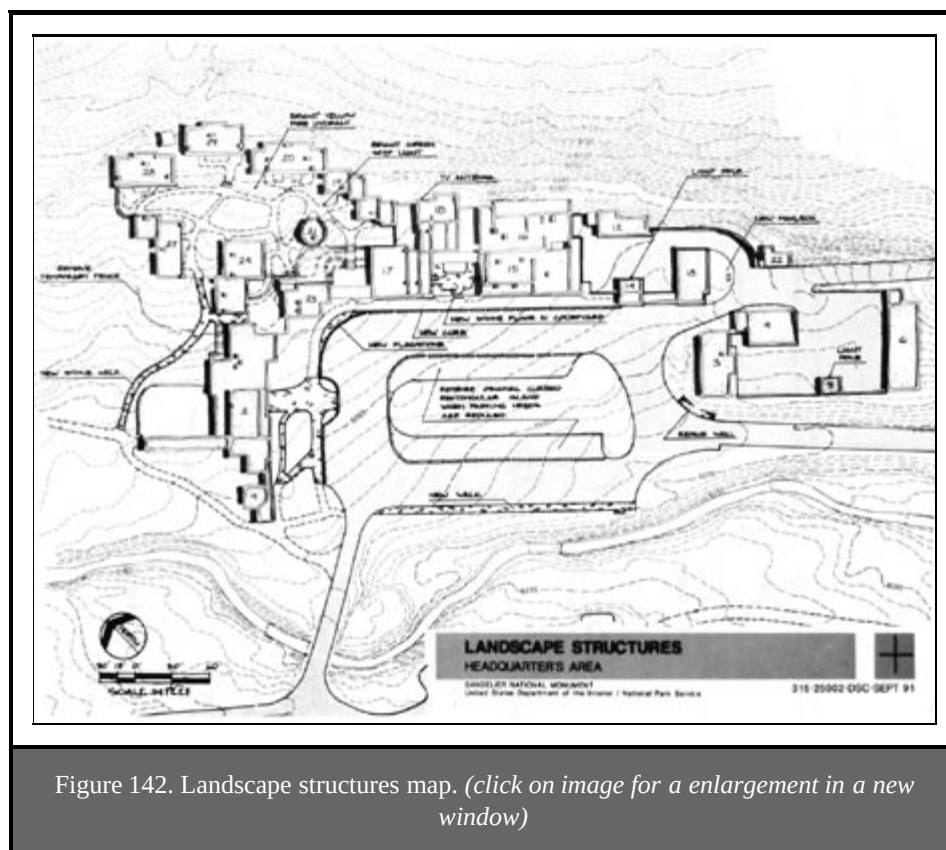


Figure 142. Landscape structures map. *(click on image for a enlargement in a new window)*

Curbs have been replaced around the parking area. The general appearance of the new curbing is different from the original: it is a brighter color, and its edges are sharper than the original curb's.

Several alterations to paths and paving materials have been made in response to a need for handicapped accessibility. A new surface has been added to the original walkway on the south side of the parking area. The original gravel walk south of the parking area now has a

flagstone surface. The new walkway west and north of the visitor center is a gently sloped path that makes a portion of the cabin area accessible by wheelchair. A new brick walk and steps have been built north of the visitor center. The stone floor of the patio of the snack bar has been raised to accommodate wheelchair access to the snack bar.

In addition to paving, other historic landscape features still exist. However, some nonhistoric landscape features, such as bright yellow fire hydrants and green walk lights, have been added throughout the headquarters area. They are minor intrusions now, in the midst of the heavy vegetative growth, but as vegetation is thinned, these features will stand out much more. In addition, lights, tall light poles, and a television antenna show above the view of the historic facade of the administration building.

Vegetation

After passing various levels of aridity along the route to Bandelier National Monument, visitors form a first impression that this canyon is extremely lush. Dense growth dwarfs the buildings and hides the structures from the visitors' view as they drive down the approach road. This growth breaks up and masks the buildings mass and interrupts direct views of the cliffs that serve as backdrops to the masonry walls. Many trees are unusually heavily branched at eye level, and low shrub growth is quite dense. Much of the shrub growth is volunteer and has little historic value. This heavy eye-level growth, however, also hides the mass of automobiles in the parking area (figures 143 and 144).



Figure 143. The front facade of the visitor center at the original drive-through, 1940. The opening has now been filled in. Many evergreen trees and native grass have been replaced with rank deciduous trees and refining lawn.

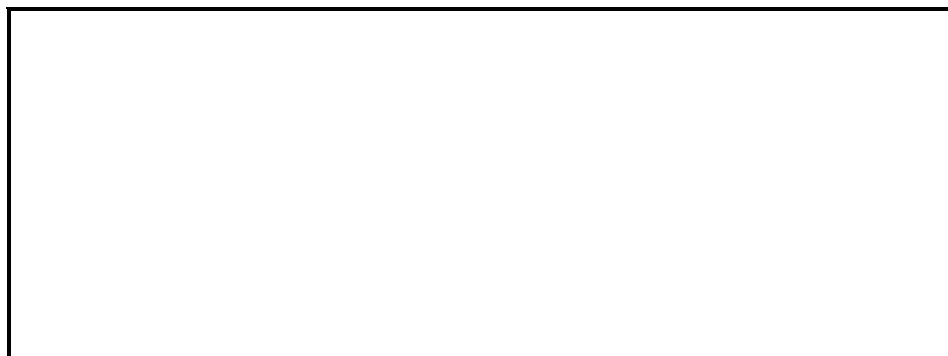




Figure 144. The front facade of the visitor center, 1988. Note the dense growth hiding much of the architecture.

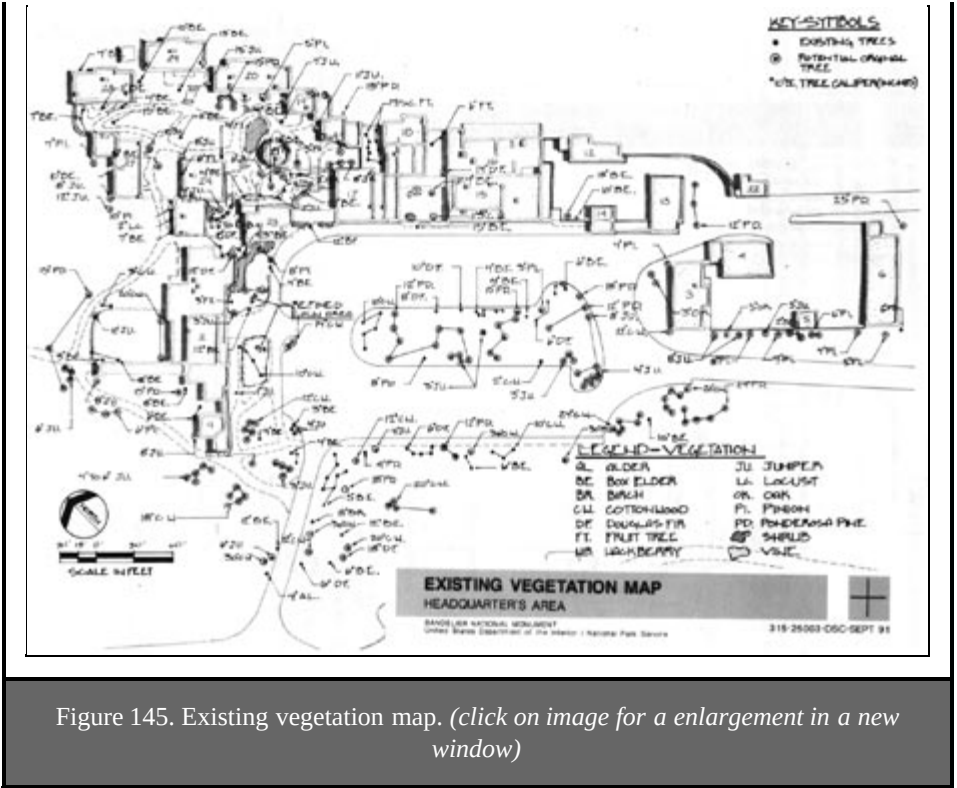
This heavy vegetation causes several problems. The dense shading of wood architectural features causes deterioration of wood members, which can lead to insect infestation and rot. The roots of trees and the trees themselves press against buildings and crack the stone walls. In addition, the dense shading slows the drying of wood and masonry surfaces.

Although the refined lawn at the visitor center provides a green carpet for visitor use, research has shown that the lawn is native grass gathered by Fulton and his crews from the mesa top. It has gradually taken on a dense sod appearance from watering and fertilizing. The lawns in the cabin courtyards and around the residences have been similarly altered, but to a lesser degree.

Much of the shrub growth and box elder tree growth is volunteer. Because historical information on plant materials that the CCC used was limited, we can only surmise the extent and type of vegetation at the close of the CCC efforts. The plant lists give us the scope of the available plant material.

A list of existing trees covering the compound and residential area has been developed (see appendix A). Their location and caliper have been indicated on maps of the various areas (see figure 145).





Some existing trees were found to have been planted originally by the CCC plantsman; it is recommended that they be held in higher esteem than recent volunteer plants. To determine which trees were original (either planted or undisturbed) to the CCC era without the benefit of initial planting plans or plant lists, various techniques were used.

One technique was to compare existing trees with those in early 1940s site photographs. These same trees then become a standard minimum size for other trees in the area.

A second technique was to determine the largest caliper per species that can be moved with a maximum ball size of 3 feet and then add the appropriate growth rate to this size to arrive at the trunk caliper expected today. Each species, of course, has a slight variance above and below the average trunk caliper.

This reasoning, coupled with interviews with the forester in charge of the CCC-era planting, led to the following list of probable original trees.

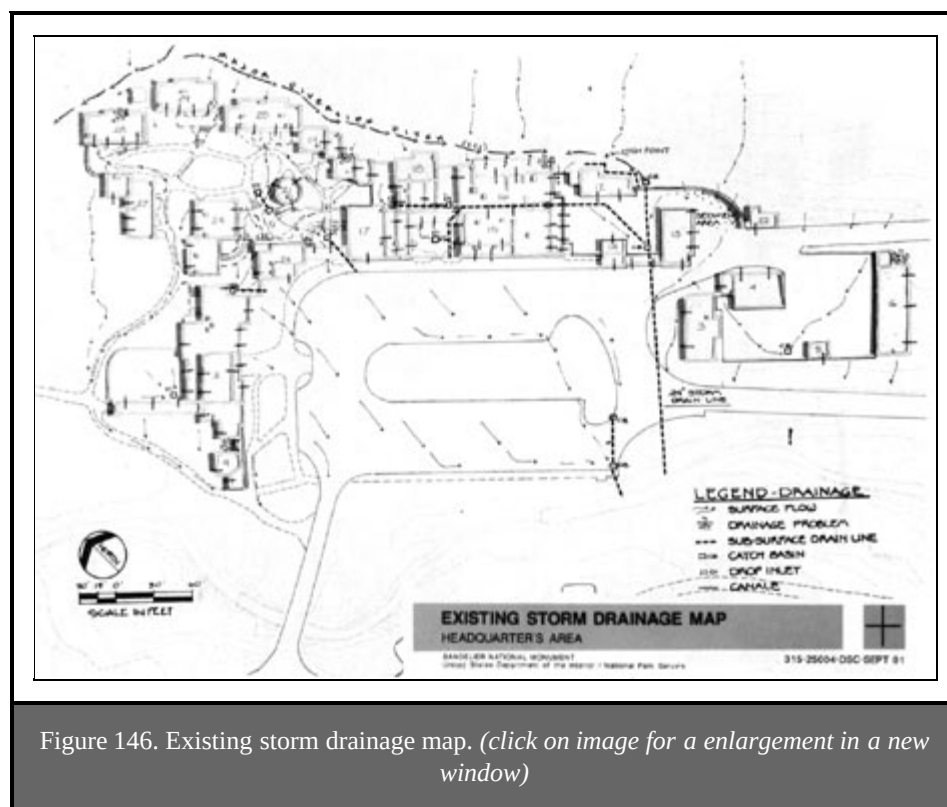
Trees	Minimum trunk caliper (inches)
Box elder	16
Cottonwood	12
Douglas fir	12
Juniper	3
Oak	3
Pinon pine	4
Ponderosa pine	12

This classification is judged 90 to 95 percent accurate and will probably remain so unless original planting plans or plant lists are uncovered. If discrepancies between recent and original trees occur, they will be at the gray area or break point in trunk caliper sizes. Factors such as growth stimulants and growth constraints affect the growth characteristics of these trees.

Based on this breakdown of tree age, approximately 60 percent of trees in the headquarters area (see figure 145) are of the CCC era. Of course, many more trees were planted but succumbed to disease, drought, and human hands.

Drainage

The diversion ditch uphill from the northern tier of cabins currently does not drain to the catch basin. The ditch is so porous that even a downpour immediately percolates into the ground. In addition, major downpours create a soil erosion condition that fills the ditch and the courtyards. In view of the porosity of the soil on this slope, moisture should percolate down to bedrock. However, in some isolated areas it does not percolate, and moisture seeps into building walls. The subsurface soil under the trench is a maze of utility lines (see figure 146).



Foundation problems and their probable causes are as follows:

In B-2, walls are wet because water is concentrated between buildings.

In B-6, wet walls and viga deterioration have been caused by reverse grading.

In B-16, wet walls are caused by water sheeting off the new roof and percolating to the base of the wall. The diversion ditch runs the wrong way here.

In B-19, a major problem with wet walls is caused by the canale that drains to

the northeast side of the building, where water ponds and percolates down outside the building.

In B-23, wet walls are probably due to water draining to the hole adjacent to the building wall and to bad grading.

Sheet drainage from roofs via canales generally works well. Where roof drainage pours into large courtyards, the drainage usually works. Canales that empty into tiny courtyards have flooding problems because the inlet openings in the drainage pipes are small. Drop inlets have been provided, but generally they are not directly under the canale. The resultant solutions are makeshift piping and eroding gullies. This problem apparently was recognized in the 1940s; additional drop inlets and lines were proposed but never installed.

The historic drop inlets tie into 6-inch vitrified clay pipe, which is susceptible to clogging, is hard to clean out, and could overflow in a heavy rain.

These drainage lines run between drop inlets in courtyards to parking areas or tap into major drain lines. They are too few, undersized, and inaccessible. One of the lines — a 24-inch concrete line — serves its function well and could be better used.

Drainage across parking areas and roads has not been a problem, and maintenance requirements are minimal.

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TREATMENT RECOMMENDATIONS

THE SITE

General

The task directive for this study did not include research on specific landscape features such as terrace walls, lighting, and the like. Thus, those features are dealt with only in a general manner. Here specific recommendations are made for vegetation and drainage issues only. These recommendations are to be used as guidelines for preparing and implementing development plans. In the future, additional research must be done before treatment recommendations are made for other landscape elements such as parking configuration, paving materials, circulation, signage, and lighting.

The analysis of various areas as detailed in the preceding pages is one criterion to be used in establishing recommendations for acceptable and unacceptable change. The criteria used for making recommendations are prioritized as follows:

1. Identify and respect original landscape elements, including landscape structures, drainage facilities, and vegetation, based on the mandates of preservation law. This criterion includes removing nonhistoric components that compromise the historic scene, and enhancing or reestablishing historic features.
2. Inventory the need for changing specific landscape features for reasons of public safety, facility protection, and eradication of exotics.

Circulation

Circulation consists of both vehicular and pedestrian routes. The development concept plan currently under way, and other planning documents in the future, should study the history and significance of these routes before any changes are made to the entry road, parking facilities, curbing materials, paving materials, and pedestrian paths.

Landscape Structures and Related Features

Treatment recommendations in this section are general. Future work that affects these structures and features as well as any additions, should be preceded by an inventory of historic and nonhistoric features, cultural landscape context, and preservation alternatives.

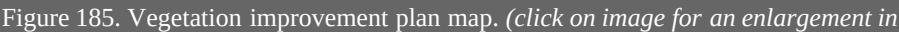
Landscape structures and related features have undergone some minor modification through the years. As the remaining historic materials and the replacement materials deteriorate, a greater effort must be made to choose replacement materials that are more compatible with the original materials in color, size, scale, material, and character.

The long-range goal for vegetative management in the historic district is to restore, to the greatest extent possible, the character of the historic landscape (see "Vegetation" in the "Physical History" section). Recommendations for vegetation improvement include plant removal, planting, and pruning or trimming.

Plant removal should include stump removal, either mechanically or through controlled chemical decay, and should be coordinated with the Southwest Regional Office natural resource specialist. Plant trimming should be done under the supervision of a landscape architect who has full knowledge of the desired results. Planting should also be supervised by a landscape architect and based on an approved planting plan.

A complete list of plants that are found on the site is in appendix A. A preliminary list of replacement plant materials can be found in appendix C. The list should be reviewed for historical accuracy, and specific applications for replacements should be determined in the future.

Plant treatment recommendations shown on the vegetation improvement plan for the headquarters area (figure 185) and the site improvement plan for outlying areas (figure 186) are set up in a manner so that the park may start immediate implementation, following the approval of Assessment of Effect forms. These recommendations are based on resource protection, public safety, eradication of exotics, and restoration of historic character. Additional research and development plans are needed to provide the final design and set standards for the level and manner in which the vegetation should be maintained. Also, a cyclic maintenance plan is needed for the vegetation.



a new window)

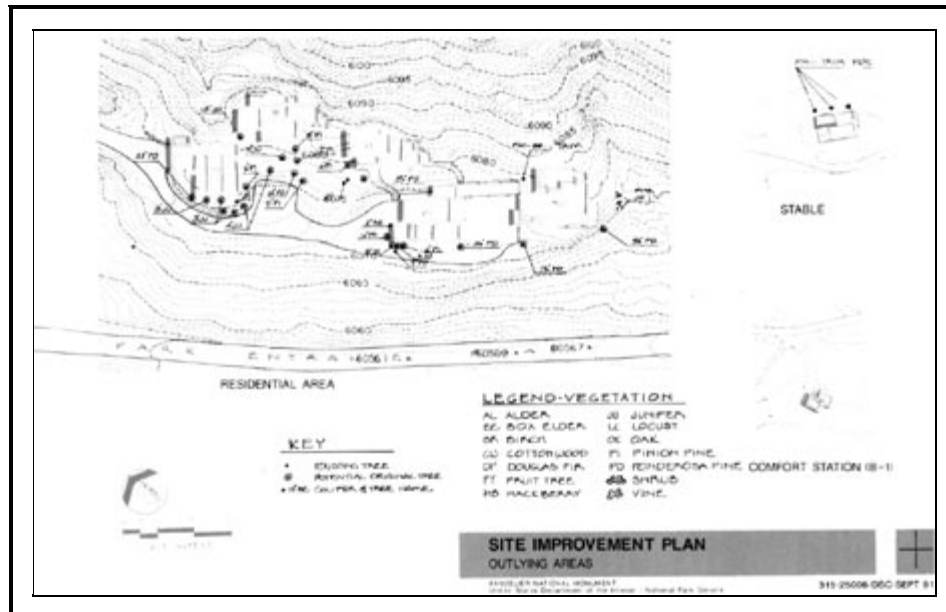


Figure 186. Site improvement plan map. *(click on image for an enlargement in a new window)*

Visitor Center. The plant rehabilitation intent at the visitor center is primarily to remove recent plantings and to expose the building facade by trimming trees and removing shrubs. Also, the intent includes altering the current management practice of fertilizing, mowing, and watering the lawn areas around the visitor center to allow the lawns to return to a more natural, semiarid state. The following rehabilitation steps should be taken around the visitor center:

Remove shrubs at the northeast side.

Remove all box elder at the entrance.

Remove the fruit tree at the entrance.

Trim up the 3-inch juniper, the 8-inch piñon pine, and the 13-inch juniper at the entrance.

Remove all box elder at the southeast side.

Remove the 8-inch box elder against the courtyard wall and the 6-inch and 8-inch box elder on the southwest side.

Remove the apple tree south of the comfort station.

Remove the 3-inch box elder and the 3-inch cottonwood from the northwest side of the courtyard.

Remove all box elder, including stumps, southwest of the visitor center and west of the courtyard.

Cabin Courtyard. Plant rehabilitation at the cabin courtyard includes removing rank growth through the walk system, trimming up trees with low branches (raising the crowns of trees),

and trimming to open vistas to the cliffs. Trees that adversely affect the buildings should be removed or trimmed.

Remove the 2-inch, the 4-inch, and the 7-inch box elders near B-28.

Trim the 7-inch box elder south of B-28.

Remove the 7-inch box elder north of B-27.

Allow native grass to grow.

Remove nonhistoric shrubs.

Remove four 10-inch Douglas firs.

Prune the fruit tree north of B-24.

Remove three of the four hackberry trees; keep the largest hackberry, adjacent to B-24.

Trim the 8-inch juniper (original tree) southwest of B-27 (figures 187 and 188).

Trim the 10-inch juniper (original tree) north of B-27.

Add 14 five-foot junipers west of B-24 and B-27.

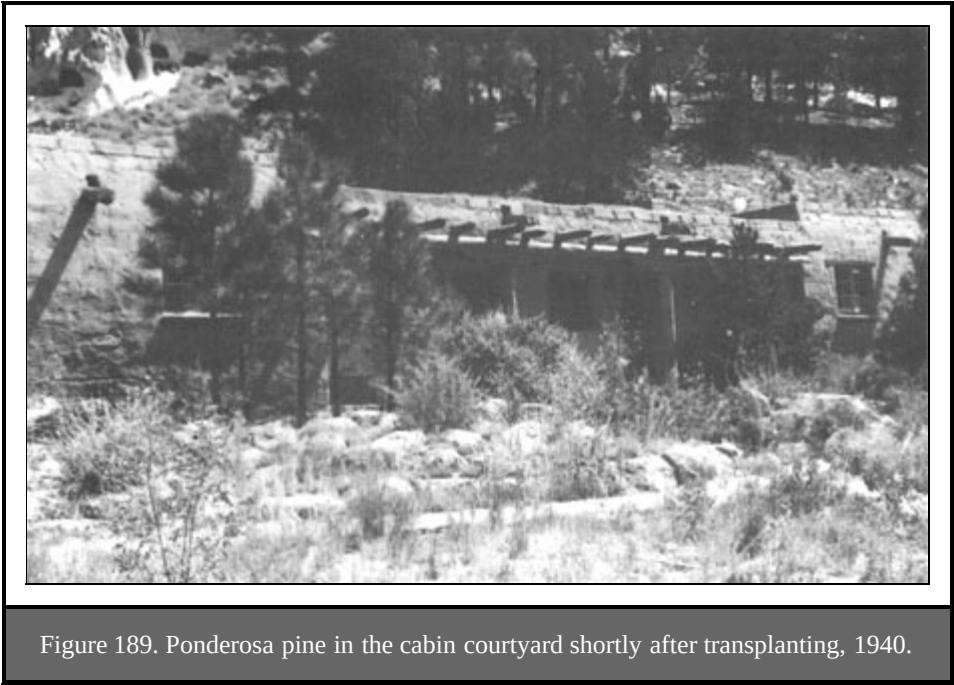
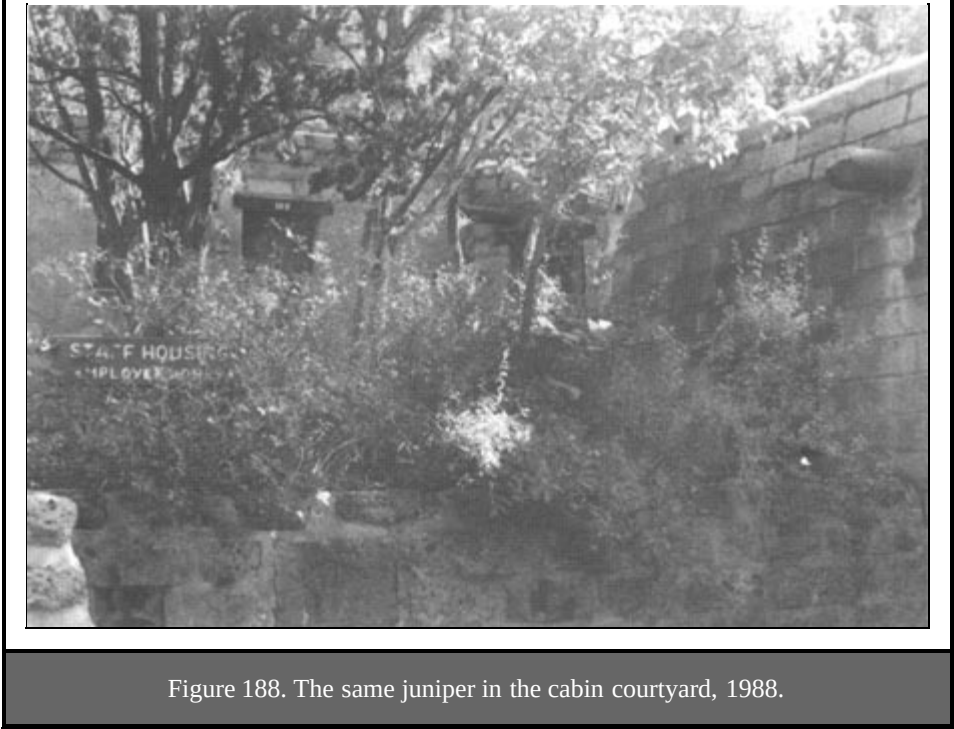
Remove the 21-inch box elder (original tree) only as a last resort; it is cracking the small wall (figures 191 and 192).

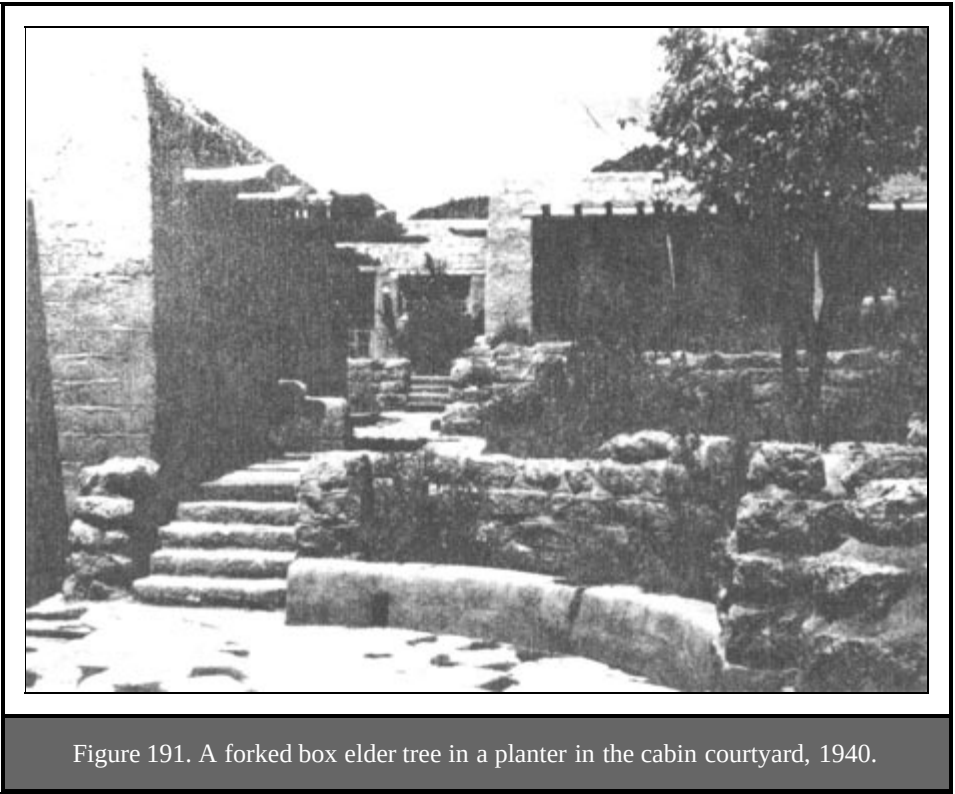
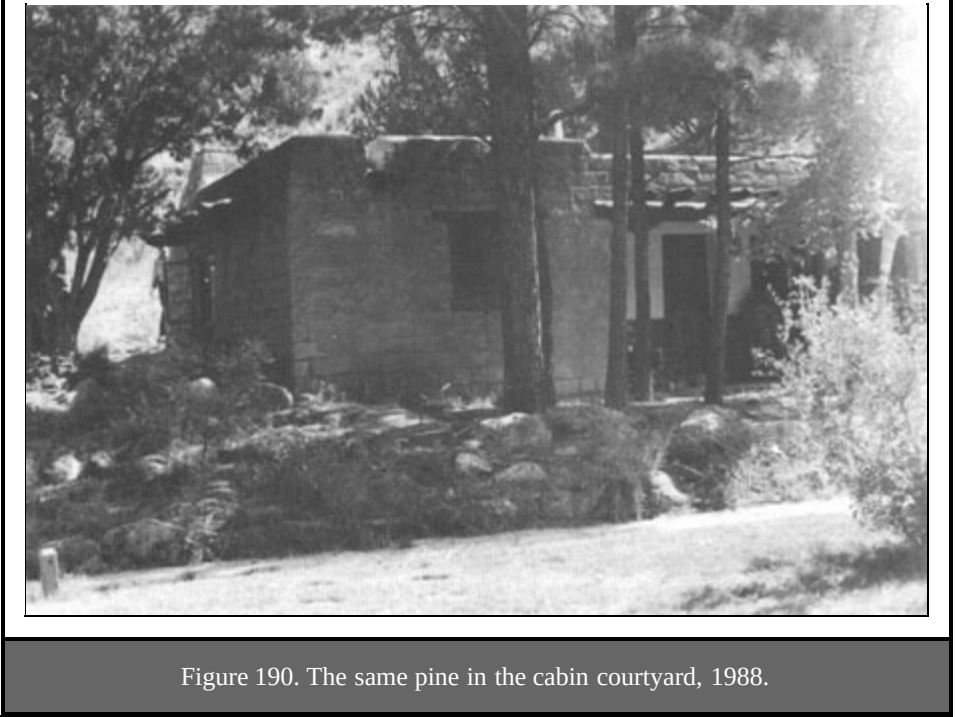
Remove the 9-inch box elder south of B-20.

Remove the 3-inch hackberry south of B-21.



Figure 187. Juniper planted in the cabin courtyard, 1940.





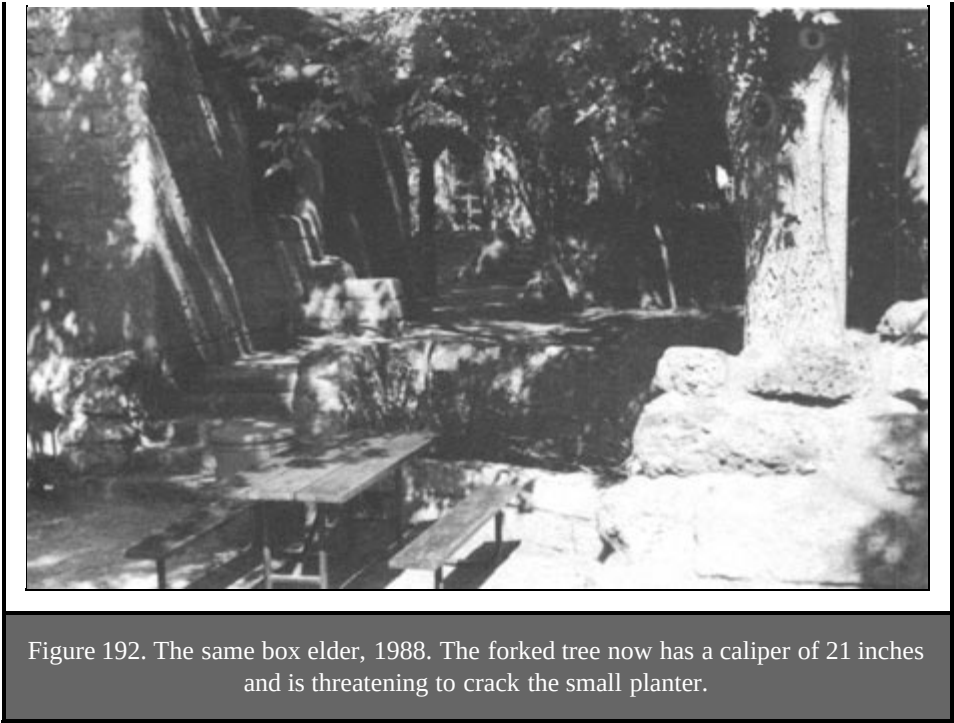


Figure 192. The same box elder, 1988. The forked tree now has a caliper of 21 inches and is threatening to crack the small planter.

Miscellaneous Courtyards. Plant rehabilitation for these courtyards includes trimming up low branches of trees to open vistas to the cliffs. The fruit trees should be pruned with assistance from the Division of Natural Resource Management.

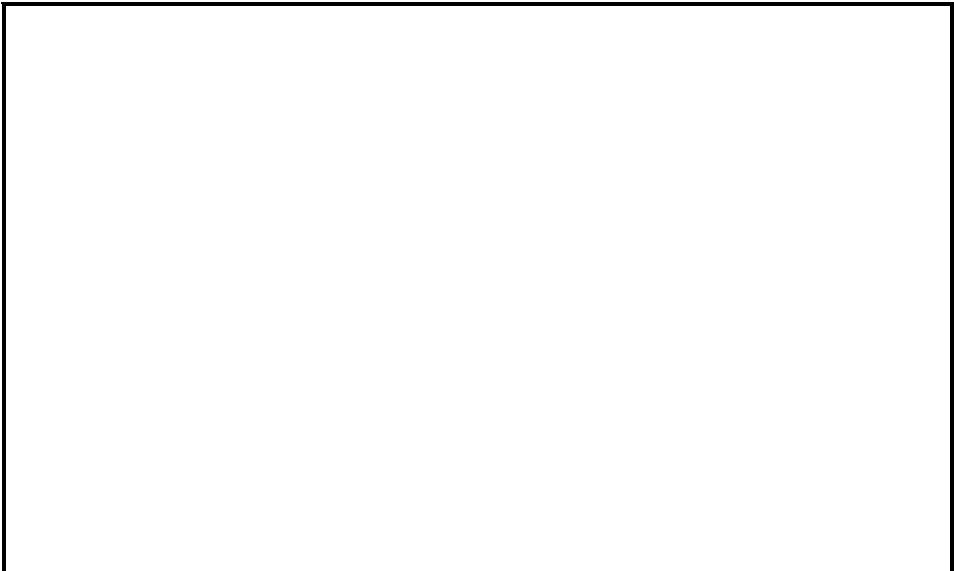
Trim up the 13-inch cottonwood, the 15-inch box elder, and the 24-inch box elder in the dinning courtyard.

Prune the fruit trees.

Parking Island. The planting rehabilitation intent for the parking island is to remove rank growth — primarily desert olive and box elder — and remove trees growing too close together (figures 193 and 194).

Remove the two 4-inch and the two 6-inch box elders from the northeast side of the island.

Remove the desert olive.



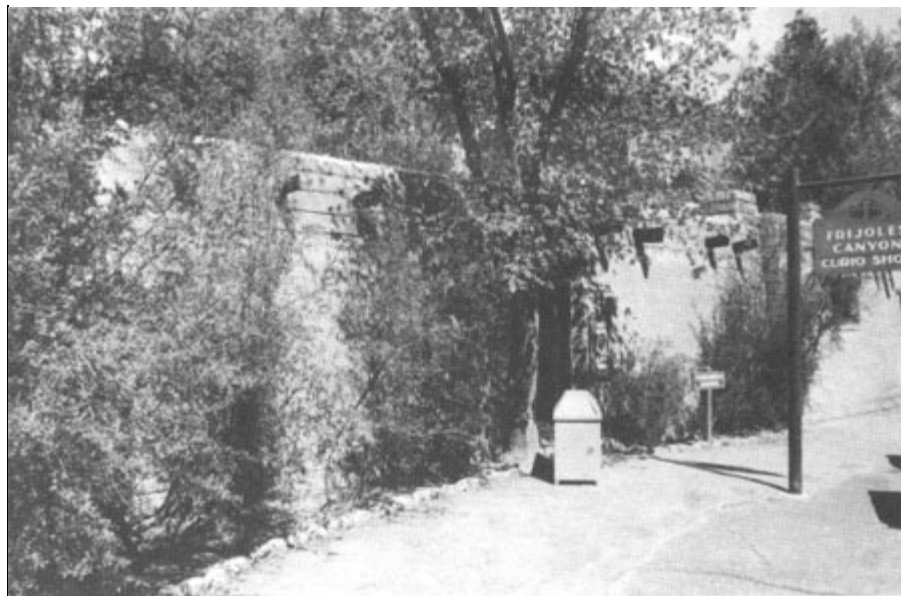


Figure 193. The wall north of the parking area, 1988. The rank growth of desert olive should be removed to expose the wall.



Figure 194. The parking area north wall, 1988. The box elder tree should be pruned up to raise the canopy.

Creekside. Future plans should consider plant materials to discourage pedestrian traffic over erodible soils.

Thin the box elder southeast of the comfort station.

Maintenance Area. Plant rehabilitation for this area consists of thinning out shrub undergrowth along B-3, and possible removal of box elders that are pressing against the wall.

Trim the 5-inch oak south of the south wall.

Remove underbrush and trim up trees from the north corner of B-3 to the south corner of the building.

Monitor the cracked wall near B-14 for continued deterioration. If movement continues, remove 18-inch and 10-inch box elders.

Residential Area. Plant rehabilitation is limited to pruning or trimming in this area.

Trim up the box elder north of B-32.

Stable and Other Outbuildings. Plant rehabilitation for these areas is very limited. Most are very naturalized and need little change.

Trim up the trees adjacent to the stable north wall to open the structure to light and air.

Drainage

Recommendations to improve drainage and alleviate deterioration of building walls focus primarily on the north (uphill) side of the compound. These recommendations include improving the major diversion ditches, regrading problem areas, containing canals and roof runoff near the diversion ditch, possibly installing foundation drains, and improving minor (6-inch) subsurface drain lines (figure 195). These recommendations are based on a cursory study only. Before any final design recommendations are made, a qualified geotechnical engineer should make tests, recommend design solutions, and provide cost estimates.

The most serious drainage problem is the wet and deteriorating upslope walls of the headquarters compound. This problem is caused by water being concentrated at specific areas and seeping against the foundation walls instead of being allowed to percolate down through the talus material. Water is apparently ponding and saturating the subsoil sufficiently to wet and cause deterioration of the back walls. The solution to this condition during original construction would have been to install foundation drains like those behind B-12. None of the other building plans show this type of drainage.

The following recommendation is based on a general idea of probable cause (not technically specific) and is intended for all the buried upslope walls. Further studies could target the improvement to specific areas where drainage problems have become apparent.

It is recommended that the flow of water to these problem areas be diverted safely away from the buildings. Foundation drains of 6-inch perforated plastic pipe could be installed at the bottom of all upslope footings. Backfill around the pipe could be a coarse gravel. Buried upslope walls could be studied further for waterproofing options.

The diversion ditch is needed primarily for major downpours (figure 196). Regrading to a consistent slope and waterproofing with a Gunitite-type surface would enable this ditch not only to handle major downpours and minor surface water but also to carry roof drainage safely away from the buildings (figure 195). With increased flow in the diversion ditch, a small maintainable setting basin would be needed downstream above the catch basin. Talus slope creep will always be a problem to grounds maintenance. Concrete coating or "Guniting" the ditch will at least direct the flow of loose particles and make removing them easier. A more detailed study by a geotechnical engineer could show the need for walls, gabion treatments, forced revegetation, and irrigation. Because the upslope of this headquarters area is a maze of buried utility lines, any excavation will undoubtedly be done by hand.

Minor drainage lines initially designed were never totally completed, and where canale-directed roof water is a problem, the drainage structures and lines designed during the CCC era might be installed. Upgrading the present lines to larger size would improve drainage, but the destruction to historic fabric makes that option questionable.

In several areas such as B-6, B-2, and B-23, regrading will take care of wet wall problems. Surface drainage seems to function effectively with only minor sedimentation problems.

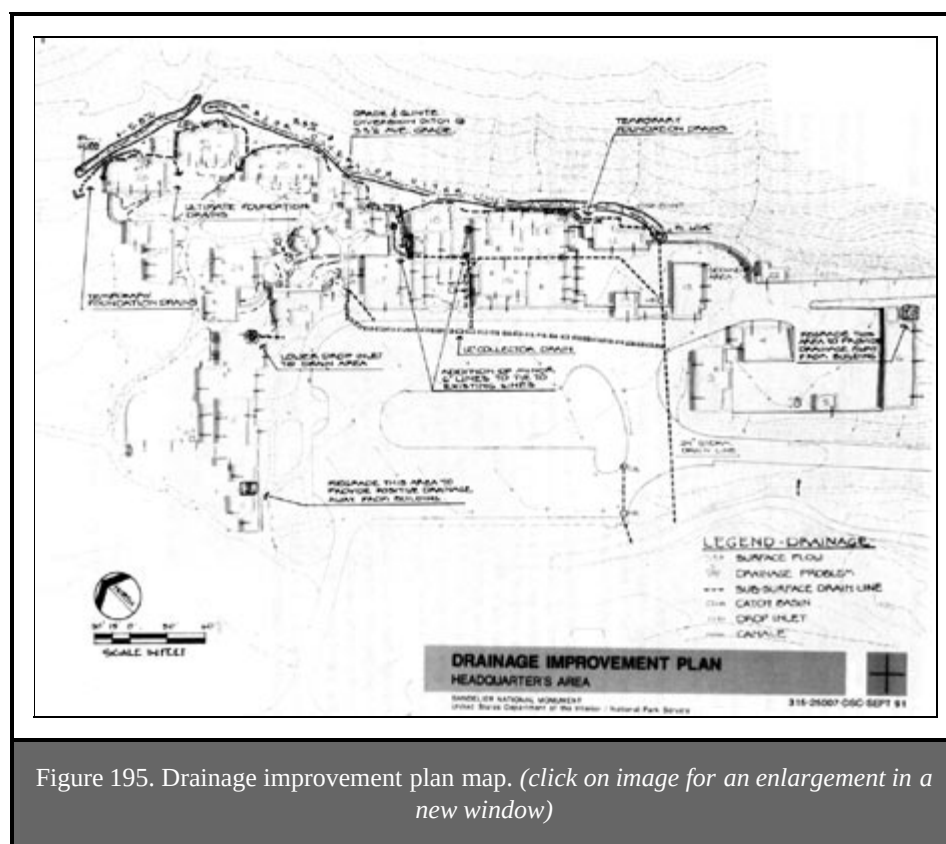




Figure 196. View of 1940 diversion ditch. Porous soil allows very little water to follow the ditch.

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ACCESSIBILITY AND ADAPTIVE USE

In the immediate future, two issues that could have major effects on the physical fabric and architectural integrity of Bandelier's CCC buildings are providing handicapped accessibility and incorporating adaptive use. This section sets forth general guidelines and philosophy to govern decisions affecting the physical fabric, character, and integrity of this national historic landmark district. The historic buildings and their immediate landscapes are a national historic landmark district that must be preserved. These guidelines concern NPS as well as concessioner-initiated activities.

ACCESSIBILITY

Like other federal agencies, the NPS is mandated to comply with the Architectural Barriers Act of 1968 and section 504 of the Rehabilitation Act of 1973. In brief, the Architectural Barriers Act of 1968 requires buildings and facilities designed, constructed, altered, or leased with federal funds after 1969 to be accessible to and usable by persons with physical disabilities. Section 504 of the 1973 act prohibits discrimination on the basis of physical or mental handicap in most federally assisted programs or activities. NPS-28 states, "in the case of historic structures and sites, accessibility generally means direct access to all aspects of programs and services." Compliance with this dictate is through the use of the *Uniform Federal Accessibility Standards*, 41 CFR 101-19.6.

To guide parks and monuments in meeting these mandates and departmental policies, the Southwest Regional Office has prepared a handicapped access plan (August 1986). As part of that plan, each park will prepare a self-evaluation for handicapped accessibility. Bandelier's draft self-evaluation, prepared in 1987, discusses visitors' and park employees' access to buildings, services, and interpretive programs. Problem areas are cited, and alternative and proposed solutions given. After review comments are incorporated, the draft document will be distributed for public review. In addition, the handicapped access plan stresses that the regional special populations coordinator review and comment on plans, designs, and specifications that may influence, directly or indirectly, handicapped accessibility. This system earmarks the special populations coordinator as a key team member to be involved at the earliest possible stage.

Certain physical characteristics of Bandelier's architecture — elements common to the pueblo revival style — warrant description here because of their direct connection with handicapped accessibility. The most notable element of the style that creates an obstacle to access is the frequent change in floor level. This change occurs from room to room and from exterior to interior. Small changes of two or three steps are significant features of that architectural style. For the most part, the steps are functionally necessary and architecturally significant. The designers specifically chose to terrace the buildings gently up the hillside. In a few instances, the architects included the level changes as aesthetic rather than functional choices. In either case, however, the spatial experience of progressing through the different levels of rooms and patios is one aspect of the district's architectural significance included in the national historic

landmark nomination. The subdued vertical motion is a significant part of the perception and architectural beauty of the buildings.

Other characteristics of pueblo revival buildings are the types of doors and doorways at Bandelier. The multilight double doors into the visitor center and administrative offices, for example, are an integral part of the buildings' front elevations. They create a specific visual image and a strong physical impression when people enter. The solid wood doors at the entrances to the rest rooms are also an integral part of the architectural ambience of Bandelier. These prime architectural elements are among the prime obstacles to handicapped accessibility.

Bandelier's self-evaluation for handicapped accessibility addresses specific problems in a number of buildings. Among these are

B-2

(the entrance ramp at the visitor center, the steps from the lobby into the museum, the ramp into the museum, and the entrance into the auditorium from the lobby and to the Ruins Trail)

B-3 through B-6 (the maintenance yard)

(numerous access barriers)

B-9

(the entrance to the rest rooms)

B-

15/16

(the entrance to administration building, upper-level access in the administration building, rest room access in the administration building, and the rear exit from the administration building)

B-17

(entrances to the snack bar, gift shop, and patios)

B-30

(lack of access to the fire lookout)

Other concerns, such as the height of wall telephones, counters, plumbing fixtures, mirrors, and door closures, and marked handicapped parking spaces, are included in the document. The self-evaluation also proposes solutions. For the most part, the proposed solutions provide an acceptable level of accessibility while respecting the buildings' integrity.

Eventually solutions will require implementation. The designer, then, becomes the responsible party. In considering Bandelier's accessibility problems, the designer of the physical solutions must acknowledge the paradoxes in federal laws and regulations and agency guidelines. Preservation law and accessibility law can operate at counterpurposes. Preservation law mandates that this agency preserve the stone steps of the landmark buildings and landscape, while accessibility law mandates that the agency provide access — which could mean demolition or significant alteration of historic fabric. The designer of the physical solutions must seek a common ground to attain the dual goals of preservation and access.

To reach the common ground, the designer should do as follows:

Analyze the function and determine if it is absolutely necessary at that location.

Analyze the physical location, including traffic patterns, materials, slopes, rise, and the like.

Analyze the historic fabric. What are the elements of that historic fabric? Consider not only the stone steps, for example, but also their color, sheen, texture, form, and architectural context.

Analyze alternative levels and methods of accessibility.

Draw up all the alternatives for consideration. Alternatives may consist of programmatic as well as fabric intervention alternatives. Renderings assist in the visualizing process.

Approach the historic fabric with a conscience. Realize that every change to these landmark buildings, no matter how slight, alters their architectural significance.

Construct something irreversible only as a last resort.

Often programmatic alternatives can alleviate the level of required treatment, especially in the case of addressing employee accessibility (versus visitor accessibility). For example, modifying existing Mission 66 housing for accessibility may prove an acceptable alternative to altering a CCC structure significantly. Similarly, certain historic housing units would require fewer modifications than others. Moving people or functions to an acceptable facility rather than modifying historic fabric is also a possible approach.

By keeping within the guidelines of NPS-28 and those proposed in *Accommodation of Disabled Visitors at Historic Sites in the National Park System* (1983) as well as the above tenets, the designer should be able to meet the challenges imposed by handicapped accessibility. Any change to landmark buildings is, of course, subject to compliance with section 106 of the National Historic Preservation Act.

ADAPTIVE USE

Adaptive use is the process of adapting a structure or site to provide a new use other than that for which it was originally designed. Often, adaptive use requires no architectural modifications at all. In some instances, adaptive use can necessitate major changes to both interiors and exteriors of buildings, such as construction of additions, alterations to fenestration, and changes in room configuration. In other instances, changes can be confined to interiors. In a similar manner, landscape features can be modified in adaptive use. Examples are regrading for drainage or accessibility, and introducing lighting, mailboxes, and so on. Site and building modifications brought about by adaptive use, however, may affect the appearance and architectural integrity of the district. Adaptive use also allows a building with an obsolete function to evolve into one with a more vital function. Benefits for continued use of a building may be enormous.

The landmark status of Bandelier's CCC district brings with it heavy responsibility to preserve the buildings' historic fabric as well as the district's ambience. Buildings solely on the National Register can be treated with a little more latitude in the area of physical changes to accommodate adaptive use. The national historic landmark district at Bandelier — a national treasure — requires considerably more thought to accommodate adaptive use and preserve the historic fabric and integrity.

A few general guidelines establishing a preservation philosophy are included here. Without exception, the buildings' exteriors must be preserved. Interiors, however, can accommodate minor changes. The monument staff and the designer should consider the following:

Is this interior space the best location for this new function? Could a different space accommodate the same use although it might lack the same level of convenience?

What are the historic use and the historic room configuration? Do any interior changes date to more recent years? Have these later changes acquired their own significance?

What is historic fabric? What are the qualities that make up the room's ambience? Consider space, materials, finishes, and other character-defining elements. Consider building and fabric integrity.

How does the proposed change affect the integrity and character of the structure or space?

Several alternatives for adaptive use are possible. Programmatic changes may prove to be an alternative design solution. In instances in which adaptive use of an interior space seems feasible, the designer should propose as few changes as possible and question the necessity of each. Some buildings can undergo minor modifications to allow upgrading. All changes to upgrade structures should respect the materials, scale, and ambience of the original design.

The cumulative effect of fabric modifications can be detrimental to cultural resources. Energy conservation, adaptive use, and accessibility compliance can all require physical changes to structures and sites. Any one modification may appear minor and consistent with departmental clearance procedures, but over a period of years a series of these minor changes can add up to an adverse impact. With changes in staff, memory of the original configuration is slowly lost by those responsible for the buildings' care and preservation, a problem of "inherited context." In all such cases, an orientation of reversibility should be pursued, alternative solutions explored, and proper clearance procedures followed. In addition, such work should be properly recorded, and removed fixtures should be properly tagged and put in the park curatorial collection.

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RECOMMENDATIONS FOR FURTHER STUDIES

THE SITE

1. A **cultural landscape study** needs to be completed. The study will better detail the evolution of the site, and it will develop better treatment recommendations for landscape features not discussed in this report. Products of the study will include a design development plan for all landscape features and compatibility guidelines for new or replacement landscape elements. Other areas of the national historic landmark district need to be included in the cultural landscape study.
2. Upon completion of a cultural landscape study, a **cultural landscape management plan** should be undertaken. This plan includes specifics for site maintenance, replacement of plant materials, and general maintenance practices for the grounds. This maintenance plan should be integrated into the maintenance management system for the park.
3. The **national historic landmark nomination** needs to be amended to include an inventory of the landscape elements in the district and an explanation of their significance.
4. A **comprehensive drainage plan** needs to be done. This plan would concentrate on, but not be limited to, the developed areas of Frijoles Canyon. Soil borings, slope stabilization tests, and other tests will be conducted. Existing drainage patterns and the related utilities will be studied for their effectiveness. From this information, a drainage package will be developed with specific treatment recommendations for safety, diversion ditches, building protection, and landscape protection.

THE BUILDINGS

1. The survey and analysis undertaken to date consists of 14 buildings and indicates the range of **mortar and stucco mixes** used. It is felt that completing this survey would only verify these results. The results of this study should be included in the historic structures preservation guide and become an integral part of ongoing maintenance.
2. According to park personnel, **matching paving flagstone** is available nearby but under separate agency jurisdiction. Access to this material should be thoroughly explored to ensure a more compatible replacement now and in the future.
3. All buildings should be surveyed for any **building or life safety code violations** in a manner similar to the recent accessibility survey. This point is particularly appropriate in areas of public assembly.
4. A **historic furnishings and fixtures study** needs to be completed in the very near future. The study will trace the history and significance of the furnishings and light fixtures, and it will provide park management with guidelines for use, storage, and management of these resources.

5. A **finding aid** to the park collections of CCC photographs, oral history tapes, construction documents, and monthly reports will be completed. The finding aid will also include information on the types of data available on the Bandelier CCC projects at the Denver Federal Records Center and the National Archives.

ACCESSIBILITY? AND ADAPTIVE USE

Section 6 dealt with these issues in a general way and provided a system for assessing their impact on the structures and site. Because no programmatic direction existed for any such interventions, the impact they might have on any particular building or site area was unknown. Future planning or design efforts should further assess any specific impacts, within the context of a stated program objective.

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Appendix A: LIST OF EXISTING PLANTS

Common Name/Botanic Name	Study Symbol
Alder/ <i>Alnus tenuifolio</i>	AL
Box elder/ <i>Acer negundo</i>	BE
Birch/ <i>Betula occidentalis</i>	SR
Cottonwood/ <i>Populos angustifolia</i>	CW
Desert olive/ <i>Forestiera neomexicana</i>	—
Douglas fir/ <i>Pseudotsuga menziesii</i>	DF
Fruit tree/(various)	FT
Hackberry/ <i>Celtis reticulata</i>	HB
Juniper/ <i>Juniperus</i> (species)	JV
Locust/ <i>Robinia neomexicana</i>	—
Oak/ <i>Quercus gambelli</i>	OK
Pinon pine/ <i>Pinus edulis</i>	PI
Ponderosa pine/ <i>Pinus ponderosa</i>	PD
Shrubby cinquefoil/ <i>Potentilla fruticosa</i>	—
Virginia creeper/ <i>Partherocissus vitacea</i>	—

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Appendix B:

MEMORANDUM FOR REGIONAL DIRECTOR, REGION III

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COOLIDGE, ARIZONA
HEADQUARTERS SOUTHWESTERN MONUMENTS

April 29, 1941

Memorandum for the Regional Director, Region III:

We are considerably concerned over the early abandonment of the CCC camp at Bandelier National Monument as it appears that some of the urgently-needed work cannot be completed prior to that time. The diversion of flood waters back of the Lodge area has never been completely worked out, and in this connection the following is quoted from Custodian Thomas' letter of April 24:

"The steep sandy slope behind the Lodge is very unstable. Not much grass or shrubbery is present to hold the loose soil. Heavy rains during last summer brought down great quantities of sand, gravel, and ash, completely filled the drainage structures back of the Lodge and overflowed the retaining wall. After one storm last summer we hauled almost a hundred truck loads of sand out of the hotel yard. Water flowed into the operator's garage, through the employees' dormitory, and came within inches of flooding four or five cabins at the back of the hotel grounds. In spite of all the hauling we did last summer, the drainage structures are still completely filled. A heavy rain this summer will undoubtedly do considerable damage and cause large expense in removing debris. I believe that the chief difficulty is no provision was made originally to divert water which falls on the mesa above the rim of the canyon from coming directly over the canyon wall end down the sandy slope. If this water were diverted I believe that drainage structures could be constructed to care for what water falls on the actual slope. Heavy planting would also tend to control the slope itself, but the present structures will not accommodate the run-off from above added to what actually falls on the slope."

It will be appreciated if a representative of the Branch of Engineering of your Office can study this problem to see if it is feasible to correct this condition with CCC forces before this camp is disbanded. Will you advise us when we may anticipate the receipt of this information.

cc: Chase Thomas

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band/hsr/hsrab.htm
Last Updated: 08-May-2005

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Appendix C: 1939 PLANT LIST

This is the first listing of plants that were to be planted and indicates that the planter, James Fulton, apparently dedicated his entire month toward planting.

Trees

Pinus edulis — 40, seedlings — 26
Pinus ponderosa — 7
Juniperus monosperma — 11, seedlings — 7
Acer negundo

Shrubs

Chrysothamnus Sp. — 59
Artemisia Sp. — 16
Fallugia Sp. — 11
Sambucus Sp. — 3
Rosa Sp. — 42
Ptelea Sp. — 3
Berberis Sp. — 15
Ribes Sp. — 11
Cercocarpus — 44
Rhus trilobata — 1
Ramnus Sp. — 2

Seedlings obtained from the SCS nursery: 100 *Celtis occidentalis*, 2,000 *Juniperous monosperma*, 1,000 *Part henocissus vitacea*, 500 *Pinusfiexilis*, 200 *Populus angustifolia*, 350 *Prunus americana*, 1,200 *Rhus trilobata*, 200 *Rosa fendleri*, 200 *Yucca elata*

Additional plant material used at Bandelier:

Parthenocissus vitacea
Rhus trilobata
Rosa fendleri
Yucca elata

Ribes cerenum
Ptelea crenulata
Quercus fendleri
Robinia neomexicana
Prunus melanocarpa
Foresteria neomexicana
Juniperus scopulorum
Quercus undulata
Berberis fendleri

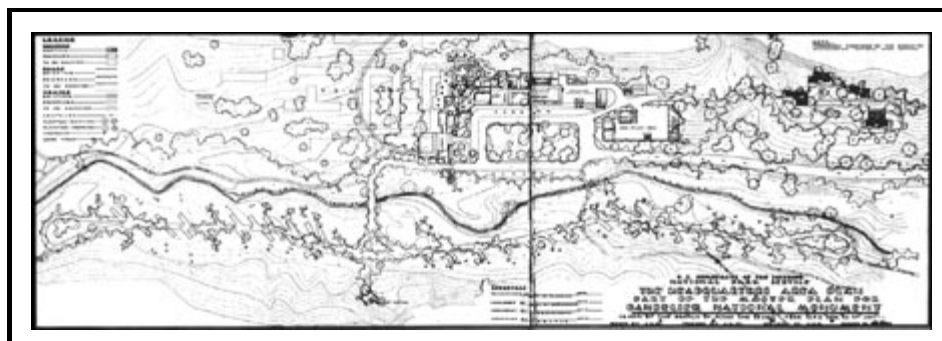


Figure C-1. Site plan map prepared in 1939. *(click on image for an enlargement in a new window)*

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Appendix D: TREES AND SHRUBS OF BANDELIER NATIONAL MONUMENT AS OBSERVED BY STAFF

Common Name	Botanic Name	Acceptable	Preferred
PINE FAMILY			
Pinon pine	<i>Pinus edulis</i>		X
Limber pine	<i>P. flexilis</i>	X	
Ponderosa pine	<i>P. ponderosa</i>		
Engleman spruce	<i>Picea engelmannii</i>		
Blue spruce	<i>P. pungens</i>		
Douglas fir	<i>Pseudotsuga taxifolia</i>		
White fir	<i>Abies concolor</i>		
Alpine fir	<i>A. lasiocarpus</i>		
Alligator juniper	<i>Juniperous deppeana</i>		X
Rocky Mountain juniper	<i>J. scopulorum</i>	X	
One-seeded juniper	<i>J. monosperma</i>		
Dwarf juniper	<i>J. communis</i>		
WILLOW FAMILY			
Narrowleaf cottonwood	<i>Populus angustifolia</i>		X
Rio Grande cottonwood	<i>P. wislizeni</i>		
Quaking aspen	<i>P. tremuloides</i>		
Pacific willow	<i>Salix lasiandra</i>		
Peachleaf willow	<i>S. amygdaloides</i>		
Coyote willow	<i>S. exigua</i>		
Yellow willow	<i>S. lutea</i>		
Scouler willow	<i>S. scouleriana</i>		
BIRCH FAMILY			
Water birch	<i>Betula occidentalis</i> Nutt		
Thinleaf alder	<i>Alnus tenuifolia</i>		
BEECH FAMILY			
Gambel oak	<i>Quercus gambelli</i>	X	
Scrub oak	<i>Quercus</i> , sp	X	

Live oak	<i>Q. undulata</i>		
ELM FAMILY			
Netleaf hackberry	<i>Celtis reticulata</i>		
ROSE FAMILY			
Utah serviceberry	<i>Amelanchier utahensis</i>		
Cliffrose	<i>Cowania stansburiana</i>		
Mountain mahogany	<i>Cerocarpus montanus</i>	X	
Common chokecherry	<i>Prunus virginiana</i>	X	
Mountain ash	<i>Sorbus dumosa</i>		
PEA FAMILY			
New Mexico locust	<i>Robinia neomexicana</i>		
RUE FAMILY			
Narrowleaf hoptress	<i>Holacantha emoryi</i>	X	
MAPLE FAMILY			
Inland box elder	<i>Acer negundo</i>	X	
Rocky Mountain maple	<i>A. glabrum</i>		
TAMARISK FAMILY			
*Salt cedar	<i>Tamarix gallica</i>		
DOGWOOD FAMILY			
Red-osier dogwood	<i>Cornus stolonifera</i>		
OLIVE FAMILY			
Desert olive	<i>Forestiera phillyreoides</i>	X	
AILANTHUS FAMILY			
*Tree of heaven	<i>Ailanthus altissima</i>		
SHRUBS AND OTHER WOODY PLANTS			
Buckbrush	<i>Ceanothus fendleri</i>		
Gooseberry	<i>Ribes montigenum</i>		
Wax currant	<i>Ribes cereum</i>		
Woods rose	<i>Rosa cereum</i>		
Apache plume	<i>Fallugia paradoxa</i>	X	
Sacred datura	<i>Datura meteloides</i>		
Fourwing saltbush	<i>Atriplex canescens</i>		
Squawbush	<i>Rhus trilobata</i>		X
Rabbitbrush	<i>Chrysothamnus nauseosus</i>	X	
Mormon-tea	<i>Ephadra</i> sp.		

Sagebrush	<i>Artemisia tridentata</i>	
Banana yucca	<i>Yucca bacata</i>	
Narrowleaf yucca	<i>Y. angustissima</i>	X
Walking stick cholla	<i>Opuntia imbricata</i>	X
Yellow pricklypear	<i>O. comoressa</i>	X
Riverbank grape	<i>Vitis vuloina</i>	X
Virginia creeper	<i>Parthenocissus vitacea</i>	X
Poison ivy	<i>Rhus toxicodendron</i>	
Wild gourd	<i>Curcubita foetidissima</i>	
Corral root	<i>Corallorrhiza multiflora</i>	
Pine drops	<i>Pterospora andromedea</i>	

CANYON BOTTOM GRASSES

- Hilaria jamesii*
- Bouteloua gracilis/curtipendula/eriopoda*
- Poa fendleriana*
- Andropogon scoparius*
- Oryzopsis hymenoides/micrantha*
- Sporobolus cryptandrus/contractus*

*Exotic Plants

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Appendix E: NATIONAL HISTORIC LANDMARK NOMINATION

[National Register of Historic Places Inventory—Nomination Form](#)

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BOOKS

Bunting, Bainbridge. *John Gaw Meem: Southwestern Architect*. Albuquerque: University of New Mexico Press, 1983.

Solid background on the "Santa Fe style" (pueblo revival) and local architectural concerns contemporary with the design of the Bandelier CCC buildings.

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Harrison, Laura Soullière. *Architecture in the Parks: National Landmark Theme Study*. Washington, D.C.: U.S. Government Printing Office, 1987.

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Hawkins, David. *Manhattan District History. Project Y. Los Alamos Project. Volume I: Inception Until August 1945*. Los Alamos, New Mexico: Los Alamos Scientific Laboratory of the University of California, written 1946-47, distributed 1961 by the U.S. Department of Commerce.

Technical history of Project Y and the development of the atomic bomb.

Hoard, Dorothy. *A Hiker's Guide to Bandelier National Monument*. Albuquerque: Adobe Press, 1977.

A modern guide to the monument, primarily concentrating on the backcountry, but including general sections on geology, history, and prehistory.

Hodgson, Fred T. *Concretes, Cements, Mortars, Plasters and Stucco*. Chicago: Frederick J. Drake & Co., Publishers, 1916.

Descriptive uses of cements, mortars, plasters, and stucco.

Ise, John. *Our National Park Policy: A Critical History*. Baltimore: Johns Hopkins University Press, 1961.

Good information on Bandelier's early administrative history in a national context and on organization of ECW programs.

Kunetka, James W. *City of Fire: Los Alamos and the Atomic Age, 1943-45*. Albuquerque: University of New Mexico Press, 1979.

Self-explanatory, with some information on Bandelier's relation to "the Hill."

Lamont, Lansing. *Day of Trinity*. New York: Atheneum, 1965.

No specific information on Bandelier, but some on the development of Los Alamos and the temporary housing shortage.

Truslow, Edith (Kasha Thayer, ed.). *Manhattan District History. Nonscientific Aspects of Los Alamos Project Y. 1942 through 1946*. Los Alamos, New Mexico: Los Alamos Scientific Laboratory of the University of California, 1973, distributed by the U.S. Department of Commerce.

History of how Los Alamos was built, from site selection through construction and community organization.

Truslow, Edith, and Ralph Carlisle Smith. *Manhattan District History. Project Y. Los Alamos Project. Volume II: August 1945 through December 1946*. Los Alamos, New Mexico: Los Alamos Scientific Laboratory of the University of California, written 1946-47, distributed 1961 by the U.S. Department of Commerce.

Technical history of Project Y from the end of World War II until takeover by the ABC. This volume and the Hawkins volume provide some professional background information on people who stayed at Frijoles Canyon Lodge.

Winkler, E.M. *Stone: Properties, Durability in Man's Environment*. New York: Springer-Verlag, 1975.

PERIODICALS

"Reach to the Unknown: The Trinity Story, July 16, 1945," special anniversary edition of *The Atom*, Volume 2, Number 8 (July 16, 1965).

Santa Fe New Mexican, Volume 96, Number 213 (August 6, 1945).

INTERVIEWS

"Early Days in Frijoles: A Talk with Mrs. Frey, Albert Gallegos, and Manuel de Vargas," June 23, 1980.

Mrs. Frey discusses early days in the canyon, park visitors, and her orchards and neighbors. Albert Gallegos discusses how his CCC camp started in Santa Fe, how the rock was quarried, how long it took to build the buildings, how the buildings were kept by the CCC from 18 months to two years, and how the CCC men were paid \$1 per day. Much of park staff present, addressing questions to interviewees. Tape on file at Bandelier.

Interview with Lyle E. Bennett, March 10, 1985, conducted by Laura Soullière Harrison.

Mr. Bennett discusses his education and architectural work and focuses his discussion on his NPS buildings. Letters clarifying certain aspects of his interview are included in the transcript. On file at Bandelier.

Interview with Mrs. Evelyn Frey, April 10, 1984, conducted by Laura Soullière Harrison.

Mrs. Frey discusses the construction of the new lodge and the army's use of the lodge during the war for its "atomic people." On file at Bandelier.

Interview with James Fulton, August 12, 1987, conducted by Laura Soullière Harrison and Roger Buck.

Fulton recounts his days as forestry foreman for the CCC at Bandelier. On file at Bandelier.

Interview with Jared Morse, August 11, 1987, conducted by Laura Soullière Harrison and Roger Buck.

Morse discusses his short time as architect at Bandelier in the earliest days of the CCC. On file at Bandelier.

Interview with Dr. and Mrs. Richard Taschek, April 13, 1984, conducted by Laura Soullière Harrison.

Dr. and Mrs. Taschek discuss living in Frijoles Canyon Lodge during the summer of 1943. On file at Bandelier.

Walk with Mrs. Frey to Old Lodge (Ten Elders) and Ruins, June 30, 1979.

Interview by Chris Judson and others. Mrs. Frey discusses the Freys's arrival in the canyon; their facilities; the tramway; life during the 1930s; and when those atomic people came in. On file at Bandelier.

GOVERNMENT DOCUMENTS

Bandelier National Monument. "Daily Activity Report. May 22, 1946 to February 4, 1947." No pagination.

Fairly specific notations on day-to-day park activities. Seems to have served as basis for monthly narratives. On file at Bandelier.

Chase, H.B. Bandelier National Monument Emergency Conservation Work — Quarterly Report for Months of July, August, and September, 1934." Submitted October 26, 1934.

Work summary by project superintendent for CCC accomplishments during that quarter. On file at Bandelier.

Chase, H.B. Bandelier National Monument Emergency Conservation Work — Quarterly Report for Months of October, November, and December 1934." Submitted January 9, 1935.

Work summary by project superintendent for CCC accomplishments during that quarter. On file at Bandelier.

Chase, H.B. Bandelier National Monument Emergency Conservation Work — Report Covering Activities of the Camp for the Six Months Period Beginning October 1, 1934 and Ending March 31, 1935." Submitted April 17, 1935.

Six-month work summary by project superintendent. On file at Bandelier.

Chase, H.B. "Reporting ECW Activities for the Six Months Period from April 1 to

September 30, 1935 at Bandelier National Monument." Submitted October 1, 1935.

Work summary by project superintendent. On file at Bandelier.

Nusbaum, Jesse, M.R. Tillotson, and Roger W. Toll. "The Bandelier National Monument and the Proposed Cliff Cities National Park. Report to Horace M. Albright, Director, National Park Service." November 26. 1930.

Fine background, administrative history, on recommendations for including Bandelier in the national park system. In the Southwest Regional office library, Santa Fe.

Rothman, Hal. *The Bandelier National Monument: An Administrative History*. Draft, March 1987. On file at Bandelier. The volume traces the history of Bandelier's acquisition, administration, and resource management to 1988.

"Superintendent (sic) Monthly Narrative 1941 — 1950," and "Superintendent (sic) Monthly Narrative 1951-60."

Carbon copies of monthly reports submitted to the Southwestern Monuments office, covering most items of importance affecting Bandelier for those years. Good background on Bandelier during the war. Many references to maintenance problems and repairs, but usually done in a general way (e.g., "We repaired the roofs.") Information in each report varies considerably with the writer. Some concentrate more on naturalists' concerns, others on local current events. Written first by monument custodians and then by superintendents after the title changed. On file at Bandelier.

U.S. Department of Agriculture. U.S. Forest Service. *In the Land of the Ancient Cliff Dweller*. USDA Miscellaneous Circular No. 5. Washington, D.C.: U.S. Government Printing Office, 1925.

Tour guide describing resources and tourist accommodations while the area was under Forest Service management. In Southwest Regional office library, Santa Fe.

U.S. Department of the Interior. NPS. *Bandelier National Monument, New Mexico*. Washington, D.C.: U.S. Government Printing Office, 1949.

Tour guide and minifolder describing the monument after the war. In Southwest Regional office library, Santa Fe.

FILES

The majority of data for this report came from federal files, which are in the Denver Federal Records Center unless otherwise noted. Numbered files are listed first; those without numbers are listed alphabetically. File names are listed exactly as they appear on the files; thus inconsistencies appear.

000 — General Bandelier 1934.

Includes general correspondence among Boss Pinkley, the Bandelier staff, and the San Francisco staff (Vint, Kittredge, and others) on personnel, architectural, and engineering matters; transmittal of drawings; and project approvals and

stipulations. Also includes the following reports:

Miller, Hugh M. "Bandelier ECW: Report by Hugh M. Miller, Chief Clerk, to Frank Pinkley. March 16, 1934." Confidential report summarizes findings on disharmony with the army. Evenstad's hiring of Pruitt, the waterline, the entrance road, and landscape matters — all the controversies. Recommends that Boss straighten out the chain of command and give the Army and NPS the word to cooperate with one another. Also makes other specific recommendations.

Richey, Charles A., and Lyle Bennett. "Report to the Chief Architect through Superintendent of Southwestern Monuments Final Construction Report. Conservation Work — CCC Camp NM-1M November 16, 1933 to April 31, 1934 (Second Period) Bandelier National Monument." June 19, 1934. Office of the Chief, Western Division, Branch of Plans and Design, summarizes the early ECW accomplishments. Also covered are the construction of the CCC camp, lists of personnel, description of entrance road construction, and constant digs at the engineers' work ("done against the recommendations of the landscape architects"). This copy has copious photographs and lots of margin notes (penciled in by McGill or Attwell?) pointing out discrepancies in the text. Also has good notes on historic roads through the area constructed by Abbott and Pacifico Baca before 1900.

Richey, Charles A., and Jared Morse. "Report to Thos. C. Vint, Chief Architect on Emergency Conservation Work in Bandelier National Monument, 1934 Season — Third Enrollment Period." Summarizes work on roads, trails, existing buildings (old lodge buildings and others) up the canyon, and work priorities.

"Emergency Conservation Work Camp NM-1-N. Bandelier National Monument. Proposed Sixth Period Program." August 29, 1935, Office of the Superintendent of Southwestern Monuments. Report summarizes and provides cost estimates for series of sixth period projects. from fencing and grading to construction of some buildings.

000 — General Bandelier National Monument, July 1, 1935 to December 31, 1935.

Includes correspondence: transmittal of architectural drawings and cost estimates; receipt of trucks and other equipment; transmittal of specifications; comments on drawings by fire protection engineer of the Department of the Interior and responses from park architects and landscape architects with changes in building designs.

000 — General Bandelier 1936.

Has information on fencing the monument, acquisition of fencing and building materials, building sites, transmittal of drawings, \$1,500 statutory limitation, and a "Report to the Chief Architect on 5th Period ECW Work, April 1, 1935 to September 30, 1935."

000 — General Bandelier National Monument 1937.

Communications on telephone line and waterline construction.

200 — Bandelier National Monument Miscellaneous Correspondence. March 23, 1932 to December 31, 1934.

Starts with transmittal of legislation to Pinkley. Correspondence on the road; on the acquisition of fire suppression supplies; on the possibility of setting up suppression agreement with USFS and other agencies; on stock use and grazing permits; on woodcutting and hunting violations; on the beginnings of ECW and public works programs; on the acquisition of trucks, fire tools, and the like; and on the death of the first custodian. Also contains Charles A. Richey's "Report to the Chief Architect through the Superintendent of Southwestern Monuments Bandelier National Monument and Canyon de Chelly National Monument, July 25 to July 30, 1933." submitted August 12, 1933.

200 — General Correspondence Calendar Year 1935.

Correspondence on mountain lions and why they cannot be hunted in the park; getting the Ford truck fixed; complaints about living quarters; fencing the monument to keep livestock out; CCC guide situation; utilities; purchase of car with welded section on back (for use as a pickup); wildlife concerns; interpretive matters (outside exhibits, books, etc.); topographic mapping of the canyon and other areas; and geology.

200 — Bandelier National Monument, 200 — Administration, General, February 9, 1938 to (1943).

Includes information on attempted murder of custodian Cy Harkins by a transient working for Mrs. Frey; complaints of Hub Chase (project superintendent) about Lyle Bennett (landscape architect); entrance road problems; interpretation and wildlife; interior design; justifications for retention of CCC camp; closing down the camp; poaching by Santo Domingo Indians; salvage of scrap metal for the war effort; and concern with what the army was up to in Los Alamos.

201 — Bandelier ECW, Administration General, 1933-34.

Information on ECW personnel matters; board and morale problems; fencing Tsankawi; CCC men lectured on pothunting; two truck accidents; and acquisition of 20 pack animals to service fly camps.

201 — ECW, Bandelier National Monument, Administration General, February 4, 1935 to December 4, 1937.

Information on cattle grazing; fear of lawsuit on CCC; administration of ECW; mileage and other administrative data; housing for NPS employees, pets in the canyon; payroll; and wood utilization.

204 — Reports of Inspections by Headquarters Officers.

Fire protection inspection reports; inspections and memos by Hugh Miller for Southwestern Monuments; forms 10-374, records of inspection for CCC projects; field reports for the Branch of Plans and Design (Region III, Santa Fe); memoranda for the superintendent; and travel reports by park naturalists. Covers January 11, 1939 to April 1, 1943.

204-30 — Bandelier National Monument Inspections, March 17, 1936 to December 28, 1938.

Covers development plans and utilities installations and contains "Report to the Chief of Operations on Fire Protection for Buildings, and Safety at Bandelier National Monument," August 1938, by Franch Ahern, Chief, Safety Division,

Branch of Operations, NPS.

207-02 — Custodian's Monthly Reports, November 1933 to December 1938.

Weather and wildlife information, ruins stabilization, and construction.

207-22 — Project Completion Reports 1940 and July 1952. Campground. Standard Prefabricated Picnic Table and Reconstruction of Bridges.

Includes information on entrance road paving and campground rehabilitation.

601 - (CCC) Lands (General).

Has information on proposed campfire circle to be located near "threshing floor" *[sic]* and transmittal of drawings for patio drainage, operator's residence, and others.

601-03 — (CCC) Abandoned Camps. Bandelier National Monument, New Mexico.

Closing the CCC camp by phasing into USFS camp; transferring skilled workers to Chaco camp; also loose sheets on drainage structures.

601-03.1 — (CCC) Applications for Camps — Bandelier.

Contains forms 10-355 work program outlines and fill-in-the-blank justifications and 12930 general description forms. 10-355s have cost breakdowns for work units, man-days, labor, equipment, materials, and totals.

611 — (CCC) Repairs and Improvements (Fences) Bandelier National Monument.

Fencing the detached area; constructing concrete aprons around B-5; constructing flagstone walkways.

620— (CCC) Buildings (General) Bandelier National Monument, New Mexico.

Forms on alterations, additions; 10-352s and 1-As containing project justifications and applications. 620-01 — (CCC) Administration Building, Bandelier National Monument, New Mexico.

Transmittal of drawings; 10-352; information on lobby and patio addition.

620-08 — (CCC) Checking Stations Bandelier.

Entrance roads; land problems (USFS and Bond Brothers); choice of site; and form 10-352. 620-08 — (CCC) Comfort Stations Bandelier.

Information on B-1, B-9, B-21, and the privy constructed near the entrance station; painting schedules; 10-352s.

620-35 — (CCC) Garage, Bandelier.

Information on addition of heater room to garage (B-6) circa 1939; and fire in the shop (B-4). 620-46 — (CCC) Museums.

Concentrates on museum addition rather than initial construction.

620-53 — (CCC) Power Houses, Bandelier.

Approvals, drawing transmittals, and equipment.

620-58 — (CCC) Quarters for Employees (Residences). Bandelier.

Information on the construction of employee residences including floor treatments.

620-75 — (CCC) Sheds.

Construction of wood-storage sheds in residential area; storage of Mrs. Frey's wood.

620-90 — (CCC) Stables and Bams, Bandelier.

Transmittal of drawings and other information on addition of cooking facilities and sink to apartment in stables.

620-100 — (CCC) Warehouse, Bandelier.

Drawing approvals; changes to warehouse in 1939.

621 — (CCC) Construction Projects.

Mixed bag of 10-352s; furniture and rock quarry information; sofa cushion specifications.

Bandelier 1932-1933.

Request for museum and justifications; water supply problems; early projects; early concessions permit restrictions; ECW administrative data; Vint's accident at Bandelier (five minor fractures); right-of-way data; justifications for camp.

Bandelier CCC Job Files.

Available in the monument's library, these files contain specific information on the progress of individual CCC projects.

Bandelier Fixed Property Records

Bandelier Maintenance Files

Bandelier National Monument ECW Reports and Correspondence 1936.

Organizational charts, forms, and other administrative data for March, April, and May 1936, compiled by W.H. Wirt, ECW inspector.

Bandelier National Monument Real Property Records

These government forms, available at monument headquarters, contain information about all of the buildings under jurisdiction of the monument.

Bandelier National Monument, Frank A. Kittredge, Chief Engineer, to Director Arno Cammerer, October 30, 1934.

Kittredge's reply to Richey's final construction report on the entrance road, which

criticized the engineers so badly.

Bandelier NM-1 — Personnel V-1C1-b-NM.

Data on CCC and NPS personnel for 1936 and 1937.

8th Period ECW Program - Bandelier NM-1-N.

Work program outlines and cost estimates for eighth period program; arguments over project submittal between Boss Pinkley and the regional office (Oklahoma City) in 1936.

"Nusbaum's File Bandelier National Monument, cover, period of est. under NPS. studies for it (sic) enlargement to National Park Status, etc."

Extremely valuable background for administrative history. Letters among Nusbaum, NPS directors, and others very open about the politics involved. File in Southwest Regional office library, Santa Fe.

LOS ALAMOS LABORATORY

The following citations are from the Los Alamos Laboratory Records Center and Archives. They contain information on the use of Frijoles Canyon Lodge by Project Y personnel during the Los Alamos housing shortage in 1943 and 1944. Costs of meals and lodging and other administrative data are included. Because documents were pulled by the archivist for security reasons, no further reference information, such as file numbers, is available. The documents contain only the portions declassified by the Los Alamos Laboratory reviewers.

Interoffice memorandum: J.A.D. Muncy, business manager, to J.R. Oppenheimer, October 25, 1944.

Letter: Muncy to P.M. Douglas, August 4, 1943.

Letter: Muncy to Stanley L. Stewart, June 14, 1943.

Letter: Muncy to Stewart, September 25, 1943.

Letter: Muncy to Stewart, November 10, 1943.

Letter: Muncy to Stewart, October 25, 1944.

Letter: Stanley L. Stewart, Major, Corps of Engineers. contracting officer's representative, to J.R. Oppenheimer. June 22, 1943.

Los Alamos Laboratory, "Minutes of the Meeting of the Administrative Board," July 6 and 20, 1943.

Los Alamos Laboratory, "Minutes of the Meeting of the Governing Board," May 17, 24, and 27 and June 10, 1943.

United States Engineers — Project Y, "Recapitulation of Expenditures — Frijoles Canyon Lodge for the Period June 19, 1943 — Oct. 22, 1943."

United States Engineers — Project Y, "Cost Analysis for the Period, June 19, 1943 — Oct. 22, 1943."

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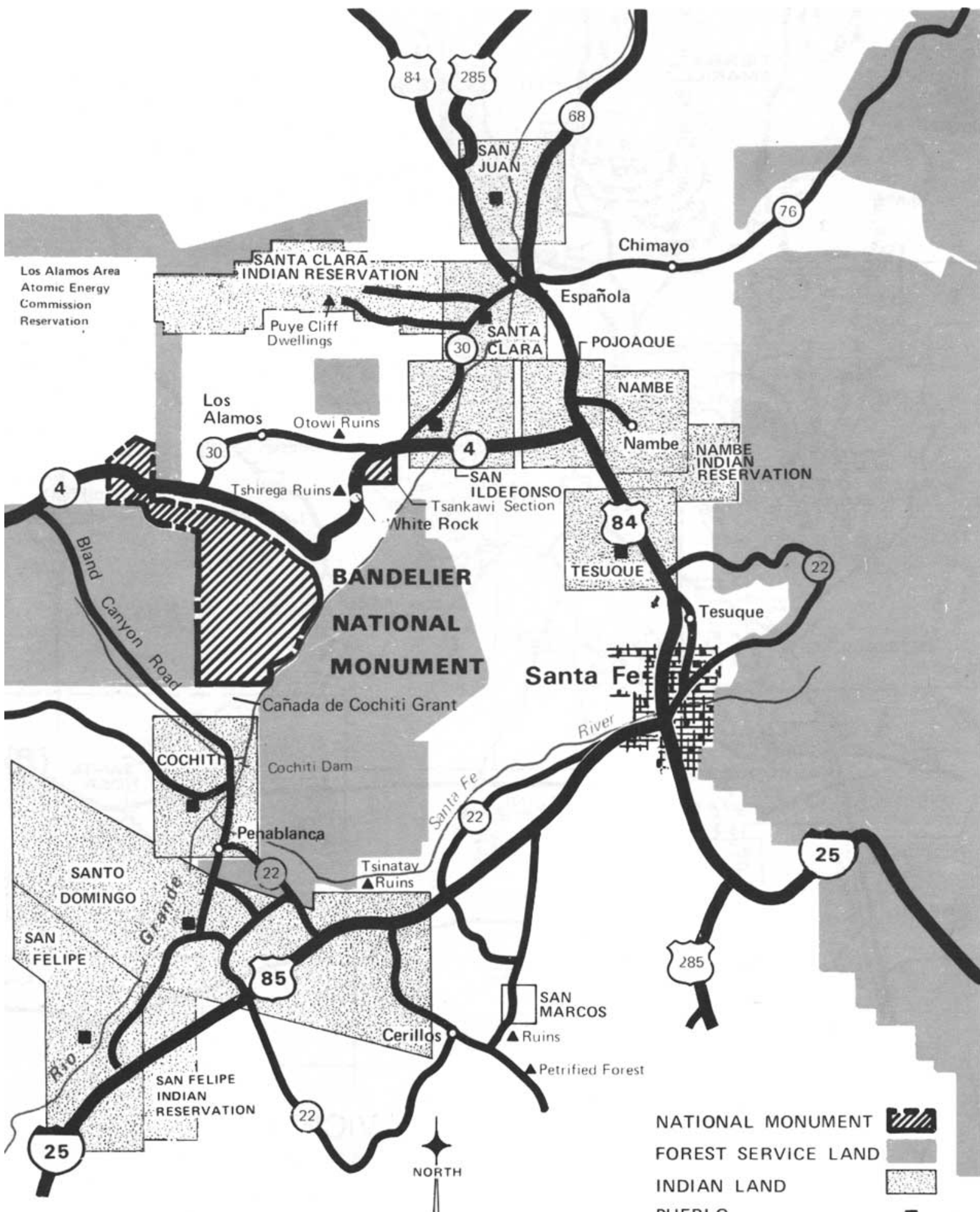
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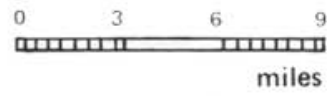


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REGION

Bandelier National Monument

united states department of the interior / national park service

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HISTORY AND SIGNIFICANCE (continued)

ENDNOTES

1. John Ise, *Our National Park Policy*, 147-148, 164-165.
2. 39 Statute 1764, Presidential Proclamation 1322, February 11, 1916. Detailed accounts of Bandelier's administrative history appear in Rothman, *Bandelier National Monument*.
3. Ise, *Our National Park Policy*, 353.
4. Horace Albright to Jesse Nusbaum, September 23, 1930; Roger Toll to Nusbaum, September 1930; and other letters, Nusbaum's File, Southwest Regional Office library, NPS, Santa Fe.
5. Nusbaum to Toll, October 29, 1930, Nusbaum's File.
6. Arno Cammerer to Nusbaum, August 12, 1931, Nusbaum's File; and Jesse Nusbaum, M.R. Tillotson, and Roger W. Toll, *The Bandelier National Monument and the Proposed Cliff Cities National Park*. Report to Horace M. Albright, director, NPS, November 26, 1930, copy on file at Southwest Regional Office library, Santa Fe.
7. Albright to Nusbaum, December 7, 1931, Nusbaum's File.
8. Nusbaum to Albright, March 18, 1932, Nusbaum's File.
9. Ibid.
10. 47 Statute 2503, Presidential Proclamation 1991, February 25, 1932.
11. Edgar Rogers to Boss Pinkley, June 13, 1932, records of the NPS, record group (RG) 79, file 200, Denver Federal Records Center (DFRC).
12. Rogers to Pinkley, July 30, 1932, and other letters, RG 79, file 200, DFRC.
13. Nusbaum to Albright, November 8, 1932; and Nusbaum to A. Gilberto Espinosa, assistant U.S. attorney, Department of Justice, November 16, 1932, Nusbaum's File.
14. Nusbaum to Toll, March 18, 1932; and Toll to Nusbaum, March 24, 1932, Nusbaum's File.
15. The Fred Harvey Company, the official concessioner for the Atchison, Topeka, and Santa Fe Railway, ran guided tours from major hotels along the southwestern route. Known at various times as the Harvey Detours, Harvey Indian Detours, and Harveycar Tours, the touring cars brought visitors to a variety of southwestern archeological sites and Indian reservation locations.

16. "Walk with Mrs. Frey to Old Lodge (Ten Elders) and Ruins," June 30, 1979, by Mrs. Frey, Chris Judson, and others. Oral history tape on file at Bandelier National Monument.
17. U.S. Department of Agriculture, *In the Land of the Ancient Cliff Dwellers*, USDA Miscellaneous Circular 5 (Washington, D.C., 1925), 3.
18. Toll to Nusbaum, October 27, 1930, Nusbaum's File.
19. Rogers to Pinkley, June 17, 1932, RG 79, file 200, DFRC.
20. Rogers to Pinkley, August 25, 1932, RG 79, file 200, DFRC.
21. Verne Chatelain to Frank Kittredge, September 6, 1932, RG 79, file Bandelier 1932-1933, DFRC.
22. Kittredge to Walter Attwell, November 12, 1932, RG 79, file 200, DFRC.
23. Kittredge to Albright, November 12, 1932, Nusbaum's File.
24. A.E. Demaray to Kittredge, October 18, 1932, RG 79, file 200, DFRC.
25. Pinkley to Albright, October 8, 1932, Nusbaum's File.
26. Nusbaum to Albright, November 7, 1932, Nusbaum's File.
27. Nusbaum to Albright, November 7, 1932, RG 79, file 200, DFRC.
28. A.E. Demaray to Nusbaum, November 18, 1932, RG 79, file 200, DFRC.
29. Harlan D. Unrau and G. Frank Williss, *Administrative History: Expansion of the National Park Service in the 1930s*. (Washington, D.C.: NPS, 1983), p. 77.
30. Earl Jackson to Boss Pinkley, July 16, 1934, RG 79, file 200, DFRC.
31. Unrau and Williss, *Administrative History*, 80.
32. The drawings for Bandelier were most often signed by the designer, checked by a series of architects and engineers, recommended by the chief architect, cleared for engineering by the chief engineer, concurred with by the superintendent and the sanitary engineer, and approved by the director of NPS.
33. Unrau and Williss, *Administrative History*, 79.
34. NPS, *Report of the Director of the National Park Service to the Secretary of the Interior, 1918*. (Washington, D.C.: U.S. Government Printing Office), 274.
35. William C. Tweed, Laura E. Soullière and Henry G. Law, *National Park Service Rustic Architecture 1916-1942* (San Francisco: NPS, 1977), passim.
36. Walter Attwell to Boss Pinkley, April 18, 1933, RG 79, file 200, DFRC.
37. Pinkley to the director, April 21, 1933, RG 79, file 200, DFRC.
38. Edgar Rogers to Pinkley, June 29, 1933, RG 79, file 200, DFRC.
39. Pinkley to the director, August 28, 1933, RG 79, file 200, DFRC.

40. Frank Kittredge to Pinkley, September 7, 1933, RG 79, file 200, DFRC.
41. A.E. Demaray to Pinkley, September 26, 1933, RG 79, file 200, DFRC.
42. Pinkley to Major H.T. Aplington, 7th Cavalry, Santa Fe, September 6, 1933, RG 79, file 201, DFRC.
43. Pinkley to Frank Kittredge, October 26, 1933, RG 79, file Bandelier 1932-33, DFRC.
44. Standard Form 71104-72231, RG 79, file 201, DFRC.
45. Rogers to Pinkley, October 1, 1933, RG 79, file 201, DFRC.
46. Rogers to Pinkley, October 9, 1933, RG 79, file 200, DFRC.
47. Smith to Pinkley, October 16, 1933, RG 79, file 200, DFRC.
48. Draft telegram handwritten by Pinkley on back of telegram received by Pinkley dated October 18, 1933, RG 79, file 200, DFRC.
49. Martin Evenstad to Pinkley, October 25, 1933, RG 79, file 200, DFRC.
50. Evenstad to Pinkley, November 15, 1933, RG 79, file 201, DFRC.
51. "Custodian's Monthly Narrative, November 1933," RG 79, file 207-02, DFRC.
52. Pinkley to the director, November 16, 1933, RG 79, file Bandelier 1932-33, DFRC.
53. "Custodian's Monthly Narrative, December 1933," RG 79, file 207-02, DFRC.
54. Charles Richey and Lyle Bennett, "Report to the Chief Architect through the Superintendent of Southwestern Monuments. Final Construction Report. Conservation Work — CCC Camp NM-1M, November 16, 1933 to April 31, 1934 (Second Period) Bandelier National Monument," June 19, 1934, Office of the Chief, Western Division, Branch of Plans and Design, San Francisco, RG 79, file 000, DFRC. Although it seems very odd the actual file number on the file is "000."
55. Martin Evenstad and Walter Attwell to the director, November 16, 1933, RG 79, file 201, DFRC.
56. Richey and Bennett, "Report to the Chief Architect," 4.
57. Evenstad to Boss Pinkley, November 15, 1933, RG 79, file 201, DFRC.
58. "Custodian's Monthly Narrative, May 1934," RG 79, file 207-02, DFRC.
59. "Custodian's Monthly Narrative, July 1936," RG 79, file 207-02, DFRC.
60. Although Nusbaum expressed some concern about pothunting by the CCC men (in a letter to Walter Attwell of November 16, 1933, RG 79, file 200, DFRC), the first educational effort the park staff put forth was to teach the men about the resources (Robert Rose to Evenstad, November 14, 1933, RG 79, file 201, DFRC). Acting superintendent Evenstad wrote to Nusbaum on November 29, 1933 (same file), stating that he did not know of any specific CCC pothunting incidents at Bandelier. These are the only references to pothunting found in the literature.

61. H.B. Chase, *Bandelier National Monument Emergency Conservation Work — Report Covering Activities of the Camp for the Six Months Period Beginning October 1, 1934 and Ending March 31, 1935*, submitted April 17, 1935. No pagination. On file at Bandelier.

62. H.B. Chase, *Reporting E.C.W. Activities for the Six Months Period from April 1 to September 30, 1935 at Bandelier National Monument*, submitted October 1, 1935. No pagination. On file at Bandelier.

63. "Custodian's Monthly Narrative, August 1936," RG 79, file 207-02, DFRC, and ECW Forestry Report, November 25, 1936 in RG 79, file Bandelier NM-1 — personnel, V-1-C1-b-NM, DFRC.

64. "Record of Inspection," filled out by Raymond Higgins, October 10, 1939, in RG 79, file 204, DFRC.

65. Lyle Bennett to Pinkley, March 21, 1934, RG 79, file 201, DFRC.

66. "Custodian's Monthly Narrative," April and May 1934, RG 79, file 207-02, DFRC.

67. "Talk by Mrs Frey, Albert Gallegos and Manuel De Vargas," June 23, 1980. Oral history tape on file at Bandelier National Monument.

68. Pinkley to Hub Chase, July 16, 1934, RG 79, file 201, DFRC; Hugh Miller to Pinkley, October 12, 1938, RG 79, file 204-30, DFRC; and others.

69. Attwell to Pinkley, January 9, 1934, RG 79, file 000, DFRC.

70. Ibid.

71. Ibid.

72. Hugh Miller, Bandelier E.C.W., March 16, 1934, RG 79, file 000, DFRC.

73. Thomas C. Vint to the director, RG 79, file 000, DFRC.

74. Series of telegrams from Pinkley and others, RG 79, file 000, DFRC.

75. Pinkley to Evenstad, June 13, 1934, RG 79, file 200, DFRC.

76. "Custodian's Monthly Narrative, May 26, 1934," RG 79, file 207-02, DFRC.

77. Charles A. Richey to Pinkley, May 12, 1934, RG 79, file 201, DFRC.

78. Charles A. Richey, "Report to the Chief Architect...," submitted August 12, 1933, RG 79, file 200, DFRC.

79. Charles A. Richey to Edward Nickel, June 23, 1934, RG 79, file 000, DFRC.

80. Ibid.

81. Bunting, *John Gaw Meem*, 7-9, 14-17, 73-86.

82. "Custodian's Monthly Narrative, January 1934," RG 79, file 207-02, DFRC.

83. "Report to the Chief Architect . . . 5th Period (1936)," RG 79, file 000, DFRC.

84. Ibid.

85. "Custodian's Monthly Narrative, November 1938," RG 79, file 207-02, DFRC.

86. "Final Construction Report — Paving Entrance Road and Parking Area," RG 79, file 107.22, DFRC.

87. Charles A. Richey and Jared B. Morse, "Report to Thomas C. Vint . . . on Emergency Consideration Work . . . 3rd Enrollment Period (1934) ...," RG 79, file 000, DFRC.

88. Walter Attwell to Frank A. Kittredge, 11 March 1934, RG 79, file 000, DFRC.

89. Charles Richey to William Carnes/Edward Nickel, 19 September 1934, RG 79, file 000, DFRC. Boss Pinkley wrote to the director about increasing the \$1,500 limitation on construction projects at Bandelier and Chiricahua. He received word back that the limitation applied to monuments as well as parks. The Forest Service limitation was \$2,500, so a precedent did exist for constructing ECW buildings on federal lands for amounts in excess of \$1,500. Hillory Tolson concluded, "Occasionally in certain special instances where the \$1,500 limit appears to be too low for a building which is essential and not of too elaborate a character to be undertaken under the ECW program, administration consideration is given to an increase in this amount. In these instances complete estimates and thorough justifications must be submitted and must have the concurrence of the Branch of Engineering and Branch of Plans and Design before they can be given favorable consideration by the Director." (Hillory Tolson to Pinkley, 28 January 1936, RG 79, file 000, DFRC).

90. H.B. Chase, "Reporting ECW Activities . . . April 1 to September 30, 1935...," no pagination. Report on file at Bandelier.

91. Ibid.

92. F.A. Kittredge to Boss Pinkley, 8 January 1936, RG 79, file 000, DFRC.

93. Earl Jackson to Boss Pinkley, 25 April 1935, RG 79, file 200, DFRC.

94. Earl Jackson to Pinkley, 29 July 1935, RG 79, file 200, DFRC.

95. Rothman, *Bandelier National Monument*, 85-86.

96. Conrad Wirth to Pinkley, 10 March 1936, RG 79, file 000, DFRC.

97. Hugh Miller to assistant regional officer, Santa Fe (ECW?), 9 February 1937, RG 79, file Bandelier NM-1-Personnel V-1-C1-b-NM, DFRC.

98. Boss Pinkley to Earl Jackson, 17 June 1935, RG 79, file 000, DFRC.

99. Pinkley to William Carnes, 26 December 1935, RG 79, file 000, DFRC.

100. Carnes to Pinkley, 6 January 1936, RG 79, file 000, DFRC.

101. Hillory Tolson to Pinkley, 3 March 1939, RG 79, file 200, DFRC.

102. Tolson to the director, 13 May 1939, RG 79, file 601-03.1, DFRC. The new location for the Bandelier CCC camp was proposed to be built on the site of F-19-NM, an earlier Forest Service CCC camp. The author did not have time to track down whether the Water Canyon site and F-19-NM are the same. Building a new CCC camp on an old site would be very sensible. The site would already be graded, and water would be readily available. The new

camp at Water Canyon was called NP-4-N; the one in Frijoles Canyon had been NM-1-n.

103. "Daily Reports," by CCC Inspector Raymond Higgins, July 1939, RG 79, file 204, DFRC.

104. Hub Chase to Hugh Milker, 27 February 1940, RG 79, file 200, DFRC.

105. Milton McColm (acting regional director) to Frank Andrews, forest supervisor, Santa Fe National Forest, 7 March 1940, RG 79, file 200, DFRC.

106. Milton McColm to the director, 5 March 1940, RG 79, file 200, DFRC.

107. "Custodian's Monthly Narrative, January 1941," in "Superintendent (sic) Monthly Narrative 1941-1950." Bandelier National Monument.

108. "Custodian's Monthly Narrative, May 1941." Bandelier.

109. "Custodian's Monthly Narrative, June 1941." Bandelier.

110. "Custodian's Monthly Narrative, July 1941." Bandelier.

111. Form 10-374, Record of Inspection, 18 June 1941, RG 79, file 204, DFRC.

112. "Custodian's Monthly Narrative, July 1941." Bandelier.

113. See records of inspection, forms 10-374, RG 79, file 204, DFRC.

114. A.W. Stockman, special investigator, Headquarters Company 815 CCC, "Camp NM 1 N Bandelier Supplementary Report," attached to letter Hub Chase to Pinkley, January 11, 1939, RG 79, file 204, DFRC.

115. Miller to Pinkley, August 29, 1938, and October 12, 1938, RG 79, file 204-30, DFRC.

116. Miller to Pinkley, October 12, 1938, RG 79, file 204-30, DFRC. CCC building went on at Chiricahua National Monument, but the scale was considerably smaller — visitor center, residences, campground, trails and the like — and without the extravagance of as many finely honed details as at Bandelier.

117. Reports of inspection, Bandelier National Monument, by Hugh Miller, superintendent of Southwestern Monuments, June 21, 22, and October 5, 1941, RG 79, file 204, DFRC.

118. Bulletin, Custodian Chester A. Thomas, November 27, 1941, RG 79, file 200, DFRC.

119. "Custodian's Monthly Narrative, December 1941." Bandelier.

120. Charles A. Richey, superintendent, Southwestern Monuments, to the Treasury Department, November 17, 1942, RG 79, file 200, DFRC.

121. "Custodian's Monthly Narrative," September 1943 and June 1944, Bandelier.

122. "Custodian's Monthly Narrative, January 1942," Bandelier.

123. "Custodian's Monthly Narrative," April, May, and October 1942, Bandelier.

124. "Custodian's Monthly Narrative, September 1942," Bandelier.

125. "Custodian's Monthly Narrative, December 1942," Bandelier.
126. Truslow, *Manhattan District History*, 1-3.
127. Ibid., 3. The name "Los Alamos was classified information at the time. People from Santa Fe referred to it as "the Hill." People connected with the project called it Site Y, Project Y, the Zia Project, Santa Fe, Area L, Shangri La, Happy Valley, and other names.
128. Ross Maxwell, acting superintendent, memo to the files, December 19, 1942, RG 79, file 200, DFRC.
129. Maxwell, memo to the files, January 11, 1943. RG 79, file 200, DFRC; and "Custodian's Monthly Narrative, February 1943," Bandelier.
130. Los Alamos Laboratory, "Minutes of the Meeting of the Governing Board," 17 May 1943. Los Alamos Laboratory Records Center and Archives (hereafter LANL-RCA).
131. Los Alamos Laboratory, "Minutes of the Meeting of the Governing Board," May 24, 1943, LANL-RCA.
132. "Custodian's Monthly Narrative, June 1943," Bandelier.
133. Ibid.
134. "Interview with Dr. and Mrs. Richard Taschek, April 13, 1984," on file at Bandelier.
135. Ibid. Also, the laboratory's minutes for September 9, 1943, LANL-RCA, record the dissatisfaction with Del Monte ranch. Besides taking additional guests, Miss Huntinghouse imposed the conditions "no children, no laundry, wives will take care of their own rooms." The board considered the situation unavoidable and "unsatisfactory from the security point of view" and "reluctantly approved housing people in Del Monte" while waiting for construction at Los Alamos to catch up with the demand.
136. Taschek interview, Bandelier.
137. "Interview with Mrs. Evelyn Frey, April 10, 1984," on file at Bandelier.
138. "Custodian's Monthly Narrative, October 1943," Bandelier.
139. "Custodian's Monthly Narrative, February 1944," Bandelier. McKee Construction Company was building housing in Los Alamos (Kunetka, *City of Fire*, 94, 117).
140. "Custodian's Monthly Narrative, February 1944," Bandelier. The custodian also went into detail about "warrants sworn out by the U.S. Employment Service" against himself and the head of McKee Construction charging aggravated racial discrimination in housing. The warrants were subsequently dropped.
141. "Custodian's Monthly Narrative," March, May, and June 1944, Bandelier.
142. "Custodian's Monthly Narrative, July 1944," Bandelier.
143. Los Alamos Laboratory, "Minutes of the Meeting of the Administrative Board," May 25 and July 6, 1944, LANL-RCA. A list of personnel using Frijoles Canyon Lodge during 1943 was unavailable. None of the 1944 overnight guests' names could be tracked down through readily available sources. Dinner guests in 1944 included Joseph Hirschfelder, chief consultant on bomb damage experiments; Marshall Holloway, responsible for pit assembly

and "final merging of fissionable material"; Eric Jette, who cast and shaped the sphere of plutonium for Fat Man; Captain William S. Parsons of the navy, the head of Ordnance Division, who refined the external casings and improved the in-flight characteristics of Fat Man and Little Boy; L.G. Parratt, head of instrumentation; and David Hawkins, head of administration of security matters and later in charge of the history group (Sources: Kunetka, *City of Fire*; Truslow, *Manhattan District History*; and Hawkins, *Manhattan District History*; and memo, Muncy to Oppenheimer, October 25, 1944). Mrs. Frey stated in the April 10, 1984, interview that she and Robert and Kitty Oppenheimer were close friends, and that the Oppenheimers often stayed with her. She was somewhat unclear about the exact time period.

144. "Custodian's Monthly Narrative, August 1944," Bandelier.

145. "Custodian's Monthly Narrative, October 1944," Bandelier.

146. "Custodian's Monthly Narrative," passim., June 1942 through September 1944, Bandelier.

147. *Santa Fe New Mexican*, August 6, 1945.

148. "Custodian's Monthly Narrative, September 1945," Bandelier.

149. According to Harris, *Dictionary of Architecture and Construction*, the process of calcimining or kalsomining consists of "a low-cost wash coating consisting of glue and whiting (usually powdered calcium carbonate) mixed with water, sometimes tinted; used on plaster or masonry-type surfaces." The recipe for Bandelier's calcimining does not appear in the documents.

150. "Custodian's Monthly Narrative, January 1946," Bandelier.

151. "Custodian's Monthly Narrative," April and May 1946, Bandelier.

152. "Custodian's Monthly Narrative, July 1946," Bandelier.

153. "Custodian's Monthly Narrative, September 1, 1946," Bandelier.

154. "Custodian's Monthly Narrative," July and September 1951 and others, Bandelier.

155. "Custodian's Monthly Narrative, September 1, 1946," Bandelier.

156. "Custodian's Monthly Narrative," September and October 1948, October and December 1949, October 1950, 1951, and May 1956, Bandelier.

157. "Custodian's Monthly Narrative," June 1949 and July 1952, Bandelier.

158. "Custodian's Monthly Narrative, June 1947," Bandelier.

159. "Custodian's Monthly Narrative," September and November 1960, and Frey interviews, on file at Bandelier.

160. Drawings 315/80000, 315/80000A, and 315/80025, Denver Service Center.

161. Frey interview, April 10, 1984, on file at Bandelier.

162. *Final Master Plan, Bandelier National Monument*, April 1977, 13, Bandelier.

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Bandelier

Historic Structure Report: CCC Buildings



HISTORY AND SIGNIFICANCE (continued)

THE CCC CAMP

The CCC men moved into their new camp during a snowstorm on November 5 and 6, 1933, coming from their former camp in Santa Fe National Forest. [54] Captain Rubbell commanded them and Lieutenant Roberts served as executive officer. [55] The army built the camp to the southeast of the Tyuonyi ruins, in "an open sunny location on the north side of Frijoles Canyon, which had formerly been cultivated . . . to take advantage of the short periods in the winter during which the sun would shine into the canyon." The men brought the materials for constructing the camp buildings into the canyon on the cable tram and the foot trail. The army hauled in 180,000 board feet of lumber, cement, roofing, and other materials to construct the buildings.

The army constructed symmetrical, wood frame structures of typical army common-sense design. In standard CCC camp fashion, the army designed the simple buildings to be easily erected and easily removed. The gable roofs shed rain and snow. The barracks to house the enrollees consisted of two "large U-shaped buildings [figure 2], each long wing having a double row of beds accommodating fifty men and the short connection at one end served as shower and wash room." In addition to the barracks, the camp included a mess hall with a kitchen, an infirmary, quarters for officers, quartermaster's storage, a large recreational building, and a three-pit latrine. [56] The CCC foremen camped in tents "on top of the hill" until the truck trail and a few other projects were completed. [57]

The work varied tremendously, most of it involving construction and landscape work. The first projects included fencing, trail work, road construction, and forestry work. Enrollees quarried rock, built trails, mixed mortar, constructed buildings, poured concrete, laid roofs, adzed timbers, and did both rough and finish carpentry. They cut trees, moved rocks, and moved earth. They sprayed the trees in the canyon for tent caterpillars and pine beetles. These "unskilled" laborers received guidance, direction, and on-the-job training from "locally experienced men" (or LEMS, as they were called). [58] One CCC enrollee per enrollment period was assigned as clerk or assistant clerk to help with the administrative end of running the CCC in the monument. Other enrollees became guides who escorted visitors around the ruins. [59]

Life in the CCC camp revolved around hard work, but the army also set up educational and training courses to fill the enrollees' off-duty hours. Part of the thrust of the CCC, after all, was to improve character. The army approached that task through training. Because the camp was new, the first enrollment period's offerings were slim, but the situation improved quickly.

The first educational program, during the fall of 1933, consisted of teaching the men about the archeological importance of the area and instructing them on the regulations concerning the care of archeological features to deter potential pothunting. [60] One year later, the camp offered courses in Spanish, spelling, accounting, history, English, surveying, architectural drawing, commercial law, first aid, and current events. Jared Morse, the NPS resident landscape architect at the time, assisted with the architectural drawing class, and the camp

surgeon taught first aid. That year, the young men also had a camp library. [61] By 1935, approximately 90 percent of the CCC enrollees took part in the educational activities offered. To accommodate the enriching activities, the army even designated separate rooms for study, reading, and classroom work. [62] By 1936, anthropology was a popular class, and the forestry foreman taught a course in general forestry and botany, specializing in local vegetation. [63] As the CCC neared completion of its work at Bandelier and as the company's move out of the canyon seemed imminent, the educational programs ended. [64]

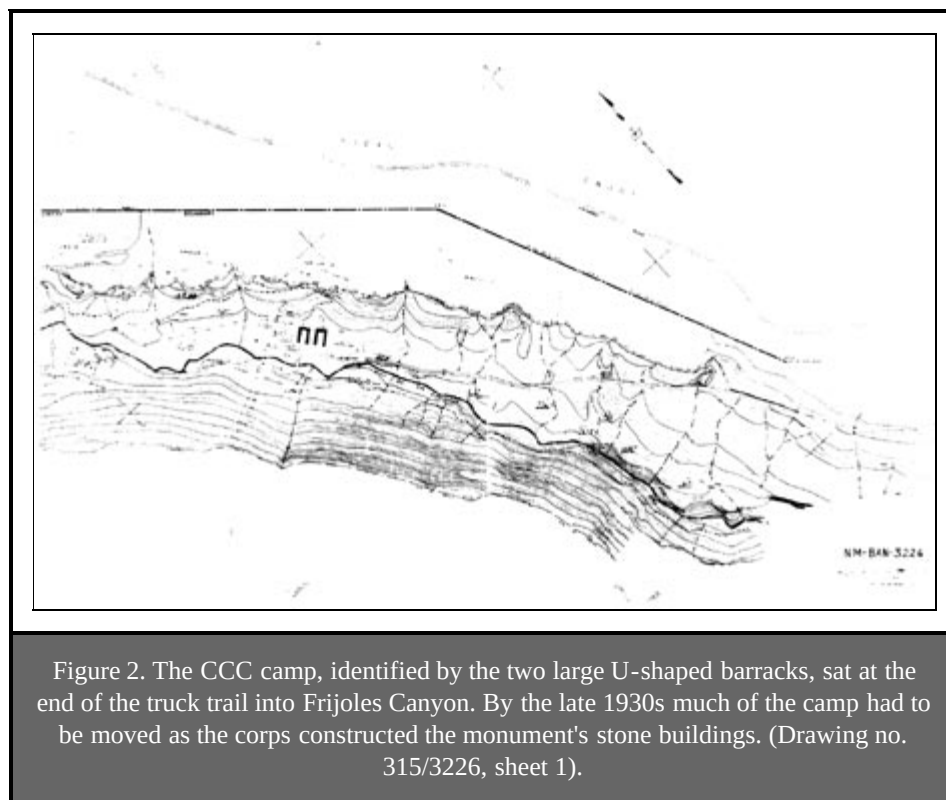


Figure 2. The CCC camp, identified by the two large U-shaped barracks, sat at the end of the truck trail into Frijoles Canyon. By the late 1930s much of the camp had to be moved as the corps constructed the monument's stone buildings. (Drawing no. 315/3226, sheet 1).

Little record has been found of the recreational activities that took place during the first winter the camp existed. However, by the spring of 1934, landscape architect Lyle Bennett had approved the use of the formerly "cultivated area between the Great Kiva (council room) and the river just below the barns and sheds belonging to Mr. Frey for a ball diamond." With limited space available for recreation, he felt that the use of that area would do the least damage to archeological features, and he vowed that baseball games would cease should damage occur to the resources. [65] The CCC boys leveled the old field with a grader drawn by a tractor and hardened the surface with repeated waterings. Throughout the CCC's tenure at Bandelier, the enrollees challenged nearby camps in baseball. They also built two tennis courts "on the camp grounds" — one clay and one asphalt — and some horseshoe courts.

Another popular sport was boxing. As the custodian reported:

Some of the CCC boys, who have pugilistic leanings, have arranged for an evening of boxing bouts with men from other CCC camps in the area, to be held in Santa Fe. . . . There are five bouts scheduled, each of which will have a participant from the Bandelier camp. They are to be opposed by picked men from several of the other camps according to the divisions of weight available. This camp seems to run a rather high percentage of men skilled in the manly art. [66]

The men usually enrolled for a period of 18 months or two years. [67] Some already in training came from other camps, while others came with no skills. The Bandelier camp

usually had 200 CCC men; 250 men was the highest enrollment and 180 the lowest. [68]

The winter of 1933 was rough on morale of all involved — the army personnel, the CCC enrollees, and the new monument staff. The first problem arose when the enrollees complained en masse to NPS engineer Walter Attwell that the camp's food left much to be desired and that the meager portions they received were not sufficient for men doing such hard labor. For breakfast, they complained, they received only two hotcakes and a cup of coffee, with no refills on either. Two days later, the army's commanding officer held a meeting, lecturing the men on caring for their quarters and ending by saying, "Forget the grub complaint and I will bring in 20 cases of beer and a hundred women." The commanding officer had already scheduled a dance before the incident, unknown to the enrollees, who felt they were receiving a good deal. Government trucks hauled in the beer and the women. One enrollee was discovered in the barracks in an extremely compromising position with a young woman. This was obviously inappropriate behavior, not to be condoned by the army. The commanding officer was replaced shortly thereafter, and the enrollee was dismissed from the CCC. [69]

The problems did not end there, however. Two enrollees who had signed a petition to the commanding officer complaining about the living conditions in the barracks were brought up for trial by the army. On the eve of the trial, the commander received a telegram, later found to be bogus, asking for the discharge of the two enrollees so that they could accept jobs at Tumacacori National Monument. Assured that the two men would be leaving, the commanding officer discharged them. Rather than leaving for Arizona, the two men, as well as a third who received a "highly recommended" rating on his discharge, were hired immediately as foremen by NPS custodian Evenstad and CCC camp foreman McGill. The army officers were infuriated. Walter Attwell took it upon himself to fire the three former enrollees, based on the fact that they were hired in violation of the law. Camp morale improved after these personnel actions were completed. [70]

Despite the problems, in late 1933 and early 1934, NPS engineer Walter Attwell summarized the enormous physical impact the CCC had on the monument:

The camp has been in operation about 7 weeks with the Thanksgiving and Christmas-New Year vacations. Snow has covered the ground three times. Yesterday the thermometer registered zero. Regardless of these adverse conditions, we have a) erected our construction buildings as shops, garages, quarters; b) constructed our camp; c) cleared two miles of the entrance road right of way; d) grubbed and burned all stumps and roots on above; e) drilled and blasted most of roadwork on the first two miles; f) graded two miles of road; g) purchased and placed all culverts and pipe for drainage; h) maintained the entrance road for 10 miles to the monument; i) worked on the trail to Rio Grande; j) worked 30 man crew on trail up canyon; k) excavated and laid 1-1/2 mile of 2" water line . . . Harmony is now restored between the Army and the Park Service Technical Men. The camp may now be inspected without disgrace or shame. [71]

Attwell's report to Boss Pinkley was somewhat premature in its optimism, for it was another six months before the operation ran smoothly. In March 1934, Attwell had more complaints flying: that the NPS custodian was obstructing work by not procuring materials properly, that he had a stubborn and uncooperative attitude, and that he was making no effort to greet visitors. This time Boss Pinkley sent Hugh Miller, his right-hand man from Coolidge, to investigate and make recommendations. Miller, a thoughtful and even-tempered man, concluded that most of the problems at the monument boiled down to the custodian's lack of tact. The strict monthly allotments for CCC projects severely limited the quality and amount

of materials that could be procured, while the administrative demands of running the monument and the CCC projects made it impossible for Evenstad to spend any time with visitors. Miller recommended that Evenstad's responsibilities be divided into two positions: custodian and procurement officer. [72]

The final problem plaguing the staff occurred between engineer Attwell and landscape architects Chuck Richey and Lyle Bennett: the construction of the road. Like engineers and landscape architects today, they could not agree on where or how to build it. Attwell had wanted to carve the road further into the cliff as it descended into the canyon than the landscape architects did. He felt that the grade would be easier. The landscape architects insisted that Attwell's solution would be too visible from the canyon and the trails. Reports and picky accusations on both sides eventually ended up on the director's desk in Washington. Boss Pinkley stepped in and admonished them to get along, and Tom Vint clarified their responsibilities: the engineer was in charge of carrying out the work indicated on the plans and specifications drawn up by the architects and landscape architects in the Branch of Plans and Design. [73]

By June 1934, the rough start evened out. CCC camp foreman McGill left for a permanent job. [74] Hub Chase, who had worked on CCC projects at White Sands, replaced him and did an exemplary job in years to follow. Pinkley moved archeologist Earl Jackson in as the new custodian, leaving Martin Evenstad as procurement officer under him. [75] Lyle Bennett, whose duties as resident landscape architect had been divided between Mesa Verde and Bandelier, was transferred to Mesa Verde [76] and was replaced by Jared Morse, a designer for the Denver City Planning Commission and a "man with considerable National Park experience." [77] This group of relatively experienced men proved a more compatible cast of characters than the first. Keeping 200 or more men busy developing a park within the strict design parameters set down by Vint's office, the small budget allotments of NPS and the CCC, and the short deadline on projects required compatibility. Despite fairly constant changes in army personnel, the core of the organization was established. The hard physical labor was only beginning, but the work force from the top to the bottom was ready to take on the task.

CONSTRUCTION

In 1932, discussion of a road into Frijoles Canyon had turned into heated argument. That same year Charles Richey, a junior landscape architect from the Branch of Plans and Design (Vint's office) visited the monument. He returned to San Francisco and made a series of recommendations to his boss, Tom Vint. Richey saw an urgent need for an administrative office and a decent ranger residence. He wanted the first unit of the administration building patterned after the one at Casa Grande, and he listed other details for the custodian's residence. He concluded that "the character of these buildings [was] to be the Santa Fe style of architecture." [78] Santa Fe style, now called pueblo revival or Spanish pueblo style, was the term used by its practitioners before World War II. The terms will be used here interchangeably.

Pinkley, Vint, and Richey had spent considerable time on the site, discussing Bandelier's development. In June 1932 they had picked a tentative location for an administrative area. [79] Pinkley's idea was that the road into the canyon would end in a parking area, where visitors would be met by a ranger who could conveniently step out of his office and direct them to the campground, hotel, or ruins. This site, chosen earlier by Pinkley, Vint, and Richey, was to be the nucleus of subsequent development. Richey saw the parking lot as a traditional central plaza around which "this entire layout is designed to be carried out in typical Santa Fe style in every detail. . . . The site was chosen . . . so that the buildings would

be practically out of sight from the ruins area." [80]

The adoption of that style fit the locale perfectly, both in choice of material and in cultural tradition. Stone was an abundant building material, as was adobe. Following the restoration of the Palace of the Governors in Santa Fe from territorial style to pueblo revival style, more than 90 percent of remodeled houses and more than 50 percent of new houses constructed in Santa Fe between 1912 and 1917 were done in pueblo revival style. During the 1920s and early 1930s a group called the Committee for the Preservation and Restoration of New Mexico Mission Churches set about reroofing and preserving the churches at Laguna, Acoma, Zia, Santa Ana, Trampas, and Chimayo, and built new churches in the Santa Fe style at McCarty's and Abiquiu. In the late 1920s, John Gaw Meem and M.E.J. Colter designed an addition to La Fonda, a large Fred Harvey Company hotel in Santa Fe. In 1930, Meem was busy with the construction of buildings for the Laboratory of Anthropology, [81] whose connection with NPS was discussed earlier. The Santa Fe style was the overwhelming choice for progressive new construction in New Mexico during the 1920s and 1930s.

This flurry of activity in the private sector provided a fertile ground of ideas from which NPS architects could easily draw. With some experience in designing structures for southwestern climates, based on Vint's principles of rustic building design, the architects and landscape architects set to work to create a unified development for Bandelier.

Begun in the fall of 1933, the road was the first major construction project completed with CCC and CWA labor and funding. By January 1934, the enrollees finished the roadbed. A rock retaining wall supported a portion of the roadbed by filling in the end of an arroyo. The retaining wall was 225 feet long, up to 30 feet high (figure 3) and constructed of hard andesite rock, hauled to the site from a quarry 8 miles away. [82] The guardrail along the road's edge was built in two sections — in late spring of 1934 and in 1935-36. The first section (220 feet long) was constructed of the same andesite as the retaining wall. The remaining portion (1935-36) (figure 4) was constructed later so that the retaining wall, also of andesite, could settle. [83] Figure 5 shows how the building complex evolved from 1934 to 1965. The footing of the extension was 4 feet wide and 18-30 inches deep below grade. The guardrail was designed to complement the strong architectural sense that would become evident throughout the monument's building program. In the guardrail, "large stones, some five feet in length and two feet high combined with small material and short horizontal joints . . . [added] . . . to the architectural appearance of the stone masonry." [84] The road was oiled in 1938 [85] and coated with RC-3 liquid asphalt in the summer of 1940. [86] Where blasting into the cliff face had been necessary, the rocks were stained with a solution of iron sulfate to tone down the whiteness and make the exposed rock look more weathered. [87]

The completion of the road had two major effects: Materials could be brought into the canyon with considerable ease, and more visitors could get into the canyon to see the ruins. The local protests over the construction of the road ceased. The *Santa Fe New Mexican*, which had run cartoons about the road showing a hot dog stand in Ceremonial Cave and gas pumps in Communal House ruins, even printed an editorial apologizing for its protests and lauding the Park Service on its sensitive work. [88]

The first permanent building constructed by the CCC was the comfort station (B-1) in the canyon campground (now the picnic area). This building, completed in 1934, was partially banked into the hillside and was a simple stone structure with battered walls, a flat roof surrounded by a parapet and drained by canales (horizontal roof drain spouts that project from the base of the parapet), with vigas projecting from the exterior walls, and latias (saplings or wood slats laid between the vigas) for ceilings. The building had other typical elements of the pueblo revival style: an interplay of masses and voids so that the structure, in plan, was a series of connecting rectangles rather than a simple rectangle; heavy timber

lintels over window and door openings; a sheltering baffle at one of the entrances that enveloped the visitor in the building's space; and sawn grilles over the window openings. The building housed the comfort station and showers for the campers. Although it was relatively simple in design, its elements of style set the tone for subsequent buildings.

With battered stone walls supporting the structural vigas of the roof systems, the Bandelier buildings were simple in a structural sense. Although the comfort station had simple elements of design, other buildings where visitors spent more time were extremely decorative. Spanish colonial light fixtures and furnishings were designed for each structure. The great care exercised on the interior design carried through even to the choice of curtain rods. Exteriors exhibited the same concern for detail. Small gardens and walkways, landscaped with native plants and paved with flagstone, provided a suitable environment for the development. Portals and courtyards also contributed to this sense of place.

One valuable trick that the designers and managers learned early was to break the total development into individual components and fund each separately. The ECW program had a \$1,500 limitation on the cost of building materials. [89] Only the NPS director in Washington could override that limitation. Also, most projects were programmed and scheduled for completion during one enrollment period — six months. Both the \$1,500 regulation and the six-month enrollment period limited the size of buildings that could be built. But these stipulations served only as minor bureaucratic hurdles to Boss Pinkley, Tom Vint, and their crews. The designers circumvented these limitations by constructing in a modular way: they designed so that the crews built the important buildings first, followed by those of lower priority. By working in this manner they could complete the main buildings in the development first in case funding was cut off at any time.

The \$1,500 limitation also necessitated the use of on-site or locally available materials. Stone, timber, gravel, sand, and clay were all readily available around Bandelier. Because separate accounts covered CCC labor costs, expenditures for acquiring these indigenous materials kept building costs low. Only the charge of transporting the materials to the building site — without the attendant labor costs — appeared on the books. The use of these native materials meshed perfectly with the Park Service ideals of rustic architecture.

In an effort to keep costs down in the administrative area, the landscape architects decided to start with three buildings — an office and checking station, a museum (both now B-2), and a comfort station (B-9). Portals connected the office to both the museum and the comfort station. The office and museum were close enough that the monument staff could work in the office and open the museum when visitation warranted. The buildings also had the benefit of separate heating systems. During the winter months, the museum could be closed entirely. The comfort station was only a few steps away — convenient for visitors coming to see the ruins.

With the increased CCC construction activity and the ever-increasing demands of visitation, the need for maintenance buildings was pressing. Boss Pinkley, Associate Director Hillory Tolson, and Chief Architect Tom Vint agreed on the exact location of the maintenance yard when they met at the park in April 1935. [90] The Branch of Plans and Design drew the plans by May and received the director's approval by July. The warehouse (B-3) and the gas and oil house (B-5) were constructed following the excavations required for their footings. The maintenance yard was constructed in the canyon, close to the entrance road, with a stone wall around it built "to such a height to screen the contents of the utility yard from the public's eye. Each section of the wall adjoining a building is tied into building masonry." [91] The buildings were constructed for use by the CCC, with the understanding that the permanent structures would be turned over to the Park Service when the CCC finished its work at the monument.

NPS Chief Engineer Frank Kittredge objected to the location of the maintenance yard and let Boss Pinkley know that he was "shocked." He wrote to Pinkley that the entire development was too formal and too oppressive, particularly when imposed on such a beautiful natural area. He said he found himself asking "Where is [sic] the moat and drawbridge?" Despite Kittredge's complaints, Pinkley remained pleased with the development. [92]

The residential area was next on the agenda. The small park staff had been living in the old ranger residence, left over from the Forest Service, and in rehabilitated structures of the Freys's old lodge. The site for the residential area sat to the southeast of the maintenance yard, parallel to the entrance road. Constructed above the entrance road, the new residences had the advantages of existing topography and additional vegetative screening to hide them from visitors' view.

Three small residences (B-7, B-8, and B-11) and a dormitory-garage (B-10) were built in 1936 and 1937. Because town (Santa Fe) was 40 miles away and employees needed places to store food, they had root cellars constructed in the hillside behind each residence. Each root cellar, of course, constituted a separate project. Because wood was one of the heat sources for the residences, wood storage became a problem in the winter. By 1940, each residence also had a woodshed, complete with stone walls and a roof, to alleviate that storage problem. The woodsheds were also separate construction projects.

With the main portions of the headquarters, maintenance, and utility areas well under way, the park staff and Mrs. Frey began discussing the possibility of moving the hotel closer to the main parking plaza. [93] Mrs. Frey believed that the lodge would do better business near the plaza and that cooperation between her lodge and the Park Service would improve. [94] In addition, Boss Pinkley felt that placing the lodge near the administrative core would allow the Park Service to have stricter management over access to the archeological sites. With the lodge and the monument offices in the same location, visitors could no longer bypass the checking station and head up the canyon. [95] The assistant director of NPS agreed that a new lodge could be built as an ECW project as long as it met certain stipulations.

First, the lodge would be federal property, and at no time would the concessioner have any equity in it. NPS would lease the new lodge to Mrs. Frey. Finally, the CCC would demolish her old structures and landscape the site. [96] In this way, NPS could concentrate all of the monument's development in one area.

The CCC-constructed concessions operation was developed between 1937 and 1940. Sixteen buildings were built — cabins for guests (B-19, B-20, B-23, B-24, B-27, B-28, and B-29); a dining room and kitchen (B-15); a hotel lobby and curio shop (B-17); an employee dormitory (B-16); a garage (B-13) and small service station (B-14); a combined hot-water plant, linen storage room, and comfort station known as the "kiva" because of its round plan (B-21); a

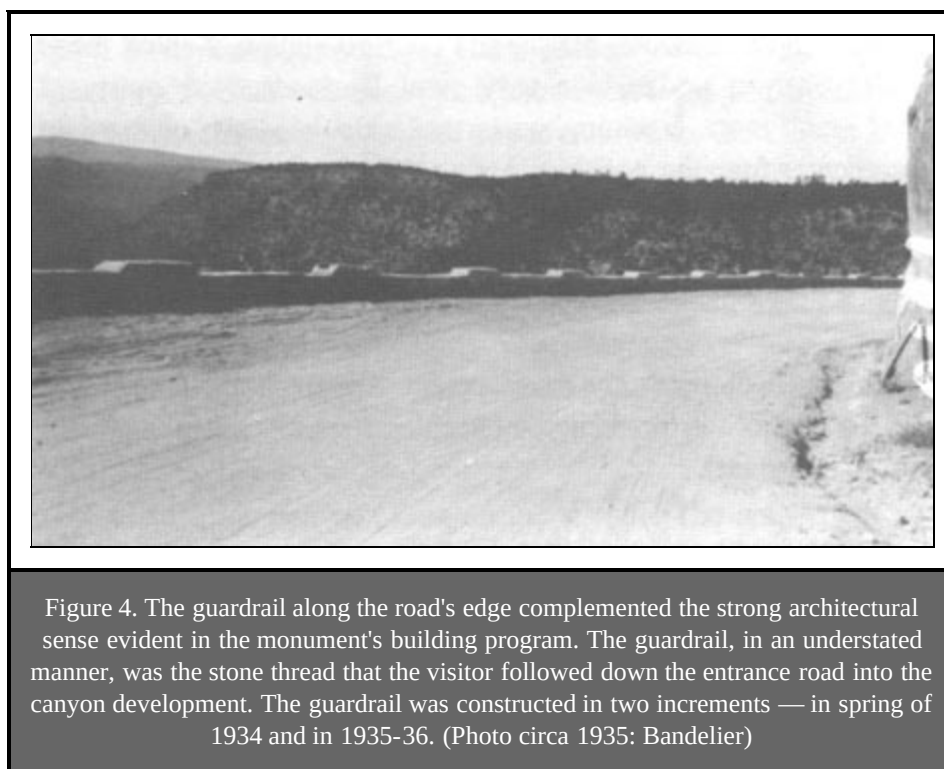


Figure 3. By the mid-1930s the controversial entrance road was completed. The retaining wall supporting a portion of the roadbed was 225 feet long and up to 30 feet high. (Photo circa 1935: Bandelier)

riding stable (B-25); a laundry room (B-10); and new quarters for Mrs. Frey (B-18). The hotel lobby and dining room, as well as the garage and service station, fronted the plaza, as did the NPS museum, office, and comfort station. Behind those buildings sat the cabin units of Frijoles Canyon Lodge in a very carefully landscaped courtyard complete with flagstone walkways and small stone retaining walls that articulated the changes in topography. In a memo requesting a carpenter foreman position, Acting Superintendent Hugh Miller justified his request by saying that the highest standards of construction had been achieved at Bandelier so far, and he expected "to make the hotel units conform in design and construction to highest commercial standards." [97] The concessions development met that standard.

The CCC constructed four additional buildings to complete the development. A powerhouse (B-22) was added to the maintenance area in 1939. To control visitors better, a checking (entrance) station (B-26) was constructed on USFS land (Ramon Vigil grant).

The CCC finished the last buildings in 1941. A fire lookout (B-30), which had been a high priority. early in the CCC program, finally took shape on Forest Service land on the edge of Frijoles Canyon in cooperation with the Forest Service. The custodian's residence (B-32) was built when staffing reached a point where existing housing was inadequate. The CCC finished its building construction work at Bandelier in 1941.

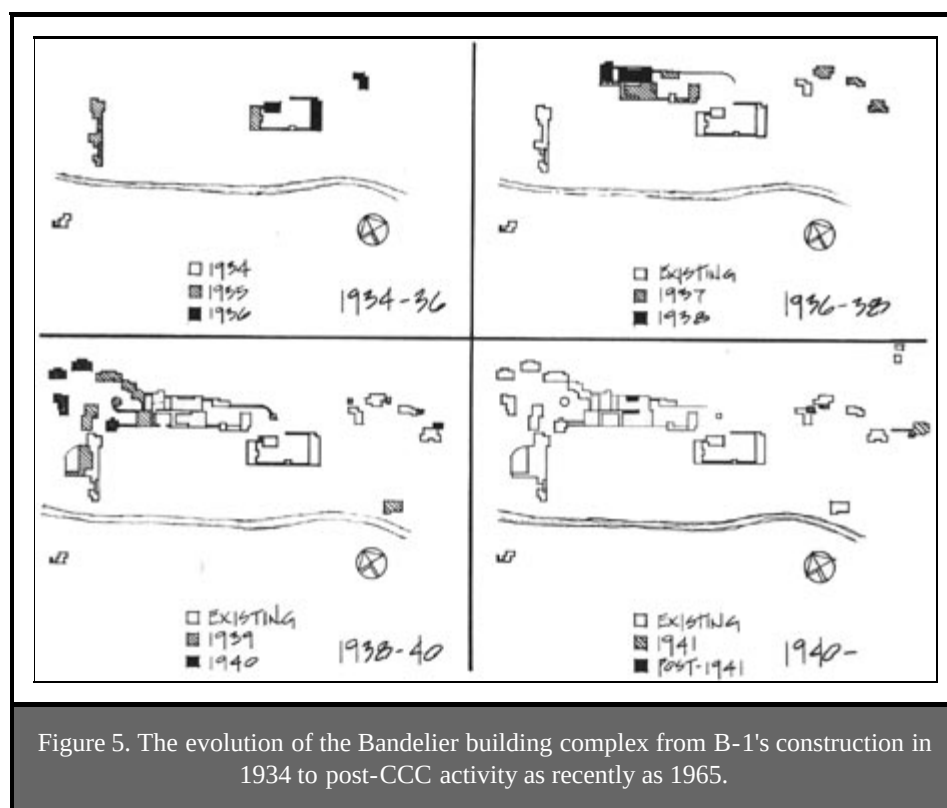


WINDING DOWN THE CCC

Bandelier had been under a constant threat of losing its CCC camp since 1935. [98] Justifications and proposals for park projects that would guarantee the camp's life went to Washington every six months, and updates or additional projects went in for consideration and approval practically monthly. The ground in Frijoles Canyon that had been designated as the development zone and leveled and graded was rapidly being filled with buildings. Where there was no building, a shallow hole in the ground awaited one. This problem of space was exacerbated by the army's feeling that NPS development was interfering with the development of the CCC camp. For some reason the army temporarily refused to

acknowledge that the CCC's tenure at Bandelier was limited, and the Park Service development was permanent.

The trouble started in 1935 when a portion of a CCC barracks had to be moved so the museum could be constructed. The army complied but requested that definite boundaries be drawn for army and NPS development so that such problems could be avoided in the future. [99] One NPS landscape architect noted that the buildings had to be constructed so close to each other because there was no other suitable level ground in that immediate vicinity for the agencies to spread out. He also noted that if the Park Service stopped development to accommodate the army, the reason for the camp's location at Bandelier would also end. [100]



The situation remained at a crowded standstill for four years while construction continued down-canyon (south) from the CCC camp — in the residential area and the maintenance yard. In 1939, Bandelier's development had reached a point where barracks 2 and the CCC infirmary were in the way of the expanding lodge. [101] Building in the canyon had reached the limit where all available space was occupied, and something had to give (figure 6). The regional director in Santa Fe requested that the camp be moved to Forest Service land so that the proposed development at the monument could be completed. [102] Despite its protests four years earlier, the army totally supported the move.

Washington also approved the change. The army, the Forest Service, and the Park Service chose the new location: in Water Canyon, 9-1/2 miles by road from Frijoles Canyon. Hub Chase, the project superintendent, retained his project office as well as a garage and truck storage area in Frijoles Canyon. The monument staff scheduled a final cleanup of Frijoles Canyon. The CCC tried to complete it by the October 1939 meeting of the national park superintendents and the American Planning and Civic Association, but was unable to finish. [103]

The cleanup of the old camp continued through February 1940. Although the CCC buildings were gone, the leveling required for the camp construction took considerable time to naturalize. The high standards of Park Service landscape architects required that the camp

area look natural and untouched. In addition to the cleanup, construction of Park Service buildings remained at a fever pitch. The CCC men remained busy. A short report by the project superintendent gave a glimpse of what it was like in February 1940:

Our project situation at present time: Fulton landscaping and hell of lot to complete in and around old camp site, we estimate he can easily keep 30 to 35 man crew busy until June.

Lamborn building entrance road gutter with about 10 to 12 weeks ahead of him. Cano at checking station which should be finished about April 1 to plaster and cabinet work point. Eden starting the laundry house and keeping flagstone floor job going in Museum Lobby (next week to pinch hit in rock quarry during absence of Project Assistant). Cano to pick up the laundry building when finished with checking station (about March 15 in Museum Lobby and continue to checking station.) Grubb has completed all furniture required for furnishing the 14 hotel guest rooms, now has carved book-cases, counter, some doors and railings, together with uncarved doors and screens to construct and place in Museum Lobby; doors, cabin work and all openings to hang in checking station and laundry house; fire boxes to construct; Canyon de Chelly signs to construct and Capulin signs to complete. All of this looks like two good solid months work together with carpenter frame work around the buildings. I believe he will be occupied until May 15, a possible chance he can crowd in a very small amount of furniture for one of the lobbies. It is planned to construct the telephone line to checking station under a project assistant supervision starting in April. After Cano completes the laundry room he then to complete as much as possible of one unit Cabin E. [104]

The Park Service had planned to turn the CCC camp (at its new location) over to the Forest Service by June 1940. But then the monument custodian notified the Forest Service that he wanted to keep the camp a bit longer to build a fire lookout and to use the CCC men for fire protection during the fire season. [105] Not only did the enrollees build the fire lookout, but they also managed to build a custodian's residence.

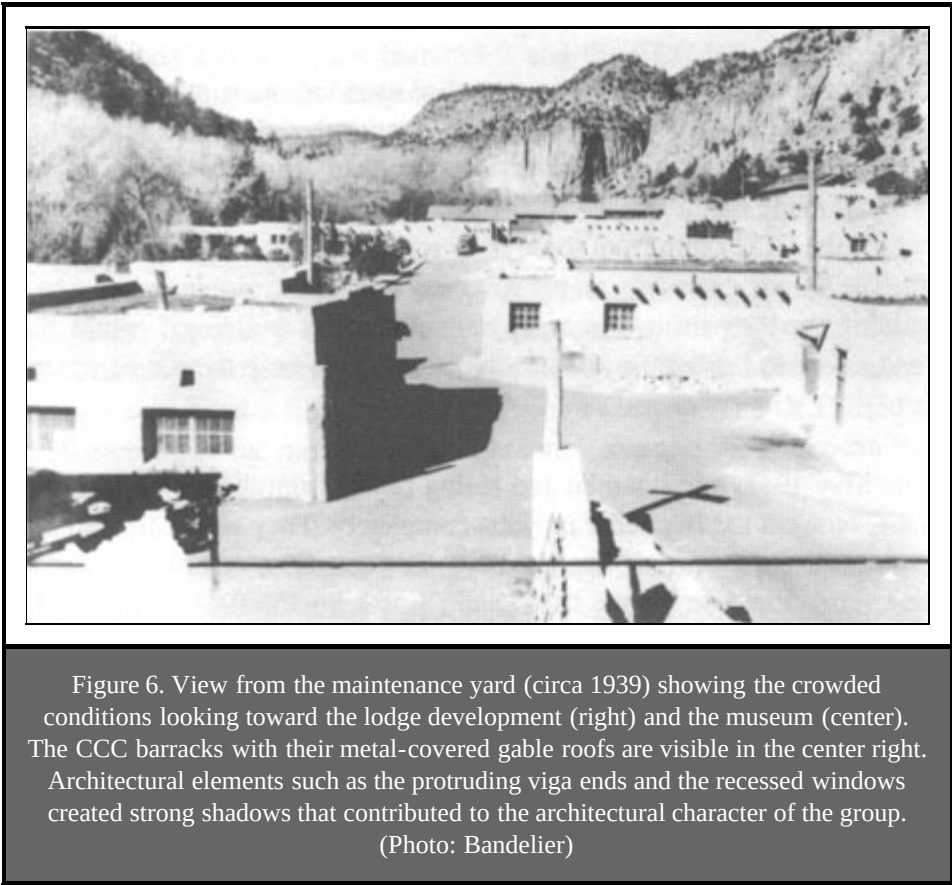
The CCC's final year was hectic. Because the army had used too many enrollees for its own projects, the manpower available to NPS was depleted and NPS work schedules were slowed down, forcing the Park Service to carry projects over into additional enrollment periods. [106] Nature did not cooperate either. Mud and snow made the approach road to the monument nearly impassable in January 1941, threatening to cut off the CCC camp from those last projects in Frijoles Canyon. Bringing in materials was also difficult. The monument's only ranger was busy that month running a six-man crew "cleaning, painting, calsomining, and repairing the hotel and monument buildings" while the CCC project superintendent and a worker hauled firewood to the buildings to keep the rooms warm enough for the paint to dry. [107]

For a while during May 1941, a heavy melt and spring runoff from that harsh winter caused flooding that pulled the CCC men off the Bandelier projects completely. They were called in to do "emergency work on the levees to save the town of Espanola." [108] The custodian received word from Washington that the absolute termination date for the CCC camp was June 26, 1941, and a mad rush ensued to complete the south boundary fence, the custodian's residence, the additions to the other residences, the sewage disposal system, and other minor projects. [109] At the end of June, the custodian was able to conclude that, despite the confusion, "Bandelier now ranks as a well-developed monument." [110]

The CCC had finished its work at Bandelier, and the camp was turned over to the Forest Service. Most of the enrollees stayed with the camp, except for some of the stone masonry

and carpentry crews, who transferred to Chaco Canyon. In the last inspection report, the camp inspector noted that "morale, organization, application, progress and accomplishments" were all excellent, and that the camp was "completed and terminated in the same manner in which it has been prosecuted efficiently and productively." [111] The CCC had been so closely linked with the Park Service that the general impression of people in Taos, Santa Fe, and Albuquerque was that Bandelier had been discontinued and turned back to the Forest Service." [112] The custodian quickly dispelled that rumor.

The CCC men left behind a monument to their hard labor — a permanent development executed to the highest standards of craftsmanship and design. The camp inspectors had continually, noted the high quality of work produced by the Bandelier CCC over the years. [113] The inspectors believed that high quality was in part due to the enthusiasm displayed by the project superintendent and his foremen, who would roll up their sleeves, "don overalls and perform both skilled and unskilled labor along with the enrollees." [114] Hugh Miller, Boss Pinkley's assistant, also brought back glowing reports to Coolidge — that the camp ran more like a smooth contract job than a CCC project, that construction standards were constantly improving, and that "the results are satisfactory beyond our most optimistic expectations." [115] The results were so successful that the possibility of undertaking a similar venture at Chiricahua National Monument in Arizona became concrete in the minds of former skeptics in the Department of the Interior in Washington. But Bandelier was destined not to be repeated on such a grand scale. [116] The world was changing, and in a matter of months the United States would be at war and the CCC would no longer exist.



Bandelier

Historic Structure Report: CCC Buildings



PHYSICAL HISTORY (continued)

ENDNOTES

1. "Custodian's Monthly Report," 1934, RG 79, file 207-02, Denver Federal Records Center (DFRC).
2. "Custodian's Monthly Narrative," July 1933, RG 79, file 207-02, DFRC.
3. "Specifications for Construction of a Headquarters Office . . .," 3-4, and other specifications on file at Bandelier.
4. Hugh Miller, "Memo for the Superintendent," October 25, 1939, RG 79, file 204, DFRC; and photo 01916A in the collection of Bandelier National Monument, showing the cleanup of the quarry prior to its conversion to an amphitheater.
5. Jared Morse, "Report to the Chief Architect through the Superintendent of Southwestern Monuments," Bandelier National Monument, October 25, 1935, RG 79, file 000, DFRC.
6. Attachment to "Custodian's Monthly Narrative, July 1937," RG 79, file 207-02; and "Report to the Chief Architect . . . 5th Period . . .," RG 79, file 000, DFRC, 9. "Custodian's Monthly Narrative, February 1938," RG 79, file 207-02, DFRC.
7. Form 10-352, September 15, 1941, RG 79, file 621, DFRC.
8. "Specifications for Construction of a Comfort Station at Headquarters . . .," 4-10; and other specifications, on file at Bandelier.
9. Charles Richey to William Carnes, November 15, 1935, RG 79, file 000, DFRC; William Carnes (Edward A. Nickel) to Charles Richey, November 21, 1935, RG 79, file 000, DFRC.
10. "Specifications for Construction of the Following ECW Projects: . . . Garage . . . Warehouse . . . Excavation . . . Walls . . .," 7, on file at Bandelier.
11. Ibid., 6-7. The specifications for construction of a headquarters office required that the "Pajauque (sic) earth (be) obtained within the monument," p. 28. All the other specifications required that the Pojuaque clay be obtained from an area designated by the custodian. Park archeologist William Sweetland had been grappling with deciphering the content of this mortar/plaster and its origin for years. "Pojuaque" is the name of a small village on the Rio Grande, between Bandelier and Santa Fe. The construction records reviewed for this document included information of transportation of materials from places like railheads and quarries; no information was uncovered during the course of research on transporting clay from Pojuaque. We concluded, then, that the term "Pojuaque" perhaps refers to the color of clay, or the method of application. After studying the soils in the present monument boundaries, Bill felt that it was probable that the "Pojuaque" clay came from a clay deposit approximately 300 yards west of the quarry site (present amphitheater). If this was the case,

the clay would have been hauled down with the building stone and probably would not have been mentioned as a separate item on the tally sheets. Also, the monument custodian had a special use permit with the Forest Service, which had jurisdiction over that area of land at the time, for the quarry. A borrow pit could have fallen under the same permit, considering its similar nature.

12. "Specifications for Construction of a Headquarter Office ...," 7, on file at Bandelier.
13. Charles Richey to William Carnes, November 15, 1935, RG 79, file 000, DFRC.
14. "Custodian's Monthly Narrative," February and May 1941, Bandelier.
15. James Fulton, forestry foreman, "ECW Forestry Report, November 23, 1935," RG 79, file Bandelier NM-1 personnel, V-1-C1-b-NM, DFRC.
16. Fulton, "ECW Forestry Report, April 1936," RG 79, file 207-02, DFRC.
17. "Specifications for Construction of a Headquarters Office...," 16, on file at Bandelier.
18. "Field Report, Chas. A. Richey, Plans and Design Division, May 15, 1939," RG 79, file 204, DFRC.
19. "Specifications for Construction of a Comfort Station at Headquarters," 14; and other specifications previously cited; also original drawings for buildings.
20. "Specifications for Construction of a Headquarters Office," 25-27; and other specifications previously cited, on file at Bandelier.
21. Ibid., 17-18, 25-27, and architectural drawings (BAN 3029B, sheet 3 and others).
22. Boss Pinkley to chief engineer, NPS, December 26, 1935, RG 79, file 000, DFRC; E.A. Nickel to Frank Kittredge, January 15, 1936, RG 79, file 000, DFRC.
23. "Specifications for Construction of a Comfort Station at Headquarters...," 8, on file at Bandelier.
24. Milton McColm, acting regional director, to H.B. Chase, November 10, 1938, RG 79, file 621, DFRC; and William S. Bryant, acting regional director, to Hugh Miller, March 13, 1941, RG 79, file 620, DFRC.
25. McColm to Chase, January 11, 1939, RG 79, file 620-58, DFRC.
26. Form 10-768, Individual Building Data for B-32, on file at Bandelier.
27. Architectural drawings such as BAN 2030, sheet 4, and others; specifications such as "Specifications for Construction of a Headquarters Office ...," 21, and others, on file at Bandelier.
28. Architectural drawings such as BAN 2030, sheet 4, and others.
29. "Specifications for Construction of a Headquarters Office...," 7-8, and others, on file at Bandelier.
30. Lyle Bennett, "Field Report, Branch of Plans and Design, June 16, 1938," RG 79, file 204-30, DFRC.

31. William S. Bryant, reiterating recommendations of Lyle Bennett, in letter to Hugh Miller, March 13, 1941, RG 79, file 620, DFRC.
32. Hub Chase to Boss Pinkley, January 16, 1939; Pinkley to Chase, January 31, 1939; and E.A. Pesonen to Pinkley, February 17, 1939, all from RG 79, file 620-58, DFRC; Also, Lyle E. Bennett, "Field Report, Branch of Plans and Design, January 19, 1939," RG 79, file 204, DFRC.
33. William S. Bryant to Hugh Miller, March 13, 1941, RG 79, file 620, DFRC.
34. Furniture drawings BAN 3105 and others.
35. Lyle E. Bennett, Bandelier National Monument Field Trip Report," February 9, 1938, Bandelier.
36. Furniture drawing BAN 2037, sheet 3.
37. "Technical Comment by Regional Landscape Architect," April 8, 1939, RG 79, file 621, DFRC.
38. Milton McColm to H.B. Chase, November 10, 1938, RG 79, file 621, DFRC; Lyle E. Bennett, associate architect, "Field Report, Branch of Plans and Design, October 12, 1938," RG 79, file 204-30, DFRC.
39. Hugh Miller, "Memo for the Superintendent, March 31, 1939," RG 79, file 204, DFRC.
40. Drawings, BAN 2037, sheets A through Y.
41. Form 10-352, September 15, 1941, RG 79, file 621, DFRC.
42. Attachment to "Custodian's Monthly Narrative, July 1937," RG 79, file 207-02. The doors for the Tumacacori museum were patterned after those of the Sonoran mission of San Ignacio in Mexico.
43. "Custodian's Monthly Narrative, December 1942," Bandelier.
44. Draft "Custodian's Monthly Narrative," undated, but probably December 1938, RG 79, file 207-02, DFRC.
45. "Custodian's Monthly Narrative, May 1942," Bandelier.
46. "Custodian's Monthly Narrative," September through November 1942, Bandelier.
47. "Custodian's Monthly Narrative, December 1943," Bandelier.
48. "Custodian's Monthly Narrative, March 1944," Bandelier.
49. "Custodian's Monthly Narrative, September 1944," Bandelier.
50. "Custodian's Monthly Narrative, September 1952," Bandelier.
51. Recommendations by Lyle E. Bennett, summarized in a letter from William S. Bryant to Hugh Miller, March 13, 1941, RG 79, file 260, DFRC.
52. "Custodian's Monthly Narrative, December 1946," Bandelier.

53. "Custodian's Monthly Narrative, February 1953," Bandelier.
54. "Custodian's Monthly Narrative, July 1953," Bandelier.
55. "Custodian's Monthly Narrative, July 1953," Bandelier.
56. Hugh Miller to Art Thomas, July 17, 1940, RG 79, file 200, DFRC.
57. "Custodian's Monthly Narrative, January 1945," Bandelier.
58. Chester A. Thomas to Miller, July 9, 1940, RG 79, file 200, DFRC.
59. Milton McColm to Miller, February 24, 1940, RG 79, file 620, DFRC.
60. Thomas to Miller, July 9, 1940, RG 79, file 200, DFRC.
61. McColm to Miller, February 24, 1940, RG 79, file 620, DFRC.
62. H.B. Chase, "Bandelier National Monument Emergency Conservation Work — Report Covering Activities of the Camp for the Six Months Period Beginning October 1, 1934 and Ending March 31, 1935." No pagination, on file at Bandelier.
63. "Custodian's Monthly Narrative, January 1941," Bandelier.
64. Fixed property record, B-1 comfort station, Bandelier.
65. "Custodian's Monthly Narrative, September 1953," Bandelier.
66. "Custodian's Monthly Narrative, December 1937," Bandelier.
67. "Custodian's Monthly Narrative, April 1944," Bandelier.
68. "Custodian's Monthly Narrative, September 1959," Bandelier.
69. Maintenance Update Sheet attached to form 10-768 Individual Building Data, Bandelier.
70. Hub Chase to Boss Pinkley, February 15, 1935, in CCC job files, Bandelier.
71. Dale King to Boss Pinkley, June 15, 1939, RG 79, file 620-46, DFRC.
72. "Report to the Chief Architect on 5th Period ECW Work, April 1, 1935 to September 30, 1935," RG 79, file 000, DFRC.
73. "Custodian's Monthly Narrative, February 1949," Bandelier.
74. Cy Harkins to Boss Pinkley, October 31, 1938, RG 79, file 200, DFRC.
75. Maintenance Update Sheet attached to form 10-768, Individual Building Data; and other sources, Bandelier.
76. Hugh Miller to William Carnes, September 19, 1935, RG 79, file 000, DFRC; Boss Pinkley to Branch of Plans and Design, December 23, 1935, RG 79, file 000, DFRC.
77. Charles Richey to Carnes, September 19, 1935, RG 79, file 000, DFRC.
78. Dale S. King, "Memo to the Superintendent, Report of Special Duty Assignment to

Bandelier," July 14, 1939, RG 79, file 204, DFRC.

79. "Custodian's Monthly Narrative, February 1938," RG 79, file 207-02, DFRC.

80. Milton McColm to H.B. Chase, December 12, 1939, CCC job files 1, 48, 96, Bandelier.

81. "Custodian's Monthly Narrative, December 1959," Bandelier.

82. "Custodian's Monthly Narrative, April 1950," Bandelier.

83. "Custodian's Monthly Narrative, April 1953," Bandelier.

84. "Custodian's Monthly Narrative, February 1938," Bandelier.

85. Dale King to Boss Pinkley, June 15, 1939, RG 79, file 620-46, DFRC.

86. "Custodian's Monthly Narrative, April 1948," Bandelier.

87. Helmut Naumer also completed some additional pastels for the monument. He probably completed them at some later date. They were not part of this initial federal art project.

88. "Custodian's Monthly Narrative," January and February 1939, RG 79, file 207-02, DFRC. Because space was lacking to display the Helmut Naumer pastels, King recommended to Thomas that the San Ildefonso pastel be transferred to Aztec Ruins, the Jemez pastel to El Morro, one Tesuque pastel to Montezuma Castle, and the other to Tuzigoot (King to Art Thomas, August 28, 1940, RG 79, file 200, DFRC).

89. Dale King to Art Thomas, August 28, 1940, RG 79, file 200, DFRC. An extremely handsome oil painting of the Grand Canyon done by Chris Jorgensen hangs in the Southwest Regional Office at the top of the stairwell next to the regional director's office.

90. "Custodian's Monthly Narrative, February 1952," Bandelier.

91. H.B. Chase, "Reporting ECW Activities for the Six Months Period from April 1 to September 30, 1935 at Bandelier National Monument," Bandelier.

92. Form 10-352, dated June 15, 1939, in RG 79, file 620-100, Denver Federal Records Center, and in CCC job file 1.47, job 85, Bandelier.

93. "Custodian's Monthly Narrative," December 1953 and April 1945, Bandelier.

94. Maintenance Update Sheet attached to form 10-768 Individual Building Data, Bandelier.

95. Ibid.

96. Frank Abern, fire protection engineer, U.S. Department of the Interior, to William Carnes, July 15, 1935, RG 79, file 000, DFRC; Charles Richey to William Carnes, July 26, 1935, RG 79, file 000, DFRC.

97. "Custodian's Monthly Narrative, January 1950," Bandelier.

98. Jared B. Morse, "Report to the Chief Architect through the Superintendent, Southwestern Monuments, Bandelier National Monument," October 25, 1935, RG 79, file 000, DFRC.

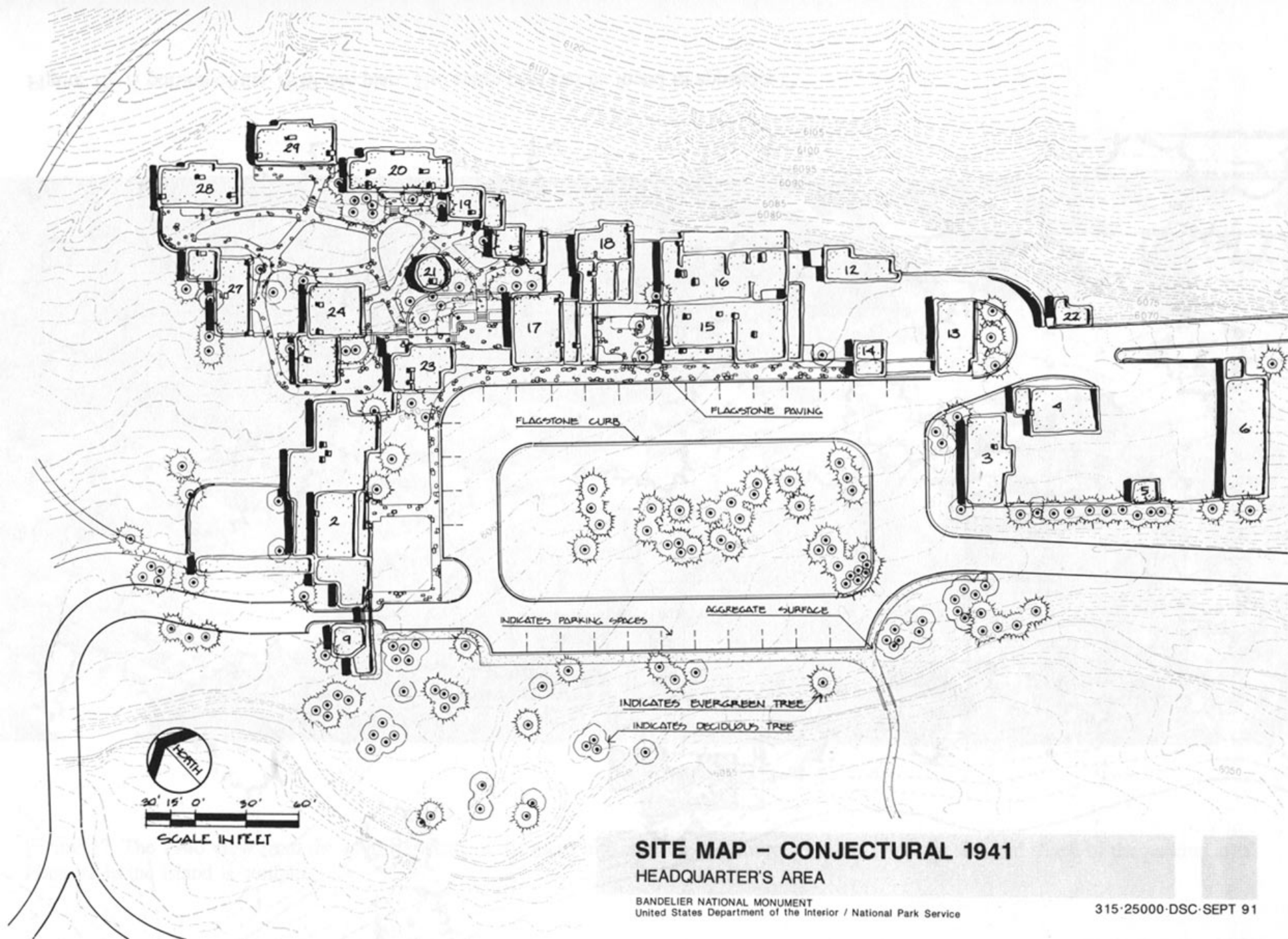
99. "Custodian's Monthly Narrative," January and May 1938, RG 79, file 207-02, DFRC; form 10-352, no date, in CCC job files, Bandelier.

100. "Custodian's Monthly Narrative, September 1942," Bandelier.
101. Form 10-768, Individual Building Data, and attached Maintenance Update Sheet, Bandelier.
102. Form 10-768, Individual Building Data, Bandelier.
103. Jared B. Morse, "Report to the Chief Architect through the Superintendent of Southwestern Monuments, Bandelier," October 25, 1935, RG 79, file 000, DFRC.
104. H.B. Chase, "Reporting ECW Activities for the Six Months Period from April 1 to September 30, 1935 at Bandelier National Monument," Bandelier.
105. Charles A. Richey, "Report to the Chief Architect through the Superintendent, Southwestern Monuments, Field Trip, November 23-25, 1935," RG 79, file 000, DFRC.
106. "Custodian's Monthly Narrative, January 1943," Bandelier.
107. Form 10-768, Individual Building Data, Bandelier.
108. "Custodian's Monthly Narrative, September 1936," Bandelier.
109. "Custodian's Monthly Narrative, June 1941," Bandelier.
110. "Custodian's Monthly Narrative, January 1941," Bandelier.
111. Drawing BAN 2129, Denver Service Center.
112. "Custodian's Monthly Narrative, September 1944," Bandelier.
113. "Custodian's Monthly Narrative, November 1953," Bandelier.
114. Form 10-768, Individual Building Data, and attached Maintenance Update Sheet, Bandelier.
115. Charles Richey and George Collins to H.B. Chase, June 22, 1936, RG 79, file 620-58, DFRC.
116. Form 10-768, Individual Building Data and attached Maintenance Update Sheets, Bandelier.
117. "Report to the Chief Architect on 5th Period ECW Work, April 1, 1935 to September 30, 1935," RG 79, file 000, DFRC.
118. Ibid.
119. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.
120. Hugh Miller to Boss Pinkley, March 31, 1939, RG 79, file 204, DFRC.
121. Form 10-352, July 25, 1941, RG 79, file 620, DFRC.
122. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.

123. Form 10-768, Individual Building Data, Bandelier.
124. Raymond Higgins, "CCC Inspection," November 11, 1938, RG 78, file 204-30, DFRC.
125. Form 10-768, Individual Building Data, Bandelier.
126. CCC job file, job 49, Bandelier.
127. Boss Pinkley to the regional director, Region III, December 20, 1939, RG 79, file 620-75, DFRC.
128. Form 10-786, Individual Building Data, Bandelier.
129. Lyle Bennett, "Field Trip, Branch of Plans and Design," June 1, 1938, RG 79, file 204-30, DFRC; and Milton McColm to H.B. Chase, January 11, 1939, RG 79, file 620-58, DFRC.
130. Lyle Bennett, "Field Report, Branch of Plans and Design," October 12, 1938, RG 79, file 204-30, DFRC.
131. "Custodian's Monthly Narrative, June 1954," Bandelier.
132. "Custodian's Monthly Narrative," September and October 1960, Bandelier.
133. "Custodian's Monthly Narrative," February and March 1960; and Form 10-768, Individual Building Data, Bandelier.
134. Form 10-352, April 21, 1939, RG 79, file 620-58, DFRC.
135. Form 10-768, Individual Building Data, Bandelier.
136. Hillory Tolson to Conrad Wirth and Arno Cammerer, November 26, 1937, RG 79, file 620-58, DFRC; and Herbert Maier and Harvey Cornell to H.B. Chase, December 10, 1937, RG 79, file 620-58, DFRC.
137. Form 10-352, April 21, 1939, RG 79, file 620-58, DFRC.
138. Form 10-352 in CCC job file 1.09, job 51, Bandelier.
139. Hugh Miller, "Memo for the Superintendent, Southwestern Monuments," October 12, 1939, RG 79, file 204-30, DFRC.
140. Form 10-768, Individual Building Data, Bandelier.
141. Form 10-352, June 26, 1939, RG 79, file 620-58, DFRC.
142. "Custodian's Monthly Narrative," January 1945, September 1959, and January 1960, Bandelier.
143. Form 10-352, dated July 5, 1939, RG 79, file 620-58.
144. Cabin group A painting schedule, RG 79, file 620-08.
145. Lyle E. Bennett to Laura Soulliere Harrison, letter dated October 1985, on file at Southwest Regional Office.
146. Painting schedule, cabin group B, RG 79, file 620-15, DFRC.

147. Form 10-768, Individual Building Data, Bandelier.
148. Form 10-352, undated, RG 79, file 620-08, DFRC.
149. Painting schedule, comfort station, Bandelier, RG 79, file 620-08, DFRC.
150. Lyle E. Bennett, "Field Trip, Branch of Plans and Design," June 1, 1938, RG 79, file 204-30, DFRC.
151. CCC job file 1.21, Bandelier.
152. Form 10-352, RG 79, file 620-53, DFRC.
153. "Custodian's Monthly Narrative," September and November 1959, Bandelier.
154. Form 10-768, Individual Building Data and attached Maintenance Update Sheets, Bandelier.
155. CCC job file 1.33, job 77, Bandelier.
156. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.
157. Lyle E. Bennett, "Field Reports, Plans and Design Division, Bandelier National Monument," December 2, 1939, Bandelier.
158. H.B. Chase to Boss Pinkley, May 26, 1939, CCC job file 1.46, Bandelier.
159. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets; and "Custodian's Monthly Narrative," March 1956 and August 1960, Bandelier.
160. Hugh Miller, "Memo for the Superintendent," July 6, 1939, RG 79, file 620-08, DFRC; and Boss Pinkley to the regional director, July 6, 1939, RG 79, file 620-08, DFRC.
161. Herbert Maier to the director, November 7, 1939, RG 79, file 620-08, DFRC.
162. Charles Richey, "Field Report, Plans and Design Division," August 14, 1939, RG 79, file 620-08, DFRC.
163. Superintendent, Southwestern Monuments, to regional director, November 3, 1939, RG 79, file 620-08, DFRC.
164. Form 10-352, RG 79, file 620-08, DFRC.
165. Form 10-352, RG 79, file 620-15, DFRC.
166. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets; and "Custodian's Monthly Narrative, February 1957," Bandelier.
167. "Custodian's Monthly Narrative, March 1950," Bandelier.
168. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.
169. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.

- 170. "Custodian's Monthly Narrative, December 1938," Bandelier.
- 171. Form 10-768. Individual Building Data, and attached Maintenance Update Sheets, Bandelier.
- 172. Charles A. Richey, "Field Report, Plans and Design Division," July 15, 1940, RG 79, file 204, DFRC.
- 173. Tom Vint to regional director, June 11, 1940, RG 79, file 620-37, DFRC.
- 174. Regional Forester Saari, USFS, to regional director, NPS, March 1, 1940, RG 79, file 620-37, DFRC.
- 175. Charles Gerner, chief, Project Development Division, to superintendent, Southwestern Monuments, July 18, 1940, RG 79, file 620-37, DFRC.
- 176. Jerome Miller, acting regional landscape architect, to Regional Forester Saari, November 8, 1940, RG 79, file 620-37, DFRC.
- 177. L. Douglas, assistant regional director to Superintendent Miller, Southwestern Monuments, November 16, 1940, RG 79, file 620-37, DFRC.
- 178. "Custodian's Monthly Narrative, June 1942," Bandelier.
- 179. "Custodian's Monthly Narrative, January 1953," Bandelier.
- 180. Form 10-768, Individual Building Data and attached Maintenance Update Sheets, Bandelier.
- 181. Hugh Miller to Boss Pinkley, July 6, 1939, RG 79, file 204, DFRC.
- 182. "Custodian's Monthly Narrative, June 1941," Bandelier.
- 183. "Custodian's Monthly Narrative, August 1941," Bandelier.
- 184. Form 10-768, Individual Building Data, and attached Maintenance Update Sheets, Bandelier.



Bandelier

Historic Structure Report: CCC Buildings



PHYSICAL HISTORY (continued)

UTILITIES

Through the years, Bandelier has had a hodgepodge of utility systems to support its needs. Like most small national monuments, Bandelier started out self-sufficient in utilities. The monument was so far removed from developed areas that it originally had its own water, sewer, and electrical systems. The monument staff was required to bring in heating fuels (fuel oil, butane, propane, wood, coal) from outside sources but was able to provide storage space to have enough fuel on hand to warm the buildings through the winter. By the mid-1960s the monument had tapped into the electrical power line, gas line, and water line constructed by the Atomic Energy Commission (AEC) along New Mexico Highway 4 (NM 4) to serve Los Alamos. By tapping into a larger utility operation, the monument lost its self-sufficiency but eased its financial and maintenance burdens and consolidated some of its own systems.

Electrical

Bandelier's electrical service began simply. Diesel generators in Bandelier's powerhouse (B-22) supplied electricity to the canyon development during the 1930s and 1940s. Although the army constructed power lines adjacent to the monument during 1944, the monument did not tie into this larger commercial system until 1948. By 1959, Bandelier was buying power from the larger system and had its own substation with three transformers to convert the large voltages down to residential capacity. At present the monument buys power from the Pan American Company, supplier to Los Alamos Laboratories. Three taps from the power lines along NM 4 feed (1) the upper housing loop and the campground (480 volts), (2) the lower housing loop (13,000 volts), and (3) the fire lookout and the canyon area (13,000 volts).

Water

Bandelier's early water system also was simple. During the 1930s, the CCC constructed a gravity-feed system with an intake diversion from the rito approximately 2 miles above the headquarters area. Two concrete reservoirs — with capacities of 10,000 and 20,000 gallons — held the water until it was piped to headquarters and then distributed to the lodge, quarters, and government facilities.

In 1964, the monument tapped into the AEC's waterline on the north side of NM 4. At present the monument buys its water, like its electricity, from the Pan American Company, supplier to Los Alamos Laboratories. The main tap just off the highway feeds a 35,000-gallon equalizing reservoir. From there, one line drops down to Juniper campground and into the Mesa housing area, and a second line follows the entrance road to the lookout tower, then drops down the canyon wall into the CCC reservoir system.

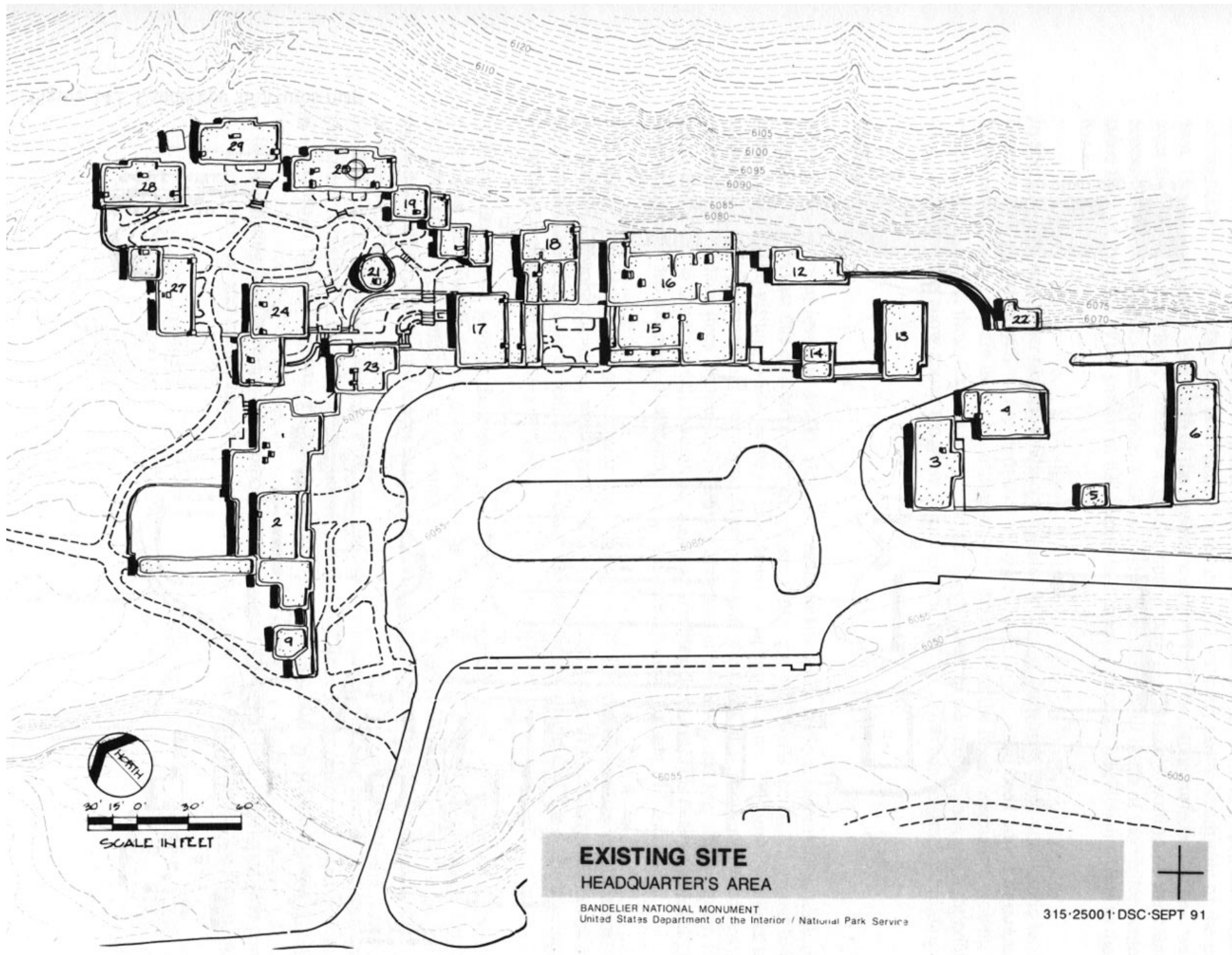
Natural Gas

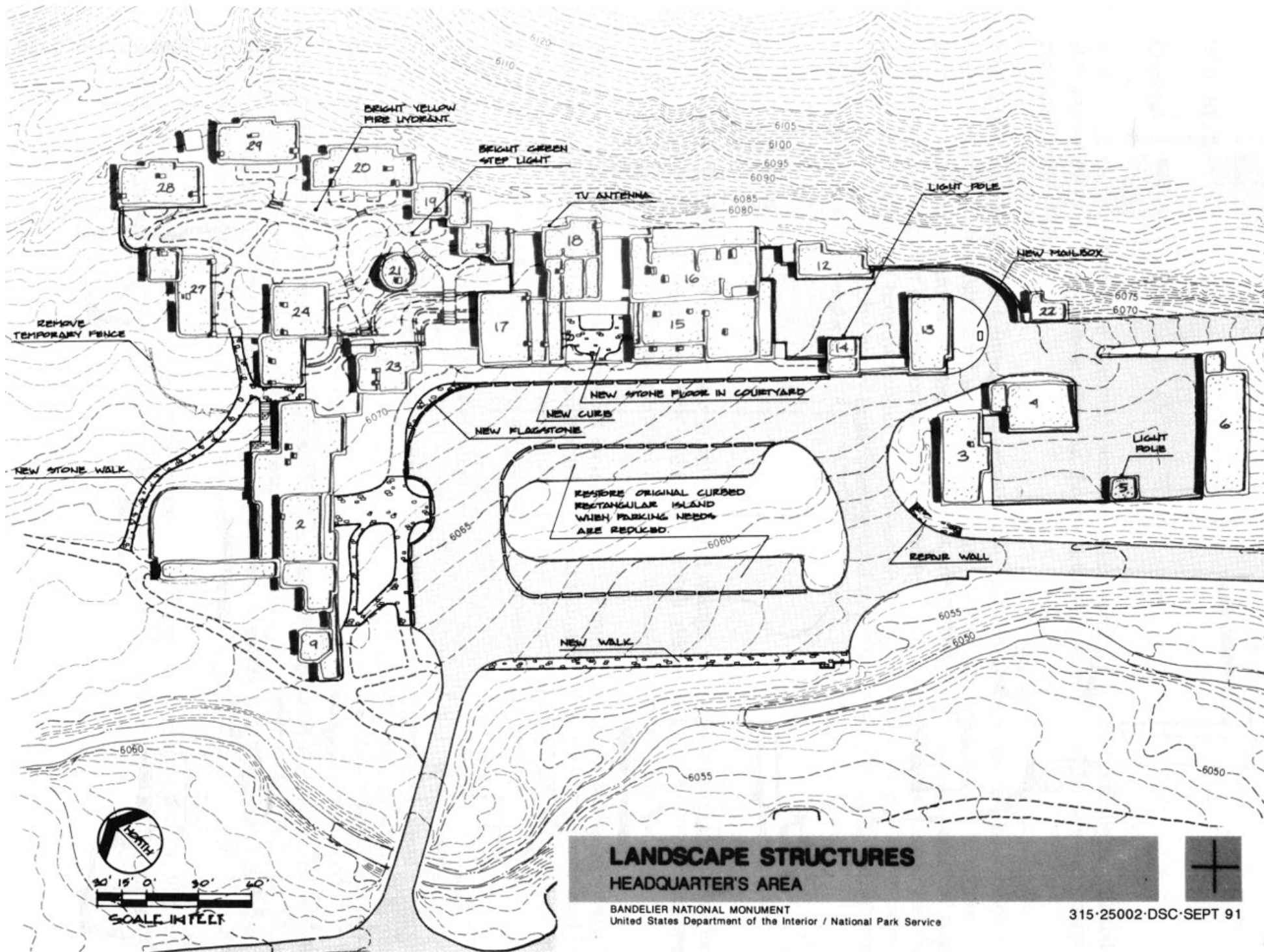
The variety of fuels warming the monument's buildings first included coal, wood, liquid propane, and fuel oil. This variety proved frustrating to the monument staff through the years. The lack of consolidated systems, intermittent fuel shortages during World War II, and an inability to buy the fuels in huge bulk quantities caused maintenance and financial headaches. Finally, in 1963, the monument linked into the AEC's natural gas pipeline with an exposed line down the cliff face. From the AEC's utility corridor along NM 4, the Park Service constructed a natural gas pipeline to the mesa residential area and the vicinity of the fire lookout, where the line drops over the edge of the mesa into the canyon to the headquarters area. Today, the monument buys natural gas from the Pan American Company.

Sewer

Bandelier's early sewage disposal for the canyon consisted primarily of septic tanks. During the past 20 years the system has changed. Now two sewage lagoons serve the Mesa-Juniper area and the canyon area. A lift station with 1 mile of 3-inch force main with a 1-inch return line pumps the sewage out of the canyon for processing. The White Rock housing, Co-op, Tsankawi, and Ponderosa areas all have separate septic systems.

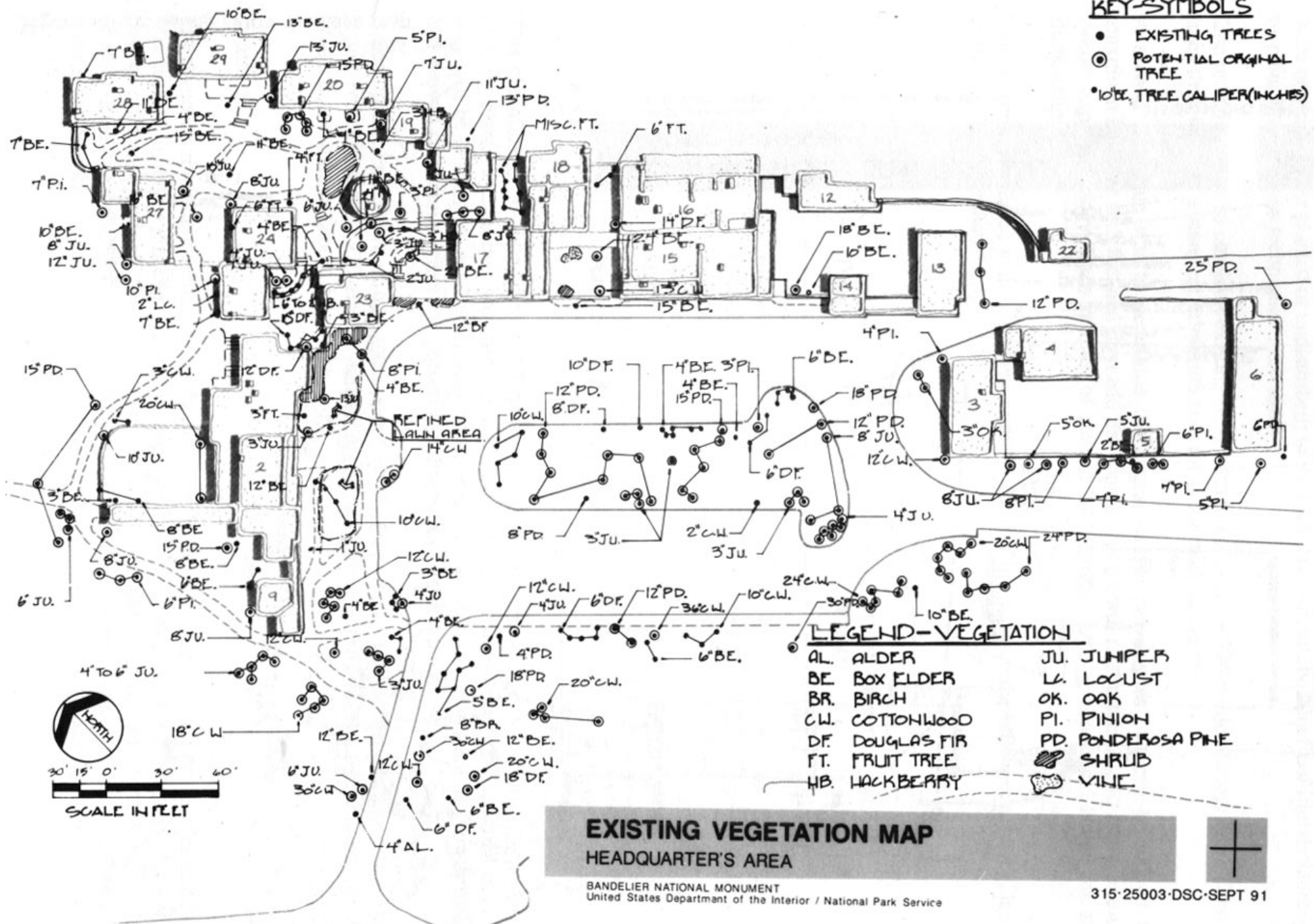
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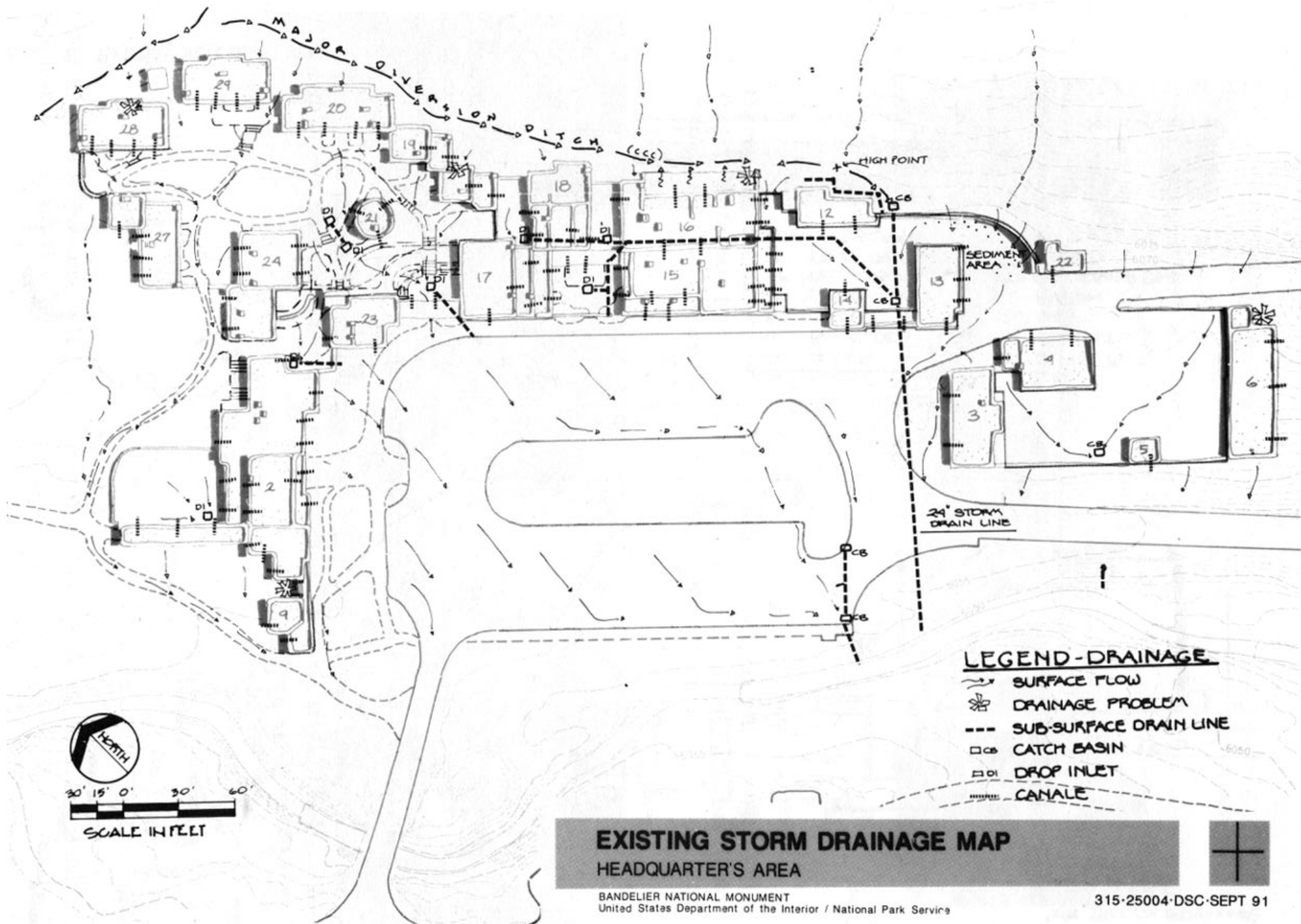




KEY-SYMBOLS

- EXISTING TREES
- POTENTIAL ORIGINAL TREE
- *10" BE. TREE CALIPER (INCHES)





Bandelier

Historic Structure Report: CCC Buildings



EXISTING CONDITIONS

THE SITE (continued)

Site Character and Perceptions

Cabin Courtyard

Appearance

Trees have been located with a purpose in mind.

Shrubs are overgrown and dense.

Deciduous trees are overgrown and in some cases are too close to walls.

Flagstone paving and steps are in good condition and are excellent examples of CCC work at its best.

Step faces are painted in yellow.

Rock ledges are built as designed.

Nonhistoric landscape utilities are brightly painted.

Grass is a bit scruffy, but because it is native, scruffiness is probably appropriate.

Planter beds are weedy and overgrown.

Vistas are obscured.



Figure 147. Existing appearance of the cabin courtyard facade.



Figure 148. Recommended appearance of the cabin courtyard facade.

Character

This is the most carefully designed landscaped area at Bandelier.

The upper area has treed edges and nooks with open centers.

The lower portion is more densely planted, perhaps to provide shade for the lower courtyard.

Careful attention was given to stone structure proportions and craftsmanship.

Perceptions

Thin the tops of trees for improving the view of the cliffs from the parking area.

Do not alter stone work, stone proportions, or stone color (remove step-edge yellow paint).

The original evergreen trees should be replaced as needed in kind and in the same location.

Deciduous trees should be individually thinned by one-half.

The original deciduous trees should be replaced in kind in the same location if they are well away from buildings and walls.

The total number of deciduous trees in the lower portion should be about one-half the number now present.

Miscellaneous Courtyards

Appearance

Both of Mrs. Frey's courtyards are small and surrounded by walls.

Both are heavily planted; the front court has an amazing number of fruit trees, much ground cover, and good examples of English ivy on the walls.

Roof canals flow into and through both courts using gutter downspouts.

The cafe court is paved and surrounded by walls and buildings. Shade trees exist.

Cars in the parking area are within view over the outer wall, which has been lowered.

Ground cover is mostly soil with some of lilies and flowers.

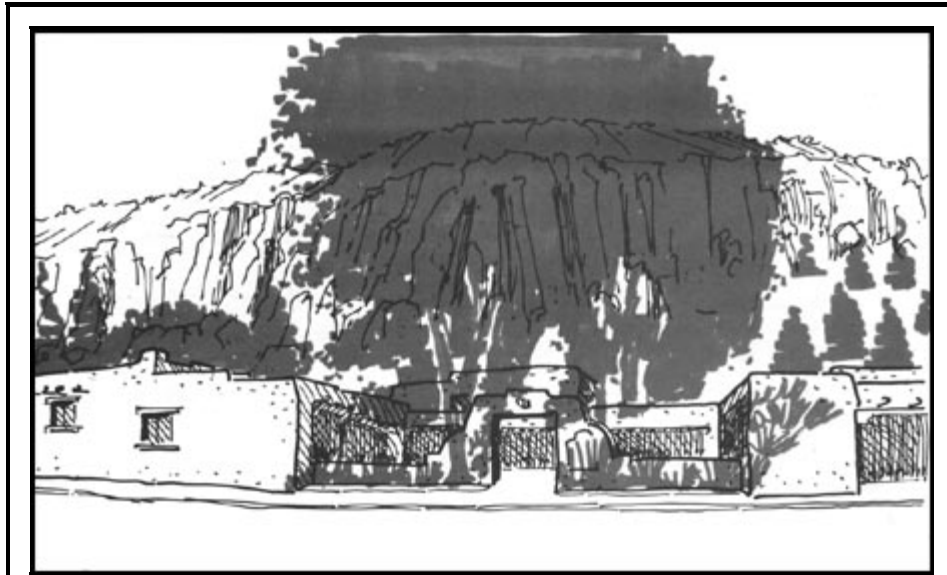


Figure 149. Existing appearance of the cafe court facade.



Figure 150. Recommended appearance of the cafe court facade.

Character

Mrs. Frey's courts are very enclosed and overgrown. The landscape structures are undersized. Water is a design element of the courts.

The cafe court is large and dependent on shade and ground cover of low plants and flagstone.

Perceptions

Mrs. Frey's courts represent her love of fruit trees and should remain tightly planted.

Until we can analyze her importance to Bandelier, we should not alter these courts greatly.

Minor improvements to drainage and removal of one or two small fruit trees (which could have an effect on facility degradation) are acceptable.

The cafe court trees should be thinned at the top to open the view of the cliffs from the parking area.

The fruit trees should be pruned in a horticulturally acceptable manner.

Parking Island

Appearance

The effect is of high forest with little underbrush.

The ground is worn by the movement of visitors crossing through the island.

The initial view down the entrance road focuses on autos because of the island change and the lack of screening in the island.

The curbs are crisp and new.

Character

There is a high forest effect with a slightly tight spacing of trees.

Planting, primarily of evergreen trees, is naturalistic.

Early photos show more shrubs in the planting.

Perceptions

Forest effects should be retained by replacing the original trees in kind in the same location.

Shrubs should be added to the edges to screen autos at visitor eye level.

Signage at the entrance should be simplified.

Vegetation and stabilized surfacing should be used to organize pedestrian traffic across the island.

Visitor Center and Administration Building Front Facade

Appearance

Most of the building arcade is hidden by vegetation.

Up-valley and cliff historical vistas are hidden by dense, branching, deciduous trees and shrubs.

The mass of plants is unorganized.

The dense vegetation allows little chance to assess the relationship between the masonry and the cliffs.

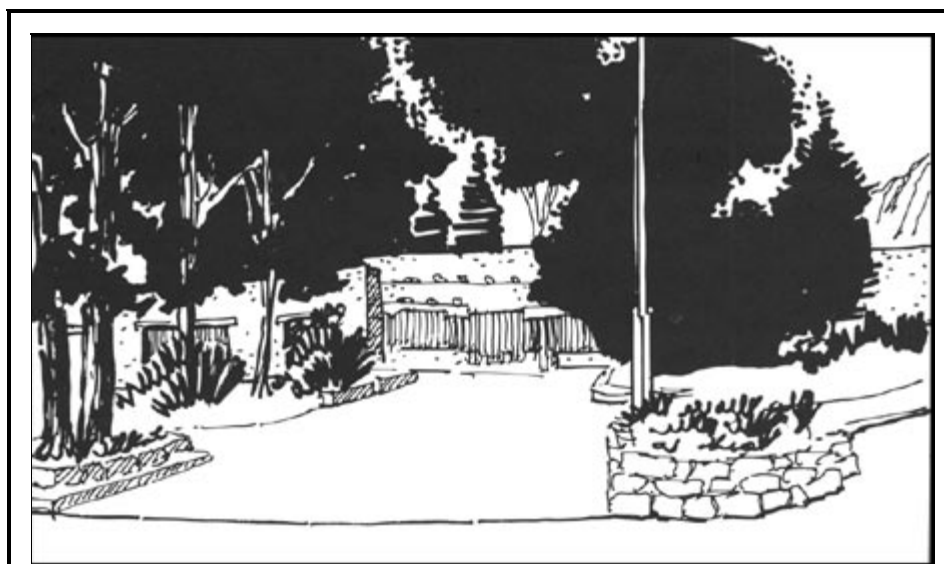


Figure 151. Existing appearance of the visitor center front facade.



Figure 152. Recommended appearance of the visitor center front facade.

Character

Strong, upright deciduous tree masses are giving shade.

The historically outstanding building edges and shapes contrast with the irregular cliff patterns.

The historical appearance of primarily evergreen trees, rather than deciduous trees, no longer exists.

Perceptions

The number of deciduous plants should be reduced.

Branching of trees should be reduced to allow views up valley and of the surrounding cliffs.

The number of cottonwoods and box elders should be thinned by half.

The lawn should generally return to a semiarid historic appearance.

The planter areas on the parking-area side of the stone walls should be planted with identical plant material to present a unified base for the expanse of walls.

All obtrusive utility features, such as light poles, television antennas, and polyvinyl chloride (PVC) pipe outfalls, should be removed or reduced.

Visitor Center Rear Facade

Appearance

There is a back-alley effect on the south side: trash, sucker growth, and firewood piles.

A temporary visitor control fence is in view north of the visitor center and is an intrusion to the historic site.

Deciduous plants are overgrown.

Character

The rear is more sparsely planted than the front of the visitor center.

There are high, arching cottonwoods with a framework of juniper.

Perceptions

Original trees should be replaced with the same species.

The cottonwood limbs that overhang buildings should be removed.

The box elder stumps should be removed.

A juniper screen should be added to the north and south of the visitor center.

The nonhistoric brick walk and steps at the north side of the visitor center should be removed.

Creekside

Appearance

The vegetation is natural to the valley floor: high, arching cottonwoods; a strong vertical of ponderosa pine; and minimal number of low trees and shrubs.

Some visitor pressure is apparent from the spontaneous paths that have been worn into stream banks.

Character

There is a naturalistic mixture of valley floor and riparian vegetation.

Perceptions

Replanting should be done with the same plant material and same density as the valley floor (this appearance was held in high esteem by the early CCC designers).

Barrier-plant some of the worn stream banks with shrubs.

Protect any historic remnants of bridge and camp.

Maintenance Area Facade

Appearance

Dense planting covers the entire length of the masonry facade. Visitors see the masonry walls before they see the headquarters area.

Low walls and horizontal rock ground cover (riprap) have been covered by debris and soil. The new mailbox has an adverse effect.

Character

The wall is strongly architectural and well proportioned.

Original evergreen trees are located in key areas.

Stone curb and rock riprap are strong accents, especially at the corner of the facade.

Existing planting depends on tall trees to balance the creekside forest.

Perceptions

Deciduous shrubs screening the facade should be thinned out.

The lower branches of the evergreen trees should be trimmed to expose the masonry wall, particularly at wall corners and areas of architectural significance (vigas and windows).

Gradually replace the original trees in kind and in the same place. Use the largest plant material available.

Residential Area

Appearance

The sidehill vegetation consists of ponderosa pine and juniper.

The residential units are well sited with properly sited road and parking (a good example of CCC design).

Refined lawns appear out of place and are the result of irrigating and fertilizing native grass.

Character

There is naturalized vegetation of mixed pine and juniper.

The siting of structure is outstanding.

Perceptions

The original trees should be replaced in kind, at the density of the surrounding forest.

Fertilizer and irrigation should be cut back to maintain a sod law that does not appear lush.

If use of this area changes, road width, parking spaces, and signage should not change. The area is in excellent balance now and should not change.

[Entrance Station](#)

Appearance

The station is devoid of planting but surrounded by forest, as was historically intended.

Character

It is an isolated structure in the midst of a forest road.

Perceptions

The station and forest should be retained as is.

Nature should be allowed to take its course in revegetating the adjacent forest.

[Comfort Station](#)

Appearance

The siting is wooded, with much attention to drainage.

There are signage intrusions.

Character

The setting is naturalized.

Perceptions

Vegetation should be replaced in kind and at the same density as the surrounding forest.

Rock work and drainage swales should be replaced as designed.

Signage should be thinned.

UTILITIES

With the recent utility work that has been completed, the buildings' engineering systems are adequate for current use. However, with the possible adaptive use of several buildings formerly proposed under Package 224, units B-23, B-24C, B-24D, and B-29 will require rehabilitation of the gas and water pipes. Similar electrical, water, or gas utility requirements, or all three, may also be required in the remaining units affected by this package. One area of apparent deficient utilities is the pipe servicing the fire hydrant adjacent to B-7.

The routing of utility upgrade projects over the years, primarily electrical and heating, ventilation, and air-conditioning (HVAC), has often been poorly planned (figure 153). Because not all utilities can or should be embedded or buried, increased consideration should be given to their routing, possible consolidation, and ultimate visual impact.

Asbestos has recently been discovered on B-2 and B-32's furnace ductwork. Los Alamos Laboratory is currently undertaking a building-by-building survey to determine the breadth of this material's existence and condition. Upon receipt of this report, appropriate treatment can be developed. The presence of asbestos is not in itself cause for action. It is the type and condition of asbestos-containing material and its fiber-release potential that require identification and possible remedial treatment.



Figure 153. Rear of B-16, showing clutter of electrical and gas conduit and HVAC ductwork. (Photo: Copeland for NPS)

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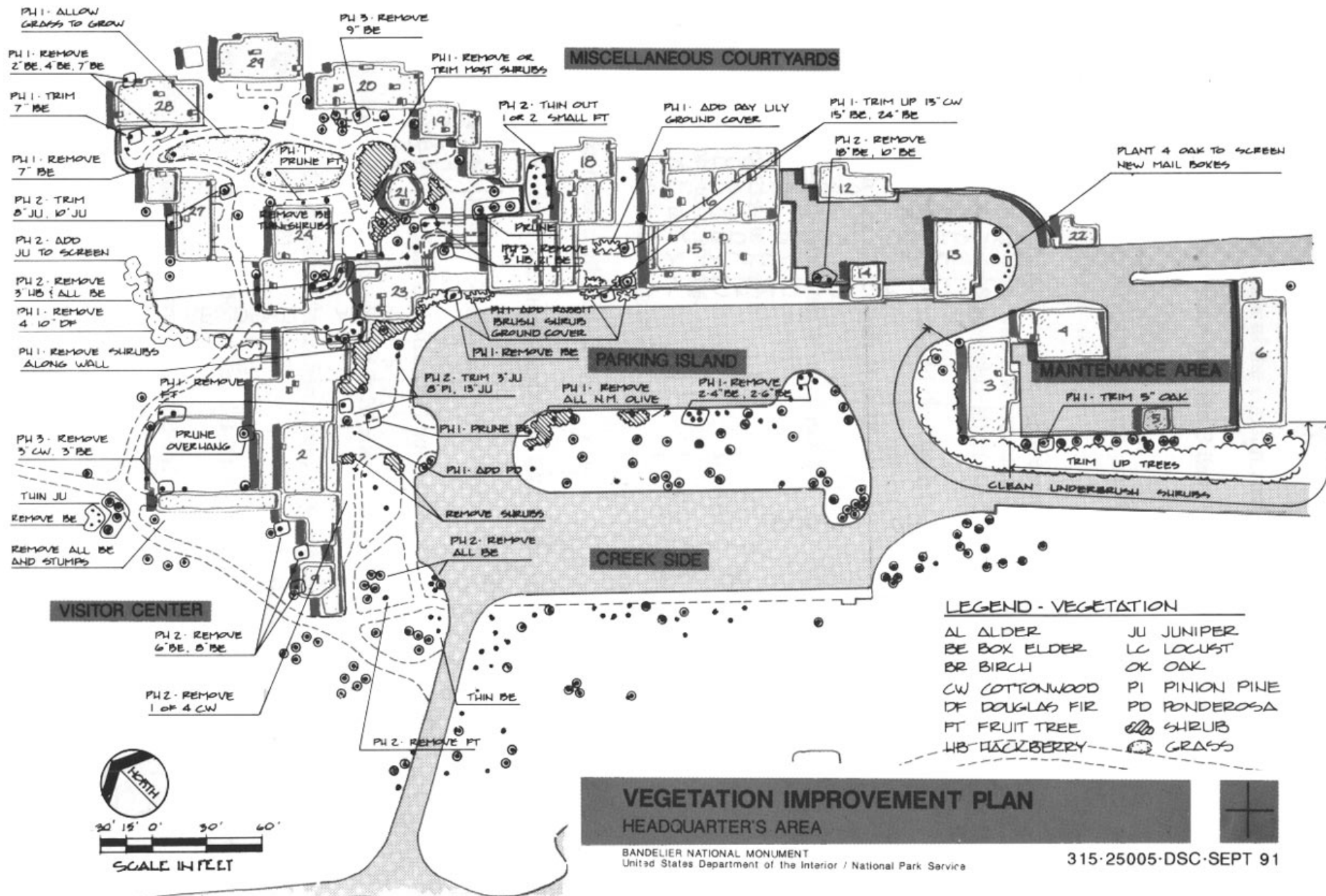
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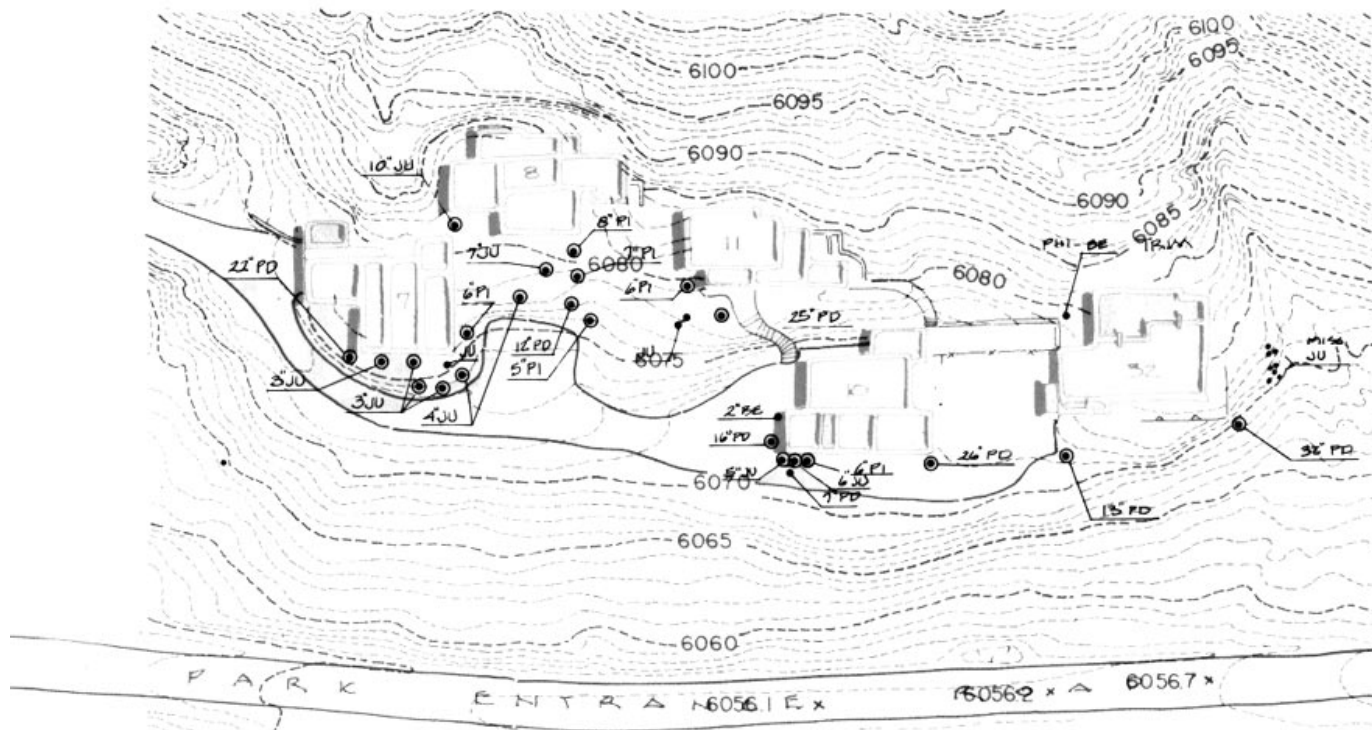
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CABIN COURTYARD

MISCELLANEOUS COURTYARDS





RESIDENTIAL AREA

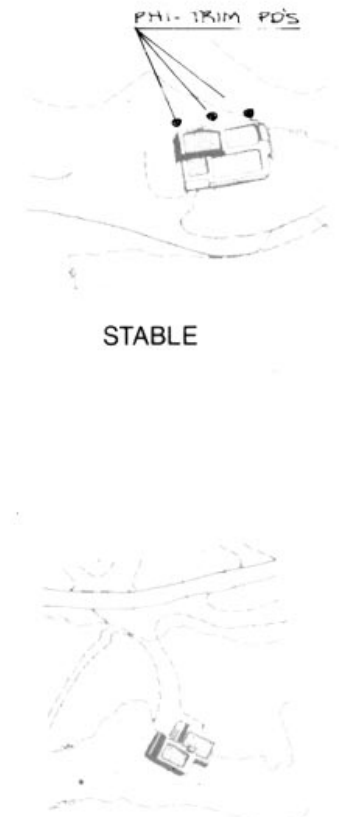


KEY

- EXISTING TREE
- ⊙ POTENTIAL ORIGINAL TREE
- 10' HE CALIPER & TREE NAME

LEGEND-VEGETATION

AL ALDER	JU JUNIPER
EE BOX ELDER	LC LOCUST
BR BIRCH	OK OAK
CW COTTONWOOD	PI PINION PINE
DF DOUGLAS FIR	PD PONDEROSA PINE
FT FRUIT TREE	SHRUB
HB HACKBERRY	VINE



STABLE

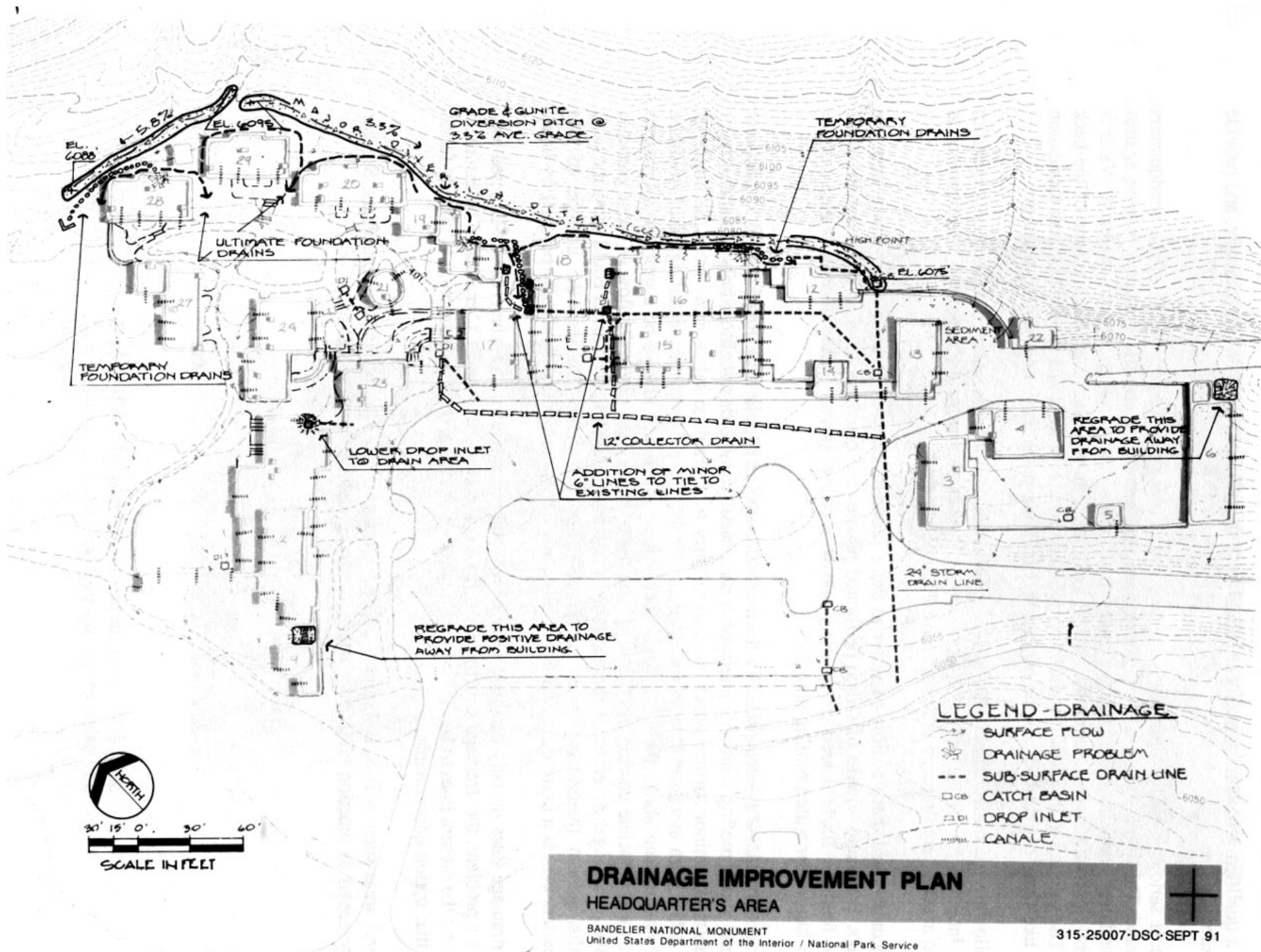
SITE IMPROVEMENT PLAN

OUTLYING AREAS

BANDELLER NATIONAL MONUMENT
United States Department of the Interior / National Park Service

315-25006-DSC-SEPT 91





Bandelier

Historic Structure Report: CCC Buildings



EXISTING CONDITIONS (continued)

ENDNOTES

1. "Replace Canales and Miscellaneous Roof Repairs," June 1986 (drawing 315/80,030) and "Rehabilitate Vigas, Columns and Miscellaneous Wood Members," August 1986, both prepared by Randall Copeland, DSC.
2. "Preservation Plan — Historic Building Complex, Bandelier National Monument," May 1985 by Conservation Services, Kinnelon, New Jersey.
3. Trip report, July 29 through August 2, 1985, memorandum H30 (DSC-TSE).

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TREATMENT RECOMMENDATIONS (continued)

THE BUILDINGS

Stabilization and preservation (as defined in NPS-28) are the primary aims of the rehabilitation work that has been undertaken to date and the further work that has been recommended. Arresting material deterioration and maintaining the structures' ability to withstand weather are the project goals. Some features of the type of construction used at Bandelier have inherent defects. Although exposed, projecting wood members are stylistically correct, have a long traditional base, and are primary character-defining features, they also invite decay and require continual maintenance. Within this context at Bandelier, exposed vigas and canales can be assessed more as character-defining features than as historic fabric. Because of the inherent characteristics of wood in a natural, exposed environment, these members have required replacement approximately every 30 to 40 years. Proper maintenance can help extend this life span. Using project completion reports, as-built drawings, and project histories will greatly assist this effort.

Although no recommendations are made to restore the buildings, it is recommended that — through cyclic maintenance and future rehabilitation — elements of the buildings' past character be reintroduced. Doing so consists of the previously mentioned vegetation control, reintroducing the varied door and window color scheme, and maintaining a more weathered stucco appearance. Future interior rehabilitation for adaptive use should seek to retain the buildings' essential historic character and ambience.

The goal of preservation projects should be to use maintenance to retain original fabric and halt deterioration, to use original materials and methods whenever possible, and to restore missing or deteriorated features where needed to understand the structure or ensure its function. These actions should be undertaken with respect for the original fabric, the district, the individual structure's character and significant characteristics, and recognition of maintenance concerns. Work performed and recommended under Package 224 will maintain the existing district and individual structures' character.

Roofs

For the time being, the roofs are in sound condition but require periodic repair to correct ongoing, and undoubtedly future, leaks. With an equitable balance between proper maintenance and benign neglect, they can be expected to last for some time. Proper maintenance is defined as keeping all canales, scuppers, gutters, and drainage outlets clear of obstructive debris and excessive ice buildup. It also means keeping the roofs clear of excessive overhanging vegetation to limit the number of limbs falling onto the roofs. Cyclic and proper tree pruning are significant components of the roofs' longevity. Much of this cyclic maintenance can be done from ladders to avoid excessive use of the roof surface itself. Benign neglect is defined as staying off the roofs as much as possible except for cyclic inspection and required maintenance. Laying tools and equipment on roofs should be avoided

as much as possible. Any temporary repairs should be undertaken through manufacturer warranty or with manufacturer approved materials and methods.

Addressing the aesthetic incompatibility and leakage history of the roof membranes (and its eventual need for replacement) was a major design consideration during the design of the package-related canale work. The majority of the canale replacement project was oriented toward the April 16, 1985, consensus acceptance of a proposal to pursue roof replacement through a cyclic program. The flashing technique employed will allow for new roofing material to form an effective seal at canales without disturbing the metal flashing.

As roof-attached utilities lines are replaced, it is recommended that no effort be made to remove embedded conduit, thereby avoiding the need for additional foam and membrane patching. Any new utility routing should avoid mechanical connections to the roof membrane or wood members.

Over time, as roofs need replacement, it is recommended that single-ply membranes or more traditional roofing systems be pursued. Various ballasting systems should be explored with particular emphasis on loading constraints, flashing requirements, and visual impacts. Recent developments in modified bituminous materials have significantly improved the life cycle performance of built-up systems. One guide to use in the assessment of alternative roofing systems is the degree to which the materials are shop manufactured versus dependent solely on successful quality control in the field. During any replacement work, it is recommended that all the existing roofing system be removed to allow sheathing inspection. In the new work, rigid closed-cell foam insulation board should be installed rather than spray forms containing fluorocarbons. It is also recommended that, during future roof replacement, the top parapet course be removed to allow for the installation of copper through-wall counterflashing and then reset to its original configuration. New coping material should slope to the roof rather than to the wall face.

It is recommended that a small interior access scuttle be provided in each building for periodic inspection and verification of roof framing. Scuffles can be located in closets or other unobtrusive areas to mitigate their visual impact.

Because of their location and the required roof repair, no recommendation is made to reconstruct the missing parapets on B-1 and B-25.

Estimated cost to replace all urethane roofs, including new insulation and metal counterflashing, is \$300,000.

Vigas, Canales, Columns, and Lintels

Work undertaken to date has put the majority of the buildings' wood members (with the exception of B-25) in sound condition and within park capabilities of cyclic maintenance. B-25 requires a similar inventory and treatment. Again, with proper maintenance, these members will remain sound for years to come. This proper maintenance consists of keeping canales and their masonry openings free of vegetation and ice buildup; keeping exposed wood (particularly column bases) free of snow and organic debris; maintaining the protective stain coating; and maintaining the integrity of the seal at adjoining masonry surfaces. Those members not replaced or treated should be inspected periodically. Where replacement is required, methods similar to those undertaken to date should be pursued.

Because of their location on rear unseen facades and to lessen future maintenance expenditure, no recommendation is made to reintroduce exposed viga ends on B-1, B-6, and B-25. It is recommended that the visitor center sign be removed from the facade and a

smaller sign installed on the lawn. Then the missing viga stubs could be reinstalled over the entry portal.

Walls

A program of continued repointing is required to ensure the proper role of the masonry mortar joints. This work should also include maintaining the integrity of parging at window and door jambs and at the parapet copings.

Because the buildings were constructed over a number of years and each has its own unique, although similar, design, repointing efforts should respect those subtle variations. The results of analysis work undertaken and to be included in the historical structures preservation guide will assist in setting acceptable parameters on the range of pointing mix and texture. Similarly, any stucco work should be guided by historic precedents. Stucco on the buildings is primarily an aesthetic concern, and it provides only minimal protection to the stonework. Wholesale restuccoing has no historic precedent, noticeably changes the buildings' appearance, and is not recommended. Any effective results toward sealing the stonework below would prove visually incompatible.

A great deal of discussion has centered on the "functional" role of the original stucco. It may have helped to seal the mortar joints, but its success is questionable. Because of the stucco's formula, the material undoubtedly allowed air and moisture to move in and out. Even if it were acting as a seal and given the lack of a full stucco coating to the exteriors, any moisture migration through the porous stonework would merely wick around any seal or barrier and continue. Similar action would have occurred for any thermal performance. The whole relationship between mortar and stucco and their original and future replacement compositions is a complex issue that requires careful thought before any parkwide application is made.

Windows and Doors

Like most other building components in the CCC complex, the windows and doors require a system of ongoing cyclic maintenance. Although there are many of them, following a system of inspection, maintenance, and record keeping will greatly assist this effort and lessen the perception that it is overwhelming.

It is recommended that, through cyclic maintenance, missing screens be replaced, wood members that have deteriorated be repaired or replaced in kind, and nonhistoric hardware be replaced with more compatible hardware. If undertaken through contract, this work is estimated at \$15,000 to \$20,000. Maintaining sound caulking and putty will always be a maintenance concern. To reintroduce much of the complex's former character, it is recommended that the return to a more varied exterior color scheme be considered. This change can easily be reintroduced gradually, in the normal painting cycle.

No effort is recommended to reproduce the original multipane sash in the residential area. However, it is strongly emphasized that no further efforts of wholesale removal of historic fabric should be undertaken without project compliance with section 106 of the National Historic Preservation Act.

On the insulating windows installed to date under this package, a survey should be taken to determine on which windows condensate forms, when, and to what degree.

Alternative treatments should be explored, including drilling air weep holes (from one or both

sides) and installing a different seal material to ascertain corrective measures. Until the internal combustion air problem is resolved, no further weather stripping is recommended. In view of the current use of the buildings, insulating windows may not be required on B-1, B-26, and B-30 (no winter use) and B-4, B-5, B-6, B-14, B-21, B-22, and B-25 (unheated, maintenance-oriented structures).

Floors

The continued upkeep of flagstone floors is a strongly expressed maintenance concern. The preferred recommendation is to restore or retain the original oil-and-varnish treatment. A valid alternative is the use of colored waxes, which is a reversible treatment that can be installed adjacent to the former treatment; the comparative wear and maintenance requirements can be evaluated.

In any future replacement of tile flooring, similar material, color, and size should be used. Acceptable replacements are readily available. Wood floors should be power sanded only when absolutely necessary. The application of carpet over concrete floors, where required, should be done with the use of carpet-to-pad adhesives or reversible adhesives only.

Utilities

The only utility-related recommendation concerns resolution of the cabins' combustion air problem. First and foremost, a survey should be conducted on all buildings with all gas appliances (range, water heater, and furnace) in operation. Windows and doors should be temporarily sealed to simulate the presence of weather stripping. Readings of the carbon monoxide level will indicate the level of treatment needed. On buildings with low readings, the solution may be merely to substitute an electric appliance. High readings may indicate the need to acquire all-electric appliances. This substitution of electric for gas appliances is preferred over alternative fabric modification treatments, which would consist of providing direct exterior double-wall vents for the furnaces or water heaters or both.

Asbestos

Following the findings of Los Alamos Laboratory's survey, appropriate action can be developed. Pending these findings and any remedial treatment, caution should be used around the material to avoid any further disturbance. The material may be intact and pose no health hazard. At the least, the material should be visibly labeled and a cyclic inspection program implemented.

