RAINBOW FOREST HISTORIC DESIGNED LANDSCAPE

Cultural Landscape Report, Part Two | 100% Submittal | January 2011







BELT COLLINS®

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CHAPTER 3

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Fig. 4-42 Enlargement of the Treatment Recommendations Plan showing the Giant Logs Trail Area.

Fig. 4-43 A postcard of the Giant Logs Trail and the Old Faithful Log from 1934 demonstrating the historic character of the CCC-era trail. Burton Frasher Sr., 1934. Frasher Foto Postcard Collection , Pomona Public Library. Http://content.ci.pomona.ca.us/u?/Frasher, 4922.

Fig. 4-44 Giant Logs Gateway Plaza Concept Plan at the rear entry to the Museum.

Fig. 4-45 Rendering of treatment recommendations for Giant Logs Plaza Area at the rear entry of the Museum.

Fig. 4-46 Treatment Recommendations Plan for Old Faithful Overlook Area (Note: north is toward bottom of page in order match to illustration below)

Fig. 4-47 View of treatment recommendations at the Old Faithful Overlook area.

Fig. 4-48 The front courtyard of Apt #52-A reflects the care that resident staff put into the maintenance of courtyards and the quality of landscape that a little shade and water can support in Rainbow Forest. Andrew Gorski, 2004.

Fig. 4-49 Enlargement of Treatment Recommendations Plan showing the Residential Area.

Fig. 4-50 2004 view of the Residential Area courtyard showing metal shelters that have since been removed. Andrew Gorski.

Fig. 4-51 Conceptual drawing showing character of compatible shade structure for residential courtyard using log timbers similar to those at the Painted Desert Inn (see Fig. 4-9). Proportions should mimic surrounding architecture. Shade trees are shown behind with native shrubs in the foreground next to the historic wall.

Fig. 4-52 A 2008 photo shows the courtyard west of RF-51. This warm-toned, light broom finish of the concrete should be matched elsewhere in

the district. CCC-era walls and landscape areas should be rehabilitated and include at least one shade tree. Belt Collins, 2008.

Fig. 4-53 A 2008 photo shows rehabilitation at the quarters across from Painted Desert Inn. With wide mortar joints, the flagstone walk is decidedly different from CCC-era treatment. Also note the naturalistic use of native plantings and the modern path lighting. Belt Collins, 2008.

Fig. 4-54 A view of the incompatible brick paver area at the gated entry to RF-52-B. CMU block has been used to create a raised planting area for flowers. Trash and debris have collected here. Refer to Fig. 4-56 for the recommended treatment. Belt Collins 2008.

Fig. 4-55 A 2008 view of the entry into RF-52-C. The gate and paved area are incompatible. CMU block planters should be removed. Belt Collins, 2008.

Fig. 4-56 Shows the recommended treatment for this gate area. Dog-eared pickets should be replaced with wood poles (A) similar to those over the building entry (B). Tops of poles should be cut at angles and exhibit minor irregularities throughout. Flagstone paving should replace brick pavers (C), but the primary walk (D) should remain concrete. A small, landscape area (E) can be provided opposite the gate and should be edged with sandstone curb. Plantings should consist only of native vegetation.

Fig. 4-57 Visitors enjoying the picnic grounds (1950s). Note boulder curbing being used to designate parking areas in the open grasslands. PEFO 24963-8. PEFO Archives.

Fig. 4-58 Enlargement of Treatment Recommendations Plan showing the Picnic Area.

Fig. 4-59 Enlargement of Treatment Recommendations Plan showing the Long Logs Trailhead.

Fig. 4-60 Rendering of recommended treatments for Long Logs Trailhead and the Picnic Area. The trailhead and kiosk (A) are located among the existing cottonwoods. The space is demarcated by boulders (B). Cottonwoods (C) are maturing near the rustic-styled ramadas (D). Also shown are the textured crossing to Long Logs (E), the new restroom building and the axial walk (G). Note additional buffering near RF-53 (H).

Fig. 4-61 Rendering of treatment recommendations in the Adminsitration Area. Shown are compatible treatments in the vicinity of RF-53 including a wood pole gate (A) and stone-curbed landscape areas with low-growing native vegetation (B). A soft surface path connects the courtyard to the roadway (C). In the background, an extension of the fence and vegetation (D) buffer the area from visitors in the Picnic Area (E).

Fig. 4-62 Enlargement of Treatment Recommendations Plan showing the Administrative Area.

Fig. 4-63 Postcard of the front of the Rainbow Forest Lodge c.1939. Photo reflects "dog bone" configuration of the Parking Plaza. Note vegetation in areas around building and in parking island. Note use of signage as well. Design of "dog bones" included flagstone to safely accommodate pedestrians at ends. Frashers Photo Postcard Collection, Pomona Public Library.

Fig. 4-64 Enlargement of Treatment Recommendations Plan showing the Lodge Area.

Fig. 4-65 Fig. 4-65, Native landscape restoration area east of the Lodge and Rainbow Forest Cabins. Belt Collins 2008.

CHAPTER 1 ~BACKGROUND

PROJECT OVERVIEW AND PURPOSE

This Cultural Landscape Report, Part Two: Treatment[1] (CLR, Part Two) is for the Rainbow Forest Historic Designed Landscape (the district), a component landscape of Petrified Forest National Park (PEFO). The primary purpose of this document is to articulate a long-term management strategy for the rehabilitation of the district by providing guidelines and treatment recommendations for certain contributing features in the landscape and by providing additional guidance for the on-going maintenance of the historic designed landscape. The 1996 *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (Birnbaum 1996; hereinafter referred to as the "1996 Guidelines") provided guidance in the development of these recommendations[2].

This CLR, Part Two builds on several related sources of information concerning the property's history, significance, existing conditions and contributing landscape resources. These documents include:

- The Cultural Landscape Inventory (CLI), revised most recently in 2005 (NPS 2005; hereafter referred to as "2005 CLI")
- The 1989 National Historic Register Nomination (Rhodes 1989; hereafter referred to as "1989 Nomination")
- The 2001 Determination of Eligibility (NPS 2001; hereafter referred to as "2001 DOE")
- The 2005 Maintenance Guides for the Treatment of Historic Properties (Gorski and Lovato 2005; hereafter referred to as the "2005 Maintenance Guides") and,
- Design Guidelines for the Rainbow Forest Historic Landscape prepared per a Memorandum of Agreement between the Park and the Arizona State Historic Preservation Office (AZSHPO) (NPS 2002; hereafter referred to as "2002 MOA").

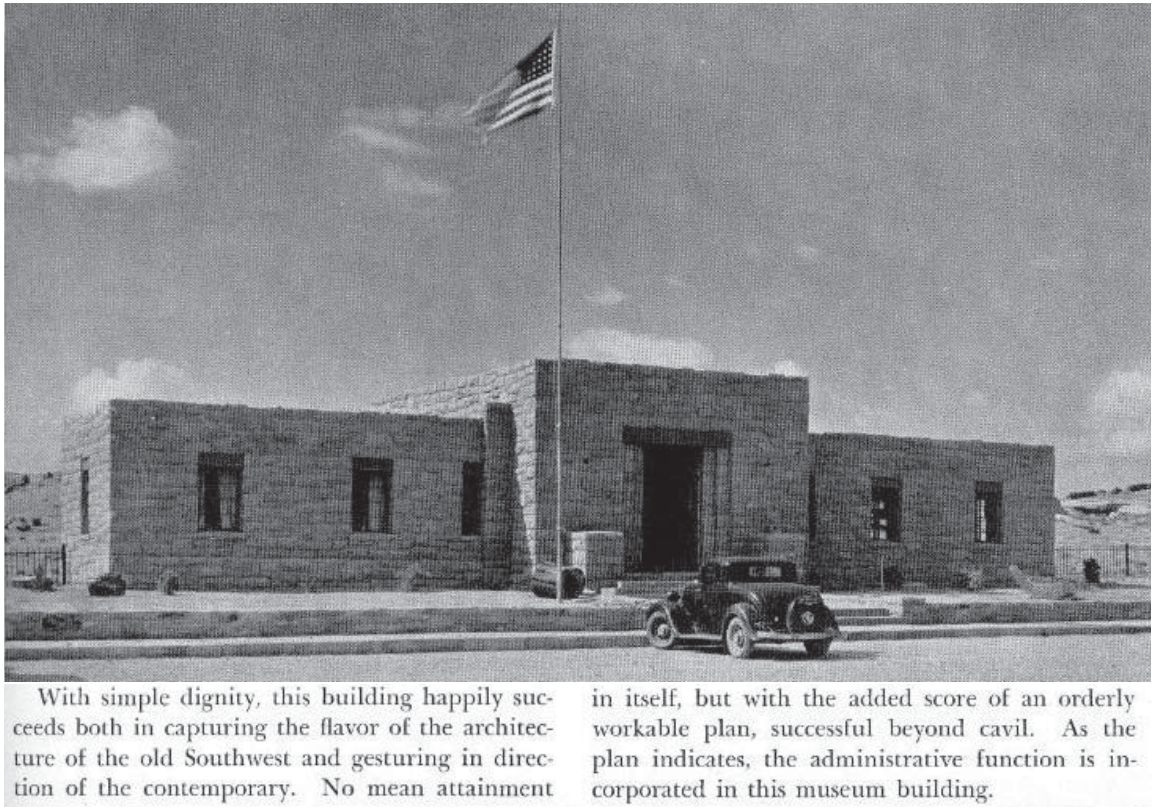


Fig 1-1, A portion of the plate showing the Museum at Rainbow Forest from Albert Good's seminal work on rustic architecture, *Park and Recreation Structures* (NPS 1935).

The MOA included a set of design guidelines for the Parking Plaza and other historic resources in the district. Due to the particular relevance of the MOA to the integrity and treatment of historic resources in the district, it is reproduced in this document as Appendix B. To arrive at the recommended treatments, additional research was done of historic park documents and other pertinent sources such as the Park's current General Management Plan (NPS 2004), and Linda McClelland's historic context, "Building the National Parks." (McClelland 1998). A site visit was also undertaken by the researchers in December 2008.

As mentioned above, the purpose of this CLR, Part Two is to make treatment recommendations for the rehabilitation of the cultural landscape resources in the district with the main goal being the long-term preservation of the designed landscape's historic integrity, character, features, qualities and materials. Chapter 1 of this document provides an overview of the site, including its history, significance, and

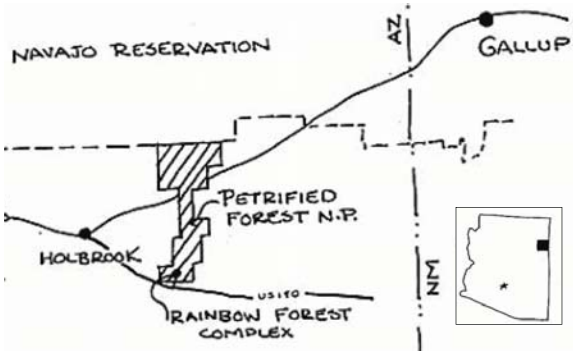


Fig. 1-2, Petrified National Forest, Rainbow Forest Historic District Location Map. Rainbow Forest CLI, 2005.

contributing features as described in the CLI and in others secondary sources. Chapter 2 provides a more in-depth analysis and evaluation of the integrity of the existing features in the designed landscape. Chapter 3 describes the management philosophy and approach for management of the designed landscape. And, Chapter 4 articulates treatment recommendations for the rehabilitation of the designed landscape including some more overarching guidelines and recommendations for specific features and areas. This chapter presents a vision for the property intended to guide long-term management of the natural, cultural and historic resources. It also provides recommendations related to visitor use, enjoyment and education, as well as opportunities to meet park administration objectives. While some recommendations are very specific and are intended to provide clear direction toward addressing stated management concerns, other recommendations are broader brush and conceptual in nature and aimed at guiding rehabilitation efforts over the long-term.

SITE AND AREA OVERVIEW[3]

The Rainbow Forest Historic Designed Landscape is a component landscape of Petrified Forest National Park. The park is located on Interstate 40, seventy (70) miles west of Gallup, NM in the Puerco River Valley of northeastern Arizona (Fig. 1-2). It is part of the larger Colorado Plateau system. As described by Fenneman (Fenneman, 1931: 274), the Colorado Plateau is characterized by the horizontal orientation of its rocks, its high altitude above sea level, and its remarkable development of canyons. Visual characteristics include: wind-swept plains, isolated buttes and barren, usually dry riverbeds. (Stewart, 1980: 4) There are few flowing springs and no perennial streams in the park. The Puerco River is an ephemeral stream, a tributary of the Little Colorado River.

Rainbow Forest is located in the southern section of the park, an area characterized by mesas and plains dissected by washes. Although less common than in the northern part of the park, the area also contains some small colorful badlands (Stewart, 1980: 4). Vegetation on and around the study area consists primarily of grasslands. The Petrified Forest area has long attracted a variety of people. Paleo-Indian hunters came to the area as early as 15,000 BC for its

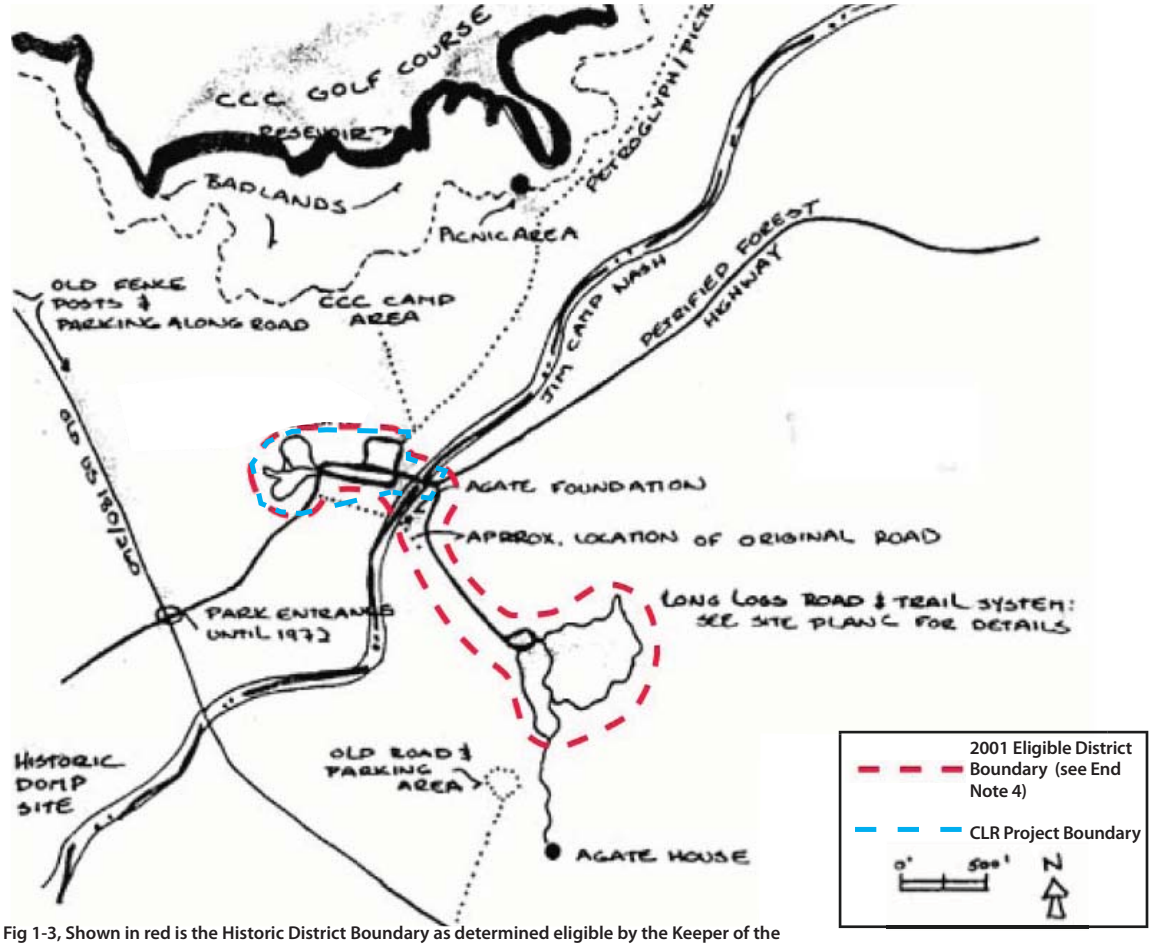


Fig 1-3, Shown in red is the Historic District Boundary as determined eligible by the Keeper of the National Register in 2001. The Project Area for the CLR is shown in blue. Determination of Eligibility, 2001.

abundance of big game. Much later the area served as a cultural crossroads for the Mogollon, Anasazi and Sinagua (Stewart, 1980: 40). In the nineteenth and early twentieth centuries homesteaders set up ranches and various entrepreneurs came to the area to commercially exploit petrified wood. At the same time both tourists and scientists began to take an interest in the ancient landscape. These activities persist today.

Tourism and paleontological and archeological research comprise the predominant interests within Rainbow Forest. Mining and commercial exploitation of petrified wood still thrive immediately outside park boundaries. Ranching is practiced on adjacent lands and it was not until 1963 that a boundary fence was completed to protect the park from grazing damage.

The area also retains significance to native peoples. Hopi, Zuni, and Navajo all regard the Petrified Forest within their territorial range (Adams 1981).

PROJECT AREA DESCRIPTION

The Project Area is defined by the limits of the concentration of designed resources that surround and relate to the district's main parking area, the Parking Plaza. The boundary is shown in Figure 1-4. The boundary begins at the southernmost post of the wrought iron fence along the approach road from Highway 180 (Point 1). The project boundary proceeds east from there across the road to a point 100 feet east of the centerline of the road (Point 2). From there, the boundary proceeds approximately northeast to a point 25 feet south of the east end of the retaining wall that abuts the southwest corner of the Jim Camp Wash Bridge (Point 3). The boundary then precedes parallel to the bridge to the east end of the bridge (Point 4). Here the boundary turns north to the point 25 feet north of the outside edge of the bridge (Point 5). The boundary then turns west parallel to the bridge to a point 25 feet north of the east end of the concrete wall that abuts the northwest corner of the bridge (Point 6). The next point is at the intersection of this boundary line with an east-west line, Transect A, drawn along the north edge of the water tank (Point 7; the tank is located just north of the Mather Memorial). Point 8 is the intersection of Transect A and Transect B. Transect B is drawn by connecting tangent points to two curves in Giant Logs Trail near Old Faithful log (Point 9 and near Point 10). Point 10 is the intersection of Transect B and Transect C. Transect C is drawn by connecting a point tangent to the westernmost curve with a point tangent to the southern most curve in the trail (near Point 11). Point 11 is the intersection of Transect C and Transect D. Transect D is drawn by connecting Point 1 northwest to a tangent to the trail's southern curve. This creates Point 11 which then returns to Point 1.

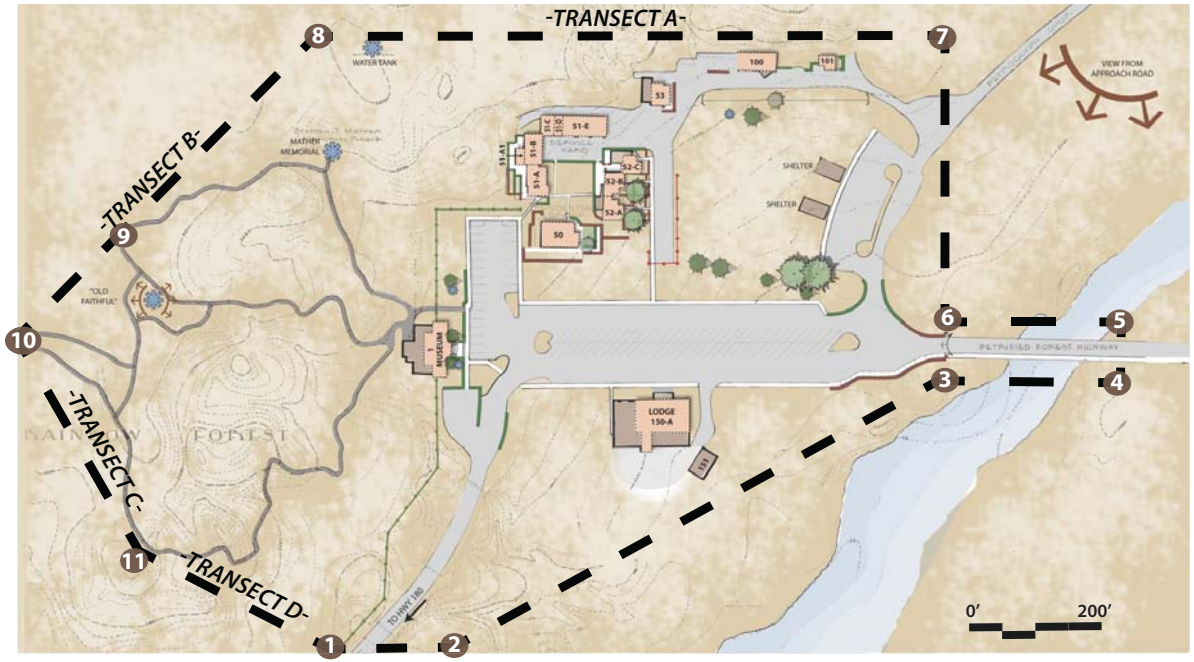


Fig 1-4, CLR, Part Two Project Area. See Project Area Description for narrative description of boundary including the points and transects shown.

It should be noted that the Project Area is only a portion of the greater Rainbow Historic Designed Landscape as determined eligible for listing on the National Register by the Keeper of the National Register (the Keeper) in the 2001 DOE (see Figure 1-3 for an illustration of the eligible district boundary).

HISTORIC OVERVIEW: 1906-2009

For fifty-six years Rainbow Forest served as park headquarters and the gateway for tourists, naturalists, and scientists into the rare and varied landscapes of Petrified Forest National Park. It developed around a resource base that is characterized by its extreme wealth of geological, paleontological, archeological, and biotic features and its extreme dearth of water and shelter. Patterns of development at Rainbow Forest reflect nationally and regionally significant historic trends related to early park and CCC era design and planning. Though park headquarters moved in 1962 from Rainbow Forest to today's Painted Desert site near Interstate 40, Rainbow Forest remains an important node in the southern part of the park.

SUMMARY CHRONOLOGY OF DEVELOPMENT AT RAINBOW FOREST

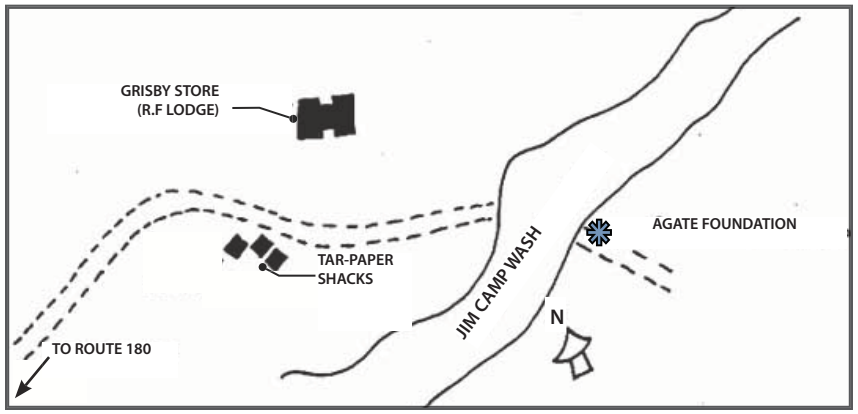


Fig 1-5, 1928 period plan of Rainbow Forest. Note cluster of tar-paper buildings and road south Grisby Store (later named "Lodge"). Rainbow Forest CLI, 2005.

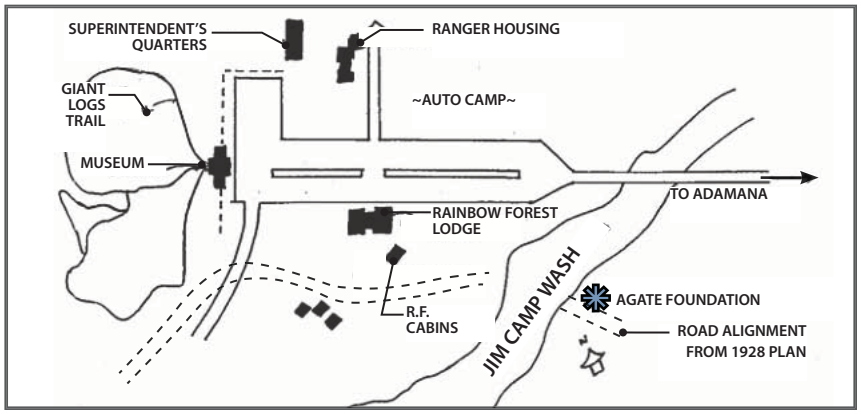


Fig 1-6, 1933 period plan of Rainbow Forest shows early NPS development. Note formal spatial arrangement of Parking Plaza and surrounding buildings. Rainbow Forest CLI, 2005.

EARLY DEVELOPMENT PERIOD (1906-1928)

1906: Petrified Forest National Monument established; Rainbow Forest area is main entrance.

1928: Three shacks have been constructed to serve as museum and park housing. A gravel road runs north of museum/housing and south of Grisby Store, east over Jim Camp Wash, to the Agate Foundation.

EARLY NPS DEVELOPMENT PERIOD (1929-1933)

PERIOD OF SIGNIFICANCE BEGINS

1929: Dick Grisby opens Rainbow Forest Lodge, consisting of a store and lunch room, beginning the development of Rainbow Forest as a major visitor use/headquarter area.

1930-1933: NPS designs and constructs new museum (the Museum) as well housing for the rangers and the superintendent in the Residential Area. Parking Plaza is built and circulation patterns are established. Road from Adamana enters development area from the east, over the new Jim Camp Wash Bridge and proceeds into the Parking Plaza; a one-way circulating loop with an axially-designed central walkway. Vehicles exit via the southwest corner to Highway 180. This parking lot layout – with the park road running through the parking area – is characteristic of early NPS village site planning and is not unusual or unique to Rainbow Forest. Auto camping continues informally in today's Picnic Area.

CCC-ERA CONSTRUCTION PERIOD (1934-1942)

1934-1942: CCC crews build remaining residences and other maintenance/administration-related structures, likely connecting the two areas by road; Giant Logs trails and landscaping in the museum/HQ area are completed; flagstone sidewalks and curbing around the perimeter of the Parking Plaza installed with no major changes to original layout and circulation connections. Campground is formalized with boulder curbing and rustic ramadas. Petroglyph road is developed. CCC is disbanded in 1942 and the development project is essentially completed.



Fig 1-7, A 1929 photo entitled "Headquarters Area, Petrified Forest". Grisby's Store is pictured at left and the three tar-paper shacks at right. Grant, 7-17-29. PEFO 1399, PEFO Archives.



Fig 1-8, Museum and Parking Plaza with buses parked along flagstone walk and the Lodge to the left. c.1934. PEFO Archives.



Fig 1-9, Stone entry monument west of Jim Camp Wash Bridge, c.1943. CCC-era buildings are in place and the axial walk has been replaced with "dogbones." PEFO 25023, PEFO Archives.

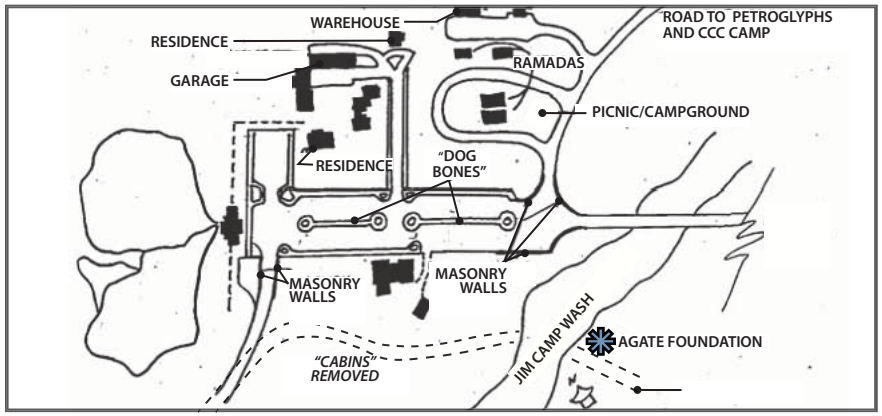


Fig 1-10, 1943 period plan of Rainbow Forest showing CCC-era development. Rainbow Forest CLI, 2005.

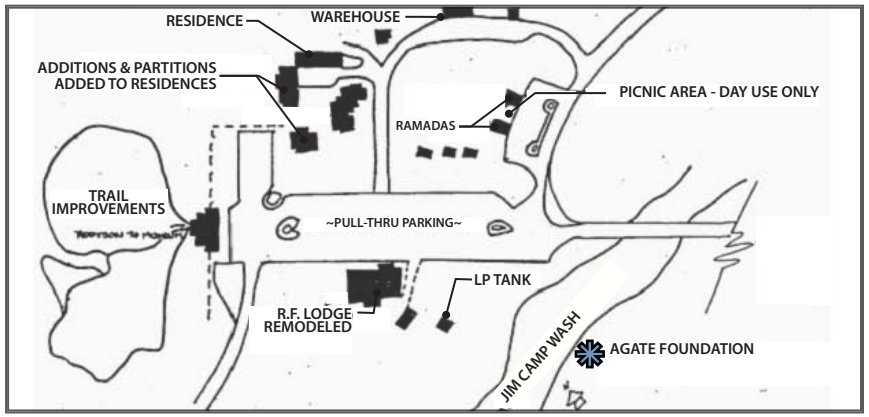


Fig 1-11, 1974 period plan of Rainbow Forest showing Mission 66-era development. Rainbow Forest CLI, 2005.

PERIOD OF SIGNIFICANCE ENDS

EARLY MISSION 66 PERIOD (1943-1961)

1943-mid1950s: Camping discontinued-use shifts to picnicking (1953); landscaping, grading and fencing occurring around Residential Area.

1958: Museum/Visitor Center addition and concessions building remodeled. Room additions to some residences occur (incompatible).

1962: Park HQ moves to new Painted Desert area; Rainbow Forest no longer main park entry facility.

PRIMARY MISSION 66 PERIOD (1963-1968)

1963-1968: Parking Plaza modified – islands and central walkway removed, pull-through parking spaces for RV's and larger vehicles created, one-way loop circulation changed to having a two-way road on the south side of the Parking Plaza. Axial alignment from Jim Camp Wash entry to the Museum is maintained. Existing conditions reflect this modification. New picnic area (Picnic Area) is configured. Flagstone in Museum Area is replaced with concrete; stone curbs are reset. Changes to the Giant Logs Trial occur. A large-scale landscape improvement project occurs in 1964.

HISTORIC RESOURCE REHABILITATION PERIOD (1989-2010)

1989: National Register Nomination is prepared for Rainbow Forest Historic District.

2001: CLI-recommended expanded district determined eligible. This expanded district is the one referred to as "district" in this CLR.

2002: DOE and MOA with AZSHPO. Jim Camp Wash Bridge replaced with new bridge in same location.

2006-2008: Compatible changes to Residential Area buildings occur; screen walls constructed.

2008-2009: Parking Plaza maintenance project renovates drainage system and replaces walks and curbs; historic stone curbs replaced with cut stone from a quarry outside the Park.



Fig 1-12, Petrified Forest Lodge in 1958 or 1959 after first remodel. PEFO 21248, PEFO Archives.



Fig 1-13, View through courtyard of Residential Area to Lodge, c.1960. PEFO 23778.18, PEFO Archives.



Fig 1-14, A 2005 photo of approach into Rainbow Forest across Jim Camp Wash Bridge. From *2005 Maintenance Guides,* Gorski & Lovato.

SUMMARY OF SIGNIFICANCE

Patterns of development at Rainbow Forest reflect nationally and regionally significant historic trends such as early park and CCC era design, planning and construction. Rainbow Forest is significant as a cultural landscape under Criteria A and C. The period of significance is 1929-1942.

The Rainbow Forest cultural landscape resulted from a significant comprehensive park planning initiative carried out in the late 1920s and 1930s by the NPS Western Field Office. The complex was designed as a cohesive unit with inter-connecting circulation systems and designated areas to serve administrative and other needs. And, it embodies the distinctive characteristics of NPS design and CCC construction. Over its more than seventy years of existence, a number of alterations and intrusions as described in the CLI have occurred at Rainbow Forest, including the recent replacement of the Jim Camp Wash Bridge.

As the site of the most massive and colorful petrified wood in the park, Rainbow Forest has served continuously as a place to facilitate park visitor experiences. Throughout the history of the park, this task has involved two distinct operations: enhancing visitor experiences and protecting the petrified wood from theft. The spatial organization of Rainbow Forest was determined by four factors: the location of natural features, the accommodation of vehicles, the protection of petrified wood from theft, and separation of use types. The southeastern facing, gentle slope above Jim Camp Wash floodplain is a critical feature that has dictated the development of Rainbow Forest cultural landscape. The necessity to locate services near the most colorful wood in the park left designers with limited options.

The vegetation at Rainbow Forest cultural landscape is predominantly native and primarily grassland in character. While large areas of vegetation have remained undisturbed, other areas where human activity has consistently occurred since the 1930s have been planted or rehabilitated to blend with the native condition. A large landscape project occurred during the Mission 66-era with some remnant plants surviving today. In addition, the Residential Area, because of access to water, has trees and exotics not found in other locations.

The buildings at Rainbow Forest represent architectural styles from different NPS eras. The original buildings are in the style of Ancestral Puebloan structures, while the CCC-era structures both replicated those earlier buildings and represented slightly different styles and masonry techniques. Later development in the 1950s and 1960 was in the vein of the NPS Modern style (Carr 2007). Rainbow Forest is an example of both 1930s and CCC-era NPS design and planning. Layout, architectural styles, and building materials express cultural values, traditions and concerns of these time periods. Vehicular circulation patterns at Rainbow Forest have changed over time to accommodate different vehicle types, to control traffic flow and to limit access to the Residential Areas. Although pedestrian circulation has changed as well, vehicular circulation, focused around the Parking Plaza, is clearly dominant.

Rainbow Forest is on the arid windswept plains of the Colorado Plateau. It has been known for hundreds of years for its great concentration of petrified wood. Small scale features include wrought iron fencing and sandstone walls in the Parking Plaza and Residential Area. Additionally, an unused 50,000 gallon water reservoir[5] and a smaller abandoned water tank[6] remain as evidence of CCC engineering and construction.

The Rainbow Forest Historic Designed Landscape retains integrity of location, design, setting, materials, workmanship, feeling and association.

SUMMARY TIMELINE OF FINDINGS OF SIGNIFICANCE AND GUIDELINES FOR REHABILITATION OF SIGNIFICANT RESOURCES

October 10, 1989, National Register of Historic Places Nomination Form, prepared for Rainbow Forest Historic District by Diane Rhodes of the NPS Denver Service Center nominating 15 contributing features over a 12 acre area.

1999, Cultural Landscape Inventory, prepared by NPS and reviewed by the Arizona State Historic Preservation Office (revised in 2002 and 2005).

February 16, 2001, National Register of Historic Places Determination of Eligibility, prepared for Rainbow Forest Historic District by NPS nominating 26 contributing features over 117 acres (see Fig 1-3).

April 2, 2001, Determination of Eligibility (DOE) Notification, the district is determined eligible for listing and property is identified as Rainbow Forest Historic Designed Landscape; an expanded boundary is identified for the component landscape in the DOE (see Fig 1-3 for map; DOE Notification included as Appendix A)

September 24, 2001 (revised March 25, 2002), Proposed Design Guidelines for Rainbow Historic Designed Landscape (the district), prepared by NPS based on Memorandum of Agreement (MOA) between Petrified Forest National Park and the Arizona State Historic Preservation Office regarding future planning and management of the Rainbow Forest Historic Designed Landscape related specifically to the Parking Plaza and the features that surround it (2002 MOA included as Appendix B).

2005, Maintenance Guides for the Treatment of Historic Properties, Petrified Forest National Park, provides guidelines for rehabilitation of historic structures at Rainbow Forest with a goal of rehabilitating certain features toward eligibility for

listing as contributing resources of the district (See Appendix C for excerpt of 2005 Maintenance Guides).

SUMMARY OF LANDSCAPE CHARACTERISTICS

This section is used to identify and describe contributing landscape characteristics that include processes and physical features, as well as the relationships between these. Those characteristics identified below as important or "contributing" are those that need to be preserved and maintained in order for the designed landscape to continue to convey its significance, i.e. to retain integrity.

Cultural landscapes are the result of the interaction between human culture and natural systems. They are dynamic resources in which change and patterns of use are as important as design and material. The Rainbow Forest historic designed landscape represents a unique marriage of design philosophy, adaptation to the natural environment, and management concerns. Many characteristics of Rainbow Forest cultural landscape illustrate National Park design principles of the 1920s and 30s as described by Linda McClelland in *Building the National Parks* (McClelland 2005).

The layout of Rainbow Forest is an example of park village planning. The district's rustic architecture and small-scale features show a concern for adapting regional architectural traditions and creating a common architectural character, a scheme established by Charles Punchard that would occur throughout the National Park system during that era (McClelland, 147). Natural features, topography and climate have also influenced site selection and building arrangement and have limited build-able area. In addition, managing for petrified wood theft reduction has dictated both pedestrian circulation and building patterns.

The discussion of contributing features and patterns that follows is borrowed directly and selectively from the 2001 DOE and the 2005 CLI. It should be noted that this discussion forms the "baseline" from which integrity can be ascertained and thus provides the framework for the in-depth analysis and evalutaion of integrity that follows in Chapter 2. In addition, information from the 2008 site visit, other research conducted for this report, and input from park staff has been integrated into the discussion of the landscape characteristics and contributing resources that follows.

CONTRIBUTING RESOURCES IDENTIFIED IN THE 2001 DOE

As described above, a Determination of Eligibility was made by the Keeper of the National Register in 2001 (NRHP 2001). At that time, the following resources were found to be contributing to the Rainbow Forest Historic District (note: this includes only the patterns/features within the CLR Project Area):

- The Visitor Center/Museum (RF-1)
- All buildings at Rainbow Forest dating from 1929-1942, excluding the Lodge (this includes buildings RF-50 and RF-53, though alterations have impacted their integrity; there was no determination on RF-151, however the same integrity issues exist)
- The Parking Plaza based on two characteristics: its linear, axial form framed by architectural elements and its use for vehicular circulation (note: the DOE suggests that the Museum no longer functions as the primary focal point (or visual terminus) of the axial form due to the alterations to parking layout thereby impacting integrity)
- The Jim Camp Wash Bridge on axis with the Museum and as the "entry/gateway" to the Parking Plaza
- The road system (including culverts)
- The Giant Logs trail system

While not explicitly enumerated in the DOE, it can be extrapolated that the following "minor features" are also contributing elements within the historic district:

- All curbing, walls, culverts and free-standing masonry work dating from 1929-1942
- Layout of all roads and sidewalks dating 1929-1942
- Native vegetation plantings
- The underground water tank near the Residential Area (see Endnote 6)

ADDITIONAL IMPORTANT CONTRIBUTING FEATURES AND PATTERNS IDENTIFIED IN THE 2005 CLI

At the Rainbow Forest Historic District, certain landscape characteristics are more about patterns and organizational systems while others are about particular features as characterized by the 2001 DOE. In this analysis, patterns are discussed primarily to provide a framework within which to understand how existing features in the designed landscape do or do not contribute to demonstrating the significance of the district. The landscape characteristics that consist of primarily contributing patterns are, Cultural Traditions, Spatial Organization, Circulation, Views, Small Scale Features, Vegetation, and Constructed Water Features.

CULTURAL TRADITIONS

Rainbow Forest exemplifies design and planning trends in the National Park Service in the 1920s and 1930s. It also epitomizes the construction techniques employed by the CCC to implement the plans developed by the National Park Service. The cultural values, traditions and concerns associated with these organizations are expressed through the spatial patterns, architectural styles, and building materials and techniques utilized in the historic designed landscape.

The original layout of Rainbow Forest reflects a long-held design intention in which "visitors arrive in open plazas, defined in part by the facades of the most important public buildings" (Carr, 1995:124). Here the parking area serves as the plaza. Both the Museum and the Lodge face the Parking Plaza. This original design concept is completely intact today.

Arrangement of buildings and other structures expresses one of the park's most pressing management issues: protection of the wood from theft. The placement of the Museum and development of a trail system behind it inform visitors that they are in a tightly controlled and monitored environment. The siting of the residences reinforces the feeling of control. Overlooking the wash, facing visitors arriving from the north, and in close proximity to the interpretive trail, the Residential Area originally expressed a strong, official presence on the site. This feeling exists to a lesser extent today due to minor changes (such as walls and tree planting) which have aimed to create a stronger sense of privacy in the Residential Area.

Architectural style and building materials also reveal the values of the time period. During the 1920s and 1930s park designers strove to develop building styles that were modeled after vernacular or regional architectural traditions. The preliminary drawings for the Residential Area demonstrate an intention toward creating an oasis in the desert, with trees and shrubs softening the strong architectural lines. Designers also followed a rustic aesthetic deemed appropriate to the national park setting. Made of native dressed sandstone and built in a style that recalls Ancestral Puebloan masonry, the original buildings of Rainbow Forest strongly exhibit these Rustic design principles.

Some of the CCC-era buildings (#100 & #101) replicate the earlier structures, while others (# 53 & # 50) use slightly different styles and masonry techniques. Both, however, are consistent with the original intention. Later development during the 1950s and 1960s show a change in design and planning principles. During this time, additions and modifications were made in the NPS Modern style from concrete block and stucco, aluminum, and wood.

SPATIAL ORGANIZATION

The primary considerations affecting the spatial organization of the district are: 1) location of natural features, 2) accommodation of vehicles, 3) protection of petrified wood from theft, and 4) separation of use types. The placement of development was based on the locations of the petrified wood and Jim Camp Wash. The highest concentration of petrified wood is on the rolling hills, about 100 yards above Jim Camp Wash. Early planners laid out the complex to avoid the floodplain of Jim Camp Wash and to make areas with high concentrations of petrified wood easily accessible to visitors, without disturbing these areas with development.

The Parking Plaza is the central space-defining feature in the district. All other activities and buildings cluster around it. The plaza is aligned axially with the approach road from the east, beginning at Jim Camp Wash Bridge and terminating at the Museum[7]. This alignment sets up a dramatic sense of arrival for visitors crossing the Jim Camp Wash Bridge and entering the district from the east.

The Museum terminus creates a strong visual and physical boundary between the concentration of petrified wood on the Giant Logs Trail and the other visitor use areas in the district. Although the Parking Plaza has been altered (see *Circulation*), this spatial pattern is largely retained, though the feeling of dramatic approach has been reduced by the weakening of the Museum as the primary focal point. A wrought iron fence, installed in 1932, runs parallel to the Parking Plaza and reinforces the boundary. This spatial arrangement allows for controlled visitor access to the wood and theft surveillance.

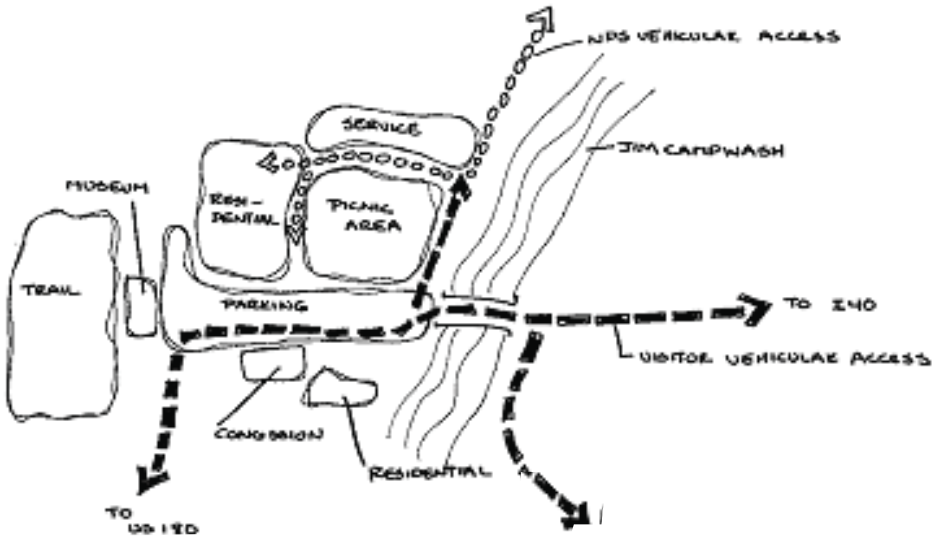


Fig 1-15, Diagram of Spatial Organization of Rainbow Forest, 1999. Rainbow Forest CLI, 2005.

Another spatial pattern that organizes the district is the separation of uses by type (see Fig. 1-15). This pattern has become more prominent as the cultural landscape has developed over time. During very early development of the park (pre-1930), the tar-paper shacks that populated the developed area lacked any formal spatial arrangement and their relationships both to each other and to the Lodge were weak. They appear to be scattered over the landscape (see Fig 1-5 and 1-7, p. 4).

As Park Service designers developed plans for the district however, this changed. During the first phase of park development (1929-33) visitor use and residential use were spatially separated with housing located to the northeast of the museum. This arrangement was reinforced by the Parking Plaza and the layout of access roads. At this stage of development, the residential buildings were arranged in two parallel rows, with all buildings facing east over Jim Camp Wash. Service buildings were incorporated into the Residential Area.

Development that occurred during the CCC-era (1934-1942) further separated the Residential Area and created a distinct service area (see Fig. 1-15). An additional residence was built between the two rows on the south end and housing-related service buildings were built on the north end, above the existing buildings. The new additions enclosed the Residential Area around a central courtyard, adding a measure of privacy and more clearly distinguishing it from other uses.

By placing the Oil & Gas House and the Warehouse to the north of the Picnic Area, designers of the CCC-era created a separate maintenance service area. Spatial organization has remained consistent from the CCC-era to the present

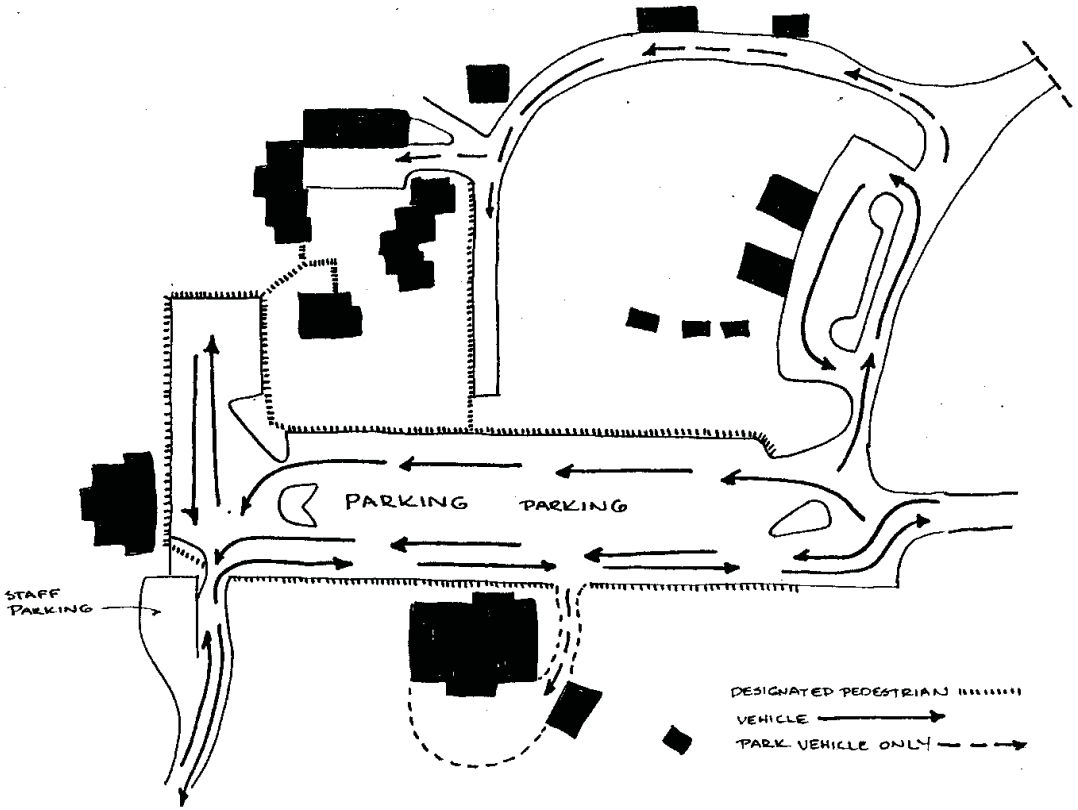


Fig. 1-16, Diagram of Circulation Patterns, Rainbow Forest, 1999. Rainbow Forest CLI, 2005.

CIRCULATION - VEHICULAR CIRCULATION

Vehicular circulation patterns at Rainbow Forest have changed over time to accommodate different vehicle types, to control traffic flow and to limit access to the Residential Area. Although pedestrian circulation has changed as well, vehicular circulation, focused around the Parking Plaza, is clearly dominant. In the original plan for the Parking Plaza, circulation was one-way (Fig. 1-6, p.4). The Parking Plaza was bisected by a narrow flagstone walkway, to which buses pulled up and deposited visitors (Fig. 1-8, p.4). A mid-way break in the walkway provided access to and from the residential spur road. Parking spaces for private cars were probably restricted to the arm of the Parking Plaza in front and to the north of the Museum. There were two spurs off the Parking Plaza to the north; one provided access to the Residential Area along the east side of the Ranger Apartments and the along the east side of the historic camping area becoming Petroglyph Road.

During the CCC-era slight changes were made to the circulation pattern. Due most likely to an increase in private vehicles visiting the park, the number of small parking places was increased. This was done by removing portions of the two flagstone walks and replacing them with two dog bone-shaped structures (Fig 1-6 and 1-9, p.4). Parking stalls were aligned on a continuous diagonal. Circulation

remained strictly one-way and buses now parked along the edges of the Parking Plaza. In addition, roads were extended to connect residential to service areas.

After the period of significance, changes made to the circulation pattern of the Rainbow Forest Complex have been in response to larger vehicle types, concern for limiting access to administrative/residential areas and concern for regulating traffic flow. A 1961 plan shows removal of the dog bones, reshaping of the two islands on the far ends of the Parking Plaza, narrowing the entrance to the Picnic Area, adding parking spaces to the Picnic Area, and introducing a two-way traffic flow.

At that time, the intersection of the approach road from Highway 180 with the Parking Plaza was modified to encourage the new traffic pattern; instead of entering perpendicularly, a curve was introduced to point vehicles eastward as they enter the Parking Plaza with no stop sign for eastbound traffic at the intersection with the Museum parking area. Centralized 45 degree pull-through parking spaces are designed to be accessed from that direction. There are, however, stop signs for traffic headed toward Highway 180 at that curve and vehicles exiting the parking area adjacent to the Museum were required to stop (Fig. 1-17).

Another change that occurred at this time was the removal of the connection to the residential spur road from the Parking Plaza The dog bones were removed to create the pull-through parking spaces for visitors pulling trailers or driving larger campers.

The islands on each end of the plaza remained; however, both were reshaped. The island to the east was reshaped to direct entering traffic from the east; and the island to the west was reduced and reshaped to accommodate the pull-through parking configuration.

The primary difference in circulation patterns between the original layout and the 1961 reconfiguration was its division into two types of uses: a parking area and a road for through traffic. Although the size of the Parking Plaza was not changed, the reconfiguration of the Plaza such that a distinct, two-way through-road was created (thereby isolating the primary parking area to one side of the Plaza), reflects a shift in the management of the district from that of being the ultimate destination in the park to that of being a possible or optional destination. This circulation pattern persists in large part today.

PEDESTRIAN CIRCULATION

Although patterns of pedestrian circulation have remained linear within the Rainbow Forest landscape, they also have changed significantly. Within parking areas, concerns for pedestrian circulation gradually gave way to the overwhelming concern for comfort and safety of drivers, leaving foot traffic to fend for itself. On trails and other places designed for pedestrians, efforts have been made to increase comfort and tightly control access.

Originally, the Parking Plaza included a narrow flagstone walkway running through its center. Buses and cars parked parallel to the walk where visitors descended and approached the museum. This was admittedly a barren walk, built with no concern for sheltering visitors from the intense climate. It did, however direct them clearly to their destination where they could presumably find shelter. Sidewalks also traced the perimeter of the Parking Plaza. These were most likely used frequently as vehicles also



Fig. 1-17, View of Parking Plaza from Museum showing extent of changes including two-way traffic, stop signs at curved area and removal of axial walk. T. Scott Williams, NPS, 2001. PEFO archives.

pulled up to the sides of the Parking Plaza. Mission 66 development removed the central walkway from the Parking Plaza. This arrangement persists today.

Pedestrians use the main parking area to circulate among the various visitor-related attractions, primarily the Lodge, the Museum and the Picnic Area. Although there is nothing to stop visitors from entering the Residential Area, the extension of the existing wrought iron fence, and more recently the stucco screening walls around the Residential Area send a clear message that it is a restricted area. Restricted access also characterizes Long Logs pedestrian circulation. The original CCC-constructed parking lot and trail system was designed to tightly control visitors' movement. The access road to Long Logs was recently closed and converted to a pedestrian trail. Visitors must now park in the Parking Plaza or Picnic Area to access the trail. Layout of trails in both the Long Logs and Giant Logs area has not changed appreciably since the end of the Period of Significance.

VEGETATION

The vegetation at Rainbow Forest cultural landscape is predominantly native and primarily grassland in character as shown in Figure 1-18 below. While large areas of vegetation have remained undisturbed, other areas where human activity has consistently occurred since the 1930s have been planted or rehabilitated to blend with the native condition.

Based solely on historic photos, it seems that trees, shrubs and perhaps grasses were planted in the 1940s. It is not known whether this planting occurred during the period of significance or not. This seems to have occurred primarily in the Residential Area (see Figs. 2-42, 2-44, 2-48, and 2-50).

A large landscape project occurred during the Mission 66 campaign with some remnant plants surviving today. In addition, the Residential Area, because of access to water, has trees and exotics not found in other locations.

Native vegetation is of two types and distributions: Salt-sagebrush tracing Jim Camp Wash and Sacaton-Ricegrass grassland covering the remaining vegetated areas. The dominant species composing salt-sagebrush are four-winged saltbush (*Atriplex spp.*) and sand sage (*Artemisia filifolia*) while those in Sacaton-Ricegrass are Dropseed (*Sporabolus spp.*) and Indian ricegrass (*Oryopsis hymenoides*). There are no native trees in these two biomes.

Choice of species for ornamental use was dictated by lack of water until completion of the CCC–constructed water pipeline in 1942. Although there is no documentation of specific species used for landscaping in Rainbow Forest during the CCC-era, it is reasonable to assume that most, if not all, were native plants transplanted from elsewhere in the park. Much like its architectural design philosophy, the National Park Service favored landscape designs and plant materials that blended with the natural environment.

During Mission 66 development (c.1964), the park undertook a large landscape project at Rainbow Forest. Work orders for the project document the planting of eighty-five trees, hundreds of native shrubs and two acres of lawn grass. The two upright junipers at the entry to the Museum, the junipers and cottonwoods in the Picnic Area, and the scattered Russian olives are likely remnants of this project; as are the densely vegetated islands in the Parking Plaza and Picnic Area. Much of the grass must have been planted in and around the Residential Area. The work

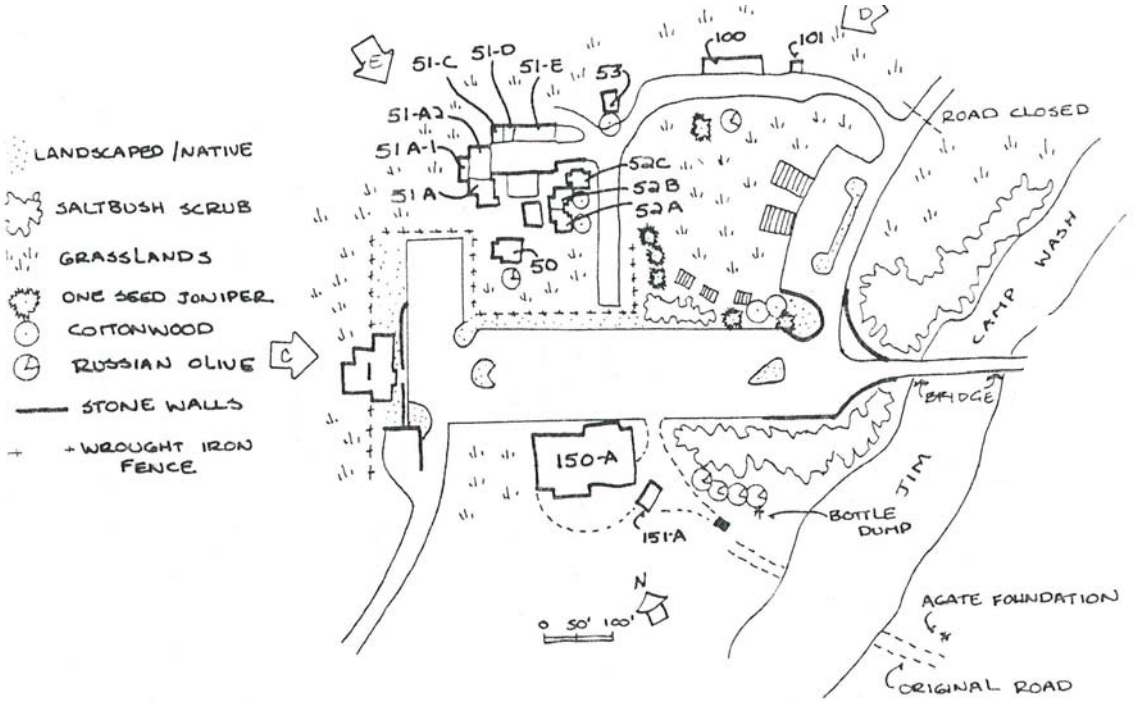


Fig. 1-18, 1999 site plan of Rainbow Forest showing buildings, roads, and vegetation. Rainbow Forest CLI, 2005.

order specifically states that native plants are to be used in areas adjacent to heavy visitor use. The areas in front of the Museum and Residential Area appear to have been landscaped during this time.

Vegetation is quite different within the Residential Area where fencing and access to water allows residents to plant exotic species and trees. Building 50 and the Ranger Apartments (52-A,B and C) all have lawns and border plantings. Two cottonwoods in front of buildings 52-A & B appear, by their size, to have been planted in the 40s.

VIEWS

There are several vistas of particular significance in the district. The first is the view of the Rainbow Forest Historic District from the approach road looking over Jim Camp Wash. The alignment of the approach was deftly laid out to both create a sense of drama as well as to communicate an official presence to visitors approaching and entering the district. The views from the Giant Logs Trail system are also important, especially the view from the Old Faithful Log.



Fig. 1-19, View of top of tank opening with Giant Logs in the background. Mouth of tank has been chipped away and condition of tank appears poor. Belt Collins, 2008.

CONSTRUCTED WATER FEATURES

There are two constructed features of note within the district: a buried concrete water tank and a stone-lined swale. Minimal documentation about either of these features has been uncovered by researchers to date. The buried concrete water tank is located on a knoll northwest the Residential Area (see Fig. 1-4 for location). The 2001 DOE indicates that it is likely that it was used as part of the early CCC-developed system in which a well supplied water for non-consumptive use (NPS 2001, 13). The DOE indicates that this feature is outside of the eligible district boundary in the Constructed Water Features section (IBID, 14) and thus not included as a contributing feature. However, an updated version of the CLI available on the CLI database contains a note dated 3/29/2007 stating that the Landscape Features have been updated to reflect the Keeper's determination of eligibility on contributing features and also with the completed LCS survey and includes the concrete water tank as a contributing feature. It is treated as a contributing feature in this CLR. By 1949, it appears that the tank was no longer in use, and the 1949 plan notes that it should be obliterated (PEFO 2102-C; see *Appendix G*). The tank remains today (Fig 1-19).

A stone-lined swale was also noted by researchers during the 2008 site visit (Fig. 1-20). Based on its method of construction, it may have been built by the CCC when the warehouse and oil and gas building were constructed. The swale has two culverts at either end. No documentary evidence of its construction has been uncovered to date. However, an historic plan from 1935 that predates Warehouse construction indicates the need for a drainage swale in that vicinity (see figure 2-53, p. 38; top center of map). And, a planting plan from 1969 suggests a relationship between the swale and a proposed vegetative screen (PEFO 110-80003, sheet 1; see *Appendix G*).



Fig. 1-20, View of stone-lined swale just south of Administrative Area. Swale may be an undocumented CCC-era feature. Belt Collins, 2008.

NATURAL SYSTEMS AND FEATURES

Rainbow Forest is set on the windswept plains of the arid Colorado Plateau. Rainfall is about eight inches per year and vegetation is sparse, sometimes giving way to the barren clay hills of the badlands. There is no year-round water source on the site, but Jim Camp Wash, a large ephemeral stream, cuts a wide swath across the eastern section of the landscape. An escarpment rises dramatically, 100 feet above the site to the west. The Rainbow Forest Designed Landscape developed in response to its environment. It developed on the relatively flat and sandy plain above the wash, in close proximity to the petrified wood that was the reason for its existence.



Fig. 1-21, An early view of the district (1929 or 1930) demonstrating the natural topography of the grasslands that characterized the landscape as it sloped down to Jim Camp Wash (right side of picture). Pictured are the tar-paper shacks (razed in the 1930s) and the south elevation of the lodge with Petroglyph Road disappearing into the distance. Note hillside into which Oil & Gas House (A) and Warehouse (B) were built. Note too the large boulder (C) that is still a prominent feature today in the open area just south of the Warehouse. PEFO 15730, PEFO Archives.

The most important natural feature in the Rainbow Forest landscape is the abundance, quality and location of its petrified wood. Before Spanish exploration of the southwest, ancestral Puebloans used the broken pieces of petrified wood to build blocks of rooms such as the one across Jim Camp Wash adjacent to the original road. Rainbow Forest contains a concentration of the most colorful and massive specimens in the park. It has attracted great numbers of miners, tourists, scientists, and naturalists long before the development of a reliable source of water.

Although historic development of Rainbow Forest has been based upon proximity to wood, the wash is also significant. Jim Camp Wash, which runs north-south across the eastern edge of the site, strongly defines the space and the gentle slope to its west serves as the only build-able area close to the wood.

The rolling hills and mesa to the west of Rainbow Forest also played a part in its development. Designers of water supply systems used the natural topography of the site to their advantage. The buried concrete water tank located on a knoll behind the Residential Area is evidence that even before the pipeline was constructed, the development of the water system relied on gravity. When the pipeline was completed, a 50,000-gallon reservoir was built on top of a mesa north of the district at an elevation100 feet above the district (see Fig.1-3). This allowed for a gravity fed plumbing system.

TOPOGRAPHY

The southeastern facing, gentle slope above Jim Camp Wash floodplain is a critical feature that has dictated the development of Rainbow Forest cultural landscape (Fig. 1-21). The necessity to locate services near the most colorful wood in the park left designers with limited options. The rolling hills and rock outcroppings surrounding the area to the north and west would not have been suitable for building and the relatively flat plains between the wash and the escarpment were too far from the attraction to be convenient to visitors. Since building any closer to the wash would have been imprudent, Rainbow Forest complex has, from its earliest history as a national monument, developed in this one, suitable location.

SMALL SCALE FEATURES

Many small-scale features contribute to the historic character of Rainbow Forest. These include the wrought iron fencing, the Mather Memorial and the freestanding masonry walls and curbing around the Parking Plaza. The wrought iron fencing around the Museum was installed just after completion of the building. Its placement created a physical barrier and reinforced the impression that Giant Logs Trail was a controlled area under surveillance by park staff.



Fig. 1-22, View of Mather Memorial-the bronze casting is integrated into natural landscape features. Belt Collins, 2008.



Fig. 1-23, A view of boulder curbing in the district. The integrity of the alignment is in question since the boulders are not buried in the ground, the typical treatment. This curbing is located along the east edge of the Petroglyph Road near the Picnic Area. Andrew Gorski, 2004.

Although the Victorian style of the fence is at odds with the rustic, Puebloan-styled architecture, this departure likely illustrates the practical concerns for utilizing durable material such as metal.

The Mather Memorial (Fig. 1-22) is located at the end of a spur trail in the lower area of the Giant Logs Trail. Inaugurated by NPS Director Horace Albright on July 4th, 1932, the memorial consists of a cast bronze plaque mounted on a large granite boulder. Despite the general vastness of the landscape, a sense of intimacy was created around the memorial through the use of boulder curbing, a curvilinear approach and the installation of a culvert, which gives the impression of a bridge and separates the space from the trail.

The sandstone curbing and freestanding masonry walls located in the Parking Plaza are strong character defining features. These serpentine walls are made from native sandstone and reflect design principles of the CCC-era in which the importance of stylistic unity extended beyond architecture to other structures. At Rainbow Forest the walls reinforce the traffic flow pattern at the entrance over Jim Camp Wash Bridge and at the entrance of the Picnic Area. In the Parking Plaza and Picnic Area the sandstone curbing defines edges of sidewalks and traffic islands. Though just one remnant example of the boulder-type curb remain in the district, this feature was prominent in the designed landscape during the Period of Significance (see Fig. 1-9, p. 4). This curb-type is seen along the pull-out area on the east side of the Picnic Area (Fig. 1-23). Existing CCC-era boulder curbing is found in other areas of the park where the CCC was active in the 1930s.

END NOTES

1-1 It should be noted that CLRs typically consist of three parts: Part One, Site History, Existing Conditions, and Analysis and Evaluation; Part Two, Treatment and Part Three, Record of Treatment. Due to budget constraints, the Cultural Landscape Inventory, Level 2 (NPS 2005) will be utilized as the equivalent of CLR, Part One. A summary of this document is provided herein. And, preparation of any portion of CLR Part 3, Record of Treatment is not included in the scope of work for this document.

1-2 Refer to Chapter 3, Management Strategy, for more detailed discussion of the Rehabilitation treatment approach and the 1996 Guidelines.

1-3 The language for this section was borrowed heavily from the 2005 CLI.

1-4 The eligible historic district also includes the nearby Agate Foundation, the Long Logs Trail and Agate House; and, according to the 2001 DOE could also include Petroglyph Road and the entire spur road leading from the plaza to the old U.S. 80 with additional research and documentation.

1-5 The reservoir is located north of the district, outside of the eligible district's boundary (see Fig 1-3).

1-6 Early visitors (1890s to 1940s) arrived by railroad to Adamana and came to the park in Harvey cars or on auto tours. Since the emergence of the automobile age, most visitors have taken a scenic drive through the park beginning at the Painted Desert area from Interstate 40 (Route 66) and ending at Highway 180 just south of the district.

INTRODUCTION

This section of the document provides a feature-by-feature analysis of the integrity of the historic designed landscape based on historic documentation and site observations from the December 2008 site visit by researchers. It also includes an evaluation of the condition of the features as noted during the site visit and from information in the List of Classified Structures (LCS). The analysis and evaluation is supported by information contained in the 2005 CLI, the 2005 Maintenance Guides, and the 2001 Determination of Eligibility. This analysis uses the discussion of the landscape characteristics in the previous chapter and the 2005 CLI as the initial basis for an in-depth integrity analysis. In turn, the analysis contained in this section sets the framework for the treatment recommendations.

The analysis is organized by seven character areas. These character areas have been developed based on the way discreet land uses are organized within the complex. This pattern is discussed more thoroughly in the Spatial Organization section of Chapter One.

The character areas consist of:

- Parking Plaza Area
- Museum Area
- Giant Logs Trail Area
- Residential Area
- Administrative Area
- Picnic Area
- Lodge Area

An analysis and evaluation of the integrity of the individual features and patterns is included in the discussion below. The features/patterns within each character area are additionally organized in a tabular form based on the following landscape characteristics: Buildings and Structures, Circulation, Constructed Water Features, Small Scale Features, Vegetation, Views and Natural Features. Each character area does not necessarily have features and/or patterns associated with every landscape characteristic. Each element is evaluated on three points: Status, Condition and Assessment/Comment. These points are defined as follows:



Fig. 2-1, View of Residential Area with walls and Old Faithful Log in the background. Belt Collins, 2008.

Status: describes whether the feature is contributing or non-contributing (N or NC). An element that is noted as non-contributing, but is compatible with the historic character of the district, is noted as NC/C (read non-contributing/compatible). Non-contributing, non-compatible features are noted only with NC.

Condition: describes the physical condition of the element as noted during the 2008 site visit, unless otherwise noted. Condition is described based on guidelines provided in the Guide to Cultural Landscape Reports (NPS 1998, 67-68) and is noted as:

> ***Good*** indicates that there is no clear evidence of major negative disturbances and/or deterioration and that no immediate corrective action is required to maintain its current condition.
>
> ***Fair*** indicates that there is clear evidence of minor disturbances and/or deterioration and that some degree of corrective action is needed within three to five years to prevent further harm to its integrity.
>
> ***Poor*** indicates that there is clear evidence of major disturbance and rapid deterioration requiring immediate corrective action to protect and preserve historical or cultural values.
>
> ***Undetermined*** meaning that an assessment of condition was not easily determined due to constraints.

Assessment/Comment: provides additional information related to the assessment of the status and condition of the feature. It may include a comparison of historic and current conditions, site observations, or other detailed analysis.

Vignettes from historic plans, maps, and photos as well as photos from the 2008 site visit are included to support the analysis and evaluation. In addition, two plan diagrams, a period plan and an existing conditions plan, are included with each character area discussion to illustrate the existing historic fabric that remains. A description of each plan follows.

THE MODIFIED 1949 PLAN

The first plan, the Modified 1949 Plan, is a modified version of the site Master Plan from 1949 (PF 2102-C). Of all the available historic documentation, this plan most succinctly describes the historic condition at the end of the period of significance. The Modified 1949 Plan (Fig. 2-2) has been modified and annotated to more clearly illustrate the features in place at the end of the historic period.

Please note that the building footprints shown in orange are those that existed at the end of the period of significance. Proposed structures built subsequent to that, if at all, are shown dashed. This includes additions to the Museum and the Lodge, which were implemented in a different manner; and, a cluster of buildings behind the Lodge that were never constructed.

Features shown with a dotted line were existing and were planned for obliteration according to this historic document. Primarily, the features to be obliterated were located in the campground. They included the loop drive which had been boulder lined; and, the four ramada structures. Today, the east side of this open area is the Picnic Area. Otherwise, all walls, walks, roads, and other features shown on this plan are all considered contributing.

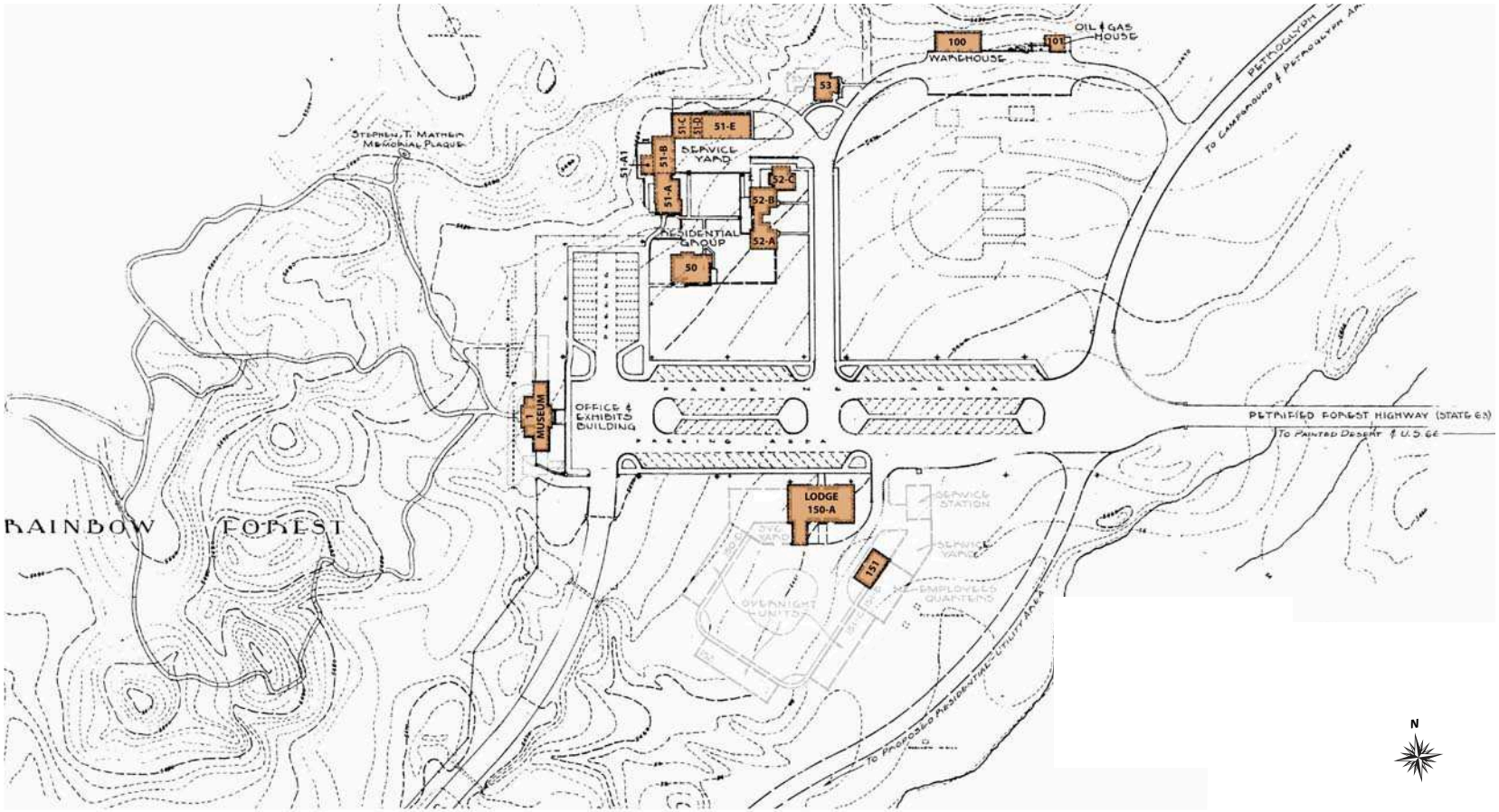


Fig. 2-2, The 1949 Master Plan of Rainbow Forest area annotated to reflect historic conditions at the end of the period of significance (The Modified 1949 Plan). Building footprints shown in orange reflect those of the historic period. Changes proposed in the master plan (shown dashed) are shown light grey here. The historic location of the boulder curbing and ramadas at the auto camp are shown dotted, indicating their proposed obliteration. PF 2102-C, PEFO Archives.

EXISTING CONDITIONS PLAN

This plan graphic shows the existing conditions of the district as observed during the 2008 site visit by researchers. The plan graphic utilizes the 1949 Master Plan as a base. This plan depicts the contributing features including buildings, walls, fencing, vegetation and other features that remain. The colored lines describe the character areas that will be used as the framework for the analysis and evaluation discussion that follows. Each character area is labeled.

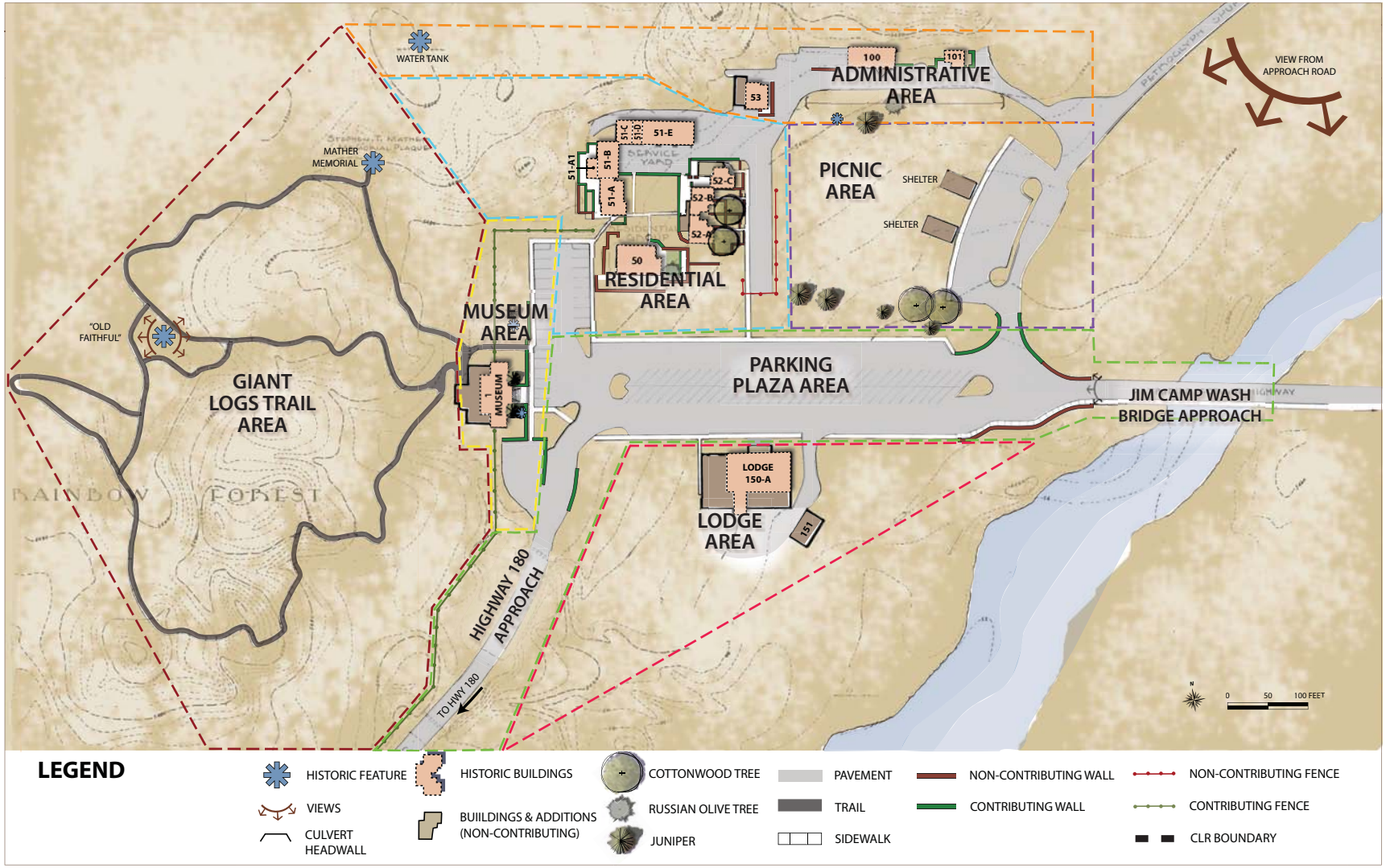


Fig. 2-3, Existing conditions as observed and documented during the December 2008 site visit. The boundaries of the district's character areas as also reflected on this plan. Refer to the legend to distinguish contributing and non-contributing features.

2.1 THE PARKING PLAZA



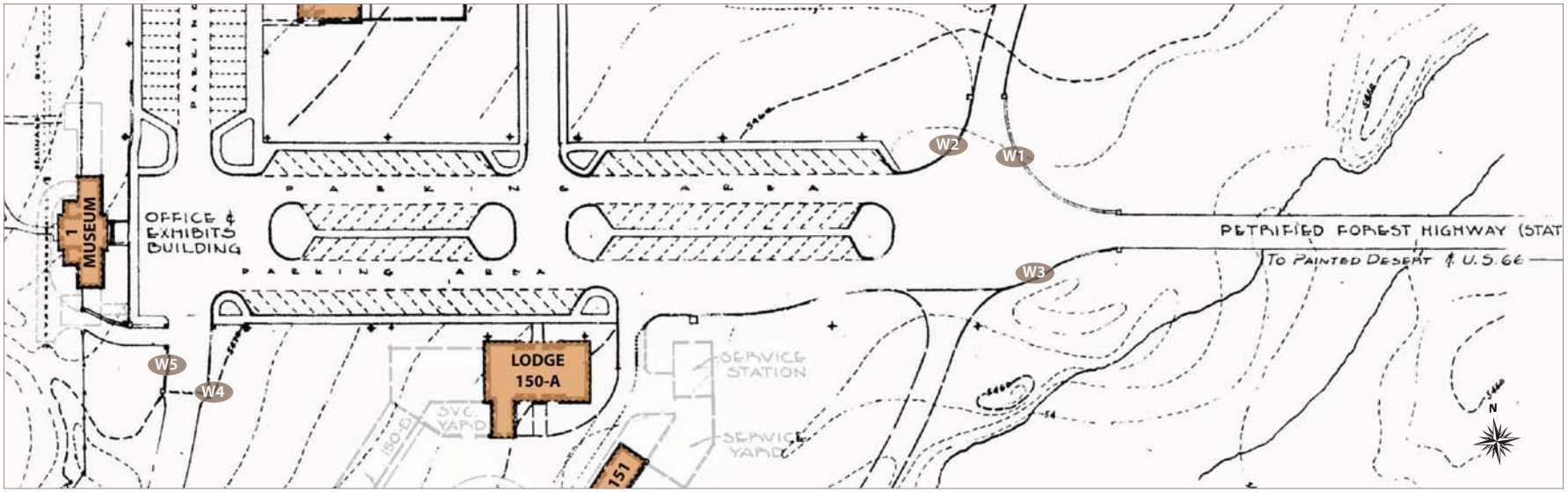


Fig. 2-4, Enlargement of the Modified 1949 Plan showing the Parking Plaza Area.

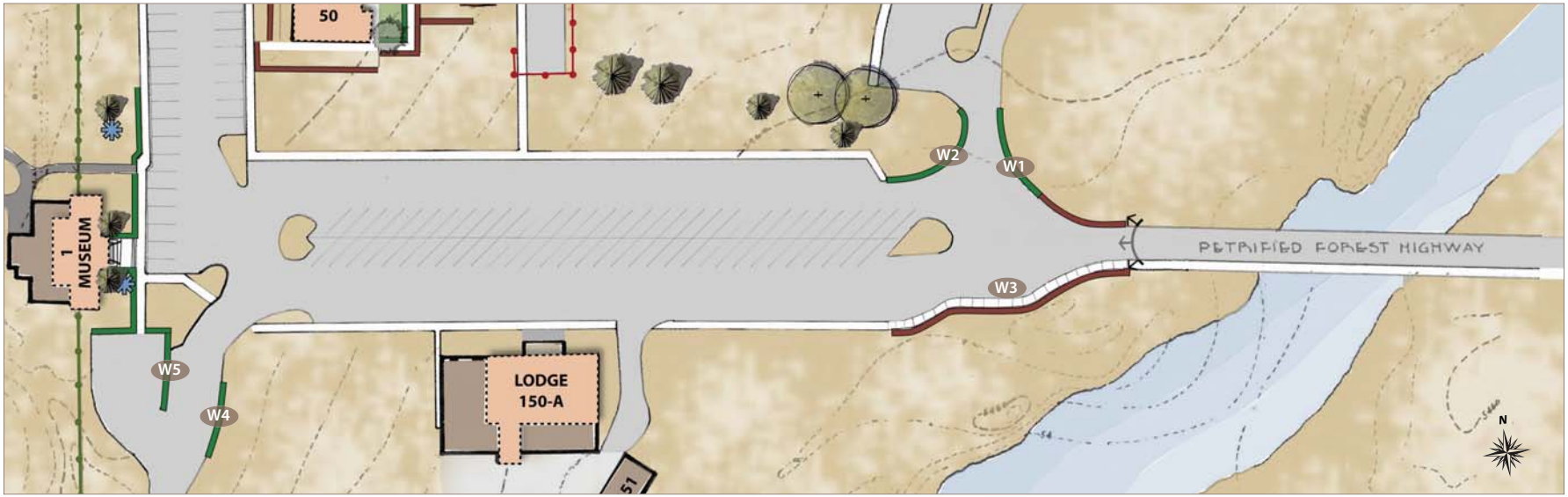


Fig. 2-5, Existing contributing features in Parking Plaza Area in 2008.

Parking Plaza Area

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures			
Jim Camp Wash Bridge	NC/C	Good	The current bridge was constructed in 2000. It was installed in the same location as the historic bridge preserving the historic alignment, entry sequence and spatial order.
Concrete walls at Bridge approach	NC/C	Good	Concrete walls were installed on the west side of the Bridge. The north wall ties the Bridge to an existing CCC-era wall; the south wall is a retaining wall that makes space for the Long Logs connection walk. It replaces a historic wall (W3) that was removed. The color and detailing of the wall enhance the character of the wall, enhancing compatibility of the feature.
CCC-era masonry wall at NW corner of Bridge (W1)	C	Good-Fair	The plaza side wall face is in good condition; the other side has been patched in a non-historic manner as work on culvert beneath has occurred. A portion of this wall was removed to accommodate the new Bridge.
Concrete culvert at NW corner of Bridge	NC/C	Good	Storm drainage from plaza daylights here through concrete culvert; function is historic.
CCC-era masonry wall on west side of entry to Petroglyph Spur Road (W2)	C	Good	Wall is in good condition and an important feature of the historic fabric-wall was altered c. 1942 when dog bones were added.
CCC-era masonry wall on east (W4) and west (W5) side of Highway 180 Approach	C	Good	The lengths and perhaps even the alignments of these walls changed slightly when the Highway 180 Approach alignment was altered and staff parking area was added south of the Museum. (See Section *2.2, Museum Area* for additional discussion). Reconstructed wall segments are compatible. These walls replaced boulder curbing previously in place (Fig 2-12 and 2-20).
CCC-era culverts on Highway 180 Approach	C	Und.	Two culverts are located along the Highway 180 Approach within the CLR project boundary that are contributing. However, their condition was not assessed during the 2008 site visit.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-6, Existing CCC-era wall (W2) in the Parking Plaza. Belt Collins, 2008.



Fig. 2-7, CCC-era wall construction (W1), c.1935 or 1936, PEFO 15588. PEFO Archives.



Fig. 2-8, The Parking Plaza from Jim Camp Wash Bridge c.1943 just after the end of the period of significance. Note "dog bones," angled parking and flagpole. The Museum visually dominates the designed landscape and vegetation is very low. Portions of flagstone walk remain in place to create "dog bones." Areas of flagstone remain at ends of "dog bones" for pedestrians; refer to Fig. 2-82, p. 48. PEFO 25023. PEFO Archives.



Fig. 2-9, The Parking Plaza from Jim Camp Wash Bridge. Belt Collins, 2008.

Parking Plaza Area (cont.)

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Circulation			
Approach to Rainbow Forest Complex over Jim Camp Wash	C	Good	The historic alignment/approach of the road connecting to the Painted Desert area has maintained integrity. The planned arrival sequence is a component of the designed landscape.
Shape, size and alignment of Rainbow Forest Parking Plaza	C	Good	The integrity of the overall shape, size and alignment of the Parking Plaza is retained, including the pedestrian circulation occurring around the perimeter of the Plaza. Much of the historic spatial order has been maintained.
Internal configuration/circulation within the Parking Plaza	NC/C	Good	The internal configuration of the Plaza has been altered and is not contributing. An axial walk was removed and the Highway 180 Approach (the road from the southwest) was altered to accommodate larger vehicles by providing for the pull-thru parking arrangement. A maintenance project occurred around the perimeter of the Plaza in 2008/2009.
Central axial walk within plaza	C	Missing	The axial walk was a central component of the arrival sequence into the entire complex from the east. It was also a contributing feature of the overall spatial organization of the district, underscoring the presence of the Museum. The walk was absorbed by the "dog bones" and removed in the 1960s to make way for pull-thru parking.
Stone-edged parking islands	NC/C	Good	An early iteration of these islands appears on the 1944 master plan with the "dog-bone" configuration. Something akin to their current configuration appears on drawings beginning in 1961, pull-thru parking is added at that point in time. The reused stone curbing is compatible.
Long Logs access walk	NC/C	Good	As a component of the Jim Camp Wash Bridge, an access walk from the Plaza to Long Logs Trail provides pedestrian access to Long Logs now closed to vehicles.
Entry to Petroglyph Road	C	Good	This spur alignment is historic. It initially provided a connection to the petroglyph area, CCC camp, and former campground (now Picnic Area). Now. It also provides a connection to the access road for Residential and Administrative Areas, as well as the existing Picnic Area configuration. Refer to those sections for additional information.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

Parking Plaza Area (cont.)

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Circulation (cont.)			
Highway 180 Approach alignment	NC/C	Good	Historically, the alignment of the approach terminated at 90° to the Parking Plaza. This alignment was also altered in the 1960s
Constructed Water Features (none)			
Small Scale Features			
A Flagpole in vicinity of Museum	C	Good	Historically, a flagpole was located in the landscape area in front of the Museum, just south of the entry walk.
Location of flagpole	NC/C	Good	The flagpole is now located in a landscape island in the Parking Plaza on the axis between the Museum and the Bridge.
Wrought-iron fence	C	Good	See *Museum area* for primary discussion of fence.
Vegetation			
Naturalistic plantings of native vegetation in parking islands	NC/C	Good	As with Museum Area plantings, these islands were likely planted with native plant material during the 1960s planting project (see also *2.2 Museum Area-Vegetation*).
Views			
View to district across Jim Camp Wash on approach from the east	C	n/a	As suggested above, this sequence of views was carefully crafted in the initial design of this district. It should be retained.
Axial view to Museum across Parking Plaza from Bridge	NC	n/a	While the axial relationship between the Bridge and the Museum has been preserved, the removal of the axial walk has diminished the integrity of the view. The view is often obscured by vehicles.
Natural Features (none)			

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-10, View of the recently completed axial flagstone walk, c.1932. Note "boulder curb" along approach road from the south. Also note grouping of wood specimens (dark spots) in landscape area north of the Museum. PEFO Archives.

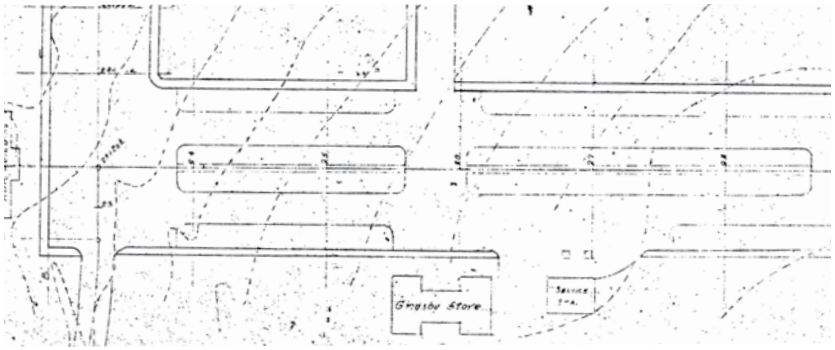
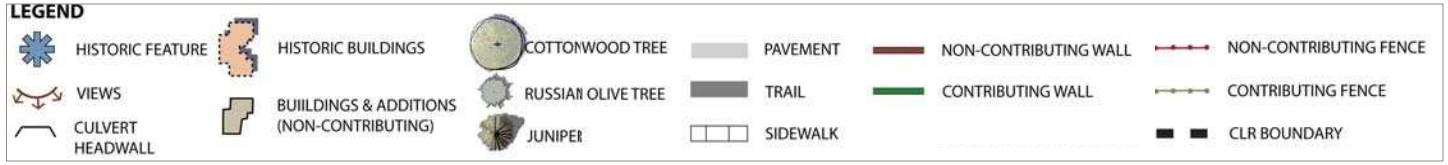


Fig. 2-11, Initial plan for the Parking Plaza showing axial walk by NPS Branch of Plans and Designs, 1931. Note the inclusion of the service station. PEFO 110-7F. PEFO Archives.

2.2 MUSEUM AREA



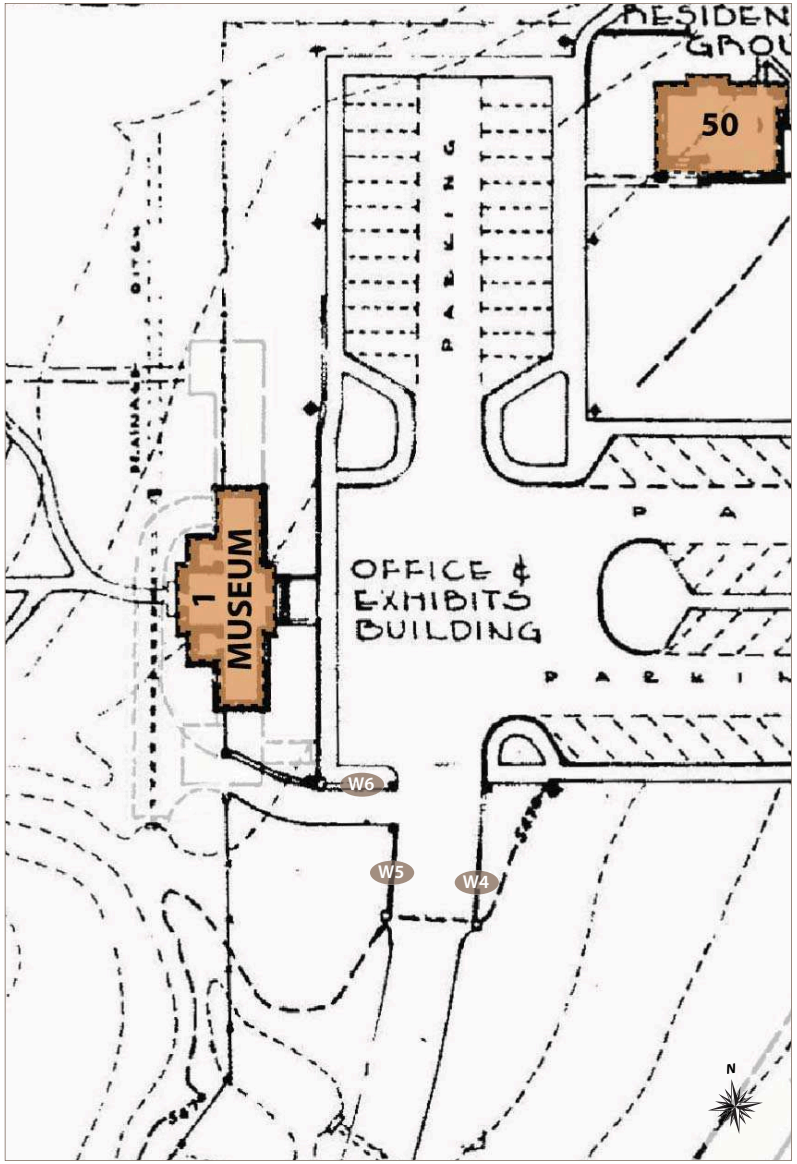


Fig. 2-12, Enlargement of the Modified 1949 Plan showing the Museum Area.

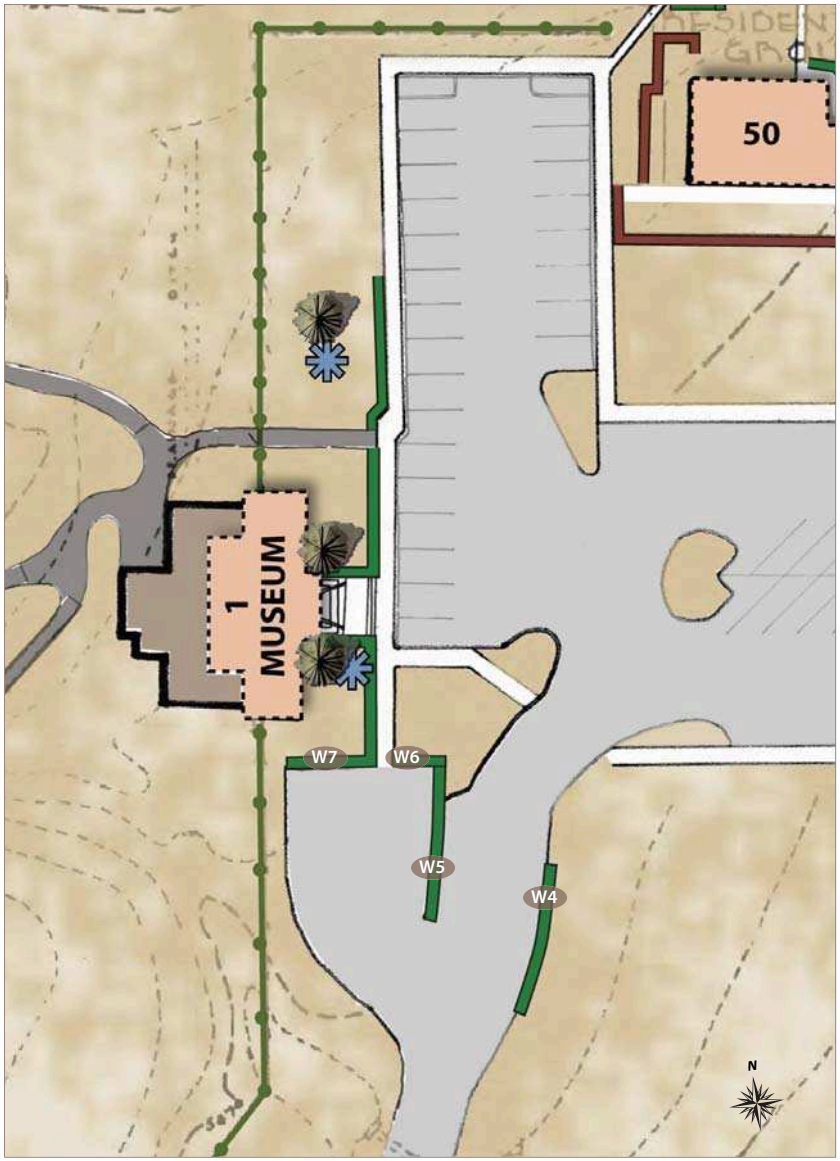


Fig. 2-13, Existing contributing features in the Museum Area in 2008.

Museum Area

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures			
Visitor Center/Museum (RF-1) (LCS#56672)	C	Good	Constructed in 1931. Comfort stations added in 1932 to rear of building. Addition in 1958-1959 replaced comfort stations with restrooms and added solarium and exhibit room nearly doubling size of building. The exterior finish of the addition is stucco (painted). See 2005 Maintenance Guidelines for additional information about buildings (*Appendix C*).
Museum front entry area	NC	Fair	The original stone steps have been replaced with concrete. To enhance universal accessibility, the treads are painted with a yellow strip and a yellow-painted handrail was added. These elements diminish the integrity of the Museum entry.
CCC-era retaining walls in front of building	C	Good	The walls in front of the Museum are fine examples of the CCC-era masonry and make an important contribution to today's experience of the historic qualities of the district. A minimal section of wall was removed to make an opening for accessibility to the building (compatible). Light fixtures were added at front steps (after POS), columns were notched.
Museum rear entry area	NC/C	Fair	This paved area was built during the 1959 addition. ADA access to the building is through this entry via a ramp along the north side of the building (see *Circulation*) The area is awkwardly paved with both asphalt and concrete. As a transition area, the space is underutilized.
Stone wall in rear entry area	NC/C	Good	A short segment of compatible stone masonry wall flanks the building entry.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-14, Front elevation of the Museum, c.1930. PEFO Archives.



Fig. 2-15, Front elevation of the Museum. Belt Collins 2008.



Fig. 2-16, An early superintendent (Smith?) and wife (?) pictured on log along Giant Logs Trail behind the Museum in 1931. Note abundance of petrified wood, treatment of trail edge, and axial walk. The double gate, boulder curb and tar-paper shacks are seen at right and the Superintendent's Residence is seen at left. Note individuals enjoying view from rear of the Museum. PEFO Archives.



Fig. 2-17, View of rear of the Museum from Giant Logs Trail. Note changes to rear of the building including glassed solarium and the stone wall at the doorway. Note changes in character of vegetation, the trail edge treatment, and changes to the Parking Plaza Area. Retained are the groups of wood specimens beneath the overgrown junipers seen left of the seated visitor. Belt Collins, 2008.

Museum Area (cont.)

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Circulation			
Trail that provides ramped ADA access to Museum	NC/C	Good	This trail is located on the north side of the building. It is paved in asphalt and lined with stone curbing.
Walk in front of Museum: location	C	n/a	Integrity of location is retained
Walk in front of Museum: materials	NC/C	Good	The walks were historically paved in sandstone, though they were replaced with concrete and the historic curbs were reset. In December 2008, walks and curbs were replaced.
Parking area and islands in front of Museum Area	NC/C	Good	Historically, there were parking spaces along the entire length of the Museum frontage up to the existing historic wall that surrounds the service parking area south of the Museum. However, when the vehicular circulation was reconfigured (1960s), four parking spaces were removed and a planting area was installed to manage traffic flow (see *Parking Plaza Area-Circulation*). The stone-curbed planter is compatible. There is also designated accessible parking in the immediate vicinity of the accessible ramp to the rear entry.
Service parking area	NC/C	Good	Service access/parking has occurred consistently on the south side of the building in the vicinity of the existing service parking area. Historic plans indicate that a service drive proceeded through a double-sectioned gate and around the rear of the original building. Though the gate remains, vehicle access to the rear of the Museum was cut off when the site was graded to accommodate the building addition. The current parking configuration was developed in the 1960s.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-18, Museum interior, 1930s, looking toward rear door before the addition of the solarium. PEFO 15765. PEFO Archives.



Fig. 2-19, Similar view of Museum interior, looking toward the rear of the building and the Giant Logs Trail. The solarium was added after the period of significance. Andrew Gorski, 2004.

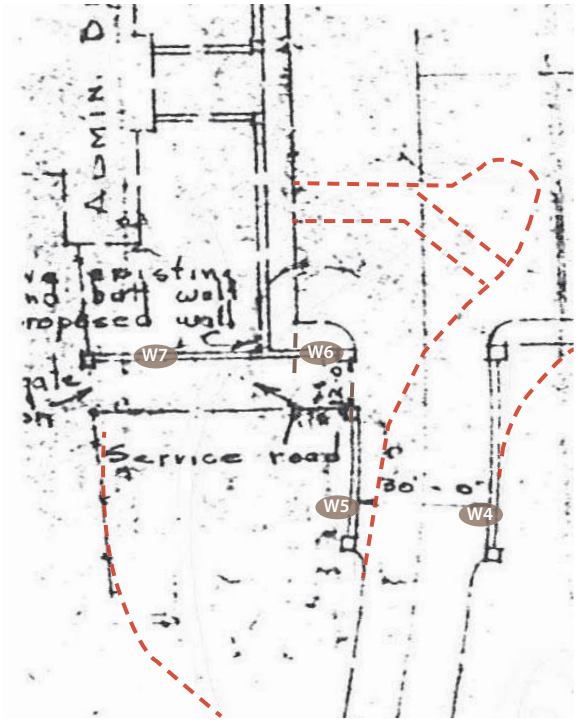


Fig. 2-20, Enlargement of wall plan from 1935 showing the configuration of the Highway 180 Approach at the end of the period of significance. Note the layout of the service road and walls constructed that year by the CCC. Dashed red lines indicate the configuration of the area in 2008 (see Fig. 2-13). The parking area was in place by the 1960s and the road alignment was changed even later. PEFO-3052. PEFO Archives.



Fig. 2-21, The landscape area in front of the Museum. It has become a repository for artifacts (non-contributing). Note the low-growing native vegetation (contributing) and the junipers that flank the entry that are not compatible. Belt Collins, 2008.



Fig. 2-22, The ADA ramp that leads to the accessible entry at the rear of the Museum. The ramp and the gate are compatible. The large groupings of petrified wood are compatible. The juniper to the right is not compatible. Belt Collins, 2008.



Fig. 2-23, The service parking area on the south side of the Museum. Note the double gate and the CCC-era wall (W7). Belt Collins, 2008.



Fig. 2-24, View from the vicinity of the rear entry into the Museum. The ADA ramp with the stone curb is on the right; the trail to the Mather Memorial is on the left. Note the healthy grassland and the trail barrier that is not compatible. Belt Collins, 2008.



Fig. 2-25, Panoramic view of changes to the Highway 180 Approach. The walk alignment and landscape areas have changed since the historic period, but remain compatible. Walls have changed too: the north portion of W4 was removed, a portion of W6 was removed to allow for access to the parking area, and the gap between W6 and W7 was filled. Belt Collins, 2008.

Museum Area (cont.)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Constructed Water Features (none)			
Small Scale Features			
Wrought-iron fence	C	Good	The historic wrought-iron fence circumscribes the west and north sides of the Museum parking area. It then proceeds south of the Museum generally along the Highway 180 Approach in a zig-zag pattern.
Wrought iron gate at access ramp	NC/C	Good	This 4'-0" gate was installed to provide ADA accessibility. It is compatible in width and design.
Vegetation			
Planting areas in front of Museum	NC	Fair	Landscape areas in front of the Museum were treated very minimally with petrified wood specimens following construction of the Museum and retaining walls (see Fig. 2-8 & 2-10). Over time, plantings have been added and additional rock specimens have gradually filled the area in a haphazard manner such that the area feels cluttered and disorganized today (see Fig. 2-21). The additions have diminished the integrity of the Museum entry area. Of note are two overgrown upright junipers that flank the entry that were likely planted during a planting project in the area in the 1960s (CLI); a third juniper is located north of the ADA ramp. These three plants are non-contributing.
Planting areas north of Museum between fence and walk	NC/C	Good	There is no historic evidence that suggests that a treatment other than "native" was intended for this area. However, given the presence of some large plant material uncharacteristic of undisturbed vegetation areas in the immediate vicinity, this area was likely planted with transplanted native species in a compatible manner during the 1960s planting project.
Parking island plantings	NC/C	Good	As above, vegetation was planted in a compatible manner after the island was installed.
Views			
Front entry view along plaza axis	C	n/a	Axial view to Jim Camp Wash Bridge from entry reinforces the designed spatial pattern.
Rear entry view to Giant Logs Trail	C	n/a	View from solarium to Giant Logs (Fig. 2-19) preserves the view from the stoop of original doorway (Fig. 2-16).
Natural Features			
Large wood specimen on south side of entry walk	C	Good	This specimen is apparent in historic photos of the Museum (Fig 2-14) and retains integrity.
Other logs and rock artifacts in landscape areas in front of Museum	NC	Fair	Excessive amount of small specimens have been collected and placed in the landscape areas; they feel contrived and cluttered.
Groupings of large petrified specimens north of ADA ramp	C	Good	These specimens were preserved during construction of the Museum and are now obscured by a large juniper. Additional smaller specimens dot the landscape area along fence.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

2.3 GIANT LOGS TRAIL

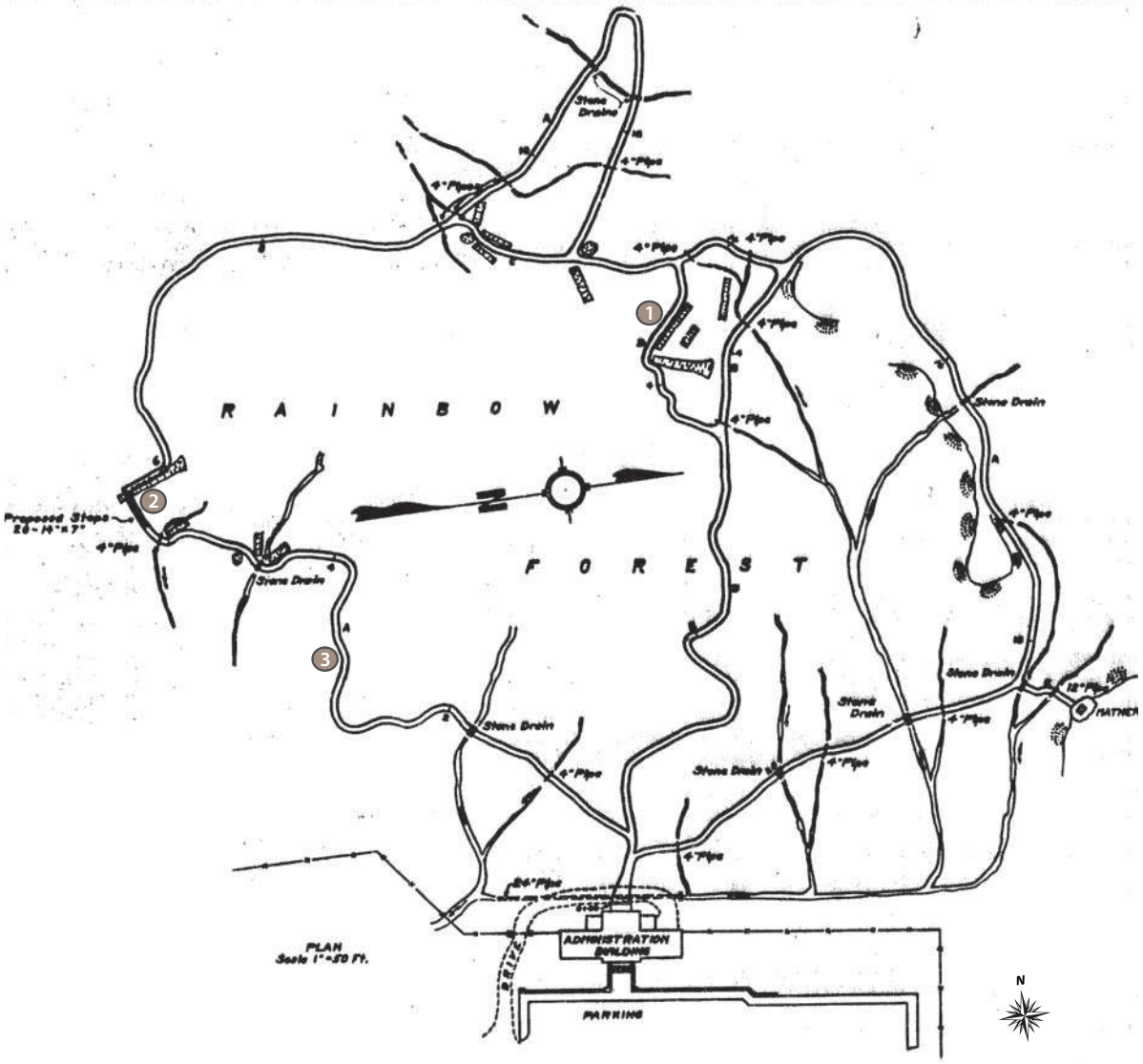


Fig. 2-26, 1934 plan " Showing Asphalt Paved Foot Trails as Constructed in the Rainbow Forest:." PF-4972. PEFO Archive.



Fig. 2-27, Typical Trail Cross-section from 1934 plan. PF-4972, PEFO Archives.



Fig. 2-28, Typical CCC-era retaining wall. Belt Collins 2008.



Fig. 2-29, CCC-era steps integrated with petrified wood. Belt Collins 2008.



Fig. 2-30, Cross-section of CCC-era steps. Belt Collins 2008.

Giant Logs Trail Area

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures			
Mather Memorial (LCS # 56689)	C	Good	Built in 1932. Part of a historic NPS-wide system of features; universal accessibility could improve.
Circulation			
Giant Logs Trail System:	C	Fair	Historic trail alignment and historic structures are intact with most repairs being compatible. See below for more detail.
– CCC-era trail tread	C	Fair-Poor	Historic trail cross-section consisted of 4′-0″ wide asphalt pavement on a gravel base with 8″ shoulders (Fig. 2-27). Currently, the trail tread condition varies from fair to poor showing excessive wear and additional width as repairs have been made.
– CCC-era trail-related structures (stone wall, steps, culverts etc.)	C	Fair-Poor	Historic structures were constructed with native stone in a rustic manner. They appear to remain in historic locations. Currently, many structures have been undermined and excessive erosion has occurred. There are areas where drainage may not be working most effectively. Generally, repairs have been executed in a compatible manner.
– Concrete trail-related structures (walls, steps, culverts, drain pans, etc.)	NC/C	Fair	Many of these additions and repairs happened around 1969, including the concrete retaining wall that supports the Old Faithful log. They are understated and executed in a compatible manner. Maintenance is needed on some features to improve condition and reduce the threat of loss.
– Log railing supported by small gabions (cobble-filled)	NC	n/a	This treatment has no historic precedent and is incompatible. An alternative solution is addressed in Section 4.3.
– Undesignated/unpaved trail spurs less subject to erosion	NC/C	Good-Fair	A number of trail spurs have developed from off-trail use over the years. These routes primarily lead to additional overlook points. Compatible alignments integrate well into the historic setting and are less subject to erosion.
– Undesignated/unpaved trail spurs more subject to erosion	NC	Poor	Alignments that traverse steep hillsides and contribute to excessive erosion unduly affect the integrity of the overall setting.
Constructed Water Features (none)			
Small Scale Features (none)			
Vegetation			
Areas of native vegetation	C	Good-Poor	The condition of vegetated areas varies. Some stands of grasses are in very good condition while others are in poor condition. A major cause of degraded quality is off-trail use, particularly in the flat area between Mather Memorial and the Museum; and, in the unpaved area in the vicinity of Old Faithful where high amounts of foot traffic have compacted the soil and deterred recovery in the off-season.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

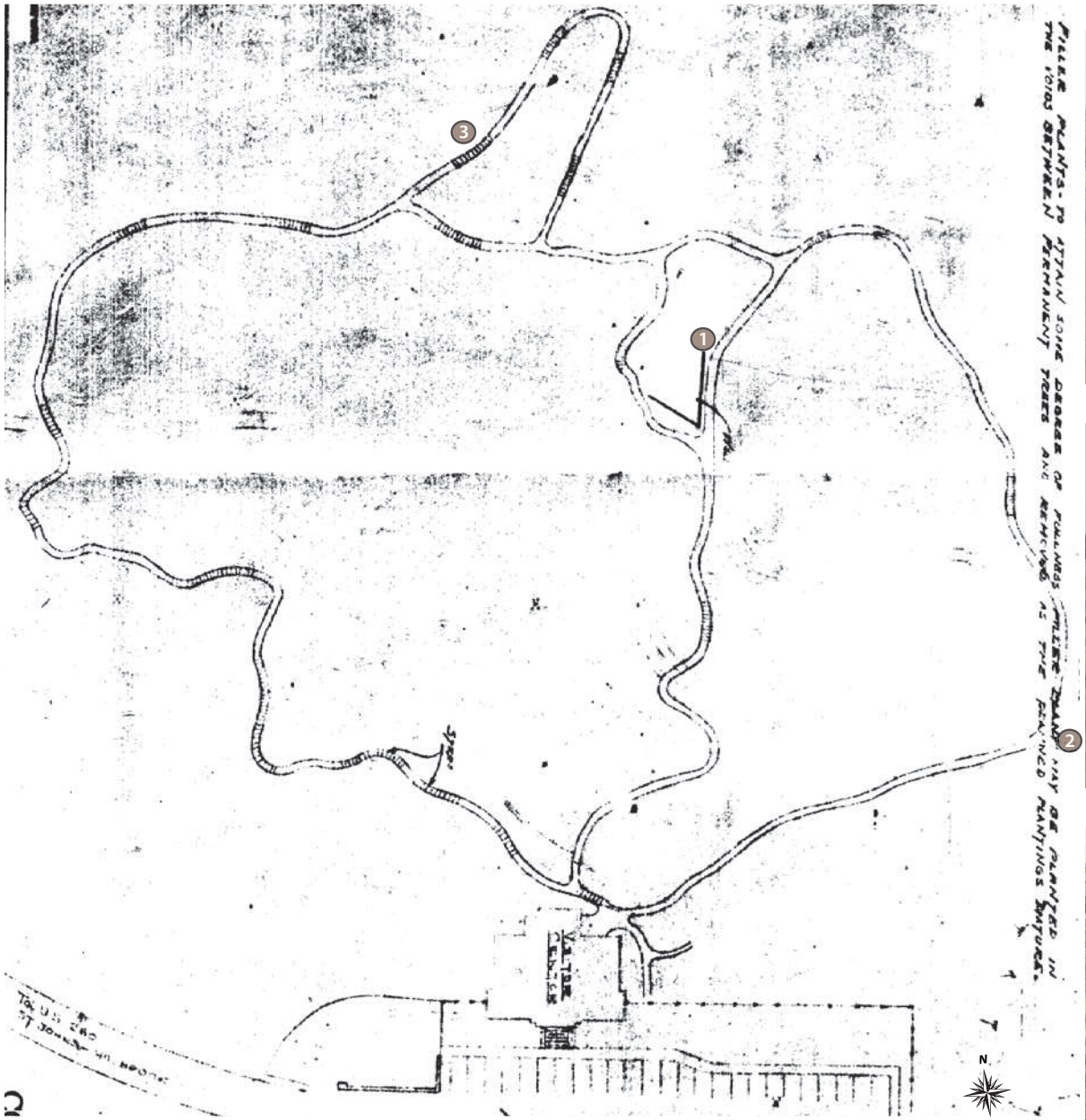


Fig. 2-31, Map of planned improvements for the Giant Logs Trail, 1969. PEFO 110-80003. PEFO Archives.

NON-CONTRIBUTING IMPROVEMENTS TO THE GIANT LOGS TRAIL



Fig. 2-32, Old Faithful Log retaining wall built 1960s. Belt Collins 2008.



Fig. 2-33, Incompatible barrier on the Mather spur. Belt Collins 2008.



Fig. 2-34, Concrete steps from 1960s. Belt Collins 2008.

Giant Logs Trail Area (cont.)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Views			
View from Old Faithful Log	C	n/a	This view overlooks the entire district and the badlands beyond.
Views from other high points	C	n/a	These views are also an important component of the on-trail experience
Natural Features			
Old Faithful Log	C	Good	Concrete retaining wall and other restoration work built in the 1960s following lightning strike has kept the Old Faithful Log in good condition.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

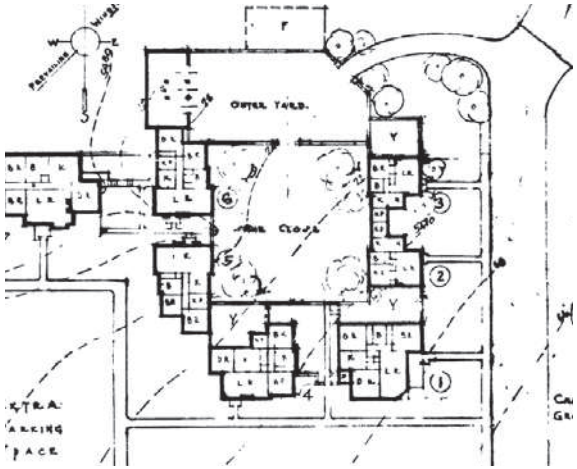


Fig. 2-35, Mr. and Mrs. Albert Einstein Visit Old Faithful Log , March 1931. PEFO-20826. PEFO Archives.



Fig. 2-36, Old Faithful Log. Belt Collins

2.4 RESIDENTIAL AREA



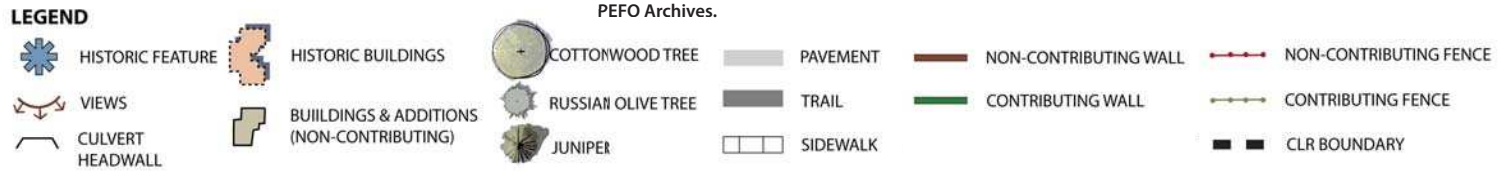


Fig. 2-37, *Preliminary Sketch for Employees' Group* drawn by the NPS Branch of Plans and Designs in 1931. The spatial pattern is clearly readable today. Note the practical use of vegetation for screening the outer yard and for reinforcing the geometry of "The Close." PF-12D. PEFO Archives.

According to the List of Classified Structures (LCS), "*buildings in the residential area are oriented around a rectilinear courtyard (or Close) ...the slightly rambling appearance of the buildings and connecting walls reflects an accommodation to the rocky sloping hillside, an intentional part of the rustic design in which buildings subordinate to their natural setting. The stepped design of the rows of attached structures, and the rough grey native stone used in their exterior walls, helped blend them into the surrounding hillside, while imparting an Indian pueblo feeling to the complex. The buildings are all one story, coursed native stone masonry with stone sills and concrete lintels. The cast concrete lintels overlap the window...reminiscent of a prehistoric pueblo. Low parapet walls surround the flat roofs and canales are used to drain rainwater. Renovations in the 1950s and 1960s made incompatible changes to the exteriors*" (NPS 2010). Recent rehabilitation of the building exteriors has been in a compatible manner. (Note: Condition assessments are taken from the List of Classified Structures (See *Appendix H*). Refer to 2005 Maintenance Guides for additional information about buildings in the district (*Appendix C*).

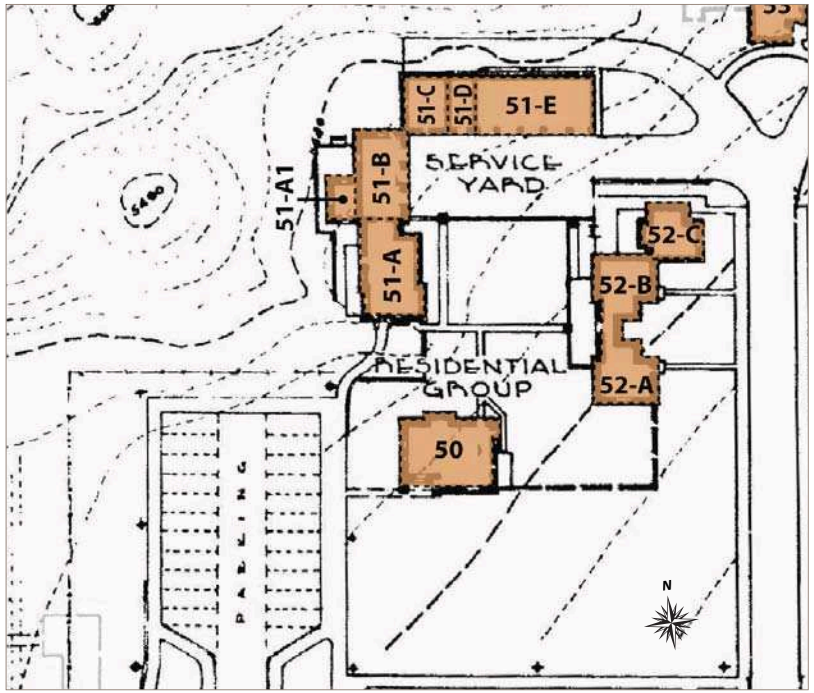


Fig. 2-38, Enlargement of the Modified 1949 Plan showing the Residential Area.

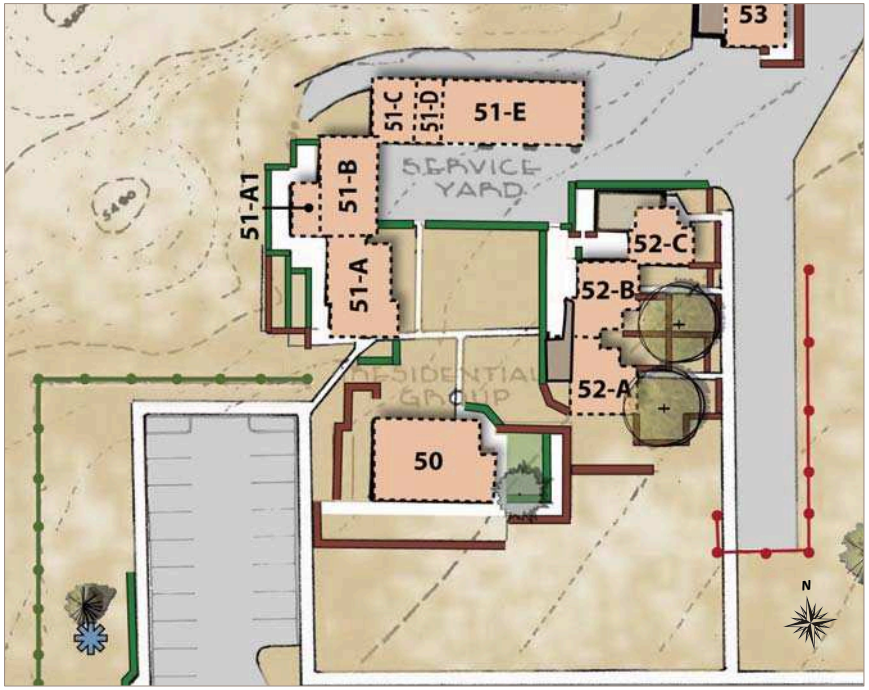


Fig. 2-39, Existing contributing features in Residential Area in 2008.

Residential Area			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures			
Employee Residence 50 (LCS#217273)	C	Fair	The largest and newest of the residences. Begun by the CCC in 1942 and completed by monument personnel in 1943. Less evocative of the southwestern tradition, than the other buildings. Contrasting tan-colored stones randomly arranged among the grey native stones in the exterior walls. There are two patios; at southwest corner and at the east overlooking a walled grassy garden area.
Employee Residence 51-A (LCS#56678)	C	Fair	Constructed in 1931 as superintendent's house. Had an attached wood pole ramada along the west patio. A storeroom/guest room addition to the north was completed in 1939 (51-A1).
Employee Residence 51-A1 (LCS#56679)	C	Fair	As above. Built in 1939 by CCC as a storage/guest room and bath to rear of 51-A.
Employee Residence 51-A2 (LCS#56680) aka 51-B	C	Fair	Built in 1931. This building was originally designed as one big open room with three large doors. Building #51-A2 has been used for a variety of purposes: for implement repair, as a garage, as the headquarters power house, and finally, as a dormitory for seasonal employees. It was converted to a residence in 1992-1993.
Rainbow Forest Fitness Center #51-C (LCS#56673)	C	Fair	Built in 1935 and remodeled in 1963. Consists of a single small room in northwest corner of the compound. Served as coal room, fire cache, storehouse, and now as recreation room.
Rainbow Forest Storeroom #51-D (LCS#56674)	C	Fair	Built in 1935 by CCC was first a coal/wood shed. Altered in 1941 into a shop and garage added. Later used as a museum/sign shop and then as a storeroom. Became workroom for equipment repair in 1950s. Changes occur in 1963.
Rainbow Forest Employee Garage #51-E (LCS#56675)	C	Fair	Built in 1942, it has six large garage units in one large open space. Used for storage and for vehicles. 3 large doors provide access. Originally built as a garage/vehicle shelter; modified (1950s) to allow vehicle repairs. Changes to exterior in1963, including windows and doors, was incompatible. Compatible changes to the exterior treatments occurred in 2007-2008.
Employee Residence 52-A (LCS#56681)	C	Fair	Buildings #52-A and #52-B were built in 1931 as a two unit duplex. In 1932, another dwelling (#52-C) was added onto the northwest corner of the duplex. In 1957, a bedroom was added to #52-A and #52-B to the west. Additional changes in 1963 included reroofing, new heating and cooling systems, and kitchen cabinets. The 1957 and 1963 treatments were incompatible. Compatible changes to the exterior treatment occurred in 2007-2008.
Employee Residence 52-B (LCS#56682)	C	Fair	See description for 52-A.
Employee Residence 52-C (LCS#56683)	C	Fair	See description for 52-A. Built in 1932. The 1957 addition to this unit occurred to the north.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

Residential Area (cont.)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures (cont.)			
CCC-era cobble wall along service area	C	Poor	This is an historic CCC-era wall built from cobble rather than stone masonry. It was likely constructed during the second period of CCC activity when the garage and service yard were constructed. Pieces of cobble have become dislodged and the overall condition of wall is poor.
Steps and retaining walls along rear of apartments (RF-52-A, B, and C).	C	Good	These features are historic. Some areas have been absorbed by subsequent additions to the apartments (Building #52).
Circulation			
Concrete walks within the courtyard	C	Fair	These concrete walks are in fair condition and appear to be in historic locations. Historic photos indicate that these walks have always been concrete. Some portions have been replaced with standard gray (see below).
Portions of replaced concrete walks within the courtyard area	NC/C	Good	Concrete walk replacement has occurred in segments in a compatible, standardized treatment (Fig. 2-46).
Residential Area access road	C	Fair	Initially, access to the Ranger Apartments in the Residential Area was provided along an access road opposite the Lodge that terminated at the north side of that building. Once the service and utility buildings were built in the 1940s, this alignment connected to the service yard, to the drive behind/above the garage and to the utility area north of the campground and then on to the Petroglyph Road. Today, this alignment does not connect directly to the Parking Plaza and approximately 80' of that alignment has been removed.
Residential Area access road walkways	C	Good	The concrete walk on the west side is historic and still connects through a gate to the Parking Plaza. Historically, it seems that a "boulder curb" delineated the east side of the roadway. The curb separated the historic campground from the Residential Area. A walkway was proposed for this alignment by the early 1940s. Existing remnant stone curbing suggests that the walkway was there at one time.
Constructed Water Features (none)			



Fig. 2-40, RF-52,The Ranger Apartments, c.1932, just after completion. PEFO 15678. PEFO Archives.



Fig. 2-41, RF-52 now flanked by RF-50 (l) and garage (r). Note walls and cottonwood trees. Belt Collins 2008.

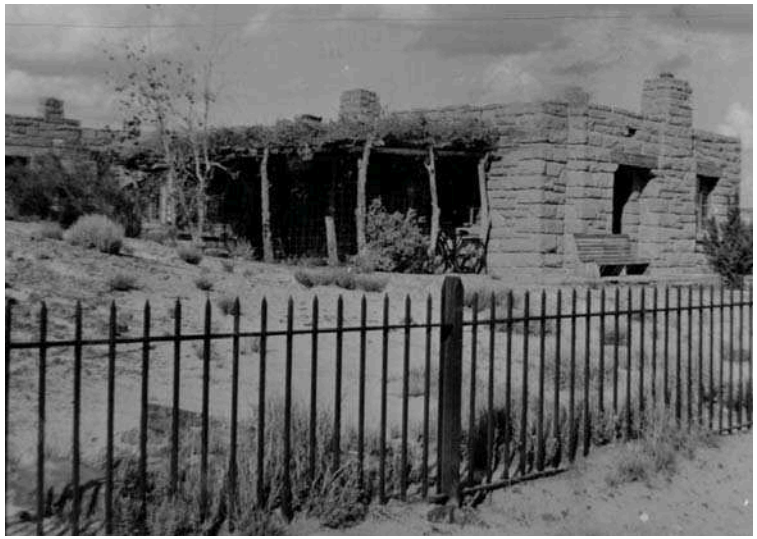


Fig. 2-42, A 1940s photo of the south and west facades of the Superintendent's residence (RF-51-A). Note the fence and ramada-like porch covering. Tree and juniper plantings augment the native grassland landscape. 1940s. PEFO 15693. PEFO Archives.



Fig. 2-43, A similar view of RF-51-A from 2008 showing the addition of the compatible screening wall. The landscape and fence remain much the same though the planted vegetation does not survive. Overall, the building appears much the same, however windows are not compatible nor is the color of the painted lintels. Belt Collins 2008.

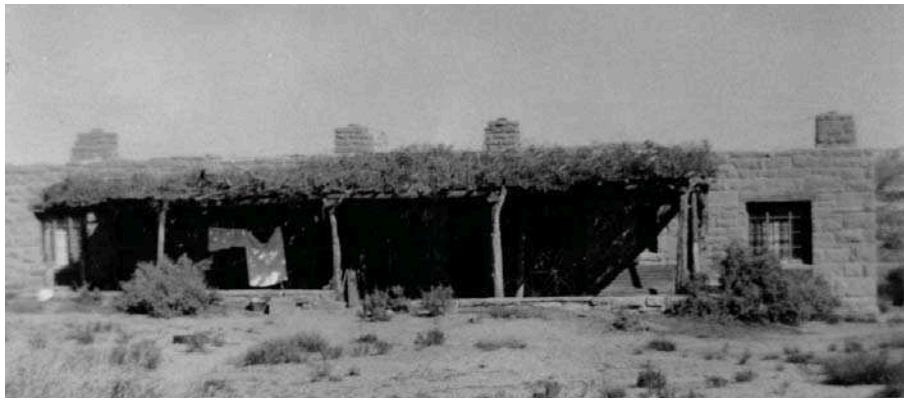


Fig. 2-44, A 1940s photo of west facade of Building 52-B and 52-A. Note the ramada-like porch covering. Shrub plantings at the building foundation augment the native grassland landscape. 1940s. PEFO 15704. PEFO Archives.



Fig. 2-45, A 2004 photo of west facade of Building 52-B and 52-A with incompatible changes from the 1957 addition. From 2005 Design Guidelines.



Fig. 2-46, A 2008 photo of west facade of Building 52-B and 52-A showing compatible changes to treatment of exterior facade and concrete paths. Note loss of tree and shrub vegetation. Belt Collins 2008.

Residential Area (cont.)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Small Scale Features			
Wrought-iron fence	NC/C	Good	A wrought iron fence, similar in style to fence in the Museum Area, was installed between the Residential Area and the Parking Plaza after 1969. This fence wraps around the south end of the remaining Residential Area access road. On the west side of the road, the fence extends north from the end of the paved area only 20 feet; on the east side, the fence runs north for about 120 ft.
Wrought iron gate at end of drive	NC/C	Good	Installed with fence above.
CCC-era stone masonry walls	C	Fair	Stone retaining walls in the Residential Area are historic. Portions are in need of repair
Concrete/stucco screening walls	NC/C	Good	Block walls with stucco have been installed in recent years to enhance privacy for residents. They are compatible in appearance. Older similar walls are on the interior of the east side of the apartments creating a series of small garden/courtyard spaces.
Courtyard gates	NC	Fair	Wood gates in walled areas lack historic design precedent. Treatment is not compatible.
Picnic shelter in the courtyard area	-	Removed	A non-contributing picnic shelter contemporary to those in the Picnic Area was erected in the courtyard in recent years and has since been removed. The courtyard now lacks shade.
BBQ grills and picnic tables	NC	Fair	Grills and picnic tables are located in the courtyard. They are not compatible.
Vegetation			
Areas of native vegetation (planted)	C	Fair-poor	Any areas of existing native vegetation are contributing.
Courtyard gardens with exotics	NC/C	Fair-Good	Residents of the ranger apartments and the superintendent's residence have maintained private courtyard gardens with bluegrass and exotics. Because gardens are screened from visitors, they do not diminish the integrity of the visitor experience and further reinforce the "oasis" experience of residents.
Cottonwoods in courtyard gardens	C	Good	Two cottonwoods thrive within the courtyard gardens and are contributing. Probably planted in the 1940s. Cottonwoods were installed elsewhere in vicinity (Fig. 2-42 & 2-50).
The Russian Olive tree at Bldg. RF-50	NC	Fair	Invasive and non-native.
Views			
Views between Museum and Residential Area buildings	C	n/a	The Residential Area buildings were sited in close proximity to the Museum and Giant Logs Area to ensure that rangers could monitor activity (and potential theft) around the Museum. The visual connection also underscores the village concept.
Views across Picnic Area and wash.	C	n/a	Apartments were sited to provide a view across wash from the fronts of the buildings.
Internal views within courtyard	C	n/a	Detail of historic architectural features was intended to provide for views within the courtyard.
Natural Features (none)			

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-47, Interior courtyard and east elevation of RF-52-A in 2004. A quality of oasis in the desert has been established over time with compatible features. Andrew Gorski.



Fig. 2-48, Interior of courtyard from the 1940s with garage in background. Note walks are all of flagstone and lintels are painted to match doors. Vegetation is minimal. Troy Strickland Family Collection. PEFO Archives.

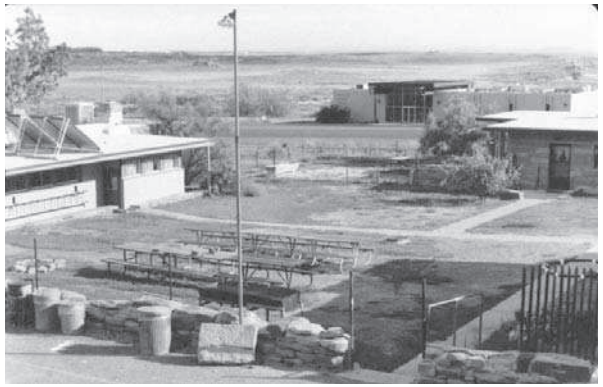


Fig. 2-49, The courtyard of the Residential Area in the 1980s (no Filling Station). Note cobble wall and variety of vegetation. PEFO 23778.18. PEFO Archives.



Fig. 2-50, South elevation of RF-52-A. Note wall, cottonwoods and healthy grassland, 1950s(?). PEFO 26535. PEFO Archives.



Fig. 2-51, North side of RF-52-C. Note compatibility of three wall types. Belt Collins 2008.



Fig. 2-52, A view from the Parking Plaza of the Residential Area. Note screening walls and trees within courtyard gardens that survive. Wrought-iron fencing surrounds former spur road. Painted linteis read more strongly than in historic photos. Belt Collins 2008.

2.5 PICNIC AREA

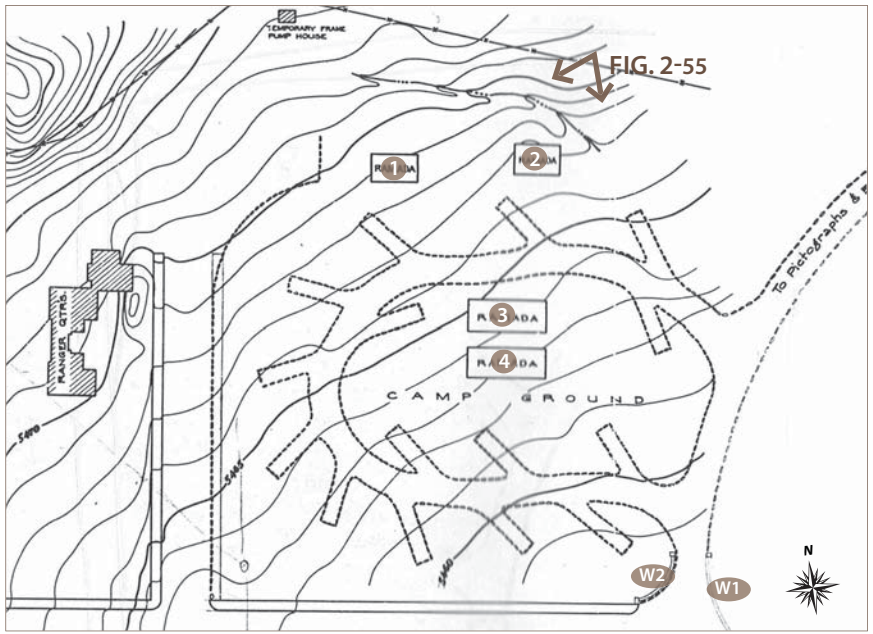


Fig. 2-53, Enlargement of *Topographical Map* from *1935*. The boulder curb delineating the historic campground and Pictograph Road is shown dashed. Also shown are the four ramadas pictured in Fig. 2-55 below. PF-5007. PEFO Archives.

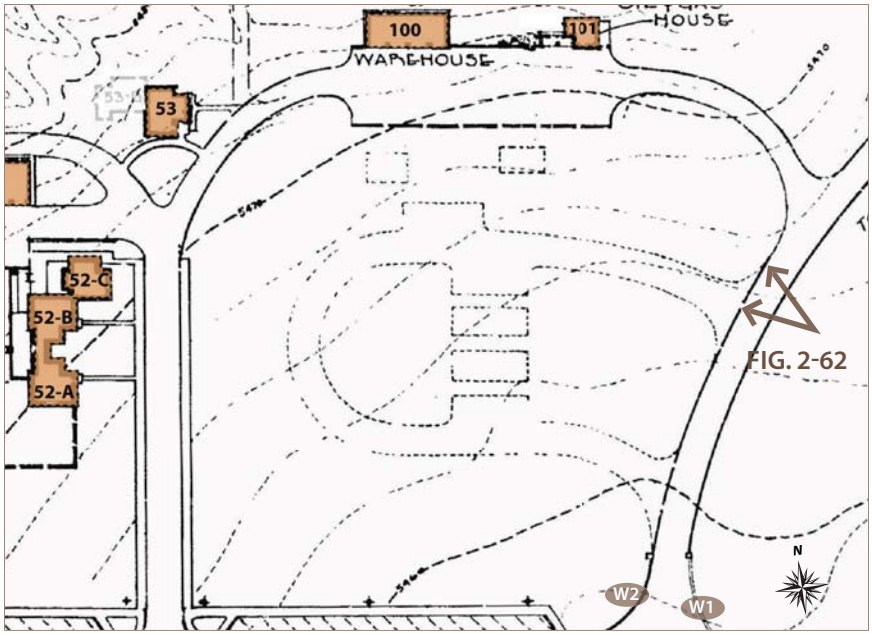


Fig. 2-54, Enlargement of the Modified 1949 Plan showing the Picnic Area. Camp facilities are shown dashed indicating a plan to obliterate them. This seems to not have occurred until the 1960s.



Fig. 2-55, View from 1930 of campground. Taken from vicinity of Oil & Gas House (note large boulder on right edge of frame). Compare to Fig. 2-53. Note ramadas (numbered), boulder curbing, and fencing with Lodge, Cabins, and Parking Plaza in background. A swale appears to be in place along unmapped road. PEFO 24965-1, PEFO Archives.

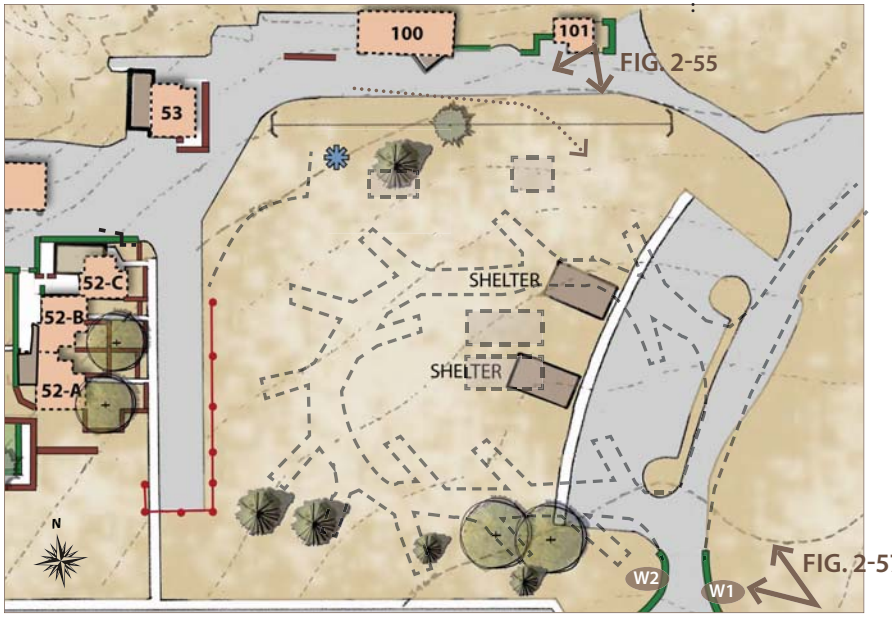


Fig. 2-56, Existing contributing features in Picnic Area in 2008. The early configuration of the campground is shown dashed.

Picnic Area (Former Camp Area)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures (none)			
Picnic shelters	NC/C	Good	Despite their Mission 66 feel, the shelters integrate surprisingly well with their brown paint color and predominantly horizontal roofline.
Circulation			
Spur road (Petroglyph Spur)	C	Good	As noted in Plaza section above, the alignment is contributing. Additional contributing features such as culverts may be located along the alignment outside the project area- these features were reported to have been in poor condition (NPS 2005). Historically, this alignment provided access to the campground. Later, it also provided access to the Administrative Area. Currently, the alignment also provides access to parking for the Picnic Area. Beyond the Picnic Area, the alignment is closed to public access.
Parking area, sidewalk and parking island with stone curbs	NC/C	Fair	This area was constructed in the 1960s with stone lined curbs relocated from on-site. The walkway is asphalt and in fair condition
Informal social trails between shelters and parking areas	NC/C	Fair	Much of this network is the remnants of the circulation pattern that developed when there were several smaller shelters interspersed with trees/shrubs (Fig. 2-60) that visitors accessed from both the Parking Plaza and the Picnic Area parking lot.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition

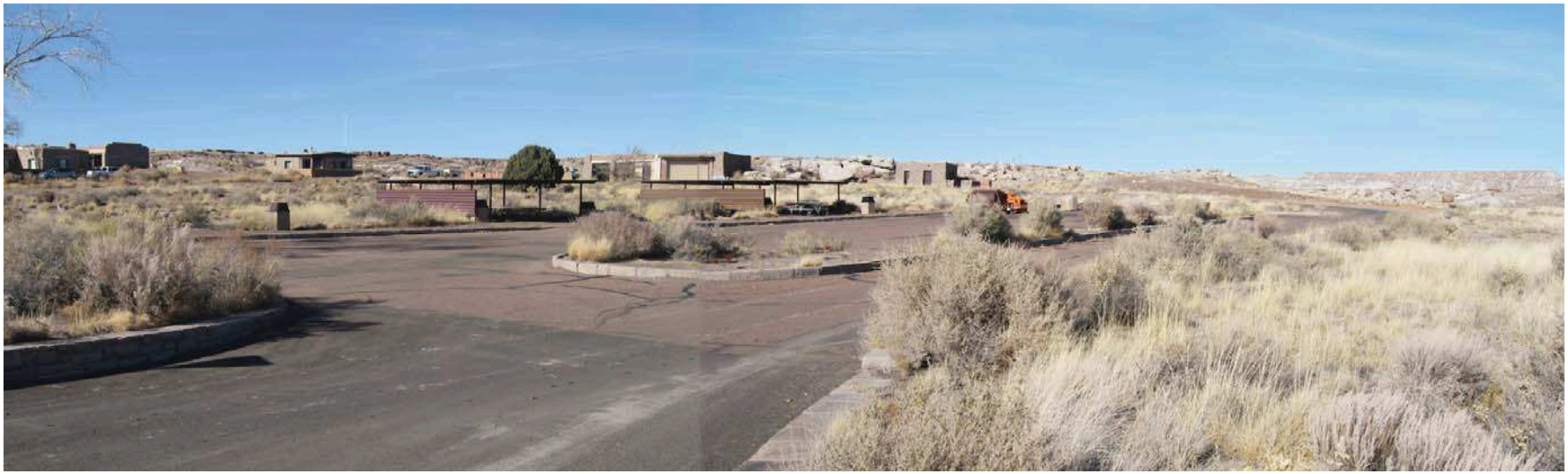


Fig. 2-57, View of Picnic Area in 2008. CCC-era walls in foreground mark entry to Petroglyph Road. Stone curbing and shelters are compatible but not historic. Administrative Area in background. Belt Collins 2008.



Fig. 2-58, Boulders at the northwest corner of the Picnic Area. This large white boulder is visible in the earliest photos of the area. The boundary between the public Picnic Area and the private Residential Area is ill-defined lacking the sidewalk or boulder curbing previously indicated on historic plans (Figs. 2-53 and 2-54). The existing fence terminates to the left, just outside the frame of the photo. Belt Collins 2008.

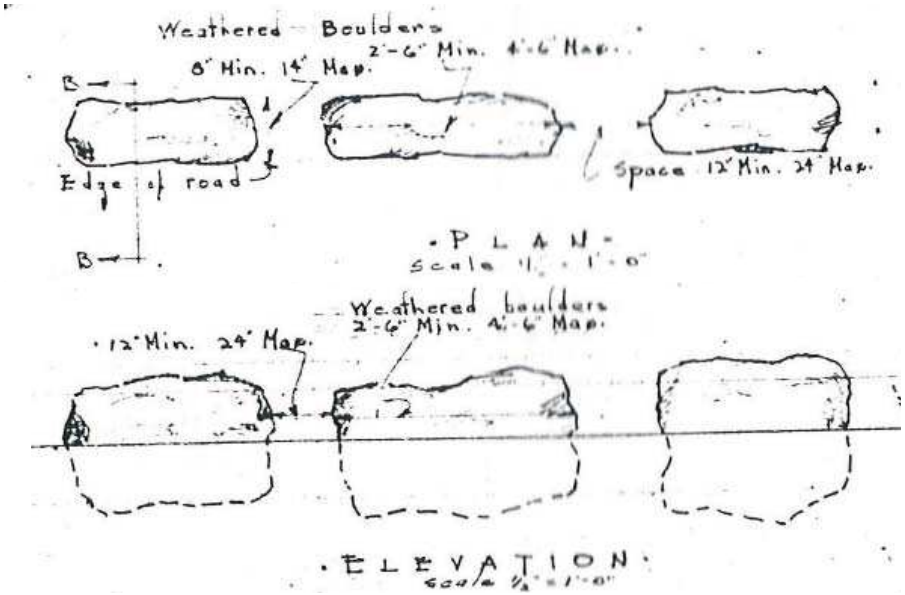


Fig. 2-59, A detail from 1935 for Boulder Curbing, a prominent rustic feature during the Period of Significance. See Appendix G for a copy of this drawing showing historic locations of curbing. PF-3052, *Guardrails and Curbs*, 1935. PEFO Archives.



Fig. 2-60, View of the non-compatible Mission 66-era ramadas, c.1963. These ramadas were located south of the existing larger ramadas. They were removed around 2005. PEFO Archives.



Fig. 2-61, Informal picnic ground beneath two cottonwood trees in southeast corner of Picnic Area. Picnic tables are movable allowing for visitors to take advantage of shelter provided by vegetation. Belt Collins 2008.

Picnic Area (Former Camp Area) (cont.)			
Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Constructed Water Features (none)			
Small Scale Features			
Picnic tables	NC/C	G	Tables are non-contributing but constructed with compatible, durable materials.
Boulder bollards	C	Good	Boulders in northwest corner of character area may be remnants of the system boulder curbing used to delineate campsites and along the east edge of the Petroglyph spur.
Vegetation			
Areas of native vegetation	C	Good	Historic photos show that the camp area was characterized by scattered grasses with no woody vegetation (Fig. 2-55 & 2-60). Revegetation has removed evidence of former camp area layout.
Planted trees and shrubs	NC/C	Fair-poor	As above, plantings remaining today are remnants of the late 1960s revegetation effort. Two cottonwoods and four junipers anchor the corner of the Picnic Area. Others have died.
Views			
Views from shelters	C	n/a	Views from the shelters across wash and into interior of the district are important and are similar to those that would have been from the campground.
Natural Features			
Large granite boulder in northwest corner of Picnic Area	C	Good	This boulder appears in photos throughout the history of the district (See Note B, Fig. 1-21).

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-62, View of Picnic Area looking west, probably in the 1950s. The ramadas in the mid-ground appear to be numbers 3 & 4 from Fig. 2-55. Note the boulder curbing. The curbing may be delineating the Petroglyph Road in the foreground. Note too the Residential Area in the background. A flat area in front of the Warehouse (RF-100) seems to indicate the presence of the boulder-lined swale with boulder curbing protecting the edge (just behind woman at far right). PEFO 24963. Date not known. PEFO Archives.

2.6 ADMINISTRATIVE AREA

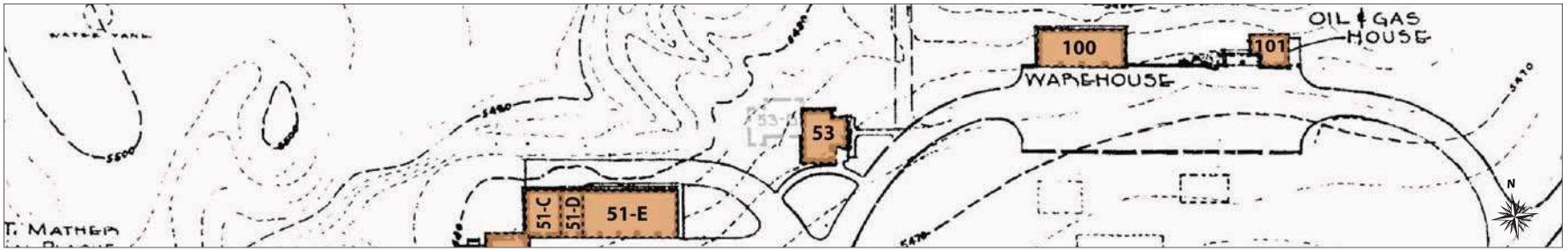


Fig. 2-63, Enlargement of the Modified 1949 Plan showing the Administration Area.

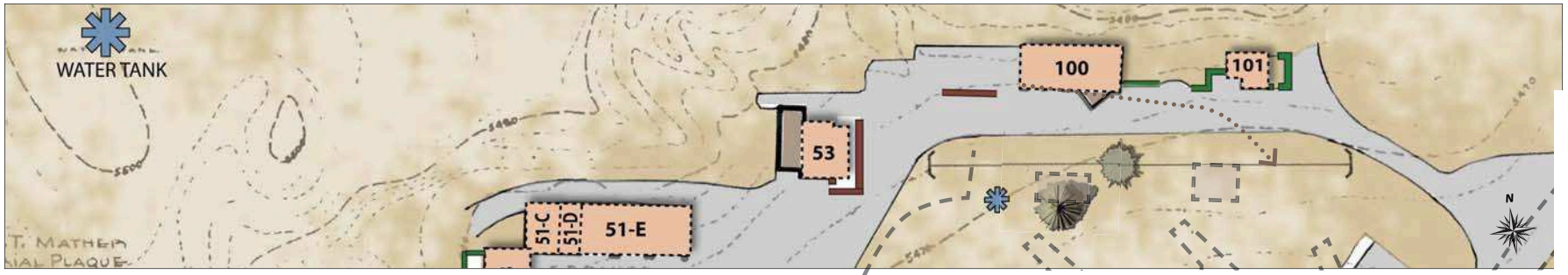


Fig. 2-64, Existing contributing features in Administration Area in 2008. The dashed line indicates the early configuration of the campground.



Fig. 2-65, Enlargement of 1943 photo with view of Administrative Area and upper portion of Picnic Area from bridge. Compare appearance of structures to Fig 2-65. From left to right: RF-53 was more similar to other structures; Warehouse and Shop (RF-100) had 5 bay doors and a shed to the west; the Oil & Gas House (RF-101) appears much the same. Note also the ramada, large granite boulder and boulder curbing. Plantings appear at the west terminus near RF-53, perhaps at the west terminus of the stone-lined swale, which is evident along the south edge of the drive. PEFO 25023. PEFO Archives.



Fig. 2-66, The buildings of the Administrative Area in 2008. Note changes since the period of significance (Fig. 2-64). These include the addition of a gabled roof, screen wall and addition to RF-53; the V-shaped addition to the Warehouse and Shop (RF-100); and the addition of a door to the Oil & Gas House (RF-101). The swale is not immediately evident, however the granite boulder can be seen beneath RF-53. Belt Collins 2008.

Administrative Area

Characteristic/Feature	*Status**	*Condition**	*Assessment/Comment*
Buildings and Structures			
Employee Residence, RF-53 (LCS#56690)	C	Fair	Built in 1936 by the CCC in similar style to others. Extensive incompatible changes include: 1955, a gable roof with overhanging corner to create a small porch; 1961, a stucco and concrete block addition at the rear of the building and shed attached to north side of the structure. Also, a block wall (stucco) has recently enclosed the small concrete courtyard in front. Building is currently a ranger station. The 2001 DOE found RF-53 to be a contributing resource despite these alterations. See 2005 Maintenance Guide for additional information (*Appendix C*).
Warehouse and Shop, RF-100 (LCS#56676)	C	Good	Built in 1936 by the CCC as a warehouse and shop. Exterior and interior changes have compromised the historic integrity of the structure. A V-shaped wood addition was constructed on the front facade to accommodate the increased length of the park's fire engine. The park intends to remove the addition and restore the façade in the future. CCC-era walls associated with this building are discussed below.
Oil & Gas House, RF-101 (LCS#56677)	C	Poor	Built in 1935 by CCC. The building is integrated into the hillside in a very rustic manner. Building RF-101 served as the Oil & Gas House before its conversion to a storeroom. Conversion included removal of gas pumps. Rehabilitation in 1963 included new doors and a new roof. CCC-era walls associated with this building are discussed below.
CCC-era masonry retaining walls in the vicinity of the Warehouse/Shop and Oil & Gas House	C	Fair-poor	Walls are historic and generally in good condition. Some damage and wear to the walls was noted; they should be stabilized/repaired.
Stucco walls and paved area adjacent to Employee Residence #53	NC/C	Good	The walled plaza area on the southeast corner of the building is compatible and blends well with the surrounding architecture and landscape.
Stucco screen wall near warehouse	NC/C	Poor	This wall is compatible. Stucco work has weathered poorly and should be reapplied.
Circulation			
Utility area/access road	C	Good	This alignment is historic. Screening measures have been undertaken in the past (see below).
Constructed Water Features			
Buried concrete water tank at NW corner of project area	C	Poor	This tank was part of the historic water system. It is abandoned (Fig. 1-19, p. 12).
Culverts and stone-lined drainage channel along south side of access road	C?	Poor	This swale was documented during the December 2008 site visit. Based on its method of construction, it may have been built by the CCC when the Warehouse and the Oil & Gas House were constructed. The swale has two culverts at either end. No documentary evidence of its construction has been uncovered to date. A planting plan from 1969 suggests a relationship between the swale and a proposed vegetative screen (see *Vegetation* below).

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-67, Photo of Oil & Gas House (RF-101) from 1949. Gas pump still in place. Note exterior retaining walls that flank the structure. PEFO 15720. PEFO Archives.



Fig. 2-68, Photo of Oil & Gas House (RF-101) from 2008. Gas pump removed and door in place of window on protruberance. Note exterior retaining walls that still flank but are in Fair to Poor condition. T. Scott Williams, NPS. PEFO Archives.



Fig. 2-69, Photo Warehouse and Shop (RF-100) from 1949. Note exterior retaining wall, 5 bay doors and shed Compare to Fig. 2-71. PEFO 15718. PEFO Archives.



Fig. 2-70, View of storm water inlet west of RF-53 that collects water from the north side of the garage and hillside above RF-53 and conveys it under RF-53 into the CCC-era swale. Belt Collins 2008.

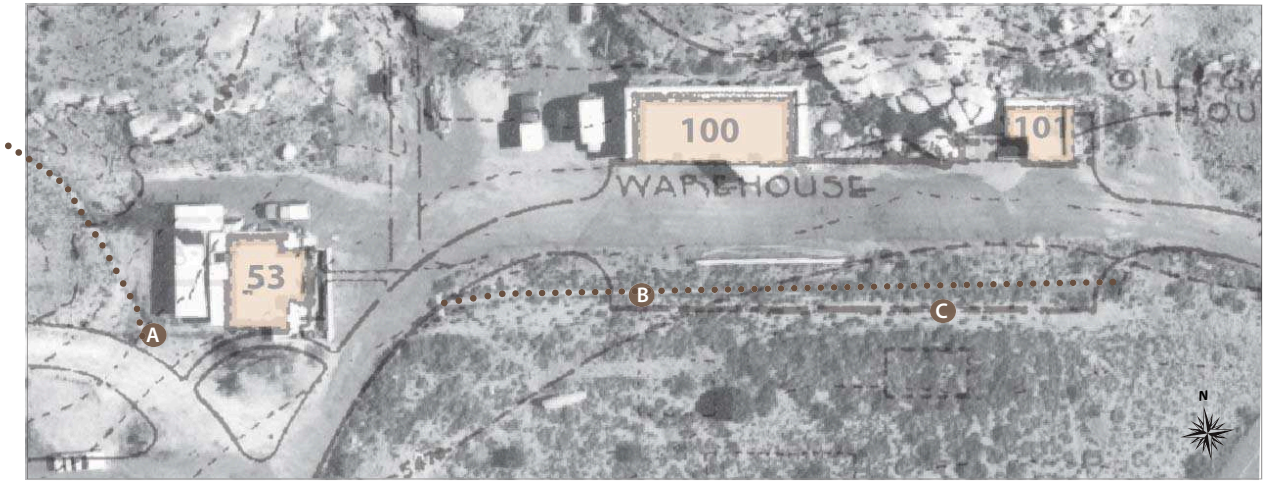


Fig. 2-71, An overlay of the 1949 plan over an aerial from the 1980s showing storm inlet (A) and CCC-era swale (B). Road disturbance on the south side of the swale (C) correlates to the roadway visible in early photos of the district (Fig. 2-55). Aerial obtained from NPS GIS web repository.





Fig. 2-72 (near right), view of culvert headwall at west end of CCC-era swale. Workmanship and materials reflect CCC-era construction. Belt Collins 2008.

Fig. 2-73 (far right) shows the typical treatments of the edges of the swale. Stone is cobble-like in character much like the other cobble walls of the later CCC-era in the district. Belt Collins 2008.

Administrative Area (cont.)

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Small Scale Features			
Screening of the utility area	-	Removed	After the period of significance attempts to screen the Administrative Area included a screen fence along the south side of the utility area and vegetative screen in the later 1960s (see *Vegetation* below).
Vegetation			
Vegetative screen at utility area	NC/C	Missing	A vegetative screen of sycamores, *Plantanus occidentalis,* was proposed to provide screening of the utility area from the Parking Plaza along the stone-lined swale in a drawing from 1969 (See Appendix G, Screen Planting Plan, PF-80003). Two additional clumps of vegetation were proposed to screen the area from the important east approach view-shed, one on the east side of the Oil &Gas House and another to screen the service area drive. Remnant trees include a Russian olive in the swale and a large juniper just south of the remnant olive.
Areas of native vegetation	C	Good	Surrounding vegetation is in good condition.
Views			
Views of Oil & Gas House and Warehouse Shop	C	n/a	Views to these elements are intentional and should be preserved.
Views to district and across wash	C	n/a	Views from the area into the interior of the district and across the wash are important.
Natural Features/Topography			
Hillside that buildings are built against	C	Good	Design cues are taken from the hillside into which the Warehouse and the Oil & Gas House are built.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-74 , A view along the stone-lined swale from 2008 (center). Note the surviving Russian olive in the swale with RF-53 behind. To the left, note the large juniper, the granite boulder is not visible behind it. Also note the low wall adjacent to the Warehouse and Shop. This is a good view of the v-shaped addition (compare to Fig. 2-69). Belt Collins 2008.

2.7 LODGE AREA

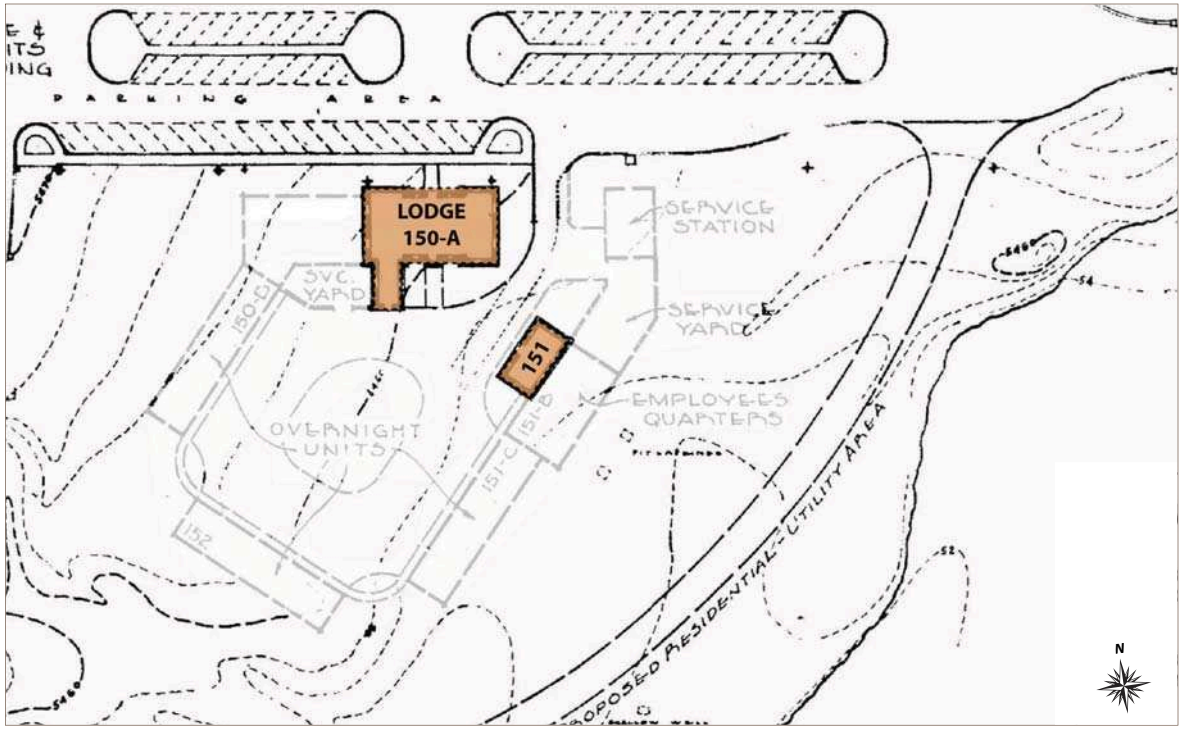


Fig. 2-75, Enlargement of the Modified 1949 Plan showing the Lodge Area. Note that an extensive amount of additional improvements were proposed in the 1949 Master Plan for the Lodge Area that were never constructed. These are shown in grey.

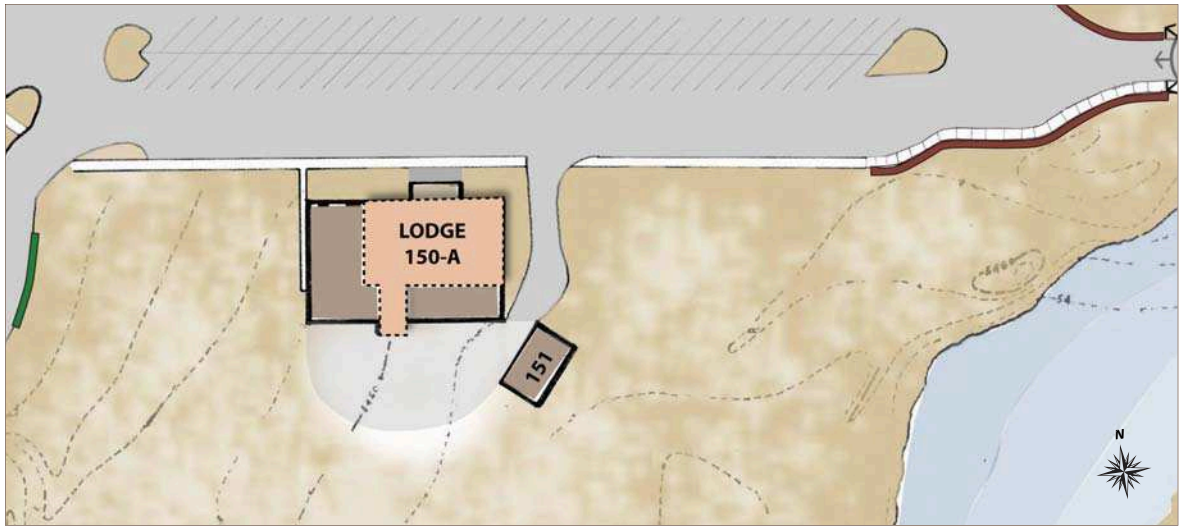


Fig. 2-76, Existing contributing features in Lodge Area.



Fig. 2-77, View of the Lodge c.1931, with the axial walk in the foreground. Note filling station to left. PEFO Archives.



Fig. 2-78, View of the Lodge after the first major remodel in 1952-1953. Note angled parking, awning, vegetation and signage. PEFO Archives.



Fig. 2-79, View of Lodge from 2004. Changes to the facade from the 1959 addition are notable including the oversized awning and narrow windows. Andrew Gorski 2004.

Lodge Area

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Buildings and Structures			
Rainbow Forest Lodge , RF-100 (LCS#296095)	NC/C	Fair(?)	The original structure was built 1929 by/for Dick Grisby. It retains integrity of location, however It has undergone a series of additions/changes that are not compatible in appearance and/or scale with the district's rustic, Puebloan style. Now a large, mostly concrete block building which incorporates a series of box-like additions made to the original stone structure. The rear elevation has a series of concreted block and stucco additions. A large crack was noted in the front elevation during the 2008 site visit. See 2005 Maintenance Guidelines for additional information about buildings (*Appendix C*).
Rainbow Forest Cabins, RF-151 (LCS#56685)	NC/C	Fair	Built in 1930 by Dick Grisby. While Southwestern in feeling, the original design for the duplex was somewhat different than the rest of the District; the building has never integrated into the planned development. The original flat roof has been covered by a gable roof. On the exterior, miscellaneous wires and utilities clutter the stone walls. See Maintenance Guidelines for additional information (*Appendix C*).
Filling Station	M	Removed	This structure was located just east of the Lodge. Now removed-the area has been revegetated.
Circulation			
Access drive behind lodge	C	Good	Alignment of asphalt/gravel drive to service court behind Lodge is historic.
Parking in front of Lodge	C	Good	Parking has always occurred in front of Lodge. 45 degree parking was designated after the parking area was reconfiguration of in the 1940s, Currently, limited parallel parking is designated for buses and ADA uses.
Sidewalk in front of Lodge	C	Good	A sidewalk in front of the Lodge continues to connect to the Museum. A sidewalk connection to Long Logs was added with the Bridge in 2002 following the removal of the filling station.

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-80, View of front facade of Rainbow Forest Cabins (RF-151) from 1940s. PEFO Archives.



Fig. 2-81, View of front facade of Rainbow Forest Cabins (RF-151) from 2004. Andrew Gorski 2004.



Fig. 2-82, View of the front of the Lodge near end of the period of significance. Rainbow Forest Cabins can be seen at left. Photo seems to reflect angled parking and "dog bone" configuration of the Parking Plaza. Note vegetation in area around building and in parking island and use of signage. Design of "dog bones" included flagstone to safely accommodate pedestrians at ends. Frashers Photo Postcard Collection, 1939. Pomona Public Library Digital Collections.



Fig. 2-83, View of front of the Rainbow Forest Lodge in 2008. Note use of site furnishings and change in paint color of awning. Filling station area revegetation can be seen to left. There is little vegetation in front of the building. Belt Collins 2008.

Lodge Area (cont.)

Characteristic/Feature	*Status**	*Condition*	*Assessment/Comment*
Constructed Water Features (none)			
Small Scale Features			
Site Furnishing	NC	Fair	Site furnishings at the building entry area include 3 benches, a pay phone, a trash receptacle, and an ash urn. None are contributing or even compatible.
Vegetation			
Trees around Lodge	-	None	Trees appear in historic photos of the Lodge over time (Fig. 2-82 and 2-85). Screen plantings were part of the 1969 planting plan. Minimal native vegetation surrounds the Lodge today.
Filling station revegetation area	NC/C	Good	Revegetation of the area where the Filling Station was located has occurred.
Vegetation in front of the Lodge	C	Fair-poor	Vegetation consists of sparse, short native grasses; stands seem unhealthy in areas.
Views			
Views to/from building entry	C	n/a	Views to/from the building entry are important for making visual connections between other visitor-related uses (Museum, Parking Plaza, Picnic Area/camp).
Views of signage on building	C	n/a	Historically, Lodge has been viewed from Parking Plaza and Highway 180 Approach.
Natural Features (none)			

*Abbreviations Key: C=Contributing M=Missing NC/C= Non-contributing/compatible NC/N=Non-contributing/not compatible Und.=Undetermined Condition



Fig. 2-84, View to front of Lodge from Residential Area. Note pull-thru parking and gate in fence. Belt Collins 2008.



Fig. 2-85, View from the 1940s to the front of the Lodge from the Residential Area. Note flagstone walks and plantings in front of the Lodge and in islands of the "dog bones." Troy Strickland Family Collection. PEFO Archives.

2.8 SUMMARY OF INTEGRITY

SUMMARY OF INTEGRITY

Integrity is the ability of a property to convey its historic significance. It is the combined effect of all of the landscape features that determines the overall integrity of the site. Guidance for evaluating the integrity of a historic property is provided in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (DOI 1997). The National Register recognizes seven aspects (or qualities) of integrity: location, design, setting, materials, workmanship, feeling and association. In order for integrity to be retained, a property must possess several (if not most) of the aspects.

Since the above criteria were developed primarily for buildings, structures and objects, it is necessary to consider three additional qualities that apply more directly to biotic resources when considering the integrity of cultural landscapes such as Rainbow Forest Historic District. The biotic *cultural* resources are communities of plants (and animals) associated with human settlement and land use in the district. Biotic *natural* resources are those that have escaped deliberate alteration, though have been affected by human presence in a historic period. The three criteria appropriate for evaluation of the integrity of biotic resources are: species composition, community organization, and land management techniques. These criteria should be considered in lieu of materials, design, and workmanship, respectively when evaluating the integrity of biotic resources in a cultural landscape (Firth, 42).

Overall Integrity Evaluation: The Rainbow Forest Historic Designed Landscape retains overall integrity.

Location *is the place where the historic property was constructed or the place where the historic event occurred* (DOI, 44).



Fig. 2-86, East elevation of Residential Area . Visible are (l to r): RF-50, RF-52, and RF-51-E (the Garage). Andrew Gorski, 2004.



Fig. 2-87, East elevation of Residential Area from the Preliminary Plans for the Residential Area by the NPS Branch of Plans and Designs. 1931. PF-110-12D, PEFO Archives.

Integrity of location is retained. The district remains in its historic location as do almost all of the buildings, structures, trails and roads.

Design *is the combination of elements that create the form, plan, space, structure and style of a property* (DOI, 44).

Integrity of Design for the district in general has been retained with the overall spatial organization of elements remaining intact. Changes include traffic pattern in the parking lots, the removal of curvilinear road in the Picnic Area (former campground), and the provision of public access to Pictograph Road have diminished the integrity of the overall design, however.

Integrity of buildings in the Residential Area is medium. Many of the incompatible additions and changes made during the 1960's and 1970's have recently been removed or modified to become more compatible. Conversion of service buildings to residential units also compromises integrity. The more public-facing architectural facades of the buildings maintain a high degree of integrity. The integrity of the overall design for this area has been diminished however by the addition of screening/privacy walls that, though compatible, make the historic structures less visible from outside the area than they were during the period of significance.

Integrity of Museum is medium. Although the 1963 addition is a departure from the previous style, the façade is still intact and the overall building communicates the original design intention.

Integrity of the Warehouse and Shop (Building #100) is low given that the existing building addition required the removal of original structural elements.

Integrity of the Oil & Gas House (Building #101) is retained.

Integrity of CCC-era walls is retained. All but one of the walls constructed by the CCC remains and most are in good condition. A few portions of wall were removed in conjunction with changes to vehicular circulation.

Integrity of CCC-era curbing is not retained. Few, if any, of the original curb stones remain in their historic locations, having been modified or replaced in conjunction with changes to vehicular circulation in the 1960s and 1970s or during recent changes of the Parking Plaza.

Integrity of the Giant Logs Trail is medium, with certain segments maintaining a high level of integrity. Features such as concrete steps and concrete walls were added to the CCC-era trail beginning in the 1960s to better manage the condition of the trail; additionally, several social trails have developed over time that are not a part of the original design.

Community Organization *the compliment to Design for biotic resources, is the organization of an ecological community (i.e., the plant and animal species) in terms of size, structure, and distribution of each of the populations plus the cyclical patterns in these characteristics* (Firth, 12).

Integrity of Community Organization of the district is retained overall. Areas of vegetation that are generally undisturbed by humans (i.e., natural biotic resources: Firth, 4) within the district retain a high degree of integrity appearing today much as they did in historic documents. The integrity of vegetative patterns established as a result of construction or management during the period of significance (i.e. cultural biotic resources; Firth, 4) have medium integrity. Historically, a pattern of low native vegetation that mimics the surrounding landscape characterized the district. Of notable exception is the Residential Area where trees and a woody understory are indicated even in early architectural concepts (Fig 2-87). This pattern remains in large part today. However, the cottonwoods and juniper plantings in the Picnic Area and at the Museum (Mission 66-era additions) are a departure in the structure and distribution of vegetation. Historically the use of trees and shrubs was limited to the Residential Area.

Setting *is the physical environment of a historic property* (DOI, 45).

Integrity of the district's Setting has been retained. Since the end of the period of significance, views in all directions remain largely unchanged and no additional development has taken place in the vicinity.

Materials *are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form an historic property* (DOI, 45).

Integrity of Materials is medium. Original materials remain in place in large part today. They consist primarily of CCC-quarried stone used to construct features in the district. Introduced designs primarily during the Mission 66-era, have literally covered up the contributing materials, thereby compromising integrity. This is best exemplified by the Lodge.

Species composition *the compliment to Materials for biotic resources, focuses on the dominant native and introduced plant and animal species that were the subject of management activity in the district (*Firth, 11).

Integrity of Species Composition is retained. Aside from the exotics contained within the residential courtyard gardens, managed species in the district have consistently been native in origin.

Workmanship *is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory* (DOI, 45).

Integrity of Workmanship is high. The masonry of the buildings and walls, as well as the craftsmanship of trail features at the Giant Logs Trail, all reflect a high level of skill and design philosophies typical of the 1930s and the CCC. For the most part, additional maintenance that has occurred since the period of significance has sought to be compatible. Some non-compatible alterations to buildings have occurred; though some of these alterations have been corrected more recently.

Land Management Techniques *the compliment to Workmanship for biotic resources, are the practices by which these resources are cared for. These techniques result in the physical evidence of the steward's labor and skill in managing or altering biotic resources, the types of equipment used and the timing of the various activities* (Firth, 13).

Integrity of Land Management Techniques is high. Given the minimal amount of water available in the area, irrigation practice has been limited to the Residential Area and exotics have been cultivated. Elsewhere, vegetation has had to subsist on rainfall. Thus, only lower growing native species have tended to survive despite attempts to establish other species since the period of significance. Notable exceptions are the cottonwoods and junipers that persist in the Picnic Area and in front of the Museum that may benefit from concentrations of storm water runoff via roof drainage and underground storm water systems.

Feeling *is the district's expression of the aesthetic or historic sense of a particular period of time. Feeling results from the on-site presence of physical features, and from continuing values and meanings of the place alive in*

contemporary communities: these taken together convey the landscape's historic character (DOI, 45).

The integrity of feeling has been retained, though it has been compromised. When Rainbow Forest served as park headquarters it functioned as the ultimate destination in the park. Since the migration of headquarters to the Painted Desert, the importance of the district, and consequently, the feeling associated with the district has lessened. Although all the historic buildings remain, many have changed function.

Association *is the direct link between an important historic event or person and a historic property* (DOI, 45).

The integrity of association has been retained. Evidence of 1930s and CCC-era park development remains prominent, despite modifications during the 1960s and 1970s that have weakened the integrity of certain features in the district and aspects of the overall spatial pattern and circulation system.

DESIRED FUTURE CONDITION

As the site of the first park headquarters, the Rainbow Forest Historic Designed Landscape is an important component of Petrified Forest National Park and as such plays a prominent role in the function of the park as a whole. The desired condition is two-fold: to effectively convey the significance of this designed cultural landscape as an important work of rustic design utilizing the contributing features and patterns; and to effectively adapt existing historic fabric in a compatible manner to meet the needs of current visitors, while meeting other park management priorities.

Despite the relocation of park headquarters to Painted Desert, the Rainbow Forest area continues to provide for a number of uses that fulfill park-wide management goals. These include providing for a variety of visitor experiences involving the park's natural and cultural resources (e.g. close contact with petrified wood); it also provides for various administrative and operational uses (e.g. staff housing and maintenance facilities). Concessioner-offered services are also available at the Lodge, a historic land use at this location that precedes the other existing historic elements. As managers of one of the more prominent structures in the designed landscape, the concessioner should continue to be engaged as a vital partner in the creation and implementation of a shared vision for this area that can effectively achieve the goals of both the park and the concessioner.

REHABILITATION: THE OVERALL TREATMENT RECOMMENDATION

One of the goals of a CLR, Part Two is to provide a recommendation of an overall landscape treatment approach consistent with one of the four treatment alternatives for historic landscapes (preservation, rehabilitation, restoration, and reconstruction)



Fig. 3-1, View toward Rainbow Forest Historic District across Jim Camp Wash from east approach road. Note Jim Camp Wash Bridge at left and two groups of large trees at Picnic Area (center) and Residential Area (right). Andrew Gorski, 2004.

recognized by the Secretary of the Interior in the 1996 Guidelines (Birnbaum 1996; refer to End Note 3-1 for additional information on the 1996 Guidelines). Section 2 of the 2002 Memorandum of Agreement between the National Park Service and the Arizona SHPO establishes Rehabilitation as the primary treatment of the Rainbow Forest Historic Landscape (NPS 2002, 2). This CLR concurs that rehabilitation is the historic landscape treatment most appropriate for preserving the historic character of the district's resources and provides recommendations for treatments based on that approach.

According to the 1996 Guidelines, Rehabilitation is the act or process of making possible a compatible use for a property through repair, alterations, and additions, while preserving those portions or features that convey its historical, cultural, or architectural values. Rehabilitation may be an appropriate treatment when repair and replacement of deteriorated features is necessary; when alterations are planned for a new or continued use; and when depiction at a particular period of time is not appropriate. The standards for rehabilitation—as with those for preservation—emphasize retaining and repairing existing historic features, finishes, and materials; however rehabilitation standards acknowledge the need to alter a cultural landscape to meet continuing or new uses (Birnbaum 1996, 3, 47-48).

The rehabilitation treatment recommendation is consistent with the general management approach to the area since the late 1980s, when the first National Register Nomination was prepared and a working relationship with AZSHPO was initiated related to the district's historic resources. Concurrent with that nomination process, the park has been adapting and maintaining the historic resources in the district to better meet the evolving needs and demands of current visitors and shifting park management priorities. While changes in the 1960s and 1970s resulted in some erosion of historic fabric, such as the modifications to the Residential Area structures, alterations by the park since that time period have generally been respectful of historic resources even though specific preservation

guidance was not developed for the district until the 2002 MOA was written.

MANAGEMENT ISSUES

The park management team identified five overarching issues to be addressed in the treatment recommendations of this CLR. They are vehicular circulation, trails/pedestrian circulation, orientation/ wayfinding, landscape elements, and compatibility guidelines for future changes.

VEHICULAR CIRCULATION

Issue/Concern: The primary vehicular circulation feature in the district is the Parking Plaza. This area has been a source of concern for several reasons for the current management team. User safety is the first and foremost concern. The configuration of the thru-road and parking stalls in the Parking Plaza is unusual with access to each pull-thru parking space provided directly from the thru-road rather than from a separate lane with one or two points of access to the thru-road. The absence of this clear division of routes between the thru-road and parking lane causes confusion among both drivers and pedestrians. This confusion is potentially distracting, keeping drivers from keeping their eyes on the road ahead. The lack of sufficient signage or other wayfinding tools also results in the distracting sense of being lost. This highly permeable pull-thru parking configuration creates additional hazards by allowing vehicles (some oversized and with trailers) to be backed directly into the thru-road.

Objective: To have users experience the Parking Plaza as a safe area and enjoy the qualities that make it special. Having a legible circulation pattern would contribute to that experience; signage and traffic control devices could be utilized toward this end.

Issue/Concern: Management recognizes that the historic spatial pattern and the existing arrival sequence across the bridge and into the plaza area are important components of the historic designed landscape.

Objective: To incorporate consideration of these important historic patterns into the guidelines and/or proposed treatments.

TRAILS/PEDESTRIAN CIRCULATION

Issue/Concern: Staff are concerned about making adequate provision for universal accessibility to resources in the district and about being in compliance with Architectural Barriers Act (ABA). Among the elements of concern is access to the Museum and to existing and/or future restroom facilities, especially as changes to the Museum and the construction of a stand-alone restroom are being considered.

Objective: To provide guidance toward historically compatible solutions for universal access at the Museum and at a potential future restroom building (see restroom objective below for additional issues/ concerns).

Issue/Concern: Similarly, staff are concerned about the level of universal access available (or unavailable) on the Giant Logs Trail.

Objective: To provide guidance toward historically compatible solutions for enhancing universal access to the Giant Logs Trail.

Issue/Concern: Also at Giant Logs, staff indicated a need for guidance related to maintenance standards for the trail system. Specifically, staff would like the option of improving the trail in order to drive a four-wheeled "mule" on the historic alignment to improve the efficiency of certain activities such as snow removal.

Objective: To provide guidance toward historically-compatible solutions for potential "mule" access and improved maintenance efficiency.

Issue/Concern: Also in question is whether there is any flexibility (from an integrity stand-point) in the dimension of the wrought-iron gate along the access ramp on the north side of the building; a wider gate would allow for universal access and passage of the "mule."

Objective: To provide guidance toward historically-compatible solutions for improved maintenance access to the Giant Logs Trail.

Issue/Concern: After the Long Logs access route was modified from a vehicular road to a pedestrian trail, parking was intended to occur in the Parking Plaza and Picnic Area. Pedestrian access from these areas is provided along a sidewalk located on the south side of the Jim Camp Wash Bridge. The location of this access route and the location of designated parking for the trail can be difficult for visitors to determine.

Objective: To provide guidance toward improving orientation and wayfinding in a historically-compatible manner related to the Long Logs Trail access from the Parking Plaza and/or Picnic Area including wayfinding related to parking for visitors arriving by car.

Issue/Concern: A substantial drainage improvement project for the Parking Plaza Area occurred during the 2008-2009 winter season. One component of that project included the replacement of curbing and sidewalk around the perimeter of the Plaza with historically compatible masonry stone milled and quarried outside of the park boundary. Park management would like guidance on what are appropriate paving treatments. Additionally, management is concerned about the ramifications of this project given its implementation prior to the

completion of the CLR.

Objective: To provide guidance for the continued use of historically-compatible materials in the rehabilitation of aging infrastructure including stone walls and curbs, walks, culverts and other CCC-era structures and small-scale features factoring in previously constructed and historically-compatible maintenance projects implemented prior to the completion of the CLR.

ORIENTATION/WAYFINDING

Issue/Concern: During the site visit in December 2008, researchers noted a pattern among newly arriving visitors into the area: they didn't know where to go! After crossing the Jim Camp Wash Bridge and entering the district, visitors either came to a complete stop in the middle of the thru-road or drove haphazardly in order to survey the scene and determine a direction in which to proceed. Worse yet, were the visitors who proceeded through the district noticeably frustrated without even stopping. Given these observations, researchers recreated the visitor experience and noticed an absence of wayfinding and orientation cues for arriving visitors. Existing signage is minimal and not unified; directional striping of the plaza area/thru-way arrangement is inadequate; and, the hierarchy of architectural features has become muddled over time further diluting wayfinding cues.

Objective: To provide guidance related to improving the system of orientation and wayfinding elements within the district to help visitors understand where to go, what to do, and what to see.

VEGETATION, PLANTINGS AND LANDSCAPE ELEMENTS

Issue/Concern: Cottonwoods in the Residential Area and Picnic Area are maturing and reaching the end of their life. Park management is concerned about what should be done now in anticipation of replacement of these trees?

Objective: To provide guidance toward the location and type of plant material to replace the existing/ historic vegetation.

Issue/Concern: Water is a precious resource in the district's desert environment. Other than an average of 8" of rainfall per year, water is piped in from a Native American owned water authority outside of the park. Guidance regarding low water use irrigation practices should be provided.

Objective: To provide guidance related to planting and irrigation techniques compatible with both the desert environment and the existing historic fabric.

Issue/Concern: The visual impact of utility and other service functions occurring within the district should be minimized using screening or other means. Screening may also be considered as a method for improving privacy for the Residential Area.

Objective: To provide guidelines for screening in a historically-compatible manner.

Issue/Concern: The Residential Area lacks shade and other amenities for resident staff.

Objective: To provide guidance for historically-compatible improvements for the courtyard area that enhance "quality of life" for residents.

FUTURE USES, REUSES, ADDITIONS AND OTHER CHANGES IN THE HISTORIC DISTRICT

Issue/Concern: The construction of a small-scale, freestanding restroom facility is under consideration for the district. One location being considered is near the edge of the north side of the Parking Plaza between the Picnic Area and the Residential Area. Are there other locations that should be considered?

Objective: To provide guidance for the design and construction of such a building in the district in a historically-compatible manner; and, to provide alternative locations for the facility if so desired by the park.

Issue/Concern: The Picnic Area is an adaptive reuse of the former campground. In the future, the currently unprogrammed area just north and west of the existing picnic grounds may need to be considered for locating compatible uses. What uses are historically-compatible? Is the picnic use compatible; and, do the Mission 66 era shelters have any negative impacts on integrity?

Objective: To provide guidance for appropriate land uses for the former campground; and to provide guidance on potential maintenance/rehabilitation of this area to restore or enhance integrity.

Issue/Concern: The need and/or desire for renovation, adaptive reuse, or construction of facilities within the district may emerge in the future. What considerations should be given to such a proposal?

Objective: To provide points of consideration and guidance when changes or additions to features in the district are being proposed.

COMPLIANCE

This document provides landscape treatment recommendations to assist park management in addressing the future of the Rainbow Forest historic district. This CLR is not a decision document, and so does not include an Environmental Assessment or Environmental Impact Statement. However, a copy of the draft document was sent to the Arizona State Historic Preservation Office (SHPO) for review in recognition of the 2002 Memorandum of Agreement

(see Appendix E). Specific projects developed to implement CLR recommendations will require Section 106 compliance including SHPO review.

END NOTE

3-1: The Secretary of the Interior recognizes four appropriate treatment alternatives for historic landscapes: preservation, rehabilitation, restoration, and reconstruction. Published standards for each of these treatments are available. These standards provide managers with the philosophical framework for a consistent approach to a cultural landscape project, once a specific treatment approach has been selected. A variety of factors may influence the decision of primary treatment. These factors include: a property's level of historical significance and degree of historic integrity (physical evidence of significance), a property's proposed use, and long- and short-term objectives. The overall goal for each of the four treatments is the preservation and enhancement of historic integrity. However, both restoration and reconstruction are concerned with introducing measures to return a landscape to its conditions and appearance at a particular time in history. By contrast, both preservation and rehabilitation "seek to secure and emphasize continuity, while acknowledging change" (Birnbaum 1996, 6).

4.0 GENERAL TREATMENT RECOMMENDATIONS

OVERVIEW

This section articulates a strategy for the long-term management and rehabilitation of the Rainbow Forest Historic Designed Landscape based on its significance, existing conditions and use. This strategy takes into consideration management goals, such as those in the General Management Plan. This section makes some comprehensive, district-wide recommendations in addition to some very specific recommendations that apply to specific character areas within the district. The foundation for the rehabilitation strategy is the historical research, existing conditions and analysis and evaluation summarized in the first part of this document. This section has been developed in collaboration with park management and staff to ensure that management goals are addressed and that proposed treatments can be implemented and maintained over time. Additional information and guidance from other professionals (e.g. horticulturalists and engineers) may be needed to implement the treatment recommendations.

In addition to the general, district-wide recommendations, this section also includes treatment recommendations to specific character areas in the district. These character areas are: the Parking Plaza Area, The Museum Area, the Giant Logs Trail Area, the Picnic Area, the Residential Area, the Administrative Area and the Lodge Area.

SPECIAL REQUIREMENTS

All treatments to the cultural landscape must reflect the core principles of the National Park Service. These special requirements would include the park's responsibility and obligation to:

- Provide a safe environment for both visitors and employees,
- Maintain an environmentally friendly and sustainable setting
- Abide by federal regulations and policies on topics such as sustainability and energy use,
- Be economically efficient, and
- Promote strong working relationships with outside partners

GENERAL RECOMMENDATIONS

The recommendations below are based on the historic and contemporary information available for and used in this CLR. A number of these general recommendations are based on recommendations within the 2001 Cultural Landscapes Treatment Recommendations for Desert View, Grand Canyon National Park (John Milner Associates 2004). If future research brings to light additional or conflicting information, some of these recommendations may need to be revisited.

- Undertake all work in compliance with the 1996 Guidelines, and NPS Cultural Resource Management Guidelines (NPS 28).
- Retain the character of the historic landscape by protecting individual elements as well as the overall landscape.
- Ensure the compatibility of proposed elements by appropriately responding to the historic character of the site.
- As much as possible, base all treatments on historic documentation.
- Undertake vegetation management strategies using a combination of historic preservation principles and NPS principles of sustainability.
- Remove any invasive non-native plant species in the future as needed if monitoring activities identify any to be present in the study area. Use ecologically sound removal techniques, (e.g. minimize ground disturbance, install new plants by hand, and minimize impact to plants that will remain).
- Avoid threats to existing natural areas outside of the study area by selecting plant species for addition or replacement within the study area that are not invasive, diseased, or infected with any plant pathogen.
- Minimize immediate and long-term damage to natural and cultural resources by monitoring and, if needed, regulating use of trails and other visitor amenities.
- Ensure Sustainability. If use of additional materials is needed, use locally indigenous materials that are renewable, environmentally sensitive, and reflect the regional vocabulary; take into consideration the life-cycle cost of materials to assess the long-term wearing capacity and maintenance costs of landscape materials (e.g. planting perennials rather than annuals); consider materials that are non-toxic, durable, long-lived, low maintenance, recycled, and locally-produced; avoid petroleum-based materials whenever possible; and use only stable, non-hazardous materials that do not emit toxins through off-gassing or soil leaching.
- Document, through drawings, photographs, and notes all landscape changes and treatments. Maintain a "Record of Treatment" and preserve documentation according to professional archival standards. Additional guidance related to the Record of Treatment (or CLR, Part Three) can be found in *Guidelines to Cultural Landscape Reports* (Page 1998).
- Avoid landscape changes that create a false sense of historical development, including the addition of conjectural, typical, or representative elements.

ADDITIONAL GUIDELINES FOR RAINBOW FOREST HISTORIC LANDSCAPE AS ARTICULATED IN THE 2001 *MEMORANDUM OF AGREEMENT* WITH ARIZONA SHPO

- Maintain or enhance historic integrity by preserving and/or minimizing the impact of any future modifications to contributing biotic and built elements within the landscape.
- All proposed projects that potentially affect the landscape and/or related features shall consider the effect of that project on the landscape as a whole.
- Utilize compatible materials, colors, forms, and scales in all repairs, modifications or additions to contributing buildings and landscape elements.
- Contemporary features such as exterior HVAC systems, satellite dishes, and utilities shall be evaluated for their appropriateness, and if found acceptable, integrated into the landscape in a manner sensitive to maintaining historic integrity.
- Replace in kind any contributing vegetation that is disturbed.



Fig. 4-1, New and old meet compatibly at Painted Desert Inn historic district. Lighter color on the more recent stone would have been even more compatible. Belt Collins, 2008.

- Maintain scale, feeling and relationships of features within the landscape.
- Avoid creating a false sense of historical development and avoid extending non-historic design elements or patterns within the landscape.
- Maintain significant viewsheds and alignments in an obstructed manner.

GUIDELINES FOR DEVELOPMENT OF NEW ARCHITECTURAL ELEMENTS

The architectural elements within the Rainbow Forest Historic District are among the most important features conveying the historic significance of the designed cultural landscape. As such, there are a multitude of factors that should be analyzed when the introduction of any new architectural feature into the historic district is under consideration in order to avoid diminishing the overall integrity of the district. This section utilizes material developed in the 2005 Maintenance Guides (Gorski and Lovato, 58; and found in *Appendix C* of this document) to provide an overview of considerations to be taken into account when constructing new facilities within the Rainbow Forest Historic District. Additional guidance based on the contributing features and patterns identified in Chapter 1 is also provided.

There are few immediate needs for new structures within the district. However, a new accessible restroom is needed. While it may be possible to expand or rehabilitate an existing building such as the Museum to accommodate this need, it is more than likely that a new stand alone structure will be constructed. Petrified Forest has received preliminary approval from AZSHPO to place the structure north of the Parking Plaza and adjacent to the Picnic Area. In addition to sensitively placing the structure in the landscape, the scale, massing and materiality of a new building will be critical to constructing a compatible structure within the historic district.

LOCATION OF NEW ELEMENTS/FEATURES

THE CIVIC PLAZA CONCEPT

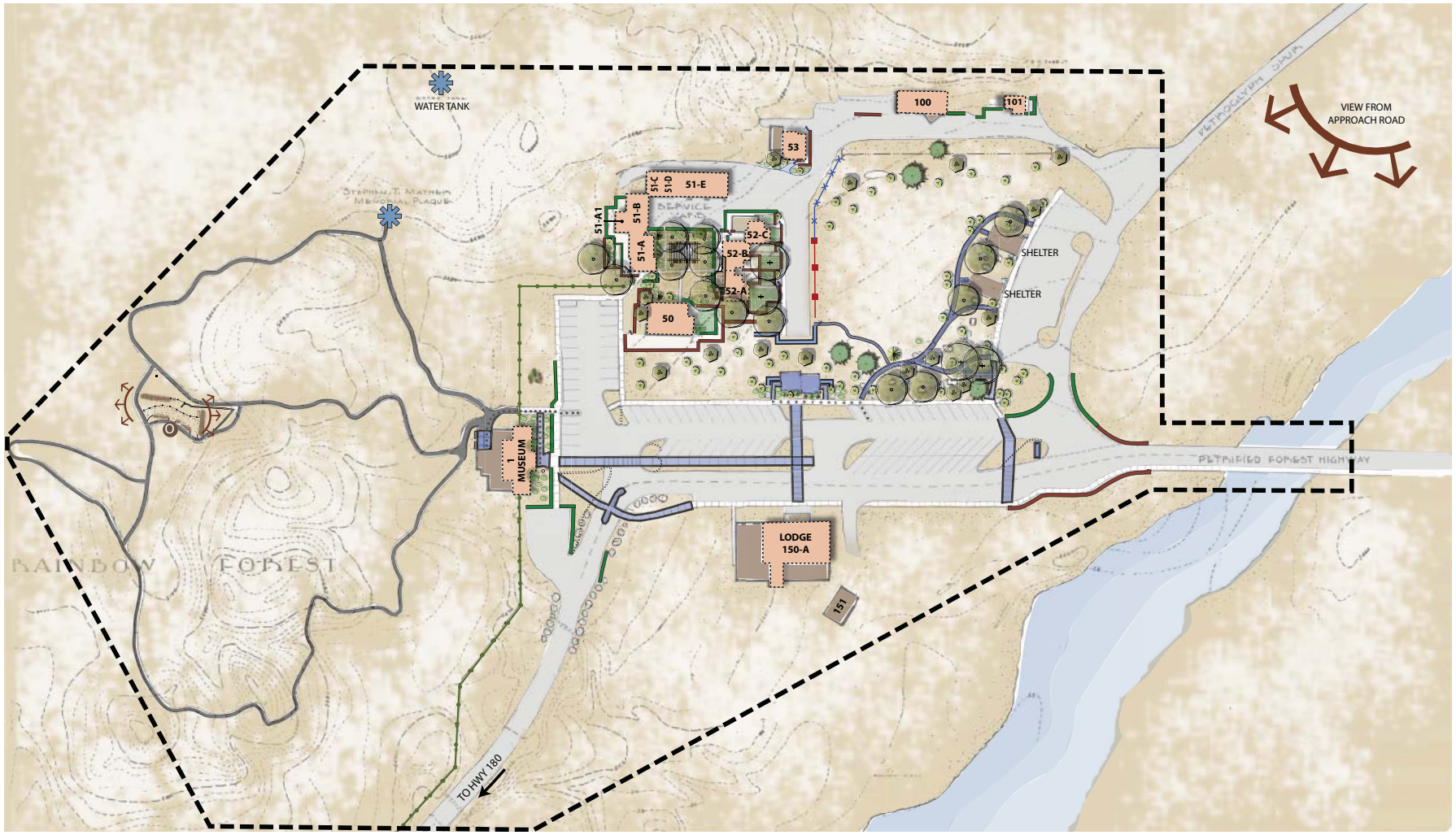
As demonstrated previously, the spatial relationship between the existing, historic features is one of the primary patterns that convey the significance of the historic district. Most particularly, this has to do with the manner in which the Museum, Lodge and Residential Area encompass the Parking Plaza creating a centralized civic space or "plaza" (see *Summary of Landscape Characteristics, Spatial Organization*). This organizational pattern should be of primary concern when the addition of any architectural elements is under consideration.

THE PRIMARY AXIS

Another organizational pattern central to the historic designed landscape is the axial relationship between the Jim Camp Wash Bridge and the Museum. This organizational pattern was once embodied by a flagstone axial walk that literally delineated that axis and emphasized the prominence of the Museum as the primary architectural feature in the designed landscape. The walk was removed completely in the 1960s when vehicular circulation within the Parking Plaza was reconfigured. This CLR recommends the reintroduction of this design gesture in some compatible manner (see *Treatments-Parking Plaza*). This pattern/feature should be considered in the siting of any future elements.

SEPARATE, CLUSTERED USE AREAS

The Civic Plaza Concept is further supported by the historic clustering of similar uses. In this document, this has been translated into the seven character areas (Parking Plaza Area, Museum Area, etc.). Attention should be given to these historic use areas in considering the compatibility of any future use associated with any new element or feature. For



LEGEND

- HISTORIC FEATURE
- VIEWS
- HISTORIC BUILDINGS
- BUIILDINGS & ADDITIONS (NON-CONTRIBUTING)
- PROPOSED VEGETATION (See Appendix D for plant list)
  - a. SHADE TREE
  - b. ACCENT SHRUB (HEIGHT >42")
  - c. SCREENING SHRUB (42" MAX. HEIGHT)
  - d. LOW GROWERS (30" MAX. HEIGHT)
  - e. EVERGREEN SHRUB
  - f. TO BE REMOVED
- EXISTING TREE
- EXISTING JUNIPER
- ADA ROUTE
- EXISTING CURB ALIGNMENT
- RECOMMENDED TREATMENTS
- CONTRIBUTING WALL
- NON-CONTRIBUTING FENCE
- PROPOSED FENCE
- CONTRIBUTING FENCE
- CLI BOUNDARY
- CULVERT HEADWALL (CCC-ERA)
- PAVEMENT
- TRAIL
- SIDEWALK
- NON-CONTRIBUTING WALL

N

0 50 100 FEET

Fig. 4-2, Overview of the Treatment Recommendations Plan



Fig. 4-3, This architectural concrete block is being used to create a landscape retaining wall. A material such as this is contemporary, yet compatible with historic features. Borgert Products brochure, 2009.

example, development related to a concession-related use would not be compatible in the Residential Area; however, an understated restroom in the Picnic Area would be compatible with the historic use.

PRESERVATION OF CONTRIBUTING VIEWSHEDS

Views into and out of the district are a primary feature of this landscape. Historic and newer compatible features have been designed to blend into the landscape as noted in the materials section below in order to minimize impacts on the viewshed. Several contributing viewsheds have been noted (see *Analysis and Evaluation* section). These important viewsheds should be preserved.

PRESERVATION OF CONTRIBUTING CIRCULATION PATTERNS

Several circulation patterns and features have been identified as contributing. These patterns are important aspects of the visitor experience. Potential impacts to the integrity of the contributing circulation patterns of both pedestrians and vehicles should be considered when locating new elements or features with the historic district.

DESIGN PRINCIPLES

When designing any new buildings for the Rainbow Forest Historic District, one of the most important considerations should be the overall form and massing of the building. How the new building relates to the Puebloan inspired buildings is important. Also, the overall scale of the building or addition should be in keeping with the district's historic character and should not take away from the prominence of the existing structures in the designed landscape. For example, the Museum should remain the primary focal point of the district from the Parking Plaza.

MATERIALS

There are a number of materials that are appropriate for new construction within the Rainbow Forest Historic District. The use of sandstone masonry would be a good choice because it is the most prominent building material at Rainbow Forest. However, a strict replication of the detailing utilized on the earlier sandstone buildings is not necessary, and may in fact be discouraged. The use of details or construction techniques may be more reflective of those seen in contemporary building. For example, the use of steel for lintels and exposed structural elements could give any new structures characteristics to distinguish them from older structures in the district. Other modern materials that may be used include stucco and architectural concrete masonry units (Fig 4-3).

SUSTAINABLE DESIGN

New sustainable technologies and ecological design principles should be incorporated into any new designs. Sensitive use of natural resources in the Rainbow Forest environment should be explored, including solar energy and water harvesting. Ensure that any changes to the designed landscape are compatible with the cultural and historical resources in the area.

CIRCULATION, SURFACES, AND WAYFINDING

Any striping, signage, medians and/or traffic control devices installed to improve vehicular and pedestrian circulation within the district should be American Association of State Highway and Transportation Officials (AASHTO)-compliant and consistent with this CLR.

Install vehicular/pedestrian gateway signage (e.g., Fig. 4-25), wayfinding and interpretive signage to help guide circulation patterns. Refer to treatment recommendations for each character area for specific recommendations and utilize this CLR as the basis for incremental improvements over time that result in a consistent treatment approach.

In most instances, concrete surfacing will likely provide the best long-term value for surfacing of sidewalks and other pedestrian-oriented improvements. Care should be given to selecting a finish that has a softer, historic (aged) quality to it that is also compliant with ADA accessibility standards. This can be achieved by careful selection of aggregate type, color additive or finishing technique. A "typical treatment" detail and specification for walkways within the district should be developed and maintained as part of the treatment record. This will ensure a consistent treatment throughout the district as rehabilitation and other maintenance projects occur in the district.

There may also be opportunities for incorporating specialty paving at certain locations where such an expression could be warranted like entry areas and plazas. Such areas could be paved with flagstone that has been collected at the park's bone yard near the headquarters area. This treatment was utilized in certain areas surrounding the Painted Desert Inn (Fig. 4-4). Care should be taken to ensure that such



Fig. 4-4, Restored flagstone plaza and puebloan portico at Painted Desert Inn. Belt Collins, 2008.

a treatment is executed in a compatible yet ADA accessible manner.

ACCESSIBILITY

ACCESSIBILITY AND REHABILITATION GUIDANCE

The Secretary's 1996 Guidelines provides guidance for balancing the need for accessibility with preservation. It is important to recognize that any work undertaken to meet code and/or energy requirements must be assessed for potential impact on historic character. Care must be taken "not to damage or destroy character-defining materials or features" (DOI 1996, p. 54).

Further explicit considerations include:

- Complying with barrier-free access requirements in such a way that character-defining features, materials and finishes are preserved.
- Providing barrier free access that promotes independence for the disabled person to the highest degree practicable while preserving character defining features.
- Meeting accessibility requirements that minimize the impact of the historic fabric (ibid, p. 86-87)

UNIVERSAL ACCESSIBILITY vs. ADA

Under the Architectural Barriers Act of 1968 (ABA), federal agencies are required to meet certain technical requirements for accessibility to sites, facilities, buildings, and elements by individuals with disabilities. These standards are commonly referred to as ADA requirements. ADA stands for the Americans with Disabilities Act, the 1990 Act that established these same standards to the private sector. There are certain exceptions for alterations to properties eligible or listed on the National Register (ABA Section F202.5). See Appendix I for more details. There are also a set of guidelines in the final draft stage related to accessibility for outdoor recreation facilities. These provide guidance for facilities such as trails and picnic facilities.

The term Universal Accessibility is used in this document as something distinct from both of these guidelines. Much like the 1996 Guidelines, this is understood to mean that a "best effort" is made to comply with these guidelines and provide a highly accessible experience without damaging or destroying character defining features in the district. This concept is most applicable in the Giant Logs Trail area where with a few minor changes to the historic alignment, the trail and overlook experience is made available to visitors with a broader range of abilities. This would involve the removal of two sets of steps installed after the historic period as steps are a significant barrier in the trail environment. To further provide access to the view from the overlook, it is recommended that an interpretive graphic depicting that view be provided in the Museum's solarium.

GENERAL PLANTING AND IRRIGATION GUIDELINES



Fig. 4-5, The Parking Plaza from Jim Camp Wash Bridge c.1943 just after the end of the period of significance. Vegetation consists of native species, primarily low-growing, and is visually subservient to architectural features. PEFO 25023. PEFO Archives.

In general, continue the historic, contributing pattern of informal native plantings that reinforce architectural elements as the dominant features of the designed landscape while seeking to integrate the overall designed landscape into the surrounding natural environment (Fig. 4-4).

In addition, plantings should enhance the appearance of other historic small scale features such as fences, walls, and curbs without obscuring or overwhelming them (Fig. 4-6 vs. Fig. 4-8).

Potential, compatible locations for trees are specified in the character area guidelines.

Any plantings that occur in the immediate vicinity of architectural elements should have a mature height that does not obscure historic architectural detailing such as windows and doors. They should be planted in an informal, "naturalistic" pattern (i.e., with an irregular edge and not in rows) with consideration of mature heights (i.e. taller, larger plants should occur



Fig. 4-6, Vegetation in the parking island with the flagpole exemplify the pattern of low-growing, native vegetation in a naturalistic arrangement. The combination of yucca and grasses is an ideal palette for use in the immediate vicinity of architectural elements, especially the Museum. Belt Collins, 2008.



Fig. 4-7, Vegetation behind the CCC-era wall on the west side of the entry to the Picnic Area. Some larger, woody shrubs are mixed with grasses. The combination of woody shrubs and grasses could be planted in the more open areas of the Parking Plaza. However, care should be taken not to obscure historic features. Belt Collins, 2008.

with less frequency and be at a greater distance from primary circulation routes) (Fig. 4-5).

Informal plantings in more open areas, such as within and around the Parking Plaza, should consist primarily of native non-woody plant material, such as grasses, interspersed occasionally with native woody shrubs (Fig. 4-6 vs. 4-7).

Avoid allergenic plants, and use plants that attract birds.

No existing plants should be removed unless otherwise specified in this CLR.

Additional plantings need to follow the guidelines below as much as possible; if the recommended plant is not available, use a plant which is either recommended as a substitute or which has the same characteristics as the desired plant .

See Appendix E for a list of plants appropriate for addition to the landscape of for replacement of existing plants.

Generally, the objective for plantings within the district should emphasize the establishment of plantings that do not require supplemental irrigation. However, initial supplemental irrigation is strongly recommended as the first step toward establishment of plant materials. While drip irrigation is not historic, it can be used within the project area because it is a sustainable watering technique. The drip irrigation lines and fixtures need to be made as visually inconspicuous as possible, even if only temporary. (Note: successful initial establishment of vegetated areas using temporary drip irrigation was noted by researchers along the reconfigured Long Logs Trail during the 2007 site visit.)



Fig. 4-8, Vegetation in the parking island at the east end of the Parking Plaza visually competes with the Museum upon entry into the district. Selective removal or trimming the taller plants should occur to restore a more low-growing form (compare to Fig. 4-4). The character of this vegetation is better suited to the perimeter of the Parking Plaza. Belt Collins, 2008.



Fig. 4-9, Excessive amounts of larger woody vegetation obscure the historic fence on the north side of the Museum's parking area near the Residential Area. Selective reduction of the larger plants would improve the visual transition from the designed landscape to the native landscape beyond. It would also ensure that the historic fence remains visible. Belt Collins, 2008.

SITE FURNISHINGS

A consistent set of compatible site furnishings should be utilized throughout the district including benches, trash receptacles, and pedestrian-scale lighting. Some guidance is provided below.

SEATING

Seating in the district consists primarily of benches. Locations include the entry to the Lodge, the Giant Logs Plaza, and the Long Logs Trailhead. A precast concrete bench similar to that at Long Logs could be an appropriate style (Fig 4-10). A rectilinear shape and a warmer, grey color (similar to the sandstone masonry) would be a more compatible material.



Fig. 4-10, A precast concrete bench similar to this bench located at Long Logs could be utilized for seating in the historic district. A rectilinear form and warm-grey color would be a compatible treatment for such a feature. Belt Collins, 2008.



Fig. 4-11, A precast concrete trash receptacle similar to this product would be a more compatible fixture for the district. Shown is the Senora from Wausau Tile Company. Item Number TF1105. A compatible finish would be the Weatherstone Buff, shown at right. http://www.wausautile.com .

TRASH RECEPTACLES

A consistent trash receptacle type is already utilized at the entry to the Museum and the Picnic Area. As these trash receptacles reach the end of their useful life, a compatible receptacle type that complements the precast concrete bench should be used. As with the bench, a warmer, grey colored concrete would be a more compatible material. A potential receptacle is identified in Figure 4-11.

LIGHTING

The 1949 Master Plan indicates that lighting had been installed throughout the district. A few of these fixtures remain, primarily in the residential courtyard (Fig. 4-12, left). The integrity of that system is not retained. Others have been removed from their original locations and the upper portion of the fixture installed elsewhere (e.g., fixtures flanking the lower steps to the Museum and fixtures installed on the stucco wall at RF-53).

As needs for pedestrian-scale lighting arises, a consistent, compatible fixture should be utilized. The solar powered fixtures in the Painted Desert Inn historic district would be an appropriate choice (Fig. 4-12, right). Using a solar-powered fixture would allow for flexibility as the needs of the district change over time.



Fig. 4-12, At left is one of the pedestrian-scale lighting fixtures that remain in the district; it is located in the Residential Courtyard behind RF-52-B. At right, is a compatible fixture in place in the Painted Desert Inn historic district. Belt Collins, 2008.

4.1 THE PARKING PLAZA

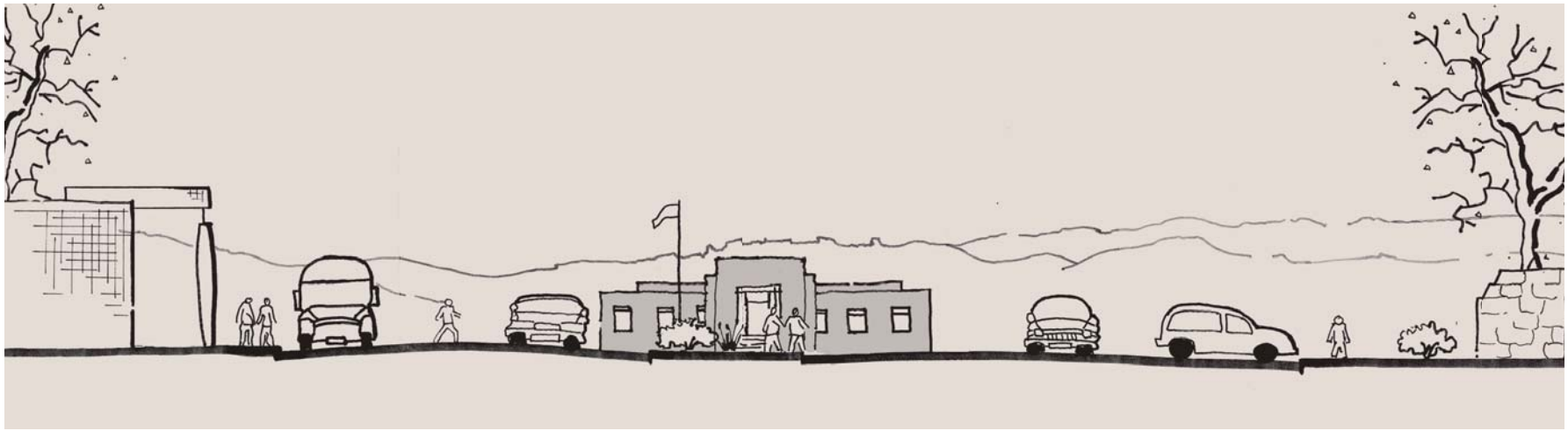


Fig. 4-13, Cross-section of recommended treatment for Parking Plaza. A view along restored axial walk to Museum.



Fig. 4-14, A view west across Parking Plaza to Museum from the Jim Camp Wash Bridge. Belt Collins, 2008.



Fig. 4-15, A view from 1931 along axial walk to Museum. PEFO Archives.

OVERVIEW

As articulated in the 2001 DOE and the 2002 MOA with Arizona SHPO, the Parking Plaza is the central organizing element of the historic district and functions as the central civic space. This is reinforced by the surrounding architectural elements. Although the circulation patterns and parking layout were reconfigured in the Parking Plaza in the 1960s, the size, shape and general alignment of the Parking Plaza have remained the same, maintaining their historic integrity. In addition, the integrity of the strong axial relationship between the Jim Camp Wash Bridge and the Museum through the Parking Plaza is intact and observable on approach across the Bridge, setting up the important arrival sequence into the district from the east. Preservation of these foundational, historic patterns is of utmost importance in order to maintain the existing integrity of the historic designed landscape.

The importance of this historic resource was underscored in the 2002 MOA. The MOA identified seven (7) guidelines for any redesign of the Parking Plaza. It should be noted that these guidelines have been integrated into the development of the recommended treatments below. Those guidelines have been reproduced under *Other Factors* at the end of this section for reference. In addition, the two concepts for redesigning the Parking Plaza that were included in the 2002 MOA are integrated into the discussion of treatments that follows.

TREATMENT GOALS

- Preserve existing historic features in the area including the stone culvert at NW corner of Bridge and CCC-era masonry walls.
- Ensure that any new elements introduced into the district are of a size, shape and scale compatible with the existing historic fabric.

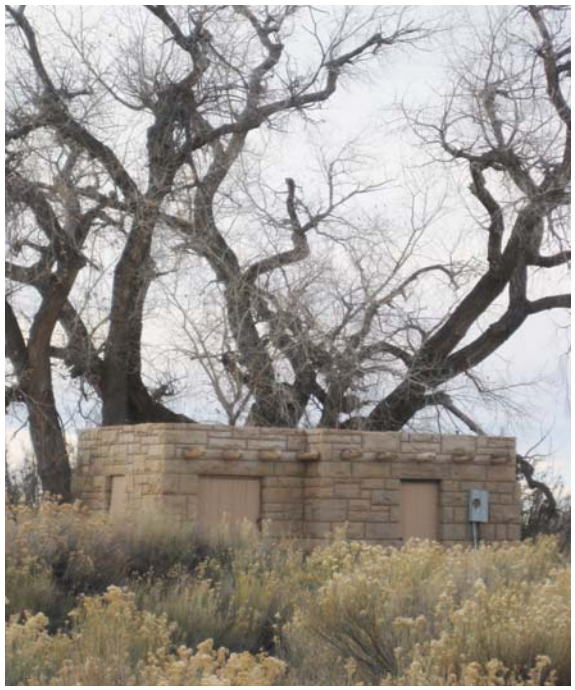


Fig. 4-16, Structures such as the Puerco Pumphouse can inform the scale, proportions and feel of a restroom or other small support structure for the district. Creating a false sense of history should be avoided however. Belt Collins, 2008.

- Preserve the shape, size and alignment of the historic Parking Plaza as well as the overall spatial pattern of architectural elements surrounding the Parking Plaza.
- Rehabilitate the visual, axial link between the Jim Camp Wash Bridge and the Museum through the Parking Plaza.
- Improve the function and safety of vehicular and pedestrian circulation within the Parking Plaza incorporating accessible routes.
- Improve wayfinding and the "sense of arrival" into the historic district.
- Preserve contributing views and viewsheds into and out of the district.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

Use patterns in the Parking Plaza changed significantly when the parking area was redesigned in the 1960s and provision for a broader range of vehicle sizes was made with a pull-thru parking configuration. The removal of the pedestrian walkway along the main, central axis through the Parking Plaza between the Museum and the Jim Camp Wash Bridge diminished the historic integrity of the Parking Plaza. In addition, vehicular circulation, pedestrian circulation, and parking are currently provided in a non-standard manner. This condition creates confusion for drivers and increases potential pedestrian/vehicular conflicts. There are two main factors creating this situation. First, with the existing pull-thru parking configuration, the thru-traffic route and parking circulation are not isolated from one another. In other words, each pull-thru parking space has access to the thru-road; and vehicles, large and small, can back into thru-traffic from more than 30 locations. Second, the central Plaza area lacks pedestrian-related features that encourage safer pedestrian movements and encourage traffic to slow. It should be noted, however, that the existing Parking Plaza is an unusually wide, paved corridor with some room for additional width if necessary; and, that additional room for overflow and/or oversized vehicle parking is available in the nearby Picnic Area lot.

In late 2008-early 2009, a park maintenance project occurred in the parking areas; walks and curbs were replaced and the storm drainage system was improved. The project involved the removal and replacement of sidewalk and curbing along the entire perimeter of the Parking Plaza including the parking lot in the Picnic Area. Curbing was replaced with stone from a quarry source outside the park and new concrete walks were installed. This project was underway during the 2008 site visit.

BUILDINGS, PLAZAS AND OTHER NODES

There are no buildings located in the Parking Plaza character area. However, the spatial relationship of the surrounding architectural elements to the Parking Plaza is critical to the integrity of the district and should be of utmost concern when any changes to the area are being considered. There have been preliminary plans made for the construction of a new restroom building in the district. As of this writing, the preferred location for the restroom building is on axis with the entry to the Lodge but on the north side of the Parking Plaza (see Fig. 4-21). This location would reinforce the historic spatial organization pattern and take advantage of existing sewer infrastructure. This structure should be modestly scaled and constructed in a manner compatible with the existing contributing architectural features.

Other small-scale and wayside stations in the park can serve as design precedents (see Fig. 4-16). Additional guidance is also provided in the Guidelines for Development of New Architectural Elements in Section 4.1. As an aside, it is not the recommendation of this CLR that such a facility replace public restrooms already available in the Museum. Careful consideration and study should be given to such an alternative.

CIRCULATION, SURFACES AND WAYFINDING

A range of alternatives for the reconfiguration of the parking layout and vehicular circulation pattern have been proposed since the initial development of the NRHP nomination in 1989. Consistent with the Rehabilitation approach, the objective of the alternatives has been to provide a solution that at once accommodates the current needs and uses at play in the park while seeking to restore the axial gesture of the historic flagstone walk. Two alternatives that were produced in the March 2001 Space Utilization Charette report were included in the 2002 MOA produced collaboratively with AZSHPO in 2002. A third treatment

is detailed in this document which takes some cues from those alternatives and makes some additional recommendations. An evaluation of the pros and cons of each alternative related to the safety and wayfinding issues discussed in the *Use and Function* section above, and the degree to which the axial alignment is restored follows. It is the recommendation of this CLR that the final alternative described below is followed as the course of action for rehabilitation of the Parking Plaza.

PARKING & CIRCULATION ALTERNATIVES

1-MOA Alternative "A" (Fig. 4-17)

This alternative is described as "Add Bay Both Ways." In this alternative, the parking area would be expanded north 10 to 15 feet to provide room for head-in parking to the north. In addition, a pedestrian crossing would be added along a north-south axis with the entry to the Lodge. Parking islands would buffer the pedestrian crossing from the pull-through parking that remains on either side of the crossing. Islands would also be provided at either end of the crossing. Existing islands would remain at either end of the pull-thru parking area. Two-way traffic would circulate on both sides of the central, pull-thru parking bays, with that bay being aligned along the primary axis much as it is currently. Picnic Area parking would remain the same. Five spaces for bus parking would be located along the southern edge of the Parking Plaza in front of the Lodge. The alignment of the walk in the area in front of the Lodge would remain much the same; however a crosswalk would connect the walk from the Lodge to the walk to the Museum. Overall, this alternative would provide additional parking by adding the head-in spaces to the north and the space would be divided much as it was historically on axis with the Lodge. However, the legibility of the historic plaza axis would remain much the same as it is currently.

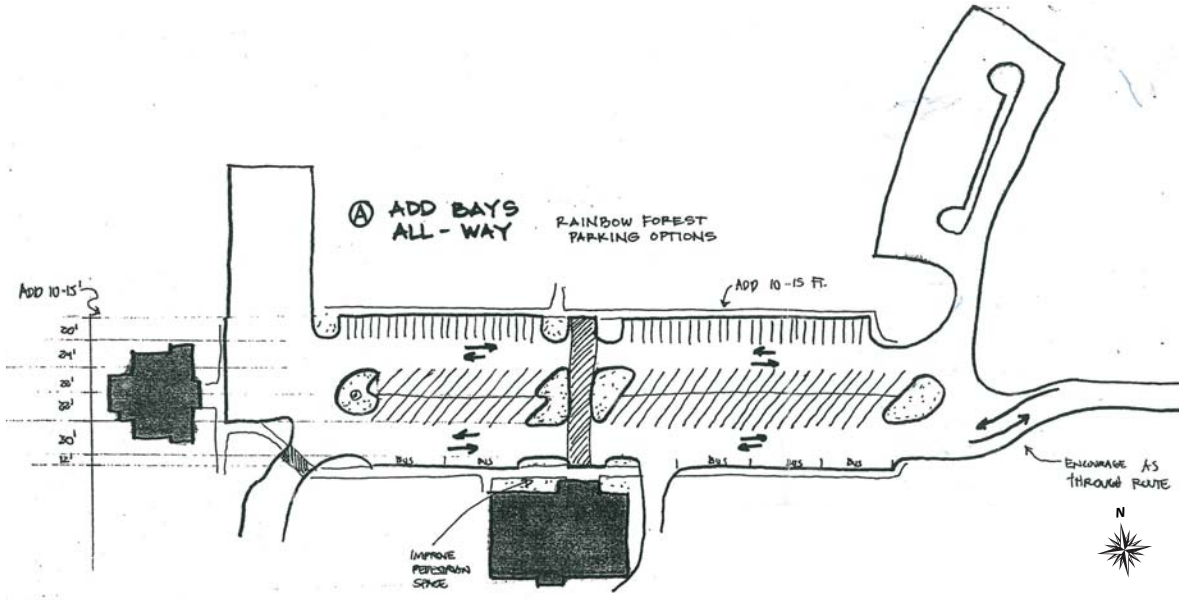


Fig. 4-17, "*Option A - Add Bays Both Ways*" included in the *March 2001 Space Utilization Charette Report* and reproduced in the 2002 Memorandum of Agreement between PEFO and AZSHPO.

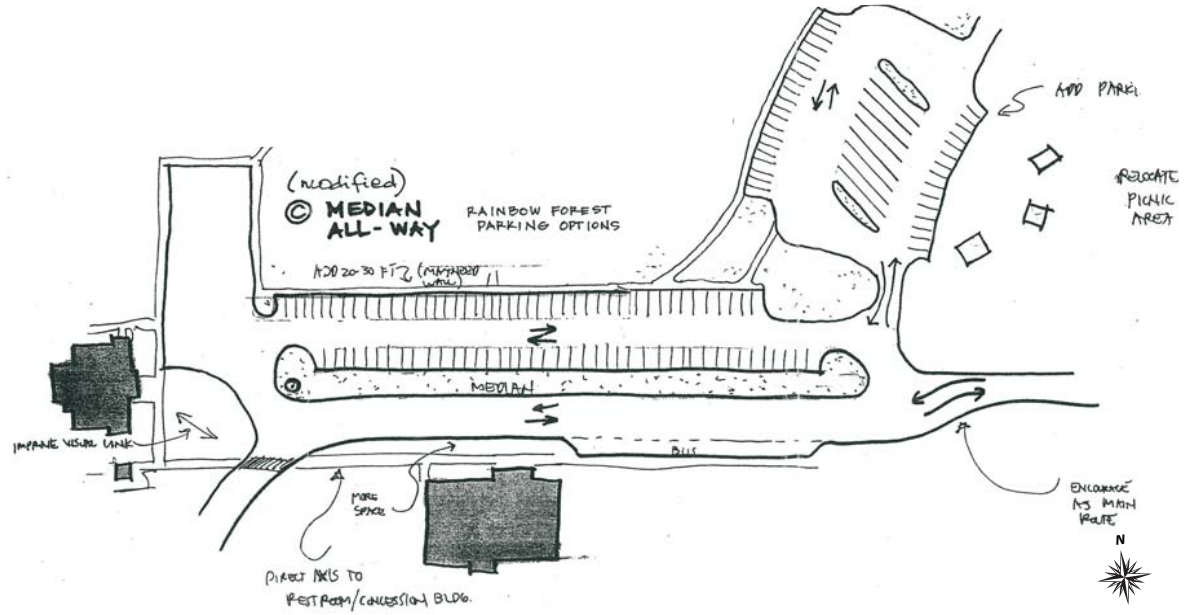


Fig. 4-18, "*Option C - Median All-way*" included in the *March 2001 Space Utilization Charette Report* and reproduced in the 2002 Memorandum of Agreement between PEFO and AZSHPO.

2-MOA Alternative "C" (Fig. 4-18)

This alternative is described as "Median All Way." In this alternative, the parking area is expanded to the north 20 to 30 feet requiring the need for a retaining wall in some areas. This additional width would provide room for a landscaped median in the middle of the Parking Plaza along the primary axis between the Bridge and the Museum. The median would create a two-way parking area for head-in parking for passenger vehicles separated from the thru-road by the median. The Picnic Area would be reconfigured with additional parking, including pull-thru parking. Picnic facilities would be relocated to the east of the reconfigured parking area.

Limited bus parking (3 spaces) would be provided near the Lodge with a landscape area buffering the walk from the road in the immediate area of the Lodge. A crosswalk would again connect the walk from the Lodge to the walk to the Museum, however its alignment would continue along the east-west axis to the walk along the north-south axis in front of the Museum. The alignment of the Highway 180 Approach from the south into the district would be shifted to the east and the landscape area east of the Museum's walk would be expanded to further direct traffic in that area and improve the visual link to the Museum for visitors arriving from the south.

Benefits to this alternative include the separation of almost all parking from the thru-road and the restoration of an axial feature between the Bridge and the Museum. This alternative would, however, adversely affect the integrity of the district by making many substantial changes. In the Picnic Area, these include both an increase in the scale of the paved parking area and the relocation of picnicing facilities to previously undeveloped lands to the east. Proposed changes to the front of the area in front of the Museum would be substantive as well with the addition of a large landscape area. And, without the break in the middle of the median, the organizational pattern completely

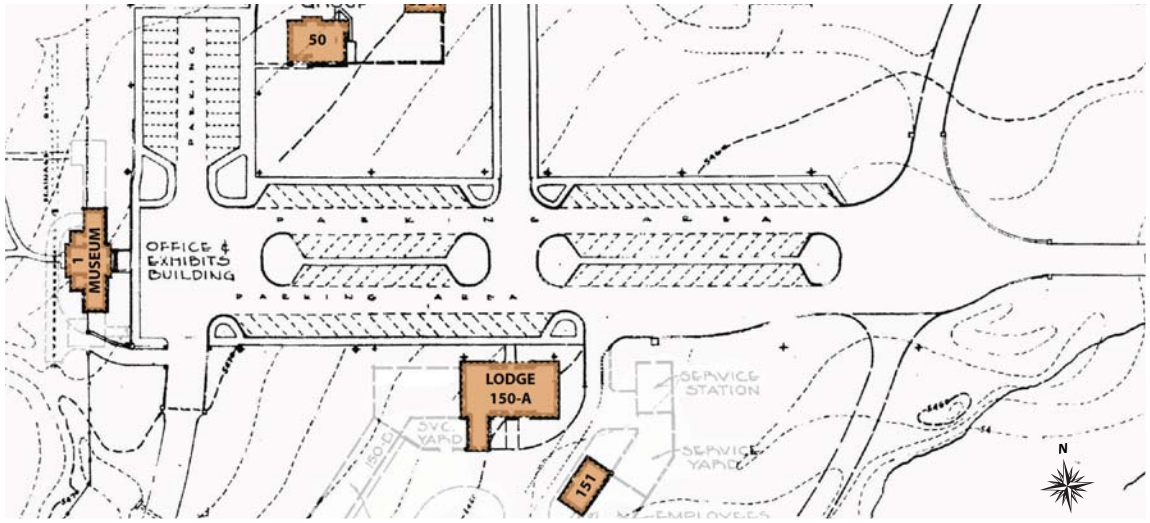


Fig. 4-19, Enlargement of the Modified 1949 Plan for the Parking Plaza Area. Axial walk had been transformed into "dog bone" configuration by that time. Parking was angled and drive lanes were one way. Residential spur connected to Parking Plaza. PEFO 110-7F. PEFO Archives.



Fig. 4-20, A change in materials can be used to create a crosswalk and encourage traffic calming. Concrete and brick pavers are used here to create a crossing that visually complements surrounding features; this crossing is visually discernible but not visually intrusive. A refuge for pedestrians is created in the traffic island as well. Belt Collins,2007.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR THE PARKING PLAZA

- A 8'-10' WALK
- B BUS/ HC PARKING (PARALLEL)
- C 24' TRAVEL THROUGH W/ SHOULDER AND RAISED PEDESTRIAN CROSSING
- D LANDSCAPE BUFFER (4' TO 6' WIDE)
- E CENTRAL PLAZA WALK (10' TO 12' WIDE)
- F 45° PARKING STALL (19' DEPTH)
- G 22' DRIVE ISLE
- H 45° PARKING STALL (19' DEPTH)
- I 8' TO 10' WALK
- J NEW RESTROOM
- K LANDSCAPE BUFFER
- L PEDESTRIAN CROSSING

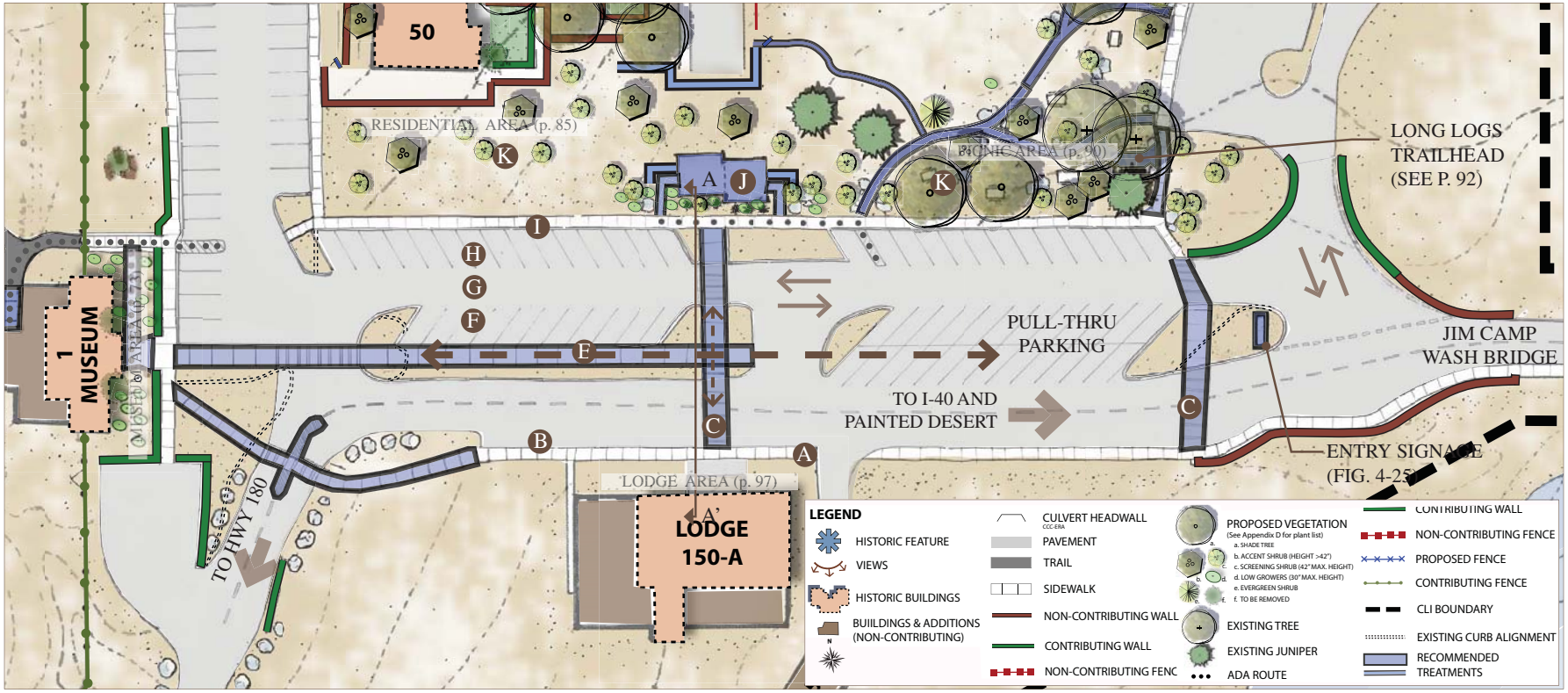


Fig. 4-21, Enlargement of the Treatment Plan for the Parking Plaza Area.

looses the cross-axial form once created by the access to the residential spur.

3-The CLR Alternative (Figs. 4-21 and 4-22)

The two alternatives from the 2002 MOA propose a uniform parking configuration along the entire Parking Plaza. The CLR alternative takes a different approach proposing that two parking configurations be utilized in the main plaza: diagonal, head-in parking for passenger vehicles in the west half of the Parking Plaza and pull-thru parking in the east half of the Parking Plaza.

This configuration allows for the restoration of the axial walk (as shown in Figure 4-19) through the center of the Parking Plaza, at least in part. This walk would be additionally buffered from the roadway by landscape areas as space allows (note: as an alternative, an accessible parking space for oversized ve-

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR THE PARKING PLAZA

- A 8'-10'WALK
- B BUS/ HC PARKING (PARALLEL)
- C 24'TRAVEL THROUGH W/ SHOULDER AND RAISED PEDESTRIAN CROSSING
- D LANDSCAPE BUFFER (4'TO 6'WIDE)
- E CENTRAL PLAZA WALK (10'TO 12'WIDE)
- F 45° PARKING STALL (19'DEPTH)
- G 22' DRIVE ISLE
- H 45° PARKING STALL (19'DEPTH)
- I 8'TO 10'WALK
- J NEW RESTROOM
- K LANDSCAPE BUFFER
- L PEDESTRIAN CROSSING

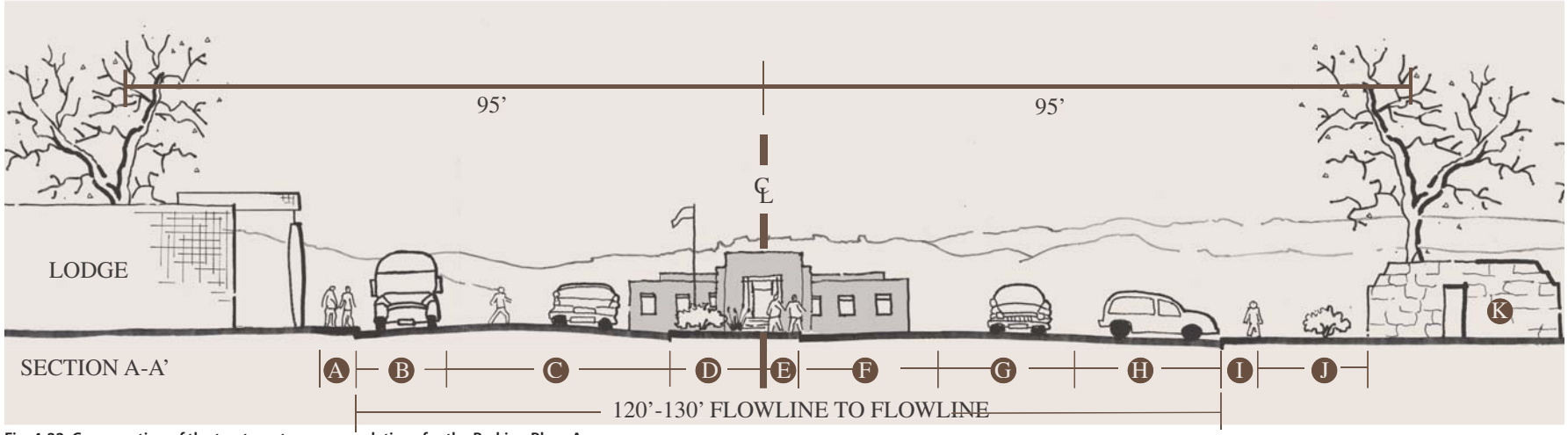


Fig. 4-22, Cross-section of the treatment recommendations for the Parking Plaza Area.

hicles could be provided in this location in lieu of the landscape buffer if the accessible parking in front of the Lodge does not meet demand).

The two halves of the parking area would be divided primarily by a pedestrian crossing that would restore the cross axial residential spur access alignment by connecting the Lodge and the proposed restroom on the north side of the Parking Plaza. On the west side of this alignment, a more pedestrian-friendly environment would be provided in the vicinity of the Museum, the district's primary visitor resource, with the removal of pull-thru parking.

Pull thru parking would be provided at the eastern half of the Parking Plaza where there would be less foot traffic. Additional pull-thru parking could be provided at the Picnic Area if necessary. Also at the east end of the Parking Plaza, a pedestrian crossing would provide a safe connection between the Long Logs Trailhead (see *Picnic Area* section) and the sidewalk connection to Long Logs on the south side of the Jim Camp Wash Bridge.

Overall, this alternative seeks to address the most management concerns of the three alternatives related to improving safety and wayfinding while restoring and/or minimizing the impacts to historic features. The alternative includes an abundance of safe pedestrian connections between the Museum and the other visitor amenities in the Parking Plaza Area including: the Lodge, the new restroom, the Picnic Area, and the Long Logs Trail. Proposed modifications could occur without the need to modify the recent curb and drainage improvements on the north side of the Parking Plaza. No changes to existing historic fabric would occur.



Fig. 4-23, Jim Camp Wash Bridge Approach. Andrew Gorski, 2004.



Fig. 4-24, A 1943 view of the Rainbow Forest Entry Monument. Note boulder curbing. PEFO 25023-1. PEFO Archives.

SURFACES

As part of any solution pursued by the park, consideration should be given to formalizing the highway thru-way with AASHTO-compliant striping, directional signage, crosswalks, medians and/or curbing. Striping and other traffic control devices will improve circulation and enhance safety in the Parking Plaza. Pedestrian crossings, either raised and/or textured, will provide traffic-calming and improve safety for pedestrians (see Fig. 4-20). Colored concrete with decorative scoring would be a simple solution for accomplishing this in the district. See Plan (Fig 4-21) for recommended locations of all traffic control features.

WAYFINDING

Additional wayfinding opportunities could include the construction of compatible "gateway" signage in the island at the east end of the Parking Plaza and along the Highway 180 Approach. Gateway signage communicates to visitors that they have entered an important and special designed landscape. Design of such signs should reinforce the prominence of the Museum and spatial organization of the Parking Plaza area, enhance the arrival sequence, and take care not to diminish the viewshed. The signage concept illustrated in Figure 4-25, reinforces the symmetry of the Museum by mimicking the roofline of the building. The monument would be constructed of native cut stone or precast colored concrete to match historic features in the district. It also takes cues from historic signage once located on the east side of the Jim Camp Wash Bridge in a roundabout median at the former intersection with the Long Logs access road (see Fig. 4-24).

Another opportunity to enhance wayfinding and improve the overall visitor experience in the district would be to improve the legibility of the pedestrian access route to Long Logs Trail. Since the closure of



Fig. 4-25, An illustration of potential treatment of entry signage at the east end of the Parking Plaza. A precast concrete monument sign could reinforce important historic visual patterns and enhance wayfinding.

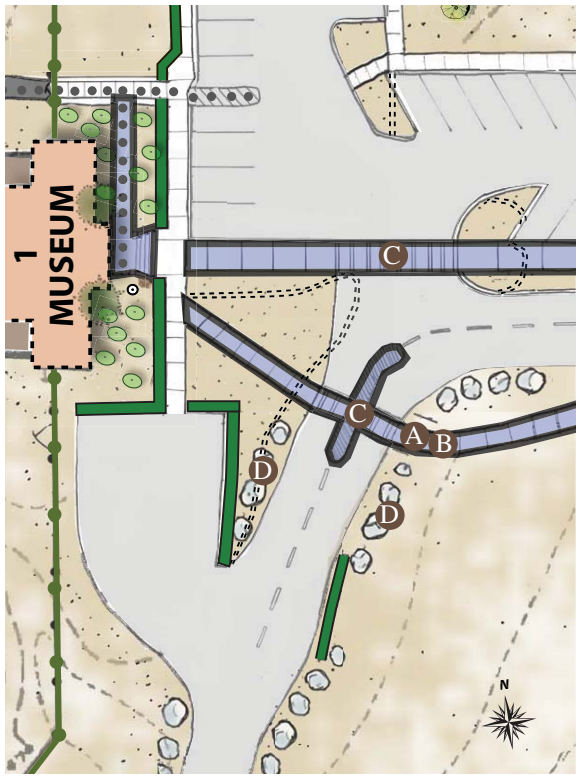


Fig. 4-26, Enlargement of the Treatment Plan for the Highway 180 Approach in the Parking Plaza Area. Letters correspond to dicussion in the narrative.

the access route to vehicles, visitors are required to park their vehicles in the Parking Plaza or Picnic Area. Pedestrian access is then provided via a sidewalk along the south side of the Jim Camp Wash Bridge. During their site visit, researchers found visitors confused about where to park and how to get to the trail. Clear signage and designated pedestrian crossings to the access route from the Parking Plaza could provide cues to visitors. Refer also to the Picnic Area section for recommendations related to potential Long Logs trailhead.

THE HIGHWAY 180 APPROACH

Highway 180 is located just a few miles south of the district. The Highway 180 Approach is the road that connects the district to Highway 180. The Approach presents some unique challenges and opportunities. Given that the design for the Parking Plaza is oriented to the Approach from the east, this approach is challenged by being somewhat of "the back way" into the district. However, the curvilinear alignment of the roadway reveals a series of provocative views into the district and creates a distinct sense of arrival (Fig. 4-27 to 4-29).

The following recommendations seek to enhance that sense of arrival and improve wayfinding for visitors entering from the south. They are illustrated in the plan graphic at left.

- Require vehicles to stop prior to entering Parking Plaza (A).
- Provide directional signage at this location to aid vehicular circulation and wayfinding (B).
- Provide a raised, textured and/or paved pedestrian crossing at this location to connect pedestrians between the Lodge and the Museum and further calm traffic (C).
- Restore the "boulder curb" along each side of the road to enhance the sense of entry (D; see Fig.4-30).

STRUCTURES AND SMALL SCALE FEATURES

The Jim Camp Wash Bridge was reconstructed in 2002 and remains a compatible feature as well as an important component of the entry sequence. Given the care taken in maintaining the integrity of this feature, careful attention should be given to the maintenance of the Bridge and any additional improvements that may occur in its vicinity over time. A component of this construction project included some cast-in-place concrete walls that compatibly tie the Bridge to the CCC-era masonry walls in the area. Should the need for additional walls occur in the future, especially in the Parking Plaza Area, this precedent should again be utilized including the materials, color, form and texture.

The stone-edged parking islands lack integrity given their construction following the period of significance. However, they are compatible. Should a reconfiguration of the parking layout occur, a treatment similar to this should be implemented in the creation of new landscape islands. As an alternative, the curb/walk treatment used in the 2008-2009 maintenance project could be used.

Another detail common to the district but generally



Fig. 4-27, A view into the district along the approach from Highway 180 from 1931. Note the Museum and Superintendent's Residence are under construction. The boulder curb can be seen along the approach road. PEFO 24969. PEFO Archives.



Fig. 4-28, A view into the district along the approach from Highway 180 after 1958 (Museum addition is complete). It appears that fencing screens the Administrative Area and camper trailers are utilizing the camp area. Established vegetation can be seen in the east side of the Residential Area and at the base of the screen fence. From 2005 CLI.



Fig. 4-29, A view into the district along the approach from Highway 180 from 2008. Screen walls surround the Residential Area which also include some mature cottonwoods. Other mature vegetation is noted in the Picnic Area. The end of the fence can be noted at the left of the photo. Belt Collins, 2008.



Fig. 4-30, An enlargement of the image from Fig. 2-16 showing the boulder curbing along the Highway 180 Approach c.1932. PEFO Archives.

lost during Mission 66 improvements was the boulder curb (Fig. 4-24). This detail was a component of the entry sequence at both ends of the Parking Plaza during the period of significance. Examples of the detail can be seen along the road system throughout the park. Selective restoration of this detail at these gateways could enhance the overall entry experience and, similar to the gateway signage, reinforce the historic character as intended by the district's designers. Historical documentation of the locations of these boulder curbs can be found on PF-5007, Topographical Map, Headquarters Area & Cottonwood Bridge, 1935 (see *Appendix G*).

Of additional consideration is the flagpole located in the west parking island of the Parking Plaza. Historically, this feature was located in the immediate vicinity of the Museum. The flagpole should be restored to its historic contributing location. Restoration of its location would associate the flagpole with the Museum, the primary public building in the Parking Plaza Area, and provide an additional cue to arriving visitors of the Museum's public prominence.

VEGETATION

Plantings in landscape islands and along the edge of the Parking Plaza should continue to occur in a naturalistic manner and consistent with the general guidelines provided above (see p 60). Plantings in islands should have mature heights of no more than 30 inches and consist of native species. Plantings on the perimeter of the Plaza at greater mature heights may occur, however tree plantings should be limited and clumped in the immediate vicinity of architectural elements. Trees or large shrubs should not be planted in viewsheds.

VIEWS

Views are one of the most character-defining features of this character area. The view of the district's oasis-like concentration of features on approach to the district is one of the central components of the logic behind the location of the district (see Fig. 3-1). The quality of this view must be preserved.

The view as one crosses the Jim Camp Wash Bridge and enters the district is another important feature that should always be considered. While crossing this threshold, the visitor's attention should be drawn on axis to the terminus at the Museum, with logs strewn dramatically on the hillside behind. Restoration of a physical articulation of this axis would serve to strengthen that view.

The view of the district from the Highway 180 Approach is also important. The road's curvilinear alignment provides a sequence of views into the district; upon arrival, it feels like you are arriving at a "place".

OTHER FACTORS

ACCESSIBILITY

The degree of universal access to the broad range of experiences and amenities within the district should always be among criteria for the evaluation of any proposed improvements in the district. In any redesign of the parking spaces, adequate

consideration for ADA accessibility to existing and proposed buildings should occur. Two or more accessible spaces with a shared 5 foot wide loading area should be provided in the immediate vicinity of each structure including the Museum, the Lodge and the new restroom. Proposed locations are shown on the CLR alternative (Fig. 4-21).

VISITOR ACCESS/INTERPRETATION

Visitor access is appropriately controlled in the district at this time based on the natural features and on the Park's administrative policies related to day use only. Interpretation provides a means by which the significance of the historic landscape can be communicated to the public at large. Explore opportunities for providing interpretation within the Parking Plaza as a means of making that information available to visitors. Such elements can be incorporated into pedestrian-related changes that occur in the plaza area at locations such as the Long Logs Trailhead, the new restroom, and the axial walk (e.g. a wayside at Long Logs Trailhead, posters on restroom bulletin boards).

2002 MOA DESIGN GUIDELINES FOR PARKING PLAZA AREA

The following guidelines for the Parking Plaza Area were incorporated into the 2002 MOA. They are reproduced here for reference.

- Maintain contributing characteristics of the Parking Plaza, as listed above (in MOA) and as described in the DOE form (NR) and the Keepers response (DOE).
- Maintain contributing small-scale elements such as the historic stone curbing and stone walls, maintain historic materials, and as necessary replace with materials compatible in scale, form, design, color, and texture.
- Maintain or restore the historic orientation and axial alignment of the Parking Plaza.
- Maintain sense of arrival to Rainbow Forest from the east.
- Maintain historic circulation pattern of park road running through the Parking Plaza.
- Alterations to the Parking Plaza Area must take into account and complement the original constructed layout.
- All future design options will avoid having recreation vehicles, buses and other large vehicles back into vehicular or pedestrian circulation.
- The existing, non-contributing Picnic Area can be used for additional parking in the future.

OVERVIEW

The Museum was designed to be the focal point of the historic district. It was the first visitor center designed for the park. The Museum was located at the terminus of the Parking Plaza and designed symmetrically in relationship to that axis. Over time, the integrity of that hierarchy and spatial pattern has been diminished. As such, it is recommended that the Park actively seeks to rehabilitate the Museum Area and Parking Plaza Area. Efforts to rehabilitate this area will reinforce the historic spatial pattern while allowing for the uses that have emerged since the initial design and development of the area (i.e. pull-thru parking for oversized vehicles).

TREATMENT GOALS

- Restore the visual prominence of the Museum within the district.
- Preserve existing historic features in the area including the Museum, the CCC-era retaining walls in front of the Museum, and the wrought iron fence.
- If/when changes occur to the interior of the building, seek to improve the building's accessibility in a manner compatible with the historic resources.



Fig. 4-31, Front Elevation of the Museum, c.1932. PEFO-20821. PEFO Archives.



Fig. 4-32, Front Elevation of the Museum. Belt Collins, 2008.



Fig. 4-33, Drawing of front elevation of Museum showing proposed changes including an ADA ramp, restored flagpole and removal of junipers.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

The Museum remains the primary visitor contact location for the district; park interpretive staff are regularly on duty in the Museum. Visitor-related uses inside the building include a gift shop, restrooms, and various interpretive exhibits. The non-contributing 1959 expansion of the building added an exhibit room, as well as the "sun" room that includes seating and large windows with an impressive view to large specimens of petrified wood on the Giant Logs Trail. Some office space and storage is also located inside the building. The park has given some consideration in how to provide additional space for these administrative uses while maintaining the existing building footprint. In addition, as with most historic buildings, providing universal access while maintaining historic integrity has been problematic. The accessible entry is currently provided through the Museum's rear entry via a paved path along the north side of the building. Designed to be the architectural focal point of the district, the building provides easily discernible cues of the original design intent that are useful for crafting compatible design solutions for adaptation of the building for new uses.

BUILDINGS, PLAZAS, AND OTHER NODES

Enhance the building's main façade by reinforcing the architectural hierarchy and symmetry with minimalistic architectural and landscape features. Recommended changes include:

- Remove the upright junipers that flank the entry and replace with low-growing plant material (see Vegetation below).
- Replace the existing single, tubular handrail with historically-detailed and ADA compliant hand rails on either side of the main door. This railing could mimic the historic wrought-iron fence.
- Provide a less visually obtrusive means for marking the steps other than the yellow paint striping (e.g. use a raised texture the same color as the rest of the step).

- Install flagstone or other more detailed treatment in landing (at end of useful life of current landing).
- Paint lintels a dark color (e.g. brown), the historic treatment.
- Consider a recessive color for the addition that better blends with the landscape thereby highlighting the historic structure.

Maintain and rehabilitate existing restrooms inside the building. Restrooms are an important use within any visitor center and were redone at the time of the 1959 addition. Locate needed storage elsewhere, perhaps in the Administrative Area, see *Section 4.6*.

At the rear of the building, consider creating a "Giant Logs Plaza" by enhancing the existing open area with historically compatible features such as seating, interpretive signage, plaza paving and an extended stone wall. Because this space was created as a result of the Museum expansion, there are no contributing features in this location; however, there is the compatible stone retaining wall. However, the ADA-complaint accessible route to the interior of the building should be maintained unless or until another route is in place. Because of association with Giant Logs Trail, this treatment is discussed in detail in *Section 4.3, Giant Logs Trail*.

CIRCULATION, SURFACES AND WAYFINDING

Circulation in the Museum Area is related primarily to getting to and from the Museum. As a public building, providing an ADA accessible entry to the building is a priority. Three alternatives for providing this access are discussed in this CLR. Alternative A maintains the existing route through the rear of the building. Alternative B would create an accessible entry into the front of the building by adding an L-shaped ramp in front of the building as proposed in the 2005 Maintenance Guides. Alternative C would provide access through the front of the building



Fig. 4-34, A view of the compatible ADA ramp and gate from the rear of the Museum. The stone-lined ramp connects designated parking to the accessible entry at the rear of the Museum. Note the juniper to the left is not compatible and should be removed. The lower-growing native vegetation in the vicinity is compatible and in very good condition. Belt Collins, 2008.

by adding a ramp along the north side of the front of the building that connects to the existing ramp. Alternative C, is the treatment recommended by this CLR if other changes occur in the area. A more detailed discussion of the alternatives follows.

ALTERNATIVE A - NO CHANGE

Alternative A maintains the existing route through the rear of the building. The route begins at the two accessible parking stalls in the parking area where ramped access from the parking area to an asphalt-paved ramp on the north side of the building. The ramp passes through a 4 foot wide gated opening in the historic fence en route to the rear of the building (see Fig 4-34). Before entering the rear door, the route utilizes the wider paved area at the rear of the Museum. Treatments for this area, the proposed Giant Logs Plaza, are considerate of maintaining an accessible entry into the building. See Section 4.3 for a more detailed discussion of proposed treatment of this plaza area.

This solution takes advantage of compatible improvements already in place. However, this route is not as direct as a route through the front entry would be.

ALTERNATIVE "B" - MAINTENANCE GUIDES

An alternative for improving ADA access to the front entry was discussed in the 2005 Maintenance Guides (Gorski & Lovato 2005, p . 30; see Appendix C for excerpt). The elevation and plan view of this alternative are reproduced at right (Fig. 4-35 and 4-36). This alternative would create an accessible entry into the front of the building by adding an L-shaped ramp to the south of the door. The ramp would be screened by compatible walls. In addition, the stairs would be consolidated into a set of six that would begin at the edge of the existing sidewalk. This would create an amply sized landing at the same elevation as the doorway. An additional wall would be added at the sidewalk level to the north to create a sense of symmetry along the axis through the Parking Plaza. The space created between the new wall and the historic wall could be utilized for seating and an interpretive sign.

This solution would provide more direct access to the building from the parking area than Alternative A. While the arrangement and treatment of the ramp and walls in this alternative are sensitive to the district's historic fabric, a substantial amount of change to the front of the building would be required to create the ramp and balance that improvement with the introduction of the seating/ interpretive area (a new use). In addition, pedestrian circulation and the parking arrangement would be altered substantially in the vicinity. Though change is permissible under the Secretary's 1996 Guidelines, making access modifications should provide a

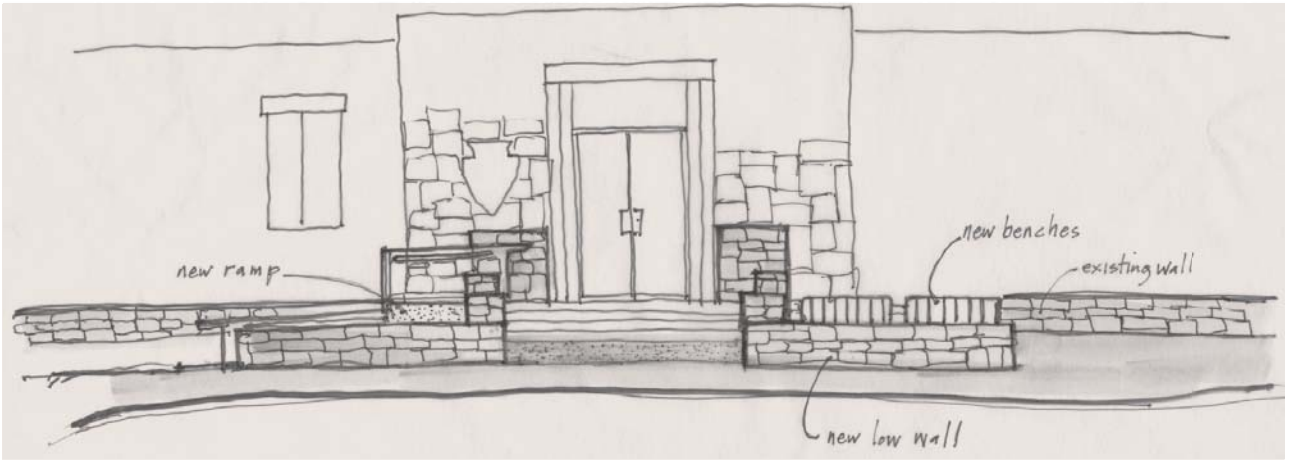


Fig. 4-35, *Alternative B*. A drawing of the proposed front elevation of the Museum showing the proposed low walls at the edge of the existing walk. 2005 Maintenance Guides.

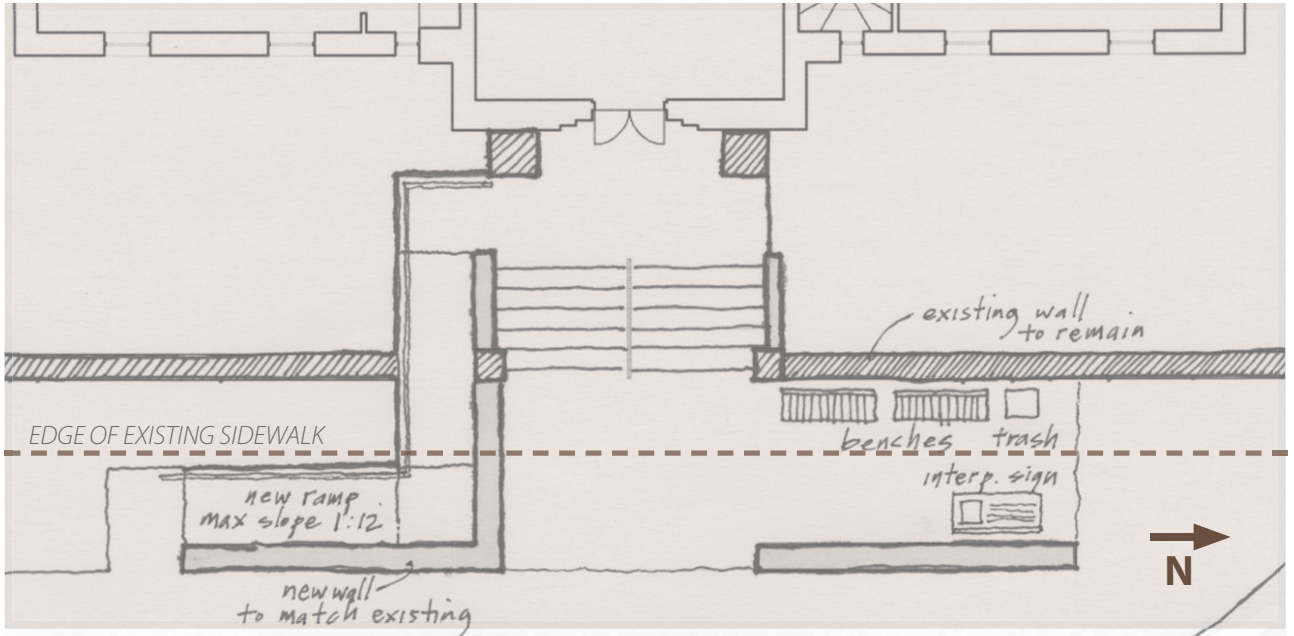


Fig. 4-36, *Alternative B*. A plan view drawing of the proposed accessible entry to the Museum showing the ramp, the consolidated set of steps and a new seating area with interpretive signage. 2005 Maintenance Guides.



Fig. 4-37, Borgert's Buff-colored Madera Wall block is an example of an architectural concrete block that is compatible with the historic fabric. These units come in seven sizes that could be mixed to blend well with the Museum exterior yet remain conspicuously non-historic. Borgert 2009 Product Catalogue.

"reasonable balance between independent, safe access and preservation of historic features" (DOI, p. 86). and take care not to "obscure, damage or destroy character-defining materials or features (such as walls) in the process of undertaking work to meet code requirements" (ibid, p. 54). The approach recommended by the 1996 Guidelines is to seek solutions to provide accessibility that make the most minimal change to the historic fabric.

ALTERNATIVE "C"-RECOMMENDED TREATMENT

Alternative C is the recommended treatment put forward by this CLR. Like Alternative B, this treatment would provide direct access to the front entry. Also like Alternative B, this treatment would consolidate the six steps into a single grouping near the edge of the existing walk, creating a wide landing area adjacent to the building entry.

This treatment, however, would locate the ramp to the north of the building, connecting it to the existing ramp from the parking area. The ramp would be screened and supported by a cheek wall. A stepped wall could be constructed compatibly from architectural concrete block using units of mixed sizes, like the building's historic masonry. With the addition of native, low-growing plantings in the landscape area that remain, this wall would be minimally visible.

The six steps at the building entry would also be supported by a cheek wall. This wall would taper inward to mimic the staggered configuration of the existing steps. Compatible handrails would be installed on either side of the stairs and on the south side of the landing. This railing should mimic the historic fencing in the area and have openings less than 4" wide to comply with building and safety codes.

Historic columns on either side of the building entry would be preserved as would the retaining walls and columns at the sidewalk level. Most of the existing stone curbing along the existing landing would be removed; however, a segment along the south side of the proposed landing could be preserved between the historic column and the proposed cheek-wall. The existing sidewalk alignment would be maintained as well.

Consistent with the 1996 Guidelines, this alternative would provide improved accessibility with the most minimal change to the historic fabric. Additional recommended treatments for the front entry area would include the removal of the two junipers that flank the entry and the restoration of the flagpole to its historic location. Together these improvements would provide a highly compatible and accessible building entry.

STRUCTURES AND SMALL SCALE FEATURES

Continue to maintain and monitor the condition of the CCC-era walls. They are in good condition and are an important piece of the historic fabric.

None of the stone-lined planting beds in front of the Museum are contributing features, however they are highly compatible and should be used as a model for execution of any proposed similar features in any future rehabilitation of the Parking Plaza.

A consistent and cohesive family of site furnishings (trash receptacles, benches, etc.) should be utilized that are historically compatible yet contemporary in the Museum's vicinity and other public places in the district. See *General Treatments* for additional discussion. Placement of trash receptacles in the immediate vicinity of the building entry should be avoided, even on the sidewalk. Place receptacles north of the ADA ramp and on the interior of the building.

The historic wrought iron fence is a contributing feature in good condition that should continue to be monitored and maintained. There are two contributing sections in the vicinity of the Museum.

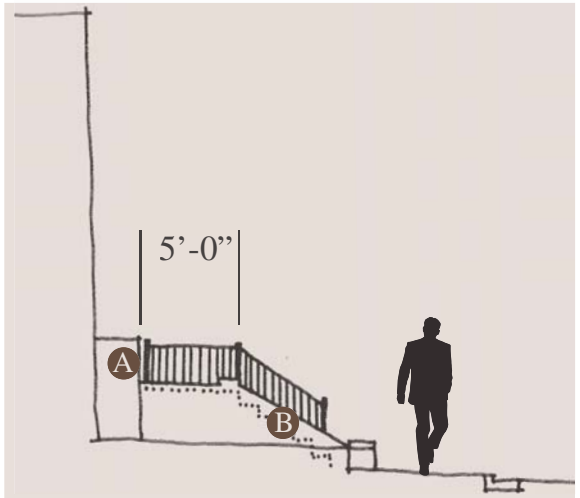


Fig. 4-38, A cross-section of the recommended treatment for the entry to the Museum. (A) indicates historic column that could be retained and (B) indicates the proposed stairs. Refer also to Fig. 4-39.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS UNDER *ALTERNATIVE C*

- **A** PRESERVE HISTORIC COLUMNS AND RETAINING WALLS THAT FLANK ENTRY
- **B** CONSOLIDATE STEPS AND UTILIZE ANGLED CHEEK WALLS AND COMPATIBLE RAILINGS
- **C** PROVIDE ADA ACCESS RAMP TO FRONT ENTRY BY CONNECTING TO EXISTING RAMP
- **D** USE LOW WALL WITH COMPATIBLE FINISH FOR RAMP CHEEK WALLS
- **E** RESTORE FLAGPOLE TO HISTORIC LOCATION
- **F** REMOVE JUNIPERS THAT FLANK ENTRY
- **G** REHABILITATE LANDSCAPE AREAS (REMOVE ALL BUT CONTRIBUTING ARTIFACTS AND MAINTAIN LOW-GROWING NATIVE VEGETATION)



Fig. 4-39 A rendering of the front elevation of the Museum showing the recommended treatments.

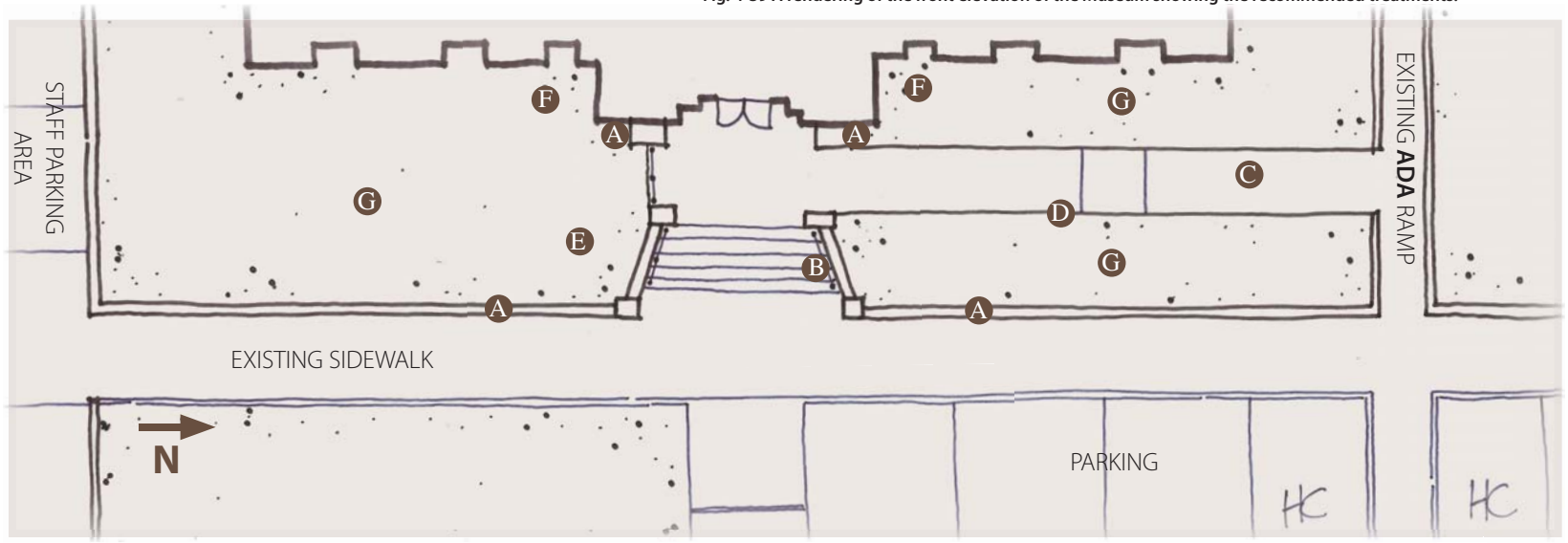


Fig. 4-40, A plan view of the front of the Museum building showing the recommended treatments.

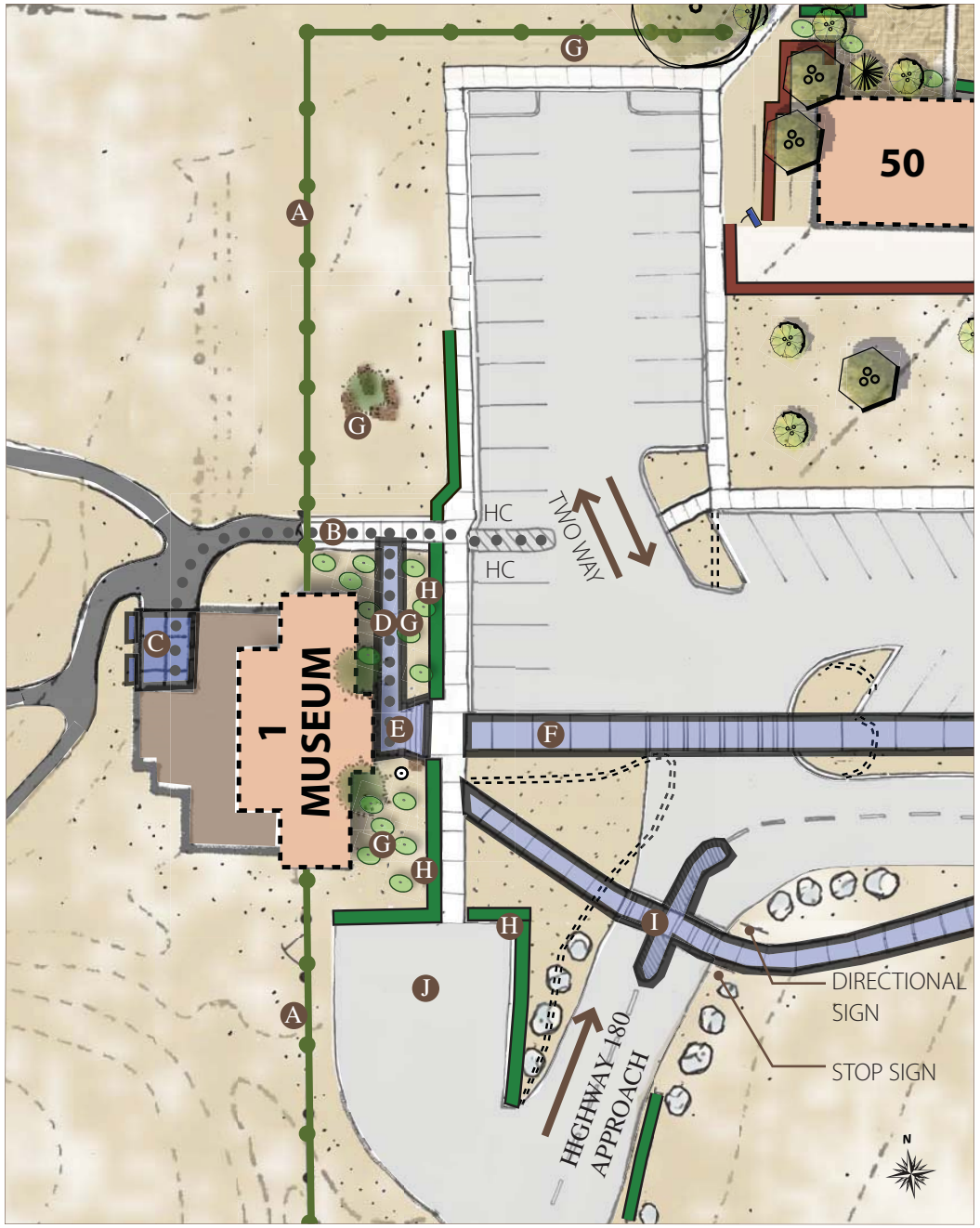


Fig. 4-41, Enlargement of Treatment Recommendations Plan showing the Museum Area.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR THE MUSEUM AREA

- A WROUGHT-IRON FENCE TO PRESERVE
- B EXISTING ACCESSIBLE ROUTE (ALT. A)
- C GIANT LOGS PLAZA (SEE SECTION 4.3)
- D ACCESS RAMP (ALT. C)
- E STAIR/ENTRY TREATMENT
- F CONNECTION TO AXIAL WALK (SEE SECTION 4.1)
- G LANDSCAPE AREAS TO REHABILITATE
- H CCC-ERA WALLS TO PRESERVE
- I CONNECTION TO LODGE WITH ENHANCED SAFETY FEATURES (SEE SECTION 4.1)
- J EXISTING STAFF PARKING

LEGEND

- HISTORIC FEATURE
- VIEWS
- HISTORIC BUILDINGS
- BUIILDINGS & ADDITIONS (NON-CONTRIBUTING)
- PROPOSED VEGETATION (See Appendix D for plant list)
  - a. SHADE TREE
  - b. ACCENT SHRUB (HEIGHT >42")
  - c. SCREENING SHRUB (42" MAX. HEIGHT)
  - d. LOW GROWERS (30" MAX. HEIGHT)
  - e. EVERGREEN SHRUB
  - f. TO BE REMOVED
- EXISTING TREE
- EXISTING JUNIPER
- ADA ROUTE
- CULVERT HEADWALL CCC-ERA
- PAVEMENT
- TRAIL
- SIDEWALK
- NON-CONTRIBUTING WALL
- CONTRIBUTING WALL
- NON-CONTRIBUTING FENCE
- PROPOSED FENCE
- CONTRIBUTING FENCE
- CLI BOUNDARY
- EXISTING CURB ALIGNMENT
- RECOMMENDED TREATMENTS

One extends from the Museum to the north and wraps around the parking area to the vicinity of building 52-C. The other section extends south of the Museum, zigzagging a bit along the road to Highway 180 for approximately 600 feet where it meets a wire mesh fence (see Fig. 4-29).

VEGETATION

The landscape beds in front of the Museum are cluttered with small pieces of petrified wood and other geologic and archeologic specimens that seem to have accumulated slowly over the years. The beds should be cleaned up and maintained in a manner compatible with historic conditions.

The same is true for the beds north of the ADA ramp where overgrown vegetation obscures the contributing grouping of large logs near the ADA ramp. Vegetation also obscures a segment of contributing fencing along the north edge of the parking area.

As shown in Fig. 4-34, plant material in front of and along the sides of the building should be low and not obscure windows or other prominent features when mature (i.e., it should not reach a mature height of more than 30 inches). Minimize number of species planted to 3 to 5. The junipers at the entry should be removed; two at the entry and one north of the ADA ramp. See Section 4.0, *General Planting and Irrigation Guidelines* for additional information. A plant list is provided in *Appendix D*.

VIEWS

Vistas from each of the building entries should remain uncluttered.

OTHER FACTORS

ACCESSIBILITY

Accessibility is discussed in detail under *Circulation* above. In addition, continue to accommodate accessibility via the ramp located north of the building and through the rear entry.

Any changes to the Museum building itself should include improving universal access to the building and surrounding features. Options for providing an ADA accessible entry are discussed in the *Circulation* section above.

VISITOR ACCESS/INTERPRETATION

Interpretation opportunities are enumerated above.

SUSTAINABILITY

New sustainable technologies and ecological design principles should be incorporated into any new designs. Given the natural features of the Rainbow Forest environment, opportunities for solar power generation and water harvesting should be explored given they are compatible with cultural and historic resources in the district.

4.3 GIANT LOGS TRAIL

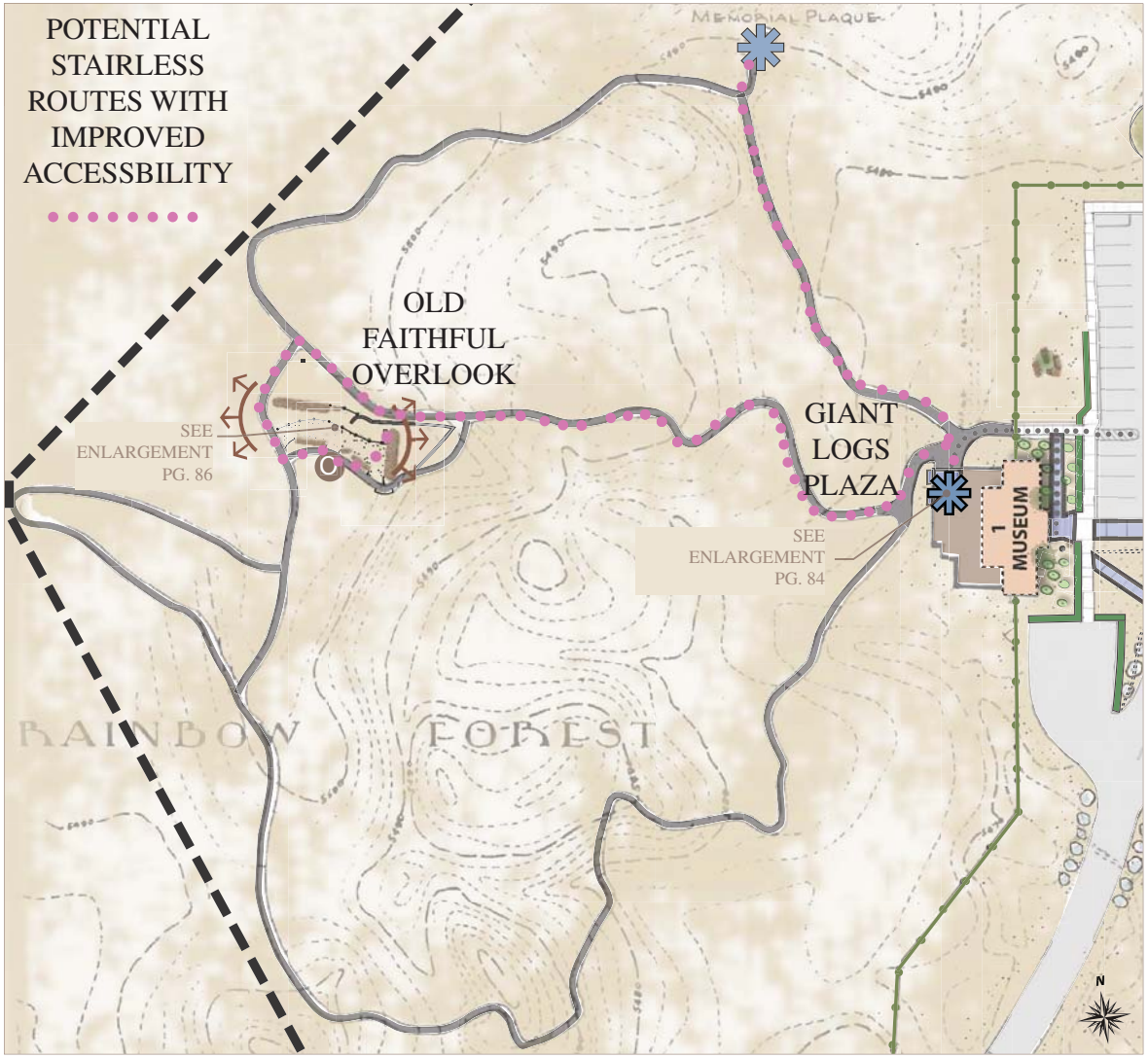


Fig. 4-42, Enlargement of Treatment Recommendations Plan showing the Giant Logs Trail Area.

OVERVIEW

The Giant Logs Trail is a unique CCC-era trail system and historically significant feature of the designed landscape. As one of the more popular amenities in the park, it sees much use providing visitors a diverse experience of the desert environment and access to some exceptional specimens of petrified wood in close proximity to the Museum where shelter from the elements, restrooms/water, and interpretive staff are available. Challenges posed by the trail include limited universal access to almost all of the trail system, impacts of visitors wandering off of the designated trail and deferred maintenance of CCC-era features. High-quality views and vistas exist from various vantage points along the trail that heighten the experience of exploring the trail system.

TREATMENT GOALS

- Preserve and maintain the Giant Logs Trail alignment and associated historic features such as culverts, walls and steps.
- Create a plaza/trailhead at the rear entry into the Museum (Giant Logs Plaza) to provide a transition between the interior of the Museum and the trail experience.
- Improve the Old Faithful Overlook as an overlook and interpretive opportunity.
- Improve universal accessibility to Mather Memorial and Old Faithful Overlook.
- Preserve contributing views and viewsheds.
- Ensure that measures to deter off-trail use are implemented in a manner compatible with historic, cultural and natural resources.
- Preserve native grasslands in the trail area, restoring disturbed areas as feasible.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

As described above, the trail system provides a relatively easy and diverse experience of the local ecosystem and petrified wood specimens in one compact location. In addition, an interpretive brochure with numbered "stops" along the trail has been developed to provide another layer to the experience of the place. However, only the most able bodied are able to take full advantage of the system.

Given the extreme environmental conditions of the area, on-going maintenance of the trail is a particular challenge. The erosive qualities of wind and rain that have unearthed the petrified wood are also slowly eroding the historic structures put in place by the CCC. Maintenance continues to look for ways to more effectively and efficiently mitigate these processes. Careful consideration should be given to allowing motorized maintenance ATVs on the trail system due to width and weight of vehicles and potential impacts to historic features. As solutions for the stabilization of historic features are developed and refined, a component of these strategies should include a maintenance access plan.

BUILDINGS, PLAZAS AND OTHER NODES

GIANT LOGS PLAZA

As described in the Museum section (*Section 4.2*), a plaza area at the rear entry to the Museum should be created to provide a transition between the interior of the Museum and the trail experience. This area is referred to as the Giant Logs Plaza in this document. The Giant Logs Plaza should include signage that provides for orientation and interpretation. Sign panels could be mounted on a compatible wall extending from the building (a short wall exists here today). Refer to Figures 4-44 and 4-45. Seating should be provided against the Museum to take advantage of any shelter it may provide. Options for seating are discussed in *Section 4.0, General Treatment Recommendations,* under *Site Furnishings.* The plaza area should be paved uniformly with concrete treated in a compatible manner consistent with other treatments in the district. Consideration should be given to the existing accessible entry route through the rear of the building. And, elements should be located far enough from doorways to allow for circulation.



Fig. 4-43, A postcard of the Giant Logs Trail and the Old Faithful Log from 1934 demonstrating the historic character of the CCC-era trail. Burton Frasher Sr., 1934. Frasher Foto Postcard Collection , Pomona Public Library. Http://content.ci.pomona.ca.us/u?/Frasher, 4922.

OLD FAITHFUL OVERLOOK

The historic Giant Logs Trail alignment encircled the Old Faithful log area, providing a view of this impressive feature from multiple angles. This area is also a natural high point of the trail and provides an overlook of the district, the Jim Camp Wash, Long Logs, the Agate House and a panoramic view of distant hills in all directions. Since the Old Faithful Log is one of the most significant natural resources in the district, treatment of the Old Faithful Overlook should occur to better manage visitor use and preserve historic fabric. Some site work has occurred at Old Faithful including the construction of concrete walls to support the log that post-date the CCC-era, however the area currently shows considerable wear from extensive visitor use.

A conceptual plan for recommended improvements is shown in Figures 4-46 and 4-47. Important considerations include:

- Delineating an unpaved area large enough for ranger-led interpretive tours, as well as self-guided tours.
- Providing seating on existing wood specimens
- Restoring native vegetation in certain areas. (note: ensure that a feasible plan for irrigation for establishment is in place prior to installation).

GIANT LOGS PLAZA

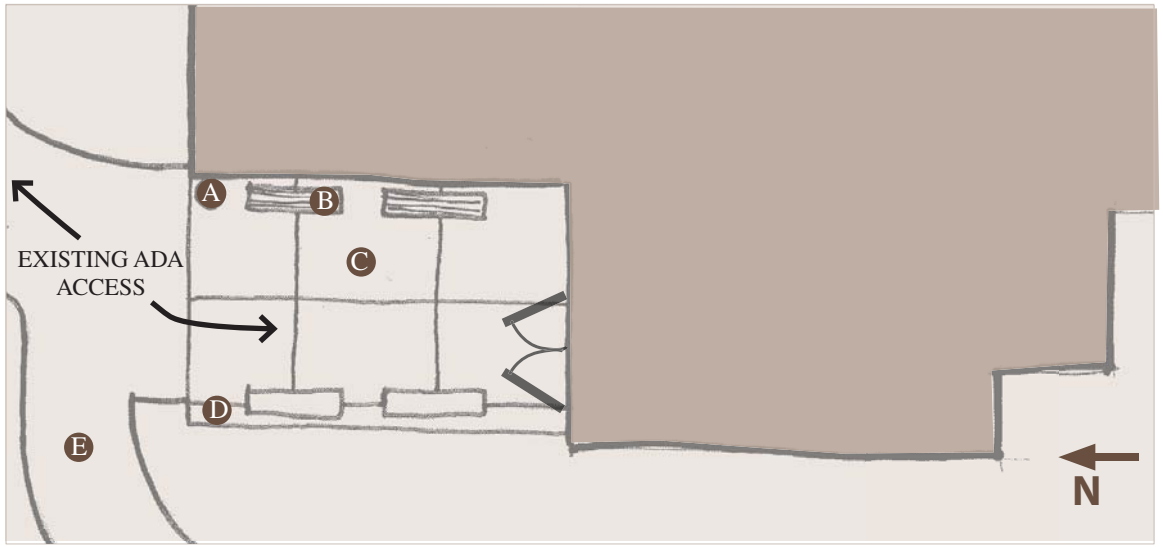


Fig. 4-44, Giant Logs Plaza Concept Plan at the rear entry to the Museum.

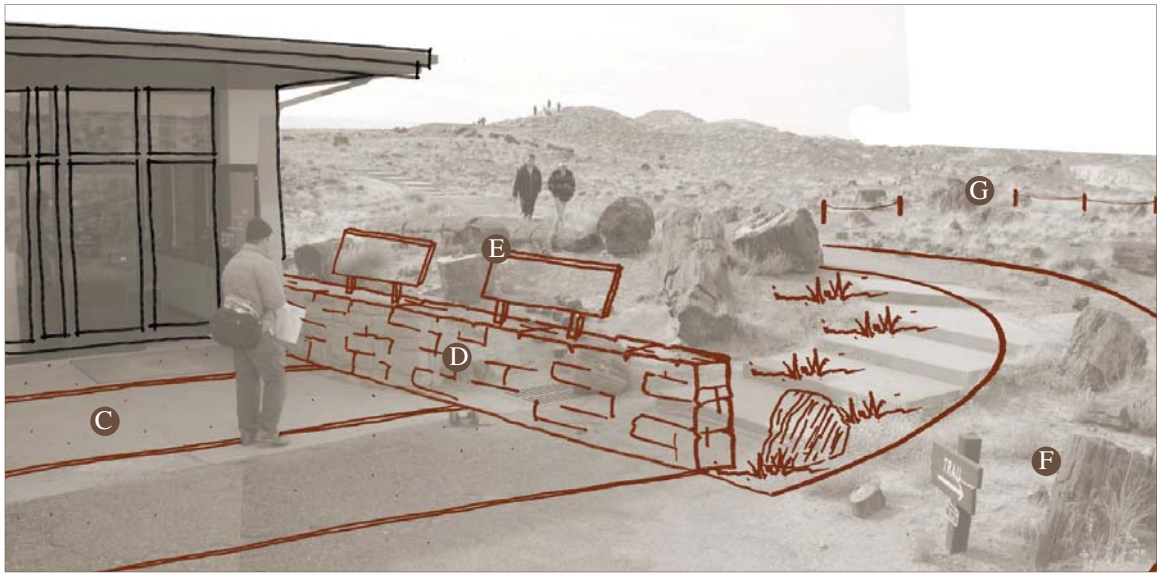


Fig. 4-45. Rendering of treatment recommendations for Giant Logs Plaza at the rear entry to the Museum.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR THE GIANT LOGS PLAZA

- A TRASH RECEPTACLE - FROM "FAMILY " OF COMPATIBLE FURNISHINGS
- B BENCH - FROM "FAMILY " OF COMPATIBLE FURNISHINGS
- C CONCRETE PLAZA - UTILIZE COMPATIBLE HISTORIC SURFACING TREATMENT
- D STONE WALL EXTENSION - EXTEND EXISTING COMPATIBLE WALL
- E INTERPRETIVE SIGNAGE - FOR TRAIL ORIENTATION/WAYFINDING
- F TRAIL ACCESS RAMP - REPLACE STAIRS AT BEGINNING OF TRAIL WITH CONTINUOUS TRAIL TO IMPROVE UNIVERSAL ACCESS
- G POST AND CABLE BARRIER - INSTALL BARRIER AS NEEDED TO ENCOURAGE VISITORS TO STAY ON THE TRAIL

- Providing interpretation of the log, the site, CCC-trail development and the views.
- Improving universal access from the Museum and to and around the Old Faithful Log to ensure a hands-on experience is available for a broad spectrum of abilities.

CIRCULATION, SURFACES AND WAYFINDING

Maintain/rehabilitate CCC-era trail infrastructure including:

- 4'-0" trail cross-section
- Stone walls, steps and drainage features

MATHER MEMORIAL ACCESS ROUTE

The route to Mather Memorial is approximately 170 feet long and is nearly accessible. Additional resting intervals along the main trail may be warranted and the spur alignment from the main trail is somewhat steep. However, needed improvements are minimal. Provide seating opportunities in a compatible manner. A simple, backless bench could be provided in the vicinity of the memorial along the spur or at the junction. Boulders could also be used to provide seating.

OLD FAITHFUL ACCESS ROUTE

The proposed route to Old Faithful is shown in Figure 4-42. The most extensive site work that would be required to improve accessibility to the Old Faithful Overlook would be at the stairs at the beginning of the trail next to Giant Logs Plaza. Due to disturbance created by the expansion of the Museum, this area does not maintain its historic integrity. The initial ascent from the plaza area would require some redesign in order to provide a more universally accessible ramp. There may be other areas where some reduction in grade would be needed. There is another set of steps about mid-route that could be eliminated with careful planning. Gentler intervals of minimal grade should be incorporated into the route as well (i.e. grades less than 5% for intervals of at least 5 feet every 200 feet).

OFF-TRAIL USE

To combat the impacts of off-trail use, seek historically compatible methods for keeping visitors on the trail with a multi-pronged approach.

- Install minimalist signs with stick-figure drawings to remind visitors to stay on trail.
- Provide larger, interpretive sign at the lower plaza explaining the long term effects of repeated off-trail usage in a desert environment (site degradation and erosion etc.).
- As a last resort, utilize low post-and-cable fencing to deter off-trail use (see Fig. 4-44, Note G).

STRUCTURES AND SMALL SCALE FEATURES

CCC-era and Mission 66-era structures and features should be monitored, repaired and rehabilitated to assure trail stabilization and to minimize the impacts of erosion.

VEGETATION

Vegetation in the Giant Logs area is characterized almost exclusively by native grasslands. There are some well vegetated areas in the flatter portions in the vicinity of the Mather Memorial. These noteworthy areas of vegetation should be seen as the standard by which the health of other stands in flatter areas should be measured. Waning quality may be an indication of off-trail use. In which case, measures should be taken to deter such use (see *Circulation* above) and restoration of native vegetation should occur. Of course, steeper areas and areas prone to erosion are more reticent to establish grasses. Efforts to establish vegetation under these conditions may be difficult and may require compatible slope stabilization prior to or as a part of any revegetation projects. Such a treatment may also be used to discourage off-trail use on steep slopes.

VIEWS

The view from Old Faithful log is of primary importance and should be preserved, promoted and considered when changes to the historic landscape are contemplated. Views from other high points along the trail are also important components of the visitor experience and should be factored into management decisions for the district.

OTHER FACTORS

ACCESSIBILITY

To the greatest extent possible, improve universally accessible routes to primary features on the Giant Logs Trail while maintaining historic integrity. Based on cursory field measurements conducted over the course of this investigation, it is speculated that a more universally accessible route to Mather Memorial and Old Faithful log can be provided with minimal impact to historic integrity. Undertake a more detailed study (i.e. a topographic study and design development) to determine the feasibility of providing such a route to the Mather Memorial and to Old Faithful. Involve NPS accessibility experts in the study. Refer to the Section 4.0, General Guidelines, Accessibility, for additional guidance related to universal accessibility.

As an alternative to the experience of traversing the hillside to the overlook, an interpretive graphic depicting the view from the Old Faithful Overlook could be incorporated into an exhibit inside the building.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR OLD FAITHFUL OVERLOOK

- A OLD FAITHFUL LOG
- B OVERLOOK CIRCULATION AREA (SOFT SURFACE)
- C POST AND CABLE BARRIER (WOOD POSTS AND NON-COATED CABLE WIRE)
- D LANDSCAPE RESTORATION AREA
- E UNIVERSALLY ACCESSIBLE ROUTE
- F HISTORIC CULVERT
- G INTERPRETIVE TOUR MARKER
- H ACCESSIBLE ROUTE SIGNAGE

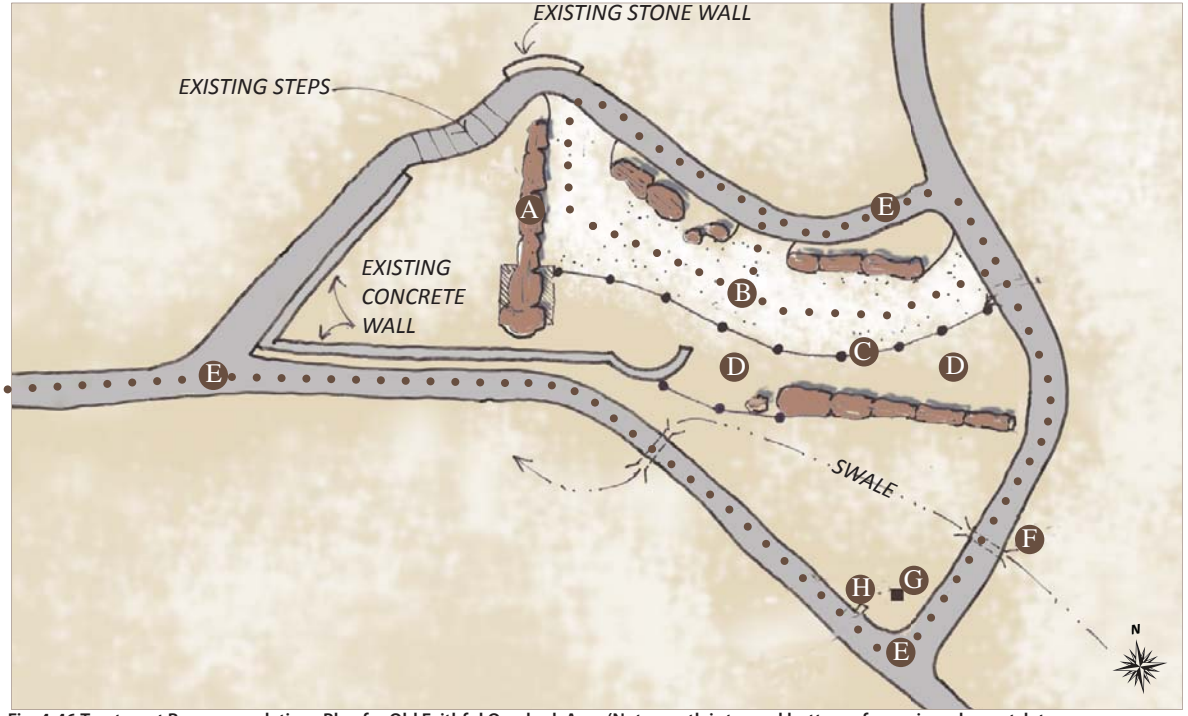


Fig. 4-46,Treatment Recommendations Plan for Old Faithful Overlook Area (Note: north is toward bottom of page in order match to illustration below)

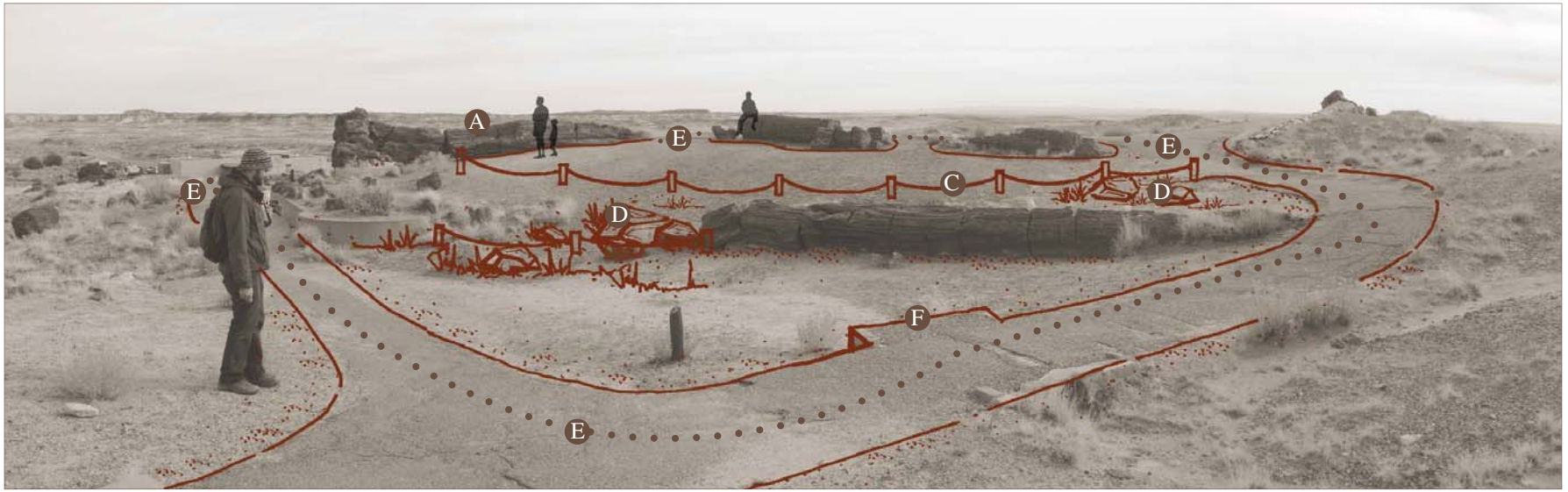


Fig. 4-47, View of treatment recommendations at the Old Faithful Overlook area.

OVERVIEW

The original design for the area from the 1930s by the NPS Branch of Plans and Designs indicates an intent for the internal courtyard or "Close" to be an enclosed garden area separated from visitors and other public functions of the park. There have been attempts over time to realize this vision; however, constraints such as the harsh desert environment and limited availability of water and shade have prevented a full realization of this design intent. Meanwhile, some historic features have fallen into disrepair. The recent construction of compatible screen walls to increase privacy and improve the human-scale of the individual dwellings, as well as the rehabilitation of building exteriors in a historically compatible manner is a great example of how the rehabilitation treatment can improve human comforts while restoring historic integrity to an historic district.

TREATMENT OBJECTIVES

- Preserve the contributing historic features in the area including the seven buildings, walks and roadway alignments, CCC-era masonry walls and areas of native vegetation including the planted Cottonwood trees.
- Stabilize/restore CCC-era walls as needed.
- Continue to rehabilitate and/or restore the integrity of historic structures consistent with the 2005 Maintenance Guides and the 2002 MOA.
- Create a comfortable garden area within the "Close" by providing permanent shelter and planting and irrigating trees and other native vegetation.
- Continue to buffer the Residential Area from other adjacent public uses using compatible walls, fencing and vegetation and further discouraging access by visitors using signage as necessary.
- Encourage participation of residents in the preservation, restoration and maintenance of historic features and compatible landscape areas within the Residential Area.
- Integrate sustainable technologies and ecological design principles into the Residential Area as funding is available and changes occur. Given the amount of roof area, opportunities for utilizing solar energy and harvesting water for irrigation should be explored and implemented such that related improvement are compatible with the cultural and historical resources in the area.

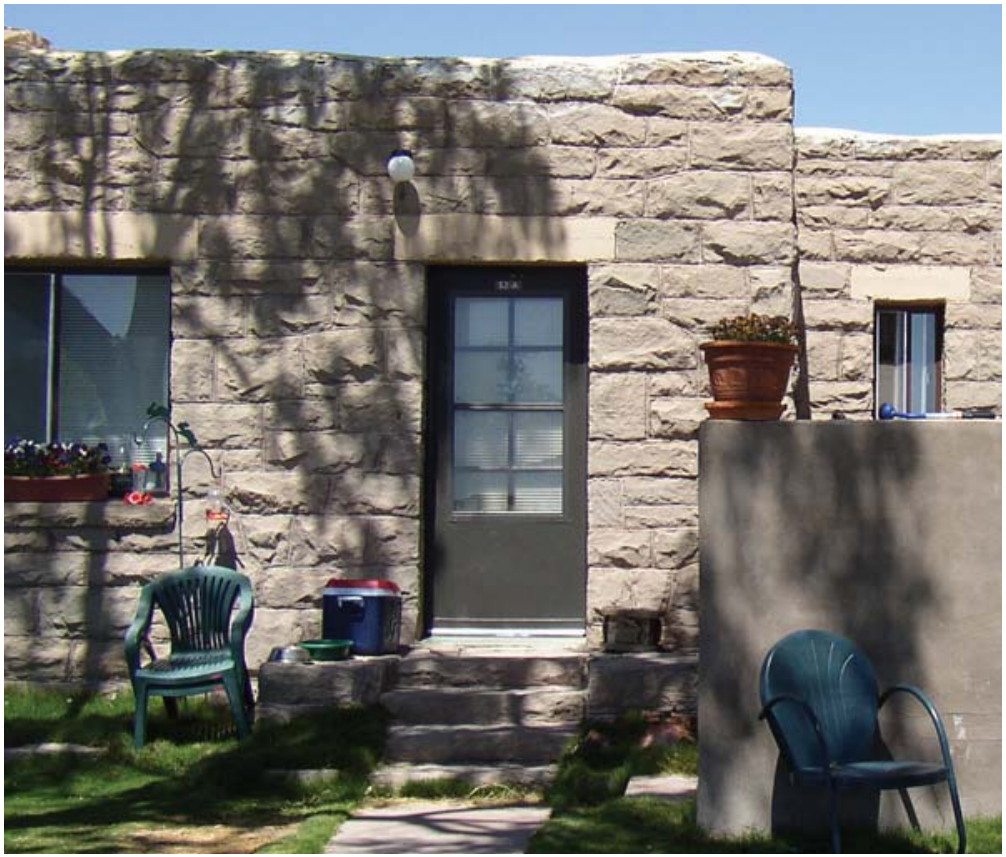
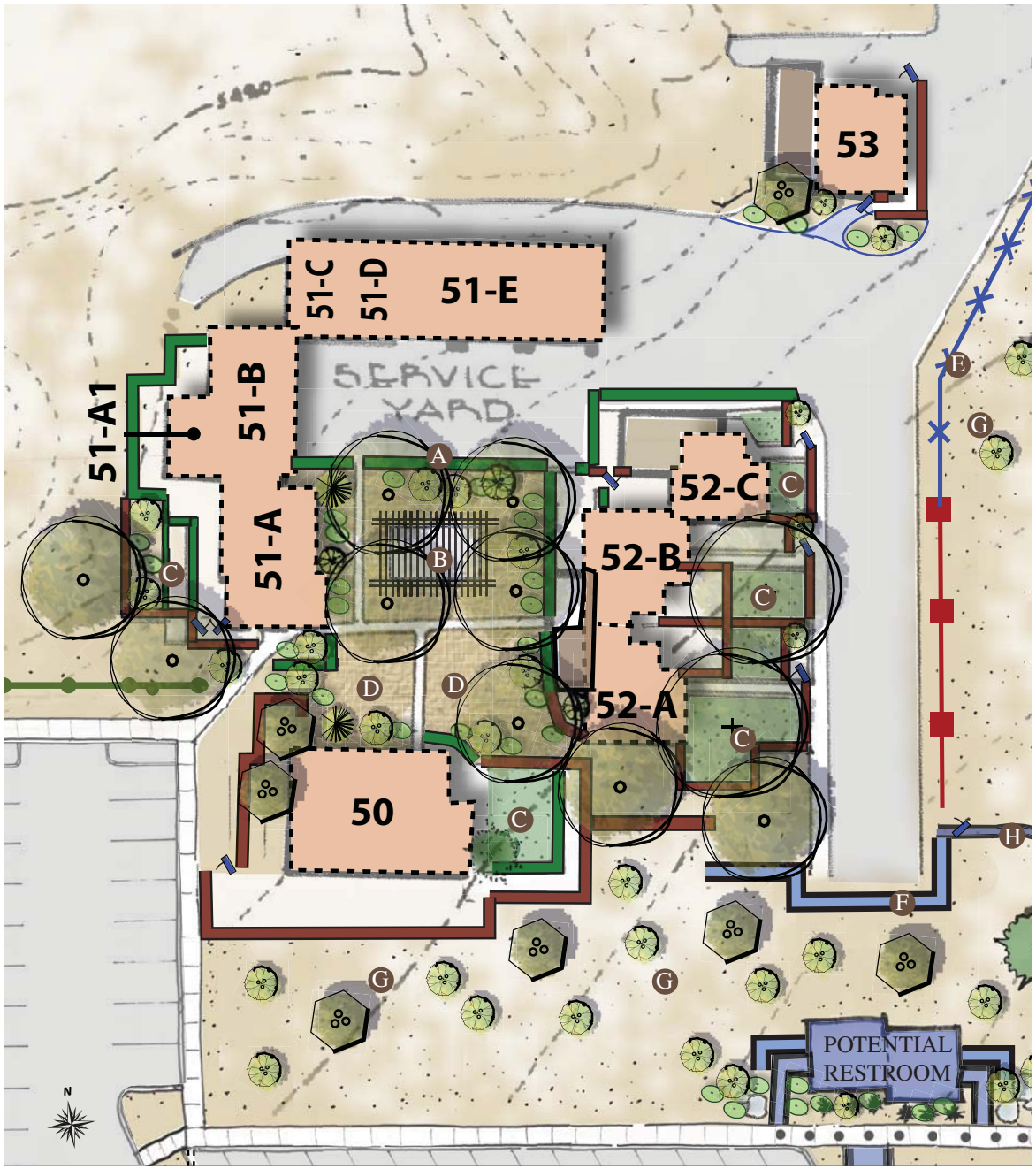


Fig. 4-48, The front courtyard of Apt #52-A reflects the care that resident staff put into the maintenance of courtyards and the quality of landscape that a little shade and water can support in Rainbow Forest. Andrew Gorski, 2004.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

This area is reserved for residential uses and should continue to be used as such. Uses such as storage not associated with the residences are discouraged. Residents make good stewards and efforts should be continued at a park management level to educate staff who reside in the district about the opportunities and responsibilities associated with living in an historic district. Additionally, initiatives could be developed through a line item in the



KEY TO LOCATIONS OF RECOMMENDED TREAT MENTS FOR RESIDENTIAL AREA

- A CCC-ERA COBBLE WALL, STABILIZE/REPAIR
- B RUSTIC-STYLED RAMADA
- C RESIDENT-TENDED LANDSCAPE AREAS
- D LOW-MAINTENANCE LANDSCAPE AREAS
- E FENCE EXTENSION
- F SCREENING WALL WITH GATE
- G VEGETATED BUFFER
- H PATH TO RESIDENTIAL AREA FROM PICNIC AREA

LEGEND

- HISTORIC FEATURE
- VIEWS
- HISTORIC BUILDINGS
- BUIILDINGS & ADDITIONS (NON-CONTRIBUTING)
- PROPOSED VEGETATION (See Appendix D for plant list)
  - a. SHADE TREE
  - b. ACCENT SHRUB (HEIGHT >42")
  - c. SCREENING SHRUB (42" MAX. HEIGHT)
  - d. LOW GROWERS (30" MAX. HEIGHT)
  - e. EVERGREEN SHRUB
  - f. TO BE REMOVED
- EXISTING TREE
- EXISTING JUNIPER
- ADA ROUTE
- CULVERT HEADWALL CCC-ERA
- PAVEMENT
- TRAIL
- SIDEWALK
- NON-CONTRIBUTING WALL
- CONTRIBUTING WALL
- NON-CONTRIBUTING FENCE
- PROPOSED FENCE
- CONTRIBUTING FENCE
- CLI BOUNDARY
- EXISTING CURB ALIGNMENT
- RECOMMENDED TREATMENTS

Fig. 4-49, Enlargement of Treatment Recommendations Plan showing the Residential Area.



Fig. 4-50, 2004 view of the Residential Area courtyard showing metal shelters that have since been removed. Andrew Gorski, 2004.

annual park budget for staff-initiated projects for the Residential Area that promote community-building among residents and other park staff and/or reinforce the historic character of the Residential Area (i.e., construction of a courtyard garden, restoration of the CCC-era wall, etc.).

Small, private courtyard gardens are located on the east side of the Ranger Apartments (RF-52) and the Ranger's Residence (RF-50). These are grassy oases that have been maintained and hand-watered primarily by building occupants. This use and care should continue to be encouraged (Fig. 4-48).

BUILDINGS, PLAZAS AND OTHER NODES

Continue to implement recommendations of the 2005 Maintenance Guides related to rehabilitation of architectural elements in a manner such that they become eligible for listing on the National Register of Historic Places as feasible. An excerpt of the Guide is included in *Appendix C* of this document for reference.

Create a gardenesque, courtyard setting in the Close with a central gathering area to include:



Fig. 4-51, Conceptual drawing showing character of compatible shade structure for residential courtyard using log timbers similar to those at the Painted Desert Inn (see Fig. 4-4, P. 61). Proportions should mimic surrounding architecture. Shade trees are shown behind with native shrubs in the foreground next to the historic wall.

- A shaded gathering area such as a trellis or arbor for eating, grilling and lounging, executed in a compatible manner. The element should be constructed as the focal feature of the courtyard (See Fig. 4-51).
- Clumps of trees and other foundational plantings should be installed at the perimeter of the space and near the gathering area; and
- Space for other plantings to be maintained by residents should also be made available.

CIRCULATION, SURFACES AND WAYFINDING

Sidewalks and other circulation related features should continue to discourage the general public from utilizing the area by providing cues that this is a private, residential area (i.e. narrower sidewalk widths and unobtrusive signing if necessary).

Walks in the Residential Area were historically constructed of sandstone, but all primary walkways have been replaced with concrete. Concrete should continue to be used for historic walk alignments in a consistent finish throughout the district. The concrete in the courtyard west of RF-51 should be used as the example. It has a warm tone and a light broom finish (Fig. 4-52).

While the concrete walks are most practical for the primary walkways, reuse of historic flagstone could occur in the informal garden areas. This treatment is preferable to the introduction of new, non-compatible material such as brick pavers (Fig. 4-54). Existing areas of brick paver should be replaced with flagstone set with wide mortar joints, as time and resources permit, similar to walks in the rehabilitated Painted Desert area (Fig. 4-53).



Fig. 4-52, A 2008 photo shows the courtyard west of RF-51. This warm-toned, light broom finish of the concrete should be matched elsewhere in the district. CCC-era walls and landscape areas should be rehabilitated and include at least one shade tree. Belt Collins, 2008.



Fig. 4-53, A 2008 photo shows rehabilitation at the quarters across from Painted Desert Inn. With wide mortar joints, the flagstone walk is decidedly different from CCC-era treatment. Also note the naturalistic use of native plantings and the modern path lighting. Belt Collins, 2008.

Gated entries off of the primary access route should receive a similar treatment. A small landscape area may remain in these entries from the residential spur into the apartments. However, these should be planted with native plants (Fig. 4-54 thru 4-56).

STRUCTURES AND SMALL SCALE FEATURES

HISTORIC WALLS

Stabilize/repair CCC-era cobble wall along the edge of service court and install a plaque or other interpretive element to educate residents and others about the wall and other CCC-era features. This should encourage stewardship of historic fabric. Stabilize, repair and/or preserve other CCC-era walls in the Residential Area.

COMPATIBLE BARRIERS AND SCREENING

Continue to deter visitor access to the area by using walls and/or fencing that maintain the overall historic character of the district. However, no immediate need for additional walls has been identified. Improvements to the Picnic Area and the construction of a restroom building could warrant such a need. Native vegetation may be utilized to further buffer the Residential Area from other areas and uses.

The color and texture of the modern stucco walls should continue to be utilized in the construction of screen walls in other places in the district. Walls should be continually monitored and repaired when necessary to avoid undue visual impacts. Certain walls exhibit cracking and diminished color saturation; repairs should occur as soon as practicable.

GATES

Only one gate is documented in the district from the historic period; the unused wrought iron double gate on the south side of the Museum. There are now, however, a number of gates located in the Residential Area. They consist primarily of wooden gates associated with the stucco walls. While these gates are generally compatible, additional detailing could further enhance the overall character of the district. Cues can be taken from other wooden details within the district, such as the wood poles used on the roof ledges for the rehabilitation of RF-52 (Fig. 4-55 and 4-56). This CLR recommends that the dog-earred



Fig. 4-54, A view of the incompatible brick paver area at the gated entry to RF-52-B. CMU block has been used to create a raised planting area for flowers. Trash and debris have collected here. Refer to Fig. 4-56 for the recommended treatment. Belt Collins, 2008.

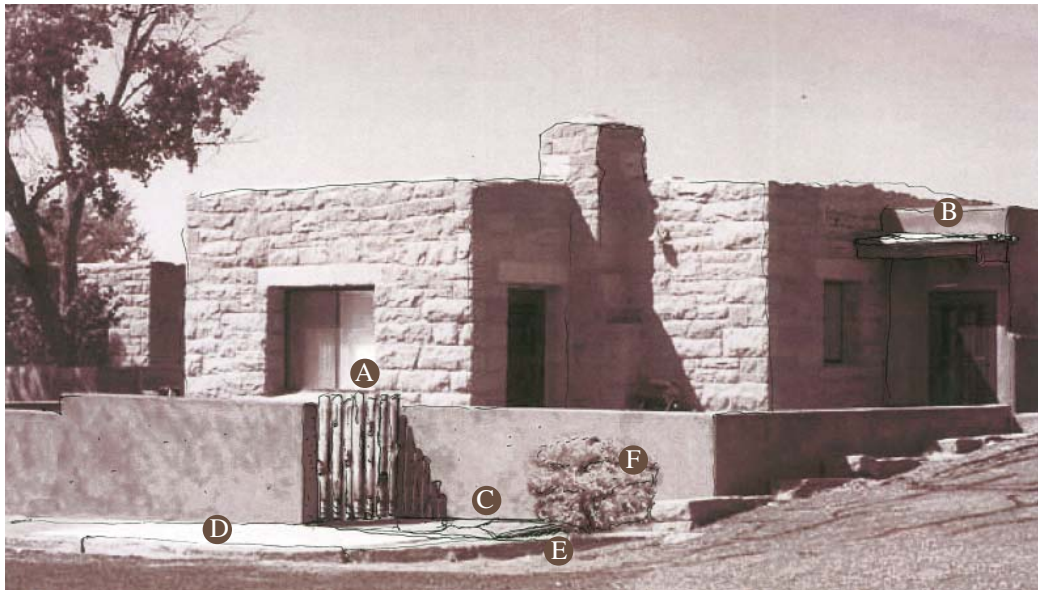




Fig. 4-55 (above) A 2008 view of the entry into RF-52-C. The gate and paved area are incompatible. CMU block planters should be removed. Belt Collins, 2008. Fig. 4-56 (left) shows the recommended treatment for these gate area. Dog-earred pickets should be replaced with wood poles (A) similar to those over the building entry (B). Tops of poles should be cut at angles and exhibit minor irregularities throughout. Flagstone paving should replace brick pavers (C), but the primary walk (D) should remain concrete. A small, landscape area (E) can be provided opposite the gate and should be edged with sandstone curb. Plantings should consist only of native vegetation (F).

pickets be modified or replaced in keeping with the points outlined in the captions above.

VEGETATION

Immediate provision for the planting of shade trees in the existing hand-watered residential gardens should be made due to the age of the existing cottonwoods and potential for their near-term demise. Other longer-lived species could be considered.

In addition, planting and irrigation of vegetation in the central residential courtyard should be implemented. To address the need for a shaded gathering area within the courtyard, a phased approach is recommended: 1) establish low-water use trees on the west side of the courtyard; and, if needed, 2) consider addition of a smaller, rustic ramada (using the 1920s-30s pole and brush ramada that used to be in the camp/picnic area as a design reference). At a minimum, shade trees should be planted in the courtyard area in the near term to enhance livability and shade buildings. Understory plantings can be implemented over time as resources are available and trees are well established.

Explore the utilization of water harvesting for landscape irrigation within the courtyard.

Continue to allow for the courtyard gardens as residential oases. Residents should be encouraged to continue to maintain such gardens to minimize involvement of maintenance staff. Drip irrigation could be provided in these areas as a sustainable solution.

Use of non-invasive plant species should be required to avoid impacts to the surrounding native ecosystem.

See *Appendix D* for the list of recommended plants.

VIEWS

Improvements under consideration for the Residential Area should be thoughtfully considered in relationship to views from outside the area in to the Residential Area to assure a lack of visual impacts to contributing views. Consider the need for compatibility with historic resources with regard to color, texture, scale, and low reflectivity.

OTHER FACTORS

SUSTAINABILITY

There are approximately 6,800 sq. ft. of roof top that surround the courtyard which could provide as much as 38,000 gallons of grey water for irrigation per year based on an average annual rainfall of 9 inches. The 3,400 sq. ft. paved service yard surface could provide another 19,000 gal. This would be enough water to sustain drip irrigated low-water use planting areas to approximately 80% of the courtyard area or 6,800 sq. ft of planting area (Note: this assumes only 75% of the rainwater water is collected, the planting areas use 5 gal. of water per sq. ft. per year, and the irrigation system delivers irrigation with 80% efficiency). There are, most likely grants or other funding sources available for pursuing such a project.

4.5 PICNIC AREA

OVERVIEW

The Picnic Area is a minimally programmed, open area that was also utilized for camping until the 1950s. Two Mission 66 era "ramadas" are located on the east edge of the grounds adjacent to the parking area. With plenty of room for parking and vehicular circulation, it provides for the least structured visitor experience within the district and surrounding landscape. Views of the sweeping vista across the Jim Camp Wash are impressive.

TREATMENT GOALS

- Preserve the contributing Spur Road alignment and associated contributing CCC-era masonry walls.
- Preserve views across Jim Camp Wash and into central district area.
- Maintain compatible informal groupings of trees and shrubs along north edge of the Parking Plaza, preserving existing compatible vegetation.
- Enhance existing picnicking facilities.
- Improve access to surrounding visitor-related facilities while deterring entry into Administrative and Residential Areas.
- Improve access to Long Logs Trail from parking area.



Fig. 4-57, Visitors enjoying the picnic grounds (1950s). Note boulder curbing being used to designate parking areas in the open grasslands. PEFO 24963-8. PEFO Archives.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

This area first functioned as a campground from the early inception of the park. The campground was rather rigidly organized into 15 sites delineated by boulder curbing, (see Fig. 4-57) with two centrally-located rustic ramadas providing much needed shelter from the elements; two other ramadas were located in the vicinity of today's Administrative Area. Today, two metal-roofed group shelters provide a similar function. A compatible grouping of cottonwoods and junipers provide some additional shelter for picnickers at informally located and movable tables. This area is often used by visitors for picnicking and relaxing. The parking area was designated as the parking area for Long Logs when the former road to that area was closed to all but pedestrians.

BUILDINGS, PLAZAS AND OTHER NODES

The informal picnicking that occurs along the north edge of the Parking Plaza should continue to be encouraged by providing 2 or 3 additional picnicking clusters similar to that at the southeast corner of the area. Features could include movable picnic tables and boulders, inspired by historic curbing (Fig. 4-57), for seating (and for climbing). A system of dirt or gravel trails through the informal grounds could accommodate circulation. These trails could also provide a connection between the new restroom building and the existing ramadas.

A Long Logs Trailhead should be created utilizing a portion of currently unprogrammed space in the Picnic Area (Fig. 4-59). At this location, parking already exists and visual connections to the Long Logs Trail and Agate House could be made. As discussed in *Section 4.1, the Parking Plaza area,* a safe pedestrian crossing should be designed for crossing the main plaza area. The trailhead feature could be located to be shaded/sheltered by existing trees and include a small paved area with seating, flagstone paving and curbing, and a kiosk with a trail map and other interpretive signage (Fig. 4-60).



KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR PICNIC AREA

- A POTENTIAL RAINWATER STORAGE AREA (UNDERGROUND)
- B FENCE EXTENSION (REUSE FROM SPUR TERMINUS)
- C VEGETATED BUFFER (42" MAX. HEIGHT)
- D NEW RESTROOM BUILDING
- E INFORMAL PICNIC AREA WITH MOVABLE TABLES, BOULDERS, AND SOFT SURFACE TRAIL NETWORK
- F ACCESSIBLE ROUTE TO RESTROOMS
- G LONG LOGS TRAILHEAD (SEE ENLARGEMENT)
- H PEDESTRIAN CONNECTION TO LONG LOGS
- I FOOTPATH TO RESIDENTIAL AREA (SIGNED "PRIVATE AREA")

LEGEND

- HISTORIC FEATURE
- VIEWS
- HISTORIC BUILDINGS
- BUIILDINGS & ADDITIONS (NON-CONTRIBUTING)
- PROPOSED VEGETATION (See Appendix D for plant list)
  - a. SHADE TREE
  - b. ACCENT SHRUB (HEIGHT >42")
  - c. SCREENING SHRUB (42" MAX. HEIGHT)
  - d. LOW GROWERS (30" MAX. HEIGHT)
  - e. EVERGREEN SHRUB
  - f. TO BE REMOVED
- EXISTING TREE
- EXISTING JUNIPER
- ADA ROUTE
- CULVERT HEADWALL CCC-ERA
- PAVEMENT
- TRAIL
- SIDEWALK
- NON-CONTRIBUTING WALL
- CONTRIBUTING WALL
- NON-CONTRIBUTING FENCE
- PROPOSED FENCE
- CONTRIBUTING FENCE
- CLI BOUNDARY
- EXISTING CURB ALIGNMENT
- RECOMMENDED TREATMENTS

Fig. 4-58, Enlargement of Treatment Recommendations Plan showing the Picnic Area.

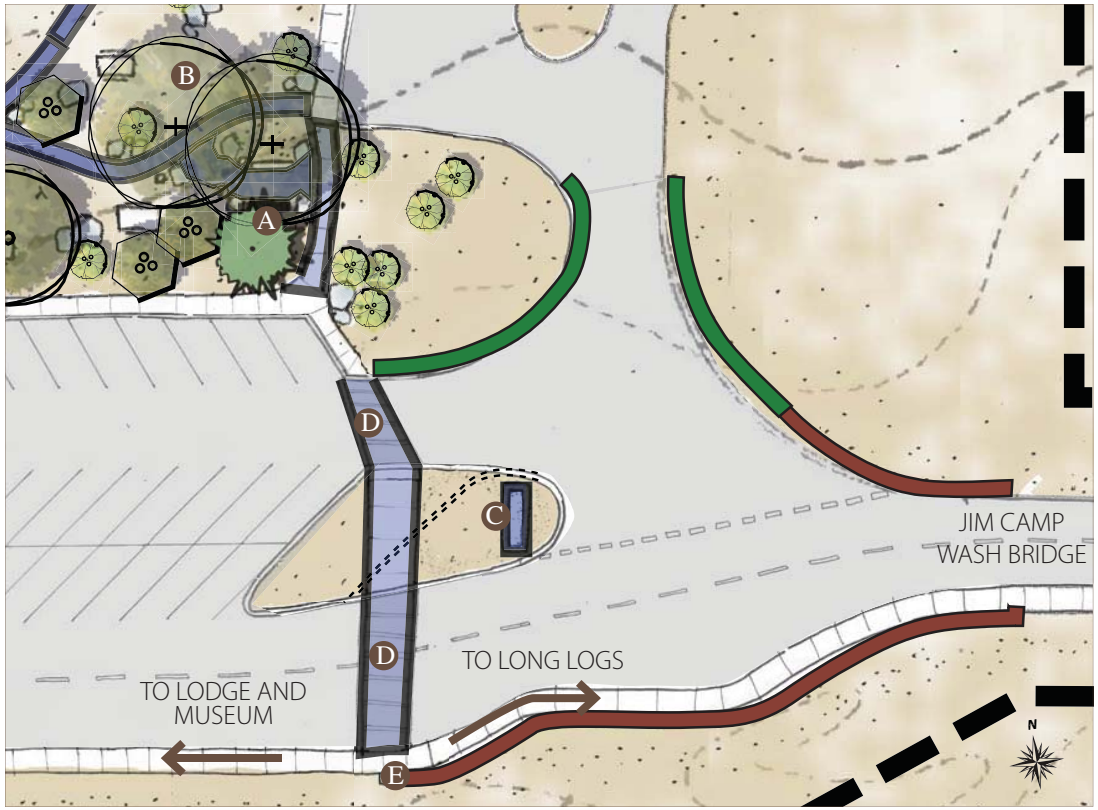


Fig. 4-59, Enlargement of Treatment Recommendations Plan showing the Long Logs Trailhead.

LEGEND

- HISTORIC FEATURE
- VIEWS
- HISTORIC BUILDINGS
- BUIILDINGS & ADDITIONS (NON-CONTRIBUTING)
- PROPOSED VEGETATION (See Appendix D for plant list)
  - a. SHADE TREE
  - b. ACCENT SHRUB (HEIGHT >42")
  - c. SCREENING SHRUB (42" MAX. HEIGHT)
  - d. LOW GROWERS (30" MAX. HEIGHT)
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- PAVEMENT
- TRAIL
- SIDEWALK
- NON-CONTRIBUTING WALL
- CONTRIBUTING WALL
- NON-CONTRIBUTING FENCE
- PROPOSED FENCE
- CONTRIBUTING FENCE
- CLI BOUNDARY
- EXISTING CURB ALIGNMENT
- RECOMMENDED TREATMENTS

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR LONG LOGS TRAILHEAD

- A TRAILHEAD KIOSK
- B PICNIC AREA
- C GATEWAY SIGN WITH WAYFINDING FOR AUTOS
- D TEXTURED CROSSINGS AND SIDEWALK
- E PEDESTRIAN WAYFINDING FOR LODGE AND LONG LOGS

CIRCULATION, SURFACES AND WAYFINDING

The Petroglyph Road spur is a contributing feature and should be preserved. This alignment provides access to the Administrative Area and the Residential Area. It also provides access to Petroglyph Road (aka Pictograph Road), which is currently closed to visitors. While outside of the project boundary of this CLR, it is recommended that this road alignment and its associated features be documented and additional treatment recommendations prepared given it association with the historic designed landscape.

It was noted during the 2008 site visit that the walkways along the edge of the parking area and landscape island are lined in a compatible manner with reused historic stone. This has been done in a compatible manner, though the walk is in fair to poor condition. Replacement of this walk may have occurred as part of the 2008-2009 maintenance project. The stone-lined curb should continue to define all edges of the parking area.

STRUCTURES AND SMALL SCALE FEATURES

The preferred location for a new restroom building in the district is within this character area at the south end of the residential spur and on axis with the Lodge. This building would be rather modest in scale yet accessible from the Parking Plaza, Picnic Area and the Museum. Refer to *Section 4.1 Parking Plaza, Buildings and Structures* for more detailed discussion of the proposed restroom.

Despite the more modern materials and style of the NPS modern-style ramadas, their proportions and brown paint color feel compatible with surrounding historic elements. They should be retained. At the end of their useful life, they should be replaced with a more rustically-style ramada such as that illustrated in the Residential Area recommendations.



Fig. 4-60, Rendering of recommended treatments for Long Logs Trailhead and the Picnic Area. The trailhead and kiosk (A) are located among the existing cottonwoods. The space is demarcated by boulders (B). Cottonwoods (C) are maturing near the rustic-styled ramadas (D). Also shown are the textured crossing to Long Logs (E), the new restroom building and the axial walk (G). Note additional buffering near RF-53 (H).

VEGETATION

Trees informally planted in groupings of two or three should be planted in the area along the sidewalk adjacent to the parking area. These plantings could be staggered in 5-10 year increments to assure longevity of the stand as a whole. Another strategy would be to plant trees of different ages or types in each grouping. Trees in addition to cottonwoods should be considered, particularly in areas where underground infrastructure may be located and the deep-rooted cottonwoods may create long-term maintenance issues. See Appendix D for the *List of Recommended Plants*.

Enhance the area surrounding the existing ramadas with additional trees. In addition to the trail connections to the proposed restroom, a few trees and boulders could be dispersed throughout the area for a less formal picnicking experience. Ensure that a feasible plan for irrigation of trees is in place prior to installation; an automatic drip irrigation system is strongly recommended to support long-term longevity of trees.

VIEWS

Views from the Picnic Area across the Jim Camp Wash are contributing. In addition, any improvements to the Picnic Area should be made only after careful consideration of views into the area; particularly the view from the approach road across the Jim Camp Wash.

OTHER FACTORS

FUTURE USES

Reserve unprogrammed open area for future, compatible uses and buffer from residential and administrative uses. No programming or development is intended for the northwest corner of the Picnic Area and its northern edge. It is recommended that only compatible uses such as additional picnicking, an outdoor amphitheater, or other similar passive recreation uses be considered for this location and that they be developed in a manner consistent with the surrounding historic features and considerate of the existing spatial pattern/order.

SUSTAINABILITY

Similar to the Residential Area, there are opportunities for the harvesting of storm water in this area for irrigation. A substantial amount of water is already concentrated into the historic swale on the boundary with the Administrative Area and also into the drainage system associated with the Parking Plaza. This water could be stored and systematically distributed through a low-pressure drip irrigation system. Detailed guidance for the design of such a rainwater harvesting system for the district's arid climate can be found in *Harvesting Rainwater For Landscape Use* by University of Arizona Cooperative Extension Agent, Patricia H. Waterfall. Even a relatively modest system could provide enough irrigation to sustain vegetation along the north edge of the Parking Plaza. Likely, there are grants or other funding sources available for pursuing such a project.

4.6 ADMINISTRATIVE AREA

OVERVIEW

The Administrative Area is among the least active areas of the district since the relocation of most administrative uses to headquarters at Painted Desert. Carefully sited and constructed in the hillside, the architectural elements are fine examples of later, more refined tenets of the NPS Rustic Style.

TREATMENT OBJECTIVES

- Continue to rehabilitate buildings consistent with the 2005 Maintenance Guides.
- Continue to screen non-contributing, utilitarian uses and materials from contributing viewsheds by compatible means.
- Ensure that views to historic architectural features are not impaired by screening elements or vegetation.
- Research and document existing stone-lined swale to determine contributing status and treatment.

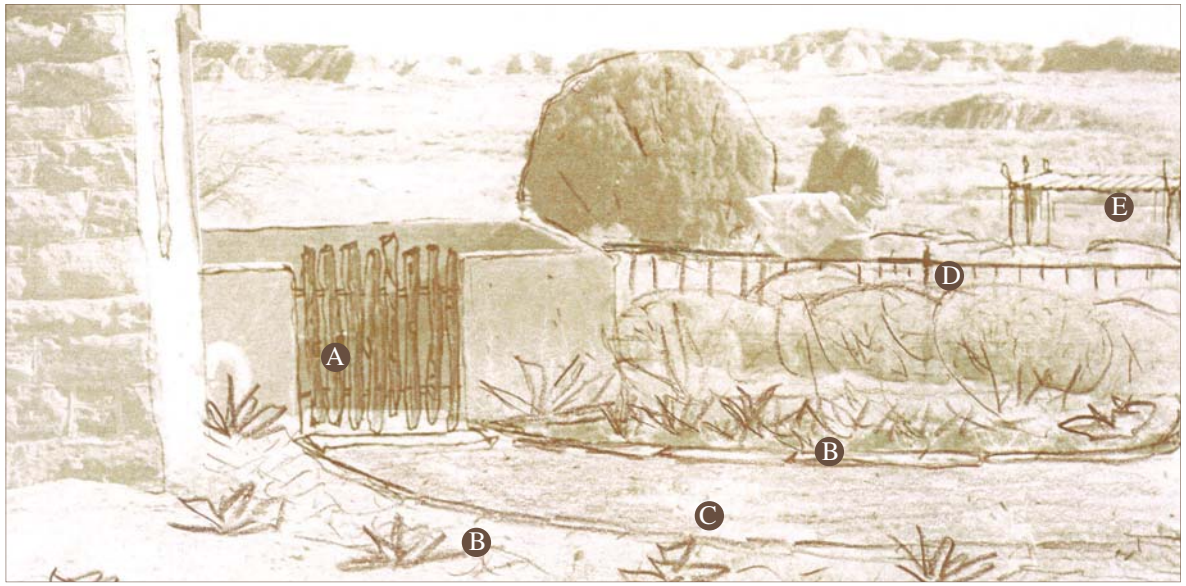


Fig. 4-61, Rendering of treatment recommendations in the Administrative Area. Shown are compatible treatments in the vicinity of RF-53 including a wood pole gate (A; see *Gates*, p. 88) and landscape areas with low-growing native vegetation (B). A soft surface path lined with stone curb would connect the courtyard to the roadway (C). In the background, an extension of the fence and vegetation (D) buffer the area from visitors in the Picnic Area (E).

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

Buildings are used minimally, primarily as storage and for regular maintenance operations. Outdoor temporary storage yards, dumpsters and other utility areas should be visually screened using stucco walls in keeping with those already in place in the district.

BUILDINGS, PLAZAS AND OTHER NODES

Buildings should be rehabilitated and otherwise maintained as described in the 2005 Maintenance Guides. See excerpt in Appendix C, pg. 46-53.

CIRCULATION, SURFACES AND WAYFINDING

The road through the district provides access to both this area and the Residential Area. No additional signage is needed.

STRUCTURES AND SMALL SCALE FEATURES

STONE-LINED DRAINAGE SWALE

A stone-line drainage swale was located by researchers during the 2008 site visit along the south side of the Administrative Area where it abuts the Picnic Area. Historic photographs seem to indicate the structure was present during the historic period and it has been assumed that this is a contributing CCC-era feature due to the manner of construction, however no other documentation has been discovered to date. Refer to *Analysis and Evaluation, Section 2.6, Administrative Area,* for additional discussion of this feature. Research and documentation should continue in order to verify the contributing status of this feature.

The condition of the stone retaining walls varies from fair to poor, with some of the wall either buried or no longer present. The walls should be stabilized, as feasible.

HISTORIC WALLS

Stabilization/repair of wall elements associated with the historic buildings should occur to minimize additional damage resulting from deferred maintenance. The services of a qualified mason with demonstrated skill in restoration should be employed to assure stabilization in a manner consistent with historic construction techniques and materials, particularly the mortar.

STUCCO SCREENING WALLS

Stucco walls in keeping with height, color, finish and style of existing district walls should continue to be used for screening purposes. Unscreened storage of materials in open areas in the Administrative Area should be minimized to limited durations in order to minimize long-term impacts to views and viewsheds.

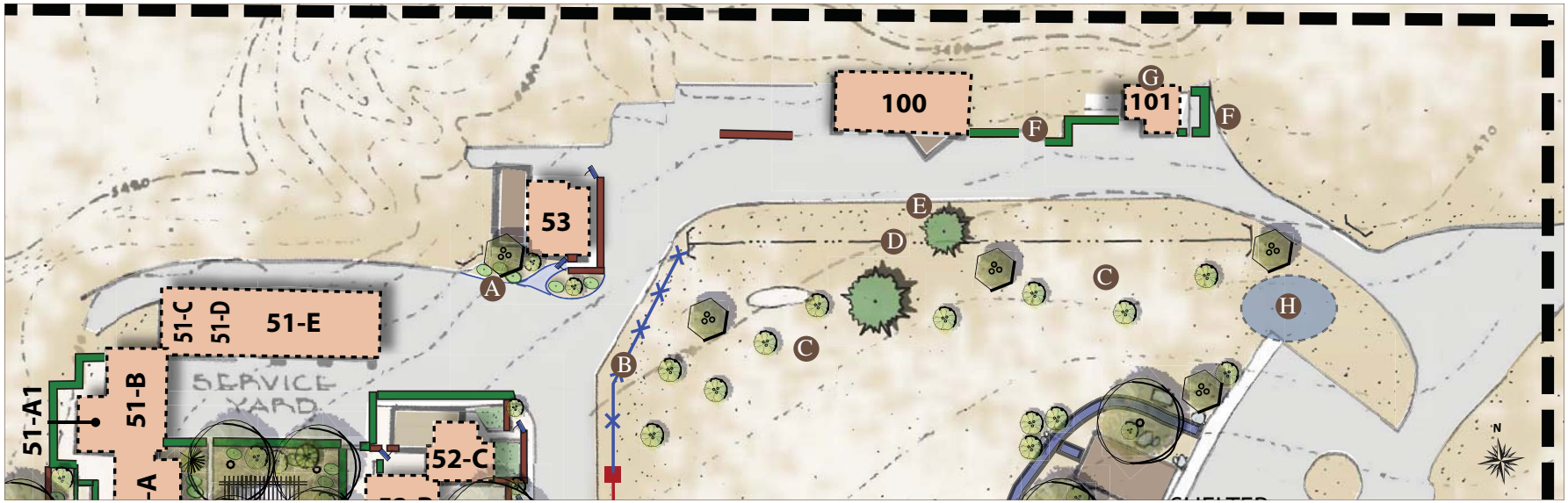
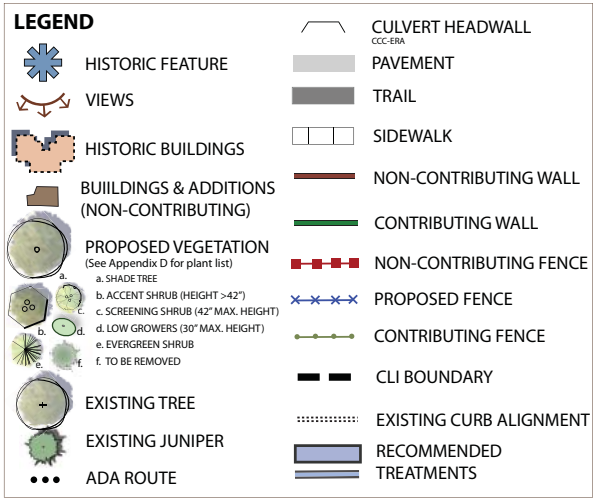


Fig. 4-62, Enlargement of Treatment Recommendations Plan showing the Administrative Area.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR THE ADMINISTRATIVE AREA

- A LANDSCAPE AREA WITH STONE CURBING
- B FENCE EXTENSION
- C VEGETATIVE SCREEN / BUFFER (42" MAX. HEIGHT)
- D STONE-LINED SWALE - STABILIZE
- E SAFETY BARRIER FOR SWALE (AS NEEDED)
- F CCC-ERA WALLS - STABILIZE / PRESERVE
- G OIL & GAS HOUSE - ADAPT FOR GREY WATER IRRIGATION SYSTEM
- H POTENTIAL RAINWATER STORAGE AREA (UNDERGROUND)



VEGETATION

Vegetation should be used as part of the strategy for screening and buffering the area along the boundary between this area and the Picnic and Residential Areas. Screening could occur on the south of the swale. However, like the screening walls, mature heights should not exceed 42 inches to preserve views to historic architecture. Plantings along the ditch should be perceived as foundational (i.e. at the base of the buildings) from a distance. Consider limiting the larger, woody species to one or two that match the surrounding vegetation to achieve an irregular, naturalistic appearance.

VIEWS

Given the elevation of the Administrative Area and the open quality of the adjoining Picnic Area, the Administrative Area is a prominent feature within the viewsheds of both roadway approaches into the district. Care should be taken to minimize adverse impacts to these viewsheds by screening maintenance-related materials and equipment when not in use. However, screening should not impair the view of the historic architectural elements; these elements contribute to the overall historic character of the district and exemplify tenets of the NPS Rustic Style.

OTHER FACTORS

SUSTAINABILITY

As discussed under Treatment Recommendations for the Picnic Area, there are opportunities for the harvesting of storm water in this area for irrigation. A substantial amount of water is already concentrated into the historic swale on the boundary with the Administrative Area. This water could be stored and systematically distributed through a low-pressure drip irrigation system. Detailed guidance for the design of such a rainwater harvesting system for the district's arid climate can be found in *Harvesting Rainwater For Landscape Use* by University of Arizona Cooperative Extension Agent, Patricia H. Waterfall. Even a relatively modest system could provide enough irrigation to sustain the vegetated buffer along the south edge of the swale. Additionally, the Oil & Gas House (RF-101) could be adapted with equipment needed for such a system to function (e.g. pumps, electrical systems, and photovoltaics).

OVERVIEW

The Lodge is owned by the National Park Service and assigned to the concessioner, who has some relative autonomy, leaving the NPS with limited control over the management and operations of the building. The architectural style of the Lodge itself is out of character with the majority of the district and detracts from the historic feeling of the district. In addition, the size and scale of the building is out of character with the other buildings that front the Parking Plaza. However, the Lodge continues to provide important concession-related services that complement NPS visitor services. In addition, the Lodge building retains integrity of location and much of the original Lodge building remains intact /preserved within the existing building and could potentially be restored.

TREATMENT OBJECTIVES

- Continue to engage the concessioner in all planning and design efforts within the district and encourage the concessioner to make any future changes in a compatible manner.
- Continue to integrate elements into the configuration of the Lodge Area that enhance the "plaza" feeling of the Parking Plaza by providing parking in front of the Lodge and providing safe pedestrian connection to the Museum and the other visitor amenities in the district.
- Utilize the same palette of landscape plantings and site furnishings in the vicinity of the Lodge as is used in the vicinity of the Museum in order to unify the elements of the historic district.
- Include the Lodge as a management/planning/ design variable in efforts to restore the visual prominence of the Museum in its axial relationship with the Bridge.

LANDSCAPE CHARACTERISTICS

USE AND FUNCTION

The Lodge has been in its current location the longest of any historic element in the district, having provided curios and snack bar facilities since its opening in 1929. The Lodge is the main feature of this character area. The Lodge and the Museum are the two primary structures that relate to the Parking Plaza; efforts to harmonize the setting of the Lodge with the Museum should be encouraged.

BUILDINGS, PLAZAS AND OTHER NODES

Assuming that the restroom is located in the approximate location shown in Figure 4-64, consideration for the existing spatial pattern should provide important design cues to which the axial relationship between the two buildings should respond.

The park should continue to engage the concessioner in all planning and design efforts within the district and encourage the concessioner to make any future changes in a compatible manner. Specifically, encouragement or even incentives should be provided for rehabilitation efforts towards a facade more in keeping with the remaining historic fabric within the district. At a minimum, any changes to the building should not be allowed to further diminish the Museum as the primary focal point



Fig. 4-63, Postcard of the front of the Rainbow Forest Lodge c.1939. Photo reflects "dog bone" configuration of Parking Plaza. Note vegetation in areas around building and in parking island. Note use of signage as well. Design of "dog bones" included flagstone to safely accommodate pedestrians at ends. Frashers Photo Postcard Collection, Pomona Public Library.

of the designed landscape. Any changes to the building that may be allowed within the parameters of the existing contract should be in keeping with that spatial relationship. Consult the 2005 Maintenance Guides for additional guidelines and recommendations (Appendix C, pp. 52-55). Specific recommendations included in the 2005 Maintenance Guide for the Lodge need to be reevaluated within the context of this CLR; e.g. the Guide's suggestion of adding an outdoor eating area to the Lodge would not be compatible.

An historic cabin (RF-151) is located behind the Lodge. Efforts to rehabilitate that structure to a contributing status should be encouraged.

CIRCULATION, SURFACES AND WAYFINDING

Parking in front of the Lodge should continue. It enhances the plaza "feeling" and provides ready access to sidewalks. In addition, the pedestrian connection between the Lodge and the Museum should continue to be encouraged and enhanced in an historically-compatible manner.

STRUCTURES AND SMALL SCALE FEATURES

Site furnishings should be utilized in keeping with those provided elsewhere throughout the district.

VEGETATION

As with site furnishings, landscape within the Lodge area should be planted in a naturalistic way and be consistent with Museum Area plantings in an effort to unify the elements of the historic district.

Revegetation of the former service station area should continue in a naturalistic manner.

VIEWS

Efforts to restore the visual prominence of the Museum in its axial relationship with the Bridge should include the Lodge as a management/ planning/design variable.



Fig. 4-65, Native landscape restoration area east of the Lodge and Rainbow Forest Cabins. Belt Collins, 2008

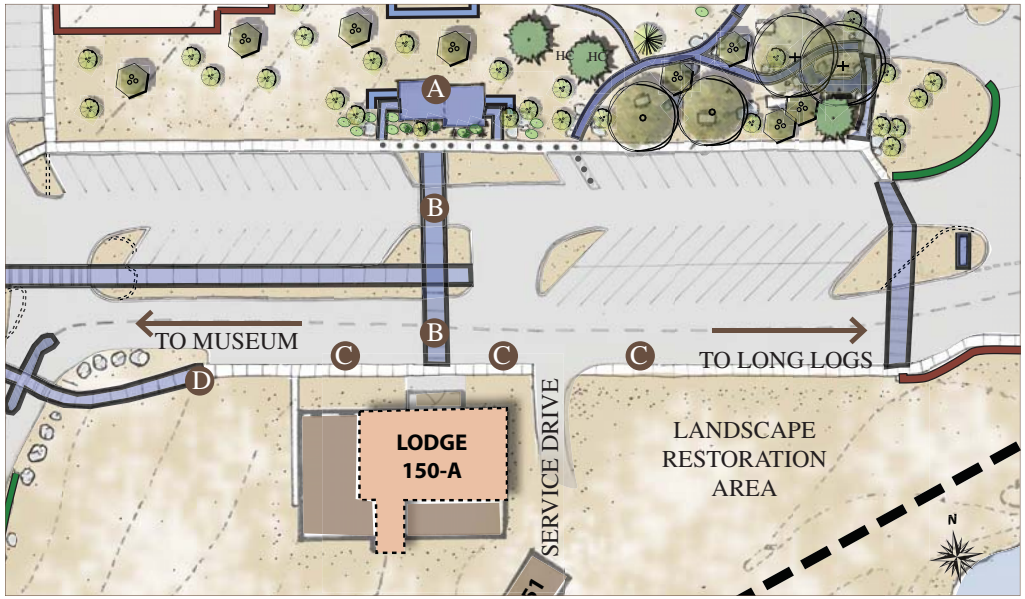


Fig. 4-64, Enlargement of Treatment Recommendations Plan showing the Lodge Area.

KEY TO LOCATIONS OF RECOMMENDED TREATMENTS FOR LODGE AREA

- A RESTROOM ON AXIS WITH LODGE
- B TEXTURED CROSSWALK CONNECTS TO AXIAL WALK
- C HC / BUS PARKING
- D PEDESTRIAN CONNECTION TO MUSEUM

4.8 TREATMENT SUMMARY AND PRIORITIES

PRIORITY TREATMENTS

The following six priority items should be implemented within the district in the near term in order to preserve historic fabric and provide for a safe environment for visitors and employees.

1. Stabilize, repair and/or rehabilitate CCC-era features in Fair to Poor condition in the district in a compatible manner. These include:

- The wall on the east side of the Highway 180 Approach
- Other walls surrounding the service parking area south of the Museum
- The cobble walls and planting bed walls in the Residential Area
- Administrative Area walls adjacent to the Warehouse and the Oil & Gas House
- Historic trail-related features in the Giant Logs Trail area (including walls, culverts, steps).
- In addition, the low cobble/timber railing in Giant Logs Trail area with post & cable system should be replaced; other locations for the post & cable barrier should be considered to better manage off-trail use.

  (Note: other historic walls are in Good condition; however they should continue to be monitored and maintained)

2. Improve safety and wayfinding in the district by making a series of improvements in and around the Parking Plaza including:

- Installing traffic controls features that more clearly define vehicular circulation and encourage the calming of traffic in the Parking Plaza including recommended signage, striping, medians, textured pedestrian crossings and parking islands.
- Installing features that more clearly define pedestrian circulation including an axial walk, textured pedestrian crossings, pedestrian refuges within the Parking Plaza, and wayfinding signage.
- Removing any vegetation in parking islands that exceeds 30 inches in height obscuring lines of sight and replace with smaller plants if necessary.

3. Restore the visual prominence of the Museum and reinforce the axial relationship between the Museum and the Jim Camp Wash Bridge by:

- Restoring a portion of the axial walk in the Parking Plaza
- Installing "gateway" signage that underscores the visual axis
- Limiting vegetation within the central parking area to a maximum height of 30 inches
- Removing non-contributing/non-compatible vegetation (the junipers), artifacts, and trash receptacles from the area directly in front of the Museum.
- Maintaining a tidy, yet "naturalistic" front entry.
- Restoring the flagpole to its historic location in the front of the Museum.
- Constructing an ADA accessible front entry that impacts historic fabric as minimally as possible.
- Painting building lintels dark brown (as historic)
- Painting the exterior of the buildings addition a warm, grayish color such that the addition visually recedes into the landscape more and the historic structure is reads more prominently.

4. Install 12-15 shade trees in the Residential Area and the Picnic Area; sizes may vary and installation can occur incrementally over the next few years. Irrigation should be provided to improve vitality of trees. Take care to preserve contributing viewsheds as trees mature.

5. Continue to make compatible changes to the historic structures in the district as identified in the 2005 Maintenance Guides to restore their contributing status. In addition, concrete lintels should be painted a dark brown consistent with historic documentation.

6. Utilize a consistent set of site elements and treatments district-wide as improvements are made including:

- Signage/wayfinding
- Site furnishings (benches, trash receptacles, lighting, boulders, picnic tables, shade structures)
- Fences, walls and gates
- Vegetation
- Surfaces, edging materials, and mulches

SECOND TIER TREATMENTS

The following treatments have a secondary priority in the district. These treatments seek to improve visitor experience and quality of life for staff in a manner compatible with the historic fabric. Treatments also seek to improve accessibility to resources and create a more sustainable developed area. Treatments are listed loosely by priority from highest to lowest in each area. Areas are listed in no particular order.

New Restroom Building

Construct a new free-standing restroom building for visitor use in the Parking Plaza Area taking cues from the historic architecture and integrating other treatments related to walls, boulders and vegetation utilized elsewhere in the district.

Giant Logs Trail

Repair other features (M66 era) and landscape areas in fair to poor condition.

Create a distinct Old Faithful Overlook and clearly distinguish visitor use areas and vegetation restoration areas.

Create Giant Logs Plaza as an orientation and interpretation area.

Create a more universally accessible route to Old Faithful

Create a more universally accessible route to the Mather Memorial.

Residential Area

Continue to further buffer and screen the Residential Area from visitor facilities such as visitor parking areas, the proposed restroom, and the Picnic Area.

Walls: install walls at the south end of the former spur road as part of the restroom project; include a gate to continue to provide pedestrian access for staff from the Parking Plaza.

Fencing: reuse wrought-iron fencing to extend fencing along the east side of the spur to the Administrative Area.

Vegetation: install vegetation along the south wall near RF-50 to restore disturbance of the existing buffer.

Residential Courtyards

Replace or retrofit existing gates with compatible treatment.

Install additional woody plantings around the perimeter of the Close and in the west courtyard of 51-A, making provision for irrigation to augment tree plantings from prioirty treatments.

Seed the interior of the Close with low-maintenance, low growing groundcover such as blue grama grass making provision for irrigation for establishment.

Install a rustic-styled ramada as a central feature of the Close.

Replace areas of brick paving with compatible flagstone paving.

Install permanent irrigation in existing residential gardens.

Construct a greywater/rainwater harvesting system to provide water for irrigation.

Install an interpretive element that conveys the historical significance of the district and encourages the stewardship of historic resources by residential staff.

Picnic Area

Create a safe and efficient pedestrian connection with wayfinding from Picnic Area to Long Logs Trail.

Create a Long Logs Trailhead.

Create a trail to new restroom from picnic facilities.

Create informal picnicking grounds in the vicinity of the existing shelters and parking areas with movable tables, boulders and low vegetation.

Create additional trail spurs to interconnect informal picnicking with shelters, restroom, trailhead, and parking.

Create a narrow trail connection to the Residential Area; sign "Private Area" and install gate in fence or wall.

Extend fence along residential spur and buffer with additional vegetation.

Install additional woody plantings in conjunction with boulders and trees in the picnic grounds making provision for irrigation.

Construct a greywater/rainwater harvesting system to provide water for irrigation.

Administrative Area

Stabilize CCC-era swale.

Rehabilitate landscape area on south side of RF-53 by delineating walkway, installing gate in screening wall, and creating landscape areas.

Remove Russian Olive tree.

Install plantings to further screen Administrative Area.

Consider adapting Oil & Gas House for use in grey water irrigation system.

Lodge Area

Continue to engage concessioner in planning and design efforts within the district.

Look for opportunities to enhance a cohesive plaza feeling by encouraging safe and efficient pedestrian and vehicular circulation, by utilizing the same family of site furnishings, and by incorporating other general treatment recommendations made in this CLR for plantings, surface treatments, signage, walls and other small scale features.

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APPENDIX A

DETERMINATION OF ELIGIBILITY
RAINBOW FOREST HISTORIC DESIGNED LANDSCAPE
NAVAHO COUNTY, AZ
NATIONAL REGISTER OF HISTORIC PLACES ~ NATIONAL PARK SERVICE
(2001)

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO 2280

To: Michele M. Hellickson
Superindendent, Petrified National Park
National Park Service
United States Department of Interior
Holbrook, AZ 86028

The Director of the National Park Service wishes to inform you of our determination pursuant to the National Historic Preservation Act, as amended, and Executive Order 11593 in response to your request for a determination of eligibility for inclusion in the National Register of Historic Places. Our determination appears on the enclosed material.

As you know, your request for our professional judgment constitutes a part of the Federal planning process. We urge that this information be integrated into the National Environmental Policy Act analysis and the analysis required under section 4(f) of the Department of Transportation Act, if this is a transportation project, to bring about the best possible program decisions.

This determination does not serve in any manner as a veto to uses of property, with or without Federal participation or assistance. The responsibility for program planning concerning properties eligible for the National Register lies with the agency or block grant recipient after the Advisory Council on Historic Preservation has had an opportunity to comment.

Attachment

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

DETERMINATION OF ELIGIBILITY NOTIFICATION

National Register of Historic Places
National Park Service

Name of Property: Rainbow Forest Historic Designed Landscape–Petrified Forest National Park

Location: Navajo County **State:** Arizona

Request submitted by: Michele M. Hellickson, Superintendent, Petrified Forest National Park

Date received: 02/21/01 **Additional information received :** 3/20/01

Opinion of the State Historic Preservation Officer:

_X_ Eligible __Not Eligible __No Response _x_ Need More Information

Comments: The AZ SHPO agrees with the Park that this district is eligible for listing in the National Register. The SHPO also concurs with the Park on the proposed boundaries. However, the SHPO and Park disagree on the definition of a "designed landscape" as outlined in National Register bulletin, *How to Evaluate and Nominate Designed Historic Landscapes*, the contributing and noncontributing resources and the essential character-defining features of these resources.

The Secretary of the Interior has determined that this property is:

_X_ Eligible **Applicable criteria:** A, C __Not Eligible

Comments: see attached sheet

Sarah D. Pope
(for) Keeper of the National Register

Date: 4/02/01

WASO-28

Determination of Eligibility
National Register of Historic Places
National Park Service
April 2, 2001

Rainbow Forest Historic Designed Landscape
Navajo County, AZ

The Rainbow Forest Historic Designed Landscape is eligible for listing under Criteria A and C for Conservation, Engineering, Entertainment/Recreation, Politics/Government, Architecture, and Landscape Architecture under the category of "district." The period of significance begins in 1929 with the Park Service's initiation of a planned development project at the park that included the design and construction of a formal plaza surrounded by administrative buildings, residences and service buildings, picnic areas, parking lots, roads, trails, and a water pipeline. The period of significance ends in 1942 when the development project was essentially completed and the CCC camp at the park was disbanded. The historic context for the park Service's process for planning, landscape design, and construction is documented in the Multiple Property Listing, *Historic Park Landscapes in National and State Parks.*

National Register bulletin, *How to Evaluate and Nominate Designed Historic Landscapes*, defines a designed landscape as:

> a landscape that has significance as a design or work of art; was consciously designed and laid out by a master gardener, landscape architect, or horticulturalist to a design principle, or an owner or other amateur using a recognized style or tradition; has a historical association with a significant person, trend, event, etc. in landscape gardening or landscape architecture, or a relationship to the theory or practice of landscape architecture.

The Rainbow Forest district resulted from a significant comprehensive park planning initiative carried out in the late 1920s and 1930s by the NPS Western Field Office, headed by Thomas Chalmers Vint. Vint's initiative gave serious attention to coordinating roads and trails with the construction of park villages, ranger stations and maintenance areas. Though development took place over 13 years, the Rainbow Forest complex was designed as a cohesive unit with interconnecting circulation systems and designated areas to serve administrative and other needs. The National Bulletin on designed landscapes states that complex designed landscapes such as Rainbow Forest, fall under the district category of a "geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures, and/or objects united by past events or aesthetically by plan or physical development."

The Rainbow Forest district gains significance under Criterion A as a project associated with the administration and development of Petrified Forest National Monument for visitor use and enjoyment. With its haphazard collection of small cabins and informal roads and trails, Rainbow Forest was an ideal candidate to obtain assistance under Vint's comprehensive park planning initiative. The 1989 draft National Register nomination, prepared by the NPS Denver Service

Center and submitted as supplementary information to this DOE, states, "...the uneven management of the monument, conflicts between the custodians and local communities arising from fierce boosterism, and the lack of decent Government visitor facilities made it clear that planned development showing a strong NPS presence was needed at Petrified Forest."

The district also gains significance under Criterion A for its association with the work of the Civilian Conservation Corps (CCC) and the short-lived Emergency Conservation Works program that made possible the development and improvement of national parks at an unprecedented speed. One of the most important CCC projects undertaken at Rainbow Forest was the construction of a water pipeline, running from Rio Puerco to Rainbow Forest complex that provided an essential amenity to visitors and park staff. The CCC and Emergency Conservation Work also developed foot trails, improved roads, and constructed some buildings in the residential area.

The Rainbow Forest district is significant under Criterion C because it embodies the distinctive characteristics of National Park Service building and landscape construction as defined in the historic context of *Historic Park Landscapes in National and State Parks*. Park designers at Rainbow Forest employed elements of the "American style of naturalistic landscape design" by blending manmade structures with the natural surroundings. The small, low, rectilinear buildings made of graystone, the material also used for the culverts along the roads and trails, draw upon the surrounding natural environment and the traditional pueblo building style, as well as the Art Deco style of the period. The formal design of the main plaza is evocative of the park village plaza, initially promoted in the Park Service in the 1910s by Charles P. Punchard, the first NPS "landscape engineer." Punchard's plaza concept had roots in the Beaux Arts movement with clusters of administrative and commercial buildings constructed around a formal village square. In *Building the National Parks*, Linda Flint McClelland writes that Punchard, "established the precedent for the village plaza, having a common architectural character that would occur in national parks throughout the 1920s and 1930s."

The Rainbow Forest district is formed by a continuity of sites, buildings, and structures, united by past events and aesthetically by plan and physical development. There is an important interrelationship between the designed plan and the individual resources (sites, buildings, and structures)--the designed plan and the individual resources depend upon the other to convey significance. The spatial relationship of individual resources is important in defining the historic character of a designed landscape. The integrity of a designed landscape district can be negatively impacted if contributing resources to the district, such as bridges, buildings or roads are altered or demolished, even though the basic, outlying form of the landscape design remains intact. Intrusions upon the land, such as new roads or buildings, alter the spatial balance of historic resources and the overall design, which also negatively impacts the integrity of a district.

The National Register has determined the following resources as <u>contributing</u> to the Rainbow Forest District:

- the Visitor Center (Bldg. 1) is a contributing building

- all of the buildings surrounding and adjacent to the small residential plaza are contributing (Bldgs. 50, 51A, 51A1, 51A2, 51C, 51D, 51E, 52C, 52B, 52A, 53, 100, and 101). The alterations to Bldgs. 50 and 53 do impact their integrity, but not enough to consider them as noncontributors.

- the main plaza is a contributing site. The plaza is able to convey significance for two character-defining features that remain relatively intact: its linear, axial form which is defined/framed by the surrounding buildings; and its historic use for automobile circulation. The 1989 draft nomination, submitted as supplementary information to this DOE states, "the focal point of the Rainbow Forest headquarters development was the museum/visitor center/administration building, set at one end of a long, linear parking plaza also used as a roadway...When it was first built, the parking plaza provided a sense of visual and spatial separation between the concessioner's buildings and the NPS development. At the end of the parking area the Museum occupied a primary focal point." Because of alterations to the interior of the plaza during and after the period of significance, the space no longer has a primary focal point (the Museum), which detracts from its linear quality. The loss of a primary focal point, however, does not impact integrity significantly enough to consider the plaza non-contributing.

- the bridge across Jim Camp Wash, on axis with the Museum, is a contributing structure and marks an entrance to the plaza.

- the road system, including the Long Logs Road, is a contributing structure. Culverts and other minor features associated with the roads are not counted as separate resources.

- the Giant Logs trail system is a contributing structure

- the Long Logs trail system is a contributing structure

- the Long Logs parking area is a contributing site. The walls and curbing are not counted as individual resources, but are included in the site.

- the reconstructed Agate House is a contributing building

- the agate foundation is a contributing site

- the CCC-built water pipeline is a contributing structure

The following resources are <u>non-contributing</u>:

- the Lodge is noncontributing due to substantial alterations from the 1960s. The building was tripled in size, its vertical height was increased, and it was sheathed in concrete block and stucco.

- the visitor picnic/campground area is a noncontributing site. This area was substantially altered after the period of significance when overnight camping was no longer permitted at Rainbow Forest. A rectilinear, paved parking lot replaced the circular road surrounding the campground,

and new ramadas and shelters were constructed. The nonhistoric shelters and the ramadas are noncontributing, but because of their insubstantial size and scale are not counted as separate resources.

- the covered residential picnic area is a noncontributing structure

The Park's proposed boundaries encompass the concentration of resources associated with the major development project carried out from 1929 to 1942: Jim Camp Wash Bridge; the main plaza and residential area; the Giant Logs trail system; a portion of the spur road that leads from old US 180/260 and the former park entrance to the main plaza; the agate foundation and trace of the pre-1932 road; Long Logs road, parking area, trail system, and the reconstructed Agate House. The boundaries do not incorporate all of the significant resources associated with the 1929--1942 development project, such as the Petroglyphs Road and the entire spur road leading from the plaza to old US 180. With further documentation, the National Register believes that a larger district than what is proposed in this DOE is potentially eligible.

APPENDIX B

PROPOSED DESIGN GUIDELINES PER MEMORANDUM OF AGREEMENT
BETWEEN PETRIFIED FOREST NATIONAL PARK AND ARIZONA STATE HISTORIC PRESERVATION OFFICE
FOR RAINBOW FOREST HISTORIC LANDSCAPE
(2002)

Proposed Design Guidelines
Rainbow Forest Historic Landscape

prepared by the National Park Service to meet the requirements of the Memorandum of Agreement between Petrified Forest National Historical Park and the Arizona State Historic Preservation Office regarding future planning and management of the Rainbow Forest Historic Landscape
Initially prepared September 24, 2001, Revised March 25, 2002

References:
--National Register Determination of Eligibility form for Rainbow Forest Historic Landscape (NR)
--Determination of Eligibility response from the Keeper of the Register (DOE)
--Cultural Landscape Inventory for Rainbow Forest Historic Landscape (CLI)
--List of Classified Structures (LCS) for Petrified Forest National Park
--1996 Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1996 Guidelines)
--Secretary of the Interior's Guidelines for the Treatment of Historic Properties

Note: NEPA compliance and further Section 106 consultation is necessary before actions based on these guidelines can be implemented. Without the NEPA process these guidelines need to be considered preliminary and subject to change based upon subsequent public input and impact analysis.

1. Chronology of Rainbow Forest parking plaza development
(see also graphic chronology sketches in CLI)

1906: Petrified Forest National Monument established; Rainbow Forest area is main entrance
1928: Three shacks have been constructed to serve as a museum and park housing. Dirt/gravel road runs north of museum/housing and south of Crosby Store, east over Jim Camp Wash, to the Agate House Foundation.
1929: Dick Grisby runs Rainbow Forest Lodge
1930-1934: NPS designs and constructs new museum and residences, new parking lot and traffic flow pattern. Road from Adamana enters Rainbow Forest development from the east, over the new Jim Camp Wash Bridge, into the one-way circulation loop, axial-design parking area, and exits the parking lot in the west corner, leading to Highway 180. This parking lot layout is shown in a number of drawings, including: 1931 Park Road as-built drawings (11041905), Sheet 2 of 15; 1931 "Plan of Outline for Plaza, Headq. Area"; and 1932 drawing no. NM/7K. (This parking lot layout – with the park road running through the parking area – is characteristic of early NPS village site planning and is not unusual or unique to Rainbow Forest – see attached examples). Drawing 4815, dated 1931, which shows a different circulation layout, is identified as being "for study purpose only", and was not constructed.
1934-1938: CCC crews build additional structures and Giant Logs trails, and complete landscaping in the museum/HQ area, lay flagstone sidewalks and install curbing in the parking lot. No major changes to original parking lot layout and circulation connections. Reference 1935 drawing no. NM/PF-5007; 1944 drawing no. 2102-B; and 1949 drawing no. 2102-C.
1958: Museum/Visitor Center and concessions building remodeled.
1962: Park HQ moved to new Painted Desert Complex; Rainbow Forest no longer main park entry facility

1962-1968: Rainbow Forest parking lot modified – islands and central walkway removed, pull-through parking spaces for RV's and larger vehicles created, one-way loop circulation changed to having a two-way road on the south side of the parking lot. Axial alignment from Jim Camp Wash entry to the Museum is maintained. Existing conditions reflect this modification. The 1960s modification of circulation flow and parking staff arrangement may or may not be contributing; this, and other Mission 66 era changes, can be evaluated after completion of the Mission 66 Landscape Theme Study, now underway.
2002: Original Jim Camp Wash bridge replaced with new bridge, in same location.

2. Primary Treatment of Rainbow Forest Historic Landscape is REHABILITATION

The primary treatment is the overall treatment for the whole landscape (identified as a district by National Register). Other treatments (e.g. preservation) may be applied to, or already have been assigned to, specific areas, buildings and structures within the overall landscape.

REHABILITATION is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values
(1996 Guidelines p. 48)

This is the basic definition of rehabilitation; the 1996 Guidelines detail how this is applied specifically to landscapes (see 1996 Guidelines pp. 50-88). As the definition indicates, the bottom line is preservation, with necessary modifications/additions made to enable or facilitate contemporary use if these modifications/additions do not substantially diminish the integrity of the landscape.

"Those portions or features which convey its historical, cultural or architectural values" are landscape features and patterns which have been found to be contributing.

3. Contributing landscape elements

Those landscape features and patterns identified as contributing to the landscape's eligibility for the National Register are described in the 1999 Rainbow Forest Cultural Landscape Inventory, the 2001 National Register Determination of Eligibility form (NR), and 2001 Keepers' DOE response (DOE). From these documents, contributing elements include:

--the visitor center building
--all the buildings surrounding and adjacent to the small residential plaza
--the main parking plaza, specifically its linear, axial, and symmetrical form, its shape, size and orientation, and its use for automobile circulation
--the spatial organization of structures around the parking plaza
--circulation patterns, specifically the axial approach into the parking plaza from Jim Camp Wash bridge, pedestrian circulation on the periphery of the parking lot, the flow of park road traffic through the parking plaza, and the right-angle intersection of the road to south park entrance as it enters the parking area on the west side (the "dog-leg")
--the alignment and scale of the Jim Camp Wash bridge (original replaced in 2002)
--specific historic vegetation (e.g. cottonwoods) and surrounding native vegetation
--curbing and freestanding masonry walls built before 1943

For a complete listing, see pp. 15-16 of the National Register Determination of Eligibility form. The Design Guidelines below were developed with these contributing elements in mind.

4. Design Guidelines

All proposed projects need to be reviewed individually to assess potential impacts and to assess compliance with the following design guidelines.

Guidelines for Rainbow Forest Historic Landscape (identified as a District in the DOE):
--Maintain or enhance historic integrity by preserving and/or minimizing the impact of any future modifications to contributing biotic and built elements within the landscape
--All proposed projects that potentially effect the landscape and/or related features shall consider the effect of that project on the landscape as a whole
--Utilize compatible materials, colors, forms, and scales in all repairs, modifications or additions to contributing buildings and landscape elements
--Contemporary features such as exterior HVAC systems, satellite dishes, and utilities shall be evaluated for their appropriateness, and if found acceptable, integrated into the landscape in a manner sensitive to maintaining historic integrity
--Replace in kind any contributing vegetation that is disturbed
--Maintain scale, feeling and relationships of features within the landscape
--Avoid creating a false sense of historical development and avoid extending non-historic design elements or patterns within the landscape
--Maintain significant viewsheds and alignments in an obstructed manner

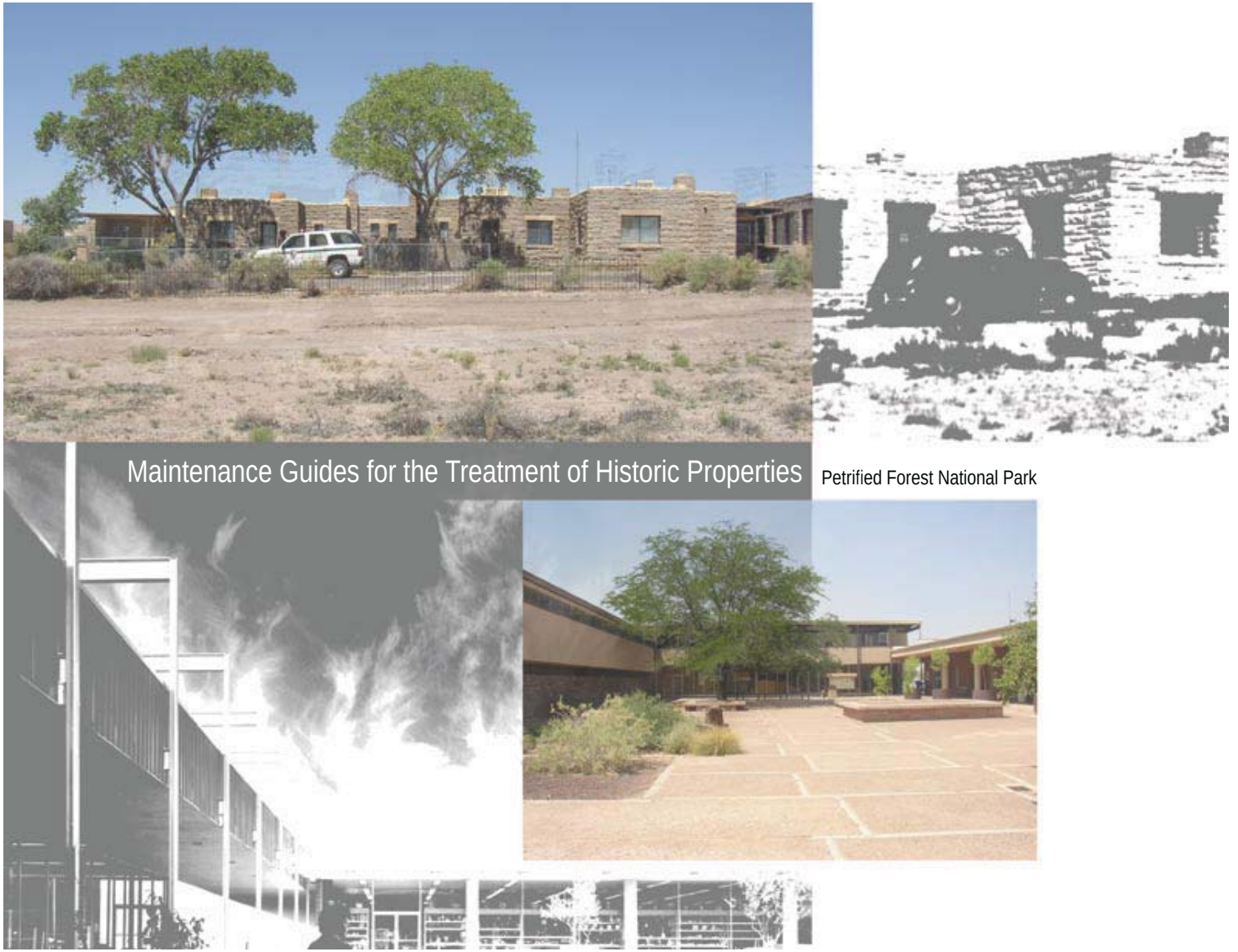
Guidelines specific to the parking plaza:
See also attached sketches of possible parking arrangements based on these guidelines. The two sketches provided are examples only; the actual design options would be explored at a later date.
--Maintain contributing characteristics of the parking plaza, as listed above and as described in the DOE form (NR) and the Keepers response (DOE).
--Maintain contributing small-scale elements such as the historic stone curbing and stone walls, maintain historic materials, and as necessary replace with materials compatible in scale, form, design, color, and texture
--Maintain or restore the historic orientation and axial alignment of the parking plaza
--Maintain sense of arrival to Rainbow Forest from the east
--Maintain historic circulation pattern of park road running through the parking plaza
--Alterations to the parking plaza area must take into account and compliment the original constructed layout
--All future design options will avoid having recreation vehicles, buses and other large vehicles back into vehicular or pedestrian circulation. The existing, non-contributing picnic area can be used for additional parking in the future.

5. Additional information required

--Determine eligibility of Mission 66 period landscape and structural elements, after completion of the NPS Mission 66 Landscape Theme Study. The list of contributing landscape elements may need to be revised following this determination.

_____

MAINTENANCE GUIDES FOR THE TREATMENT OF HISTORIC PROPERTIES (EXCERPT) PETRIFIED FOREST NATIONAL PARK (JUNE 2005)



Maintenance Guides for the Treatment of Historic Properties
Petrified Forest National Park

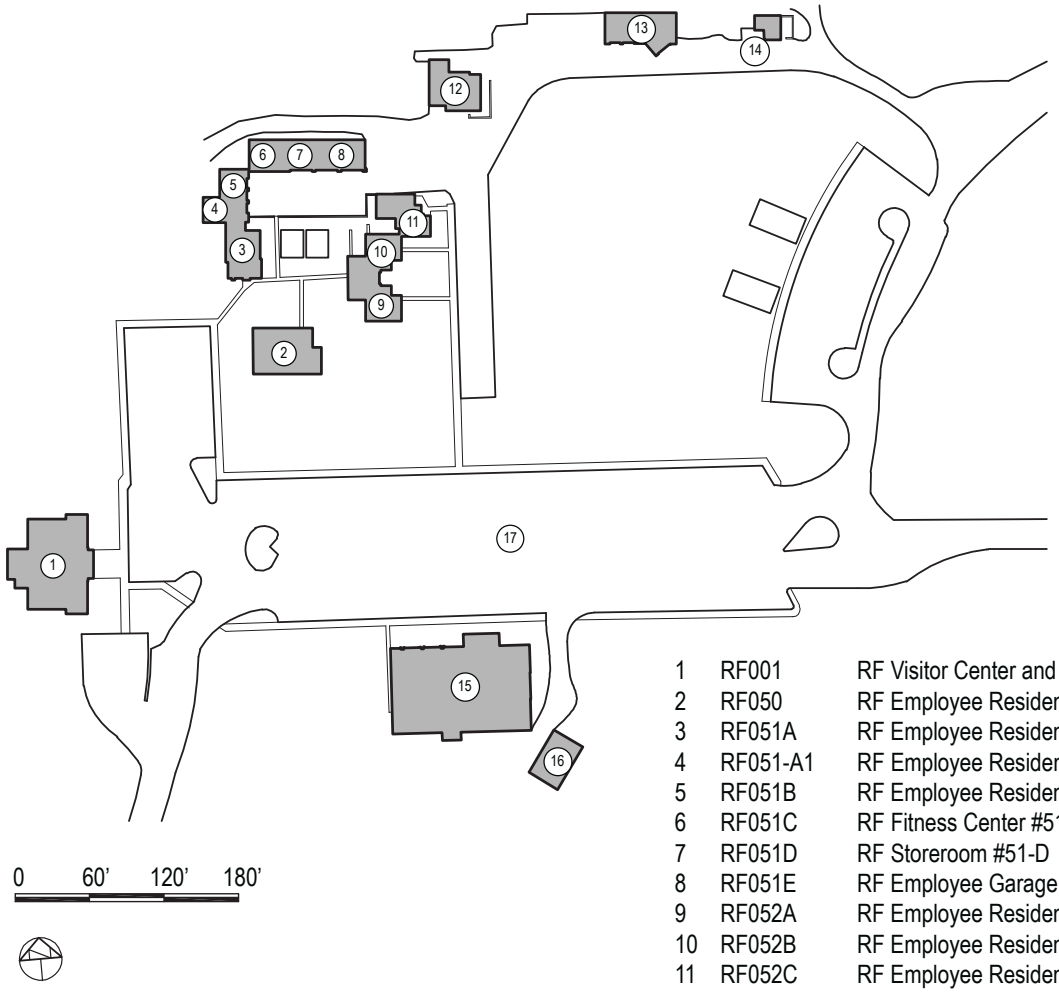
Andrew Gorski and Michael Lovato

June 2005

National Park Service
Desert Southwest Cooperative Ecosystem Studies Unit (DSCESU)

and

The University of Arizona
Preservation Studies
College of Architecture and Landscape Architecture (CALA)



Site Plan

1	RF001	RF Visitor Center and Museum
2	RF050	RF Employee Residence #50
3	RF051A	RF Employee Residence #51-A
4	RF051-A1	RF Employee Residence #51-A1
5	RF051B	RF Employee Residence #51-B
6	RF051C	RF Fitness Center #51-C
7	RF051D	RF Storeroom #51-D
8	RF051E	RF Employee Garage #51-E
9	RF052A	RF Employee Residence #52-A
10	RF052B	RF Employee Residence #52-B
11	RF052C	RF Employee Residence #52-C
12	RF053	RF Employee Residence #53
13	RF100	RF Warehouse and Shop #100
14	RF101	RF Gas and Oil Building #101
15	RF150	RF Lodge
16	RF151	RF Cabins
17	RF010 & 66	RF Plaza and Features

In this Section

① Design Guidelines for Classified Structures and Landscape Elements in the Rainbow Forest Historic District

② Links to Suggested Maintenance and Preservation Treatments

Rainbow Forest Visitor Center and Museum

RF001

Design Goals

① Provide New Accessible Entrance ☺

② Provide New Auditorium Space ☺

③ Redesign Solarium Glazing ☺

④ Improve Exterior Lighting ☺

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Window Replacement (RF)

Building Background

The Rainbow Forest Visitor Center and Museum is a focal point of the Rainbow Forest Historic District for its placement along the major axis of the main plaza. The original structure, consisting of two rectangular blocks surrounding a central lobby, was constructed in 1931 of random sized grey stone masonry with concrete lintels. Bathrooms blocks were added to the west of the two side wings shortly after the museum was completed. A significant addition consisting of concrete block with stucco was added to the rear of the building in 1958, doubling the size of the museum. The original steel casement windows may have been replaced with wood windows during this later period of construction. The Rainbow Forest Visitor Center and Museum maintains its integrity despite the additions that have greatly enlarged the building. The 1958 addition respects the prominence of the east elevation by being nearly unobtrusive from the central plaza. The Museum is a contributing building in the Rainbow Forest Historic District.

Design Strategy

There is a need to construct an accessible entrance from the parking lot to the main entrance on the east side of the building to accommodate all visitors. Currently, visitors needing assistance enter via the rear of the building, a violation of the intent behind the Americans with Disabilities Act (ADA). A new accessible entrance should be respectful of the features of the existing main entrance, especially its symmetry, prolonged approach and integration with the natural environment. The adjacent parking area to the east of the entry will probably need to be removed or altered to accommodate the new accessible entry.

There are several rehabilitation projects being proposed for the interior of the Visitor Center and Museum that will reconfigure how visitors proceed through the space. The current plan calls for the extension of interpretive exhibits into the most southeasterly room of the original masonry structure, the space previously occupied by Law Enforcement. Concurrently, a new auditorium space, to host a park orientation film, is being proposed for the south wing of the 1958 addition. Code stipulations that govern the number of exits and the width of doors and paths will be one of the primary determinants of the new layout. Maintaining the buildings overall spatial unity should be the priority of these new uses.

The solarium provides spectacular views out to the petrified wood specimens located along the Giant Logs Trail. However, there is the desire to improve the openness and orientation of the solarium by providing more glazing to the outside. Protecting the museum collections from solar radiation and light is the critical factor in how this space is redesigned and appropriate measures must be taken to insure compliance.

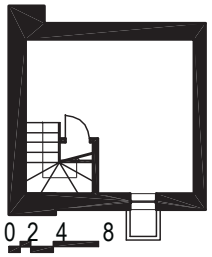
There are also a number of features of the building that need to be removed or restored to return the building to its period of significance. Besides replacing the non-historic windows and doors with new casement windows, the removal of non-historic landscaping, including the arborvitae in front of the museum would improve the historic character of the building and surrounding landscape. Repairing the existing exterior accent lighting should also be included, especially if a new accessible entrance is constructed.

Rainbow Forest Visitor Center / Museum

Floor / Site Plan

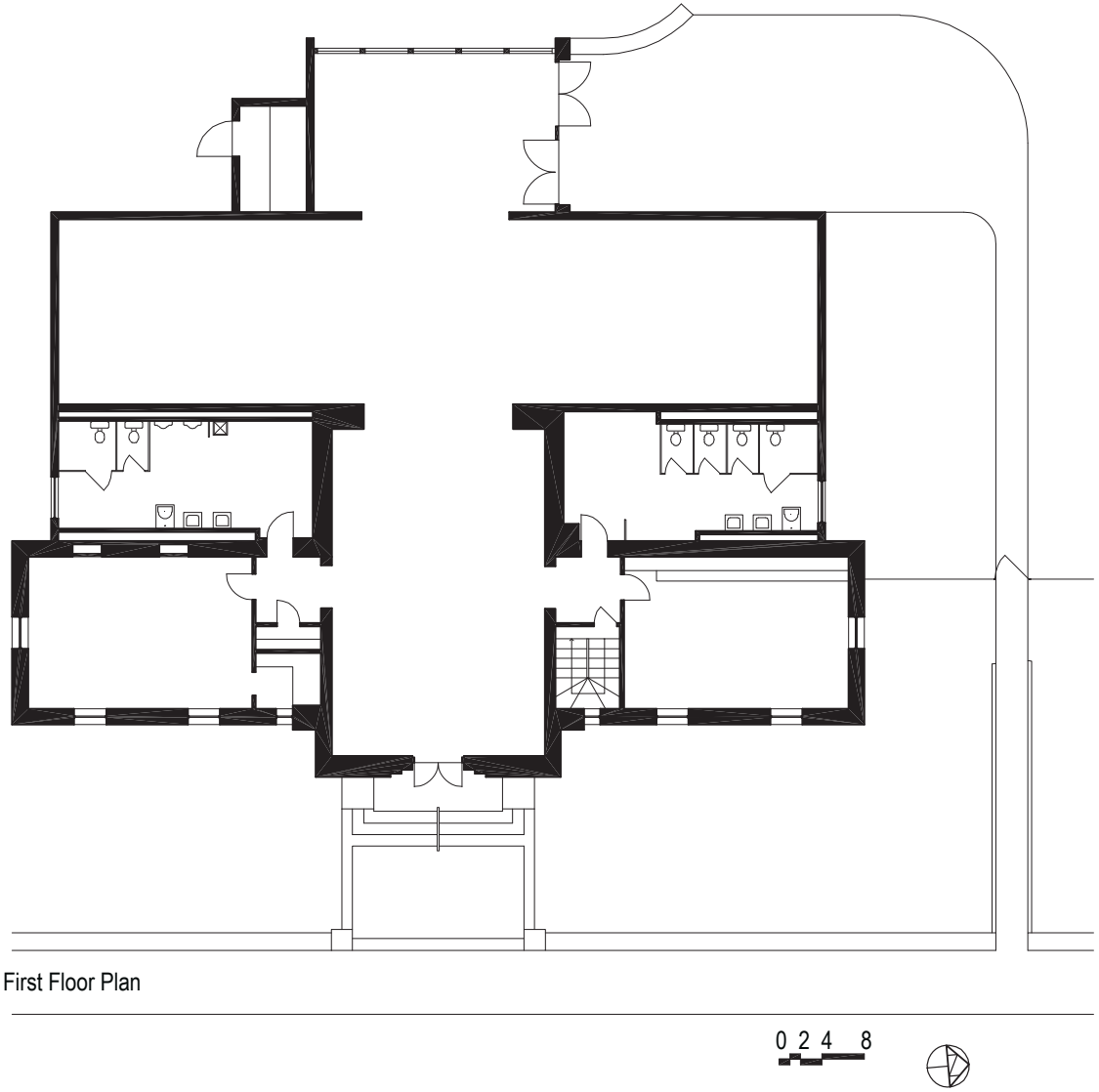


Looking East towards the Rainbow Forest Museum, 1931. *PEFO Photo Archive #20825*



Scale

Basement Floor Plan



First Floor Plan

APPENDIX

① Provide Accessible Entrance

A new accessible entry is needed for RF Museum. Besides providing an accessible entry, this space could provide benches and interpretive material to inform the visitor of the historic aspects of the Rainbow Forest Historic District.

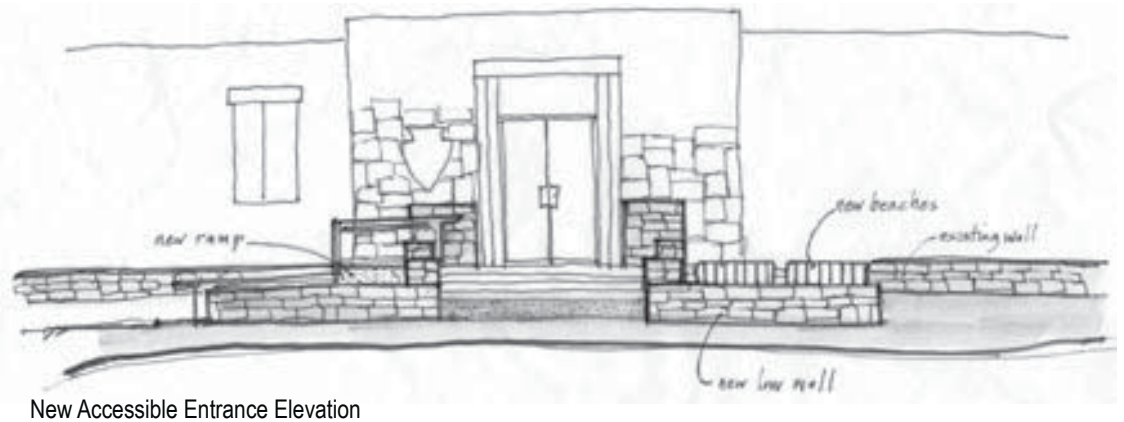
- □ The entrance to RF Museum is aligned axially with the parking area. The new entry should maintain this relationship.
- □ The front entrance is nearly symmetrical and balanced. Symmetry to the new entry is desirable but not absolutely required, so long as the new entry maintains a sense of balance.
- □ If possible, historic landscape walls and curbs should be maintained in place. New walls should match existing walls in color, texture and pattern.

For more information see Preservation Brief #32: Making Historic Properties Accessible available on-line at:

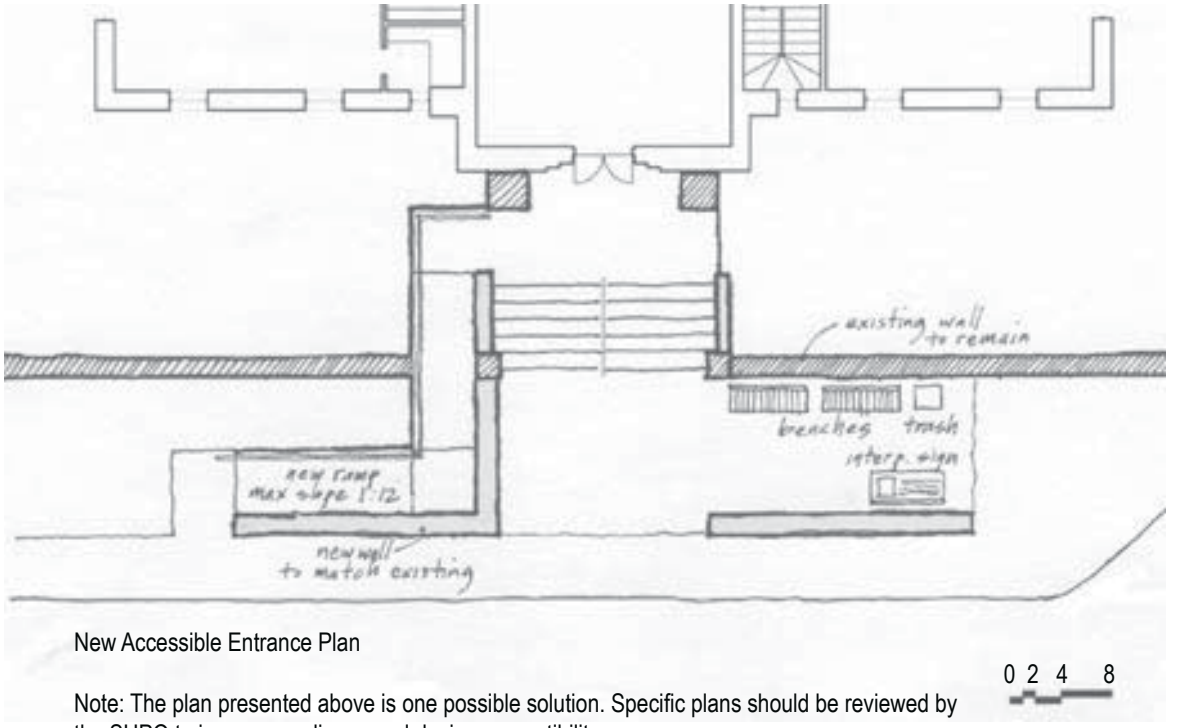
http://www.cr.nps.gov/hps/tps/briefs/brief32.htm



East Elevation of Rainbow Forest Museum, 2004.
Photo by author



New Accessible Entrance Elevation



New Accessible Entrance Plan

Note: The plan presented above is one possible solution. Specific plans should be reviewed by the SHPO to insure compliance and design compatibility.

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Rainbow Forest Plaza and Features and Connecting Walls and Fencing

RF010 and RF066

Design Goals

① Remove Non-historic "Cemetery" Fencing

② Remove obtrusive site lighting

③ Repair Damaged Site Walls, Curbs and Walks

④ Appropriate Materials for Future Proposed Comfort Station

Maintenance References

Concrete Walks / Sandstone Curbs

Drainage

Background

The Rainbow Forest Plaza and Feature (RF010) and Connecting Walls and Fencing (RF066) refer to both the large scale planning principles, and smaller scale details that unify the Rainbow Forest Historic District. The parking plaza was built in 1931 and is aligned axially with the Rainbow Forest Museum. This central plaza figures prominently in the overall planning and layout of the Historic District, directing visitors towards the Museum. Although the plaza and associated features have undergone minor alterations, the basic alignment and many of the CCC constructed sandstone curbs remain intact and should be preserved. Low stone retaining walls extending from the Museum and through the residential area helps to tie the units together and mitigate the changes in elevation between areas. The wrought iron fencing projecting from the Rainbow Forest Museum and surrounding landscape is historic and was installed to discourage visitors from removing petrified wood. In the 1960s a "cemetery" looking fence was installed between the central plaza and residential areas. The cemetery type fencing is considered non-contributing and should be removed.

Design Strategy

Many of the walls, especially along the residential plaza are damaged and need to be restored.

As a new bathroom is considered for the Rainbow Forest Historic District, it is important to consider the placement, scale, materials and detailing of this structure. See Design Guidelines for New Construction located at the end of this chapter.



Construction of site walls near Rainbow Forest Headquarters, early 1930s. *PEFO Photo Archive #15588*



Historic wrought iron fencing with Unit #51-A in background.
PEFO Photo Archive #15693

① Remove non-historic cemetery fencing

② Remove obtrusive site lighting



Non-historic cemetery fencing and obtrusive lighting should be removed. *Photo by author*



Repair or rebuild historic site walls
Photo by author



Repair concrete walks and sandstone curbs
Photo by author

③ Repair rubble stone walls near existing picnic area

③ Repair Damaged Curbs and Walks. Historic curbing should be maintained and new concrete walks shall align with the top of curb.

Rainbow Forest Employee Residence #50

RF050

Design Goals

① Restore Interior Finishes

② New Site Walls

③ Replace Roofing

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Finish Recommendations (RF)

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Window Replacement (RF)

Building Background

Employee Forest Residence #50 was constructed in 1943 as the last residence constructed at Rainbow Forest. Construction was begun in 1942 by the CCC and finished in 1943 by NPS personnel. This change in personnel may account for the slight differences in Residence #50 from the other Rainbow Forest Residences such as its more uniform stonework, low hip roof with deep overhangs, large windows and overall less rustic appearance. Because its date of construction falls outside of the 1929-1942 period of significance, and its detailing differs significantly from the more rustic appearance of the surrounding structures, Residence #50 is considered non-contributing to the Rainbow Forest Historic District. PEFO plans for this building to eventually be included in the historic district. Employee Residence #50 has been well maintained and the recommended management treatment is preservation.

Design Strategy

This single-family residence is in excellent condition and has served as a park residence to the same family for the past 16 years. Changes to the building's exterior features should be limited to addressing the integrity considerations identified by the SHPO, including the removal and replacement of the existing foam roofing system and the replacement of non-historic windows. The construction of low site walls to provide additional security and visual privacy to the residence has been approved by the SHPO and should follow the general guidelines outlined in this document. Most of the interior finishes are original and are in excellent condition. Care should be taken in addressing any necessary changes to interior surfaces and fixtures.

As mentioned above, Employee Residence #50 is in excellent condition and with the exception of its non-historic windows and roofing, has maintained its integrity. The character defining features of the interior, including the handsome stone fireplace and wood floors appear to be largely intact. The wall to wall carpeting in the living room and brick fireplace hearth have been added.

On the exterior, replacing the foam roofing with a system appropriate for the low sloped roof would greatly enhance the visual appearance of the building. Using a single-ply membrane would be an appropriate solution. However, because the roof is not hidden behind a parapet, as are most of the other roofs at Rainbow Forest, it is more critical here to select a membrane color that blends with the natural surroundings. Additionally, replacing the sliding windows with historic looking casements would strengthen the appearance of the building.

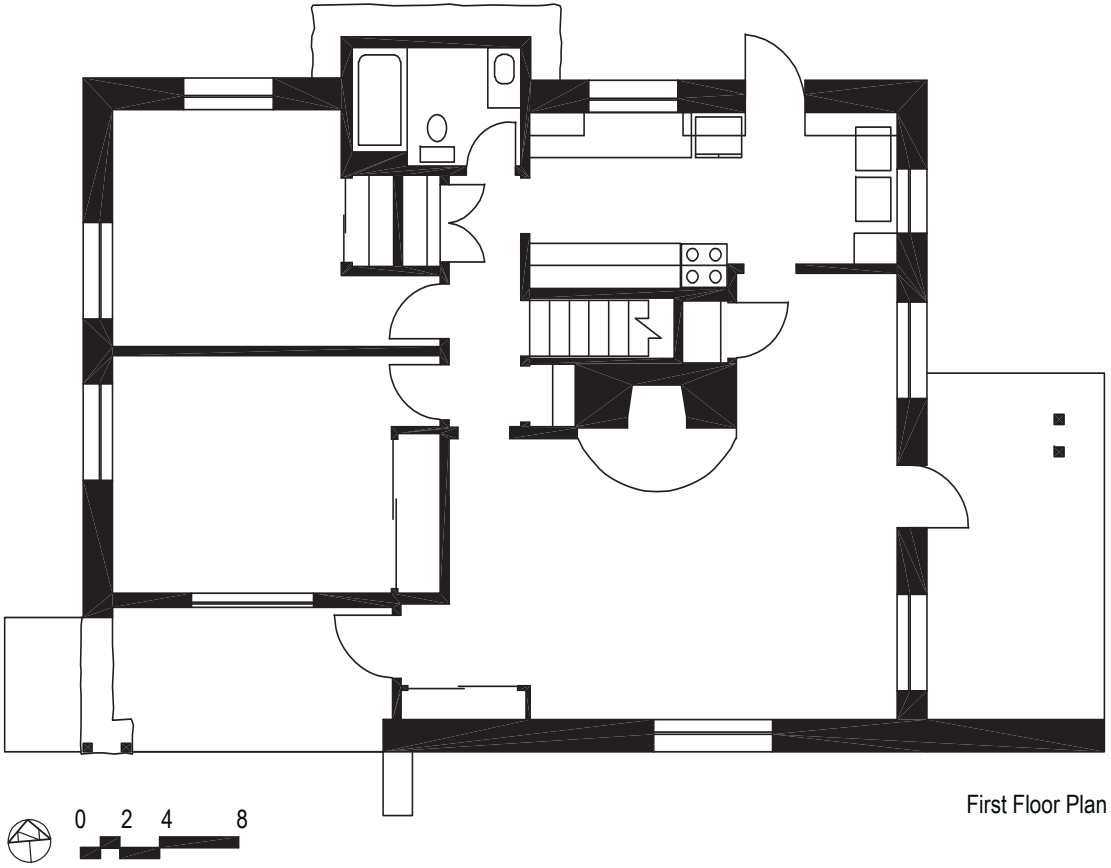
The construction of exterior screen walls should blend with the natural topography, be of a uniform style and provide the minimum screening necessary to grant privacy to the residents. Special consideration should be given to maintaining both near and distant views from the exterior patios. Walling the buildings off from each other and from the greater district, would greatly alter the planning and feelings associated with this early historic park landscape.



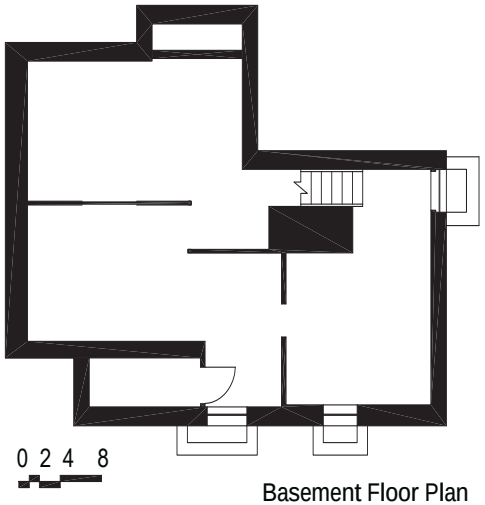
Photo of Rainbow Forest Employee Residence #50 from 1949.
PEFO Photo Archive #15691

Rainbow Forest Employee Residence #50

Floor Plans



First Floor Plan



Basement Floor Plan



Employee Residence #50 has many of its original historic furnishings intact, including wood flooring and an unpainted sandstone masonry fireplace. The brick hearth and carpet have been added. *Photo by author.*

APPENDIX

Rainbow Forest Employee Residences #51-A and #51-A1

RF051A and RF051A1

Design Goals

① Restore Interior Finishes

② Replace Windows

③ Replace Roofing

④ New Site Walls

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Finish Recommendations (RF)

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Window Replacement (RF)

Building Background

Employee Forest Residence #51-A was constructed in 1931 as the superintendent's house. Indicative of the early buildings constructed at Rainbow Forest, Employee Residence #51-A, exhibits coursed, native stone masonry, stone sills and concrete lintels while fitting gently into the natural topography of its surroundings A large stone chimney defines the main entry at the south of the residence. Originally, an attached wood pole ramada, removed at an undisclosed time, covered the western exterior wall In 1940, Unit #51-A1 was added as a guest house to the two bedroom, one bath main residence. Today, unit #51-A1 serves as a small efficiency apartment for park employees. Although there have been moderate modifications to their historic exterior appearance, both units are contributing to the Rainbow Forest Historic District. Preservation / adaptive use is the management treatment identified in the 2003 GMP .

Design Strategy

Changes to the building's exterior features should be limited to addressing the integrity considerations identified by the SHPO, including the removal and replacement of the existing foam roofing system and the replacement of non-historic windows. Additionally, spalling to the sandstone along the east wall of Unit #51-A caused by water damage from a chronic leak, should be repaired. The construction of low site walls to provide additional security and visual privacy to the residence has been approved by the SHPO and should follow the general guidelines outlined in this document. Many of the interior finishes have been altered and should be restored.

While little documentation of the original interior exists for Unit #51-A, it appears that many of the finishes have been altered or changed. Paint on the stone fireplace should be removed carefully so as not to damage the masonry surface. The kitchen cabinets and counter tops should be replaced with a more durable and historically compatible style. The interior finishes at unit 51-A1 are in good condition and there is currently no need to make any changes.

Foam roofing should be removed and replaced with a single ply membrane system. Remove foam roofing from masonry parapets only after consulting with an experienced conservator. Care should be taken in selecting a membrane color that blends with the natural landscape of the district. Additionally, replacing the single pane, metal, sliding windows with historic looking insulated casements would strengthen the appearance of the building.

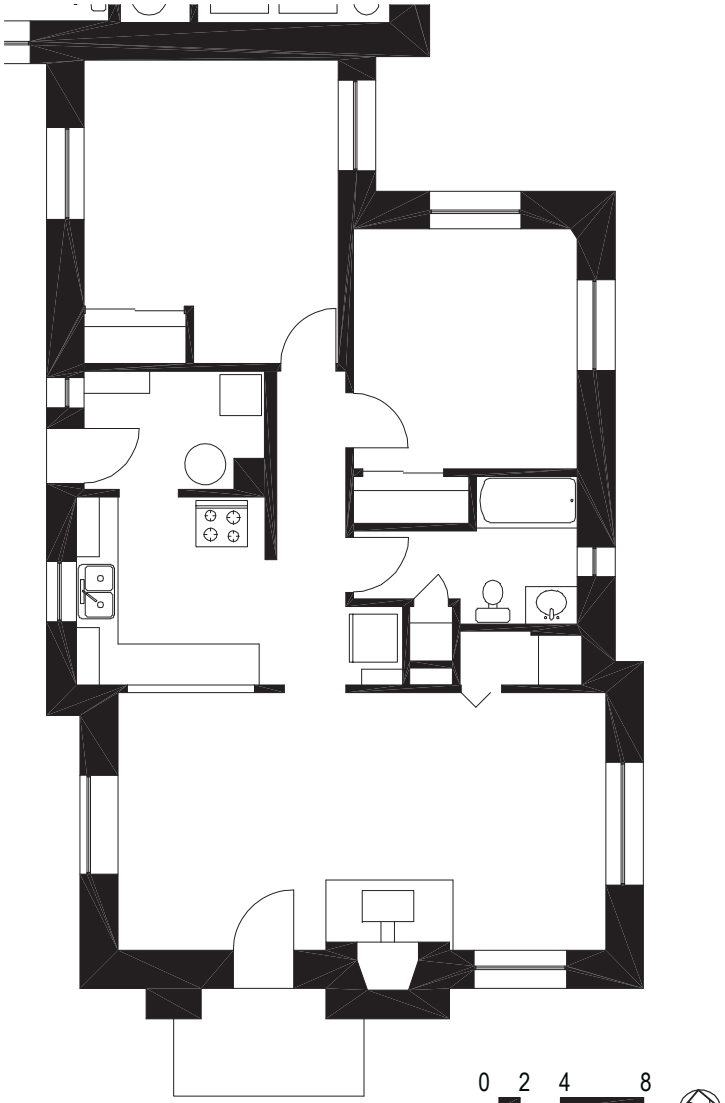
The construction of exterior screen walls should blend with the natural topography, be of a uniform style and provide the minimum screening necessary to grant privacy to the residents. Special consideration should be given to maintaining both near and distant views from the exterior patios. Walling the buildings off from each other and from the greater district, would greatly alter the planning and feelings associated with this early historic park landscape.



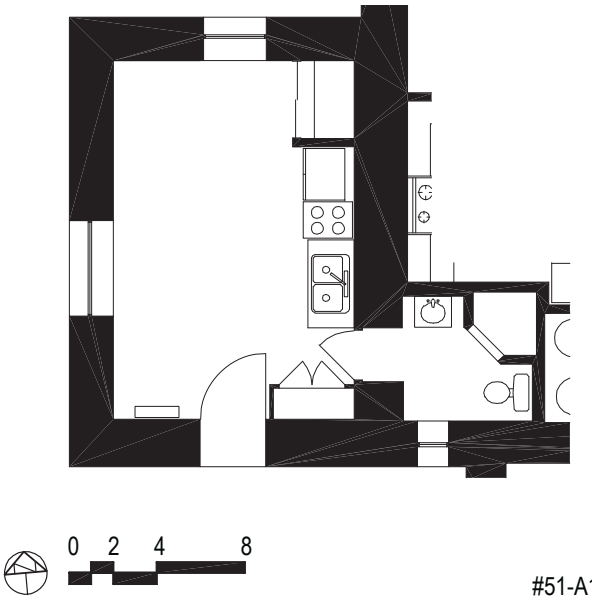
Rainbow Forest Employee Residence #51A with attached wood pole ramada. Photo date 1949. *PEFO Photo Archive #15693*

Rainbow Forest Employee Residences #51-A and #51-A1

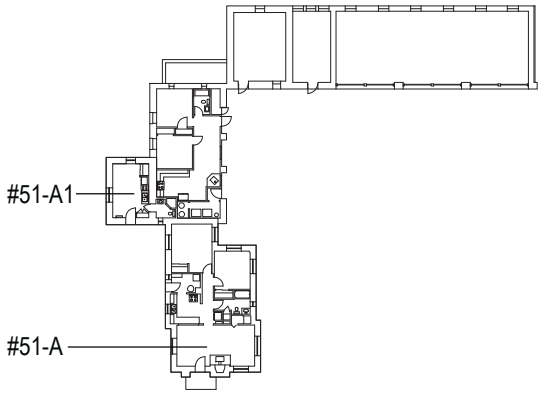
Floor Plans



#51-A



#51-A1



Keyplan

APPENDIX

RF Employee Residence #51-B, Fitness Center #51-C, Storeroom #51-D & Employee Garage #51-E

RF051B, RF051C, RF051D and RF051E

Design Goals

① Provide More Sympathetic Infill at #51-B

② Provide More Sympathetic Infill at #51-E

③ Replace Windows

④ Replace Roofing

⑤ Remove Conduit and Communications Devices.

⑥ Repair Damaged Masonry

⑦ Remove Items From Around Buildings

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Finish Recommendations (RF)

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Steel Windows (RF)

Window Replacement (RF)

Building Background

Rainbow Forest Employee Residence #51-B, Fitness Center #51-C, Storeroom #51-D and Employee Garage #51-E define the northern edge of the residential plaza within the Rainbow Forest Historic District. Serving a variety of uses since their construction, the use of the buildings in this area will likely continue to change to meet the needs of the park. Employee Residence #51-B was originally constructed as a three bay garage in 1931 before being converted to a seasonal residence in the early 1990s. Building #51-C, currently the fitness room, was constructed in 1935 and has previously served as a coal room, fire cache and store room. Unit #51-D, constructed in 1942 along with Unit #52-E, was originally a maintenance shop. Unit #52-D is currently a store room while Unit #52-E continues to be used for vehicles and storage for residents. The structures are mostly flat roofed, besides #51-E that has a finely crafted barrel vault, and constructed of coursed masonry, similar to Units #51-A and #51-A1. Many of the original steel casement windows have been replaced with non-historic sliders and the infill at the garage bays is incompatible with the original design. Inappropriate exterior alterations should be corrected. These units are eligible for inclusion in the Rainbow Forest Historic District. The recommended treatment for this block is preservation / adaptive use.

Design Strategy

Restoring and / or replacing exterior openings, especially the three bay opening at Unit #51-B, is the priority design item. The window / door infill installed in the early 1990's to convert Unit #51-B to a seasonal residence is incompatible with the proportions and solid / void relationship of the historic garage doors. The three bays should read as simple recessed openings, with an emphasis on the strong shadows created by the thick masonry walls. An investigation of design possibilities should be conducted to match a more historic exterior treatment with the needs for natural light and access into the seasonal residence. While the garage doors at Unit #51-E maintain the solid / void relationship at the exterior of the building, they could also be replaced with units that are more historic in character.

Non-historic windows should be replaced with more authentic looking double glazed casement units. A number of the original steel windows still exist at buildings #51-C, #51-D and #51-E and maintenance should be performed on these windows to keep them in good condition.

Separation of the masonry between buildings is a concern and a consistent treatment should be developed to protect these separations from moisture.

Foam roofing should be removed and replaced with a single ply membrane system. Remove foam roofing from masonry parapets only after consulting with an experienced conservator.

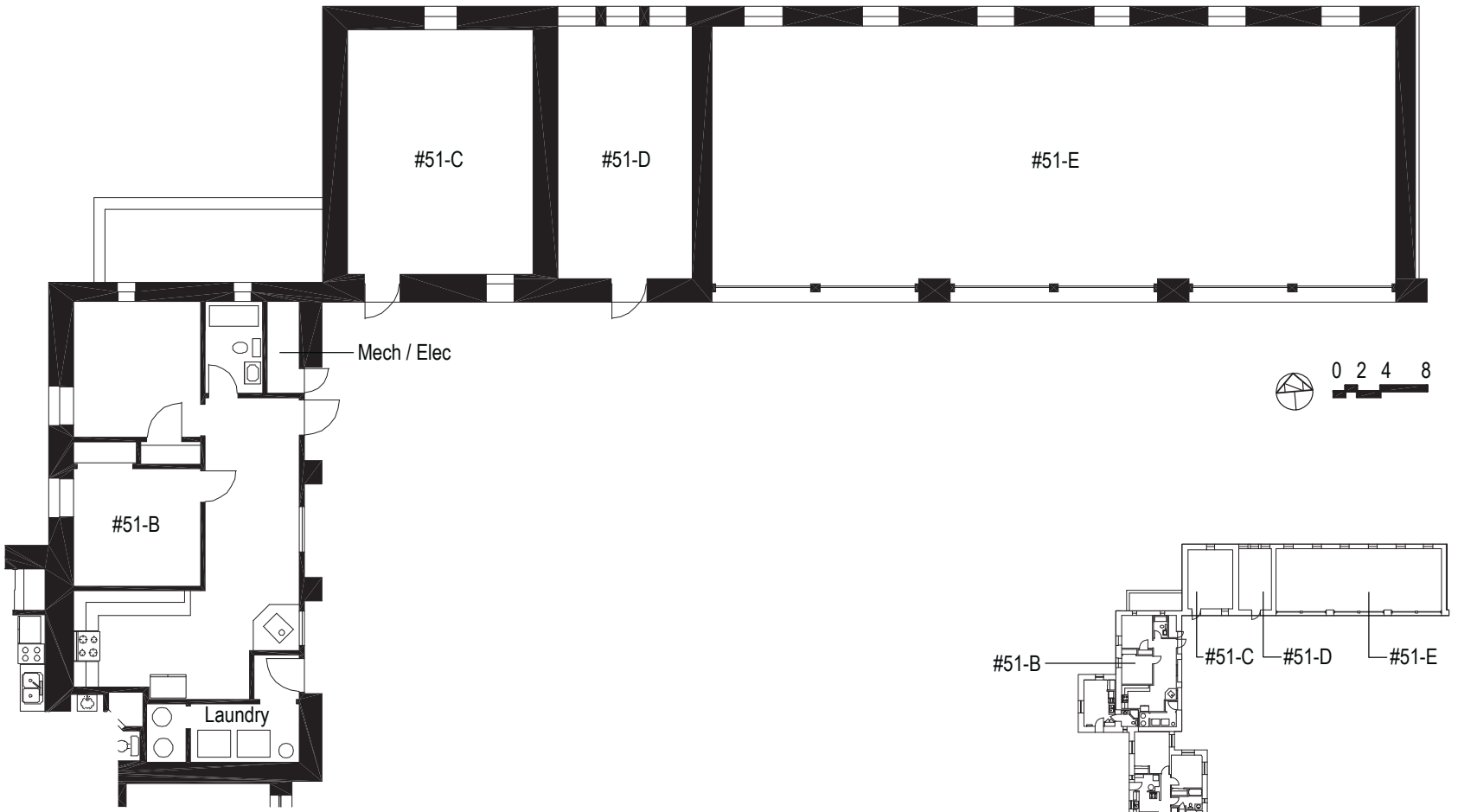
Exterior pole lighting should be removed from Unit #51-E. Any extraneous conduit, communications equipment or surface wiring should also be removed.

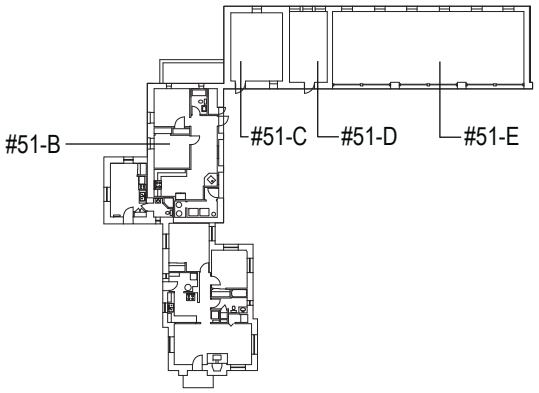


Deep recesses and strong shadow lines are important design features at Rainbow Forest. *PEFO Photo Archive #15697*

RF Employee Residence #51-B, Fitness Center #51-C, Storeroom #51-D and Employee Garage #51-E

Floor Plan





Keyplan

① Provide More Sympathetic Infill at #51-B

When infilling garage door openings, the following priorities should be followed:

- □ Don't over emphasize the infill. Infill material should be simple and reflect the proportions of the openings.
- □ Use materials that are compatible with the historic material being replaced. Wood doors and windows are an appropriate choice at RF.

For more information on new infill at historic garage door openings see: Interpreting the Secretary of the Interior's Standards for Rehabilitation at:

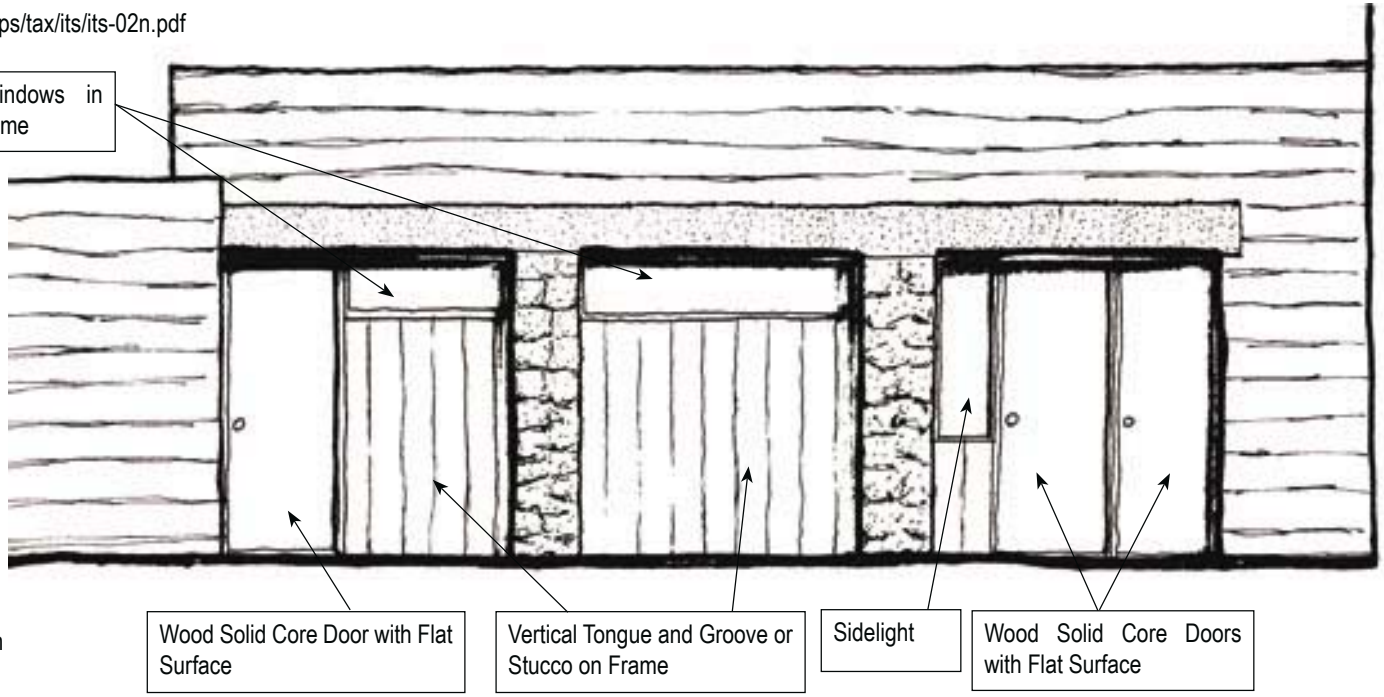
http://www2.cr.nps.gov/tps/tax/its/its-02n.pdf



East Elevation of Rainbow Forest Garage, 51B from 1949. *PEFO Photo Archive #15695*



East Elevation of Rainbow Forest Seasonal Employee Residence #51B taken in July, 2004. Note the irregular arrangement of windows and doors that distract from the simplicity of the three original bays. *Photo by author*



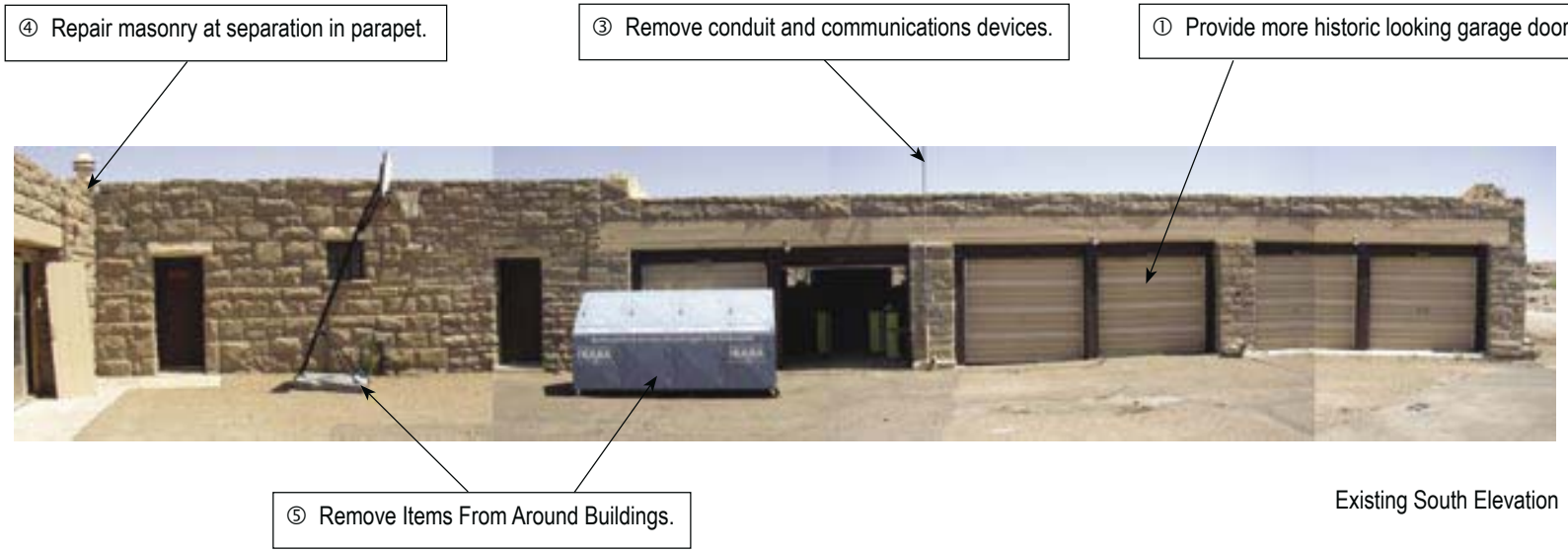
Possible Infill at East Elevation



South Elevation of Rainbow Forest Garage, 51E from 1949.
PEFO Photo Archive #15701



These doors with their western red cedar exterior would be a good choice for infill at RF #51-E.
Source: Red Lake Custom Doors



Existing South Elevation

Rainbow Forest Employee Residences #52-A, #52-B and #52-C

RF052A, RF052B, RF052C

Design Goals

① Redesign Exterior of 1957 Additions

② Replace Windows

③ Replace Roofing

④ Update / Restore Interior Finishes

⑤ New Site Walls

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Finish Recommendations (RF)

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Steel Windows (RF)

Window Replacement (RF)

Building Background

Rainbow Forest Employee Residences #52-A, #52-B and #52-C define the eastern edge of the residential plaza at Rainbow Forest. Units #52-A and #52-B were constructed in 1931 with #52-C being added a year later in 1932. The units have parapets raised above flat roofs and exhibit the rustic style of coursed native stone masonry, stone sills and concrete lintels found throughout Rainbow Forest. Historic photographs indicate that a wood pole ramada originally covered the western exposure of the buildings. The original steel casement windows have been replaced with aluminum sliding windows. In 1957, a one room bedroom addition, constructed of concrete block with a single pitch roof, was added to the west side of each unit. These units are eligible for inclusion in the Rainbow Forest Historic District but any unsympathetic alterations should be corrected. The recommended management treatment is preservation.

Design Strategy

The three small residential units that create the eastern edge of the residential plaza at Rainbow Forest are important to the park's management goal of having more employees reside within the park. While Unit #52-A has been well maintained and continues to serve as a year round residence for permanent park employees, Units #52-B and #52-C have been underutilized during the last decade. Updating and restoring their interior finishes would provide two dwellings suitable for long-term residents. Interior finishes should follow suggestions offered in this document. Sandstone masonry surfaces at fireplaces and at the interior of the 1957 additions that have been painted, should be restored sensitively after consultation with a conservator.

One of the most obtrusive alterations to take place at Rainbow Forest was the additions added to the original masonry dwellings. The additions, composed of deep overhangs, large openings and smooth stucco surfaces, are incompatible with the original masonry structures of more rustic design. Removing the additions is unlikely due to the limited square footage of the original footprint. It is, however, possible to adjust the massing and detailing of the additions to be sympathetic with the original structures.

The construction of exterior screen walls should blend with the natural topography, be of a uniform style and provide the minimum screening necessary to grant privacy to the residents. Special consideration should be given to maintaining both near and distant views from the exterior patios. Walling the buildings off from each other and from the greater district, would greatly alter the planning and feelings associated with this early historic park landscape.

Foam roofing should be removed and replaced with a single ply membrane system. Remove foam roofing from masonry parapets only after consulting with an experienced conservator.

Non-historic windows should be replaced with more authentic looking double glazed casement units.



East Elevation of RF Employee Residences 52A, 52B and 52C. Photo date 1938. *PEFO Photo Archive #15678*

Rainbow Forest Employee Residences #52-A, #52-B and #52-C

Floor Plan



① Redesign Exterior of 1957 Additions

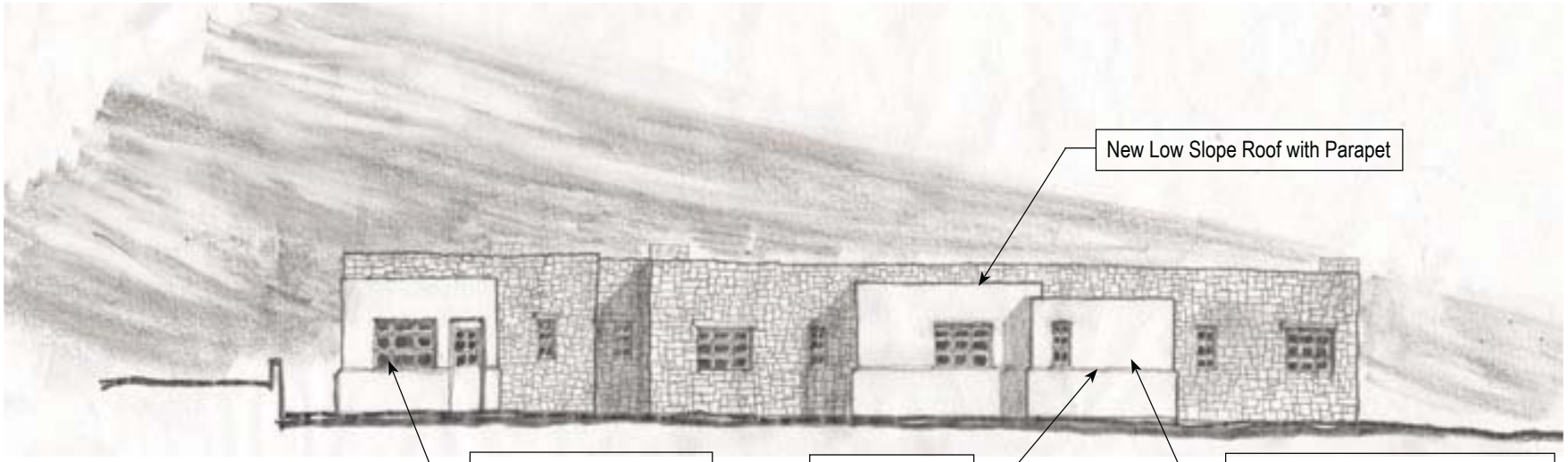
Design considerations for the rehabilitation for the 1957 additions should follow the following objectives:

- The visual obtrusiveness of the additions should be muted. Roof overhangs should be eliminated. and wall opening should be reduced in size to be more in harmony with the original masonry buildings.

- Exterior materials should be simplified. More historic windows and a smooth surface would help the overall feeling of the additions. Because more site walls with a smooth stucco finish are planned for the residential area, using stucco is one possible solution.



Partial Existing West Elevation



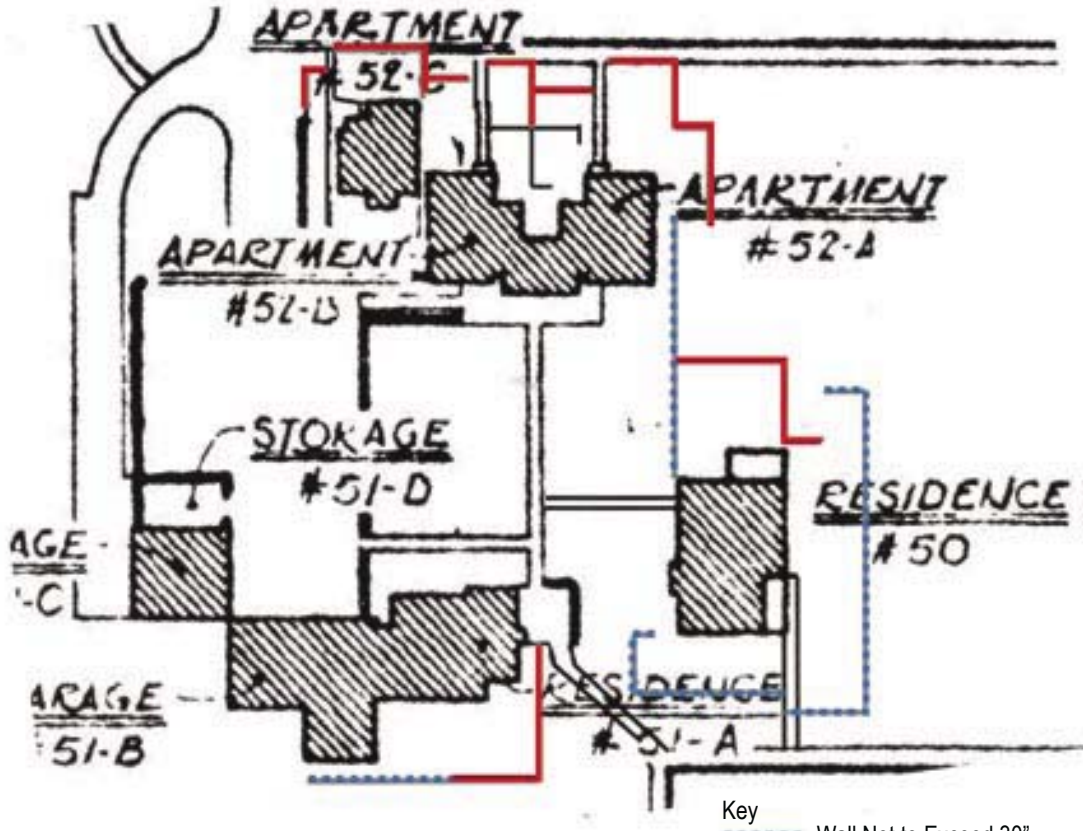
Possible Exterior Rehabilitaton



Ramada on the rear of Rainbow Forest Employee Residences 52A and 52B. Photo date 1949. *PEFO Photo Archive #15678*



Rainbow Forest Employee Residences 52A and 52B. East Elevation, 1950s. *PEFO Photo Archive*



Plan of Proposed Site Walls at Rainbow Forest

⑤ New Site Walls

Additional site walls within the Rainbow Forest Historic District, especially in the residential areas, are needed to discourage visitors from entering these more private areas of the community and to provide the residents with additional privacy. Concerns over the visual intrusiveness may be mitigated by the following practices that are distinguished by linetype in the above sketch.

- Walls constructed solely to discourage residents from entering the residential area should be no more than 30" in height. This should help to maintain views through the property and help to break up the walls.

- Walls constructed to provide the resident's with visual privacy shall be no more than 48" in height and shall be stepped to follow the natural topography.

Rainbow Forest Employee Residence #53

RF053

Design Goals

① Redesign Exterior of Concrete Block Addition

② Replace Gable Roof with Flat Roof

③ Preserve Interior Finishes

④ Replace Windows

⑤ Repair Site Walls and Related Features

Maintenance References

Concrete Walks / Sandstone Curbs

Doors (RF)

Drainage

Electrical Retrofit

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Window Replacement (RF)

Building Background

Rainbow Forest Employee Residence #53 has undergone significant alterations since its construction in 1938 by the CCC. Originally a small masonry dwelling with parapets, similar to other structures constructed during the 1930s, Unit #53 received a low-slope gable roof and entry porch in 1955. By 1961, a two bedroom concrete block addition had been added to the west side of the unit. In 2004, the interior was rehabilitated to serve as the office for Law Enforcement. Employee Residence #53 is considered a contributing element to the Rainbow Forest Historic District. The recommended treatment is rehabilitation.

Design Strategy

Similar to the other additions added in the 1950s and 60s, the two bedroom addition attached to Unit #53 is constructed of concrete block and stucco and exhibits a more modern aesthetic than the rustic design style that is characteristic of the architecture at Rainbow Forest. Additionally, the sloped gable roof and side porch added in 1955 is a significant departure from the original design. Restoring the flat roof on the original masonry building would help bring Unit #53 more in line with the historic character of the district. Reducing the roof on the concrete block addition, in addition to reworking the exterior openings could also improve the look of the dwelling.

Non-historic windows should be replaced with more authentic looking double glazed casement units.

Interior changes have been made to accommodate the needs for office space. HVAC and electrical systems were updated in 2004 to accompany this change in use. The interior spatial arrangement should remain unchanged to accommodate the possibility that the park would return this unit to housing. Historic wood floors may remain below the current subflooring and should remain in place for possible restoration in the future.

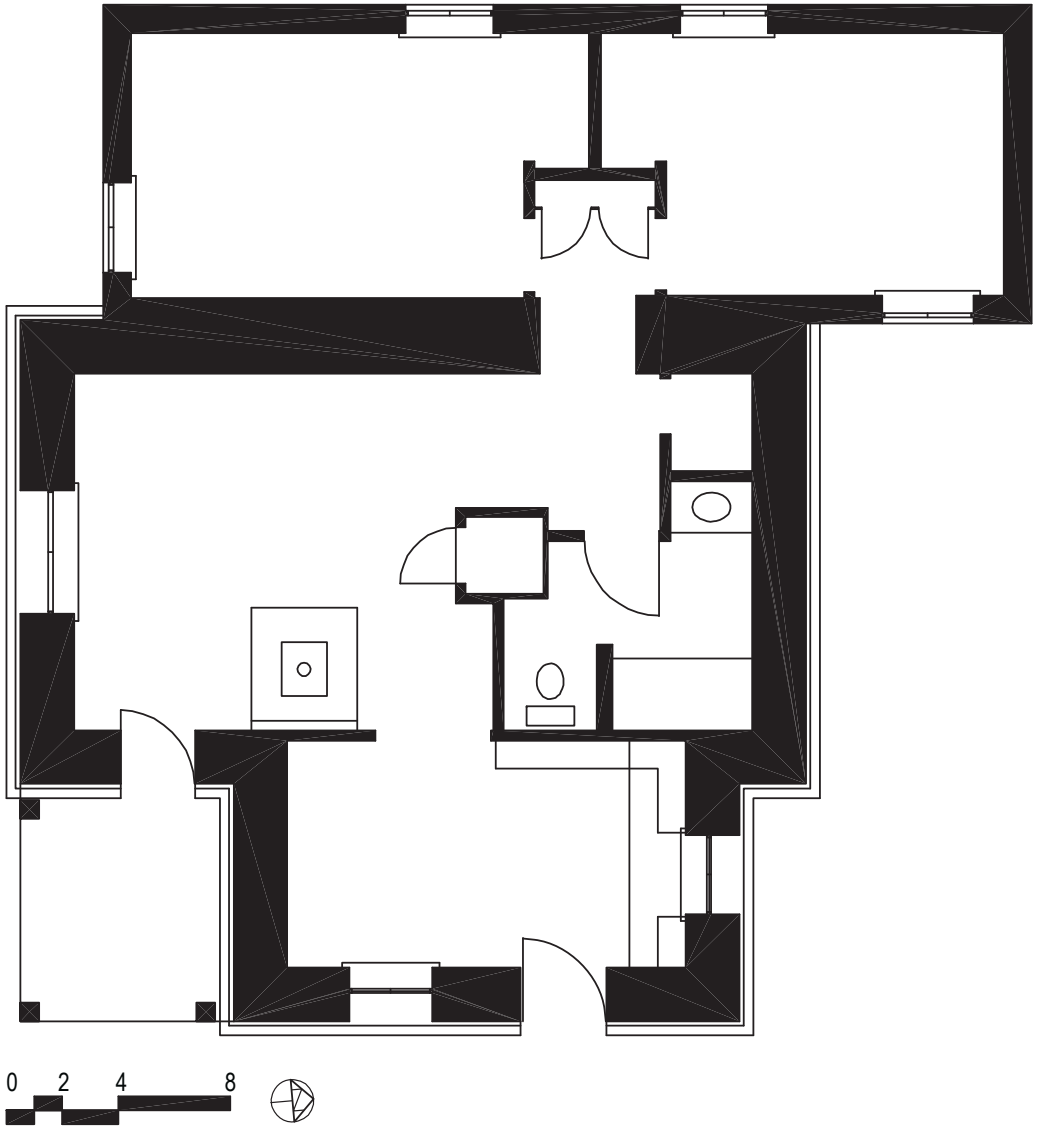
Site walls surrounding the patio along the east elevation should be repaired and properly maintained.



Rainbow Forest Employee Residence #53 looking southeast, 1963.
PEFO Photo Archive #23740.11

Rainbow Forest Employee Residence #53

Floor Plan



Rainbow Forest Warehouse and Shop #100

RF100

Design Goals

① Stabilize Structure

② Remove V-Shaped Addition

③ Restore South Facade

④ Replace Roofing

Maintenance References

Drainage

Electrical Retrofit

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Steel Windows (RF)

Window Replacement (RF)

Building Background

Rainbow Forest Warehouse and Shop #100 was likely constructed by the CCC around 1937. Built as a warehouse and shop, the interior was improved in the 1950s and 1960s. In 1992, the v-shaped addition was added to the south elevation to accommodate the park's fire truck. The management plan calls for preservation / adaptive use. This building is eligible for inclusion in the Rainbow Forest Historic District.

Design Strategy

Building #100 has suffered structural damage as a result of the major changes undertaken by the v-shaped addition in 1992. In particular, a large crack has developed in the southeast corner of the parapet, possibly from the removal and replacement of masonry piers with steel columns. Stabilizing and repairing damage to the masonry should be completed in conjunction with removing the v-shaped addition and restoring the south elevation.

Because the south elevation and structural system has been so radically altered, it will be a challenge to restore the openings to their historic design. The masonry piers between bays should be rebuilt with sandstone that matches the original stone in appearance, including size, color and texture. Because of the difficulty in matching any new construction to the original, there are a number of other design solutions that could be incorporated to unify the south elevation, including the use of stucco to cover over the piers. Restoring the elevation to include 5 uniform openings with recessed doors should be the priority.

A number of the original steel windows still exist at building #100 and maintenance should be performed on these windows to keep them in good condition. Included in this periodic maintenance should be the removal of any sand that has encroached on the exterior surface of the window.

Foam roofing should be removed and replaced with a single ply membrane system. Remove foam roofing from masonry parapets only after consulting with an experienced conservator.



Rainbow Forest Warehouse and Shop with V-Shaped addition, 2004. *Photo by author*



Rainbow Forest Warehouse and Shop in 1949.
PEFO Photo Archive #15718

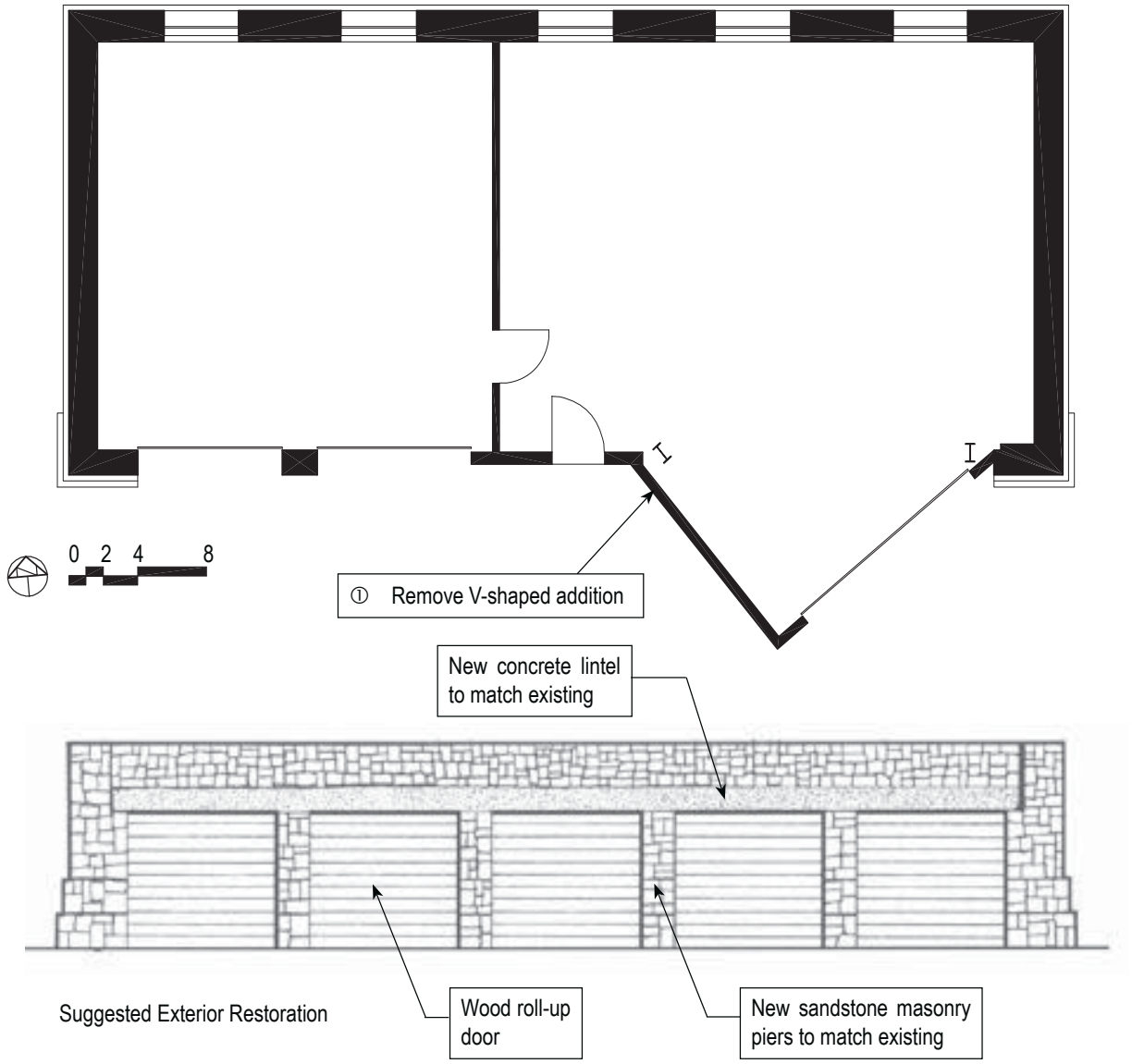
Rainbow Forest Warehouse and Shop #100

Existing Floor Plan and Suggested Exterior Restoration

③ Restore South Facade

Removing the V-shaped addition and restoring the south facade to its historic appearance should be a priority treatment for both the building and for the overall appearance of the historic district. Restoration should comply with the following criteria:

- Sandstone masonry piers and a concrete lintel should be returned to the entire facade. Color and texture of new sandstone should match the color of the remaining sandstone masonry.
- Roll-up garage doors should be simple in design. Wood cladding is suggested to return the exterior to a more rustic appearance.



Rainbow Forest Gas and Oil Building #101

RF101

Design Goals

① Excavate Exterior Storage Yard

② Remove Conduit and Meter

③ Replace Roofing

④ Repair Masonry

Maintenance References

Drainage

Electrical Retrofit

Roofing

Sandstone Masonry (Cleaning)

Sandstone Masonry (Repair)

Steel Windows (RF)

Window Replacement (RF)

Building Background

Rainbow Forest Gas and Oil Building #101 was constructed in 1937 and served as a gas and oil house before being converted to a storeroom. There is a small storage yard with retaining walls attached to the east side of the structure. Gas pumps originally fronted this building. RF101 remains in excellent condition with good integrity. The recommended management treatment is preservation. The building is eligible for inclusion in the Rainbow Forest Historic District.

Design Strategy

The Rainbow Forest Gas and Oil Building remains an excellent example of the rustic design principles utilized throughout the early development of Rainbow Forest. Original steel casement windows remain intact and in good condition. Besides masonry repairs that do not match well, the structure remains sound and in good condition.

The storage yard to the east of the building created by low masonry walls has been filled with drifting and blowing sand. The sand should be carefully excavated from this space and the masonry walls repaired, as required.

Removal of any unnecessary electrical equipment, including the meter, would improve the visual appearance of this historic resource. Repair any openings in the sandstone masonry created by the removal of equipment.

Foam roofing should be removed and replaced with a single ply membrane system. Remove foam roofing from masonry parapets only after consulting with an experienced conservator.

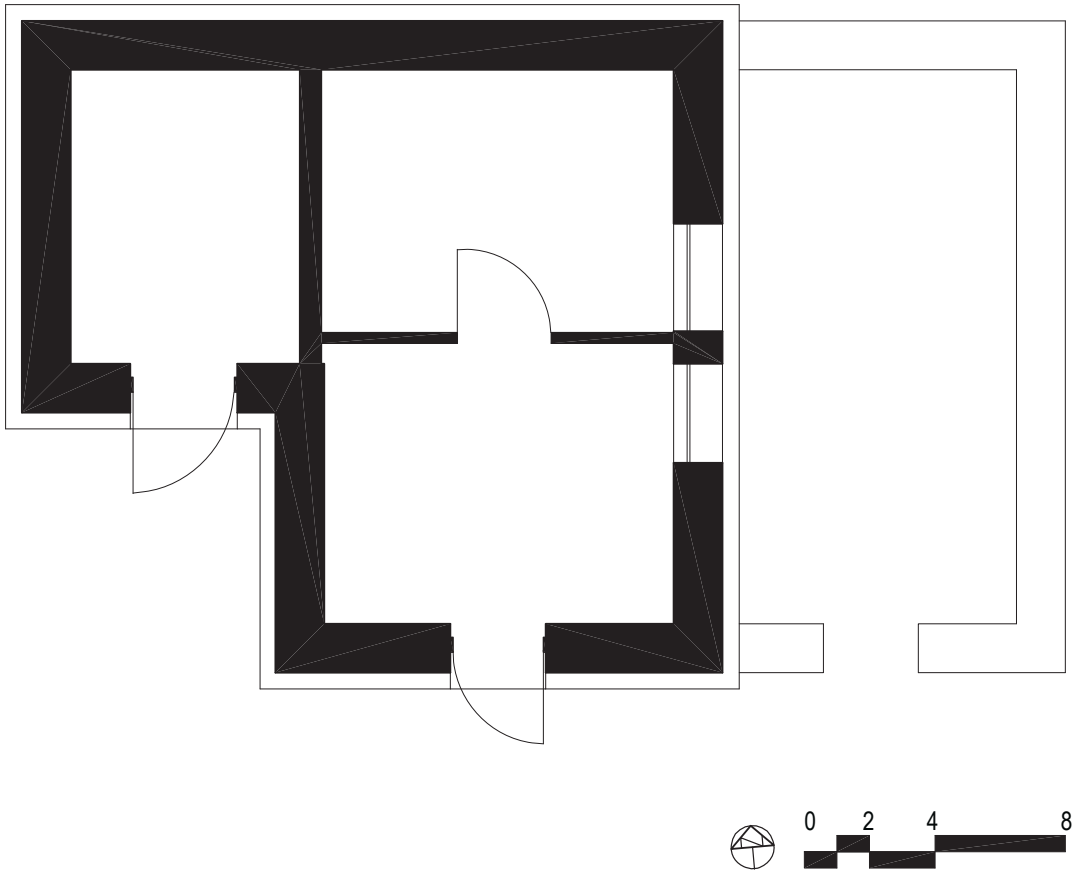
Repointing and repairing of mortar or masonry should correct obtrusive repairs performed in the past.



Rainbow Forest Gas and Oil Building in 1949.
PEFO Photo Archive #15720

Rainbow Forest Gas and Oil Building #101

Floor Plan



Rainbow Forest Lodge
RF150

Design Goals

① Understand How the Building Has Changed Over Time

② Determine Concessionaire's Needs ☺

③ Reduce the Scale and Mass of the Building

Maintenance References

Note: Because maintenance of Rainbow Forest Lodge is the responsibility of the concessionaire, this document does not present specific maintenance references for this historic resource. However, because Rainbow Forest Lodge is an important component in the overall Rainbow Forest Historic District, it is advisable for PEFO management and maintenance staff to be involved in maintenance and management decisions.

Building Background

Constructed in 1929 as a store by entrepreneur Dick Grigsby, Rainbow Forest Lodge, is the oldest remaining building in the park. The lodge and a number of small cabins, including the remaining stone cabin to the east of the lodge, served visitors during the early development of the park. Over the years, the original stone structure has become engulfed by a number of large additions, the most recent in 1957, that has created a structure that overpowers the other buildings and elements of the Rainbow Forest Historic District. The 2003 General Management Plan calls for a reduction in the scale of the building to be more in harmony with the surrounding cultural landscape. The supporting documentation presented herein should assist the park's concessionaire and management team with restoring and rehabilitating this structure to be more sympathetic to the surrounding buildings and landscape. The plans and historic photographs that follow dissect the Rainbow Forest Lodge, revealing significant dates of construction and changes to the interior layout and the relationship of the lodge to the surrounding landscape. The building is currently not eligible for inclusion in the Rainbow Forest Historic District due to the multiple incompatible additions.

Design Strategy

The design changes suggested are based solely on our understanding of the architectural evolution of the building and the need for the building to "conform" to certain parameters as a contributor to the larger historic landscape. Taking into account the needs and goals of the concessionaire, in addition to an understanding of the character of the building, would likely reveal other possibilities for the future of this significant resource.

One possible solution would be to remove all or parts of the 1960s addition. It appears that there may be excess interior space that could be removed or converted to patios for exterior use. The creation of an outdoor patio space on the west side of the building could give an economic boost to the restaurant by being more accessible and prominent to visitors. Additionally, reorienting the restaurant would help to reduce the scale of the building's north facade, bringing the building more in scale with the other structures surrounding the central plaza.

Other ideas for reducing the overall scale of the building would be to remove the existing entry canopy and replace it with a longer, but lower entry porch. A shaded area adjacent to the main entry is a desirable element to the building and the visitor experience.

Reducing the scale of the northeast corner of the building is also important to bringing the structure more in harmony with the other elements of the historic district. If the overall height and mass of these walls cannot be reduced, adding windows could provide some visual relief to this elevation.



Rainbow Forest sometime between 1928 and 1931 looking northeast showing the south elevation of the stone RF Lodge in the midground. Other structures are the first museum and two ranger residences. *PEFO Photo Archive #15730*

Rainbow Forest Lodge
Floor Plan and Historical Analysis

1930s (2,535 Gross Square Feet)
As originally constructed, the Rainbow Forest Lodge was a symmetrical stone structure with recessed covered areas on both the north and south elevations. Containing a store and lunchroom, the building was originally entered from the south. Sometime after 1931, the building was reoriented towards the north and the newly completed central plaza.



Rainbow Forest Lodge and auxiliary buildings around 1930.
PEFO Photo Archive

1940s (3,111 Gross Square Feet)
The first documented alterations to the Rainbow Forest Lodge occurred in 1940, during the time of the most significant growth and construction in the Rainbow Forest District. A small stone storeroom was added to the south side of the building.

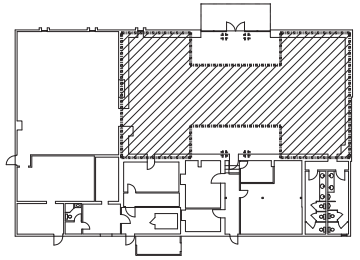


Rainbow Forest Lodge in the 1930s and 1940s.
PEFO Photo Archive #15668

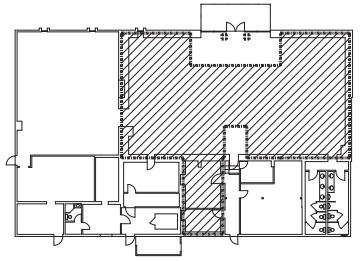
1950s (4,976 Gross Square Feet)
The building was expanded in the 1950s with changes taking place in 1952 and 1958. A covered entry, supported by a series of columns, was extended to the north towards the central plaza. Small additions were added to the south of the building creating a structure that was nearly a square in plan.



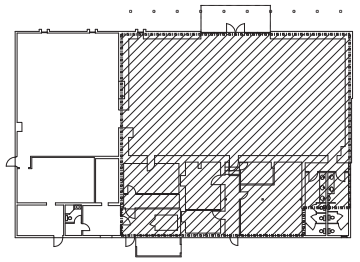
Rainbow Forest Lodge in 1958.
PEFO Photo Archive #21248



1930s Plan



1940s Plan



1950s Plan

RF Lodge Reference Plans

Not to Scale

APPENDIX

1960s to the Present (7,591 Gross Square Feet)

In the 1960s, attention began shifting away from the Rainbow Forest District with the opening of the Painted Desert Community Complex. At the same time, with visitation increasing, the park could support major visitor services at both ends of the park. The transformation of Rainbow Forest Lodge from an outpost to a significant visitor amenity was completed in 1963 with a large addition and redesign of the building's exterior. The addition was constructed primarily of concrete block and stucco with large laminated wood beams being used to support the raised entry canopy. Clerestory windows, facing south, brought natural light into the gift shop. The large addition added to the west featured an expanded kitchen and lunchroom. Since 1963, there have been a few minor changes to the building: Interior spaces have been reoriented to address visitation needs and the clerestory windows are no longer visible. A drop ceiling has been installed throughout most of the interior public spaces.



South elevation of Rainbow Forest Lodge, 2004
Photo by author



Existing Floor Plan

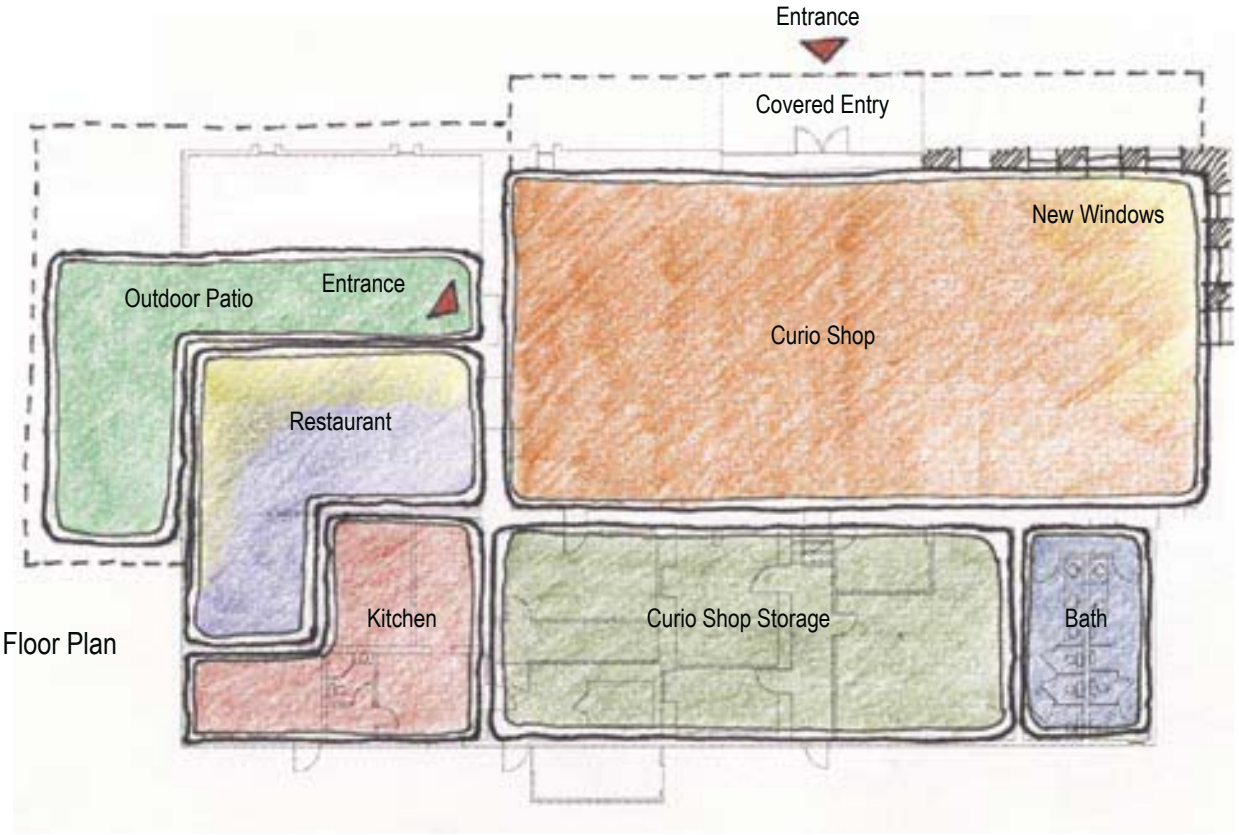
③ Reduce the Scale and Mass of the Building

Since there are no plans to restore the Rainbow Forest Lodge to any particular period, a reduction of the buildings perceived scale can be achieved without costing the concessionaire square footage.

- □ Remove the entrance canopy, thereby reducing the buildings vertical presence
- □ Reduce the restaurant dining space so that the north facade no longer reads as one continuous mass. The kitchen remains in the same place to avoid having to retrofit another area with kitchen equipment.
- □ Expand the curio shop to the east a few feet so that the bathroom addition no longer reads as part of the east facade. This will actually give the concessionaire more space, while the north facade and east facade will appear much less massive.
- □ Create an shaded outdoor patio that wraps the north-west corner of the lodge. This will ultimately provide the restaurant with a larger dining area while also providing picnickers a place to sit. This added outdoor activity at the Rainbow Forest Lodge's north-corner will help attract customers from the Rainbow Forest Museum.



Perspective from Rainbow Forest Museum



Conceptual Floor Plan

Rainbow Forest Cabins

RF151

Design Goals

① Remove Unsightly Equipment and Wiring from the Exterior

② Remove Gable Roof

③ Remove Entry Porch

Maintenance References

Note: Because maintenance of Rainbow Forest Cabins is the responsibility of the concessionaire, this document does not present specific maintenance references for this historic resource. However, because Rainbow Forest Cabins is an important component in the overall Rainbow Forest Historic District, it is advisable for PEFO management and maintenance staff to be involved in maintenance and management decisions.

Building Background

Rainbow Forest Cabins is a small, one story stone structure dating to 1930. It is sited to the southeast of the Rainbow Forest Lodge. Photos dating from the 1940s show the building with a flat roof. The flat roof has been covered over with a gable roof and a small wood porch has been attached to the entry elevation. The interior originally consisted of two small studio apartments with kitchenettes, however it was remodeled into one apartment in the 1990's. The recommended management treatment is preservation / adaptive use. The building is considered contributing to the Rainbow Forest Historic District.

Design Strategy

The Rainbow Forest Cabins are one of the first buildings visitors see when approaching the Rainbow Forest Historic District along the park road from the north. While the building is in good condition, there is an assortment of items that could be cleaned up on the exterior of the building. If possible, the evaporative cooler and ductwork should be screened. Any unused conduit or wiring should be removed from the exterior of the building.

The gable roof should be removed to restore the historic character of the building.

The small entry porch should be removed to restore the west facade to its original appearance.



Rainbow Forest Cabins, 2004. *Photo by author*



Rainbow Forest Cabins from the 1940s. *PEFO Photo Archive #15745*



Rainbow Forest Cabins, looking north 1949. Note flat roof with parapets. *PEFO Photo Archive #15743*

Summary

This section provides an overview of considerations to be taken into account when constructing new facilities within the Rainbow Forest Historic District. Although there are few immediate needs for new space within Rainbow Forest, a new accessible restroom is needed. While it may be possible to expand or rehabilitate an existing building to accommodate this need, it is more than likely that a new stand alone structure will be constructed. Petrified Forest has received preliminary approval from AZSHPO to place the structure north of parking plaza and adjacent to the existing picnic area. In addition to sensitively placing the structure in the landscape, the scale, massing and materiality of a new building will be critical to preserving the openness of the central plaza and surrounding landscape.

Design Principles

When designing any new buildings for the Rainbow Forest Historic District, one of the most important considerations should be the overall form and massing of the building. How the new building relates to the Puebloan inspired buildings is important. Also, the overall scale of the building or addition should be deferential to the district's historic character.

Materials

There are a number of materials that are appropriate for new construction within the Rainbow Forest Historic District. The use of sandstone masonry would be a good choice because it is the most prominent building material at Rainbow Forest. However, a strict replication of the detailing utilized on the earlier sandstone buildings is not necessary. The use of details or construction techniques may be more reflective of those seen in contemporary building. For example, the use of steel for lintels and exposed structural elements could give any new structures characteristics to distinguish them from older structures in the district. Other modern materials that may be used include: stucco and CMU.

Sustainable Design

New sustainable technologies and ecological design principles should be incorporated into any new designs. The natural features of the Rainbow Forest environment, including solar and water harvesting opportunities should be explored.

Design Goals

① Building Forms and Massing should Compliment Historic Buildings

② New Materials Should be Compatible with Existing Context

③ Consider the Modern Interpretation of A Historic Material

④ Integrate Sustainable Design Principles into any New Construction

Rainbow Forest Historic District

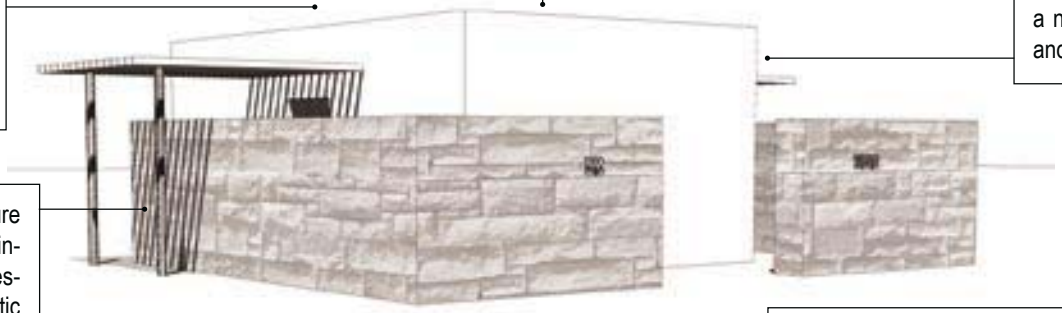
Design Guidelines for New Construction

① Simple geometric form blends in with surrounding buildings

② The building form is kept uncluttered by placing skylights and vents behind the parapet and stone screen wall.

② The core of the building is an inexpensive, easy to build stucco box. Visual interest is created by a non-structural stone screen wall and shadow patterns.

④ solar panels on the roof could provide the little electricity that the comfort station would need.



③ A wooden shade structure eases transition between dark interior spaces and the harsh desert sunlight while alluding to rustic ramadas that some residences at Rainbow forest once employed.

Comfort Station Proposal

④ Graywater from the sink and water collected from the roof could prove water for toilet flushing

APPENDIX D

LIST OF RECOMMENDED PLANTS

Deciduous Tree

Narrowleaf Cottonwood	(Populus angustifolia)

Evergreen Shrub

Singleseed Juniper	(Juniperus monosperma)

Woody Accent Shrubs (approximate mature height more than 42")

Alder-leaf mountain mahogany	(Cercocarpus montanus)
Greasewood	(Sarcobatus vermiculatus)
New Mexico Olive	(Forestiera neomexicana)

Woody Screening (approximate mature height 42" or less)

Chamisa	(Chrisothamnus nauseosus)
Cliffrose	(Purshia stansburiana)
Fourwing Saltbush	(Atriplex canescens)
Mormon Tea	(Ephedra spp.)
Prickly Pear	(Opuntia spp.)
Sagebrush	(Artemisia spp.)
Three Leaf Sumac	(Rhus trilobata)
Squawbush	(Rhus trilobata)
Winterfat	(Krascheninnikovia lanata)
Wolfberry	(Lycium spp.)

Grass/Perennial/Forbes (approximate mature height 30" or less)

Banana Yucca	(Yucca baccata)
Blue Grama	(Bouteloua gracilis)
Broom snakeweed	(Gutierrezia nauseosus)
Galleta	(Pleuraphis spp.)
Giant Dropseed	(Sporobolus giganteus)
Indian Rice Grass	(Oryzopsis (Achnatherum) hymenoides)
Needle and Thread Grass	(Hesperostipa comate)
Ring Muhly	(Muhlenbergia torreyi)
Yucca	(Yucca spp.)
Yellow Wild Buckwheat	(Eriogonum orymbodum)

APPENDIX E

SHPO RESPONSE TO PETRIFIED FOREST NATIONAL PARK RE: CONSULTATION ON DRAFT CLR PART TWO

ARIZONA STATE HISTORIC PRESERVATION OFFICE

(2010)

Arizona® State Parks

"Managing and conserving natural, cultural, and recreational resources"

SHPO-2010-0816 (85320)
adverse effect

RECEIVED
JUN 25 2010
Petrified Forest National Park

June 23, 2010

Cliff Spencer
Superintendent
United States Department of the Interior
National Park Service
Petrified Forest National Park
P.O. Box 2217
1 Park Road
Petrified Forest, Arizona 86028

Re: Cultural Landscape Report Part II 95% Submittal

Dear Mr. Spencer,

Thank you for your letter requesting concurrence in your finding of No Adverse Effect resulting from the recommendations of the referenced planning document.

This office is not prepared for an overarching concurrence in finding each of the several projects described in the document to be in compliance with the Secretary of the Interior's Standards; and suggests that each undertaking be subject to the Section 106 process case by case.

Moreover, all Section 106 comment by SHPO is pursuant to compliance with the Secretary of the Interior's Standards, not 'design guidelines' established for a cultural landscape.

Specifically, the philosophical approach of the Report, the design guidelines and of the proposed designs for future projects within the Report, inclines, in application, toward a stylistic or retro rustic affectation which, although intended to "blend in" with the historic property adversely affects it. Refer to Standards #3 and #9.

If I may be of additional assistance, I can be reached at (602) 542-6943, or: rfrankeberger@azstateparks.gov

Sincerely,

Robert R. Frankeberger AIA
Architect, State Historic Preservation Office

Janice K. Brewer
Governor

State Parks Board Members

Chair
Reese Woodling
Tucson

Tracey Westerhausen
Phoenix

Larry Landry
Phoenix

Walter D. Armer, Jr.
Vail

Alan Everett
Sedona

William C. Scalzo
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800.285.3703 from (520 & 928) area codes

General Fax: 602.542.4180

Director's Office Fax: 602.542.4188

APPENDIX F

LIST OF PREPARERS

This document is the result of extensive collaboration between the consultant research team of Belt Collins, staff at the Intermountain Region Office of the National Park Service, and staff at Petrified Forest National Park. During the site visit in December 2008, members of the team gathered to discuss treatment and management issues. Those present from within the park included the superintendent and key representatives from the interpretation, resource management, and facilities/maintenance divisions. A series of phone conferences have occurred since the site visit to review ideas put forward in this document and further refine appropriate treatments for the district. A list of individuals who have participated in this effort follows.

BELT COLLINS

Justin Atherton-Wood, Project Lead, Historical Landscape Architect

Mimi Mather, Principal-in Charge

Tom Gibney, Historical Landscape Architect

Brett Hussong, Landscape Designer

Bonie Shupe, Graphic Design

INTERMOUNTAIN REGION - SANTE FE OFFICE

Jill Cowley, COTR, Historical Landscape Architect

PETRIFIED FOREST NATIONAL PARK

Patricia A. Thompson, Project Manager, Chief of Resources,

Cliff Spencer, Park Superintendent

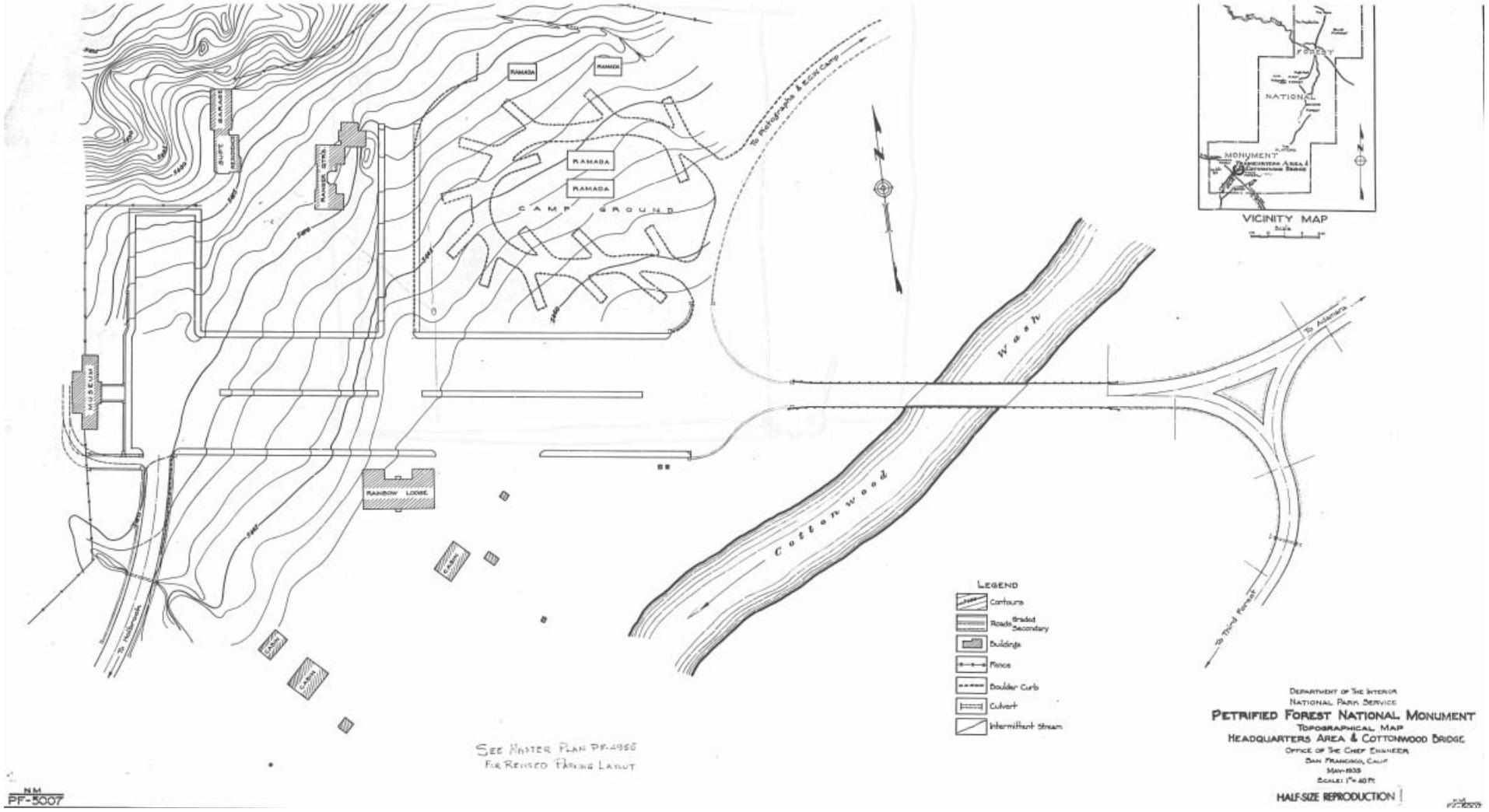
Jason Theuer, Archeologist

Dennis Steele, Chief of Maintenance

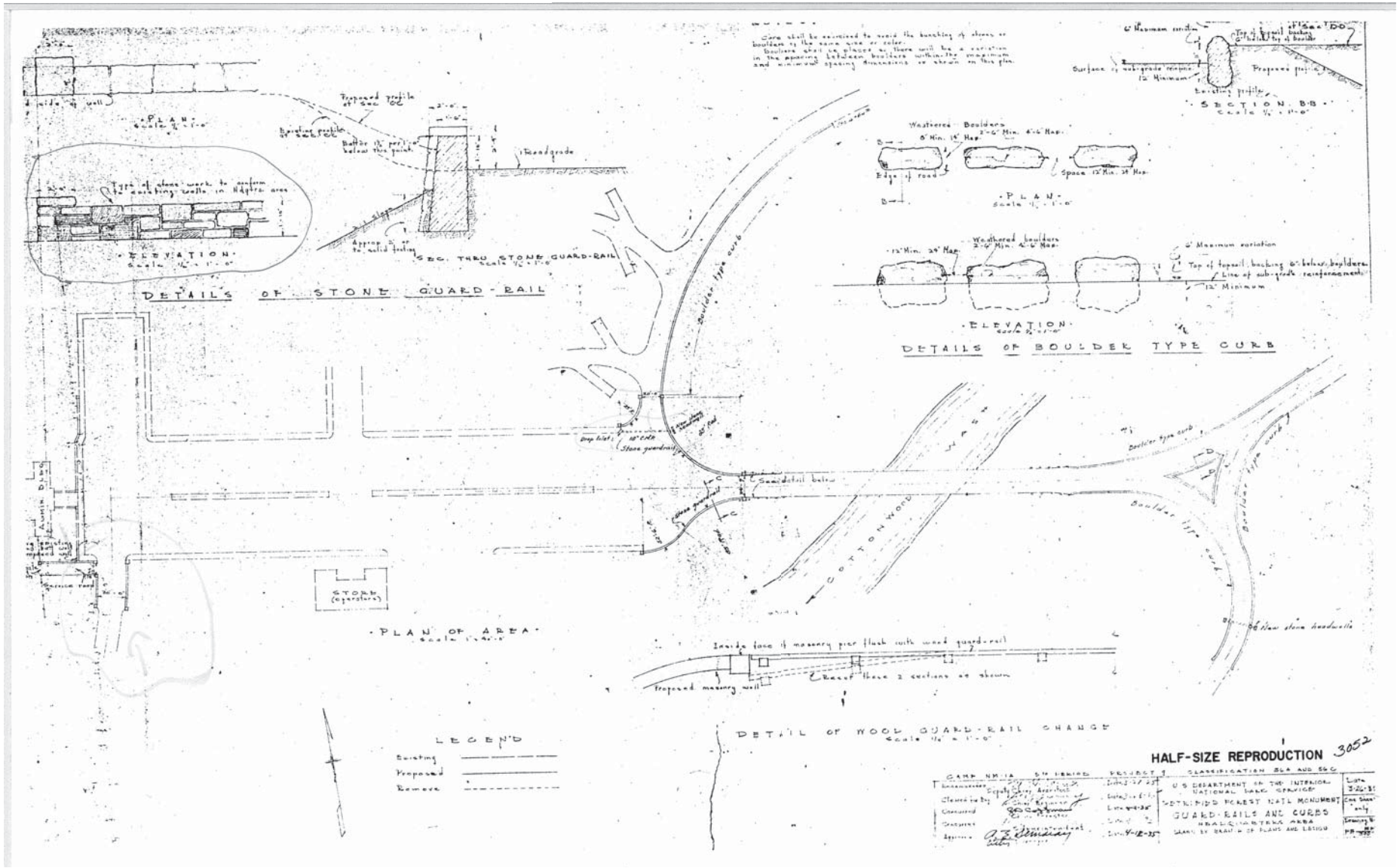
T. Scott Williams, Park Archivist

APPENDIX G

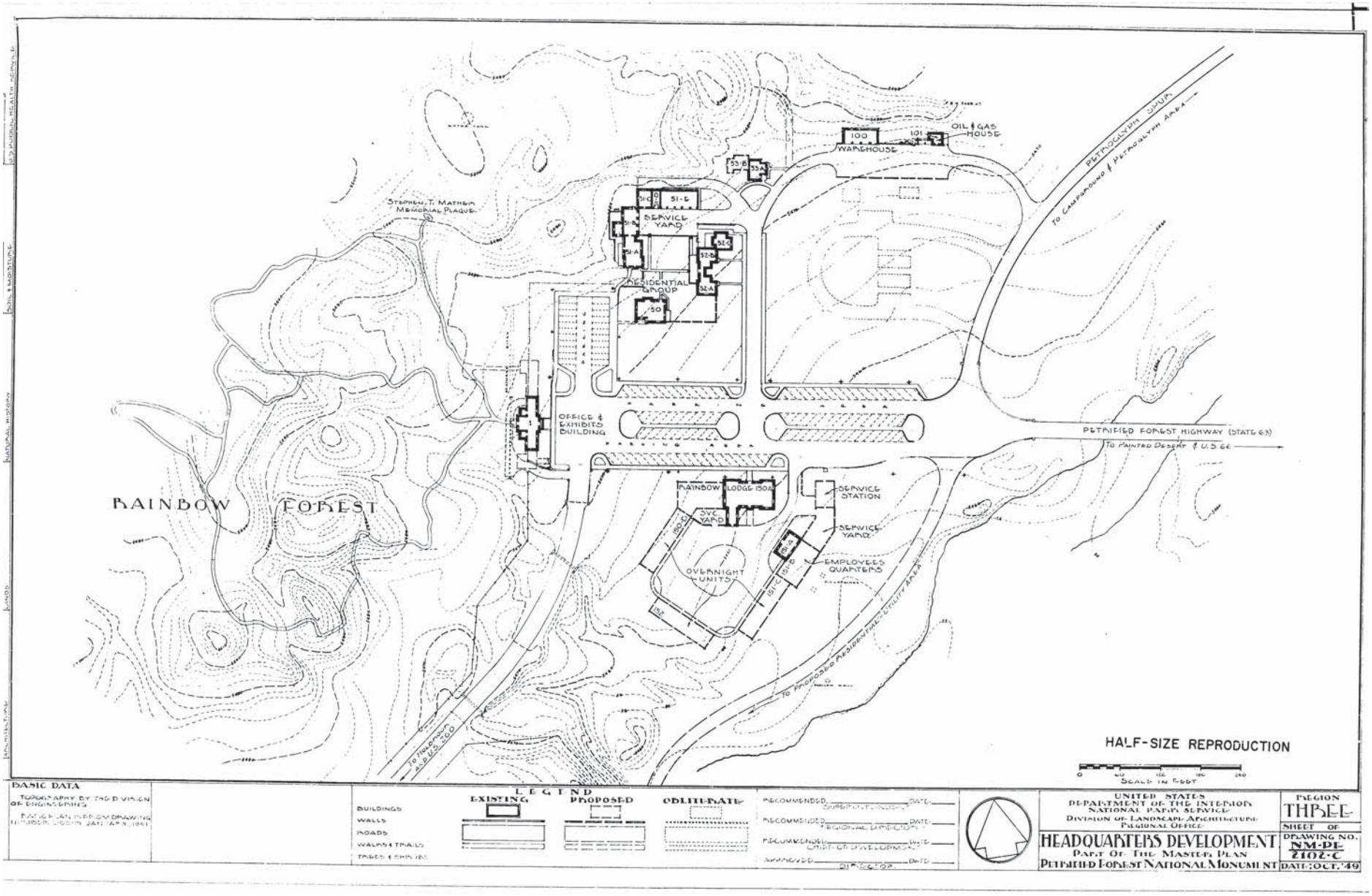
SUPPLEMENTAL GRAPHICS



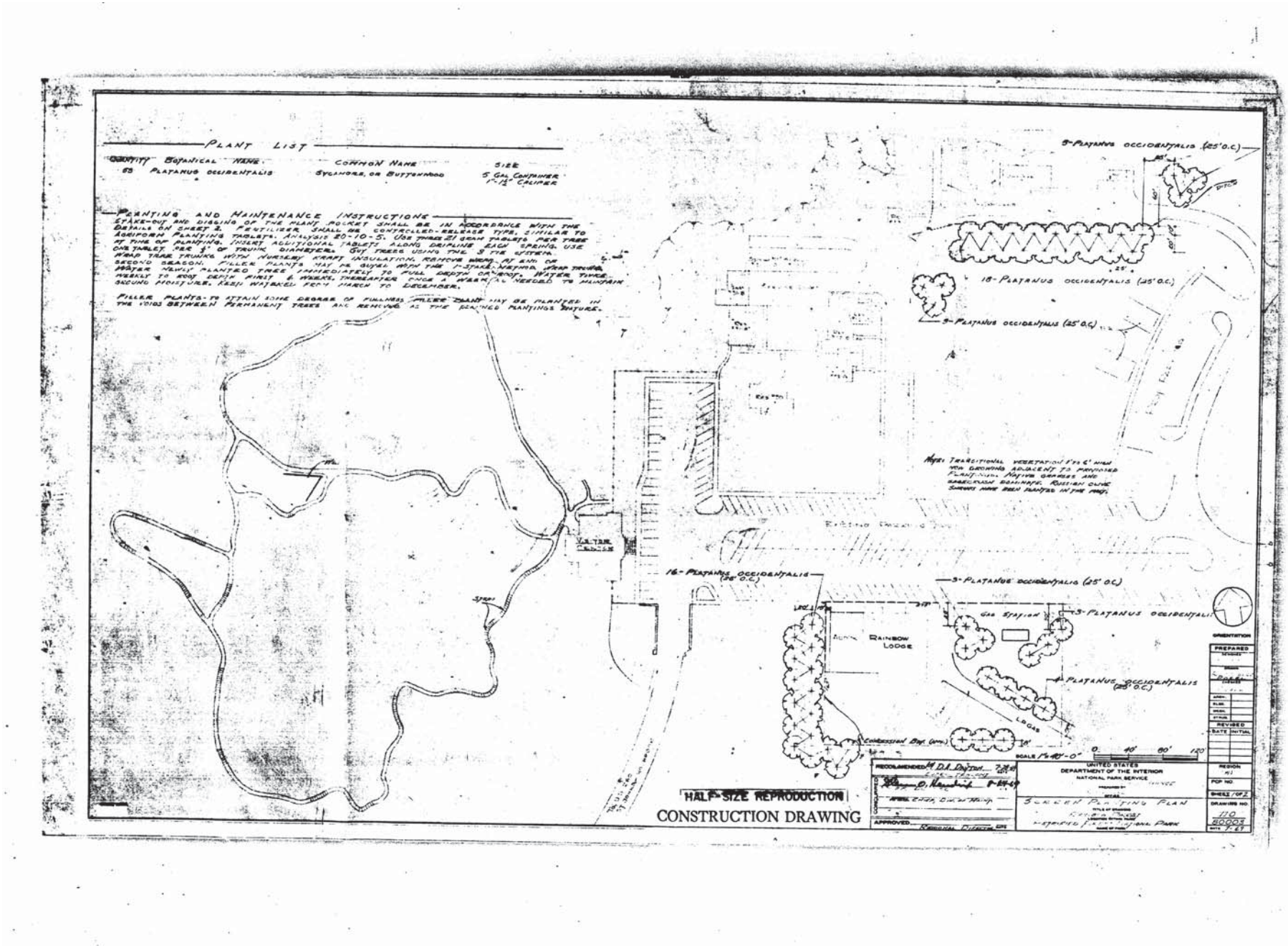
PF-5007-Topographical Map of Headquarters Area & Cottonwood Bridge, 1935. PEFO Archives.



PF-3052 - Guardrails and Curbs, Headquarters Area, 1935. PEFO Archives.



PF-2102-C - Headquarters Development, Part of the Master Plan, 1949. PEFO Archives.



PF-110-80003, Sheet 1 - Screen Planting Plan (and Giant Logs Trail Improvments), 1969. PEFO Archives.

APPENDIX H

CONDITION DEFINITIONS AND LIST OF CLASSIFIED STRUCTURES

CONDITION DEFINITIONS

For prehistoric or historic ruined structures, the assignment of condition should be based on the goal of maintaining the character, material, and stability of the structure as acquired, excavated, or existing.

For all other structures, condition is categorized and defined as follows:

GOOD
The structure and significant features are intact, structurally sound, and performing their intended purpose. The structure and significant features need no repair or rehabilitation, but only routine or preventive maintenance.

FAIR
The structure is fair condition if either of the following condition is present:

a). There are early signs of wear, failure, or deterioration though the structure and its features are generally structurally sound and performing their intended purpose; or

b). There is failure of a significant feature of the structure.

POOR
The structure is in poor condition if any of the following conditions is present:

The significant features are no longer performing their intended purpose; or

Significant features are missing; or

Deterioration or damage affects more than 25% of the structure; or

The structure or significant features show signs of imminent failure or breakdown.

UNKNOWN
Not enough information is available to make an evaluation.

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
2	Rainbow Forest Visitor Center/Museum	RF001	56672	Good	8-room bldg of random size greystone w/ concrete lintels, stone sills. Conc. fndn & floors. Stone chimney. Compound doorway w/ metal entrance doors. 1 story rear extension of stucco-covered conc. block. Alum. sliders. Stone retaining wall & steps.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to age or integrity considerations.
3						
4						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
5						
6						Areas of work noted during 2008 survey:
7						1. New windows frames are not sealed around the interior edges and the glass is very reflective with a green tint. The Pella residential windows selected will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn•t tinted green
8						2. Transom over main doors has fake muntins behind the glazing and should be removed and replaced with mechanically fastened muntins on the exterior
9	Rainbow Forest Fitness Center #51-C	RF051C	56673	Fair	Single room building of coursed, grey rock-faced native stone. Stone sills, concrete lintels. Foam-covered flat roof w/ low parapet. Solid metal door, orig. 6-lite sash. 20' x 24'.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
10						
11						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
12						
13						Areas of work noted during 2008 survey:
14						1. Remove foam roof and replace with more appropriate roofing system
15						2. Minor re-pointing is needed on the exterior masonry
16						3. Repair front scupper/canale
17	Rainbow Forest Storeroom #51-D	RF051D	56674	Fair	One room building of coursed, rock-faced native stone. Recessed doorway w/ heavy wood lintel. Metal sash windows rear. Unfinished interior. Flat foam-covered roof. No utilities other than electricity.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
18						
19						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
20						
21						Areas of work noted during 2008 survey:
22						1. Remove foam roof and replace with more appropriate roofing system
23						2. Minor re-pointing is needed on the exterior masonry
24						
25						Built by the CCC as a coal and wood shed. Six bay garage (Building 51E) added in 1941. ECW Project No. 15, Classification 111, Camp NM-1A, 6th Period. Designed by NPS Branch of Plans and Design, Robert W. Albers, November 1935. (2008)

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
26	Rainbow Forest Employee Garage #51-E	RF051E	56675	Fair	Pueblo-style 3 bay garage w/ space for 6 cars, stepped back from adjoining building. Native stone construction. Flat roof w/ foam cover. Overhead metal doors. Stepped side parapet. 6 windows rear.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
27						
28						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
29						
30						Areas of work noted during 2008 survey:
31						1. Remove foam roof and replace with more appropriate roofing system
32						2. Minor re-pointing is needed on the exterior masonry
33						3. Damaged masonry: multiple running cracks in walls should be monitored
34	Rainbow Forest Warehouse and Shop #100	RF100	56676	Good	One-story, 3-bay bldg of coursed, rock-faced, native stone construction. 5 metal sash windows rear. Stone sills, concrete lintels. Projecting V-shaped wood frame addition to accommodate new fire truck. Flat roof, covered w/ foam.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to age or integrity considerations.
35						
36						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
37						
38						Areas of work noted during 2008 survey:
39						1. Repair holes in masonry
40						2. Remove fire truck bay to restore historic appearance
41						
42						Built by the CCC as part of the Headquarters Area development. ECW Project No. 16, Classification 111, Camp NM-1A, 6th Period. Designed by NPS Branch of Plans and Design, Robert W. Albers, November 21, 1935. (2008)
43	Rainbow Forest Gas and Oil Building #101	RF101	56677	Poor	1 room building of coursed, rock-faced native stone construction. Upper wall slightly set back. Stone lintels, sills; wood door. Flat roof covered w/ foam. Retaining wall extends both sides, creates small storage yard on east side. Gas pumps removed.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to age or integrity considerations.
44						
45						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
46						
47						Areas of work noted during 2008 survey:
48						1. Re-point masonry as required
49						2. Repair and/or replace displaced and missing stonework on enclosure wall
50						3. Harden drainage/collection system on rear of building to prevent additional surface erosion
51						
52						Built by the CCC as part of the Headquarters Area development. ECW Project. Designed by NPS Branch of Plans and Design, November 21, 1935. (2008)
53	Rainbow Forest Employee Residence #51-A	RF051A	56678	Fair	One-story Pueblo-style residence of coursed, gray shaped native stone masonry. Flat roof covered w/ foam; low parapet. Stone sills, concrete lintels. 2-panel crank out windows & aluminum sliders, metal doors. Square stone chimney. Connected to 51-A1 & 51-A2 (RF051B).	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
54						

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
55						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
56						
57						Areas of work noted during 2008 survey:
58						1. Severe basal erosion on east elevation, correct drainage causing problem and stabilize masonry
59						2. General repair and re-pointing of masonry walls
60						3. Remove foam roof and replace with more appropriate roofing system
61						4. Replace non-historic metal slider windows with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn •t tinted green
62	Rainbow Forest Employee Residence #51-A1	BLDG #051-A1	56679	Fair	1-story gray, rock-faced native stone building. Flat roof w/ slight parapet. Metal sliders. Concrete lintels & stone sills. Connected to #51-A & #51-A2 (RF051B).	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
63						
64						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
65						
66						Areas of work noted during 2008 survey:
67						1. Remove existing foam roof and replace with a more appropriate roofing system
68						2. Remove non-historic windows and install windows which are historically correct for the building.
69						
70						Originally built by the CCC as a storage/guest room and bath to the rear of Building 51-A. Designed by NPS Branch of Plans and Design, July 1939. (2008)
71	Rainbow Forest Employee Residence #51-B	RF051B	56680	Fair	4-room single-story Pueblo-style bldg of gray, rock-faced native stone masonry. Alum sliders. Flat roof w/ slight parapet. Long concrete lintels, stone sills. 3 bay garage converted to residence circa 1992-93. Connected to 51-A & 51-A1.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
72						
73						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
74						
75						Areas of work noted during 2008 survey:
76						1. Remove foam roof and replace with more appropriate roofing system
77						2. Masonry needs re-pointing
78	Rainbow Forest Employee Residence #52-A	RF052A	56681	Fair	One-story, irregularly shaped Pueblo-style building of grey, rock-faced native stone construction. Flat foam-covered roof w/ low parapet; metal windows & doors. Concrete lintels, stone sills.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
79						

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
80						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
81						
82						Areas of work noted during 2008 survey:
83						1. Stones at top of chimneys are spalling, repair and/or replace inkind
84						2. Replace non-historic metal slider windows with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn •t tinted green
85	Rainbow Forest Employee Residence #52-B	RF052B	56682	Fair	One-story Pueblo-style building of rock-faced, native stone construction. Concrete lintels, stone sills. Flat foam-covered roof w/ low parapet. Low square chimney. Metal windows & doors.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
86						
87						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
88						
89						Areas of work noted during 2008 survey:
90						1. Stones at top of chimneys are spalling, repair and/or replace inkind
91						2. Minor stone repair needed on exterior walls
92						3. Replace non-historic metal slider windows with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn •t tinted green
93	Rainbow Forest Employee Residence #52-C	RF052C	56683	Fair	Small, irregular shaped one-story Pueblo-style building of rock-faced native stone masonry, consisting of bedroom added to orig. studio apt. Flat foam-covered roof w/ low parapet. Concrete lintels, stone sills. Metal windows & door.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to a relatively moderate degree of alterations. If the inappropriate alterations were reversed the AZSHPO concluded the structure could be brought back to an eligible status.
94						
95						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
96						
97						Areas of work noted during 2008 survey:
98						1. Front parapet walls deteriorated, stabilize masonry
99						2. Replace non-historic metal slider windows with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn •t tinted green

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
100	Rainbow Forest Connecting Walls and Fencing	RF066	56684	Poor	Incl. retaining walls in front of Rainbow Forest Museum & in residential area. Walls built before 1942 constructed of native sandstone. Wrought iron fence near Rainbow Forest Museum installed just after building•s completion. 1960s fence is a non-contributing element of this historic district.	The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
101						
102						Areas of work noted during 2008 survey:
103						1. Stone walls severely deteriorated in housing area and moderately deteriorated at museum. Repair and/or replace damaged stones as required
104						2. Correct all drainage problems causing the stone walls to deteriorate
105	Rainbow Forest Cabins	RF151	56685	Fair	1 story building w/ studio apartments. Built of uncoursed field stone. Gable roof. Small, off center wood porch S 1/3 of bldg. 2 doorways to apts. Wood lintels, wood pole vigas. 4/4 dh wood sash.	On March 27, 1989 this building was determined ineligible for inclusion in the Rainbow Forest Historic District by Shereen Lerner, Arizona State Historic Preservation Officer. The determination of eligibility concluded that the building was ineligible due to age or integrity considerations.
106						
107						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
108						
109						Areas of work noted during 2008 survey:
110						1. Remove non-historic gabled roof and install new low slope roofing system to restore historic appearance of the building
111						2. General repair and re-pointing needed for masonry
112						3. Remove foam from exterior masonry cracks and repair correctly
113						4. Windows and door need general repairs
114						5. Correct drainage at front elevation • water flows toward building
115	Rainbow Forest Mather Plaque	RF065	56689	Good	Cast bronze plaque, 29 1/4" x 35" and weighing 100 pounds, set on large boulder. Located at overlook along Rainbow Forest Trail (Stephen T. Mather Memorial Trail) approx 200 yards behind museum.	The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
116						
117						Areas of work noted during 2008 survey:
118						1. Repair re-pointing on top of plaque • there is a cavity between the plaque and the rock
119	Rainbow Forest Employee Residence #53	RF053	56690	Fair	One-story, 5-room house of rock-faced native stone, orig. similar to other 1930s residences. Metal sash. Gable roof & porch added 1955. Stuccoed concrete block addition w/ two bedrooms. Yard enclosed.	This building was listed as non-contributing in the Rainbow Forest Historic District DOE. On March 27, 1989, Shereen Lerner, Arizona State Historic Preservation Officer, determined Rainbow Forest Historic District was ineligible for inclusion in the National Register. The DOE concluded that the district was ineligible due to age or integrity considerations.
120						
121						The building is included as a contributing element to the Rainbow Forest Historic Designed Landscape DOE, listed 4/2/2001.
122						
123						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
124						
125						Areas of work noted during 2008 survey:
126						1. Replace non-historic metal slider windows on original section with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn•t tinted green
127						2. Minor masonry work is needed on the exterior masonry walls
128						3. Remove gable roof on original section and replace with historically compatible low slope roofing system

	A	B	C	D	E	F
1	**Preferred Structure Name**	**Structure Number**	**LCS ID**	**Latest Condition**	**Short Physical Description**	**Long Management Text**
129						4. Correct drainage on front patio
130						
131						Built by the CCC as part of the Headquarters Area development. Designed by NPS Branch of Plans and Design, Robert W. Albers, December 1936. (2008)
132	Rainbow Forest Plaza and Features	RF010	216008	Fair	The parking plaza is linear or axial in design and serves as a parking area and road framed by surrounding buildings. The western end of the plaza is terminated by a traffic island and flagpole. Features include stone curbing, two traffic islands, sidewalks and stone retaining walls.	The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
133						
134						Areas of work noted during 2008 survey:
135						1. Stone curbing is deteriorated and completely missing on south side. Repair and/or replace curbing as required
136						2. Asphalt paving buckled and deteriorated in isolated areas. Apply for project to resurface parking lot
137	Rainbow Forest Employee Residence #50	RF050	217273	Fair	One story, two bedroom, native stone residence with a low hip roof and deep overhang. The building has a basement.	This building was listed as non-contributing in the Rainbow Forest Historic District DOE. On March 27, 1989, Shereen Lerner, Arizona State Historic Preservation Officer, determined Rainbow Forest Historic District was ineligible for inclusion in the National Register. The DOE concluded that the district was ineligible due to age or integrity considerations.
138						
139						The Rainbow Forest Historic Designed Landscape nomination does not identify the level of significance, but based on an evaluation of the information provided, it was determined that this district possesses local significance.
140						
141						Areas of work noted during 2008 survey:
142						1. Re-point and repair exterior masonry
143						2. Replace non-historic metal slider windows with units that are historically more in keeping with the original character of the building. The Pella residential replacement windows selected for Rainbow Forest will probably not hold up. Suggest another more appropriate type of window be installed for the buildings which are slated for replacement windows. Select glazing which is not reflective and which isn •t tinted green
144						3. Repair and paint board and batten addition on rear
145						4. The newly installed roof does not control runoff. Develop design and install system to collect and control runoff from the roof

APPENDIX I

ACCESSIBIILTY GUIDELINES

i. DRAFT FINAL ACCESSIBILITY GUIDELINES FOR OUTDOOR DEVELOPED AREAS (TRAILS GUIDANCE ONLY)

ii. LANDSCAPE LINES #13 - ACCESSIBILITY

EXCERPT FROM

DRAFT FINAL ACCESSIBILITY GUIDELINES FOR OUTDOOR DEVELOPED AREAS

October 19, 2009

NOTE: PLACES PROTECTED UNDER THE NATION HISTORIC PRESERVATION ACT SUCH AS RAINBOW FOREST WOULD NOT BE REQUIRED TO BE IN COMPLIACE WITH THESE GUIDELINES. HOWEVER, IN AN EFFORT TO ENHANCE ACCESSIBILITY TO RESOURCES, THESE GUIDELINES ARE A VALUABLE RESOURCE FOR GUIDING IMPROVEMENTS TO THE GIANT LOGS TRAIL AREA

THESE GUIDELEINS CAN BE FOUND IN THEIR ENTIRTY AT:

http://www.access-board.gov/outdoor/draft-final.htm#1017

1017 Trails

1017.1 General. Trails shall comply with 1017.

EXCEPTIONS: 1. Where an entity determines that a condition in 1019 (NOTE: THIS EXCEPTION INCLUDES PLACES PROTECTED UNDER THE NATION HISTORIC PRESERVATION ACT SUCH AS RAINBOW FOREST) does not permit full compliance with a specific requirement in 1017 on a portion of a trail, that portion of the trail shall comply with the specific requirement to the maximum extent feasible. The entity shall document the basis for the determination, and shall maintain the documentation with the records for the construction or alteration project.

2. Where an entity determines that it is impracticable for an entire trail to comply with 1017, the trail shall not be required to comply with 1017. The entity shall document the basis for the determination, and shall maintain the documentation with the records for the construction or alteration project.

Advisory 1017.1 General Exception 1. Exception 1 can be applied to specific requirements in 1017 on a portion of a trail where full compliance with the requirement cannot be achieved due to any of the conditions in 1019.

Advisory 1017.1 General Exception 2. An entity should first apply Exception 1 to determine the portions of a trail where full compliance with the specific requirements in 1017 cannot be achieved. An entity should then evaluate the entire trail, taking into account the portions of the trial that can and cannot fully comply with the requirements in 1017 and the extent of compliance where full compliance cannot be achieved to determine whether it would be impracticable for the entire trail to comply with 1017. The determination is made on a case-by-case basis.

1017.2 Surface. The surface of trails and their related passing spaces and resting intervals shall be firm and stable.

Advisory 1017.2 Surface. A stable surface remains unchanged by applied force so that when the force is removed, the surface returns to its original condition. A firm surface resists deformation by indentations.

1017.3 Clear Tread Width. The clear tread width of trails shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear tread width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

1017.4 Passing Spaces. Trails with a clear tread width less than 60 inches (1525 mm) shall provide passing spaces complying with 1017.4 at intervals of 1000 feet (300 m) maximum. Where the full length of the trail does not comply with 1017, the last passing space shall be located at the end of the trail segment complying with 1017. Passing spaces and resting intervals shall be permitted to overlap.

Advisory 1017.4 Passing Spaces. Entities should consider providing either a 60 inches (1525 mm) minimum clear tread width, or passing

spaces at shorter intervals if the clear tread width is less than 60 inches (1525 mm), where a trail is:

- Heavily used;
- A boardwalk; or
- Not at the same level as the ground surface adjoining the trail.

Where the full length of the trail does not comply with 1017, placing the last passing space at the end of the trail segment complying with 1017 enables a person using a wheelchair to turn around and exit the trail.

1017.4.1 Size. The passing space shall be either:

1. A space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or
2. The intersection of two trails providing a T-shaped space complying with 304.3.2 where the base and the arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection. Vertical alignment at the intersection of the trails that form the T-shaped space shall be nominally planar.

1017.5 Obstacles. Tread obstacles on trails and their related passing spaces and resting intervals shall comply with 1017.5.

1017.5.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, tread obstacles shall not exceed ½ inch (13 mm) in height measured vertically to the highest point.

1017.5.2 Other Surfaces. Where the surface is other than specified in 1017.4.1, tread obstacles shall not exceed 2 inches (50 mm) in height measured vertically to the highest point.

Advisory 1017.5 Tread Obstacles. The vertical alignment of joints in concrete, asphalt, or board surfaces can be tread obstacles. Natural features, such as tree roots and rocks, within the trail tread can also be tread obstacles. Where possible, tread obstacles should be separated by a distance of 48 inches (1220 mm) minimum so persons who use wheelchairs can maneuver around the obstacles.

1017.6 Openings. Openings in the surface of trails and their related passing spaces and resting intervals shall comply with 302.3.

EXCEPTION: Openings shall be permitted to be to be a size that does not permit passage of a ¾ inch (19 mm) sphere where openings that do not permit the passage of a ½ inch (6.4 mm) sphere cannot be provided due to the conditions in 1019.

1017.7 Slopes. The slopes of trails shall comply with 1017.7.

1017.7.1 Running Slope. No more than 30 percent of the total length of a trail shall have a running slope steeper than 1:12. The running slope of any segment of a trail shall not be steeper than 1:8. Where the running slope of a segment of a trail is steeper than 1:20, the maximum length of the segment shall be in accordance with Table 1017.7.1, and a resting interval complying with 1017.8 shall be provided at each end of the segment.

Table 1017.7.1 Running Slope and Resting Intervals

Running Slope of Trail Segment		Maximum Length of Segment
Steeper than	But not Steeper than	
1:20	1:12	200 feet (61 m)
1:12	1:10	30 feet (9 m)
1:10	1:8	10 feet (3050 mm)

Advisory 1017.7.1 Running Slope. Running slope can also be expressed as a percentage (grade).

1017.7.2 Cross Slope. The cross

slope shall comply with 1017.6.2.

1017.7.2.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, the cross slope shall not be steeper than 1:48.

1017.7.2.2 Other Surfaces. Where the surface is other than specified in 1017.7.2.1, the cross slope on other surfaces shall not be steeper than 1:20.

1017.8 Resting Intervals. Resting intervals shall comply with 1017.8.

1017.8.1 Length. The resting interval length shall be 60 inches (1525 mm) long minimum.

1017.8.2 Width. Where resting intervals are provided within the trail tread, resting intervals shall be at least as wide as the widest segment of the trail tread leading to the resting interval. Where resting intervals are provided adjacent to the trail tread, the resting interval clear width shall be 36 inches (915 mm) minimum.

1017.8.3 Slope. Resting intervals shall have a slope complying with 1017.8.3.

1017.8.3.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, the slope shall not be steeper than 1:48 in any direction.

1017.8.3.2 Other Surfaces. Where the surface is other than specified in 1017.8.3.1, the slope on other surfaces shall not be steeper than 1:20 in any direction.

1017.8.4 Turning Space. Where resting intervals are provided adjacent to the trail tread, a turning space complying with 304.3.2 shall be provided. Vertical alignment between the trail tread, turning space, and resting interval shall be nominally planar.

1017.9 Protruding Objects. Constructed elements on trails and their related resting intervals and passing spaces shall comply with 307.

Advisory 1017.9 Protruding Objects. Protruding objects on trails and their related resting intervals and passing spaces can be hazardous for persons who are blind or have low vision. Signs and other post mounted objects are examples of constructed elements that can be protruding objects.

1017.10 Gates and Barriers. Where gates or barriers are constructed to control access to trails, gates and barriers shall comply with 1017.10.

1017.10.1 Clear Width. Gate openings and openings in barriers for hiker passage shall provide a clear width complying with 404.2.3.

1017.10.2 Gate Hardware. Gate hardware shall comply with 404.2.7.

1017.11 Trail Signs. Trail signs shall include the following information:

1. Length of the trail or trail segment;
2. Surface type;
3. Typical and minimum tread width;
4. Typical and maximum running slope; and
5. Typical and maximum cross slope.

Accessibility

Introduction

Since the Civil Rights Act of 1964, disability rights legislation and increasing public awareness about the rights of people with disabilities have produced various pieces of legislation, the most extensive of which is the Americans with Disabilities Act, Public Law 101-336. Passed in January 1990, the law identifies equal access as a civil right and prohibits discrimination on the basis of disability in both privately and publicly owned accommodations. Public accommodations include services, programs, activities, goods, and commercial establishments, such as restaurants, hotels, theaters, hospitals, museums, and parks.

The executive branch of the federal government is not bound to the provisions of the Americans with Disabilities Act. Executive agencies and recipients of federal funding are required to comply with the accessibility provisions contained in two pieces of earlier legislation:

- Architectural Barriers Act (1968)
- Section 504 of the Rehabilitation Act (1973)

Accessibility Requirements

Both the Architectural Barriers Act and Section 504 of the Rehabilitation Act contain standards and guidelines that identify the conditions necessitating accessibility requirements and give technical specifications for new construction, alterations, and additions. For both Acts, the minimum standards of accessibility for federal buildings and facilities is defined by the *Uniform Federal Accessibility Standards* (UFAS), published in 1984 by the Architectural and Transportation Barriers Compliance Board.

For nonfederal public accommodations, minimum accessibility requirements are outlined in the *Americans with Disabilities Act Accessibility Guidelines (ADAAG)*. The ADAAG was published in 1991 by the Architectural and Transportation Barriers Compliance Board.

The UFAS and ADAAG have common technical requirements. The general technical requirements for ADAAG (titled "Accessible Elements and Spaces") are the same as the UFAS technical requirements. Both require that the design of new construction be accessible; however, they differ slightly in their scoping requirements for existing facilities. ADAAG has many new technical requirements for various types of public accommodations, including restaurants and cafeterias, medical care facilities, business and mercantile, libraries, transient lodging, and transportation facilities. Both UFAS and ADAAG have special rules for historic preservation, which are discussed in this text.

The technical requirements common to both UFAS and ADAAG are actually derived from accessibility standards first developed in 1961 by the American National Standards Institute (ANSI). The ANSI standards have been modified very little over the past 30 years despite medical and technology advancements and increased awareness about the needs and life expectations of people with disabilities.

The federal government intends to revise the UFAS to be at least equivalent to the ADAAG in its technical and scoping requirements. In a June 30, 1993 memorandum, the Department of Justice requested that until the UFAS are revised, the executive agencies use the higher standards of the ADAAG whenever the guidelines result in more universal access. Currently, both the UFAS and the ADAAG are being reviewed by the Architectural and Transportation Barriers Compliance Board for possible revisions to their respective technical requirements. This review is being conducted in conjunction with the Civil Rights Division of the Department of Justice and the four standard-setting agencies under the Architectural Barriers Act: General Services Administration, the United States Postal Service, the Department of Housing and Urban Development, and the Department of Defense.

Universal Design

Universal design is based on the premise that a facility or product should be usable by anyone. Despite advancements toward universal accessibility, the disability community and universal design advocates have criticized the use of accessibility guidelines. Critics maintain that the use of minimum construction specifications does not promote a greater understanding about the needs of people with disabilities, or contribute to removing attitudinal barriers.

Critics believe that for designed environments, attitudinal barriers are more persistent than architectural ones, and the way to remove the attitudinal barriers is to increase awareness about the many distinctive needs of users. Critics assert that in practice, minimum design standards

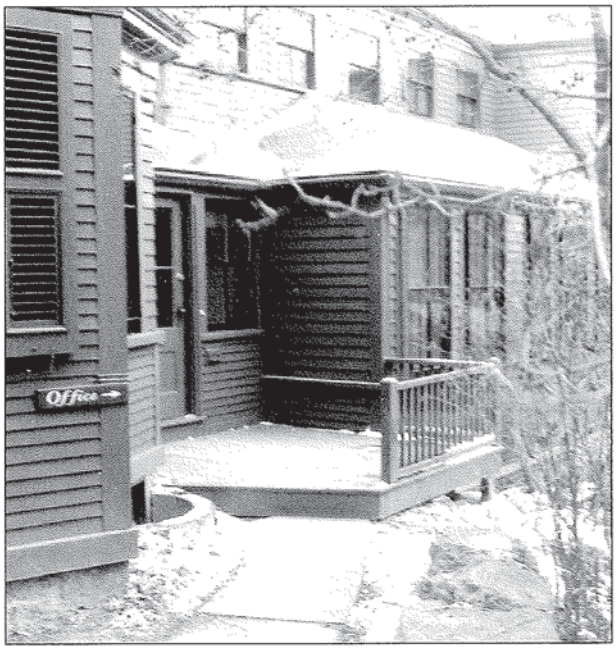


Figure 1. View of the original office walkway and location of a proposed accessibility project to create universal access. Frederick Law Olmsted National Historic Site. (NPS, 1995)

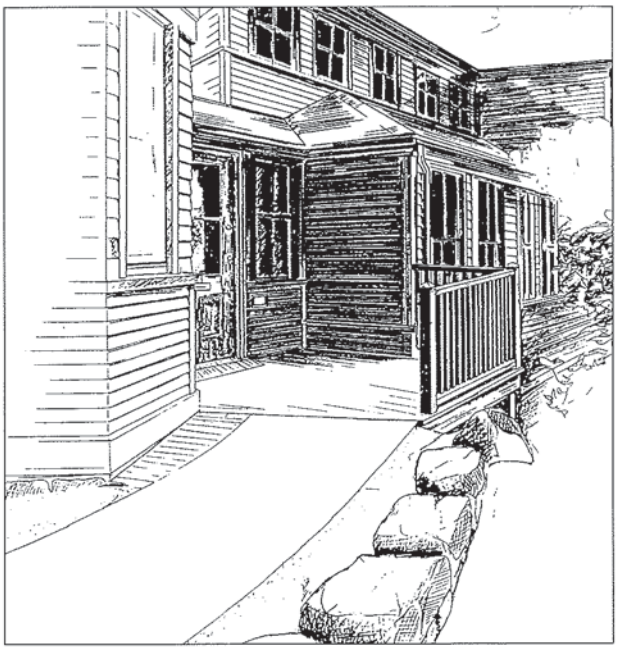


Figure 2. A sketch of the proposed universal access design, which raises the elevation of the historic entrance porch to meet the threshold, and includes a new walkway with an accessible gradient. Frederick Law Olmsted National Historic Site. (NPS, 1995)

become maximum standards, and compliance with minimum standards is viewed as the goal rather than the means to achieving universal or equal access.

Universal design advocates believe strict adherence to accessibility guidelines may result in a design solution that does not create equal access. They distinguish accessibility from universal and equal access, noting that separate provisions for one group of users may ignore the needs of another group with different disabilities. They emphasize education about the concept of "fitness for use by anyone" as the basis for the environmental design process. (See Figures 1, 2, and 3.)

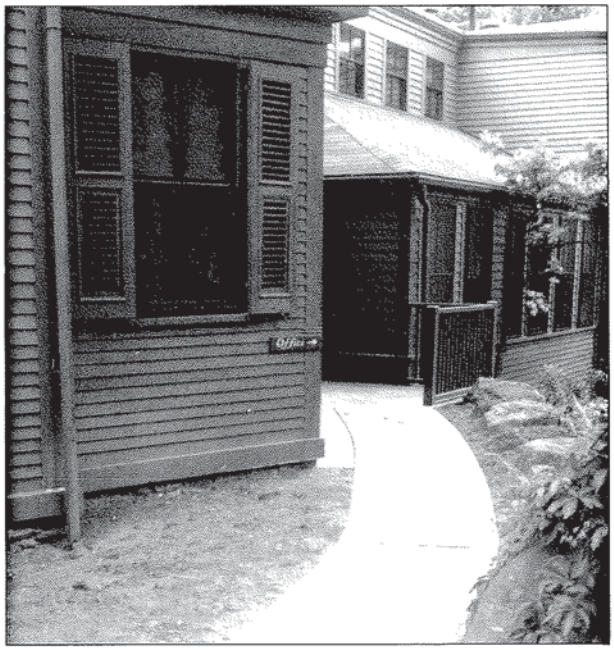


Figure 3. Office walkway following implementation of the accessibility project. The historic stone edge condition of the original walkway was salvaged and relaid to match the gradient of the new walkway. Frederick Law Olmsted National Historic Site. (NPS, 1997)

The Equal Facilitation Clause

A fundamental difference between the UFAS and ADAAG in guiding the creation of universally accessible environments is that the ADAAG has an extra clause within the general provisions, titled "Equivalent Facilitation" (ADAAG 2.2). The clause states:

> *Departures from the particular technical and scoping requirements of this guideline by the use of other designs and technologies are permitted where the alternative designs and technologies used will provide substantially equivalent or greater access to and usability of the facility.*

The ADAAG allows designers to depart from the specifications. For designers to take advantage of this creative opportunity, they should understand the needs of people with disabilities and the reasons underlying the existing guidelines. For example, the reason for requiring handrails along both sides of a ramp or set of steps is that people with different capabilities on either side of their bodies (such as people who have suffered strokes) can use the handrail matching their physical abilities.

Universal design advocates are critical of the prevalence of eight percent gradient ramps with handrails (permitted by UFAS and ADAAG guidelines), because an eight percent gradient is too steep for many people with limited mobility and handrails are unusable by many people with disabilities. They encourage the use of the ADAAG's Equivalent Facilitation clause because it has more potential to change attitudes and improve the usability of designed environments.

Accessibility in Cultural Landscapes

Historically, the needs of people with disabilities have not been considered in the design and construction of places. As a result, many historic properties have features that are obstacles to equal access. Unfortunately, equal access and historic preservation have often been portrayed as antithetical, technically infeasible, and even impossible. But designing equal access to historic properties, including cultural landscapes, does not have to preclude the preservation of significant resources.

Historic preservation exists to allow experiential access to historic properties that are considered culturally valuable or significant. In this context, the goal of equal access is to create equal access to the experience as well as improve physical accessibility. (See Figure 4.) To create equal access to the opportunity to experience the significance of a cultural landscape, the goal of accessibility needs to be united with the goal of preservation. The loss of integrity resulting from the implementation of an accessibility project represents a compromise to the goals of both equal access and preservation.

Equal access to the experience of a cultural landscape is achieved when the significance is conveyed through the physical integrity of landscape characteristics and associated features and when the experience is equally available to all visitors or users. As defined by the National Register of Historic Places, integrity relates to the presence of physical features that have existed since a period of significance and that contribute to and convey the significance of a

historic property. Therefore, the design of accessibility projects in a cultural landscape should retain the extant landscape characteristics and associated features that contribute to and convey the significance of the landscape. New features that are added to provide equal access should be designed in a manner that is compatible with the character of the landscape. The goal is to provide the highest level of access with the lowest level of impact on the integrity of the landscape. (See *A Guide to Cultural Landscape Reports: Appendices*, "Appendix I: Treatment Policy, Guidelines, and Standards.")

Accessibility in a cultural landscape is part of the preservation planning process. Currently, under UFAS scoping requirements, only existing facilities undergoing substantial alteration (all alterations in one year amounting to 50 percent or more of the property value) trigger requirements for accessibility. Under ADAAG scoping requirements, any alterations to an existing element, feature, space, or area, triggers new construction standards for accessibility. Until the UFAS has been revised to the greater scoping requirement of ADAAG, the Department of Justice and the Architectural and Transportation Barriers Compliance Board encourage the executive agencies to use the greater scoping requirement of ADAAG for alterations.

Accessibility Planning

The planning and design of accessibility projects is a multidisciplinary activity involving the expertise of preservation professionals, accessibility specialists, and individuals with disabilities and their organizations. Accessibility coordinators, usually

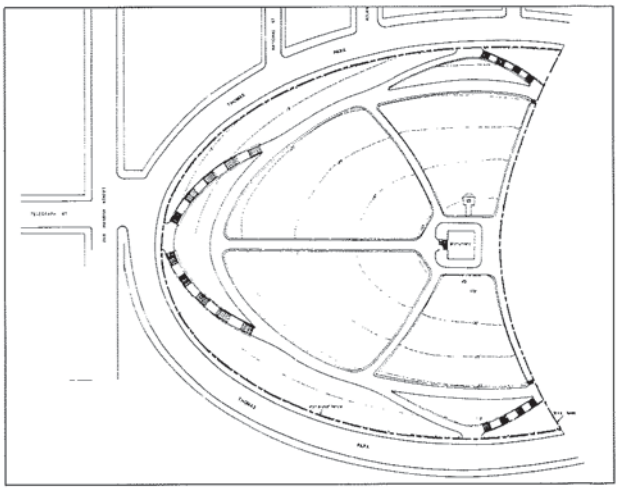


Figure 4. Before (top) and after (bottom) existing conditions plans of Dorchester Heights, the site of an accessibility project in 1995. The accessibility project occurred as part of a rehabilitation treatment plan. It involved "stretching" the pattern of the historic circulation plan (the central walk and the north and south ramps were elongated), to achieve a more shallow, accessible route up to the Dorchester Heights Monument. Boston Historical Park. (NPS, 1994)

located in the National Park Service (NPS) support offices, should be invited to participate in the planning process.

Accessibility planning and design requires a clear understanding of a cultural landscape's significance and how it is conveyed through its extant landscape characteristics and associated features.

Equal access must be defined for each particular cultural landscape based on a variety of factors, including significance, landscape characteristics and associated features, integrity, treatment, and contemporary use of the landscape. These factors influence how a landscape's significance is presented to visitors, and, therefore, affect the extent and location of modifications required to provide access and the physical appearance of access designs.

If a cultural landscape is eligible for listing or is listed in the National Register of Historic Places, and the access project is a federal undertaking, the planning and design stages of an accessibility project involve the review process cited in Section 106 of the National Historic Preservation Act. The NPS initiates consultation with the State Historic Preservation Office to develop a Memorandum of Agreement on the planning and design of access modifications. As a result, the Memorandum of Agreement outlines actions that are agreed upon and it is submitted to the Advisory Council for Historic Preservation for comment. The same review procedure is followed when the less comprehensive scoping requirements of UFAS and ADAAG are used to plan and design access modifications.

Both UFAS and ADAAG have special rules for historic preservation that reduce scoping requirements for particularly challenging circumstances. The rules apply to situations in which creating equal access would destroy the integrity of a historic property because its significance is wholly conveyed by the exact location, original materials, original workmanship, or original design of a feature or features. The special rules add flexibility to the process of creating access changes that retain the integrity of a historic property and therefore allow the significance to be conveyed and experienced. If using the general scoping requirements for accessibility would destroy the integrity of a cultural landscape, the special rules of UFAS and ADAAG are permitted. The circumstances in which to apply the special rules for historic preservation of UFAS (4.1.7 (2)), and ADAAG (4.1.7 (3)) are relatively rare and only apply to a small number of historic properties.

Listed below are the special rules for historic preservation, which are written to apply most directly to historic buildings.

- Allow only one accessible route from one site access point (such as a parking lot) to an accessible entrance.
- The accessible entrance may be different to the one used by the general public (though it cannot be locked and ADAAG requires directional signage to the accessible entrance).
- A ramp steeper than is ordinarily permitted may be used in space limitations (a gradient of 16.6 percent (1:6) for a maximum run of two feet).
- Only one accessible restroom is required and it may be unisex.
- Accessible routes are only required at the elevation of the entrance.
- Interpretive materials should be located where they can be seen by seated persons.

ADAAG also has an exception rule for historic preservation (ADAAG 4.1.7 (1)), which states that if the integrity of a historic property could be destroyed by following the special rules, scoping requirements are reduced even further. The exception permits use of alternative methods to make services and programs available (that is, to create the opportunity to experience the significance of a property). Alternative methods include the use of interpretation (such as audio visual materials), using facilitators to assist individuals with disabilities, and adopting other innovative methods such as those invited by the Equivalent Facilitation clause of ADAAG. UFAS has no exception rule for historic preservation.

Sources of Further Information

The Uniform Federal Accessibility Standards and information can be obtained from:

Architectural and Transportation Barriers Compliance Board
1111 18th Street, NW, Suite 501
Washington, DC 20036
1-800-USA-ABLE

The Americans with Disabilities Act Accessibility Guidelines and information can be obtained from:

Office of the Americans with Disabilities Act—Civil Rights Division
U.S. Department of Justice
P.O. Box 66118
Washington, DC 20035-6118
202-514-0301

For NPS accessibility enquiries contact:

Accessibility Program Coordinator
Parks Facility Management Division
National Park Service
P.O. Box 37127, Suite 580
Washington, DC 20013-7127
202-343-3674

Technical and Scoping Accessibility Requirements for Elements and Spaces

Following is a partial list of ADAAG and UFAS "Technical Requirements for Accessible Elements and Spaces," which are most pertinent to access projects in cultural landscapes. For the full list of technical and scoping requirements, refer to the UFAS or ADAAG.

Accessible Route Minimum Specifications

- Width = 36 inches
- Passing zone = 60 inches wide occurring at 200-foot intervals
- Wheelchair 180-degree turning zone = 60 inches x 60 inches
- Gradient = 5 percent (1: 20)
- A gradient greater than 5 percent shall be called a ramp
- Cross pitches (cross slopes) = 2 percent (1: 50) or less
- Abrupt level changes are no greater than 0.5 inch in height

- 0.25-inch level change is permitted without a beveled edge
- 0.5-inch level change must have a beveled edge
- Surfaces must be of stable, firm, slip resistant material

Accessible Parking

- Space = 96 inches wide
- Access aisle is considered to be part of an accessible route
- Spaces and aisles have a 2 percent (1: 50) maximum gradient in any direction
- Passenger loading zone (access aisle) = 60 inches wide x 20 feet long, adjacent and parallel to the vehicle pull-up space

Curb Ramps

- Must be located wherever an accessible route crosses a curb
- 5 percent (1: 20) gradient or less, unless space is limited, then a gradient between 8 percent (1: 12) and 10 percent (1: 10) is permitted for a rise of 6 inches
- Must have flared sides if they are located where pedestrians must walk across the ramp or are not protected by handrails or guardrails
- Maximum gradient of curb ramp flared sides = 10 percent
- Must have returned curbs where pedestrians do not walk across the ramp
- Built-up curb ramps must be located where they do not project out into vehicular traffic lanes
- Must have a detectable warning of raised, truncated domes or contrasting color that extends the full width and depth of the curb ramp
- Must be located where they will not be obstructed by parked vehicles
- Diagonal curb ramps (corner ramps) must have at least a 48-inch width clear space at the bottom of the ramp
- Where a sidewalk landing beyond a curb ramp is less than 48 inches deep, the curb ramp gradient must not exceed 8 percent (1: 12)

Ramps

- Must be at least 36 inches wide
- Gradient greater than 5 percent (1: 20) and a maximum of 8 percent (1: 12)
- Maximum rise on any run = 30 inches in height
- In space limitations, a ramp gradient no greater than 16.6 percent (1: 6) may be used for a horizontal run of 2 feet
- In space limitations, a ramp gradient between 8 percent (1: 12) and 10 percent (1: 10) may be used for a maximum vertical rise of 6 inches
- An 8 percent (1: 12) gradient and a rise greater than 6 inches, or a horizontal run greater than 72 inches, must have handrails on both sides of the ramp

- Surface must be stable, firm, and nonslip
- Ramps and landings with dropoffs on either side must have curbs at least 2 inches high
- Must be well draining to prevent the accumulation of rainwater
- Cross pitch (cross slope) must be no greater than 2 percent (1: 50) gradient

Landings

- Must be located at every 30-inch vertical rise in a ramp
- Dimensions of landing = 36 inches wide x 60 inches deep at the top and bottom of a ramp run
- Dimensions of landing = 60 inches wide x 60 inches deep at a ramp dogleg
- Drop-offs must have curbs with a minimum height of 2 inches
- Height of door thresholds = 0.5-inch high or less, with a beveled 50 percent (1: 2) edge
- Width of clear landing on latch side of door = 24 inches wide

Handrails

- Not required on curb ramps
- Required on either side of 8 percent (1: 12) gradient ramps with a 6-inch rise or greater, or a 72-inch horizontal run, and on either side of stairs
- Must be continuous on the inner side of a dogleg ramp or dogleg stairs
- Must continue at least 12 inches beyond the top and bottom of a ramp and be parallel to the ground plane
- Must continue at least 12 inches beyond the top riser of stairs parallel to the ground plane, and continue to slope for a distance of one tread width from the bottom stair riser and become parallel to the ground plane for an additional distance of 12 inches
- Distance from mounting wall = 1.5 inches wide
- Gripping surface must be uninterrupted
- Diameter or width of gripping surface of handrail or grab bar must be 1.25 - 1.5 inches, or the shape must provide an equivalent gripping surface UFAS 4.26.2.
- Top of gripping surface = 34 - 38 inches in height above the ramp or stair tread surface
- Terminal ends of handrails must be rounded off or returned smoothly to the ground, wall or post

Stairs

- Must have uniform tread widths and riser heights
- Width of treads must be no less than 11 inches high
- Open risers are not permitted
- Nosings must project no more than 1.5 inches
- Nosing undersides must be angled at no greater than 60 degrees from the horizontal
- Handrails must be located on either side of stairs
- Inside handrail at stair dogleg must be continuous
- Handrails must extend 12 inches beyond the top riser, and at least one tread width and an additional 12 inches beyond the bottom riser

- Handrails at the top of stairs must be parallel to the ground plane, and at the bottom of stairs, handrails must continue to slope for a distance of one tread from the bottom riser and for an additional 12 inches be parallel to the ground plane
- Handrail gripping surface must be uninterrupted and be located 34 - 38 inches above the stair treads
- Terminal ends of handrails must be rounded or returned smoothly to the ground, wall, or post
- Stairs must be well draining to prevent the accumulation of rainwater

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