NPS Form 10-900
(Oct. 1990)

United States Department of the Interior
National Park Service

2280
OMB No. 1024-0018
SEP 17 2008
HISTORIC PLACES
PARK SERVICE

1020

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being nominated, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

## 1. Name of Property

**Chiricahua National Monument Historic Designed Landscape**

historic name_

other name/site number **Wonderland of Rocks; Rhyolite Park; The Pinnacles; Say Yahdesut "Point of Rocks"**

## 2. Location

street & number: **Chiricahua National Monument (CHIR) 12856 E. Rhyolite Canyon Road** _____not for publication
city/town: **Willcox** **X** vicinity
state: **Arizona** code: **AZ** county: **Cochise** code: **003** zip code: **85643**

## 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places an meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets ☐ does not meet the National Register criteria. I recommend that this property be considered significance X nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments).

Signature of certifying official — Date 9/9/08

State or Federal agency and bureau

In my opinion, the property X meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments).

James W. Garrison AZSHPO — Date 17 OCTOBER 2007
Signature of commenting or other official

ARIZONA STATE PARKS.
State or Federal agency and bureau

## 4. National Park Service Certification

I hereby certify that this property is:

Signature of the Keeper — Date of Action 10/31/08

☒ entered in the National Register
☐ See continuation sheet.

☐ determined eligible for the National Register
☐ See continuation sheet.

☐ determined not eligible for the National Register.

☐ removed from the National Register.

☐ other (explain):_____

## 5. Classification

**Ownership of Property**
(Check as many boxes as apply)

- ☐ private
- ☐ public-local
- ☐ public-State
- X public-Federal

**Category of Property**
(Check only one box)

- ☐ building (s)
- X district
- ☐ site
- ☐ structure
- ☐ object

**Number of Resources within Property**
(Do not include previously listed resources in the count.)

| Contributing | Noncontributing | |
|---|---|---|
| 16 | 14 | buildings |
| 7 | 2 | sites |
| 24 | 10 | structures |
| 1 | | objects |
| 48 | 26 | Total |

**Name of related multiple property listing**
(Enter "N/A" if property is not part of a multiple property listing).

*Historic Park Landscapes in the National and State Parks* (1995) Linda Flint McClelland

**Number of contributing resources previously listed in the National Register**

N/A

## 6. Function or Use

**Historic Functions**
(Enter categories from instructions)
RECREATION & CULTURE/Outdoor Recreation
RECREATION & CULTURE/Museum
LANDSCAPE/Park
TRANSPORTATION/Road-related
TRANSPORTATION/Pedestrian-related
GOVERNMENT/Public Works
DOMESTIC/Institutional Housing

**Current Functions**
(Enter categories from instructions)
RECREATION & CULTURE/Outdoor Recreation
RECREATION & CULTURE/Museum
LANDSCAPE/Park
TRANSPORTATION/Road-related
TRANSPORTATION/Pedestrian-related
GOVERNMENT/Public Works
DOMESTIC/Institutional Housing

## 7. Description

**Architectural Classification**

LATE 19th & EARLY 20th CENTURY AMERICAN MOVEMENTS/National Park Service Rustic Style

**Materials**
(Enter categories from instructions)
foundation Concrete
walls Stone/rhyolite block and rubble
roof Wood shingle/Asphalt tile
other Various – see individual descriptions

**Narrative Description**
(Describe the historic and current condition of the property on one or more continuation sheets.)

## 8. Statement of Significance

**Applicable National Register Criteria**
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

X **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

X **B** Property is associated with the lives of persons significant in our past.

X **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

**Criteria Considerations**
(Mark "x" in all the boxes that apply.)

Property is:
☐ **A** owned by a religious institution or used for religious purposes.
☐ **B** removed from its original location.
☐ **C** a birthplace or a grave.
☐ **D** a cemetery.
☐ **E** a reconstructed building, object, or structure.
☐ **F** a commemorative property.
☐ **G** less than 50 years of age or achieved significance within the past 50 years.

**Narrative Statement of Significance**
(Explain the significance of the property on one or more continuation sheets.)

**Areas of Significance**
(Enter categories from instructions)
POLITICS/GOVERNMENT
SOCIAL HISTORY
ENTERTAINMENT/RECREATION
CONSERVATION
LANDSCAPE ARCHITECTURE
ARCHITECTURE

**Period of Significance**
1924-1940

**Significant Dates**
1923-1932
1932-1934
1934-1940

**Significant Person**
(Complete if Criterion B is marked above)
Edward Murray Riggs

**Cultural Affiliation**
N/A

**Architect/Builder**
Various – see Section 8 narrative

## 9. Major Bibliographical References

**Bibliography**
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

**Previous documentation on file (NPS):**
☐ preliminary determination of individual listing (36 CFR 67) has been requested.
☐ previously listed in the National Register
☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings Survey # _____
☐ recorded by Historic American Engineering Record # _____

☐ Other state agency
X Federal agency
X Local government
X University
X Other

Name of Repository:
National Archives, Chiricahua National Monument Archives, Western Archeological & Conservation Center, Arizona Historical Society, National Park Service Western Regional Office

**Primary Location of Additional Data:**
☐ State historic preservation office

## 10. Geographical Data

**Acreage of Property** approx. 10,000 acres

**UTM References**
(Place additional UTM references on a continuation sheet)

| | Zone | Easting | Northing | | Zone | Easting | Northing |
|---|---|---|---|---|---|---|---|
| 1 | | | | 3 | | | |
| 2 | | | | 4 | | | |

√ See continuation sheet

**Verbal Boundary Description**
(Describe the boundaries of the property on a continuation sheet.)

**Boundary Justification**
(Explain why the boundaries were selected on a continuation sheet.)

## 11. Form Prepared By

name/title Robin Lothrop Pinto with assistance from R. Brooks Jeffery and Mike Lovato

organization University of Arizona, Preservation Program date May 21 2007

street & number 6335 E. Paseo Otono telephone (520) 529 – 2741
city or town Tucson state: AZ zip code 85750

## Additional Documentation

Submit the following items with the completed form:

**Continuation Sheets**

**Maps**

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **sketch map** for historic districts and properties having large acreage or numerous resources.

**Photographs**

Representative **Black and White photographs** of the property.

**Additional items** (Check with the SHPO or FPO for any additional items)

## Property Owner

(Complete this item at the request of the SHPO or FPO)
name Chiricahua National Monument, National Park Service
street & number 12856 E. Rhyolite Canyon Road telephone (520) 824 – 3560
city or town Willcox state AZ zip code 85643

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National register of Histpric Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instruction, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P. O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

## TABLE OF CONTENTS FOR CONTINUATION SHEETS

***Section 7 – Narrative Description***

Summary 1

Contributing Resources of the Historic designed Landscape 1

Bonita Canyon Highway 6

The Trail System 8

Massai Point 14

Administrative Area 18

Public Campground 24

Civilian Conservation Corps Campsite 26

Sugarloaf Mountain 28

Utility Area 32

Residential Area 37

List of Cultural Resources 41

***Section 8 – Narrative Statement of Significance***

Summary 44

Historic Context of Chiricahua National Monument and its Development 44
- Establishment of Chiricahua National Monument and its Early Development 44
- The Depression and the Arrival of Camp NM2A 46
- Historical Development of Built Structures and Sites 47
  - Bonita Canyon Highway 47
  - The Trail System 51
  - Massai Point 57
  - Administrative Area 59
  - Public Campground 60
  - Civilian Conservation Corps Campsite 61
  - Sugarloaf Mountain 62

Utility Area 64
Residential Area 64
Statements of Significance 65
Criterion A – US Forest and Park Service Recreation Development 65
Criterion A – New Deal Work Relief Programs: Civilian Conservation Corps 66
Criterion A – Early Natural Resource Conservation: Fire Prevention 67
Criterion B – Edward Murray Riggs (1885-1950) 69
Criterion C – Landscape Architecture: National Park Service Naturalistic Landscape Design 70
Criterion C – Architecture: National Park Service Rustic Architectural Design 76

Significant Design Contributions by National Park Service Architects, Landscape Architects, and Engineers 78

Sources and Acknowledgements 81

***Section 9 – Bibliography*** *83*

***Section 10 – Geographic Data*** 92

***Additional Information***

Figures 93

Figure List and Sources 170

Maps 178

Map List and Sources 195

List of National Park Service Plans for CNM during CCC Era 197

## NARRATIVE DESCRIPTION

### Summary

Chiricahua National Monument is located in the northwest portion of the Chiricahua Mountain range in southeastern Arizona (Map 1). The monument was established by President Calvin Coolidge in 1924 to protect and preserve its geological features. Edward M. Riggs, owner of the adjacent Faraway Ranch, constructed numerous trails during its early years so that his visitors might view the features within the Wonderland of Rocks. Major development of the monument began in 1932 during the Great Depression and continued until 1940. In 1932 US Forest Service (USFS), the administrating agency, in conjunction with the Bureau of Public Roads constructed Bonita Canyon Highway. After the transfer of administration to the National Park Service (NPS) in 1933, National Park Service architects, engineers, and landscape architects planned the layout and development of the monument's other structures and buildings using principles of naturalistic landscape design and rustic architecture. A Civilian Conservation Corps camp, NM2A, provided labor to build hiking trails, upgrade the USFS road, and construct administration, residential, utility and visitor service buildings.

For the sake of simplicity and organization of the nomination, the Chiricahua Historic Designed Landscape has been divided into nine separate units containing seven sites and two major structures (see Table of Contents, pg. i, and Map 2). The seven sites include the Administration, Residential, and Utility sites as well as Massai Point, Sugarloaf Peak, the Public Campground, and the CCC Campsite. The two structures, Bonita Canyon Highway and the Trail System, each cover substantial distances within the monument and have numerous additional structures associated with them. Detailed descriptions of each of the nine sites or structures follow the discussion of landscape characteristics.

### Contributing Resources of the Historic Designed Landscape

*Location and Setting*
The Chiricahua National Monument is a component landscape of Chiricahua Mountain Range in southeastern Arizona. That landscape is part of the basin and range system, a series of north-south trending mountain ranges interspersed by grasslands. This basin and range system covers the southern portions of Arizona and New Mexico and the northern regions of Sonora and Chihuahua. The climate is typical of southwestern deserts generally dry during much of the year. Rainfall comes in two intervals during the summer monsoon season from July to September and the during winter storms from November to March. Average annual precipitation is approximately 19.3". The ecosystem within the monument is representative of the confluence of four biotic communities from the Sierra Madre and Rocky Mountains, and the Sonora and Chihuahua deserts. Elevations range between 5100' at the entrance station and 7325' near Cochise Head. Vegetation varies from grasslands with Pinyon Pine and Juniper through upland oak and Ponderosa Pine forests.

Situated on the western slopes of the Chiricahua Range, the monument is dissected by two major drainages that converge at its western edge. These two drainages, Bonita and Rhyolite Creeks, define the major access routes through the monument. The presence of numerous springs within Bonita Canyon is the primary reason for prehistoric and historic use. Other topological features include a broad, high-elevation (6700') plateau cut into smaller and larger components by the aforementioned drainages and the lower-elevation valleys in which most of the built landscapes have evolved.

The geological formations, enormous rhyolite columns in strange, eroded shapes, were created 27 million years ago from a series of eruptions from the Turkey Creek Caldera, an ancient volcano located eight miles south. Ash debris from the eruptions fused together

through heat and pressure to form welded rhyolite tuff. The area was exposed to three episodes of explosion and ash deposition; three distinct layers of tuff up to 1000' in depth are found in the monument. These layers are interspersed by thinner regions of unwelded ash. The ash flows were subsequently covered by lava, only a small remnant of which exists at the top of Sugarloaf Mountain. Water seeped into vertical faults or cracks in the welded tuff and gradually eroded sufficient material to leave behind the rhyolite-spire clusters that are now known as the Wonderland of Rocks (Pallister, DuBray, and Hall 1993).

*Land-use and Activities*
Archaeological and documentary evidence shows that the Chiricahua Apache used this area as part of their home range during Spanish, Mexican, and later American historic periods. The Chiricahua Apache viewed the monument area as a sacred site and would travel to the Wonderland of Rocks to listen the voices of departed family members ("Say Yahdesut is Apache Spelling for Our New Park"). They used Bonita Canyon as an east-west transportation route and utilized the local environment procure essential resources for survival -- water and food products as well as those resources taken from other nearby residents. The Chiricahua Apache were permanently removed from the area in 1886.

In 1854 the region was acquired by the United States from Mexico as part of the Gadsden Purchase in order to provide the country with an east-west railroad route available throughout the year. Early homesteaders and ranchers began to settle nearby in the late 1870s. They were attracted to the area for its abundant grasses in the adjacent Sulphur Springs Valley, the aforementioned springs, and the relative protection of the nearby military encampment of Fort Bowie. Ja Hu Stafford possibly used the area now called the Silver Spur Meadow for growing truck produce.

The Chiricahua Mountain range was set aside as Forest Reserve in 1902 in order to protect its timber and water resources. Neil Erickson, one of the earliest homesteaders, was hired as the first Ranger of the Forest Reserve. In 1917 Neil's daughters, Lillian Erickson (later Riggs) and her sister, Hildegard, began entertaining paying guests at their Faraway Ranch in Bonita Canyon. The ranch continued to entertain visitors for the next 60-plus years. A small portion of the range was transferred to national monument status in 1924 and remained under the administration of the US Forest Service. Forest Service rangers built a few trails into the area for transportation and later constructed a short road terminating a small campground before 1929 for visitor use. Lillian and Ed Riggs continued to build more trails throughout the monument in order to entertain their horseback-riding visitors (Figure 1). In 1933 the administration of Chiricahua, as well as that of all other national monuments, was transferred to the National Park Service. During the Great Depression, local leaders from surrounding communities lobbied the US Forest Service and later the National Park Service to develop the monument in order to provide jobs and attract tourist dollars to the region.

The integrity of land-use and activities is high. Chiricahua Apache descendents now return periodically to the area to reacquaint themselves with their historic landscape. While grazing was phased out of monument lands in the early 1970s, private lands to the west and the surrounding Chiricahua National Forest are still used for cattle grazing today. Today the monument hosts 61,000 visitors each year who come to view the wildlife and geological features, hike its trails, stay at the public campground, and tour the historic Faraway Ranch.

*Patterns of Spatial Organization*
Spatial organization refers to associations between man-made spaces and sites within the monument (Map 2, 3). These associations were generally determined by local landforms, changes in topography, circulation systems, and the need to cluster or separate activities within the monument. The availability of water was another important criterion for original siting of visitor or park personnel structures.

Large-scale planning for relating spaces and activities began after Bonita Canyon Highway was completed in 1934. The Visitor Center and Public Campground areas were sited close to the then eastern boundary of the monument. These two sites still comprise the main

points of interaction between visitors and park personnel. The original Ranger Station (later rebuilt as the Visitor Center) was sited on a small level bench near the confluence of the Rhyolite and Bonita Creeks. Here Bonita Canyon Highway bends strongly to follow Bonita Creek drainage. The highway's curve provides good automobile access, visibility and visitor safety along the outside of the turn. The Public Campground was located further up the road on another level area closer to Bonita Creek. The Utility and Residential Areas were clustered together away from the main roadway for purposes of privacy and security. These sites were situated along a long, shallow bench above the Visitor Center area. The more recent additions to the original layout, such as the modern residences and new Visitor Center, have all been incorporated into the same sites.

*Cultural Traditions*
The historic designed landscape within Chiricahua National Monument contains evidence of National Park Service cultural traditions in its layout, construction methods and use of indigenous materials. Development of the monument occurred during the height of the naturalistic landscape design and rustic architectural styles. National Park Service landscape architects, architects, and engineers directed many of the individual construction projects. Construction was accomplished using hand labor provided by Civilian Conservation Corps enrollees. These enrollees were taught technical skills and trained by locally employed men (LEMs) themselves highly skilled in each of their crafts. Construction materials for buildings were collected from the local landscape. Rubble boulders or stone cut from a quarry on the south side of the monument provided most of the building material. Revegetation materials were also collected from the immediate area and transplanted to cover any landscape damage that occurred during construction.

The integrity of the buildings and structures is high. The original design styles, construction techniques and materials are readily apparent.

*Circulation Networks*
Circulation patterns were primarily determined by drainages. Bonita Canyon has historically been used by early settlers as well as the Chiricahua Apache as a transportation route to cross the Chiricahua Range (Benson 1959, Winn Manuscripts). When the US Forest Service began construction of Bonita Canyon Highway in 1932, the primary goal for the roadway was to terminate at a high elevation within the monument so that automobile-bound visitors might appreciate the expanse of the plateau and view the region called the Wonderland of Rocks. Later Bonita Canyon Highway became the main circulation spine around which the rest of the monument's development and secondary transportation routes were organized.

Prior to 1929 the US Forest Service had constructed a short roadway from Faraway Ranch to a small campground (Figure 2). Bonita Canyon Highway was partially built on top of this old road, partially rerouted and dramatically extended beyond the old campground. The highway entered Bonita Creek Canyon near the confluence with Rhyolite Creek and followed the canyon until it emerged at a low pass joining Whitetail Canyon. At an earlier design stage, the US Forest Service had considered continuing the roadway across the pass and down into east Whitetail Canyon; however, those plans were never realized. Instead the US Forest Service brought the roadway up to the broad plateau of Massai Point, the final destination.

Massai Point and the Visitor Center became the major visitor nodes within the monument. National Park Service designers and engineers developed the trail system to utilize both nodes; the major trails originate at Massai Point and terminate at the Visitor Center. Like Bonita Canyon Highway, many of the hiking trails follow local drainage patterns to access the higher elevations of the Massai Plateau.

A secondary road was built from Bonita Canyon Highway near the Visitor Center to provide personnel access to the Residential and Utility Areas. In addition to the access road, short walking paths connect the Residential and Utility Areas to the Visitor Center.

At a smaller scale, the circulation within the Public Campground was laid out according to the "Meineke plan." Emilio Meineke, a US Forest Service plant pathologist, developed this plan in 1932 which was immediately adopted by the National Park Service for use in its own campgrounds (McClelland 1998: 277-278). The plan emphasizes a one-way automobile circulation and creates restrictions on locations available for automobile and camper parking. This circulation arrangement limits damage caused by automobile tires to soils and surrounding vegetation.

No major alterations have changed the original circulation patterns. The integrity of the circulation system is high. There have been minor additions to circulation elements. New sites of visitor activity have been constructed along Bonita Canyon Highway such as a picnic area near Faraway Ranch in 1990, automobile pullouts along the roadway in the late 1960s, and an additional driveway to the present administration headquarters in the 1970s. The acquisitions of the Faraway and Silver Spur ranches and the Kent property by the National Park Service have created new points of interest for visitors in the park. Subsequent to their purchase in the 1960s and 1970s, new trails have been built to provide access to the lower parts of the monument. These new trails originate either at the Visitor Center or at the Public Campground.

*Topography*
Much of the landscape of Chiricahua National Monument shows a high degree of relief. Within the Wonderland of Rocks, the slopes in many locations are almost vertical. Trail construction was generally restricted to the upper-level of the floodplain within the local drainage.

Construction of Bonita Canyon Highway encountered difficulties because slope restrictions. Much of the original roadbed built by the Forest Service near the Organ Pipe columnar formation was built near to or just above the levels of Bonita Creek floodplain. The steep-sided walls surrounding the creek restricted the highway's location to these lower elevations. However, floodwaters undercut the Forest Service roadbed in many locations. Later CCC enrollees constructed rock revetments below the roadbed to stabilize the substrate.

The only large area of relatively level ground within the early monument was on the Massai Plateau. The National Park Service made use of this area to host the Dedication Ceremony on Labor Day, 1934. CCC enrollees removed vegetation and filled in depressions with soil in order to accommodate over 1000 parked cars and to feed and entertain over 6000 people. Today, with the exception of a modern Comfort Station and the Orientation Station, visitors can still enjoy the 360° view of the surrounding monument lands. Any alterations from the celebration were restored or reused for visitor activities.

Similarly the Sugarloaf Lookout site was chosen because of the broad, rounded summit of Sugarloaf Peak. The peak has the added advantage of supporting little or no vegetation above shrub level. Because of the unencumbered 360° view the lookout could be built upon the ground rather than raised up on a tower.

At lower elevations building construction was located in any available level surface. The Visitor Center, Residential and Utility Areas were all constructed on narrow benches near or above the floodplain of Rhyolite Creek. The Utility Area was enlarged by cutting into the surrounding shallow slope and using its fill to expand the yard. The Public Campground was constructed in a broad area of the Bonita Creek floodplain. During intense summer rainstorms, the campsites can be damaged by floodwaters.

The broad, open meadow where CCC enrollees built their campsite belonged to Lillian and Ed Riggs who leased the property to the National Park Service. The wide, flat area provided a pleasant site for Camp NM2A.

*Vegetation*
When the National Park Service took over administration of Chiricahua National Monument in 1933, its engineers, landscape architects, and architects applied principles of naturalistic landscape design to all subsequent development. Removal of vegetation at construction sites was kept to a minimum and protection of existing vegetation was a continuing concern. Similarly during trail construction tree protection was recognized as important for soil retention, slope and trails that stabilization as well as for visual enhancement.

Revegetation of damaged areas became a major project in the later years of the CCC Camp. Revegetation efforts occurred at the Visitor Center, Residential Area, Massai Point, Public Campground and the CCC Campsite. Revegetation efforts made use of locally available, native species of trees and shrubs that were specific to the slope, orientation and elevations of the site. CCC enrollees also covered in topsoil and replanted sections of old, abandoned Forest Service roads and the borrow pits created by the Bureau of Public Roads.

The open grounds at the Civilian Conservation Corps campsite received more formal landscaping attention by the enrollees. Instead of applying the Park Service's naturalistic landscape design as in other areas, CCC enrollees laid out a rectangular system of paths which they lined with local stones. Juniper trees were planted along these walks. The US Army, which administered the campsite, and the enrollees were not necessarily interested in screening buildings or blending them into the local environment. Instead their efforts were designed to create a neat and orderly landscape.

The integrity of these revegetation efforts throughout the historic landscape is high. Indeed without prior knowledge of where these efforts were located, most visitors to the monument would be hard-pressed to say that the surrounding vegetation was not naturally occurring. Rows of planted junipers are still visible in the Civilian Conservation Corps Campsite area.

*Views*
The rhyolite columns in the Wonderland of Rocks and the broad expanses of the Massai Plateau provided both the US Forest and the National Park Service with spectacular opportunities to develop landscape views for their visitors. Both agencies constructed their roads and trails through the monument with that design element in mind.

Bonita Canyon Highway was designed to showcase many of the rhyolite columns and spires that populate the upper reaches of the Canyon. Vegetation along the roadway was trimmed back to provide the visitor with views of these unusual geological features. Early descriptions and photographs the monument trumpeted the phantasmagorical sights of the rhyolite columns. Early rangers gave names to individual spires in order that each might be more identifiable to the visitor. In the 1960s for safety reasons, the Park Service developed automobile pullouts along the highway so that visitors could stop their cars and photograph those features.

The highway terminates on the high plateau of Massai Point and gives the visitor almost 360° view of the heart of the monument. The Orientation Station was located at the highest elevation at Massai Point. It was designed as an open structure and contained a scaled relief model of the monument so that the visitor could easily identify those features within his viewscape. Likewise the Speaker's Rock at the southern end of Massai Point was adapted after the Dedication Ceremony to give visitors an appreciation of the views into the Heart of Rocks, the region most densely populated with rhyolite columns.

Trails were situated throughout the monument to expose the hiker or rider to sights within each of the different environments. Some provide short-range views highlighting a nearby rhyolite column; others like the trail terminus at Inspiration Point provide long-range

views across the entire Sulphur Springs Valley to the Dragoon Mountains on the far side.

Bonita Canyon Highway and most of the trails have seen little alteration since their initial construction. Many of the original views are still present. However, a significant number of those original views have been modified by growth of the surrounding vegetation. An early program of fire suppression has permitted vegetation within the monument to increase in density and size. Today many of the original views are no longer available to the modern visitor.

## Bonita Canyon Highway

Bonita Canyon Highway was designed and constructed by the Bureau of Public Roads under the supervision of the US Forest Service between 1932 and 1934 (Map 3). Between 1934 and 1940, CCC crews made significant changes and improvements to the roadway. Enrollees devoted more work hours to Bonita Canyon Highway than to any other project in the monument. Construction of the highway included box culverts across Bonita Creek, large numbers of smaller drainage devices, and changes in the channel of Bonita Creek. National Park Service engineers redesigned much of the original drainage and slope features. Work accomplished by CCC enrollees dramatically improved the condition and stability of the road (Figures 3-16).

***Bonita Canyon Highway Resources***

1. Roadway, Culverts, Borrow Pits, Riprap in Creek Bed -- contributing structure.
2. Entrance Station -- noncontributing building.
3. Roadside Pullouts -- noncontributing structure.
4. Equipment Storage Area -- noncontributing site.

**Roadway, Culverts, Borrow Pits, Riprap in Creek Bed**

Bonita Canyon Highway is the central structure around which all recreation and administrative support facilities are designed. It forms the main access point for all trails, buildings, and structures. The highway was designed to showcase the fantastic rhyolite features and scenic views of the monument to the automobile-touring public. The highway is a two-lane paved road that begins at the western boundary of the monument and terminates eight miles later at a loop parking lot on Massai Point. At the boundary entrance the roadway begins at an elevation of 5132' and rises to 6870' at its terminus. The initial portion of the highway, from the monument entrance to the campground roughly follows Bonita Creek. Through this stretch the canyon is wide and the vegetation consists of an open forest of Arizona White, Silverleaf and Emory oaks, Arizona Cypress, Chihuahua Pine and Alligator Juniper. After the highway passes the campground area, the canyon narrows and the rhyolite rock formations that the park is known for begin to appear close to the road. This portion of the highway terminates in the sloping bowl of Bonita Park. From Bonita Park the highway emerges into the East Whitetail Creek watershed and begins its final climb to the plateau of Massai Point. The slopes of the watershed are steep in this section of the highway and the road is excavated from solid rhyolite rock. In many cases cuts to a depth of more than 40' were required. (Douglas Daily Dispatch no date). In many areas along the highway scars are visible from when waste material was dumped over the edge of the roadway during construction (Figures 8-10).

Today Bonita Canyon Highway has five major creek crossings: one over Rhyolite Creek at the Visitor Center and four over Bonita Creek between the Public Campground and Bonita Park. The three box culverts along the lower portion of the roadway were constructed by the Bureau of Public Roads before 1934. In the summer of 1938 the road crews built two poured-concrete box culverts to span crossings along upper portions of the highway (Southwestern Monument Monthly Reports (SWMMR) June; July 1938). The CCC-built box culverts are still in place today (Figure 11). The road contains several features to assist with the prevention of erosion. Nearly 50 culverts cross the road. Approximately 8500' of riprap and revetment were used along Bonita Creek (Figure 12). Revetment

walls average over 11' in height. Rocks and boulders unearthed in the excavation of the road were placed in the creek bed in order to control erosion. The CCC also constructed over 225' of retaining walls over the length of the road.

CCC crews constructed and installed wooden guardrails along the roadway in 1940 (SWMMR). A Cultural Landscape Inventory of the monument states that the CCC guard rails were replaced in 1962. The highway and access roads were first covered in asphalt in 1967 (Morrow Reardon Wilkinson 2001). The present-day roadside pullouts had been constructed sometime before 1969 (#2100F).[1]

The Bureau of Public Roads created two borrow pits for materials used in the construction of the road. The remnants of both borrow pits are located adjacent to the highway and are still evident on the ground. The first borrow pit sits across the highway from the present-day campground. The borrow pit was subsequently filled in with large rock. Some of this rock shows evidence of drilling and blasting and suggests that the site was reused primarily as a dump for waste materials from construction or reconstruction of the highway (Figure 13). A second borrow pit was opened in a small wash field at the northern foot of Sugarloaf Mountain. There is less obvious evidence here of infill but regrowth of vegetation has begun to hide the lower portions of the pit (Figure 14). A third pit opened by the CCC is located in Newton Canyon South of the highway (SWMMR). Unlike the borrow pits generated by the Bureau of Public Roads this pit was never filled in. This open space, located in an area away from most tourist traffic, proved to be useful for less visually attractive operations. The site, delicately entitled "The Boneyard," has evolved to become a storage facility for maintenance equipment and vehicles (#3100). An entrance station at the west end of the highway was constructed in 1992 shortly after the National Park Service initiated the policy of charging entrance fees.

The physical integrity of the highway remains very high. Modern intrusions include a storage site for maintenance vehicles and equipment that has evolved in an old borrow pit, an entrance station at the west end of the roadway added in 1992, and five roadside pullouts constructed in the mid 1960s. The site, the building, and the structure are noncontributing.

While the physical integrity of the roadway layout remains high, the visual integrity of Bonita Canyon Highway has been compromised by extensive alteration of the original viewsheds. Early photographs taken from the roadside by George Grant, National Park Service photographer, provide a visual record of the views available in 1935. A photograph taken approximately one year after completion shows the columnar feature, China Boy, from the roadway. A photograph taken from the same location in 2003 shows little or no view of the China Boy. Mature trees have expanded to fill the entire visual space beyond the boundary of the roadway (Figures 17, 18). Other George Grant photographs and their modern matches corroborate the same loss of integrity of viewsheds elsewhere along the highway.

Pullouts along the highway were developed in 1960s to allow visitors to view such famous columnar formations as Organ Pipe, China Boy, and Sea Captain. Even when cautious viewer pulls off the road and exits from his or her car today, these formations are difficult and, in some cases, impossible to see. The viewsheds from these pullouts and a significant portion of Bonita Canyon Highway have degraded due to the unchecked growth of roadside vegetation. This growth is the result of management decisions within the monument that have led to a multidecade-long pattern of fire suppression (Figures 19, 20).

Historic descriptions of the monument clearly document that providing access to and views of the geological features were the primary impetus for the establishment of the monument and its later development by the Civilian Conservation Corps. These views continue to be the primary attraction for visitors today. Bonita Canyon Highway was designed by the Forest Service and the Bureau of Public

[1] (#2100F) refers to the Chiricahua National Monument designed plan or architectural drawing referenced by that number. These plans or drawings are available in the Chiricahua National Monument archives.

Roads and later maintained by the Park Service using CCC labor to showcase views of those features that exist along Bonita Creek. The integrity of this historic structure has been compromised as vegetation has overgrown roadside areas and viewsheds have been allowed to degrade during the past 70 years.

## The Trail System

The Trail System represents the primary recreational opportunity at Chiricahua National Monument. Most of the individual trails are located in the southeastern portion of the monument (Map 3). An early Trail System was built by Ed Riggs in the late 1920s. It offered Faraway Ranch visitors on horseback the opportunity to view the geological features. Riggs' early trail design was, to a great degree, reused when he and CCC enrollees rebuilt the Trail System between 1934 and 1939 (Figures 21, 22). The CCC Trail System consists of twelve major hiking and one short foot trail. Ten of the hiking trails are linked together and create a series of smaller and larger loops. Two associated structures constructed by the CCC have also been identified: a wildlife pool on the Mushroom Rock Trail and the Echo Canyon Dam above Echo Park.

The trails encircle and penetrate the area of greatest scenic value known as the Wonderland of Rocks. This area encompasses the Massai Point and Heart of Rocks Plateaus and includes the drainages of Rhyolite and Echo Canyons. Most of the trails (except Sugarloaf and Natural Bridge) are interconnected; they create smaller and larger loops that offer the visitor a variety of hiking choices. The Trail System also links two important visitor sites, Massai Point and the Visitor Center.

The Sugarloaf and Natural Bridge trails were originally constructed as part of the Chiricahua Mountain Range fire prevention facilities but today they also serve as recreational opportunities for hikers in the northern half of the monument. CCC crews also constructed the Massai Point foot trail, a short loop that extends from the Massai Point parking lot to Speakers Rock and back again. The Massai Point Trail and the Sugarloaf Trail are each discussed in their respective sections.

The integrity of the individual trails at Chiricahua National Monument is high. The large-scale design of the Trail System is essentially unaltered. A few short footpaths have been added in the Massai Point and Visitor Center areas. Some uncertainty exists over the extent of CCC contribution to the Natural Bridge and Heart of Rocks Trails due to the lack of adequate documentation. The centerline of the northern portion of Upper Rhyolite Canyon Trail was altered in the mid-1950s because of unstable soils on the north slope of the canyon. A recent survey indicates that the condition of Chiricahua National Monument trails have degraded over time (Travis 2001). Rainstorms in the past decade, and probably in earlier decades, have eroded trails and damaged individual features. Long-term horse and foot traffic have also contributed to degradation. NPS archaeologists are documenting historic features along the trail and assessing their overall condition in order to develop a plan for major repairs (Evans personal communication). The visual integrity of the trails, however, has been compromised as maturing vegetation has concealed views.

***Trail System Resources***

1. Trail System and Vegetation -- contributing structure.
2. Lower Rhyolite Canyon Trail -- contributing structure.
3. Sugarloaf Trail -- contributing structure.
4. Echo Canyon Trail -- contributing structure.
5. Echo Canyon Dam -- contributing structure.
6. Connecting Trail between Echo Canyon and Ed Riggs Trails -- noncontributing structure.
7. Sarah Deming Trail -- contributing structure.
8. Ed Riggs Trail -- contributing structure.

9. Hailstone Trail -- contributing structure.
10. Upper Rhyolite Canyon Trail -- contributing structure.
11. Mushroom Rock Trail -- contributing structure.
12. Mushroom Rock Wildlife Pool and Dam -- contributing structure.
13. Big Balanced Rock Trail -- contributing structure.
14. Heart of Rocks Trail -- contributing structure.
15. Natural Bridge Trail -- contributing structure.
16. Inspiration Point Trail -- contributing structure.
17. Fire and Flood Trail -- noncontributing structure.
18. Silver Spur Trail -- noncontributing structure.

1052 additional trail features and structures on the CCC-constructed trails were identified in an archaeological survey by Scott Travis in 2000.

**Lower Rhyolite Canyon Trail**
Lower Rhyolite Canyon Trail was the first trail completed by Camp NM2A in December of 1934 (Figures 23, 24). Lower Rhyolite Canyon Trail is the primary access point for visitors who prefer to climb up into the monument rather than descend through it. The head of the trail is located at the parking lot adjacent to the Visitor Center. The trail begins at 5400' elevation and finishes 1.5 mi. later at 5980' at the junction with the Upper Rhyolite Canyon and Sarah Deming Trails. Lower Rhyolite Canyon Trail has a comfortable, relatively shallow grade of 7%. The trail skirts along the edge of the floodplain of Rhyolite Creek for the first half-mile through an open forest of Arizona White and Silverleaf Oak, Alligator Juniper, Arizona Cypress with Madrone, Skunkbush Sumac and Beargrass as understory. The trail gradually climbs out of the lowlands providing the traveler with increasingly dramatic views of the columnar cliffs to the North. Near the top of the trail, CCC-constructed rock walls retain upper slopes above the trail; others provide support below.

During the CCC era Lower Rhyolite Canyon Trail required much maintenance after storms as well as reconstruction to bring the trail up to National Park Service standards. Following a heavy rainstorm in September 1936 a CCC crew spent November, December 1936, and January 1937 maintaining the entire trail. Project superintendent Stevenson commented that, "many changes (were) necessary to meet Park Service standards" (SWMMR November 1936). Attention along a large part of the trail was necessary again in May and June 1937. Several large rock walls were constructed and many banks required additional sloping. In the summer of 1937 several large masonry walls were built and several segments of the trail were widened "which were too narrow to allow pack animals to pass without striking packs" (SWMMR). During the August 8, 1999 thunderstorm Lower Rhyolite Canyon Trail incurred severe damage. Numerous features required repair including trail tread, water bars and original CCC-built retaining walls (Figure 24) (Travis 2001). Despite the necessity for maintenance of the trail and some of its constructed features, the integrity of Lower Rhyolite Canyon Trail is good.

**Sugarloaf Trail**
The trail to the Sugarloaf Mountain Lookout was the second constructed by CCC crews in 1934. Its history and development have been included in the Sugarloaf description.

**Echo Canyon Trail**
Echo Canyon Trail was the third horse trail constructed by the CCC crews. The 1.6 mile trail was completed in June 1936. The trail contains numerous constructed features such as retaining walls, curbs, drainage ditches, and water bars (Figure 25). The trail is

intentionally designed to remain close to (and often within arm's length of) many rhyolite columns. One notable feature is an area where the trail threads between two large rocks. The corridor is 40 yd. long, 8' wide, and surrounded on both sides by 12' high walls. It has been aptly named "Wall Street" (Figures 26, 27).[2]

The head of the trail begins at an elevation of 6780' and is located at the Echo Canyon parking area on the road to Sugarloaf Mountain. The trail traverses plateau vegetation of Chihuahua Pine, Pointleaf Manzanita and Beargrass and descends through a thick forest of Ponderosa Pine, Douglas Fir and an understory of Arizona White, Silverleaf, and Gambel Oak. The geological gallery of rhyolite columns illustrates the middle of three volcanic tuff layers found in the park and presents some of the more stunning collections of Chiricahua's hoodoos. The trail approaches Echo Creek as it descends and finally crosses twice below Echo Park. Both creek crossings are simply marked with stepping stones. The trail emerges from Echo Canyon at the junction with Hailstone and Upper Rhyolite Canyon Trails at an elevation of 6330'. The overall grade for Echo Canyon Trail is slightly more than 5%.

**Echo Canyon Dam**
Another feature, a small dam, was constructed across Echo Creek above Echo Park. The dam was situated between two large rhyolite columns, built of concrete and faced with local stone (Figure 28). The dam was designed to provide a reliable water supply for the fly camp during the construction of the trail. After completion of the trail, the crews had planned to pipe the reservoir water down to Echo Park for the convenience of tourists (Stevenson 1935) but apparently this idea was never carried through to completion. The dam is still in very good condition even though the retention basin has been filled with rocks and sediment (Figure 29).

In the recent past, flood damage and wear have caused problems for many CCC-constructed features including retaining walls, curbs, water bars, and drainage ditches (Travis 2001). Comparisons between historic and modern photographs indicate that much of the tread on the trail has been lost (Figures 26, 27). The integrity of Echo Canyon, despite its need for maintenance, is very good. The integrity of the Echo Canyon Dam is very good.

**Connecting Trail between Echo Canyon and Ed Riggs**
Today the Echo Canyon Trail is linked to the Ed Riggs-Massai Point trail by a short (0.3 mi.) trail segment below the Echo Canyon parking lot. This trail segment was included "Proposed" on a plan of "Roads, Trails, and Developed Areas" dated September 1939 (#3011-D) but was not likely to have been built by CCC trail crews. The segment appears as existing in a visitor hiking map dated 1945. It was extensively reconstructed in 1956 (Superintendents Narrative). This trail segment is noncontributing.

**Sarah Deming Trail**
The Sarah Deming Trail was completed in March 1937. The trail brings the hiker down out of the Heart of Rocks Plateau and descends through the middle and lower of the three volcanic tuff layers found in the monument. The trail crosses Sarah Deming Creek and traverses the east-facing slope of the canyon through Ponderosa Pine forest mixed with Alligator Juniper, Arizona White and Silverleaf Oak. It terminates at the junction with Upper and Lower Rhyolite Canyon Trails. Of all 12 miles of horse trails constructed by the CCC crews, the half-mile segment descending from the plateau is technically the most impressive for the amount of earthwork, drilling, and scale of the constructed features. The slope is almost 200' in elevation and dramatically steep in many locations. In some areas the trail is cut from solid rock. In other areas 15' high retaining walls have been constructed to support the trail (Figure 31). Small constructed features including water bars, drainage ditches, curbs, and check dams are numerous along this part of the trail

[2] "The List of Classified Structures" (1995) states that the Wall Street feature was constructed by the CCC. It was not constructed by the trail crew, but the rock feature was cleverly incorporated as part of the Echo Canyon trail.

(Figure 32). Dramatic views of the three volcanic tuff layers below Sugarloaf Mountain are available along the lower portions of the trail (Figure 33). The 1.6 mi. trail descends 880' at an average grade of 10%.

Moderate amounts of damage on Sarah Deming Trail were incurred during the August 1999 thunderstorm. Necessary repairs included reconstruction of drainage ditches and curbs and the addition of new water bars and check dams (Travis 2001). The integrity of the trail and its features appears to be very good.

**Ed Riggs Trail**
The Ed Riggs Trail was completed in September 1936. The trail descends from the plateau at Massai Point at an elevation of 6870' through an Alligator Juniper, Ponderosa and Chihuahua Pine forest mixed with Arizona White and Silverleaf Oak. The trail follows the wash down the length of the canyon; the trail bed runs between five and 15' above the level of the wash. The trail bed alternates frequently between cuts out of the canyon slope and constructed retaining walls below. Evidence of compressor-driven drilling is visible especially in the lower portion of the trail.

The trail emerges from Massai Canyon at its junction with Hunt and Upper Rhyolite Canyons and provides the visitor with dramatic views of cliff faces below Inspiration Point and spectacular columnar features such as the Totem Pole (Figure 34). The 0.7 mi. long trail descends at a relatively easy grade of 9% and terminates at an elevation of 6400'. Drainage channels and water bars are common features along the trail (Figure 35). The Ed Riggs trail provides access to both the short (Massai Point-Echo Canyon) and long (Mushroom Rock-Big Balanced Rock-Sarah Deming-Upper Rhyolite-Hailstone) loops through the monument.

Damage to the trail in the August 1999 storm was considered moderate and primarily caused tread erosion (Travis 2001). The integrity of the Ed Riggs Trail appears to be very good.

**Hailstone Trail**
The Hailstone Trail was the simplest of CCC-constructed trails. It has the smallest number of construction features (five water bars) of any of the trails within the monument (Travis 2001). It was completed in August 1936.

The 0.8 mi. long trail descends only 70' for a negligible grade of a little more than 1%. Because the trail skirts the base of the middle rhyolite layer, its elevation provides the visitor with a spectacular opportunity to view the full range of columnar features exposed on the southern slope of Upper Rhyolite Canyon (Figure 36). The observant hiker also has a chance to discover spherulites, the "hailstones," for which the trail is so named, hidden in the soils near its western end (Figure 37) (Pallister and DuBray 1997).

Hailstone Trail is an important link in the overall trail system. It is the middle segment in the short Echo Canyon-to-Massai Point loop. It is also connected with Upper Rhyolite Canyon and Mushroom Rock Trails giving visitors ready access to the larger loop to Heart of Rocks or to the Visitor Center on Bonita Canyon Highway. The vegetation along the trail is typical of south-facing canyon walls with Beargrass, Schott's Yucca, Parry's and Palmer Agave, and Mexican Pinyon Pine.

Because of the softness of the bed material, surface erosion has been the primary maintenance issue for Hailstone Trail. Damage to the trail during the August 1999 rain storm was minimal (Travis 2001). The integrity of the Hailstone Trail is very good.

**Upper Rhyolite Canyon Trail**
The dividing point between Upper and Lower Rhyolite Canyons is defined by the convergence of Echo Canyon on the north and Sarah Deming Canyon from the south. Upper Rhyolite Canyon is narrow, surrounded on both sides by steep walls. Lower Rhyolite Canyon

gradually expands in width as it descends in elevation and Rhyolite Creek bed flattens out.

The Upper Rhyolite Canyon Trail was completed in November 1936 (Figures 38, 39). Upper Rhyolite Canyon Trail forms a critical link between the northern trail system of Echo Canyon, Hailstone, and Ed Riggs Trails and the lower elevation access trail through Lower Rhyolite Canyon. Its importance in providing different destination options for visitors was recognized by National Park Service staff midway during the construction of the trail system. The present trail descends from an elevation of 6330' through the lowest volcanic ash layer to the riparian environment of Rhyolite Creek. After several crossings of the creek bed, Upper Rhyolite Canyon Trail ascends to the same elevation on the opposite wall of the canyon. The drainage contains a mixed forest of Alligator Juniper, and Ponderosa, Apache, and Chihuahua Pine, with Pointleaf Manzanita and Beargrass in the drier areas and Arizona Sycamore and Black Walnut along the Creek. Views along the lower portions of the trail are limited due to the density of vegetation.

During the rain storm of August 1999, Upper Rhyolite Canyon Trail incurred severe damage from erosion of trail tread and creek bed crossings (Travis 2001). Because a large portion of the Upper Rhyolite Canyon Trail appears to have been relocated and rebuilt since its original construction, its integrity as a CCC structure is diminished (Map 4). If, however, the modern Upper Rhyolite Canyon Trail was constructed in the mid-1950s, then the existing trail may be rapidly approaching its own historic status.

**Mushroom Rock Trail**
The Mushroom Rock Trail was completed in August 1937. From its junction with Ed Riggs and Hailstone Trails, Mushroom Rock Trail descends briefly into Upper Rhyolite Canyon and then follows Rhyolite Creek up to its confluence with Hunt Creek. The vegetation is a close forest of Ponderosa and Chihuahua Pine as well as Gambel Oak and Arizona Cypress. The trail leaves Upper Rhyolite and continues along Hunt Creek until it reaches the same elevation is the plateau. The trail gains 610' over a distance of 6300' at an average grade of 10%. The views throughout much of the trail are limited because of mature vegetation and its lower siting within the two canyons. Views of the rhyolite feature for which the trail is named have become obscured because of the growth of vegetation along the trail (Figure 41).

**Mushroom Rock Wildlife Pool and Dam**
In July 1937 the crew had extended Mushroom Rock Trail halfway into Hunt Canyon. The trail crew decided to construct a "wildlife pool" or retention basin. Using excess blasting materials the trail crew built a small stone and earthen dam across Hunt Canyon Wash (Figure 40). Small, loose rock was used to line the inside of the retention basin. The downhill surface of the dam is convex in shape and composed of broad, flat rocks designed to hold the loose stone in place. The entire structure of the dam is dry laid. Since its construction the wildlife pool has collected sediment which practically eliminates any volume behind the dam and its ability to retain water. Today the dam has partially washed out. Its collapse has redirected flows in the wash further to the west. These flows now threaten to undermine the adjacent Mushroom Rock trail bed.

During the rainstorm of August 1999 Mushroom Rock Trail incurred damage to CCC structures and required extensive repairs throughout the length of the trail (Travis 2001). The integrity of Mushroom Rock Trail is good despite overgrowth of vegetation and restriction of views. The wildlife pool has been badly damaged; its integrity is only fair.

**Big Balanced Rock Trail**
Finished in September 1937, the Big Balanced Rock Trail was the last hiking and riding trail to be completed in the large southern loop. Big Balanced Rock Trail forms the connection between Sarah Deming and Mushroom Rock Trails. It also provides access to two prominent feature locations: Inspiration Point and Heart of Rocks. Big Balanced Rock begins at the three-way junction with the Heart of Rocks and Sarah Deming Trails. Big Balanced Rock Trail is situated entirely on the southern plateau (Figure 42). The

Chihuahua Pine and Pointleaf Manzanita vegetation is small in stature and relatively sparse. The trail grade is almost level; it loses only 140' from its eastern junction along the one-mile length. Because of its location in the southern portion of the monument, Big Balanced Rock Trail provides glimpses of Coronado National Forest lands to the South (Figure 43). It also offers close views of the notable, columnar features such as Big Balanced Rock (Figure 44).

The rainstorm of August 1999 produced moderate damage to the trail primarily as tread erosion and damage to CCC-constructed retaining walls (Travis 2001). The integrity of the Big Balanced Rock trail is very good.

**Heart of Rocks Trail**
Today the Heart of Rocks Trail is a one-mile loop trail and begins at the junction of Sarah Deming and Big Balanced Rock Trails. It descends into a small canyon but climbs out immediately back up to the plateau. The trail is tightly woven among a forest of rhyolite columns. Within the loop trail, vegetation consists of Chihuahua Pine, Pointleaf Manzanita, and Beargrass. Many of the columns were named and identified for viewing along the trail loop (Punch and Judy, Duck on a Rock, Thor's Hammer, Pinnacle Balanced Rock, Anvil, and Old Maid) (Figures 45, 46). The hiker becomes intimately involved in this landscape; he is required to ascend and descend numerous staircases as the trail twists and turns amongst these columns (Figure 47). Another major feature of the Heart of Rocks Trail is the long-distance views from the western and northern extremities of the trail. The western view contains the Lower Rhyolite Canyon and Sulphur Springs Valley beyond. The northern view shows off the north plateau with Sugarloaf Peak as its high point and Cochise Head lying immediately beyond the monument boundary (Figures 48, 49).

The Heart of Rocks Trail has often been included in many monument lists of horse trails (#2100-F; 2100-E). But unlike most other CCC-constructed trails, the loop within the Heart of Rocks Trail was designed specifically for foot traffic; it was not constructed to accommodate horseback riders. This design difference is primarily noticeable in the width and grade of the trail. A National Park Service trail approved for use by horseback riders could not be less than 4' in width -- large enough to accommodate two loaded pack mules passing in opposite directions (Arthur 1937:11). The Heart of Rocks loop has a significant number of locations where its narrow width would create problems for even one horse alone. The numerous stair systems, albeit short in length, would be challenging as well (Figure 50).

Damage incurred by the rainstorm of August 1999 to the Heart of Rocks Trail was considered minimal (Travis 2001). Limited documentation regarding the construction of this trail leaves its origins and its degree of integrity uncertain.

**Natural Bridge Trail**
Natural Bridge Trail begins at a roadside parking area on Bonita Canyon Highway at 5560'. For the first three-quarters of a mile the trail follows North Bonita Creek and ascends a series of switchbacks out of the canyon to the plateau elevation of 5980' (Figures 51, 52). The average grade along the trail is almost 11%. The vegetation changes with elevation from a lush riparian community of Alligator Juniper, Arizona Cypress, Arizona White and Silverleaf Oak to a drier, more stunted vegetation of Chihuahua Pine, Beargrass, Pointleaf Manzanita, Schott's Yucca, and Parry's and Palmer Agaves (Figure 53). From the eastern edge of the plateau the southern view includes the conjunction of Rhyolite and Bonita Canyons. After traversing the plateau the trail descends briefly into Picket Park at an elevation of 5500' the visitor is confronted by an open pine grove that continues southward for almost a mile. The grove terminates in a small canyon at the head of which sits Natural Bridge. The stone feature is a natural arch spanning 37' in length and 26' in height (Taylor 1977). It was formed by exfoliating layers of rhyolite (Figure 54).

The earliest maps that show Natural Bridge as a visitor hiking trail and destination point date from the 1950s (USGS Cochise Head, 1950; #7005-A, 1958). The location of the 1950s trail is identical to the modern version. Today the trail crosses the plateau to the

West and descends into the northern portion of Picket Park. Dave Evans, cultural resource specialist at Chiricahua National Monument, has examined the trail environment and has found no evidence that the trail ever deviated from its present location (pers. comm.). It is appears that the layout proposed by Tovrea was not followed and that the CCC crew built Natural Bridge (Picket Park) trail primarily in the same location that it stands today.

The trail has probably been reconstructed since the CCC era, however. Natural Bridge Trail today contains 137 water bars, the second-highest number on any trail except Echo Canyon (Travis 2001). If project superintendent Stevenson was accurate in his statement that the trail was built in one month (SWMMR July 1939), then the 2.4 mi. long trail could not have contained so many constructed features. It is more likely that the trail was originally constructed as a "low standard trail ... principally mesa type construction" (SWMMR July 1939). Probably many of the present features were added later during the 1950s (when the trail first appeared on visitor hiking maps) in order to bring the trail up to the same level of construction and durability as other visitor trails within the monument.

Damage to the trail following the August 1999 storm was assessed as minimal but Travis noted that the trail required additional water bars to be installed, check dams and ditches to be cleared, and trail tread to be repaired. The integrity of the location of Natural Bridge Trail appears to be good. It is likely that the trail has undergone reconstruction since the CCC era with the probable addition of many trail features.

**Inspiration Point Trail**
Inspiration Point Trail begins at the junction of Mushroom Rock and Big Balanced Rock Trails at an elevation of 7010'. The vegetation along the plateau is limited to stunted Pointleaf Manzanita and Toumey Oak. The one-half mile trail follows the eastern ridge of the southern plateau out to Inspiration Point on the northernmost expansion of the plateau. The view from the trail terminus lives up to its name; there are few locations in the monument that can compare to this panorama of Rhyolite Canyon, Lower Bonita Canyon, and Sulphur Springs Valley beyond (Figure 55).

Scott Travis assessed the damage to Inspiration Point Trail by the August 1999 rainstorm as minimal (2001). Inspiration Point Trail is likely to be the oldest, unaltered trail within the monument. Construction, probably by Ed Riggs, dates to a period of time between 1923 and 1934 and prior to the arrival of the CCC Camp NM2A.

**Recent Foot Trails**
Following the departure of CCC enrollees in 1940, numerous foot trails have been constructed by Park Service personnel near the Visitor Center, Campground, or Silver Spur Meadow. These trails are short in length and provide visitors with easy access to historic or natural features of interest.

## Massai Point

Massai Point site is the heart of visitor access to the Wonderland of Rocks. It is the point of embarkation for most hiking trails and provides the dramatic climax to the automobile route (Map 5). Because of its easy access by road Massai Point is visited by more people than any other location in the monument. For most visitors Massai Point represents the essence of Chiricahua National Monument (Figure 56).

The Massai Point site consists of a slightly rounded plateau approximately 1200' in diameter. It is isolated from Sugarloaf Mountain and the Heart of Rocks area by three canyons: Echo, Massai, and Rhyolite. CCC development of Massai Point was located within easy

walking distance of the roadway loop and parking area marking the terminus of Bonita Canyon Highway. Two clusters of development within the site remain from the CCC era. The Amphitheater, Speaker's Rock, and short foot trail form one cluster which is located south of the parking area on a South-facing slope. The Orientation Station cluster includes a short foot path, stairs, terrace, and exhibit building and is located on a low rise north of the loop.

Massai Point was designed in 1932 by the Bureau of Public Roads to be the primary destination in the monument. Not only was Massai Point the terminus of the roadway but it became the main access point for the two major hiking trails systems within the monument. Massai Point also became the location for the first major development activity undertaken by Camp NM2A. During the summer of 1934 CCC enrollees constructed facilities, both temporary and permanent, in preparation for the Dedication Ceremony for Chiricahua National Monument, held on September 3, 1934. Its spectacular views in combination with the relatively level topography made Massai Point the obvious choice for the location of the celebration. After the remains of the ceremony had been cleared away, the site was used for many years as the main greeting site for guides and rangers as they provided hiking and educational information to visitors.

The integrity of the Massai Point area is high. Only three intrusions have occurred since the CCC enrollees developed the landscape between 1934 and 1940. A nature trail was built in 1952 to identify and provide visitors with information about plant species found on the plateau. A short trail for handicapped visitors was constructed in 2000. The trail extends northwest of the Orientation Station in a short loop. The only other significant addition to the area was a modern restroom added to the center of the turnaround in 1999.

***Massai Point Site Resources***

1. Massai Point Site with Loop, Parking Area, Picnic Facilities and Vegetation -- contributing site.
2. Amphitheatre, Speakers Rock, and Foot Trail -- contributing structure.
3. Orientation Station, Stairs, Terrace, and Path -- contributing building.
4. Massai Point Restroom -- noncontributing building.

**Massai Point Site with Loop, Parking Area, Picnic Facilities and Vegetation**

Bonita Canyon Highway terminates on the plateau at Massai Point (elevation 6700'). The plateau is an open, wind-swept area with spectacular views of the rest of the monument and the Heart of Rocks area. Vegetation on the plateau is generally short -- bent over by winds and consists of Chihuahua Pine, Pointleaf Manzanita, Toumey Oak, and Beargrass. The Massai Point loop was part of the last phase of the road construction, which was completed in 1934 (Bureau of Public Roads Section D 1934). The one-way loop is laid out in the shape of an uncrossed 'figure eight'. The loop measures 270' in length and 130' at its widest point. A median strip of varying width separated the two sides. This loop design includes parking spaces along the inner edges of the northwest and southeast portions. With the exception of asphalt surfacing in the 1960s, the turnaround and parking area at Massai Point is essentially unaltered from the original Bureau of Public Roads plans (Figure 57) (Morrow, Reardon, and Wilkinson 2001).

The National Park Service developed Massai Point as a location for day activities; it has always contained picnic facilities such as tables and benches, trash cans, and (originally) cooking grills near the parking area. These facilities were first sited on the west side of the loop near the start of the foot trail (#3020E). Those facilities have been shifted to different locations numerous times, possibly even during the period of significance. Today, those picnicking facilities have been built in the center of parking loop.

**Amphitheater, Speakers Rock, and Foot Trail**

On September 3, 1934 the National Park Service hosted a Dedication Ceremony to celebrate the opening of Bonita Canyon Highway. The ceremony was open to the general public (Figures 58-64, Map 6). Park Service engineers predicted that the area would need to

accommodate as many as 3,000 to 4,000 visitors. A shallow southwest-facing slope of rock which provided spectacular views of the Wonderland of Rocks was chosen as a natural amphitheatre for formal activities and speeches (Figure 65). To make the amphitheater safe and comfortable, rocks and boulders were cleared from the slope, vegetation was trimmed to the ground, and a series of paths constructed to lead the visitor into the seating area (Attwell September 2, 1934; Hammond 1934; # 4946).

At the base of the Amphitheatre lay a number of very large boulders. One of these was chosen to become the Speakers Rock; around this boulder a platform was built that would seat 30 invited speakers (Figures 66, 67). Speakers Rock was designed and constructed all within the month of August 1934 (#3006); its designer, Richard Sias, was the resident landscape architect assigned to monitor and guide development at Chiricahua during these early months. Construction of the dais was supervised by National Park Service engineer, Walter Attwell (SWMMR). The dais is a two-tiered structure consisting of an upper speaker's rostrum and a lower seating area that would accommodate the dignitaries. A set of stairs ascends the side of the boulder.

Construction of the stand required approximately 150 tons of rock, sand, cement, and steel (Hammond 1934). Most of the rock used in construction (with the exception of flooring, seating, and steps) was uncut. The walls appear as if they were dry-laid. Unlike most stone buildings at Chiricahua, Speakers Rock shows much less evidence of stone cutting and the usual care in the setting and fitting of each rock. The flooring was part original boulder and part added flagstone. A 1" pipe railing installed for safety purposes originally ran around the outer rim of the upper rostrum. A second railing was built around the north side of the lower platform for similar reasons. The railing continued down the outside edge of the stairway. The stone seating was incorporated into the outer wall and situated on the south side of the lower platform in order that the dignitaries might face the amphitheater and the audience. In 1953 the seating area was extended around to the north side and replaced the lower railing (Superintendents Narrative). The iron railing around the rostrum was removed in March 1940 (Gart 2001:67). A telescope mount was added to the lower platform in 1954 (Superintendents Narrative).

CCC crews constructed a spider's web of foot paths leading from the southern end of the turnaround in order to provide adequate access into the Amphitheater (#4946). Many of these temporary paths were still in existence in 1939 (#3020D). By 1953 a single trail had been selected from among the many to give access to Speakers Rock. Designed as a loop trail it linked Speakers Rock to the southeast and southwest corners of the turnaround (#3020F). The handrail along a set of stairs was added in 1956 (Figure 68) (Superintendents Narrative). It appears unlikely that the entire length of the foot trail was constructed by the Civilian Conservation Corps in its present location. Rather portions of the foot trail seem to have been relocated within the Amphitheater over time.

The portion of the Massai Point foot trail most likely to be unaltered is the departure point of the Ed Riggs trail. This segment is clearly identified on Clark's topographic map (#5003) and does not appear to have been relocated since that time.

Today Speakers Rock remains the only permanent remnant of the dedication ceremony. The integrity of the Speakers Rock and its surrounding Amphitheater is good. Repairs to the stairway leading up to the Speakers Rock platform, however, will be required soon as erosion events have undercut the stone and mortar at its base (Travis 2000; 2001). The integrity of the foot trail is fair.

**Orientation Station (Exhibit Building, B-13), Stairs, Terrace, and Path**

The Orientation Station is a structure with multiple functions. The Station provides educational information for the curious visitor; it also acts as a shelter against inclement weather and an overlook that frames spectacular views of Sugarloaf Peak, Sulphur Springs Valley, and Cochise Head. The station's siting at the highest elevation on the plateau enhances the structure's ability to serve these functions. The site of the Orientation Station had been originally cleared by CCC crews in 1934 for a temporary parking lot for the Opening Ceremony. The access road into the parking lot was later reconstructed by CCC enrollees as the entrance path to the Orientation Station and in 2000 as part of a handicap trail. The Orientation Station was designed in 1939 by Park Service architect

Cecil Doty in the park's rustic architectural style. Construction and landscaping were completed in May 1940 (Figures 69-71).

The Orientation Station is octagonal in its layout with a diameter of 16'. Its walls are coursed and constructed of rhyolite blocks set in mortar. This stone was mined from the same quarry that furnished building materials for the Oil and Gas House and the Powerhouse and Laundry Room[3] (SWMMR December 1939). The choice of the "right" stone was a primary concern for this particular structure; Edwin Knagge, acting project superintendent, remarked in his monthly report that it was "difficult to find" (SWMMR August 1939). Like the Oil and Gas House and the Powerhouse and Laundry Room, the stone for the Orientation Station was very finely cut. The orientation of each cut is designed to enhance the visual display of the pumice streaks (*fiamme*) within the welded tuff. Unlike most of the earlier structures built by the Civilian Conservation Corps at Chiricahua National Monument, the walls of the Orientation Station were not battered. Six walls each contain a single window; the seventh wall on the southwest side holds the entrance door. The northwest wall incorporates a vertical display in place of a window. A large boulder on the site abuts the northwest wall and forms the back edge of the porch. The entrance opens out onto a small rectangular terrace bounded by a low seating wall. Both the terrace and the seating wall are constructed of local rock. A short series of steps lead up from the Massai Point trail to the porch. At some time after 1945, a pipe railing down the center of the steps was added (King 1945).

The Orientation Station was designed to blend with its surroundings at Massai Point. Because so much vegetation had been removed during the preparations for the dedication ceremony, the primary design methodology for blending was the incorporation of local rock features into the structure itself. The block layering and the horizontal lines of the roof and low seating wall match the weightiness of an incorporated boulder and the stunted, windswept vegetation of the plateau. The obvious coursing and carefully cut rock create a very different feeling for the structure than those found in the Administration Building with their barely altered boulders and in the campground and administrative comfort stations with their roughly cut rock. The building, terrace, and rock sit at the highest elevation within the Massai Point area and offer a nearly 360 degree view of the plateau and much of the lands within the Chiricahua National Monument.

Doty's original drawing for the Orientation Station shows wooden lintels for both windows and door but no actual closures for either door or windows. A later undated plan provided designs for the windows and door (also labeled #2035A). The first set of windows and doors were installed in 1954 (Superintendents Narrative; Elvin Cluff, personal communication). The present set of windows and door is different from that designed in the later #2035A plan.

The roof was originally designed to be very shallow in slope -- almost flat. It was originally covered with asphalt and gravel but has subsequently been reroofed with wooden shingles in 1954 (Superintendents Narrative). The shallow slope does not permit snow or rain to be shed efficiently and consequently continues to be a maintenance problem.

The building was designed to accommodate a scaled relief model built upon a table. The base and model were designed and constructed shortly after the termination of Camp NM2A (#2041). The relief model was oriented to the landscape so that visitors at the Orientation Station can easily identify major geological features visible through its windows and door. The original model was apparently painted black and only later colored to show elevation and landscape features (Figures 72, 73). Doty intended the interior of the building to remain unfinished. He also designed one vertical and six flat exhibit cases to display appropriate natural history information selected by Natt Dodge. These display cases were built by the CCC carpentry shop in May 1940 (SWMMR). The original contents of the flat cases, as well as the vertical exhibit, appeared to have been changed in 1953 (Superintendents Narrative).

[3] This was probably the quarry located on the upper northwest slope of Garfield Peak.

The integrity of the Orientation Station is moderate. The recent removal of the scaled relief model from the building now compromises its original intent and design. The addition of door and windows has changed the degree of openness that a visitor might experience. That might be a disadvantage in the heat of the summer but beneficial during the winter. Arizona Cypress and Manzanita on the east side of the building are beginning to obscure that viewshed but the remaining directions are still open. Two short trails have been constructed near the Orientation Station since the departure of Camp NM2A in 1940. The Nature Trail was initially constructed in 1952 and enlarged in 1953. No construction descriptions have yet been found. Like the Foothills Trail at the Visitor Center, the Nature Trail was designed as a self-guided trail and provided informational pamphlets describing vegetation and views in the area (Superintendents Narrative). A second trail, 730' in length, was constructed in 2000. It extends northwest from the Massai Point parking lot and terminates at the Orientation Station. This short loop trail provides an opportunity for handicapped visitors to explore the landscape beyond Bonita Canyon Highway and to gain access to the Orientation Station. Unlike most hiking trails whose bed is composed of soil and rock, the handicap trail is constructed of poured concrete (Figure 71).

## Administrative Area

The Administrative Area is located at the mouth of Rhyolite Canyon at its intersection with Bonita Canyon Highway. The area makes use the floodplain of Rhyolite Creek on both north and south sides. The area contains two, somewhat unrelated, clusters of development: the Visitor Center Cluster and the Explosives Cluster. The Visitor Center Cluster has a history of significant modification since its first development by CCC enrollees of Camp NM2A in 1935. This cluster now contains a modern restroom, a Visitor Center composed of multiple components from different periods (Comfort Station-Ranger Station-Administration Building-Visitor Center), a short footpath, and parking area. The original building and all but the last addition were constructed by CCC enrollees between 1934 and 1940. The Explosives Cluster includes the first and second Cap Magazines and the Powder Magazine.

Although the Visitor Center Cluster and Explosives Cluster are located in the same site, their evolution and functions have been so different that they are described independently of each other.

***Administrative Area***

1. Comfort Station-Ranger Station-Administration Building-Visitor Center -- contributing building.
2. Administration Area with Parking Area, Paths, and Vegetation -- contributing site.
3. Stairways behind Visitor Center -- contributing structure.
4. Powder Magazine -- contributing building.
5. First Cap Magazine -- contributing building.
6. Second Cap Magazine -- contributing building.
7. Visitor Center Restroom -- noncontributing building.

***Visitor Center Cluster***

The site for the Visitor Center Cluster was chosen for its proximity to the entrance to Chiricahua National Monument. It also offered a large area of relatively flat land, visible from the road. It was close to the proposed Residential and Utility Areas as well as the Public Campground (Map 7). Today, the Visitor Center is perhaps the second most important node in Chiricahua National Monument; the other is Massai Point, the primary tourist destination. The two nodes are connected by Bonita Canyon Highway and the extensive trail system both constructed by enrollees of Camp NM2A.

The Administration Building historically registered visitors and offered information and educational materials about the monument. The siting and design of the Ranger Station/Administration Building/Visitor Center at Chiricahua were clearly chosen to blend with the

environment. The site was located slightly upslope, set back from the road and parking area. The application of the NPS rustic architectural style with native materials and pioneer craftsmanship further enhanced the compatibility of the building with the surrounding landscape. Nearby trees were carefully preserved during construction. Additional vegetation was later planted to improve shade and screening.

**Comfort Station-Ranger Station-Administration Building-Visitor Center (B-1)**
The Visitor Center is an assembly of several separate buildings and additions, built over a span of 30 years. Today's Visitor Center began as a Ranger Station and associated Comfort Station, both constructed sometime between 1935 and 1937. Desiring more space for administrative and exhibit purposes, two wings were added to the east and west ends, and the Ranger Station became the Administration Building in late 1937. In 1965, an addition that tripled the size of the existing facilities was constructed between the Administration Building and the Comfort Station. In 1998 the Comfort Station was converted to additional office space.

*Comfort Station*
Construction of the Comfort Station began with the excavation of the foundations in May of 1935 (SWMMR). The building was sited above the floodplain of Rhyolite Creek and slightly recessed in the trees for screening purposes. No separate design plan was developed for this building; instead the Park Service used the same plan employed for the Campground Comfort Station (#3014). The layout and construction of the Administration Comfort Station are essentially identical to that of the Campground with one exception. A single path approaches the Comfort Station from its east side (Map 8). In order to accommodate that access, the entrance to the covered porch to the women's restroom was changed to the east end rather than a central entrance as in the Campground plan. The building has a poured concrete foundation and flooring. The floors within the porches are covered in flagstone. The walls are 18" thick and built of roughly coursed, rectangular cut rock set in mortar. The windows and doors have trapezoid-shaped wooden lintels. The lintels are wider at the base than at the head and are approximately 10" tall. Originally, the windows were double-hung steel sash and the doors were wood. The rafters and roof beams are exposed outside of the building and protrude approximately one foot past the building walls, and end flush with the roof. The gabled roof was originally covered with wood shingles; those were replaced in 1957 with asphalt ones. Interior walls were plastered; however the CCC enrollees left the underside of the roof uncovered. The ceiling was later plastered in 1961. The doors and windows were replaced in 1965. During construction of the Visitor Center addition, the northwest wall of the porch entry became part of the rear wall of the Visitor Center. After the completion of the addition in 1965, the Comfort Station continued to be used as the men's and women's restrooms until 1998, when the interior was reconstructed for office space and a new Comfort Station constructed nearby

*Ranger Station*
The original Ranger Station, now only visible as the central portion of the Administration Building, is located southeast of the junction of Bonita Canyon Highway and Rhyolite Creek on a low, north-facing slope. The original building measured approximately 21' x 12' and contained two small rooms (Figure 74). It was oriented north; a 5' wide covered porch ran the length of the front of the building. The foundation of the building is poured concrete. The original porch area is covered in flagstone. The walls are approximately 18" to 24" in width. The stonemasonry of the Ranger Station appears similar to that of the Campground Comfort Station: roughly rectangular cut blocks set in mortar in a roughly coursed pattern. The walls have a slight batter. The side gable roof has a low pitch and was originally covered with cedar shingles. The main entrance door was situated on north side and centered between two narrow windows. The south side had one narrow window on its east end and a fire place and chimney in the center. The windows and doors are capped with trapezoid shaped, with wider bases than heads, 8" wooden lintels.

*Administration Building*
In 1937 the Ranger Station was expanded to provide additional display space for museum exhibits (Map 9). NPS architect Robert W.

Albers designed the additions (#2025). The project was begun in April of 1937 and was completed in November of the same year. The design and organization of the Administration Building with its unevenly sized wings around a central corridor was remarkably similar to the CCC-built State Park Administration Building in Santa Fe, New Mexico (Good 1999 v.1:59).

The additions of the east and west wings onto the Ranger Station increased the interior working space by almost 250%. The east wing originally housed a single large public room designed to house display cases, an exhibit table, and visitor seating. The smaller west wing was used as a storage room for administration files. In addition to the expansion on the ground floor, a basement was excavated under the east wing in order to provide space for the building's new furnace.

The east and west wings are unequal in size (Figure 75). The exterior dimensions of the east wing measure 20' by 26'; those of the west wing, 16' x 19'. Both wings are front-gabled. The stonemasonry of the wings is distinctly different from that of the older, central portion of the Ranger Station. The walls of both wings are uncoursed and strongly battered. Large, uncut rubble stones at the base solidly anchor the building to the ground. The stone diminishes dramatically in size and becomes more finely cut at the top of the walls. Large windows are incorporated into the north and south walls of the east wing. The east wall of the east wing (now obscured by the 1965 expansion) and the west and north walls of the west wing were designed with smaller, narrower windows. The main entrance to the building was shifted from the Ranger Station portion to the west wall of the east wing, where visitors entered through a pair of French doors into the museum. A third entrance, which leads to the west wing storage room, opens onto the new south porch. Doors and windows are topped with trapezoid shaped, with wider bases than heads, 8" wooden lintels. The lintel over the museum door is engraved with the word "Museum". The triangular-shaped gable ends of the two additions have dark-stained wood trim. Originally the roof was clad with cedar shingles.

During the construction of both wings, the porch roof from the north side of the Ranger Station was removed and reused for shelter over the new south side porch. A short stone wall extending from the west wing along the edge of the north porch was constructed at this time to redirect visitor traffic away from the old Ranger Station entrance and toward the museum wing's French doors.

The south porch runs much of the length of the Administration Building (Figure 76). The porch roof is supported by six 6" diameter wooden posts; it covers the entrance to the storage room and the stairway to the basement. Entry to the porch is at the west end. The south porch and basement stairway are constructed of poured concrete. A stone retaining wall offers a protective barrier on the east and south faces of the porch.

Furniture for the new Administration Building was constructed in 1938 in the CCC Campsite carpentry shop. Display cases and public furniture were designed by Cecil Doty (Figure 77) (#2031). The display cases remained in the museum wing until the Mission 66 renovation in 1965. Doty also designed wrought iron lighting fixtures for the building (#2031). No information is available on the history of the lighting fixtures. None of the furniture or fixtures remains at the monument today (Nielsen 2002, personal communication).

*Visitor Center*

Under the Mission 66 program many national parks and monuments expanded their visitor facilities dramatically in the 1960s (Allaback 2000). As part of this program, the Administration Building was augmented yet again in 1965 (Map 10). The new Visitor Center addition more than tripled the available interior space creating a lobby and new exhibit and utility areas. The addition spanned the remaining space between the Comfort Station and the east Administration Building wing.

The addition was designed by National Park Service architect, Cecil Doty, who had contributed design work to numerous sites at

Chiricahua, including the Orientation Station at Massai Point. The addition with its cement block and glass construction was typical of Mission 66 buildings (Allaback 2000). The exterior walls are veneered with uncoursed, rhyolite stone (Figure 78). The walls have no batter. The roof is fairly shallow in pitch but it stands considerably higher than the Administration Building. The main entrance was shifted yet again to the east to a pair of glass doors that enter from the new northeast porch into the lobby. A short set of stairs provides access to the northeast porch. The porch is bounded on the north and east sides by retaining walls.

Numerous changes were made both inside and out to the Administration Building in 1965. The interior walls of the Ranger Station and the central fire place were removed to expand the usable space. The central door on the north wall was replaced by a window; the east window on the same wall was enlarged to take the old door. A second entrance into the Ranger Station portion was developed to provide additional access from the south porch (Figure 79).

Other changes have been made subsequent to the Mission 66 addition. These include replacement of the double French doors in the museum wing with a smaller wooden frame and single door (Figure 80). The Mission 66 era door into the north side of the Ranger Station portion was itself replaced with another window. The large window in the north wall of the museum wing was removed in the wall rebuilt to accommodate a smaller window (Figure 81). Access to the Visitor Center porch was improved recently with the addition of a handicap pathway.

The integrity of the CCC-constructed building has been compromised by the numerous changes. The largest change was the Mission 66 addition in 1965. Previous assessments of the integrity of the Administration Building have been mixed (List of Classified Structures 1995; Chappell 1996). Some believe that the Visitor Center addition is compatible; others do not.

While the Mission 66 addition employed the same native stone as a veneer on some of the walls, the stonemasonry is significantly different from that of the CCC-constructed portions. Like the CCC portion, the Mission 66 addition is not overly tall in stature, its architectural design, however, is much more dominant in the landscape than the earlier CCC-constructed portion. The construction techniques used in the Mission 66 addition show little or no sensitivity to the "pioneer" construction methods or the craftsmanship employed by the CCC crews at Chiricahua National Monument. Overall, the Visitor Center addition displays little attempt to blend with the landscape or with the earlier building components. The integrity of the Ranger Station/Administration Building and Comfort Station components is fair.

**Administration Area Parking Lot, Paths, and Vegetation.**
Landscape development around the Ranger Station was left until the early spring of 1937. Charles Richey, National Park Service landscape architect, took advantage of the broad floodplain on the south bank of Rhyolite Creek in which to locate the new parking lot and walkways connecting the Comfort Station, the Ranger Station, and the entrance to Lower Rhyolite Trail (#3075). An oval pathway connected the parking lot to the Ranger Station porch on both east and west ends. Clumps of Arizona White and Silverleaf Oaks were retained in the parking area for shade; parking spaces for automobiles were fit in between. In March 1937, 300 native trees were transplanted near the Ranger Station to eliminate the remains of the old Forest Service road (SWMMR).

When the Administration Building was finally completed in the fall of 1938, the grounds were graded, new walkways installed, and 120 shrubs (Beargrass, Schott's Yucca, Agaves) and Alligator Juniper and 10 Arizona Cypress were planted (SWMMR). The oval walkway to the Ranger Station was redesigned and replaced with a single path leading to the entrance door of the museum wing. The path was lined with rocks and three low steps were built to accommodate the elevation change at the edge of the parking lot (see Figure 75). A second path above the edge of the parking lot and perpendicular to the museum entrance path provided access to the Comfort Station to the east and to the rear of the Administration Building to the west.

Much of this landscaping in front of the Administration Building is still evident in some form (see Figure 81). The elevation change from the parking lot the pathway has been graded illuminating the need for the three low steps. The pathway to the Comfort Station has been disconnected by the development of the Visitor Center porch but the rock work delineating that path is still present.

The parking lot in front of the Ranger Station/Administration Building remained essentially unchanged until late 1940s when road access into the parking lot from the eastern direction was expanded. A center island now marking the western boundary of the expanded parking lot retained a large Arizona White Oak (Figure 82). The parking area was further expanded eastward in order to accommodate more cars following the Visitor Center construction in 1965.

**Stairways behind Visitor Center**
In the last year of Camp NM2A landscaping efforts throughout the monument increased dramatically (SWMMR). During the winter of 1939-1940 landscape architect Jerry Miller drew plans for developing the area behind the Administration Building (#2038). CCC crews graded the south slope and built walkways with stairs to connect the Residential and Utility Areas to the Administration. The stairways consist of large, flat rhyolite boulders set into the hillside with smaller rhyolite boulders built up along the sides. Constructions during the Mission 66 addition and recent waterline repairs have eliminated the lower segments of those walkways, but the upper portions of both are still extant (Figure 83). The integrity of the stairways and paths are fair.

Evidence of some of the CCC-constructed landscape in the form of stonework and pathway is still discernible around at the Administration Building. Many planted trees still provide shade around the early buildings. Much of the landscape design has been altered or eliminated as result of modern expansion and repair activities. Integrity of the Administration Area landscape is only fair.

***Explosives Cluster***
Between 1934 and 1940 blasting of rock was often necessary in the construction of trails, excavation of the Utility Area, and the reconstruction of Bonita Canyon Highway. The use of dynamite required storage for both dynamite and blasting caps in separate and isolated locations. The storage units for both blasting caps and dynamite needed to be dry and easily accessible. The structures were designed to absorb, or at least redirect, large explosive forces away from populated areas. Early construction of the Powder Magazine and Cap Magazines was vitally important for the safety of those who lived and worked in Bonita Canyon.

The location for these buildings was chosen by a state mining inspector in June 1934 (SWMMR). A short road was constructed off of Bonita Canyon Highway just north of Rhyolite Creek Bridge to provide truck access to the cluster. The road terminated just west of the Powder Magazine. Beyond that parking area the three explosives buildings were reached by trails. The Powder Magazine road and trail were later used as part of a short nature walk around Lower Rhyolite Creek and the Administration Area called the Foothills Forest Trail during the 1950s and 1960s (Superintendents Narrative; #2302).

**Powder Magazine (B-21)**
The Powder Magazine is located approximately 100 yards east of Bonita Canyon Highway. It was constructed in July and August 1934 (Stockman 1936; Clemensen 1992). No other information about its construction has been found.

The Powder Magazine was excavated out of solid rock in the south-facing slope in Lower Rhyolite Canyon (Figure 84). The structure is entirely underground but is vented by an opening that extends through to the upper surface of the slope. The interior of the cave is lined with cement. The ceiling is 7' high and arched. The doorway opens into a small entrance area, 5.5' by 6.5'. The entrance area leads to much larger storage area, 17' x 25' beyond. The floor of the Powder Magazine is dirt.

The Powder Magazine has a 1/4" steel door which is set in a wooden door frame constructed of 8" x 8" beams. The wooden frame is mortared into the cave entrance. There are two small vents outside of the base of the wood frame. There is no record of any alterations to the building.

It is possible that the Powder Magazine was used following the departure of Camp NM2A to store dynamite for later trail repair. However it seems likely that the Powder Magazine has remained unused for many decades. The integrity of the Powder Magazine is very good.

**First Cap Magazine**
The original Cap Magazine is located approximately 200 yards east of the Powder Magazine on the same south-facing slope above Lower Rhyolite Creek. The structure was built higher up the slope approximately 30' above the floodplain. Remains of an old rock-lined trail leading up to the Magazine are still visible. The magazine was used to store electric blasting caps (Hammond 1935).

The Cap Magazine was built in January 1935 by CCC enrollees (SWMMR). The building faces south and is constructed of crudely hewn rhyolite block and mortar (Figure 85). The interior measures 6' deep, 4' wide, and 5' high. The south face of the building originally contained a small boilerplate door set in a wood frame measuring 52" x 30". The door is now missing. A small vent was built into the wall at the base of the right side of the door.

The flat roof was covered with tarpaper, half-round logs, and dirt. The structure appears to have been built into the slope of the hill or was at least partially covered with soil. A long wooden vent or chimney was set into the roof at the right rear corner. The length of the vent (approximately 3') suggests that large amounts of soil covered the log roof. Parts of the roof have since collapsed and soil has fallen into the center of the building. The floor of the first Cap Magazine was dirt.

Camp investigation reports in 1936 described the environment within the building as damp (Stockman). Water deposits are visible on the back wall today. Although there is no documentation, it is probable that the first Cap Magazine was abandoned shortly thereafter when a second Magazine was built to replace it. The first Cap Magazine is in a state of partial ruin; its integrity is fair.

**Second Cap Magazine (B-16)**
As with both the Powder and the first Cap Magazine, no NPS plans for the second Cap Magazine have been found. However, given the complexity of its design and structure, it seems likely that a formal NPS plan must have existed. No description of construction of the second Cap Magazine has been found in superintendent reports. Thus the date of its origin is uncertain but probably falls between 1937 and 1940.

The second Cap Magazine is located 600 yards further east of the first. The second Magazine is also elevated approximately 30' above the floodplain. Unlike the two previous Magazines, this building is oriented to the east. The building sits on a constructed embankment with a rock retaining wall. A short switchback path was constructed to provide access to the building and is now beginning to collapse with slope soil movement and erosion.

The second Cap Magazine is constructed of rhyolite stone and mortar (Figure 86). The one-story, one-room building is 7' high, 7' wide, and 9' long. The stone is carefully cut to match and leaves only scant space for mortar. The walls are 1' thick, uncoursed, and unbattered. The foundation and floor are poured concrete. The interior walls are plastered with cement. The building has a shallow roof with front gable. A wooden viga at the top of the pitch extends beyond the front and rear walls and supports a sheet iron roof

covered with crushed rock. Two false vigas penetrate the front and rear walls near the base of the roofline but do not extend the full length of the building. The front wall has two small vents in the upper left and lower right corners. A small door, 60" x 30", is capped with a wooden lintel. The door is constructed of 1/4" sheet steel and backed by 2" wooden boards. The roof was replaced in 1963. Like the Powder Magazine the building appears to have been unused for an extended period of time. The integrity of the second Cap Magazine is very good.

The second Cap Magazine was designed under the influence of the Park Service Rustic Style. The Powder Magazine and the first Cap Magazine were constructed in the first few months of Camp NM2A with functionality primarily in mind. Perhaps these buildings represent an even more pure version of "Pioneer" building techniques and craftsmanship.

## Public Campground

The Public Campground is located west of Bonita Canyon Highway and north of the confluence of Bonita Creek and Surprise Creek. The campground is situated in the floodplain of Bonita Creek. The slope of Riggs Mountain rise steeply on its western edge and the flank of Sugarloaf Plateau forms the eastern boundary. At this location Bonita Creek flows underground for most of the year. That subflow supports lush vegetation of Alligator Juniper, Arizona Cypress and Emory and Arizona White Oaks for shade with an understory shrubbery of Beargrass, Pointleaf Manzanita, Schott's Yucca and Skunkbush Sumac for screening between campsites.

The Civilian Conservation Corps cleared the site and constructed most of the present facilities in 1934 and 1935. Those facilities include the loop road, camp units, and two buildings. The Comfort Station and the Bath and Laundry House (now Ranger Residence) were built according to the Park Service rustic architectural style. A wood and stone bridge was built across Bonita Creek in the early 1960s. An amphitheater for public presentations was constructed in 1981. These remain the only significant intrusions to the site. The integrity of the Public Campground remains very good.

***Public Campground Resources***

1. Public Campground Site with Access Road, Campsites, and Vegetation -- contributing site.
2. Campground Comfort Station -- contributing building.
3. Bath and Laundry House/Ranger Residence -- contributing building.
4. Stone and Wood Bridge -- noncontributing structure.
5. Amphitheater -- noncontributing structure.

**Public Campground Site with Access Road, Campsites, and Vegetation**

Construction of the Public Campground began in January 1935 with clearing of the proposed roadway and digging of septic trenches (SWMMR). The ½ mile, single lane, "figure eight" shaped loop road was designed by National Park Service landscape architect Harry Langley and engineer J. H. Tovrea (Map 11). The one-way road crosses the creek in two locations. In these locations, concrete "dips" were constructed to reduce erosion (Figures 87, 88).

Construction of the campsites began in May 1935 (SWMMR). Today there are 25 camp sites within the campground; 11 of those are still in their original locations (Map 11, 12). The group camp unit was added downstream and on the far side of Bonita Creek prior to the mid 1960s. Each campsite contains a parking spur delineated by large stones, an aluminum table, a pole-mounted grill, and an approximately 10' square, slightly raised, gravel tent site. A rustic post and rail fence separates each campsite from the surrounding vegetation.

In Tovrea's original plan (#4959), 20 campsites were situated evenly around the two roadway loops. By the early 1950s the number of campsites around the two loops had been increased from 20 to 31. However, a flood event in 1956 washed away many of the eastern campsites that bordered Bonita Creek (Superintendents Narrative). Expansion plans during Mission 66 proposed an additional 150 campsites. For unknown reasons these proposed additions were never realized.

Each parking spur was delineated with large stones (Figure 89). The original picnic tables were constructed of milled lumber in the Camp Carpentry Shop. Cooking grills built of local stone materials were two-tiered in form with a cooking area above and a firebox below. A large rear stone reflected heat and a rectangular iron grill was mounted above the fire box (Figure 90). This simple design was common in campsites throughout the western parks (Good 1999 v.3:96). Tables and cook grills were replaced in 1961 (Building Maintenance Log). There is no information that shows how tent sites in the Public Campground were specifically delineated during the CCC era. Tent sites are now slightly raised gravel platforms (Figure 91).

Upon completion of construction of the Bath and Laundry House CCC crews began a major planting program to enhance aspects of shade and screening and to obliterate the remains of the old Forest Service road in the Campground (SWMMR). Under the direction of forestry foreman Fulton, enrollees planted 70 trees and shrubs in the spring of 1936. In February 1937 they planted an additional 60.

A stone and wood pedestrian bridge was built in the early 1960s to provide access to the Comfort Station. The bridge crosses Bonita Creek just east of the Comfort Station. Rangers recognized that visitors staying in the north loop were unable to cross the dip during high creek flows to reach the Comfort Station. An attempt was made in the bridge abutment construction to use stone materials similar to those in early CCC structures. The rolled river rock used in the stone abutments, however, is unlike any other stone used in CCC structures nor is it local to the monument. The wooden components of the bridge have been replaced at least once (Cluff personal communication).

A second structure, an amphitheater, was constructed in the campground in 1981 for public education purposes. Rangers present natural history slide shows and interpretations of historic characters and events. The amphitheater is set apart from the rest of the Campground on the west side. Nevertheless its design, construction, and materials match none of the characteristics of the CCC landscape buildings. A well was dug in 1961 to provide more water for monument needs. A small pump house protecting mechanical equipment sits at the north end of the Campground.

Despite the additional structures, those changes in the number of campsites around the loop road, and the alterations of the original features within each campsite, the original design and intent of the Campground remains largely intact.

**Campground Comfort Station (B-10)**
The Comfort Station sits at the east corner of the intersection of the two loops of the campground road. The one-story building was constructed by CCC enrollees between March and May 1935 (Figure 92). The two-room structure houses both a men's and women's restroom. The overall dimension of the Comfort Station is 26.5' by 17'. A small utility room separates the two restrooms. The entryways to each restroom are on opposite corners of the building and each is shielded from view by a high-walled, covered porch. The layout of the Campground Comfort Station is similar, though not identical, to NPS examples in Albert Good's compendium Park and Recreation Structures (v.1:129-150).

The building has a poured concrete foundation and flooring. The floors within the porches are covered in flagstone. The walls are 18" thick and built of roughly coursed, rectangular cut rock set in mortar. The windows and doors have trapezoid-shaped wooden lintels.

The lintels are wider at the base than at the head and are approximately 10" tall. Originally, the windows were double-hung steel sash and the doors were wood. The rafters and roof beams are exposed outside of the building and protrude approximately one foot past the building walls, and end flush with the roof. The gabled roof was originally covered with wood shingles; those were replaced in 1957, 1964, and 1989 with asphalt ones. Interior walls were plastered; however the CCC enrollees left the underside of the roof uncovered. The ceiling was later plastered in 1961. The doors and windows were replaced in 1965. The building was made handicap accessible in 1989 (Figure 93).

The original plan for the Comfort Station shows an entrance to the utility corridor through the men's bathroom (#3014). A plan drawn in 1949 for the same building shows no change. However, a subsequent drawing from 1961 shows a new entrance to the utility corridor through the eastern exterior wall (Maintenance Log). Early photographs confirm that this exterior entrance was not part of the original Comfort Station.

During construction of the building, CCC enrollees were careful to retain nearby Arizona White and Silverleaf Oak trees for shade and partial screening. Many of those trees are still present around the Comfort Station today.

The structure, workmanship, materials, and feeling of the building are intact; its integrity is good.

**Bath and Laundry House/Ranger Residence (B-11, Ranger Residence)**
CCC enrollees constructed the single-story Bath and Laundry House between October 1935 and March 1936 (Figure 94). The building is located in the southern corner of the intersection of the two loops in the campground road. The T-shaped house was designed with back-to-back men's and women's showers and a laundry room in the third wing. The three rooms originally functioned independently of the others; each had its own entrance. The interior was converted to residential quarters in 1970 (Superintendents Narrative).

The building measures 32' x 15' in the larger section and 12' by 16' in the smaller. Its foundation is poured concrete and the walls are constructed of cut rock, uncoursed at the bottom and shifting to a coursed pattern near the top. The windows and doors have trapezoid-shaped wooden lintels. The lintels are wider at the base than at the head and are approximately 10" tall. During its reconstruction in 1970, the door into the original laundry wing was partially filled in as a window. The windows were originally double-hung steel sash and the doors were wood. The rafters and roof beams are exposed outside of the building and protrude approximately one foot past the building walls, and end flush with the roof. The gabled roof was originally covered with cedar shingles. These have been replaced with asphalt ones in 1957, 1974, and 1989. The original windows were replaced in 1990 with double glazed ones. No information is available on replacement of doors.

The integrity of the Bath and Laundry House is good.

## Civilian Conservation Corps Campsite

The Civilian Conservation Corps Campsite was located 3/4 mile due east and upstream of the Faraway Ranch in what is now called the Silver Spur Meadow. The vegetation that surrounds the meadow is typical of riparian environments in the area and includes Alligator Juniper, Arizona Sycamore, Apache Pine, and Arizona White and Silverleaf Oak. CCC enrollees constructed their temporary village in May 1934 and inhabited the site until June 1940 when the camp was disbanded and the buildings given to Lillian and Ed Riggs. The property was transformed into a guest ranch and changed hands twice before being sold the National Park Service in 1967. All of the buildings were demolished shortly thereafter. Foundation remains of some buildings can be found at the site. The only intact structure

built by the CCC enrollees is a Bear Cage built into the south-facing slope above the Campsite.

***Civilian Conservation Corps Campsite Resources***

1. Campsite with Open Ground, Remnant Road, Water and Septic Systems, Vegetation, and Foundations -- contributing site.
2. Cima Bear Cage -- contributing structure.
3. Remnant Chimneys -- noncontributing structure.

**Campsite with Open Ground, Remnant Road, Water and Septic Systems, Vegetation, and Foundations**

The CCC Campsite was physically divided into two clusters of buildings: the US Army half and the National Park Service half (Ringenbach and Gastellum 1986). The two clusters were conveniently separated by Bonita Creek. Army-administered buildings were located northwest of the creek and Park Service ones to the southeast (Map 13).[4]

The US Army portion of the site included four barracks housing upwards of 200 enrollees, a dispensary, a mess hall, a recreation building, officers' quarters, a commanding officer's building, and a supply and office building (Figures 95-97). The National Park Service cluster contained an office with warehouse, five small residences, a garage, and large shed for trucks (Ringenbach and Gastellum 1986). Other buildings were also constructed including a blacksmith shop, machine shop, tool storage shed, carpentry shop, oil and grease house, and tool-grinding shed (Figures 98, 99) (Hammond 1935). The locations of only some of these buildings have been identified. This large number of buildings was apparently typical of most CCC camps (average 24) (Cohen 2001:31). Upon termination of the campsite lease, the Riggs/Erickson family received 24 buildings as partial payment by the federal government (Wegman-French 2006:61).

The layout of the NM2A Campsite with its rectangular arrangement was typical of CCC camps (Cohen 2001). This arrangement dates back at least to early forts in which buildings were arrayed in either square or rectangular patterns around a central field often used for marching drills. The central portion of the CCC Campsite in Bonita Canyon was used twice daily for morning roll call and calisthenics as well as evening retreat (Ringenbach and Gastellum 1986) (Figures 95, 97).

Infrastructure at the CCC Campsite included water and sewer systems. Water from the central well was pumped up to a storage reservoir on the slope above the mess hall. Latrines and showers were probably located at the lower end (west) of the meadow (Gastellum 1986). The septic system for the CCC Campsite was constructed in the floodplain of Bonita Creek below the meadow. Proper handling of sewage for such a large number of people appears to have been a continuing problem, especially for Faraway Ranch residents whose drinking water came from the same creek one mile lower down (Wegman-French 2006:58). One septic tank was known to have been constructed in March 1935 (SWMMR). Remains of two tanks still can be found west of the meadow.

The main access to the CCC Campsite was a roadway leading off Bonita Canyon Highway north of the Visitor Center (Harris et al. 1988). The same roadway was also used by the dude ranches as their main access. That use was probably discontinued in 1971. Remains of the roadway are still visible in the landscape (Figure 102).

While the original CCC buildings were dismantled by the National Park Service in 1971, remnants of other structures are still present in the landscape including old roads, sewer and water systems, as well as building foundations. Two fireplaces stand in the meadow;

[4] No formal plan of the CCC Campsite was ever produced. Limited information on the layout of the campsite and the location of individual buildings was obtained from hand sketches drawn from memory by enrollees and correlated with photographic overviews taken from the water tower site.

they mark the location of the original CCC mess hall and later the Silver Spur Ranch lodge (Figure 100). Evidence of numerous building foundations, poured concrete as well as simple stone rubble, from other CCC/Silver Spur buildings can be found throughout the campsite (Figure 101).

Evidence of the CCC Campsite also exists in both open spaces and in planted trees. A row of Alligator Junipers was planted by enrollees during camp improvement activities in April 1937 in order to delineate space and emphasize boundaries of the parade ground (Figure 103) (SWMMR). The open space within a Sycamore grove near Bonita Creek contained the dispensary (Harris et al. 1988). The parade ground still remains open but is rapidly diminishing in size as historic vegetation grows up and new Juniper recruits fill in along the edges (see Figures 95, 96).

**Cima Bear Cage**

The Cima Bear Cage was built to house the enrollees' pet bear. The orphaned bear cub was adopted by enrollees stationed at the Coronado National Forest fly camp in Cima Park. The bear cub was fed bottled milk and scraps from the table in the mess hall (Gart 2000:60). The cage was built when the bear cub grew larger and became difficult to manage (List of Classified Structures 1995). No exact date of construction is available but the cage was probably built around 1936.

The cage was manufactured from a small cave, partially excavated from the rock slope northwest of the campsite (Figure 104). The mouth of the cave is walled in with coursed, rubble rock set in mortar. Two small windows are covered by iron bars. The stonework clearly lacks the finished workmanship of other monument structures, yet the cage represents the only example of a personal project conceived of and executed by the enrollees themselves. The integrity of the cage appears to be good.

The integrity of the CCC Campsite is only fair due to the absence of the original buildings. However remaining landscape features still provide evidence of the Camp NM2A's existence during the years of 1934 to 1940 (Map 14). With the exception of the Cima Bear Cage, all of the constructed features are in ruined form. Vegetation by its position and spacing provides limited clues to the arrangement of buildings within the CCC Campsite.

The absence of intact buildings and structures from CCC campsites is not unusual, however. Almost all of the camps were designed to be temporary; the buildings were meant to be dismantled and taken away. Thus assessment of the integrity of the Chiricahua CCC Campsite might better be made in comparison to other historic CCC campsites and not in relation to other more permanent structures in Chiricahua National Monument (see McClelland 1998: 509).

## Sugarloaf Mountain

The Sugarloaf Mountain site is located northwest of Massai Point. The dominant feature of the site is Sugarloaf Mountain, the second highest point (7310 feet) in the monument. Sugarloaf Lookout and its support elements were constructed in 1934 and 1935 by the Civilian Conservation Corps enrollees of Camp NM2A under the guidance of US Forest Service and National Park Service supervisors. The Sugarloaf Lookout is based on the Forest Service L-4 design for fire reconnaissance buildings. The mountain represents the northernmost fire reconnaissance location in a series of lookouts situated on high peaks along the Chiricahua Mountain Range. The site includes a secondary access road, trail, and building (Map 3).

Sugarloaf Mountain, like much of the rest of the monument, is largely composed of layers of welded rhyolite ash. The top of the peak retains a small outcrop of dacite lava, the remnant of a later flow from the Turkey Creek caldera to the South. This lava layer is relatively resistant to erosion; its presence is the reason that Sugarloaf Mountain stands so much higher than the rest of the monument

landscape (Pallister and DuBray 1997).

The integrity of the Sugarloaf Mountain Site, and Sugarloaf Lookout, Access Road, and Trail is good. The site has undergone limited modification since its completion in 1939. The site originally included an extensive Telephone Communication System connecting the Sugarloaf Lookout to the Administration Area, Massai Point, and, ultimately, the Portal Forest Ranger Station 17 miles to the southeast. This communication system was eventually replaced by a radio system. The original parking lots associated with the Sugarloaf Access Road have been significantly enlarged. Two modern restrooms were added at each of the parking lots during the early 1990s. Sugarloaf Lookout is still manned during the fire season each summer. The road provides parking and access to the northern end of Echo Canyon Trail as well as the Sugarloaf Trail. Sugarloaf Trail is also used by visitors who wish to climb to the top of the mountain.

***Sugarloaf Mountain Resources***

1. Sugarloaf Mountain and Vegetation -- contributing site
2. Sugarloaf Lookout -- contributing building.
3. Sugarloaf Access Road and Parking Lots -- contributing structure.
4. Echo Canyon and Sugarloaf Restrooms -- noncontributing buildings.
5. Sugarloaf Trail -- contributing structure.
6. Sugarloaf Trail Tunnel -- contributing structure.
7. Sugarloaf Trail Bench and Seating -- contributing object.
8. Sugarloaf Mountain and CNM Telephone Communication System -- contributing structure.

**Sugarloaf Lookout (B-12)**

The Sugarloaf Lookout is located on the peak of Sugarloaf Mountain. The fire prevention building is based on the US Forest Service L-4 Lookout design developed by Coert duBois. Construction of the lookout began in March and was completed in June 1935. Woodrow Harris, a CCC enrollee, identified C.B. French as the foreman who supervised the building of the lookout (Harris 1994).

The foundation of the lookout was excavated using dynamite (Figure 105). The lower four feet of the lookout walls are faced with the rubble rock from the excavation. All other CCC-built structures in Chiricahua National Monument are constructed of rhyolite boulder or cut block. The lower half of Sugarloaf Lookout, in contrast, is faced with dacite lava, the rock most readily available on the mountaintop (Figures 106, 107). The foundation of the lookout is constructed of poured concrete footings that form a small cellar. The structure above is wood frame. A hipped roof overhangs the walls by 2'. The metal frame door forms the middle panel on the east wall. The remaining wall spaces contained 19 steel frame windows; these were replaced with aluminum frame windows in 1974 (Building Maintenance Log). A concrete cistern on the south side of the building is also faced with lava rock (Clemensen 1992). The cistern was designed separately from the rest of the lookout by National Park Service engineer, Walter H. Attwell (#4966 and constructed to catch rainwater for drinking purposes. Today water is now carried in by lookout staff. A small concrete patio, built at an unknown later date, extends from the front steps. Lightning conduction equipment was added to the lookout after July 1935 (#4973). The conduction equipment outlined in plan #4973 is identified in US Forest Service documents as a Type T7 Air Terminal (USDA Forest Service 1989:244). The Sugarloaf Lookout today supports two radio transmission antennae on the northwest and southeast corners (Figure 108) (#3121A).

The interior floor was originally built as a triple layer of hardwood with felt insulation in between. This flooring was replaced in the mid-1990s (Elvin Cluff, personal communication). A trap door through the floor provides entrance to the cellar. In the center of the lookout is an Osborne Firefinder (Figure 109). Designed in 1911 by William B. Osborne, a US Forest Service engineer, the instrument

became a standard piece of equipment for almost all US Forest Service lookouts (USDA Forest Service 1989:48). The date of installation of the firefinder is unknown, but is likely to be roughly commensurate with the earliest use of the lookout.[5]

The construction crew from Camp NM2A originally built a hitching rack for horses and a flagpole near the lookout (Stevenson 1935). Today a flagpole is located approximately 25' northeast of the building. Figure 106 shows the location of the original flagpole to be much closer to the structure. Two wooden pit toilets were also constructed nearby. Those pit toilets were removed at an unknown time. A modern portable toilet is present on the site today.

The integrity of Sugarloaf Lookout is good.

**Sugarloaf Mountain Access Road and Parking Lots**
Good access to Sugarloaf Mountain was essential for CCC crews to transport construction materials and for fire observers who would staff the lookout. The route needed to be broad enough to accommodate truck traffic. The first monument plan depicting anticipated CCC projects outlined an original access route connecting Massai Point to Sugarloaf Mountain (#4942).

A road between temporary parking lots created for the monument's massive Dedication Ceremony served as the foundation for what later became the Sugarloaf Access Road (Figures 110, 111, Map 6). In November 1934 a CCC crew began to reconstruct the parking lot road into the new Sugarloaf Access Road. Crews extended the access road northwest another 1/3 mile to the northeastern flank of Sugarloaf Mountain. The only subsequent CCC alteration to the access road occurred in March 1936. Crews widened the junction with Bonita Canyon Highway in order to improve visibility (SWMMR).

Comparisons of aerial photographs taken in 1935, 1947, and 1958 suggest that few alterations were made to the Sugarloaf Access Road until sometime prior to 1970. Aerials taken in 1970 and 1976, however, show the road widened to a two-lane road. Morrow Reardon and Wilkinson have stated that Bonita Canyon Highway was first asphalted in 1969 (2001). It is fairly likely that the Sugarloaf Access Road was reconstructed and paved at that time.

In the spring and summer of 1936 plans were generated for a trailhead parking lot about 1/3 mile north of the start of the access road (#5000). Situated on broad shelf at the head of Echo Canyon, this parking lot would be located near the start of the Echo Canyon Trail. The trail had been recently completed in June by Ed Riggs and his CCC trail crew. Tourists and park staff had already deemed it to be highly successful and very popular (SWMMR). Engineer J. H. Tovrea designed the parking lot as a simple loop offset from the access road. Parking was sufficient for 13 cars, five on the inner ring and eight on the outside. Tovrea was careful to avoid damaging existing trees and shrubs and shifted parking spaces to accommodate the vegetation. He also recommended planting more vegetation at the junction between the parking lot and access road to screen parked cars from view. Actual construction of the parking lot was delayed for unknown reasons until May 1938 and finally completed in June (SWMMR).

Aerial photographs show that the Sugarloaf parking lot remained essentially unchanged until prior to 1970 when the loop was bladed into an open area. Engineering plans (#41001A) dated February 1969 describe enlargements for both parking lots at Echo Canyon and Sugarloaf Mountain. Parking spaces at Echo Canyon increased from 13 to 38.

Plans developed in September 1935 and February 1936 by Southwestern Monument engineers (#3027, 4979) suggest that a formal parking lot was planned for the end of the Sugarloaf Access Road. A 1947 aerial photograph does show the existence of a parking lot.

[5] The Osborn Firefinder is not visible in the earliest photograph of the lookout (Figure106 – 1935) but is present in a 1949 image.

However no mention of any CCC construction activity relating specifically to the parking lot at Sugarloaf Mountain appears in the superintendent's reports during the CCC era (SWMMR). It is likely that construction for this parking lot occurred around 1938, at the same time as the parking lot at Echo Canyon. Like the parking lot at Echo Canyon, expansion of the Sugarloaf Parking Lot took place prior to 1970 (#41001A).

The February 1936 layout of the parking lot at Sugarloaf Mountain was designed by Harry Langley, one of the resident NPS landscape architects (#4979). The parking lot was set out in a traditional "dog-bone" arrangement with islands at the north and south ends. These islands were surrounded and connected by dry-laid stones. The outer boundary of the parking area was also demarcated with dry-laid stone. The head of the Sugarloaf Trail began at the southwest corner of the parking lot. Concerns for landscaping aspects of the parking lot seem diminished in comparison to the plan for the parking lot at Echo Canyon Trail. The plan shows no recognition of vegetation around the site and contains no discussion of preservation for visual quality purposes.

The parking lot was enlarged somewhat in 1949 and reconstructed in 1969. The reconstruction involved extending the parking lot to the south by an approximate 30'. The original dog bone layout was removed. Small islands at the extreme ends of the lot were added to show traffic direction. The trailhead still departed from the southwest end. Today there are no islands in either parking lot. Modern restrooms were added in 1999 to both lots (Cluff personal communication).

The integrity of the Sugarloaf Access Road is good. Few changes have been made in the roadway beyond widening and paving since the original CCC construction. The integrity of the Sugarloaf Parking Lots is poor. With the exception of location and orientation to their respective trailheads, little of either of the CCC-constructed Sugarloaf or Echo Canyon Parking Lots persists. The existence of an original CCC-constructed parking lot at Sugarloaf Mountain remains to be confirmed. The restroom facilities are noncontributing.

**Sugarloaf Trail**

The primary purpose of the Sugarloaf Trail was to provide access to the Sugarloaf Lookout. The Sugarloaf Trail was designed by Walter Attwell and Harry Langley; it was completed in 1935. The trail begins on the northeastern slope of Sugarloaf Mountain and gradually gains elevation as it traverses the north and northwest flanks of the mountain. At approximately 0.6 miles, the trail makes a single switchback and from there climbs to the peak along the western brow. The trail begins at an elevation of 6840' and finishes at 7010'. Its length is 4800' and has an average grade of less than 4%.

National Park Service designers encouraged CCC trail crews to preserve rock faces that were exposed during construction. These faces "contain(ed) important stories which enhance(d) the value of the trail" (Arthur 1937:6). Along its short length the Sugarloaf Trail illustrates a number of significant geological events displayed in a series of layers or beds. The trail rises through the middle and upper layers of rhyolite tuff. These two layers are separated by the softer ash surge beds (Figure 113). The trail finishes at the only remaining outcrop of dacite lava within the monument (Pallister and DuBray 1997). While the labor to cut the trail from these different layers was costly in terms of man-hours, the trail presents to the observant visitor a fascinating lesson in cataclysmic geology (Figure 112).

The layout of the trail provides the visitor with remarkable opportunities to view many of the monument's prominent landscapes, especially the Sulphur Springs Valley. Superintendent Hammond waxed eloquent in his Fourth Enrollment Period Progress Report description of the trail, "an unsurpassed view of the rock formations comprising the monument, Cochise Head, and the surrounding country for many miles will be had upon the finishing of this trail" (Hammond 1935).

The condition of the trail today has been identified by a park service archaeologist as moderate (Travis 2001). Water shedding

features on the upper trail above the switchback have created slumping and slide problems on the lower part (Kate Nielsen personal communication). Erosion has altered the edges of the trail in many locations. At these sites the trail width has been reduced by slumping on both cut and fill slopes.

The overall integrity of the Sugarloaf Trail appears to be good.

**Sugarloaf Trail Tunnel**
The trail has two unusual features one of which was part of the December 1934 plan. Landscape architect Langley and engineer Attwell turned the challenge of the rhyolite rock face on the north slope to their advantage. Encouraged by their experience in drilling and blasting rhyolite on Bonita Canyon Highway, they designed a short tunnel through the projecting point of rock. This tunnel is approximately 6' wide, 15' long and tall enough (9') for a man on horseback to pass through comfortably. According to Woodrow Harris, a CCC enrollee, C.B. French, a recognized expert in the use of dynamite, was responsible for construction of the tunnel (Harris et al.1988; Harris 1994). The tunnel is located approximately 0.2 mi. from the head of the trail (Figure 114).

The integrity of the Sugarloaf Trail Tunnel is very good.

**Sugarloaf Trail Bench and Seating**
The second feature was not part of the plan and is more whimsical in nature. The CCC trail crew assembled a small picnic bench and table from rock slabs produced during drilling (Figure 115). The trail crew intentionally set the outer surfaces of the rock slabs on top so that the original attached lichen would remain visible. The seating arrangement is set in a protected alcove below a north facing slope just west of the tunnel.

The integrity of the Sugarloaf Trail Bench and Seating is very good.

**Sugarloaf Peak and CNM Telephone Communication System**
Reliable and expedient communication is essential for the successful operation of any fire lookout, and in the first decades of the twentieth century this meant the telephone. One of the tasks that Camp NM2A was to construct a system of telephone lines connecting the Sugarloaf Lookout with the rest of the monument and the US Forest Service Ranger Station at Portal.

The telephone line to the Sugarloaf Lookout was no longer maintained at some unknown time after the end of the CCC era. Plans for a radio communications system between the lookout and headquarters were developed in January 1966 (#3121A). The phone line was replaced by a radio link that still operates today and permits the lookout occupants to communicate with all members of the monument staff (Figure 108).

The only remaining portion of the Telephone Communication System consists of four steel poles and is situated 100 yards north of the Visitor Center. Some of the poles still carry telephone wire (Figure 116).

The integrity of the Sugarloaf Mountain and CNM Telephone Communication System is poor.

## Utility Area

The Utility Area is located on a secondary access road, approximately 200' southwest of the Visitor Center. The area is bordered on its east and west ends by the historic and modern residence clusters respectively (Map 15). The five buildings are bounded on the north

and south sides by large retaining walls and are all associated with maintenance operations at the monument. Two major structures within the compound are the CCC-constructed walls and the modern gasoline island. Four of the five buildings within the Utility Area were constructed by the Civilian Conservation Corps between 1936 and 1940 in the Park Service rustic architectural style. They are the Equipment Shed, Warehouse, Power House and Laundry, and Gasoline and Oil House. Each one occupies one corner of the approximately square compound. A fifth building, the Facility Manager's Office, was added in 1977 on the northwest corner. The four buildings and walls were constructed from rhyolite stone quarried within the monument or from the adjoining Coronado National Forest. These buildings and the stone walls surrounding them represent three different types of stonemasonry techniques.

Despite modern additions to the Utility Area the integrity of site and its resources is still good.

***Utility Area Resources***

1. Utility Area Retaining Walls -- contributing structure.
2. Utility Area with Access Roadway and Rock Piers -- contributing site.
3. Equipment Shed -- contributing building.
4. Warehouse/Carpentry Shop -- contributing building.
5. Power House and Laundry -- contributing building.
6. Oil and Gas House -- contributing building.
7. Facilities Maintenance Office -- noncontributing building.
8. Gasoline Station -- noncontributing structure.

**Utility Area Retaining Walls**

The site for the Utility Area was excavated out of the side of a north-facing hill. Removal of this excavation material required significant blasting of rock (SWMMR). Cut material was used to extend the Utility Area base to the north. After a later expansion the compound provided a working area that was roughly 130' on the East-West axis and 110' on the north-south.

The original wall system around the Utility Area was not intended for screening purposes but primarily to increase the usable space for maintenance operations. A plan for physically separating and screening the Utility Area came later with the wall's expansion and redevelopment.

Construction of the north retaining wall began in June 1936 after two months of blasting and excavation (SWMMR). The north wall, as it appears today, was actually built in two separate efforts. The lower portion of the wall was built to retain fill material from the original excavation and to create a level, working surface for the Utility Area. This lower portion probably stood approximately 6' in height which in the Utility Area was close to ground level. The north wall was built in an open "U" shape, 25' on its east and west sides and approximately 90' on the north (#4982). The wall is composed of large boulder and rock rubble set in a random pattern and mortared with cement. The size of the rocks used in the wall diminishes with height (Figure 117). A short driveway off the Residential Road entered the Utility Area at its west end. After the lower portion of north wall was completed, construction of the first utility building, the Equipment Shed, began in August 1936 on the south side of the Utility Area (Map 16).

In January 1938 the Utility Area was dramatically expanded beyond its original boundaries; its working area was almost doubled (SWMMR). The addition of a number of new buildings in the Utility Area was anticipated and a larger wall system was needed to enclose them all. Engineer J. H. Tovrea was responsible for the new design of the Utility Area (#5701). The areas to the east and west of the Equipment Shed were cleared. Two wall segments that attached to the southwest and southeast corners of the shed were added to retain soils on the southern slope and define the new open space (Figure 118). Both south wall segments were built in an open "U"

shape and stood approximately 5' high. The rock piers formed the outer ends of the segments and marked the old ingress and new egress of the Utility Area Access Road (Figure 119). The style of stone masonry of the southern wall was identical to that of the original northern portion.

The long axis of the north wall was extended an additional 40' to the east bringing the length of the wall to 130' (#5701). The wall was also raised 4' above its original height. This upper portion of the north wall was later incorporated as part of the exterior walls of the Warehouse and Power House and Laundry. The area at the base of the north wall is now used as overflow parking for additional utility vehicles.

The integrity of the Utility Area Retaining Walls is high.

**Utility Area with Access Roadway and Rock Piers**
Engineer Tovrea proposed a third component of the wall system in order to more fully screen the Utility Area. Wooden stockades were appended to the east and west ends of the north wall. These stockades were constructed of whole logs and terminated at two rock piers supporting the northern gateposts. No reference to the construction of these stockades was made in Superintendent Stevenson's Southwest Monument Monthly Reports. The existence of the stockades is confirmed in historic photos taken in late 1930s and 1940s (see later Figures 123, 126). Today nothing remains of these wooden fences.

The east and west entrances to the Utility Area were demarcated by four rock piers to which were attached wooden gates and gateposts (#5701). The swinging gates were built using whole logs and could be secured at the center with chain and hasp. Gates and gateposts were built by the carpentry shop and installed in June 1938 (SWMMR). The wooden gates were replaced with chain link ones at some unknown date. The chain link gates have since been removed. The wooden gateposts were replaced with steel supports; these are still attached to the rock piers (Figure 120). The design of the wall, rock pier, and log gate combination was very similar to an entranceway built by the Civilian Conservation Corps at Mt Penn Park in Reading, Pennsylvania (Good 1999, vol.1:17).

Prior to the expansion in January 1938 the Utility Area had only one point of access on the west side. When the east half of the compound was expanded, a decision was made to improve circulation and develop an eastern entrance (#5701). Like the western entrance, the eastern access connected to the access road and created a loop through the Utility Area. An addition to the access road was constructed in the 1970s to provide entrance to the modern residence area.

A storage shed was erected in the northwest corner sometime prior to 1970.[6] That structure was removed and a larger building was erected in 1977 as the Facility Manager's Office (Elvin Cluff, Jose Ramirez, personal communication). The Facility Manager's Office is located northeast of the northwest gatepost in the same location as the northwest stockade had been. The office is a one-room structure sheathed in wood siding and covered by a gable roof with asphalt shingles. The Facility Manager's Office is one of two later additions to the historic compound. While the structure is small and is located at the northwest corner of the stone wall, its presence is still a detriment to the integrity of the organization of the compound.

The second addition to the Utility Area is the gasoline station complex located east of the Equipment Shed. This complex has been repeatedly expanded since completion of the Gasoline and Oil House. Today it rests on its own concrete slab. The pumps are shaded by a steel awning. A gasoline station has always been present in Utility Area. For reasons of safety and efficiency, gasoline dispensing equipment requires regular upgrading. Its presence in the south central portion of the compound is dominant and does weaken the

[6] The shed is visible in aerial photograph of the monument taken in 1970.

integrity of the compound's historic organization.

Despite the modifications of the gates, the removal of the stockades, and the intrusions of the Facility Managers Office and gasoline station, the integrity of the Utility Area with Access Road and Rock Piers is still fair.

**Equipment Shed (B-7)**
The Equipment Shed was the first building constructed in the Utility Area (Figures 118, 120, 121). A preliminary design was drawn in April 1935 (#3024).[7] The shed contained four bays in the center with a storage space and workshop on either end. The final design, dated February 1936, retained the same floor plan but converted the two end rooms into two extra bays (#3024A). The architect for the second design is not known. Construction began in August 1936 and was completed in January 1937. The shed was located on the southern side of the Utility Area adjacent to the excavated hillside. The Equipment Shed, built in 1936, is the only structure built prior to the construction of the upper layer of the north wall and south retaining wall. Thus the Equipment Shed was built physically and visually independent of the masonry style of the wall. Portions of the south retaining wall were later connected to the corners of the Equipment Shed.

The dimensions of the original building were 70.5' in length by 24.5' in width. The shed masonry is composed of uncoursed stone. Nonetheless the irregularly shaped stones are carefully cut and set to fit with very even interstitial spacing. There is no batter in the Equipment Shed walls. The masonry style of the shed is similar to the original Ranger Station built in 1936 and the second Ranger Residence built in 1938. The roof is a shed roof that slopes towards the south. The roof is clad with asphalt shingles, which replaced the original cedar shingles in 1957. The six bays were hung with large wooden double doors; those were replaced with steel overhead doors in 1966. There are six windows on the south wall and two each on the east and west. The window openings have thick wooden lintels and still retained the original wooden sash windows (Building Maintenance Log). The foundation of the building is concrete as are the interior walls.

In 1985 the building was extended westward with a large, 32' by 29', concrete pad. In 1988 this pad was enclosed; cement blocks were placed on top of the original rock wall to form the west and south walls of the addition. New asphalt shingles were placed over the entire roof system at that time (Building Maintenance Log). The equipment shed is now primarily used for storage of files, equipment, and vehicles.

Of the four CCC-era Utility Area buildings, the Equipment Shed has undergone the greatest amount of exterior change. Its integrity is fair.

**Warehouse/Carpentry Shop and Maintenance Office (B-5)**
The second building constructed in the Utility Area was the Warehouse. Its construction began in June 1938 and continued intermittently until May 1939 (SWMMR). The building was designed by Robert W. Albers, a Southwestern Monument architect (#2030).[8] The main portion of the building measures 22' wide by 46.5' long and includes three bays, a storeroom and office. An ell on the southeast corner contains a small bathroom and an entrance porch (Figure 123). Located in the northeast corner of the Utility Area, the Warehouse incorporated part of the wall's above ground addition as the lower portions of its rear (north) and east walls (see Figure

[7] The designer's initials were L.N.B. -- probably Lyle N. Barcume. Barcume designed many of the early buildings at Bandelier National Monument.
[8] As far as can be determined, Albers never visited Chiricahua National Monument. Like Barcume, Albers designed many of the buildings at Bandelier.

117). The Warehouse is built with large stones, many of which are comparable in size to the boulders incorporated into the north retaining wall. It is the only maintenance building that is visually compatible with the retaining walls. Large gaps between the stones have been filled with mortar. There is a slight batter to the lower walls. The size of the stones diminishes with height of the structure. The style of masonry is perhaps most similar to the Administration Building and the first and third Ranger Residences in its use of large rubble stone as a building material. The side-gabled roof is sheathed with asphalt shingles (Figure 124). Each bay has a pair of wooden doors with diagonal planking that open outward. Stones in the top course of the Utility Wall were removed to accommodate the Warehouse windows. Window openings still retain the original wooden lintels. The shop portion still has its original steel casement windows; the office windows have been changed to double-hung aluminum sash. The foundation is poured concrete. Concrete was also used to cover the walls (Clemensen 1992). Albers also designed bins and shelves that were constructed by the carpentry shop and installed in the Warehouse (SWMMR).

The original cedar shakes that clad the roof have been replaced with asphalt shingles. The original doors were replaced in-kind in 1966. In the late 1940s the office was remodeled as seasonal quarters. In the 1970s the seasonal quarters were removed and the area again became office space (Clemensen 1992). Now known as the Carpentry Shop and Maintenance Office, it houses carpentry equipment and office space. The integrity of the Warehouse is good

**Power House and Laundry (B-8)**
Construction on the Power House and Laundry began in August 1939 shortly after completion of the Warehouse.[9] The Power House and Laundry anchors the northwest corner of the Utility Area. The building measures 26.5' by 17' and is composed of 2 rooms. It was finished just before termination of the Camp in May 1940. Stone for the Power House and Laundry, Orientation Station, and Oil and Gas House came from the same quarry.[10] All three buildings were constructed at the same time (SWMMR).

The utility wall forms the lower portions of the north and west walls of the building (Figure 125) (#2037). The remaining portions as well as the south and east walls are constructed of coursed, carefully cut, rectangular blocks of rhyolite stone (Figure 126). The smaller and more finely cut blocks are set in the upper courses. The blocks in the Power House and Laundry lower courses are small, carefully squared, and are built with almost no batter. The building has a side-gabled roof with exposed rafter ends, sheathed with asphalt shingles. The ends of two wooden beams that support the roof at the north and south walls extend approximately two inches past the last rafter on the east and east sides of the building. Windows on the west and north walls were set on top of the existing retaining wall. Both windows and doors have heavy wooden lintels above them. The original steel sash windows are still present (Building Maintenance Log). The original double door to the Power House has been replaced with a modern door. The Laundry has a single wooden door in a half herringbone pattern which replaces, in-kind, a door that suffered water damage in 1949.

The roof was sheathed with cedar shakes, but has since been replaced with asphalt shingles. The original concrete floor was re-poured in 1947 (Building Maintenance Log). The larger room (Power House) originally contained a generator that supplied electricity to the maintenance facility, Visitor Center, and residences. The small room originally contained laundry facilities for the staff. After development of electrical power sources outside the monument, the Power House was converted to seasonal housing in 1955. During the late sixties the residence was changed to office space, and then in 1981 to maintenance storage. In the mid-1980s climate control was added; the room now houses the monument's archival documents and biological specimens (Clemensen 1992). A shower and restroom facilities have been constructed in the Laundry end. The integrity of the Power House and Laundry is good.

[9] The building was designed by P.C.B.
[10] The quarry was located on the north slope of Garfield Peak.

**Oil and Gas House (B-6)**
Like the Power House and Laundry building, construction of the Oil and Gas House began in August 1939 and was completed in June 1940. Both the Power House and Laundry and the Oil and Gas House were designed by the same individual (initials P.C.B.). The Oil and Gas House is a small 15.5' by 20.5', two-room building. The building incorporates the southeast portion of the Utility Wall as the lower portions of its east and rear (south) walls (#2036). Some Utility Wall stones were removed to create open space for the window in the east wall (SWMMR September 1939). The remaining portions of the building's walls are constructed of small, finely cut, rectangular rhyolite blocks. The bottom courses of the Oil and Gas House have blocks that are less squared and are somewhat larger in size; the walls are built with a pronounced batter. A concrete slab at the front of the building originally supported a gasoline pump. An outdoor light fixture set above the slab appears to be original to the building. The Oil and Gas House was the only building at the monument designed with a flat roof. The roof was originally constructed as a slab of reinforced concrete and was surrounded by a small parapet (Figure 119). In 1947 the concrete slab roof was replaced with a slightly sloped, lumber and composite roof (Figure 120). A stone scupper, revealing the original roof configuration, is still present on the east side of the building. It is not clear how much the stone parapet was altered. This roof was repaired in 1962 and reroofed in 1967 (Building Maintenance Log).

The building contains two small windows with wooden lintels on the east and west walls, and like the Power House and Laundry, two doors on the north face. The original steel sash windows are still present. The wooden left-hand door is narrow (only 2.5' wide), with a half-herringbone pattern. The right-hand double door is also wood in the full herringbone pattern. The interior faces of the doors are sheathed with sheet iron. Both doors are topped with wooden lintels and appear to be original to the building. The floor is poured concrete. The building is still used for oil and fuel storage as well as paint storage (Clemensen 1992).

The original gas pump was connected to a 500 gal. underground storage tank (Clemensen 1992). At one time the gasoline pump was removed and replaced with a modern one (List of Classified Structures 1995, see photograph of Oil and Gas House). That too has since been removed; gasoline is now supplied from a pumping station east of the Equipment Shed. Despite these changes, which in the case of the roof appear to be reversible, the integrity of the Oil and Gas House is very good.

## Residential Area

The Residential Area is located on the north facing slope of Lower Rhyolite Canyon. The site is set behind and south of the Visitor Center approximately 200 feet. A secondary road provides access to the Residential Area as well as the Utility and the modern Residential Areas. The site contains five buildings and two supporting structures (Maps 15, 16). Of those five buildings CCC enrollees at Camp NM2A constructed four: three residences and one cold cellar. The CCC buildings and structures were designed using the Park Service rustic architectural style. Like all of the buildings at Chiricahua National Monument, they are small, only one-story, and built low to the ground in order to blend with the landscape. The CCC buildings are all constructed of local stone although the masonry styles are different for each. The buildings exemplify the high-quality craftsmanship that is found in most CCC projects. CCC enrollees also landscaped the site; they planted trees and shrubs around the three residences and constructed play yards with retaining walls and terraces for two of them. The residences have been in continuous use as housing for seasonal or permanent National Park Service employees since their construction.

Early drawings indicate that National Park Service planners anticipated construction of four residences clustered around the loop of the access road (#4974; 3009B; 2027). The fourth residence was constructed in 1958 in the modern architectural style as part of the Mission 66 redevelopment and expansion of the monument. Residence #4 (B-14) is located at the west end of the loop between Residence #2 and the southeast corner of the Utility Area. Like previously constructed residences, the fourth residence is set back from the loop end of the access road and screened with shrubs and trees. Unlike the other CCC-constructed residences, the exterior of

Residence #4 is sheathed in redwood siding.

By the 1960s housing facilities had become inadequate to serve the needs of the growing National Park Service staff. Small rooms and other buildings had been renovated for seasonal housing (in the Power House and Laundry, the office in the Warehouse in the Utility Area, and the Bath and Laundry House in the Public Campground). To address the issue, a second residential compound immediately west of the Utility Area was begun in 1965. Extensions and additions to the modern site continued through the 1990s. The site includes a road extension off the Utility Area loop road with parking lot, retaining walls, and pathways. Six 1-story residences and one Laundry House make up the buildings on this site. Today the site provides residential quarters for permanent employees, seasonal workers, and visiting scientists.

While the modern residential site is not visible from the historic one, it does represent a recent addition into the staffing and service sites along the access road (see Map 15). Its presence in that area is noncontributing. The integrity of the CCC-constructed Residential Area is still good despite the addition of the fourth residence.

***Residential Area Resources***

1. Residential Site including Roadway, Vegetation -- contributing site.
2. Residence #1 -- contributing building.
3. Residence #1 Retaining Walls, Terraced Yards and Landscaping -- contributing structure.
4. Residence #2 -- contributing building.
5. Residence #2 Retaining Wall and Landscaping -- contributing structure.
6. Residence #2 Root cellar -- contributing building.
7. Residence #3 and Landscaping -- contributing building.
8. Building #14 -- noncontributing building.
9. Modern Residential Site with Additional Roadway, Parking Lot, Driveways, Retaining Walls, and Paths -- noncontributing site.
10. Laundry House -- noncontributing building.
11. Buildings # 22, 23, 25, 26, 27, and 28 -- noncontributing buildings.

**Residence #1 (B-3)**

Preliminary plans for Residence #1 were developed in March 1937 and final plans in April by assistant architect Robert W. Albers (#2027; 2027A). Construction of Residence #1 began in August 1937 and was completed in April 1938. The residence is located on the southeast corner of the loop and faces northwest. This one-story house is constructed of local rubble rock set in mortar; the stonework appears uncut and is uncoursed (Figure 127). The structure measures 36' x 39.5' and contains five rooms including a bath. The walls are strongly battered and measure 3' in thickness. Residence #1 has a small basement with both exterior and interior entrances (Figure 128). The foundation is poured concrete. The gable ends of the building are decorated with vertical wooden boards with scalloped lower ends; the boards have been stained dark brown. The main entrance to the building is off a small, covered porch. The north edge of the porch supports a low rubble masonry wall. The porch ceiling is supported by wooden posts. A porch on the east side has a stone-veneered floor; it gives direct access to the kitchen. Windows and doors have large, wooden lintels. Wooden window sashes were originally replaced in 1963 and again in 1990 with double hung, double glazed aluminum windows. The front door was made in the camp carpentry shop of Oregon pine (SWMMR). Cedar shingles originally covered the roof. These were first replaced in 1957 with asphalt shingles and multiple times thereafter (Building Maintenance Log).

The integrity of Residence #1 is good.

**Residence #1 Retaining Walls, Terraced Yards, and Landscaping**
The backyard of Residence #1 was designed and built in 1939 (#2038). The yard was originally designed as a play area for small children (presumably Frank Fish's daughters). The yard is bounded by uncoursed rubble walls and is separated into two levels (Figure 129). The lower yard is small and extends slightly more than the length of the house. It contains the exterior entrance to the basement. The stairway to the basement is poured concrete. A low, L-shaped rubble wall forms the outer boundary of the stairway as it descends below ground. The upper yard is much larger and was originally intended to have a grass lawn. Construction of the front yard was postponed until March 1940. At that time a gravel walkway connecting the loop road with the front porch and backyard was constructed. The gravel walkway was replaced at some later time with concrete. Around the front yard planted shrubs included Pointleaf Manzanita, Beargrass and Schott's Yucca were planted. Enrollees also planted Silverleaf Oak and Pinyon Pine for shade (SWMMR). Rock work around the road edge of the front yard was added in 1957 for soil retention purposes (#2061).

The integrity of the retaining walls, terraced yards, and landscaping around Residence #1 is good.

**Residence #2 (B-2)**
The plans for Residence #2 were developed in January 1935 by Robert W. Albers (#3009B). A plan directing small changes in the original layout was produced by Cecil Doty in November 1938 and suggests that construction of Residence #2 was already underway if not nearing completion (#2032). Residence #2 was completed in either late 1938 or early 1939. The residence is located on the southwest corner of the loop and is oriented NNE. It is a one-story building constructed of uncoursed, cut rock set in mortar; the walls have no batter (Figure 130). The building measures 29.5' square and includes a front porch along the length of the building and a small rear porch on the southeast corner (Figure 131). The building has a cross gable roof, originally covered with cedar shingles but now with asphalt. The roof of the front porch is supported by four wooden posts; the roof on the rear porch is supported by one. The building contains four rooms including a bath. The residence has no basement and is set upon a poured concrete foundation. The flooring of the front porch and the three front steps below it are veneered with cut rock set in mortar. The rear porch flooring is simply poured concrete (List of Classified Structures 1995). Windows and doors have thick, wooden lintels. The windows are double hung metal sash and the doors are wood. The windows were replaced in 1963 and again in 1990. The two wooden exterior doors were replaced in 1963 as well. The interior floors are hardwood and the walls are plastered (Clemensen 1992).

The integrity of Residence #2 is good.

**Residence #2 Retaining Wall and Landscaping**
In May 1938 a rear yard was excavated from the hill slope behind and retained with an uncoursed, rubble masonry wall (SWMMR; #2029). The retaining wall begins in the southwest corner of the yard, extends around the backyard and along the east side of the house. The wall varies between 3' and 5' in height. In May of the following year Silverleaf and Arizona White Oaks and Pointleaf Manzanita were planted between Residences #1 and 2 and at the boundary between the front yard and the loop road (SWMMR). It is likely that the stone path and steps from the front porch to the street were completed at that time. That path has been replaced subsequently with concrete with a rubble-rock border. Rock work around the outside edge of the front yard was added in 1957 for soil retention purposes (Figure 132).

**Residence #2 Root Cellar**
A small root cellar was also excavated into the hill on the south wall (Figure 133). The interior of the cellar is 7' high and 5' in depth. The cellar has a slab roof and poured concrete floor; the walls are constructed of stone set in cement mortar. A wooden lintel tops the doorway. The wooden door is still original. The entrance is accessed by concrete stairs that descend 3' below ground level. A short, L-shaped rubble wall defines the outer boundary of the stairway. The root cellar has wooden shelves and metal hooks for storing

supplies (List of Classified Structures 1995).

The integrity of the root cellar, retaining walls and landscaping around Residence #2 is good.

**Residence #3 (B-4) and Landscaping**
Residence #3 is located on the east end of the loop and faces in a westerly direction (Figure 134). Excavation for the foundation and basement was begun in January 1939 construction was finally completed in March 1940. The layout of the third residence is the inversion of Robert W. Albers' plan for the first ranger residence. Residence #3 has a slightly smaller basement than that of #1 and the exterior entrance to that basement is in the center of the rear wall instead of at one corner. The rock used in the construction of the Residence #3 walls was cut in rectangular blocks. The Orientation Station at Massai Point, and the Oil and Gas House and Power House and Laundry at the Utility Area have similarly coursed rows within their walls. Unlike those buildings, however, the walls for Residence #3 are strongly battered. The size of the stones in each subsequent row diminishes rapidly (Figure 135). All other construction aspects of Residence #3 are identical to #1. Most of the major changes to both buildings subsequent to CCC construction also occurred at the same time.

Unlike the first and second residences, Residence #3 was not cut from the north-facing slope, but sits at the top of the rise of a small hill. Thus no large retaining walls were necessary beyond that for the exterior stairway to the basement. Landscaping around the residence occurred in the front yard to provide shade and adequate screening from the road. Arizona Cypress, Chihuahua Pine, Beargrass, Schott's Yucca and Pointleaf Manzanita were planted around the residence in March 1940 (SWMMR). A walkway and steps connecting the front porch to the loop road was also completed at that time. A driveway provided automobile access to the front entrance on the southwest side of the house. In 1957 the driveway was lowered and a short retaining wall was built to protect the original walkway. Rock work around the front and north sides of the house was added at that time for soil retention purposes (Figure 136). Some of the planted Pointleaf Manzanita was removed at this time.

The integrity of Residence #3 is good. The integrity of landscaping around Residence #3 is good.

## LIST OF CULTURAL RESOURCES

| Type | Historic Name | Modern Name | IDLCS | Contrib | NonCont |
|---|---|---|---|---|---|
| **Sites** | | | | | |
| | Sugarloaf Mountain | | | x | |
| | Public Campground | | | x | |
| | CCC Campsite | | | x | |
| | Administration Area | | | x | |
| | CCC-Constructed Residential Area | | | x | |
| | Utility Area | | | x | |
| | Massai Point | | | x | |
| | Modern Residential Area | | | | x |
| | Equipment Storage Area | | | | x |
| **Buildings** | | | | | |
| | Comfort Station-Ranger Station-Admin Building-Visitor Center | Visitor Center B-1 | 7640 | x | |
| | Campground Comfort Station | B-10 | 7648 | x | |
| | Bath House and Laundry | Seasonal Quarters B-11 | 7649 | x | |
| | Residence #2 Root Cellar | Root Cellar Qtr 002A | 56638 | x | |
| | Residence #1 | Employee Residence B-03 | 7642 | x | |
| | Residence #2 | Employee Residence B-02 | 7641 | x | |
| | Residence #3 | Employee Residence B-04 | 7643 | x | |
| | Warehouse | Shop/ Maintenance Office | 7644 | x | |
| | Equipment Shed | B-07 | 7646 | x | |
| | Power House and Laundry | Museum Storage/Ready Room B-08 | 7647 | x | |
| | Oil and Gas House | B-07 | 7645 | x | |
| | First Cap Magazine | Original Powder Magazine Ruin 500 | 56643 | x | |
| | Second Cap Magazine | | 7651 | x | |
| | Powder Magazine | | 7654 | x | |
| | Sugarloaf Lookout | | 56639 | x | |
| | Orientation Station and Terrace | Massai Pt Orientation Station B-13 | 7650 | x | |
| | Entrance Station | | | | x |
| | Facilities Maintenance Office | | | | x |
| | Massai Point Restroom | | | | x |
| | Echo Canyon Restroom | | | | x |
| | Sugarloaf Restroom | | | | x |
| | Visitor Center Restroom | | | | x |
| | Laundry House | | | | x |
| | Residence #14 | | | | x |
| | Residence #22 | | | | x |

| Type | Historic Name | Modern Name | IDLCS | Contrib | NonCont |
|---|---|---|---|---|---|
| | Residence #23 | | | | x |
| | Residence #25 | | | | x |
| | Residence #26 | | | | x |
| | Residence #27 | | | | x |
| | Residence #28 | | | | x |
| **Structure** | | | | | |
| | Echo Canyon Trail | | 7655 | x | |
| | Lower Rhyolite Canyon Trail | | 56648 | x | |
| | Upper Rhyolite Canyon Trail | | 56648 | x | |
| | Natural Bridge Trail | | 56648 | x | |
| | Ed Riggs Trail | | 56648 | x | |
| | Mushroom Rock Trail | | 56648 | x | |
| | Inspiration Point Trail | | 56648 | x | |
| | Big Balanced Rock Trail | | 56648 | x | |
| | Sarah Deming Trail | | 56648 | x | |
| | Hailstone Trail | | 56648 | x | |
| | Heart of Rocks Trail | | 56648 | x | |
| | Massai Point Trail to Speakers Rock | | 56648 | x | |
| | Sugarloaf Trail | | 56648 | x | |
| | Sugarloaf Tunnel | | | x | |
| | Bonita Canyon Highway | Massai Point Road | 56669 | x | |
| | Sugarloaf Access Road | | | x | |
| | Cima Bear Cage | | 60173 | x | |
| | Retaining Walls and Terraces for B-2, B-3 | Residential Retaining Walls | 56636 | x | |
| | Echo Canyon Dam | | 56670 | x | |
| | Mushroom Rock Wildlife Pool | | 60186 | x | |
| | Speakers Rock | Tr-009A | 60186 | x | |
| | Telephone Line Remnants | CCC Telephone Line | 60186 | x | |
| | Utility Area Walls | Maintenance Facility Wall | 60186 | x | |
| | Stairway betw. VC and Res.and Utility Areas | | 60186 | x | |
| | Massai Point Nature Trail | | | | x |
| | Massai Point Handicap Trail | | | | x |
| | Silver Spur Meadow Trail | | | | x |
| | Fire and Flood Trail | | | | x |
| | Connection betw Echo Canyon, Ed Riggs trails | | | | x |
| | Utility Area Gasoline Station | | | | x |
| | Silver Spur Remnant Chimneys | | 56645 | | x |
| | Campground Bridge | | | | x |

| | | |
|---|---|---|
| Campground Amphitheater | | x |
| Pullouts along Bonita Canyon Highway | | x |
| **Objects** | | |
| Sugarloaf Stone Picnic Table and Benches | x | |

## NARRATIVE STATEMENT of SIGNIFICANCE

### Summary

The Historic Designed Landscape, a component of the larger Chiricahua National Monument, consists of approximately 10,000 acres. It is eligible under Criteria A, B, and C of the National Register of Historic Places at the state level of significance. Under Criterion A, the Historic Designed Landscape is significant in the areas of politics/government, social history, and entertainment/recreation and for its association with *New Deal Work Relief Programs: Civil Conservation Corps*. The landscape is also significant under Criterion A for its association with *US Forest Service and National Park Service Recreation Development* and *Natural Resource Conservation: Fire Prevention*. Under Criterion B, the Historic Designed Landscape is significant for its association with *Edward Murray Riggs*, who, more than anyone, was responsible for the establishment of Chiricahua National Monument and for its system of trails. Under Criterion C, the Historic Designed Landscape is significant in the areas of *Landscape Architecture: National Park Service Naturalistic Landscape Design* and *National Park Service Rustic Architectural Design*. The Historic Designed Landscape as a whole and its individual structures, features, and buildings retain a high level of integrity.

The period of significance spans 1924 to 1940. The years of 1924 to 1934 mark the time of the founding of the park through its early development by the US Forest Service and Edward M. Riggs. The primary features that exist today from this period are Bonita Canyon Highway and portions of the early trail system. In 1934 Civilian Conservation Corps (CCC) Camp NM2A was established and continued the construction of the remaining features of the monument. Ed Riggs as a foreman at the CCC Camp designed and developed most of the modern trails. The end date, 1940, corresponds to the year in which the camp was terminated.

Section 8 offers a narrative of the development of the monument and its features followed by statements of significance. These statements contain a discussion of the wider context of the themes along with specific examples of those themes as demonstrated within the monument. Due to the complexity of the Historic Designed Landscape and for the sake of simplicity and organization in presentation, the landscape has been divided into separate sections: seven sites and two major structures. Not all sections are significant under all criteria and each section has a different set of associations.

The structures are:
- Bonita Canyon Highway
- Trail System

The seven sites are:
- Massai Point
- Administrative Area
- Public Campground
- CCC Campsite
- Sugarloaf Mountain
- Utility Area
- Residential Area

## The Historic Context of Chiricahua National Monument and its Development

***Establishment of Chiricahua National Monument and its Early Development***

In the late 1800s homesteaders settled in Bonita Canyon on the northwest side of the Chiricahua Mountains. Neil and Emma Erickson

purchased a homestead in 1886 in the hope that the property would provide a basis for a successful ranching enterprise. While their efforts to make the ranch economically viable never succeeded, Neil was offered an alternative employment in 1903 as the first forest ranger for the newly established Chiricahua Forest Reserve (Wegman-French 2006:46).[1]

In the early years of his appointment, Erickson used his homestead, later known as the Faraway Ranch, as his headquarters. The Faraway Ranch was conveniently located just outside the western boundary of the reserve. Part of Erickson's job as ranger was construction of trails into the forest (Wegman-French 2006:46). Erickson probably developed horse trails leading from the Faraway Ranch into the Forest Reserve, if only to provide easier access for himself and other rangers (Torres and Baumler 1984:95). Forest Service maps from the 1920s show horse trails in Rhyolite, Sarah Deming, Hunt, Jesse James, and Bonita Canyons (Winn Manuscripts).

In 1917 Neil's daughters, Lillian and Hildegard, opened the Faraway Ranch to paying guests. A stay at the ranch included room and the use of a horse. A successful guest ranch requires regular entertainment for its visitors. For most visitors, traveling to interesting, nearby destinations accessible on horseback was the primary form of ranch entertainment. The Erickson family used existing horse trails in the then Coronado National Forest as pathways to take their visitors to scenic locations within the forest.

In 1921 Lillian began dating Edward M. Riggs, a ranch neighbor. Ed Riggs' ancestors were also some of the original homesteaders in the area. His grandparents, Brannick and Mary Riggs, had settled in the Sulphur Springs Valley in 1879 west of what later became Erickson homestead (Wegman-French 2006:22). Together Lillian and Ed explored the rugged country east of the ranch (Wegman-French 2006:124). They were stunned by the spectacular beauty of the geological features hidden deep within the canyons; Lillian described the area as a "Wonderland of Rocks." Lillian and Ed were married in February 1923. He moved to the ranch to help her develop the guest ranch into a more profitable enterprise (Riggs no date).

After his marriage to Lillian, Ed continued to explore the canyons and plateaus above the ranch on foot and on horseback. During these explorations he would photograph the extraordinary stone features. Ed's photographs were brought to the attention of Arizona Governor George W. P. Hunt who expressed a desire to personally visit the area where they had been taken. At that time a horse trail extended only part of the way into the Wonderland of Rocks. With the help of neighbors and Lillian's brother, Ben Erickson, the Riggs extended the trail into the upper reaches of Rhyolite Canyon. On August 5, 1923 the governor arrived with a large party (60 people in all) of newspapermen, photographers, and businessmen from Douglas, Bisbee, and Phoenix (Figure 1). The extended trail gave them sufficient access to appreciate the remarkable geological features present within the forest. The public attention brought by press releases and Governor Hunt's subsequent lobbying efforts in Washington DC were instrumental in persuading President Calvin Coolidge to declare the Wonderland of Rocks as a national monument on April 18, 1924 (Riggs no date).

The Coronado National Forest was assigned responsibility to administer the new monument. The monument, bounded to the north, east, and south by national forest lands, has always had administrative ties to the Coronado National Forest. Natural resources were managed jointly. In 1924, however, the Coronado National Forest was given no funds to manage the area and monument lands remained largely unaltered for a number of years (Winn, Douglas Daily Dispatch, September 2, 1934).

The Riggs/Erickson family continued their own improvements to monument lands by building additional horse trails. Those hardy tourists willing to spend a day in the saddle were exposed to steep canyons, broad plateaus, and fantastic rhyolite columnar formations. Many of those early Riggs trails became the foundations for later CCC-constructed trails.

[1] The Reserve became the Chiricahua National Forest in 1908 and in 1908 was added to the Coronado National Forest.

Shortly before 1929 the Coronado National Forest initiated some improvements to the area. The agency extended the Faraway Ranch road into upper Bonita Canyon and constructed a small, primitive campground.

***The Great Depression and the Arrival of Camp NM2A***

By the spring of 1930 the Southwest was beginning to feel the effects of the growing Depression (Sonnichsen 1987:232). As time wore on the Depression affected all of Arizona's economic industries. Drought and declining demand caused commodity prices to drop precipitously; cattle ranching, copper mining, and cotton farming, all collapsed (Arizona State Employment Services 1963; Drachman 1999; Sonnichsen 1987). As production industries ground to a halt, commerce and service were not far behind; Arizona banks began to fail (Collins 1999:25). In March 1930, Arizona Governor Hunt, and shortly thereafter President Roosevelt, closed those remaining banks that were still solvent (Sonnichsen 1987:236). Thousands of men were out of work. By 1933 almost 25% of Arizona's residents had applied for government aid (Booth 1991A:291; Gart 2001:7).

Local businessmen looked to the small, but slowly growing, tourism industry to bring outside monies into the stagnant economy (Drachman 1999; Borderland Climate Club no date). Many had hoped that the designation of Chiricahua National Monument in 1924 would initiate a new influx of tourism dollars. The lack of access into the Wonderland of Rocks and the slow pace of development of recreational opportunities in the monument, however, frustrated many of these expectations (Winn September 2, 1934). On April 13, 1930 a group of "Cochise County taxpayers and citizens" met with Coronado National Forest supervisor, Fred Winn. This group wished to encourage the US Forest Service to continue development of the monument. More specifically, they wanted to initiate construction of a new road that would extend further into the heart of the monument. They believed that with development of facilities for the new motoring public, tourism to the site, and to the County at large, would begin to expand (Tombstone Epitaph, September 6, 1934; Douglas Daily Dispatch, September 2, 1934).

As the Depression continued to deepen in Arizona, local communities for a third time put pressure on the Forest Service to develop other visitor facilities within the monument. Cochise County residents requested that the US Forest Service engage a Civilian Conservation Corps camp in Bonita Canyon. CCC camps were seen as means to bring federal monies into areas in which all other traditional economies had collapsed (Gart 2001). The camp would hire technically experienced, older men as well as untrained youth and provide valuable employment opportunities for many without jobs.

The decision to assign a CCC camp to a particular location was frequently at the instigation of state officials (governors, senators, or representatives) or from local municipal authorities (county board of supervisors, city council) (Booth 1991B:61). On April 20, 1934 the Douglas Chamber of Commerce wrote to Senator Carl Hayden and asked for his cooperation in retaining a CCC camp for the purpose of completing the monument road (Randall 1957). The Cochise committee was again successful in achieving their wishes; on May 26, 1934 a state park camp from Tucson was transferred to Bonita Canyon to begin development of those visitor facilities deemed necessary.

During that summer, management of Chiricahua National Monument was transferred by President Hoover from the US Forest Service to the National Park Service and the office of the Southwestern National Monuments. The National Park Service and US Forest Service agreed to jointly administer the work projects of the CCC Camp for the first 15 months. Later it was administered solely by the National Park Service. The Park Service leased the Silver Spur Meadow from the Riggs/Erickson family as a campsite for the CCC enrollees, later referred to as Camp NM2A. The Civilian Conservation Corps would finally provide the US Forest and the National Park Service with the funds and manpower needed to fully develop recreational facilities in Chiricahua National Monument.[2]

[2] In September 1935 Coronado National Forest ceded its administrative control of the Camp work projects to the Park Service.

The construction of Bonita Canyon Highway and the future development of the monument engendered much enthusiasm at both the state and local levels. At some time prior to February 1934, a committee from the Bisbee, Douglas, and Tombstone communities decided to celebrate the completion of Bonita Canyon Highway and the "opening" of Chiricahua National Monument with a dedication ceremony. The ceremony was held on Labor Day, September 3, 1934 and was open to all residents of southeastern Arizona (Arizona Republic April 17, 1934; Gart 2001:16).

During the next six years from June 1934 to June 1940 CCC enrollees developed most of the major components of the built environment within Chiricahua National Monument. Today the Chiricahua Historic Designed Landscape covers thousands of acres. CCC enrollees constructed 12 miles of hiking and horse trails; they built the Ranger Station/Administrative Building, associated Comfort Station, and three ranger residences; they reconstructed Bonita Canyon Highway and stabilized the creek bed as well as the slopes above the roadway; they built and enclosed the Utility Area; they improved fire prevention within the monument by building a new road, parking lots, trail, and lookout on Sugarloaf Mountain; they developed the Massai Point area with picnic areas, walking trails, a speaker's platform, and the Orientation Station; they constructed the Public Campground, its roadway and campsites, Comfort Station and Bath and Laundry House. In addition, they built the infrastructure for water distribution and septic systems throughout the monument and constructed a telephone communication network connecting many areas of the monument with the Forest Service Headquarters in Portal. Almost all of these facilities are still present and functional in the monument landscape today. The only other site within the Southwestern National Monument group to have such a significant contribution made in one short period of development by one group was Bandelier National Monument.

The designed landscape has seen some additional development since the termination of Camp NM2A in 1940. During the decade of Mission 66, additional funds became available for new building construction in the Administration and Residential Areas. Despite additions since the period of significance (1924-1940), The historic designed landscape is still intact and visible in the monument. The integrity of each site or structure is high as is that of most individual buildings themselves. The designed landscape possesses a high degree of integrity in location, setting, design, materials, workmanship, feeling, and association.

***Historical Development of Built Structures and Sites***

**Bonita Canyon Highway**

The low saddle across the Chiricahua Mountains at Bonita Park has encouraged regular movement in and out of Bonita Canyon since protohistoric times. With the almost continuous source of water from multiple springs, Bonita Canyon was used by early native tribes in the area. In 1885 and 1886 at the height of the Geronimo campaign, the US 10th cavalry was stationed for 18 months at the mouth of Bonita Canyon (Torres and Baumler 1984:95). Cavalry troops, too, would have used Bonita Canyon as an east-west route in their regular patrols. A 1902 map of the Chiricahua Forest Reserve shows an early wagon road terminating at the Erickson/Stafford settlement area. The trail continues up Bonita Canyon, through Bonita Park, and into Whitetail Creek Canyon on the east side (Bahre 1995).

In 1924 when the monument was established Coronado Forest supervisor Hugh G. Calkins warned that monies for development were limited but that small improvements could be made to the area. He suggested that the trail into Bonita Canyon needed clearing (Tombstone Epitaph, May 2, 1924). Sometime between 1926 and 1929, the Coronado National Forest extended the Faraway Ranch road into Bonita Canyon to a small area near the base of the rhyolite feature, Organ Pipe (Tombstone Epitaph October 15, 1929). The Forest Service road terminated in a small loop around which a few campsites were situated (Figure 2) (Bureau of Public Roads, Section B; Flitner 1931).

As a result of strong encouragement from the local community, supervisor Fred Winn and the Coronado Forest Service agreed to

undertake construction of the new roadway into the monument. The Forest Service, however, had neither the expertise nor the manpower necessary for this kind of project. In order to accomplish this task Winn turned to the Bureau of Public Roads. The Departments of Agriculture and Interior had concluded a cooperative agreement in 1926 to subcontract engineering and construction of all forest and park roadways to the Bureau of Public Roads (McClelland 1999:185). It was the job of the Bureau of Public Roads to engineer and oversee construction of Bonita Canyon Highway.

In early November 1931, Frank W. Flitner, associate construction engineer for the Bureau of Public Roads, produced a report identifying a number of different possible routes into the monument (later known as Route 32) and their associated costs (Flitner 1931). In the middle of November supervisor Fred Winn and District Forester Frank Pooler reviewed the proposed routes and reported their conclusions to the Bureau of Forestry in Washington DC (Tucson Citizen (?), November 12, 1931 "Road Planned"). Pooler and Winn originally identified Rhyolite and Sarah Deming Canyons as their first choice. Frank Pooler later concluded that there was little point of a road into Rhyolite Canyon if it did not reach the necessary elevation to be in sight of the Wonderland of Rocks (Randall 1957). Pooler and Winn also suggested an additional road through Bonita and Whitetail Canyons to provide a link with US Highway 80 (Douglas Daily Dispatch, January 17, 1932). For unknown reasons this decision regarding the cross-mountain route was later abandoned. The final selection of the highway through Bonita Canyon and terminating at Massai Point was approved in May 1932.

While the final surveys of Route 32 continued into late 1932, road construction of the first section began in the summer of 1932 at the Riggs (also known as El Dorado) schoolhouse one mile west of the intersection with Pinery Canyon Road (Douglas Daily Dispatch no date; Arizona Highways June 1932; McCullough 1933). This first section, 3.75 miles in length, extended from the schoolhouse to the intersection with Rhyolite Creek (Bureau of Public Roads, Section B). This portion of the road was broken down into nine separate, small contracts that included clearing, grading, and construction of cattle guards and fences (Bureau of Public Roads, Section B; Douglas Daily Dispatch no date). Most of the small contracts were granted to local people and thus provided valuable jobs and income for the region (Douglas Daily Dispatch no date; Arizona Highways April 1932:26; Arizona Highways May 1932:17; Arizona Highways June 1932:18).

The design and engineering of the second and third sections of the highway were considerably more complex than the first due to the narrow dimensions within the Canyon and the necessity for construction in difficult materials. Each section of road was built under the auspices of a single, experienced contractor. The second section, built by contractor H.G. Hagen of Globe in 1933, was 2.7 mi. in length and extended from Rhyolite Creek to Bonita Park (Douglas Daily Dispatch no date; McCullough 1933; Bureau of Public Roads, Section C). The final section was awarded to contractor W.A. Rawls from El Paso, Texas. This section of road from Bonita Park to Massai Point was initiated in October 1933 and completed by the middle of August 1934 (Bureau of Public Roads Sec. D; Hammond 1934). Most of the roadway was 18 ft. in width.

Route 32 began at the Riggs schoolhouse west of Bonita Canyon and closely followed the Faraway Ranch road with few if any alterations (Douglas Daily Dispatch January 17, 1932; Bureau of Public Roads, Section B). The old Forest Service road divided from the Faraway Ranch entrance road just west of the ranch. For the next two miles the Bureau of Public Roads now followed the old Forest Service road. The first departure from the old Forest Service road occurred below the north slope of Garfield Peak. The old road had made an elaborate loop north toward Bonita Creek and then turned south toward the junction of Madrone and Rhyolite Canyons, perhaps to evade a deeply cut wash.[3] The Bureau of Public Roads shortened the loop and bridged the wash; it also installed 37 culverts within the first section to improve drainage (Bureau of Public Roads Section B).

[3] This portion of the original road may also have been designed to provide access to the agricultural fields east of the Stafford Cabin. After the establishment of the CCC Campsite, this loop was used as Camp NM2A's main entrance.

The second major departure from the old Forest Service road occurred at the site of the future National Park Service Public Campground. The old road turned west to parallel Bonita Creek (see #4980 "Old Highway"; Bureau of Public Roads, Section C). The Bureau of Public Roads engineers chose to avoid the creek area and located the monument road on higher ground to the east.

Upstream of the Public Campground, Bonita Canyon narrows dramatically leaving little room to contain both the creek and the highway. The close quarters for both elements required numerous engineering alterations including 10 channel changes, rearrangement of large boulders in the creek bed, and five creek crossings. Engineers recommended 42 culverts in this section to manage runoff and drainage (Bureau of Public Roads Section C).

Section C terminated at the broad sloping bowl of Bonita Park. Section D, the third and final section of Bonita Canyon Highway, made an immediate transition into a very different environment. The soils of Bonita Park are composed of structurally unstable, stream-deposited materials (Pallister et al. 1997:10). From Bonita Park the highway emerged into the East Whitetail Creek watershed and began its final climb to the plateau of Massai Point. The engineering and construction of the roadway became even more complicated in this last portion because of the steep slopes in the watershed and the excavation from solid rhyolite rock. Cuts to a depth of more than 40 ft. were necessary in many locations (Douglas Daily Dispatch no date).

Bonita Canyon Highway began to develop postconstruction problems even before the BPR construction crews left. In July 1934 a slide occurred on the roadway above Bonita Park after three days of rain (Powell SWMMR July 1934). The instability of the rock materials along Bonita Canyon Highway proved to be a constant problem for CCC road crews. The road between Shake Spring and Bonita Park was based in soft sediments and boulder rubble (Douglas Daily Dispatch no date). Above Bonita Park the road material was much harder, primarily rhyolite tuff, but still subject to fracturing and sloughing off. Water loosened soils and fractured rock on the exposed slopes. Many slides followed heavy thunderstorms or winter rains (SWMMR).

The primary method for preventing slides was the removal of overcast and reduction of slope angles above the roadway, an activity known as 'backsloping'. In the early years large-scale changes in slope were accomplished with drilling and blasting (Figure 3). An air compressor to power a jackhammer drill greatly assisted the highway crew in the sloping efforts (Figure 4) (SWMMR December 1934). Dump trucks and shovels were used to move large quantities of material (Figures 5, 6). Starting in the summer of 1935 road crews worked on Bonita Canyon Highway almost continuously for the next five years backsloping and removing unstable materials. Despite the presence of large equipment, much of this activity was accomplished by hand labor with pick and shovel (Figure 7). Frequently two, and even three, separate crews were assigned to backsloping. During that time the CCC crews removed over 34,000 sq. yds. largely from upper Bonita Canyon Highway (SWMMR).[4] Although total man-hours were never quantified by project, superintendent reports clearly indicate that more effort was invested in the stabilization of Bonita Canyon Highway than in any other project at Chiricahua National Monument.

During the construction of Bonita Canyon Highway by the Bureau of Public Roads and the first year of CCC road maintenance, much of the waste material was simply dumped over the edge of the roadway down into East Whitetail Canyon (Figure 8) (J. R. McLaughlin interview 1998). This elimination method scarred the slopes below the highway excessively (Figure 9). Regrowth of damaged vegetation on lower slopes has occurred, albeit slowly (Figure 10). After 1935 different methods of elimination were instigated; waste materials were conserved and reused as road surfacing materials (fines or gravel), berms, or temporary guard rails (SWMMR)

[4] Camp NM2A project superintendents Hammond and Stevenson largely calculated the removed materials in square yards rather than in cubic ones (SWMMR).

Reconstruction and maintenance of smaller drainage facilities was another major task for the road crew that inevitably followed the rains. Many of the drainage facilities designed by the Bureau of Public Roads were quickly found to be inadequate for handling normal storm runoff and eroded materials from the roadway. In the fall of 1934 CCC road crews began a large project to update and expand the drainage system (SWMMR). National Park Service engineers, J. H. Tovrea and Walter G. Attwell, developed an engineering plan in January 1936 that contained a broad range of improvements to Bonita Canyon Highway (#4962). The plan contained 187 alterations to the upper 6.5 miles of roadway. The vast majority of these improvements involved backsloping or culvert and drainage alterations (Figure 11).

The original layout of Bonita Canyon Highway had a number of unanticipated engineering and design flaws. Due to the narrow canyon along the upper Bonita Creek, the highway had been built above the floodplain of, but in very close proximity to, the Creek. The highway's placement in this narrow zone had necessitated ten different channel changes (Bureau of Public Roads, Section C). These channel changes subsequently required CCC road crews to return to "clean the channel" and recover exposed soils in the creek bed with rocks and boulders (#4962).

A larger problem generated by the channel changes became evident in early 1935. Bonita Creek began to undercut fill sections on the highway; the most serious of these undercuts was in the region above and below the Natural Bridge Trailhead where the creek changes its direction of flow from west to south. During the month of February and March road crews constructed 8500 ft. of riprap and revetment in the creek. Revetment walls averaged over 11 ft. in height (SWMMR). Much of that revetment still stands today (Figure 12). Riprap was again needed in April, May and June of 1939 when the creek undercut the roadbed again. Boulders from backsloping activities on the upper portion of the highway were placed in the creek bed; 225 ft. of retaining walls were constructed in different (but unidentified) locations (SWMMR).

Contractors working for the Bureau of Public Roads opened two borrow pits for sand and gravel during construction of Bonita Canyon Highway. Obliteration of the "old borrow pits" was a secondary but important activity of the CCC road crews. Obliteration operations occurred repeatedly between May 1935 and November 1939 (SWMMR). Waste materials removed in blasting and backsloping along the highway were used to fill in these pits (Figure 12). Once a borrow pit had been adequately filled it was covered with planting soil and left to revegetate (SWMMR September 1939).

A third pit is located in Newton Canyon south of the highway. HO Hammond states in his monthly report of April 1935 that, "A borrow pit, located off the monument, has been opened up for the purpose of supplying our increased needs for gravel and fill material. A tractor and fresno empties the gravel over a platform direct into the dump body trucks" (SWMMR). Unlike the borrow pits generated by the Bureau of Public Roads this pit was never filled in. The open space in an area away from most tourist traffic proved to be useful for less visually attractive operations. By 1938 the monument's incinerator was located in the pit (Arizona Range News March 25, 1938). The site has evolved to become a storage facility for maintenance equipment and vehicles (#3100 April 1956).

CCC road crews were responsible for eliminating old roads as well as borrow pits (Stevenson 1935). When the Bureau of Public Roads rebuilt and straightened out the Forest Service's original route to its old campground, the engineers eliminated many of its small-scale meanders. The roadway between the NPS storage facility and headquarters was one of these areas where the new road departed from the old (1935 aerial photograph; Bureau of Public Roads, Sections B and C). These vestigial meanders of the old road were later filled and covered (Figures 15, 16). The area that contains the present campground had old road segments that also required elimination. Other roads that required subsequent elimination were temporary structures built by the CCC primarily for the dedication ceremony (see Massai Point section). The loop around Barbecue Hill, parking access roads north of Massai Point, and roads between the CCC Campsite and Administration Area all required infill, surfacing with topsoil, and planting of trees and shrubs (SWMMR).

Today Bonita Canyon Highway has five major creek crossings: one over Rhyolite Creek at the Visitor Center and four over Bonita Creek between the Public Campground and Bonita Park. The three box culverts along the lower portion of the roadway were constructed by the Bureau of Public Roads before 1934.

Plans to redesign and rebuild two upper crossings near Bonita Park were generated in June 1937 (#5706). Apparently these designs were deemed inadequate and were revised the following year (#5006A; 5006B). In the summer of 1938 the road crews built two poured-concrete box culverts to span these crossings (SWMMR June; July 1938).

**The Trail System**

Most of the trails in Chiricahua National Monument existed in some primitive form prior to the arrival of the Camp NM2A. Some of them probably existed as simple paths created by early homesteaders or soldiers stationed at the nearby Fort Bowie in their efforts to travel across the mountain range. Albert F. Potter's map of the Chiricahua Forest Reserve in 1902 illustrates Bonita to Whitetail Canyon as the northernmost route across the Chiricahuas (Bahre 1995). US Forest Service maps from the 1920s show horse trails in Rhyolite, Sarah Deming, Hunt, Jesse James, and Bonita Canyons were already in existence (Winn Manuscripts).

In 1921 Lillian and Ed Riggs were married and Ed moved into the Faraway Ranch to help Lillian develop the guest ranching business. One of the ways that Ed accomplished this was by expanding the number of horse trails available to visitors within the Wonderland of Rocks after the monument was established (Riggs 1953).[5] The majority of the graphic evidence for Ed Riggs' early trails comes from the first topographical map developed by Andrew E. Clark (#5003; SWMMR; Arizona Range News, March 9, 1934).[6] Clark identified "Old Horse Trails" in Sarah Deming, Upper Rhyolite, and Hunt Canyons (Figure 38). Trails were also located throughout the Heart of Rocks and Big Balanced Rock areas as well as Inspiration and Massai Points. The presence of these "Old Horse Trails" on Clark's map suggests that Ed Riggs had already developed a system of horse trails throughout the monument that predated the arrival of the CCC. Riggs' trails were almost as extensive as those later produced by the CCC crews. It is also clear that while not every one of Riggs' trails became the basement of a CCC-constructed trail (for example his trail through Upper Rhyolite Canyon along the creek), most of the "Old Horse Trails" were closely followed in location and design.

In June 1934 the National Park Service hired Ed Riggs as a LEM (Locally Experienced Man) to lead trail crews at Camp NM2A. Riggs became the one and only trail foreman to oversee development of the Trail System and teach the CCC boys principles of construction. While Riggs had no degree in design or engineering he had a very practical knowledge of construction and perhaps, more importantly, the most thorough understanding of the monument landscape of anyone (Riggs no date; Riggs 1953). Ed Riggs worked with National Park Service engineers and landscape architects regularly during construction of the trails but the design of the trails has been uniformly attributed to Ed (SWMMR).[7]

Construction of all trails except the Picket Canyon (Natural Bridge) Trail took place between June 1934 and September 1937.[8] During

---

[5] One must assume there was a tacit approval for this trail construction by the Coronado National Forest, the agency assigned to administer the monument until 1934.

[6] Ed Riggs had been hired by the Forest Service in early 1934 to assist Andrew Clark in the development of his topographic map (Riggs no date; SWMMR May 1934). The map went to print in March 1937.

[7] Searches of Monument, Denver Service Center, and National Archives have located NPS-drawn plans for only three out of the twelve trails (Sugarloaf Mountain, Natural Bridge, and Echo Canyon). Only the Sugarloaf Trail plan was used in its entirety and without modification. The absence of plans for the remaining trails suggests that the design and construction of the remaining trails were left to Ed Riggs' discretion, his intimate knowledge of the landscape, and his well-honed construction skills.

[8] Detailed information on the trail construction methods used at Chiricahua is limited to descriptions by the project superintendents in

most of this period two separate trails were under construction at all times. During the construction of the trails the crews would return each night to the CCC campsite. Construction on the Echo Canyon trail was the only exception to this rule. A fly camp was set up in Echo Park; the exact location of the camp has not yet been determined.

Important transportation tools in trail construction were the six mules or burros (Figure 105). All tools and materials had to be transported to the construction site. This included drills, compressors, picks, shovels, dynamite, and rock-moving equipment as well as all crew supplies. The materials used in construction of the trails were local to the area.

Construction of the trails was accomplished primarily with pick and shovel (SWMMR; Harris 1994). Compressors and drills were used for more technically challenging sites (Figures 21, 112). "Three Le Roi, 74 cu. ft. trail compressors with winch attachments were used with 40 lb. jackhammers for drilling" (William Stevenson as quoted in Randall 1957). Echo Canyon, Sarah Deming, Rhyolite, Sugarloaf, and Ed Riggs Trails all show evidence of drill work in rock cuts. Blasting was infrequently used only in areas of solid rock such as Echo, Sugarloaf, and Rhyolite Canyon (Harris 1994).

One of the more interesting photographs in the Fifth Period Progress Report shows a portable crane system with a geared lifting mechanism used to move large rocks in Echo Canyon (Figure 22). "Hoists, designed and built at the camp, were used in the construction of retaining walls. These consisted of a 'stiff leg' of 3-inch pipe with 5-ton hand winch attached and boom of 3-inch pipe also fitted with 5-ton hand winch. Shives for one-half inch cable were used on both boom and 'stiff leg.' The entire outfit was 'knock down' to facilitate transportation by man or burro power"(William Stevenson as quoted in Randall 1957).

Rubble in retaining walls often came from blasted or drilled rock. Some of these walls were dry laid; some rubble walls were set in mortar. "The rock formations of the monument are Rhyolite and Dacite which way approximately 140 pounds per cubic foot and provide excellent material for retaining walls and subgrade" (William Stevenson as quoted in Randall 1957).

*Lower Rhyolite Canyon Trail*

Lower Rhyolite Canyon Trail was the first trail completed by CCC enrollees in December of 1934. It was deemed vitally important to have at least one hiking trail available to the public by the time of the monument's dedication ceremony on September 3, 1934. Initial construction involved clearing of brush, cutting trees, and removal of stumps using dynamite. As the trail progressed further into the canyon during the months of September and October, construction crews encountered solid rock. Progress was frustratingly slow since only hand tools were available for the job. In October an air compressor and jackhammer designed for use on trails became available (Figure 21) (Crawford, 1998; Harris 1994). Project superintendent Hammond assigned two shifts per day to finish the drilling by the end of November (Hammond 1934). Landscaping and cleanup were completed by the end of December 1934.

---

their progress reports. These reports were submitted to the Emergency Conservation Works office after every enrollment period (Harris 1994). Unfortunately only three progress reports for Camp NM2A have been located so far in the National Archives.[8] The three progress reports include the Third Enrollment Period (June to September 1934), the Fourth Enrollment Period (October 1934 to March 1935), and the Fifth Enrollment Period (March to October 1935).[8] Thus almost five full years of detailed construction documentation for Monument projects are still missing. Descriptions of construction for Rhyolite Canyon, Sugarloaf Mountain and the beginnings of Echo Canyon and Sarah Deming Trails are available in the first three progress reports. In 1935 the ECW office requested that project superintendents submit photographs of ongoing projects with their progress reports (Paige 1980 5:22). Camp NM2A's Fifth Enrollment Period by William Stevenson is the only progress report that includes visual images of Chiricahua National Monument construction activities. Monthly reports were also submitted by project superintendents to Southwestern National Monuments superintendent Frank Pinkley (Southwestern National Monument Monthly Reports, SWMMR). These reports unfortunately provide only status information and rarely mention construction details.

*Echo Canyon Trail*
After the completion of the Sugarloaf Trail (covered in detail in the Sugarloaf Mountain section) Echo Canyon Trail became the third horse trail constructed by the CCC crews. In 1935 the Park Service desired to build a trail into Echo Canyon, one of the most beautiful areas within the park. The design for the trail through Echo Canyon was considered to be technically challenging because of the density of rhyolite columns. An early attempt by NPS engineers was apparently considered unacceptable.[9] With the blessing of Frank Pinkley, the superintendent of the Southwestern National Monuments, Ed Riggs took over the design and construction of the Echo Canyon Trail himself (Riggs No Date). According to Woodrow Harris, one of the first CCC boys to arrive at Camp NM2A, Riggs took over the surveying and design of all subsequent trails after that incident (Harris 1994). Including two months for surveying, Echo Canyon Trail required approximately 15 months to complete. The trail crew began in March 1935 at the Echo Canyon parking area and finished at Echo Point in June 1936.[10] Extensive drilling and blasting was required throughout the trail, especially in the upper portions (SWMMR; Harris 1994). Echo Canyon Trail was, and still is, widely considered to be one of the most complicated in its design and construction (Riggs No Date; Riggs 1953). Its scenic value today and its complexity of construction almost 70 years ago arise from the density and sheer number of geological features that populate the canyon throughout its length. Echo Canyon Trail received praise even as it was being constructed as one of the most scenic trails within Chiricahua National Monument (Stevenson 1935). Today Echo Canyon Trail is still the most popular (Zube at al. 1987:27). Visitors report that they enjoy the closeness with which the trail past through the columns of rocks and the diversity of landscapes experienced on the trail.

*Sarah Deming Trail*
Ed Riggs built an early version of the Sarah Deming Trail prior to the arrival of the CCC camp. A story from Faraway Ranch annals relates that a visitor by the same name was touring the area on horseback. In an unfortunate mishap, the young lady rent her pants. The canyon and the trail subsequently were forever associated with her name (Nielsen, personal communication).

In his Fifth Period Progress Report project superintendent William Stevenson outlined the purpose for constructing the Sarah Deming Trail and the large southern loop that includes Heart of Rocks, Big Balanced Rock, Inspiration Point, and Mushroom Rock Trails, "Sarah Deming forks from Rhyolite Trail at Sarah Deming Canyon and opens a section of the monument formerly visited by only the hardiest tourists" (Stevenson 1935).

A CCC crew began working in Sarah Deming Canyon in August 1935. The trail was completed over two separate work sessions. The lower portion, approximately 1 mi. in length, required seven months of labor and was finished in February 1936. At the same time a second trail crew was approaching completion of the Echo Canyon Trail. The Sarah Deming crew was reassigned to the Massai Point to begin the Ed Riggs Trail (SWMMR). Project superintendent William Stevenson and Foreman Ed Riggs probably decided that completion of the small loop from Echo Canyon to Massai Point was of higher priority than completion of more distant trails. By November 1936 the trail crews had completed the Echo Canyon to Massai Point loop (including the Hailstone, Ed Riggs and Upper Rhyolite Canyon Trails). The Sarah Deming crew was finally returned to the canyon to complete the trail up to the plateau at the Big Balanced Rock (SWMMR). The primary challenge in the construction of the second portion of the trail was scaling the south facing slope in the upper canyon. The slope is almost 200 ft. in elevation and dramatically steep in many locations. It took the trail crew five full months through March 1937 to complete the last half-mile portion of the trail. In many areas the trail had to be cut from solid rock in order to provide sufficient width for the bed. In other areas 15 ft. high retaining walls were constructed to support the trail (Figure 31). Small constructed features including water bars, drainage ditches, curbs, and check dams are numerous along this part of the trail

[9] It is probable, although not certain, that the unacceptable design is represented by the Echo Canyon engineering plan, #4970.
[10] Since the Project Superintendent did not reference the same trail termination points that the National Park Service does today, it is often difficult to estimate a completion date for these trails.

(Figure 32).

*Ed Riggs Trail*
During the month of February, 1936, one of the two trail crews was advancing toward Echo Park in their construction of the Echo Canyon Trail. The second crew was in the midst of constructing the Sarah Deming Trail. This crew was reassigned to Massai Point apparently to expedite completion of the Echo Canyon Loop. The second crew began work on the Ed Riggs Trail on February 21, 1936. When the first crew completed its work on the Echo Canyon Trail, it continued eastward from the mouth of Echo Canyon constructing what would become the Hailstone Trail. The Hailstone Trail crew completed its portion in August 1936. The Ed Riggs Trail crew completed the loop at the junction of the Ed Riggs-Hailstone Trails in September 1936 (SWMMR).

*Hailstone Trail*
Even before the CCC trail crew had completed the Echo Canyon Trail, project superintendent William Stevenson and trail foreman Ed Riggs had decided to make completion of the Echo Canyon-Massai Point loop the highest trail priority. As the Echo Canyon Trail emerged from the mouth of the canyon in June 1936, the same crew continued construction around the corner of Echo Point and eastward into the Upper Rhyolite Canyon.

At some time prior to 1923 Ed Riggs had built a crude horse trail up Rhyolite Canyon that closely followed the creek bed (Figure 38) (Riggs no date, #5003). Remnants of that trail are still visible in places where the modern Upper Rhyolite Canyon Trail now descends towards the creek. Project superintendent William Stevenson, in consultation with foreman Ed Riggs, decided that construction of a new trail at a higher elevation along the north canyon slope would be easier than reconstructing the old creek bed trail. They chose instead to build the new trail in more malleable soil.

The monument contains three distinct layers of volcanic tuff separated by two, poorly welded layers (Pallister and DuBray 1977). These two intervening layers of ash are comparatively soft. The lower layer is almost horizontal in aspect and is located at roughly 6300 ft. in elevation. This layer offered the trail crew a relatively workable material at the same elevation at which the Echo Canyon Trail had emerged at Echo Point. The CCC trail crew finished constructing the Hailstone Trail in only two months arriving at the mouth of Massai Canyon in August 1936 (SWMMR).

*Upper Rhyolite Canyon Trail*
Access between Echo Canyon on the north side and Sarah Deming Canyon to the south has been necessary since the monument's early days. Maintaining that access, however, has not been easy. Steep slopes up into Echo Canyon and a narrow working area in Rhyolite Creek created construction and maintenance difficulties even in the early days. Andrew E. Clark's topographic map of Chiricahua National Monument confirms that "Old Horse Trails" built by Ed Riggs existed in Upper Rhyolite, Echo and Sarah Deming Canyons (#5003). Remnants of those trails are still visible above the floodplain of Rhyolite Creek (Figure 38). The early horse trail indicated on the Clark topographic map follows a series of switchbacks up the southwestern extremity of Echo Point and onto a lower plateau at the mouth of Echo Canyon (#5003).

When the trail crew had finished the Hailstone segment, it returned to Echo Point to begin construction of the Upper Rhyolite Canyon Trail. In October 1936 with the trail was still only partially complete, William Stevenson, project superintendent, proudly stated that horse parties were already using the new trail in conjunction with Ed Riggs' old trail in order to gain access to Lower Rhyolite Canyon (SWMMR September, October 1936). The trail crew completed the connection to Lower Rhyolite Canyon Trail in less than three months in early November 1936 (SWMMR).

The original Civilian Conservation Corps-constructed version of Upper Rhyolite Canyon Trail has been partially altered over time.

Below the terminus of Echo Canyon Trail, soils in Upper Rhyolite Canyon are highly unstable. This lack of stability created a constant trail maintenance problem. On August 14, 1954 heavy rains in the Rhyolite Canyon watershed produced one of the monument's worst flooding episodes. The northern portion of the Upper Rhyolite Canyon Trail was destroyed. The trail segment was relocated further east (to the new junction of Echo Canyon and Hailstone Trails) and reconstructed over the following five months (Superintendents Narrative 1954). The 1950s portion of the trail now descends into the canyon along a series of switchbacks. This new trail segment now contains many drainage and bank stabilization features. After the Upper Rhyolite Canyon Trail crosses the creek it joins up with the original CCC-constructed portion and continues to its historic junction with Sarah Deming and Lower Rhyolite Canyon Trails (Map 4).

*Mushroom Rock Trail*
When the trail crew completed the Ed Riggs Trail to its junction with the Hailstone Trail in September 1936, they began work on the eastern end of a larger trail loop (SWMMR). This loop would ultimately include Mushroom Rock, Sarah Deming, and Big Balanced Rock Trails. The large loop system would ascend to the elevation of the southern plateau and provide access to the offshoot trails of Inspiration Point and Heart of Rocks.

By January 1937 the trail crew had advanced 3150 ft. or approximately one half the total distance. Trail construction was interrupted in February 1937 when Camp NM2A experienced a loss of enrollees. At this time the two trail crews were reduced to only one. Since November 1934 the camp had maintained two complete, independently operating trail crews.[11] At the start of the tenth enrollment period in October 1936, the enrollee numbers at the Bonita Canyon Camp were reduced by 33 diminishing the force from 175 to 152 (CCC Camp Occupation Log, Richard Murray files). The most likely reason for this contraction in the number assigned to trail construction crew was the increasing number of building projects in the headquarters, residence, and utility areas. In August 1937 the trail crew reached the three-way junction with Inspiration Point and Big Balanced Rock Trails.

*Big Balanced Rock Trail*
Big Balanced Rock Trail was the last hiking and riding trail to be completed in the large southern loop (Map 3). Big Balanced Rock Trail formed the connection between Sarah Deming and Mushroom Rock Trails. It also provided access to two prominent feature locations: Inspiration Point and Heart of Rocks. With the completion of this trail in 1937 the CCC crew had finally finished the larger Trail System in Chiricahua National Monument.

The CCC trail crew began construction at this western end in April 1937. In May the crew had advanced only a short distance along the trail but built, in addition, "3900 ft. of foot trails ... to the various features in the Heart of Rocks" (SWMMR). At the end of the month William Stevenson, Project superintendent, decided to shift construction of the remaining loop segment to the eastern end in Upper Rhyolite Canyon. This shift was made in order to "facilitate transportation" (perhaps due to the difficulty in bringing men, mules, and heavy construction equipment up the steep trail at the head of Sarah Deming Canyon) (SWMMR). The remaining portion of Mushroom Rock Trail was completed first and the eastern portion of Big Balanced Rock Trail begun in August 1937. On September 3, 1937 Big Balanced Rock Trail was finished.

*Heart of Rocks Trail*
The documentation regarding the history of the Heart of Rocks Trail is frustratingly small and, as such, makes assessment of the CCC's involvement in the construction and development of this trail difficult. Andrew E. Clark's topographic map of the monument shows that an "Old Horse Trail" existed into the Heart of Rocks area in 1936 (#5003). The trail was short (approximately one quarter-mile)

[11] A transitional period between two enrollments occasionally left the camp with only enough enrollees for one crew. The second crew would be reinstalled when the camp returned to full strength.

and terminated at the rhyolite feature called Thor's Hammer. The trail's point of origin and first 0.1-mile distance were identical to those of the modern-day trail.

In his monthly report of April 1937 William Stevenson simply stated that "3900 ft. of foot trails were completed to various features in the Heart of Rocks area" (SWMMR). Unfortunately no accurate map of the Heart of Rocks Trail was developed until much later. Subsequent maps and plans of the monument that show the Heart of Rocks Trail are schematic at best. An entry in the Superintendent's Narrative in June and July 1958 states that a trail camp was established and that major construction -- "increments to the trail"-- occurred at that time. No further description is available. Today the Heart of Rocks Trail measures one mile in length.

*Natural Bridge Trail*
Margie Coffman Brown, historical landscape architect at the National Park Service, has pointed out that the Park Service built two kinds of trails. The majority of the parks' trails were for tourists. A small number of trails were for fire access. They were "narrow, rough trails, cut along the line of least resistance ... similar to trails constructed on US Forest Service lands" (Landscape Line Draft Version 2002:4). Natural Bridge Trail may have started out as one of these fire access trails -- probably very different in design and construction from the rest of the monument trails. Even as the trail construction program was winding down in August 1937, Frank Pinkley, superintendent of the Southwestern National Monuments, planned for one more trail project to provide access into the Northwest portion of the monument.

Picket Canyon runs east-west and parallel to the lower reaches of Bonita Canyon approximately one mile north of the Faraway Ranch. But unlike Bonita, Picket Canyon terminates in an open, forested park below Riggs Peak. National Park Service staff members worried that the timber resources could create a serious fire hazard in Picket Park (SWMMR August 1937). Despite their expressed concerns, other monument projects took higher priority and plans for the fire trail languished for almost two years.

In May 1939 J. H. Tovrea developed a plan for the proposed trail (#5302). This trail layout entered north Bonita Canyon from the highway and climbed up to the plateau along the canyon's western slope. The proposed trail traversed the plateau in a southwesterly direction and descended into the southern portion of Picket Park. The only reference to the construction of the fire trail is found in the July 1939 Southwestern Monument Monthly Report (SWMMR). "The fire trail to Pickett (sic) Canyon is 100% complete. This is a low standard trail and was principally mesa type construction, with clearing the major job."

Because the fire trail was constructed so late during the CCC era, no monument maps illustrate the location of the trail. Visitor hiking maps from 1945 and 1946 (#7005) show no evidence of the trail. It is possible that the Picket Canyon Fire Trail at this time was not open to the public. Yet the area was regularly explored by outdoor enthusiasts (Figure 51).

*Inspiration Point Trail*
There is no record in project superintendent or custodian reports of any activity, either construction or maintenance, relating to Inspiration Point Trail during the CCC era. The Inspiration Point Trail does appear on Andrew Clark's topographic map of Chiricahua National Monument (#5003). The trail's location on the 1936 map is identical to that of the modern one. This documentation would suggest that the trail was probably constructed by Ed Riggs prior to the arrival of Camp NM2A.

*Recent Foot Trails*
Numerous spur roads between the Faraway Ranch and the Public Campground have been created, altered, and later eliminated throughout the monument's history. This evolution continued after NM2A left its campsite in June 1940 (1936 aerial photograph; #7005 (1946); #3100 (1956); 2100-E (1962); #2100-F) 1968)). In 1945 William Sprague purchased the campsite and began taking

guests at the Silver Spur Ranch (Wegman-French 2006:147).[12] The access road to Silver Spur Ranch changed its point of origin at Bonita Canyon Highway from across from the headquarters in 1946 (#7005) to 1/4-mile north sometime before 1956 (#3100). The road probably continued to exist in that location until the Silver Spur Ranch was closed in 1967 (#2100-F). No monument plan or map prior to that time however shows any hiking trail between the Faraway Ranch, Public Campground, or Headquarters areas.

Another foot trail near the Visitor Center today is the Fire and Flood Trail. An earlier version was apparently constructed sometime before 1958 (#7005-A). This short trail, originally named the Foothills Forest Self-Guiding Trail, was constructed in the spring of 1950 (Superintendents Narrative). The trail departed from the headquarters and explored the Rhyolite Creek riparian area immediately west and east of the highway. The trail was destroyed in the flood of 1993 (Neilsen, personal communication). Remnants of this trail survived the August 1999 rainstorm. Those remnants that are still present in the creek bed are powerful reminders of the size and strength of the flood events that have periodically visited the monument.

**Massai Point**

> *"It becomes a road with a genuine climax, for when it has been finished it will bring the traveler suddenly upon the great area of this rocky wonderland, the like of which there is no other on this continent."* Tucson Citizen, April 21, 1934.

The unknown writer for the newspaper, *Tucson Citizen*, was gushing about the soon-to-be-completed Bonita Canyon Highway and its terminus on the upper plateau in Chiricahua National Monument. The eight-mile highway had been designed as a destination road that would end in a parking loop. The writer accurately describes the sense of increasing anticipation as the traveler emerges from the enclosed space of Bonita Canyon, gains elevation along the upper slopes of Whitetail Canyon, and finally arrives at Massai Point. Neither is today's traveler disappointed. The viewshed of surrounding peaks and the Wonderland of Rocks below the plateau still stuns the first-time visitor as much as it did in 1934.

Massai Point was designed in 1932 by the Bureau of Public Roads to be the primary destination in the monument. Not only was Massai Point the terminus of the roadway but it became the main access point for the two major hiking trails systems within the monument. Massai Point became the location for the first major development activity undertaken by Camp NM2A. During the summer of 1934 CCC enrollees constructed facilities, both temporary and permanent, in preparation for the dedication ceremony for Chiricahua National Monument, held on September 3, 1934. Its spectacular views in combination with the relatively level topography made Massai Point the obvious choice for the celebration's location.

Temporary Developments at Massai Point

The development of Massai Point for the dedication ceremony was a massive undertaking that involved the manpower (3140 man-days) of the entire CCC Camp during the month of August (Hammond 1934; SWMMR September 1934). Upwards of 10,000 visitors were expected at the opening of the monument. All of those visitors were arriving by automobile. Activities began with speeches and presentations by invited dignitaries in the morning then followed by a barbecue luncheon in the afternoon (Randall 1957). Two areas of temporary development were needed to support those activities: parking lots and a cooking and luncheon serving area (Map 6).

Three large parking areas were constructed along the ridge line between Sugarloaf Mountain and Massai Point for the ceremony. These parking areas are visible in aerial photographs of the Massai Point region taken in 1935. Parking lot #1 was located north of the Massai Point turnaround on what is now the Orientation Station hill (#4933; 4945). A series of loop roads were cut into the southwest and northeast slopes to provide access and parking. Entrances to the access roads were located at the north end of the turnaround and on Bonita Canyon Highway across from Barbecue Hill. Parking lot #2 was prepared in the area that presently contains the Echo

[12] The Silver Spur Ranch was sold to Ray and Martha Kent in 1949. They operated the ranch for 18 years.

Canyon parking lot (#4934; 4944). A third area was located on what is now the access road to Sugarloaf Mountain just south of its present parking lot (Figure 58).

The parking areas were primarily developed by trimming trees and shrubs close to the ground and by moving rocks and boulders out of the area. Dump trucks added fill to smooth out the rougher sites (Hammond 1934). The three parking areas were adequate to accommodate the approximately 1600 cars that arrived on Labor Day, September 3, 1934 (Figure 59).

Most of the altered areas within the parking lots appear to have recovered from the construction and celebration activities. The roadway that provided access to the parking lots created much more permanent scarring. Those parts of the roadway that were not incorporated into later trails and structures were still visible in aerial photographs of Massai Point taken in 1976 and 1992.

Barbecue Hill located northeast of Massai Point loop was used for the luncheon banquet (Figures 60, 61) (#4945). A temporary access road was cut around the hill to allow supply trucks into the serving area (Figure 62). A natural depression on the northwest side of the hill was used as the cooking area. Two pits (85' long, 4' wide, and 3.5' deep and 20' long, 2' wide, and 2.5' deep) were cut from solid rock using explosives. The fires were fueled with oak wood to cook 8000 lbs. of beef and 1000 lbs. of beans (Figures 63, 64). Above the cooking area along the ridge line five sets of tables were set up to serve almost 6500 individuals (#4949; Hammond 1934). Following the dedication ceremony CCC crews picked up the site and filled in barbecue and latrine pits (SWMMR). Like the parking areas, Barbecue Hill still shows evidence of activity scars that have continued in the landscape long after the celebration.

*Amphitheater, Speakers Rock, and Foot Trail*

The dedication ceremony included several speeches by those involved with the creation of the park. The area selected for the dedication speeches was a shallow, southwest-facing slope of rock. The slope had the happy coincidence of providing spectacular view of the Wonderland of Rocks. For most of the dedication audience this would have been their first view of the rock formations for which the monument had been established (Figures 65).

Park Service engineers believed that when properly prepared the slope might seat an audience of 3 to 4,000 people. To make the amphitheater safe and comfortable rocks and boulders were cleared from the slope, vegetation was trimmed to the ground, and a series of paths constructed to lead the visitor into the seating area (Attwell September 2, 1934; Hammond 1934; # 4946).

The day's speakers would deliver their speeches from a large dais constructed of local stones. This structure still exists today and is known as Speakers Rock. The crude methods used in the construction of the Speakers Rock have engendered numerous comments. After the ceremony Park Service engineer Walter Attwell reported that he was so distressed by the structure's appearance that he offered to tear it down and rebuild it. "The whole structure looks very poor to me. I would say it was a disgrace" (Gart 2001:23, footnote 94). In an earlier assessment of structures within the monument, Donahue opined that it does not equal the quality of the other CCC-constructed projects (List of Classified Structures 1995). While Speakers Rock was designed and built in haste, nonetheless it is graceful in form and was clearly designed to fit in the surrounding landscape. Among the wide variety of structures built by the Civilian Conservation Corps throughout the western national parks, Speakers Rock is highly unusual if not unique.

With the exception of the Powder Magazine in Rhyolite Canyon, Speakers Rock was the first large, permanent structure built by enrollees in Chiricahua National Monument. The construction of the Speakers Rock is illustrative of the short time span available for design and construction prior to the celebration as well as the inexperience of the new enrollees in stone masonry.

*Massai Point Orientation Station*

During the 1920s the Educational Division of the Park Service worked closely with the Branch of Plans and Design to expand beyond

the tradition of a single, centrally located museum. Instead they wished to develop a park-wide system of outlying museums and educational sites including amphitheaters and interpretive waysides (McClelland 1998:249). Herbert Maier, a contracted architect, designed many of these museums at Yellowstone and Yosemite National Parks. These museums were often situated out in the field along park trails providing the Park Service with permanent locations for natural history interpretation for its rapidly growing number of visitors. The Glacier Point Lookout Museum, built in 1924, featured exhibits, open viewing windows, and an observation terrace. Designed to let the visitor appreciate the spectacular vista over Yosemite Valley, the structure "featured battered stone walls that emerged from the granite outcropping" (McClelland 1998:169). During this period Maier worked with Thomas Vint who, as director of the Branch of Plans and Design, formulated many of the original principles of naturalistic design and harmonization between structure and landscape.

In June 1937 Frank Fish, the monument's first permanent custodian, expressed his desire for a permanent exhibit to Superintendent Pinkley. "There is a pressing need for geological story for this monument to be displayed preferably at Massai Point or vicinity and to be self explanatory. It is found with registration of visitors, patrolling and maintaining order, and conducting of guided trips that many questions go unanswered because there is no one available at that time" (SWMMR). The overworked custodian was clearly expressing his frustration as visitor numbers jumped dramatically from a low of 200 in January of that year to over 1000 in April and May and 1500 in June.

Herbert Maier, having been appointed the Southwestern Regional Director, made a visit to Chiricahua National Monument and discussed plans for a structure that would present the geological story to monument visitors. According to Fish's monthly report to Superintendent Frank Pinkley, "Maier (had) suggested something on the order used in Yellowstone, a two or more sided water- and bug-proof shrine depicting with charts and pictures the nearby points of interest" (SWMMR June 1937).[13]

Under Maier's supervision, architect Cecil Doty took on the task of designing the Orientation Station at Massai Point (Map 5). Doty visited the Chiricahua in January 1939 (SWMMR). At that time and during the following months Doty worked with Natt Dodge, the Southwestern National Monument naturalist and education specialist, to develop plans for the layout of the Orientation Station and the design of the exhibits within (SWMMR April 1940).

Doty's first plan completed in January 1939 must have employed a reversed base map for the site; the plan was adapted to a mirror image of the real site (#2035). The design was redrawn to the correct orientation in June of the same year (#2035A). Time was short now as the entire CCC program was being cut back; the termination of Camp NM2A was expected within the near future (Paige 1985:27).

Excavation of the building's foundation was begun immediately upon receipt of plans (Figure 69). Again, the need for haste created problems. In January 1940 Charles Krueger, the resident NPS landscape architect, reported that "stone work on the orientation station is poor. The walls are not plumb and the structure as a whole leaves a great deal to be desired."[14] Sections of the walls had to be reconstructed, the flagstone terrace relayed, and the stairs rebuilt (Gart 2001:67). Construction and landscaping were finally completed in May 1940 (Figure 70).

**Administrative Area**

---

[13] Maier was referring to his Obsidian Cliff Nature Shine built in 1931. The two-sided shrine, 6' high by 16' in length, had an overhanging roof that sheltered exhibit panels. The exhibits illustrated natural features, processes, and points of interest (McClelland 1998:250-201, 252).

[14] As quoted in Gart 2001:67.

After the dedication ceremony in September 1934, NPS landscape architects, engineers, and superintendents spent considerable time determining potential sites for the many recreation and administrative facilities being planned. Frank Pinkley, superintendent of Southwestern National Monuments, suggested the junction of Bonita Canyon Highway and Rhyolite Creek as the best site for the new Administration Area. Despite the hazard of constructing a primary point of visitor interaction on a significant curve in the road, the site offered a large amount of level land available for buildings and parking (Clemensen September 21, 1992). The other important reason for that choice of site was that the curve, in 1934, sat at the western property boundary of the monument.[15] The site was, at that time, the gateway to Chiricahua.

The Administration Area also needed to be situated in close proximity to the future Residential Area as well as the Utility Area for employee convenience. Unlike the Residential and Utility Areas, however, the Administration Area required good visibility from the roadway in order to be useful for visitor contact and information dissemination (Good 1999 v.1:57). The Administration Building historically registered visitors and offered information and educational materials about the monument.

During the first year of Camp NM2A, the focus of most of the activity was construction of the visitor recreational facilities. Thus the Campground, Bonita Canyon Highway, and trails had the higher priorities over the Ranger Station. When Charlie Powell arrived in July of 1934 to begin his job as first custodian of Chiricahua National Monument, the only shelter available to him was a tent. According to early CCC enrollee, Jeff Thomason, Charlie Powell's office, home, and visitor's reception desk were all incorporated in his tent site at the intersection of the Public Campground Access Road and Bonita Canyon Highway (Harris et al. 1988).

An early topographic map of the area south of Rhyolite Canyon and Bonita Canyon Highway was created by engineers J. H. Tovrea and Robert S. Harris in November 1934 (Map 7) (#4953). This plan contains locations and layouts for the original Ranger Station, associated Comfort Station, the Equipment Shed, and a Ranger Residence (#1). Thus the physical arrangement of the Administration Center and its relationship to the associated Residential and Utility Sites were determined early in the planning process at Chiricahua.

Construction of the Comfort Station began in the spring of 1935 and was completed by September of that year. The Ranger Station was begun immediately afterward. The early history of the Ranger Station, the original component of the Visitor Center, is confused due to an absence of early plans and unclear descriptions of the building's construction in the Southwestern Monument Monthly Reports. Drawings for the original Ranger Station have not been found, however plans for later additions identify the central portion of the later Administration Building as the original component (#2075; 2075A).[16] Additional confusion arises from Project Superintendent Stevenson's monthly reports. With limited detail Stevenson describes construction of the foundation and rock walls beginning in October 1935. He later states that the Ranger Station was completed in March 1936. However in the months between July 1936 and January 1937 he describes a new project including grading, construction of foundation, walls, ceiling, and interiors for the Headquarters Ranger Station.

Civilian Conservation Corps camps were famous for constructing buildings in piecemeal fashion (Paige 1985; Harrison 1991; McClelland 1998). An Emergency Conservation Works budget restriction limited expenditures for any building to $1500. It is possible that this budget restriction was the reason for the two consecutive periods of construction. However, neither early photographs nor area plans are able to resolve what changes actually took place in the Ranger Station following completion of the first

[15] On June 10, 1938 President Franklin Delano Roosevelt added 6,407 acres to the original withdrawal of 4,238 bring the total land area to 10,645. This addition extended the western boundary of the Monument around Bonita Canyon Highway almost to the Faraway Ranch. Numerous other smaller parcels, including the private lands of the Faraway Ranch, have since been added to bring the total acreage today to 12,000.

[16] This area has been reconstructed as a single room for file storage.

construction in March 1936.

**Public Campground**
In the late 1920s Coronado National Forest began to construct recreational facilities in Chiricahua National Monument. The Forest Service had built a two-mile addition to the Faraway Ranch road that extended up into Bonita Canyon to the Organ Pipe formation. This primitive road followed the floodplain of Bonita Creek and terminated in a small loop. Around this loop the Forest Service built a small campground containing 6-8 campsites (Arizona Daily Star June 22, 1930; Tombstone Epitaph October 15, 1929; Bureau of Public Roads 1932 Section C). There is no evidence that the Forest Service provided any facilities other than the road and the cleared sites.

Recreation facilities were considered the most important elements the future monument landscape. The Public Campground was fourth in construction priority behind Bonita Canyon Highway, the Trail System, and Massai Point. After preparation of Massai Point for the dedication ceremony was completed, CCC crews turned their attention to the new campground.

The new Bonita Canyon Highway, built between 1932 and 1934, was relocated above the floodplain of Bonita Creek because of concerns of flooding of the roadway and the erosion of its base. The old road location, however, was still considered valuable because of the breadth of the level ground. In November 1934 National Park Service landscape architects and engineers agreed that the old campground site was inadequate for future use and that the new campground should be constructed in this broad plain at the confluence of Bonita Creek and Surprise Creek (SWMMR). The new site was also within easy walking distance of the proposed Ranger Station.

Emilio Meinecke, in his 1934 report on campground design, suggested that along with a one-way circulation system four features should be incorporated into each campsite: a short, pull-in parking spur, tent site, picnic table, and cook stove (Map 11). All of those features were employed in the CCC-constructed campsites and were present at the new Public Campground as well.

**Civilian Conservation Corps Campsite**
In 1880 Ja Hu Stafford filed the first homestead claim in Bonita Canyon. He chose the area east of the Faraway Ranch that included the Silver Spur Meadow. After his death in 1918 Stafford's property was purchased by the Erickson family. In May 1934 the Riggs/Erickson family leased ten acres including the meadow to the National Park Service for the lowly fee of $1 per year for the newly established CCC Camp NM2A (Wegman-French 2006:58). The Park Service lease continued for the next six years until, in June 1940, the camp was disbanded.

Prior to NM2A occupancy, another company of CCC enrollees (F42A) was detailed to Bonita Canyon in May 1934 to dig a shallow well. The well, 16'-18' in depth, was located in the center of the meadow and provided a good source of water for the future occupants (Masters September 21, 1988). NM2A enrollees built their tent encampment around the well head later that month. In September and October of that year they constructed more permanent housing in the form of wooden barracks. Other buildings would follow (Figures 95, 97-99) (Map 13). Residences and offices were constructed of wood frame and covered with wood siding. Workshops were wood framed but sheathed in corrugated iron (SWMMR).

While the Park Service was charged with administering CCC work projects in the monument, the US Army was assigned to oversee operations at the Campsite (as well as all other CCC camps throughout the United States). It was the Army that provided shelter, food, and clothing to the new enrollees. The Army maintained the physical condition of the campsite and the associated support services including supplies, kitchen, administration, education, and health. The Army was also responsible for enforcing discipline when enrollees were not on work detail.

In 1945, five years after the termination of Camp NM2A, the Riggs/Erickson family sold the meadow, its buildings, and 80 acres of land to William Sprague. The Silver Spur Guest Ranch was opened that year but was never financially successful; the ranch closed in 1947. Ray Kent purchased the property in 1949 and reopened the ranch. The Kent family successfully operated the Silver Spur until 1967 when they, in turn, sold the property to the National Park Service.

During that 22-year period, the original CCC buildings continued to be used and, in some cases, modified. For example, the mess hall became the ranch main lodge (Morrow Reardon Wilkinson 2001:28). Two large stone fireplaces were constructed (probably by Kent) on its south side (Figure 100). All of the buildings still standing when the Park Service acquired the property were dismantled in 1971.

**Sugarloaf Mountain**
The Sugarloaf Lookout and its support elements were constructed in 1934 and 1935 by the Civilian Conservation Corps enrollees of Camp NM2A under the guidance of US Forest Service and National Park Service supervisors.

*Sugarloaf Lookout*
The earliest plan dated September 1934 outlined all ongoing and anticipated CCC projects in the monument (#4942). This plan called for both a lookout house and separate tower structure. Previously many of the lookout stations built in Chiricahua National Forest, except for Barfoot, had required towers. Perhaps a thorough survey of the peak and assessment of its remarkably unhindered viewshed had not yet been completed.

The final design for the Sugarloaf Lookout was resubmitted in December 1934 (#3010). The start of construction was delayed, however, until the truck trail from Bonita Canyon Highway and the horse trail leading to the summit of Sugarloaf Mountain had been completed (Hammond 1935). Materials were hauled by truck to the base of Sugarloaf Mountain and then transported by mule to the building site (Figure 105) (Stevenson 1935).

*Sugarloaf Trail*
The Sugarloaf Trail was the second trail built by CCC crews. It was the first, and perhaps the only, trail in the monument planned and designed by Park Service engineers and landscape architects.

The primary purpose of the Sugarloaf Trail was to provide access to the Sugarloaf Lookout. The lookout was planned by US Forest Service Supervisor Fred Winn to be the northernmost watch point in the line of fire prevention stations in the Chiricahua Mountains. The trail had a secondary purpose of bringing monument visitors, many of whom were on horseback, to one the most prominent viewpoints in the park. The view from Sugarloaf Mountain is complete and unobstructed. A visitor may take in the entire monument, the Sulphur Springs and San Simon valleys, and a considerable length of the Chiricahua Range.

Unlike other CCC-built trails, the Sugarloaf Trail was never connected to other trails in the monument. Generally the trails at Chiricahua National Monument were designed to form a connected system that would move visitors throughout the entire park. The reasons for the Sugarloaf Trail isolation have not yet been identified. It is probable that distance from other centers of visitor activity was the simple answer. It is possible that trail's importance in fire prevention and the need for rapid access to the lookout may have also been a factor in maintaining that isolation.

The first monument-wide plan drawn in September 1934 displayed the proposed projects for the fourth period of enrollment (#4942). The plan suggested that the Sugarloaf Trail begin from the northeastern slope and move around the mountain in a clockwise spiral fashion finishing on the northeastern portion of the peak. For unknown reasons this proposed route was not implemented. It is

possible that this route was proposed to avoid the sheer rock face on the north side of the mountain. Following a clockwise a route would have obviated a need to blast the trail through solid rock. That geological encumbrance appears to have been later deemed a challenge by the engineers however.

On November 21 and 22, 1934 Walter Attwell, associate engineer, and Harry Langley, resident landscape architect, met at Sugarloaf Mountain to plan a new route for the trail. Assistant engineer, Gene Gordon, and his crews surveyed the trail at the same time (SWMMR). The construction of the Sugarloaf Trail was time-consuming for it required substantial cutting through solid rhyolite rock using a jackhammer drill, and compressor (Figure 112). In other areas of the trail the poorly-welded ash was softer, easier to shape for construction purposes but was also subject to more rapid erosion.

By mid-December 1934 trail crews were cutting the new route from the end of the truck trail. Cutting the route, however, took longer than anticipated. Superintendent Hammond assigned two jackhammer crews to work in shifts each day in order to complete the job faster (SWMMR). Ed Riggs, trail foreman, and C. B. French, construction foreman, supervised the work of those two crews (Harris 1994). Jackhammer work and primary trail construction were completed in 2.5 months later at the end of February 1935. The trail crew took another 5.5 months to finish backsloping, landscaping, and construction of rock walls that retained uphill and supported downhill slopes (Figure 113).

*Sugarloaf Mountain and CNM Telephone Communication System*
The National Park Service considered the establishment of a communication network within the monument to be one of the most important tasks for Camp NM2A (#4942). During preparations for the dedication ceremony, a temporary phone system had been set up with four stations around Massai Point. These stations were connected to the Forest Service phone lines outside the monument (Hammond 1934).

A more permanent system was needed to cover important sites within the monument. Sugarloaf Mountain and Massai Point were determined to be the two most critical outlying sites that required connection to a central location. In July 1934 Walter Attwell, Southwestern National Monument engineer, developed plans for a telephone line to connect the as-yet-undeveloped headquarters area with Massai Point through Rhyolite Canyon (SWMMR; #4936). That line was completed shortly after the dedication ceremony in October 1934. A topographical map of the entire Chiricahua National Monument developed by surveyor Andrew Clark in September 1936 shows that the Rhyolite Canyon-Massai Point telephone line closely followed the creek up to the head of Rhyolite Canyon (#5003). The telephone line within the immediate area of Massai Point was buried in underground conduit (Hammond 1935). A secondary connection up Echo Canyon to Sugarloaf Mountain had been originally contemplated was later rejected because of the difficulty of the rough terrain (#4941; SWMMR October 1934). Instead the engineers decided to extend the telephone line from Massai Point to Sugarloaf Mountain. This line was completed in December 1934 (SWMMR).

A second telephone line extended from the Administration Area to Camp NM2A, past the Public Campground, and up Bonita Canyon to Bonita Park. The Bonita Park line connected to a USFS phone line that terminated at Portal Ranger Station, the control center for Chiricahua Mountain Range communications (Hammond 1935). Both the Administration Area-Sugarloaf and Administration Area-Bonita Park lines were completed in March 1935 (SWMMR).

This connection to the Forest Service line was apparently only a temporary one however. In July 1935 a survey crew, under the direction of engineer foreman, Robert Harris, staked out a new route to reconnect the monument to the Portal Ranger Station (SWMMR). A formal plan locating the route and pole positions was developed in November (#4977). The route chosen passed along Indian Creek and out Whitetail Canyon. The line then skirted the eastern USFS boundary to the town of Paradise and continued on to the Portal Ranger Station. In order to make this phone connection, a truck trail had to be built along the length of the line to permit

transport of men and construction materials as well as to provide access for later maintenance crews (Richey June 21, 1939).

This route plan also included construction details describing the recommended wood for the telephone poles (Southern Longleaf Pine), the creosote coating for the pole, and the associated crossarm, bolts, and insulators necessary for assembly. The poles would be 10' long and set 1'10" below ground level. Construction of the line began in February 1936 and was completed by March 1937 for a distance of approximately 16 mi. (*Coronado Bulletin* February 28, 1936; SWMMR).

During the last year of Camp NM2A the Park Service decided to bury the more obvious telephone lines within the monument. In May 1939 the telephone line near the Administration Building was buried (SWMMR). The Park Service also wanted to eliminate the long phone line from the headquarters up Rhyolite Canyon to Massai Point and Sugarloaf Mountain. In July 1939 engineer J. H. Tovrea developed a plan for an underground telephone route (#8000). The underground line ascended from a connection in Bonita Canyon along the northeast wash on Sugarloaf Mountain. The line crossed the Sugarloaf Trail west of the parking lot and continued southeast to Massai Point. A secondary line connected from the trail/telephone junction and ascended the east slope of Sugarloaf Mountain to the lookout. Installation of the underground line began in January and was completed in April 1940.

In the same month the telephone wire connecting the Administration Area to Massai Point via Rhyolite Canyon was taken down (SWMMR). The subsequent history of the Rhyolite Canyon telephone poles is still unknown. Portions of the remaining aboveground telephone system throughout the monument have been slowly removed from most locations (Elvin Cluff personal communication).

**Utility Area**

Planning for the larger headquarters area began in November 1934 shortly after the dedication ceremony. Southwestern National Monument engineers, Robert S. Harris and J. H. Tovrea, developed a map of the designated Administrative Area containing detailed information on topography, hydrology, and tree and boulder location (#4953). The map also contained suggested locations for the future Ranger Station, its Comfort Station, the first Ranger Residence, and the Equipment Shed.

Following the design ideas of Charles Punchard, the Park Service's first landscape engineer, for clustering administration and maintenance areas, Tovrea and Harris recommended siting the Equipment Shed close to the Ranger Station. Unlike the Ranger Station, however, the residential and maintenance areas were not situated on the main road; they were located in less publicly accessible parts of the monument on a secondary road. Both were visually separated from Bonita Canyon Highway: the Residential Area set out of sight from the headquarters on the ridge line above and the Utility Area uphill and back from the road (Maps 7, 16).

The start of construction on the Utility Area was delayed until April 1936, almost two years after the establishment of Camp NM2A. Projects involving visitor activities (roads, trails and campground) and visitor interaction (Ranger Headquarters and Comfort Station) had higher priority and were therefore completed first.

**Residential Area**

Accommodations provided for the first custodians assigned to Chiricahua National Monument were spartan, to say the least. The primary focus of Camp NM2A crews was the development of visitor facilities as quickly as possible. During 1934 and 1935, temporary and permanent custodians were provided with little more than a tent and situated across the road from the future Visitor Center.

Construction of the first Ranger Station was begun in late 1935 and completed in mid-1936. It was a small, two room structure measuring approximately 18 feet in length and 11 feet in width (#2025). The first permanent custodian, Frank Fish, moved into one room of the Ranger Station along with his wife and two daughters; he offered information to visitors and kept small educational

displays in the other room. This original structure has now become incorporated into the present Visitor Center (see discussion on Administration Area). The Residential Area was the last site to be developed in the monument (Map 16). Not until most of the major road, campground, and trail projects were complete and development of the Utility Area well underway did CCC crews begin construction in the Residential Area.

Planning for the first Residential Area began with the survey of the service road in April 1935. This service road also provided access to the Utility Area west of the new site. Planners anticipated that four residences would be constructed around the terminal loop of the service road (#4974) as early as September 1935. Construction on the service road occurred during the following May and June of 1936. Construction of the residences themselves, however, did not begin until the fall of 1937.

Preliminary plans for Residence #1 were developed in March 1937 and final plans in April by assistant architect Robert W. Albers (#2027; 2027A). A floor plan for a ranger residence with four or five rooms (kitchen, living room, bath, and one or two bedrooms) and a porch covering the front entrance was a common formula among National Park Service designers during the CCC era. The floor plan for a custodian's dwelling in Silver Creek Falls State Park, Oregon is almost identical in arrangement and size to that of Residence #1 (Good 1999, Vol.1:80). The location for the residence identified on this preliminary plan is identical to that of the present building.

Unlike descriptions of all other building projects in the project superintendent's monthly reports, there was almost no discussion regarding the construction of Residence #2 (SWMMR). The plans for Residence #2 were developed in January 1935 by Robert W. Albers (#3009B). These plans are essentially identical to the layout of present Residence #2 with the exception that the plan was drawn in a reverse orientation. The original location selected for the residence was on the north rather than the south side of the loop. A plan directing small changes in the original layout was produced by Cecil Doty in November 1938 and suggests that construction of Residence #2 was already underway if not nearing completion (#2032).

The layout of Residence #3 is the inversion of Robert W. Albers' plan for the first ranger residence.

## *Statements of Significance*

***Criterion A - US Forest Service and National Park Service Recreation Development***

The Historic Designed Landscape of Chiricahua National Monument is the result of a long-term commitment by the federal government to development of recreational opportunities on public lands throughout the west as well as in southeastern Arizona. Development of Bonita Canyon Highway was considered by the communities of southeastern Arizona to be one of the most important projects for the advancement of the region. Many local leaders believed that safe and easy access into the Wonderland of Rocks would draw more visitors and their tourism dollars to the area.

Unlike the National Park Service, whose original mandate was to provide recreational opportunities for the American public, the primary focus of the US Forest Service for many of its early years was the management of its natural resources. Recreation was not prohibited in the national forests, but neither was it encouraged.

In 1915 Congress opened the national forests to development of summer homes and resorts on leased lands. As World War I came to an end, pent-up demand for travel exploded. By 1924 11 million recreationists were visiting the national forests (Dana and Fairfax 1980:131). Sensing the sea change in the travel and recreation activities of the American public, the US Forest Service hired Frank Waugh, a landscape architect, to research the topic of recreation. In 1918 Waugh published a document entitled "Recreation Uses on the National Forests" in which he identifies the wide variety of recreation opportunities available on national forest lands. He warned that without positive intervention by the US Forest Service to control this growing use, private individuals seeking escape into these

public lands would damage the natural resources. Waugh argued that recreation, like timber production, grazing, and watershed protection, should be managed as a primary use of public lands (Sutter 1998: 200). In the early 1920s the Forest Service recognized recreation as a major use of public lands and approved its first set of recreation plans. Congress appropriated the first funds for recreation in 1922; still development languished during the decade. It took the Great Depression and the need to create jobs to put recreation in the forefront of land management at the US Forest Service (Booth 1991).

In 1930 Coronado National Forest was persuaded by strong encouragement from local communities in southeastern Arizona of the necessity to develop Chiricahua National Monument more fully. With the engineering and design assistance from the Bureau of Public Roads, the US Forest Service hired private contractors to construct Bonita Canyon Highway. The eight-mile roadway was completed in September 1934. In conjunction with the National Park Service, US Forest Service persuaded the Emergency Conservation Works program in 1933 to allocate a Civilian Conservation Corps Camp to Chiricahua National Monument for the purpose of continuing its development.

In 1916 Congress established the National Park Service (NPS) in order to promote and regulate the use of national reserved areas for the enjoyment of present and future generations. Recreation had been recognized as an important social goal for the federal government. Prior to 1916 the development of recreational opportunities and supporting facilities within the national parks had been left to the whim of private companies. With the creation of the National Park Service, the process of developing these areas could be organized and completed in a more careful and systematic manner.

The National Park Service created a process of identification and development whereby valuable landscapes were reserved, their boundaries delineated, resources assessed, and recreational facilities designed and constructed. Visitor facilities such as a ranger stations, museums, trails, roads, and campgrounds were the major focus of effort for trained designers and engineers (McClelland 1998:499).

During these early years the national parks, large landscapes of outstanding aesthetic and ecological value, were the primary recipients of these development efforts. National monuments, many of which were located in the southwestern region of United States, however received little if any attention until the advent of President Roosevelt's New Deal legislation (Rothman 1994). National monuments were viewed more often as unwanted stepchildren. These were reservations set aside to protect smaller areas with single elements of unusual interest, archeological ruins, or lesser ecological or aesthetic value than those of the national parks. They were established by individual presidents under the Antiquities Act of 1906 and assigned to a variety of land agencies for administration. Oversight of most monuments during the early years of the 20th century was haphazard at best; development was often nonexistent (Rothman 1994).

With the development of the New Deal program, agencies such as the Civilian Conservation Corps were employed to continue the construction of recreational facilities within national parks, forests, and monuments. Development on these federal lands accelerated dramatically with the availability of labor and funding in 1933. Many national monuments received their first infusions of funds and labor at this time. Recreational planning led by the National Park Service continued to expand beyond national reserved landscapes to include municipal, county, and state parks as well as recreational demonstration areas (McClelland 1998).

**Criterion A - New Deal Work Relief Programs: Civil Conservation Corps**

The development of Chiricahua National Monument was closely tied to the social upheaval caused by and federal response to the Great Depression. The US Forest Service, the National Park Service and Camp NM2A enrollees were responsible for the construction of seven sites, 16 buildings, and 24 structures including 13 trails; and development of all of the supporting water, sewer, and electrical infrastructure for the monument. The built environment of Chiricahua National Monument is a physical manifestation of their skills, knowledge, and craftsmanship. The CCC enrollees took pride in jobs well done. That pride is still evident in the elegance of many of

the structures and buildings and their degree of integrity.

The New Deal initiated by President Franklin Delano Roosevelt and his administration was one of the first, and perhaps the largest, social welfare projects ever undertaken by the United States. Within 28 days of his inauguration Roosevelt established the Emergency Conservation Works program. The purpose of this program was to hire thousands of unemployed young men to assist land managers to protect, restore, and develop federal, state, and local resources (Paige 1985:10). The Civilian Conservation Corps (CCC), as the program and its enrollees were colloquially dubbed, was employed in camps throughout the western states. The US Forest Service and the National Park Service employed CCC enrollees to improve overgrazed and denuded range and forest lands; build roads, trails, and recreation and fire prevention facilities; as well as participate in fire prevention and firefighting activities. Even today the results of those CCC labors are still visible in the landscape. With respect to development in national parks and national forests, the Civilian Conservation Corps was perhaps the most important program within the New Deal.

The Civilian Conservation Corps program altered the lives of the men and boys who participated in it. It provided monthly checks to destitute families and carried them through one of the most economically and socially difficult decades. In return for their labors, both men and youth gained new skills, new education, a renewed sense of self-worth, and the knowledge of how to work hard. The men and boys in Bonita Canyon gained skills in woodworking, mechanical repair, stone masonry, building, landscape, trail, and road construction, accounting, typing, office management, truck driving, natural resource conservation, plumbing, wiring, cooking, blasting, fire prevention, public relations, and surveying. Many enrollees took their new skills and experiences to help them gain jobs in the private sector after their discharge. Some returned to federal employment as park and forest rangers. Others applied their skills directly to the wartime preparations in the late 1930s.

Oral and written documentation collected from CCC enrollees at Chiricahua National Monument confirm the significant impact that this experience had on their lives. In addition to the local youth assigned to Camp NM2A, CCC enrollees came from throughout the Southwestern states including Oklahoma, New Mexico, Texas, and Nevada. These boys usually arrived by train with the clothes on their backs and frequently with no shoes. Enrollees were provided with surplus army clothing for work and a set of dress clothes for weekend activities. Most enrollees were in poor health, malnourished, and underweight. Enrollees were fed three full meals each day and worked eight hours -- Monday through Friday -- usually on tasks that were strenuous and physically demanding. Within the first few weeks of their arrival, enrollees gained in strength and stamina. Many grew dramatically in height and often gained 30-60 pounds during their enrollment.

While the results of CCC projects are readily visible at Chiricahua National Monument, evidence of the enrollees' personal existence is less so. The enrollees built and lived in a temporary village with residences, a dining hall, administrative buildings, and repair and construction facilities supporting up to 200 enrollees and associated supervisors. Some of that temporary village was removed when the camp was transferred to Arches National Monument in 1940. The remaining buildings were sold to Ed and Lillian Riggs and subsequently to other owners of the site; these remaining buildings were dismantled in the early 1970s after the National Park Service purchased the property. Physical remnants of the CCC Campsite and its associated plantings are still evident in the landscape of the Silver Spur Meadow.

Without the availability of CCC labor, Chiricahua National Monument would have likely remained substantially undeveloped. The importance of the CCC contribution to the monument and the community cannot be overstated. In the same fashion, the importance of the opportunity for work and self-improvement for those enrollees is also immense. Today those Camp NM2A boys, now in their eighties, still return to the monument to express their gratitude for what the CCC program gave to them (Nielsen, personal communication).

***Criterion A - Natural Resource Conservation: Fire Prevention***

The Sugarloaf site is associated with US Forest Service and National Park Service efforts in resource conservation in southeastern Arizona. The CCC development at Sugarloaf Mountain was part of a long-term, large-scale plan for fire reconnaissance, communication, and prevention throughout the Chiricahua Mountain Range. Development of fire prevention facilities at Chiricahua National Monument was a high priority among the early projects (Arizona Range News, March 25, 1938). Sugarloaf Mountain was initially the focus for this development. Natural Bridge Trail, another component in the fire management planning for the monument, was constructed to provide rapid access into the forested area of Picket Park. Efficient communication between lookout sites and US Forest and National Park Service personnel was also a critical component of prevention and management. Enrollees built an extensive telephone system connecting the monument to the US Forest Service office in Portal, Arizona.

Since the establishment of the Forest Service in 1905, forest fires have been viewed as a serious threat to valuable timber resources and wildlife resources. Fire prevention was a shared concern for both Park Service and Forest Service in Southwestern Region (Arizona Range News, March 25, 1938; USDA Forest Service 1989:5; Paige 1985:98-99, 126). For the one, perhaps two, federal employees overseeing each park or forest, firefighting was an almost, impossible task. Forest rangers relied heavily on neighbors: local ranchers, miners, and timbermen who worked in or near the forests for assistance when fires did break out. During the first three decades of the national forests much of a ranger's prevention efforts were focused on fire reconnaissance -- early identification and location (USDA Forest Service 1989).

The Chiricahua Forest Reserve was set aside by the federal government in 1902 to protect timber and water resources for Southeast Arizona. Ben Erickson, son of the first Chiricahua Forest ranger, Neil Erickson, believed that his father had built a number of wooden, four-post lookout towers in the reserve. Ben Erickson was hired in 1909 to man one of those wooden lookout towers at Fly Peak during the summer fire season. Later he built telephone lines for the Forest Service, apparently to connect those towers to a central ranger station (Erickson 1970). A photograph taken in 1919 shows one of these wooden, four-post towers on Sentinel Peak (USDA Forest Service 1989:20, fig. 17). The wooden towers were later replaced with steel ones. The Monte Vista Aerotower was erected in 1922 or 1923 (USDA Forest Service 1989:87). The first lookout in Chiricahua National Forest was built on Barfoot Peak in 1932 (*Coronado Bulletin* November 25, 1932).[17]

Coronado National Forest supervisor, Fred Winn, wished to extend the line of fire lookouts further north along the Chiricahua Range. He believed such development would provide visual coverage for spotting fires across the entire range. In 1934 he met with W. H. Wirt, the National Park Service assistant forester, and proposed a fire lookout be constructed in Chiricahua National Monument (Clemensen 1992). The obvious choice for the new lookout was Sugarloaf Mountain.

Within the boundary of the historic designed landscape, the top of Sugarloaf Mountain represents the highest elevation at 7310 ft. Fire prevention lookouts need clear views of the surrounding landscape in order to spot fires. Sugarloaf Mountain has many of the requisite characteristics for a good site: a broad area with level topography, low vegetation, and good visibility. This congruency of conditions meant that an elevated structure was not required; a ground-based lookout was sufficient. Lookouts were meant to be manned round-the-clock usually for the duration of the fire season. Any structure built to house the observer needed to offer comfortable living arrangements, food storage, water collection, and some form of communication (Good 1999 vol.1:155).

The US Forest Service pioneered the use of fixed lookout points at the turn of the century. These included platforms at the tops of trees, simple protractors mounted on mountain peaks, raised towers, and ground-based lookout houses. USFS designs for lookout

[17] USDA Forest Service (1989: 81) suggests that the Barfoot Lookout was built in 1935, possibly by a CCC crew, but this information does not correlate with then Forest Service Supervisor Fred Winn's statement in the *Coronado Bulletin*.

structures became relatively standardized early on (Sullivan et al. 1989:E6; USDA Forest Service 1989:14). In the late 1920s a building known as the L-4 Lookout came into prominence. The L-4 was a small structure, 14 ft. by 14 ft., which could sit atop a tower or be constructed on the ground. Most of the L-4s supported a hipped roof. The original design for this live-in cabin has been credited to Coert duBois, a Forest Service fire specialist, and dates back to 1917 (USDA Forest Service 1989:22, 30-31).

The L-4 design was employed in many locations in the Southwest. Surviving examples include St. Peter's Dome Lookout in Santa Fe National Forest, New Mexico (constructed between 1933 and 1935) and Capilla Peak Lookout in Cibola National Forest, New Mexico (constructed in 1927) (USDA Forest Service 1989:35). In the Coronado National Forest the Atacosa Lookout (1930 or 1933) on the Nogales Ranger District, the Barfoot Lookout (1932) and Silver Peak Lookout (1938) in Chiricahua National Forest, and the Lemmon Rock Lookout (1935) in the Santa Catalina District were all constructed on the L-4 plan (USDA Forest Service 1989:80-83).

**CCC and Fire Prevention**

With the advent of the New Deal funds young men were employed in camps in national parks and forests throughout the western states. The US Forest and the National Park Service used CCC enrollees to improve overgrazed and denuded range and forest lands; build roads, trails, and fire prevention facilities; as well as participate in fire prevention and firefighting activities. Results of those CCC labors in fire prevention are still visible in the landscape of the Southwest today. In southwestern national forests 47 lookout structures (almost 50% of those built since 1900) were constructed by the Civilian Conservation Corps (USDA Forest Service 1989:7).

CCC enrollees at Camp NM2A were responsible for the construction of access facilities (road, parking areas, and trail), the L-4 Lookout, and extensive telephone communication systems. While most trails were designed primarily for recreation, they were constructed through some of the most densely forested areas of the monument and thus provided rapid access for firefighters. Natural Bridge Trail was initially constructed for the sole purpose of rapid access into Picket Park. The Sugarloaf Trail had the dual purpose of providing fire lookout access as well as an opportunity for recreation.

CCC enrollees were also involved in many other aspects of fire prevention. Even after the National Park Service took over 100% of the administration of CCC projects in 1935, enrollees still participated in fighting fires in the surrounding forests. All enrollees were given firefighting training upon their arrival at Camp. Enrollees were available to US Forest Service managers for firefighting duties on both the Chiricahua and Dragoon districts (*Coronado Bulletin* May 10, 1935). Enrollees were regularly called out to assist in fighting forest fires; most of these occurred in the adjacent Chiricahua Range (SWMMR). Prior to the start of fire season, CCC crews made a reconnaissance of the telephone line to check for breaks and any damage from winter storms (SWMMR April 1938). The Sugarloaf Lookout was also manned by CCC enrollees; two men were stationed at the lookout at the start of the fire season, generally May 1, until its termination at the beginning or middle of August (SWMMR Custodian Reports May 1937, August 1937). Today volunteers staff the lookout.

**Sugarloaf Mountain and CNM Telephone Communication System**

For any lookout to be effective in preventing the spread of a new fire, rapid communication is essential. While different methods of communication were employed in the forests, telephone was the most common. By the early 1920s many of the lookouts in the southwestern region were connected by phone (USDA Forest Service 1989:20). Ben Erickson and John Hands were responsible for building the first telephone system in Chiricahua National Forest in 1909 (Erickson 1970). The first lookout tower in the Chiricahua Mountain Range, Sentinel Peak, had a phone link at its base by 1919 (see figure 17 in USDA Forest Service 1989). The central location to which that telephone was connected is not known, but it was most likely the Portal Ranger Station. The National Park Service considered the establishment of a communication network within the monument to be one of the most important tasks for Camp NM2A (#4942).

***Criterion B - Edward Murray Riggs (1885-1950)***
The personal imprint of Ed Riggs is everywhere in Chiricahua National Monument trails. Ed Riggs was more familiar with the landscape of the Wonderland of Rocks than any other man alive during the first half of 20th-century.

In 1921 Riggs began dating Lillian Erickson, manager of the Faraway Ranch situated immediately west of the monument area. Together they began to explore the canyons and plateaus beyond the ranch. After Lillian and Ed were married in February 1923, he moved to the ranch to help her develop the guest ranch into a more profitable enterprise.

Ed Riggs was a leader in the community of southeastern Arizona and a strong proponent of a proposed monument throughout its early history. Riggs was one of the first to thoroughly explore the fantastic landscapes of the Wonderland of Rocks and personally advertised its beauty throughout the community with his photographs. Riggs lobbied local, state, and national officials for reservation of the area as a national monument. In 1923 Ed's photographs were brought to the attention of Arizona Governor George W. P. Hunt who expressed a desire to personally visit the site where they had been taken. On August 5 the Governor arrived with a group of 60 newspapermen, photographers, and businessmen from Douglas, Bisbee, and Phoenix (Figure 1). Ed led the visiting group along his trails into the Heart of Rocks in order that they experience the rhyolite features themselves. The public attention brought by the press and Governor Hunt's subsequent lobbying efforts in Washington DC were instrumental in persuading President Calvin Coolidge to declare the Wonderland of Rocks a national monument on April 18, 1924 (Riggs no date; Winn, Douglas Daily Dispatch, September 2, 1934).

After the monument was established, Ed Riggs continued to develop horse trails throughout the area in order to provide better access for his guests at the Faraway Ranch to see the spectacular geological formations. According to his wife, Lillian, Ed laid out and constructed most of the early trails in the monument (Riggs no date). By the arrival of the CCC Camp in1934, an extensive system of trails was already in existence throughout the Wonderland of Rocks. These primitive trails became the foundations for many of the CCC trails that were later constructed.

In June 1934 the National Park Service hired Ed Riggs as a LEM (a Locally Experienced Man) or foreman to lead trail crews at Camp NM2A. While Riggs had no degree in design or engineering, he had a very practical knowledge of construction and perhaps, more importantly, the most thorough understanding of the monument landscape of anyone (Riggs no date; Riggs 1953). Ed Riggs worked with both National Park Service engineers and landscape architects regularly during construction of the trails but the design of the trails has been uniformly attributed to Ed (SWMMR). Ed Riggs became the one and only trail foreman to oversee development of the trail system and teach the CCC enrollees principles of trail construction. Riggs designed all but one (Sugarloaf) CCC trail and was responsible for directing construction on all of the trails during the following three years. Despite his lack of a formal design or engineering degree, Riggs had an intuitive sense for both the landscape as well as good design in a National Park Service trail.

***Criterion C - Landscape Architecture: National Park Service Naturalistic Landscape Design***
The Historic Designed Landscape of Chiricahua National Monument was constructed using principles of naturalistic landscape design. These principles were developed by National Park Service landscape architects during the late 1910s and 1920s and have been applied in the construction of national parks and monuments as well as state and local parks in rural areas across the country. Naturalistic landscape design evolved at the same time, and in concert with, the Park Service's Rustic Architectural Style. Aspects of landscape design can be found both major structures and five of the seven sites at Chiricahua.

Chiricahua National Monument's Historic Designed Landscape is significant for its overall organization and coordinated development. The designed landscape functions as a single unit with nodes throughout the monument linked by trails and roadways. This organization and development is the result of long-range planning by National Park Service landscape architects, planners, and

engineers and a concentrated effort of construction by Civilian Conservation Corps Camp NM2A.

The Park Service's landscape style had its early origins in design ideas developed by Andrew Jackson Downing in the mid-1800s for his pleasure gardens (McClelland 1998). Downing believed that the native landscape with its wild places and local vegetation should be valued over geometrically arranged gardens with imported plants and features. Downing's designs contained rustic-looking paths, bridges, seating and shelters that matched the landscape. His arrangements of open space, plantings and structures were intended to move the visitor into and through the wilderness, and in doing so, increase the visitor's appreciation of nature and its beauty.

Landscape designers such as Frederick Law Olmsted took Downing's ideas and expanded them from the garden to the park scale. Olmsted's design for Central Park in New York City uses Downing's ideas across a much larger landscape developed for public use. Olmsted believed that by exposing the New York City common man to meadows and glens, streams and hills, these landscapes would calm the soul and ameliorate many of the social ills engendered by city life.

The National Park Service was established in 1916 in order to protect and develop larger landscapes for the benefit of the national public. Early landscape engineers and architects such as Charles Punchard, Daniel Hull, and Thomas Vint incorporated Downing and Olmsted's theories of preservation of native vegetation and visitor experience in the landscape into the National Park Service's own landscape design style. Development in the scenic areas was deemed necessary in order to improve the visitor's experience and appreciation of the area. Naturalistic landscape design was used to control development so that it neither damaged nor dominated the scenic and natural attractions. Linda McClelland aptly described the importance and contribution of this design style in her book Building the National Parks.

> [Naturalistic landscape design was] "a cohesive style of landscape design which fulfilled the demands for park development while preserving the outstanding natural qualities for which each park had been designated area. This style subordinated all built features to the natural, and often cultural, influences of the environment in which they were placed. Through time it achieved in each park a cohesive unity that in many cases became inseparable from the park's natural identity (1998:1).

The primary purpose of naturalistic landscape design was to create an environment in which constructed sites and elements appeared as natural components of the landscape. The principles required that construction practices should be sensitive to all elements within the surrounding environment; enhance scenic views on roads, trails and overlooks; avoid straight lines and right angles in buildings, structures, roadways, or trails; use native stone and wood materials in buildings and landscape elements; use indigenous or frontier methods of construction; protect and preserve of natural scenery and vegetation; and plant native trees and shrubs to cover old construction or development scars (McClelland 1998:511-512). All of these designed aspects are evident in all sites, structures, and features of the built environment at Chiricahua National Monument.

Protection and enhancement of vegetation were important aspects of construction projects by all CCC crews at Chiricahua National Monument. Sites for development were carefully chosen in order to protect sensitive areas. Camping units were situated at the Public Campground in order to preserve important individual trees. Trees within a construction site were carefully protected from damage. Revegetation projects used native understory shrubs and trees around most building sites including the Administration and Residential Areas, the Public Campground, and Massai Point. Restoration of scarred or damaged areas was important component of any construction project. Old roads were recovered with rock and soil and later replanted.

The addition of small-scale features was recognized as an important component of landscape design at Chiricahua. Features such as paths and stone edgings, like those at Massai Point, and Administration and Residential Areas, not only helped to direct traffic but

created a feeling of informal welcome to visitors. They also made these sites look as if they had been lived in for a longtime.

Landscape architects in both the National Park Service and the US Forest Service made use of another Downing design concept known as 'sequencing'. Downing "introduced the fundamental concepts of selecting viewpoints, ... and moving the viewer through a sequence of the views and scenes along curvilinear paths and steps to ensure pleasure and comfort while fostering appreciation and sensibility" (McClelland 1998:34).

In the 1920s, Forest Service landscape architect Frank Waugh adopted this notion for trail and road design. He believed that the trail and roadway should be designed and laid out upon the ground so that the traveler might gain a series of experiences through different views of the landscape. During the planning for the roadway the best views were identified and kept open. If possible, those views might be framed by pruning or planting of vegetation. The sequence of scenes and experiences should be carefully coordinated, much like the development of an essay, paragraph by paragraph. Waugh called these places 'paragraphic points' (McClelland 1998:183-184). "On the design of roads and trails, Waugh said that at each climax of view the byway should turn and proceed upward to the next climax" (McClelland 1998:84).

National Park Service roadway design principles not only included Waugh's aesthetic ideas but also functional ones as well. A roadway should form the backbone that connects important elements within a park or forest (McClelland 1998:182). Waugh's ideas on the design of roadways and trails had been employed by NPS designers from the early 1920s through the 1940s (McClelland 1999:183). These landscape principles became available when, at the request of Conrad Wirth, assistant director for the National Park Service, Waugh set down his ideas a pamphlet written for CCC enrollees and entitled "Landscape Conservation" in 1935.

**Bonita Canyon Highway**
Bonita Canyon Highway was designed and constructed with the primary purpose of exposing the visitor to scenic views within the monument. Throughout the length of the journey the roadway exposes the visitor to geological wonders and spectacular views of the San Simon Valley to the west. It achieves a majestic climax as it terminates at the Massai Point, one of the most spectacular overlooks in Chiricahua National Monument.

While Bonita Canyon Highway was not constructed under the auspices of the National Park Service, the design of the roadway nonetheless adheres very strongly to park design ideals. Park Service designers developed the rest of the monument using Bonita Canyon Highway as the primary linkage between all recreational elements. With the exception of the Sugarloaf and Echo Canyons, all trailheads begin at this road. Visitor facilities such as the Visitor Center, Public Campground, and Orientation Station are also situated along the Bonita Canyon Highway.

CCC enrollees continued to modify and improve Bonita Canyon Highway after its initial construction. CCC crews improved drainage along the roadway, reconstructed the roadbed, stabilized the surrounding slopes, and cleared vegetation along the roadway in order to accentuate specific views of columnar features.

Today Bonita Canyon Highway is significant as an important example of a destination roadway designed and built for national forests and parks during the Civilian Conservation Corps era. It still achieves the same awe-inspiring response when the first-time visitor arrives at Massai Point. The integrity of the roadway is high. It remains essentially unaltered. The one serious change has been the loss of views of those same features due to overgrowth of roadside vegetation.

**Trail Design and Circulation**
Waugh's principles of sequencing, waypoints and climax are evident to the visitor who explores the trails of Chiricahua National

Monument. Monument trails change orientation frequently; no segment continues on a straight path for any distance. Dave Evans, cultural resource specialist at Chiricahua, has commented that these trails were not designed to offer an efficient means of movement across the area but rather as recreational and educational experiences (personal communication). Trail siting and layout take advantage of the spectacular views within the monument. Exposure to unusual geological features is the hallmark for which Chiricahua National Monument is most famous. Visitors to the most popular trail, Echo Canyon, repeatedly express delight and wonder at the stone columns that populate the area (Zube et al. 1987). Sensitivity to and retention of nearby vegetation by CCC trail crews was widely commended even during construction (SWMMR April 1936).[18] Indeed the integrity of historic vegetation is now creating a conflict in some areas where its density threatens some of the original views.

The Trail System was also an important component in the early stages of Chiricahua's long-range plans to create integrated linkages between Bonita Canyon Highway, the Administrative Area, and most of the significant natural features within the monument.

**Trail Construction**

The National Park Service had also developed a set of standards for trail construction. By the 1920s most National Park Service trails were built to accommodate horseback riders. NPS standards prescribed a minimum trail width of four feet, broad enough to allow two pack mules to pass without contact. Tree branches that overhung the trail were cleared to height of 10 ft. to permit safe passage by riders. Grades were recommended to be generally less than 15%. Trail beds were either cut from the slope above or built up from below and altered slopes were stabilized using dry laid retaining walls. Stone walls were themselves battered for stability. Where retaining walls were not necessary, correct methods of backsloping of the hillside were emphasized to control erosion and to encourage natural regrowth of local vegetation.

In 1934 the number of trail construction projects escalated dramatically as CCC camps got underway. In order to communicate these standards Frank Kittridge, the chief engineer for the Western Division, developed and disseminated the publication, "Standards for Trail Construction," in 1934 that illustrated many of the park service construction techniques and procedures (McClelland 1998:242). In 1937 Guy Arthur wrote "Construction of Trails", another CCC document, with more complete descriptions as well as detailed drawings showing both correct and incorrect techniques to give guidance in form and layout of trails to engineers, designers, and foremen throughout the CCC program (Arthur 1937). Common construction errors were illustrated. Recommendations for tree planting and relocation were covered with the overall directive that vegetation conditions should remain "as nearly natural as possible" (Arthur 1937:25). Procedures for cleanup from construction activity were also an important component. Scars from cutting, blasting, and digging were to be minimized; rubble materials to be reused; and natural healing processes encouraged.

The adherence to NPS trail design principles and construction standards is evident on all CCC-constructed trails at Chiricahua National Monument. The techniques of bank stabilization, drainage design, grading, vegetation management, and trail bed construction described in these manuals are all visible in the trail structures. These design aspects defined trail grade and width, management of surrounding vegetation, construction methods for drainage features, and techniques to determine slope angles, improve soil retention, and stabilize trail beds.

Drainage features were a regular part of trail construction especially in locations such as Chiricahua National Monument where rainfall events can be intense even if they are generally short in duration. Bank sloping and trail bed sloping methods, and designs for drainage

[18] "With project superintendent William Stevenson (I) went over all of the trails on which the crews are working. The trail work deserves commendation. The trails are being kept to a minimum width, and great care has been taken to avoid damage to vegetation and rock formations during blasting. Rock supporting walls have been carefully laid so as to give a natural appearance" (Andrey E. Borrell, regional wildlife technician).

channels, culverts, and water bars were carefully described. "The trails were held to a maximum grade of 15% and were carefully located to show up important features of the monument to best advantage" (William Stevenson as quoted in Randall 1957). The quality of construction is evident in the durability and historic integrity of most of the trails despite the erosional forces that regularly visit the monument during summer thunderstorms.

The Trail System at Chiricahua National Monument is an outstanding example of National Park Service trail design and construction techniques employed by CCC crews. The Trail System as an entire unit, as well as 11 of the 13 original trails, possesses a high degree of integrity.

**Massai Point**
The Massai Point area is also an important example of a landscape constructed in accordance with naturalistic design principles. As the destination for Bonita Canyon Highway, it was a critical component of a visitor's experience at Chiricahua National Monument. Bonita Canyon Highway brought the visitor to the plateau and exposed him to an open, wind-swept environment of stunted juniper and stunning views. The amount and type of development at Massai Point would have a large effect on that experience. Any significant construction within the landscape would have dominated the view and shift the focus of the visitor away from the Wonderland of Rocks. Instead the Park Service restricted development to those small-scale facilities that would detract least from the landscape: trails, a few picnic benches, a restroom, and one small educational building. Today Massai Point remains one of the least developed sites within the monument that is accessible by car.

Massai Point and the Administration Area, represent the two most important sites within the monument and were identified early in long-range plans as focal points. Trails and roads were designed to provide multiple linkages between the two sites.

**Campground Planning and Design**
Prior to the late 1920s public use in national park campgrounds was neither regulated nor controlled. Open areas such as meadows and forests with cleared understories were simply identified for general use. Campground visitors drove their cars into any part of the campground. They parked and camped wherever they liked, often next to trees to use them as support for tents or shade for cars. This unregulated visitor use had severe impacts on trees and shrubs throughout park campgrounds and many plants were no longer able to regenerate.

In 1926 National Park Service Director Stephen Mather invited plant pathologist, Emilio Meinecke, to investigate what could be done to reverse the degradation (McClelland 1998:277-285). Meinecke identified trampling of vegetation and compaction of soils, especially by automobiles, as the primary cause for vegetation demise. He also found that the chemical composition of the soils changed with the accumulation of fire ashes from unregulated use of fire pits.

As result of his research Meinecke produced two reports, "A Camp Ground Policy" in 1932 and "Camp Planning and Camp Reconstruction" in 1934. He advocated that visitor use should be managed and regulated by creating a permanent campground arrangement with a fixed circulation for automobiles and specific sites to accommodate visitor camping. Meinecke stated that the layout of each campground should achieve two objectives. First, the arrangement should provide comfort and convenience but be restricted to a limited area. Second, the woodland character of the campground should be protected (Meinecke 1934:6). By restricting automobile and pedestrian movement to designated areas, damage to surrounding trees and shrubs would be minimized (McClelland 1998:278). His reports provided guidelines for siting, circulation and the layout of the central campsite features. While these reports were published by the US Forest Service, their recommendations were immediately incorporated into campground design and reconstruction in the national parks (McClelland 1998:285; Good 1999). This layout with associated campsite elements can be found in National Park Service and US Forest Service campgrounds throughout the west, especially those constructed by Civilian

Conservation Corps enrollees (McClelland 1998:285).

The design of Chiricahua National Monument's Public Campground contains all of the recommended elements in Meinecke's reports: a standard layout with multiple loop roads for one-way traffic, angled automobile pullouts or spurs, and individual campsites with restricted boundaries and fixed cooking and eating facilities. Vegetation was retained during construction and protected to provide shade and privacy for individual sites. Despite modern intrusions in the Public Campground, the integrity of the design, workmanship, and use of materials remains high.

**Cluster Arrangements and Long Range Planning**
As part of early development planning, the concept of cluster arrangements evolved from the need to arrange and organize numerous facilities within a large landscape. Cluster arrangements attempted to match structures and buildings with similar or complementary functions and group them together in a suitable site. In 1919 the National Park Service began to construct buildings in cluster patterns in order to improve the operation of services and the overall organization within each park. Charles Punchard, the Park Service's first landscape engineer, developed landscape assessment procedures to assist in the determination of where these buildings should be located. He initiated the tradition of developing topographic maps in order to identify existing soil and slope conditions. Functional aspects of accessibility, adjacency, and visibility were also included in the planning and assessment. Park residences were built in one location; administration buildings, visitor restrooms, parking facilities were clustered separately. This process of arranging buildings according to landscape characteristics and functionality was applied throughout the CCC era and is still utilized parks and monuments today.

Punchard generated assessment procedures that preceded development of administrative, maintenance, and residential areas in the early parks such as Yosemite, Mount Rainier, and Rocky Mountain National Parks (McClelland 1998:146). He initiated the tradition of developing topographic maps that identified existing conditions on the ground (McClelland 1998:147). In later years these maps were drawn with such detail as to include prominent trees and rock formations. Locating park facilities required thorough analysis of soil, terrain and accessibility.

The effect of proposed structures on scenic views in the landscape was also a critical aspect in the site assessment before development. Some facilities, according to Punchard, should always be inconspicuous as possible (McClelland 1998:147-148). Screening for those structures not associated with visitor facilities began as early as 1919; fences were used to screen service yards at Mammoth Hot Springs. A stockaded fence was constructed at Yakima Park "to hide the maintenance shops and motor pool of service vehicles" (McClelland 1998:148-149).

Linda McClelland suggests that the need for screening of less scenic structures, in many ways, drove the adoption of the clustered arrangement employed in many national park maintenance facilities.

> "This concern for concealment led designers . . . to layout maintenance areas in quadrangles in which garages and shops were connected to form an enclosed central court where maintenance activities could be screened from view of the general public" (1998:149).

Another purpose of clustering was to bring similar activities together in order to increase the efficiency of operations among the staff. Maintenance facilities would often contain an equipment shed, a warehouse and garage, as well as machinery, carpentry, and painting shops. Albert Good suggested that an enclosed area would also provide park service workers comparative freedom from interruption as well as pilfering by the public (Good 1999, vol.1:102). Frequently this cluster would be located within the Administrative Area (McClelland 1998:146).

The arrangement of buildings and structures at Chiricahua National Monument shows the same cluster considerations as those promulgated by Punchard and the National Park Service during those early years. Buildings were grouped by function. Clusters were situated in landscape according to visitor accessibility and soil and terrain characteristics. The Administrative Area was sited adjacent to Bonita Canyon Highway in order to be visible to travelers as soon as they entered what was then the western boundary of the monument. Located near the Administration Area for their supportive functions but set back on a higher ridge, the Residential and Utility Areas remained hidden from view. Protection of resources and screening of activities in the Utility Area were further enhanced by the construction of an extensive stone wall that surrounded the entire complex. Like Chiricahua, the Utility Area at Bandelier National Monument is arranged in a rectangular yard; it is located nearby but offset from the Administrative Area. The Bandelier Utility Area contains a garage and storage facility, a warehouse with office space, and a repair and blacksmith shop. The entire facility is enclosed by a 7 ft.-high stone wall integrated into the rear walls of each of the buildings (Harrison et al. 1991).

The cluster arrangements at Chiricahua National Monument are largely unaltered since their construction in the 1930s with two exceptions. The CCC Campsite (Camp NM2A) was designed as a set of temporary structures. It was partially dismantled in 1940 when Company 828 was relocated to Utah. The remaining buildings were used to support the Faraway Ranch operations adjacent to the monument during the next 30 years. Following the purchase of the guest ranch by the Park Service, the buildings were removed. Remnants of building foundations, arrangements of vegetation, and old roadways still provide valuable clues to the earlier presence of Camp NM2A.

The second alteration to the cluster arrangements is the recent addition of a new Residential Area. Part of this area was built during Mission 66; the rest was completed in 1991. Despite the intrusion of buildings constructed in a style and materials unrelated to those of the Rustic era architecture, the arrangement of the new cluster follows all of the Punchard principles of sensitive use of the terrain, restricted visibility, and functional adjacency.

The concept of cluster arrangements preceded the National Park Service's development of long-range planning in the mid-1920s. The purpose of this planning effort was to develop a coordinated program of construction and improvements within the parks. These long-range plans evolved later in the 1930s into what is now known as master plans, a program of sequenced improvements for each park unit that were to be applied over a specific time period.

Chiricahua National Monument was designed and developed as a unified whole in a series of large-scale, long-range plans. In 1934 and 1935 National Park Service landscape architects and engineers identified valuable sites for development and established a priority system for each construction project. Reconstruction of the highway and development of fire prevention and visitor facilities were labeled as the highest priority; other projects such as the Utility, Residential and Administrative Areas were considered less imperative. As Camp NM2A approached its termination date, Park Service landscape architects developed the first master plan in 1939 for Chiricahua National Monument. The master plan identified remaining construction projects and produced the first area plans documenting construction accomplishments.

The integrity of the designed landscape at Chiricahua National Monument as it was constructed by CCC Camp NM2A during the 1930s remains high. Naturalistic Design aspects are still readily readable in the location, siting, cluster patterns, and screening of buildings and structures in the landscape. The use of native materials and pioneer methods of construction are visible throughout the monument. Most of the construction scars from old roads and building sites have been replanted and restored. A majority of the original scenic views from the roadway and trails are still available to visitors today.

***Criterion C - National Park Service Rustic Architectural Design***
The buildings at Chiricahua National Monument are outstanding examples of National Park Service rustic architectural style as it was applied during the CCC era. The design and construction of buildings in Chiricahua National Monument closely followed architectural principles developed by the National Park Service's Branch of Planning and Design.

Rustic architecture, as the Park Service's style was known, was employed in all park structures built between 1916 and 1942 (Tweed et al. 1977). Park Service designers apply this architectural style along with the complementary naturalistic landscape design in order to create built environments that appeared historic and melded with the surrounding environment. Albert Good in his publication, Park Structures and Facilities, described the purpose and intent of rustic architecture.

> "Successfully handled, it is a style which, through the use of native materials in proper scale, and through the avoidance of severely straight lines and oversophistication, gives the feeling of having been executed by pioneer craftsmen with limited hand tools. It thus achieves sympathy with natural surroundings and with the past" (1999, vol. 1:5).

The disadvantage of this particular architectural style was the need for labor-intensive building methods in order to achieve the "feeling of pioneer craftsmanship." With the establishment of the Civilian Conservation Corps program, however, the necessary manpower suddenly became available.

The buildings and structures in Chiricahua National Monument were designed to fit in and with the landscape, and not to stand forward from it. Buildings were limited to one-story heights with shallow, gabled roofs. Most building forms were designed with organic elements -- a minimum of straight lines and right angles. Many buildings were set back amongst the trees, away from ridgelines and locations visible to the public. The organic nature of the buildings was enhanced by preserving nearby vegetation and transplanting local trees and shrubs for further camouflage.

**Building Materials and Pioneer Craftsmanship**
The rustic architectural style employed by the Park Service dictated that construction materials be obtained from the local environment. All Chiricahua National Monument buildings were constructed from local materials, either rhyolite tuff or, as in the case of Sugarloaf lookout, dacite lava. Those buildings with walls were constructed of rubble stone to make them appear to emerge from the ground. The size of rubble stone set at the base of the buildings was often quite large in order to match the scale of surrounding landscape features.

While most Chiricahua buildings were constructed with rhyolite stone set in mortar, the assembly of that stone varies between buildings. No two buildings are identical. Some stonework seems almost dry laid. Some stone is carefully cut to match leaving little mortar spacing. Some walls are coursed; others are not. Some walls are battered; others are not.

Quality craftsmanship was an essential element of the Rustic Architectural Style. The quality of the stonemasonry is high for most of the monument's buildings and structures. Again there is great variability in the cutting style of the stone material. Some rubble stone appears completely uncut. Some stone faces are relatively flat, still roughhewn and one evenly shaped. Other stonework achieved a higher refinement with carefully rectangular cut block and smooth faces. This variation suggests that the pattern of stonecutting and assembly had little or no association with purpose, size, or location of the buildings. Little is known of the stonemasons who worked at Chiricahua. It is unlikely that the different styles are representative of different masons since different buildings with different masonry styles were being constructed at the same time.

Five of the seven sites within Chiricahua National Monument contain outstanding examples of buildings and structures created in the Park Service Rustic Architectural Style: the Utility Area (Equipment Shed, Warehouse, Power House and Laundry, and Oil and Gas House), Residential Area (Residences #1, #2, and #3), Visitor Center (Ranger Station/Comfort Station/Administration Building and 2nd Cap Magazine), Public Campground (Comfort Station and Bathhouse and Laundry), and Massai Point (Orientation Station). Park Service architects Robert Albers and Cecil Doty designed the majority of these buildings. The four buildings within the Utility Area offer a wonderful example of the variability in its material use and construction and stone-cutting techniques. The quality of craftsmanship achieved by CCC enrollees is outstanding. The of the CCC buildings has seen any serious maintenance problem since their initial construction 70 years ago.

## Significant Design Contributions by National Park Service Architects, Landscape Architects, and Engineers

During the CCC era the Park Service made available to project supervisors and foremen of each camp a number of trained professionals to assist in ongoing projects. The experts had backgrounds in soil sciences, forestry, entomology, archaeology or recreation. These traveling professionals would visit each site for a few days at a time and provide advice during the construction phases or assess the results of completed projects.

Those personnel from the design profession -- architects, landscape architects, and engineers -- would be responsible for developing plans built by the CCC enrollees. In the case of the landscape architects and engineers these technicians would visit for a longer period of time directing surveys or overseeing critical portions of the construction process. A few landscape architects (often those in training) were assigned to monuments or parks for a month or more. During these assignments, they studied the monument landscapes in detail and worked closely with different foremen on a variety of projects. Landscape design plans were less frequently committed to paper than were those from the architectural and engineering fields (Rodd Wheaton, personal communication), perhaps because the landscape advisers were on site for extended periods of time. Thus, even though landscape architects were the most frequent professionals to visit Chiricahua National Monument, there is far less physical evidence, in terms of paper plans, to show for their contributions to the designed landscape of the monument.

***J. H. Tovrea, Engineer***

More than any other designer, J. H. Tovrea influenced the development of Chiricahua National Monument during the CCC era. His engineered structures are visible today in almost every area of the monument. Of the more than 80 plans developed for Chiricahua National Monument, Tovrea was responsible for at least 18.[19] He was the only member of the technical personnel to be present during the entire six years of development at Chiricahua National Monument from 1934 through 1940.

J. H. Tovrea came to Bonita Canyon in June 1934 as the engineering foreman assigned to Camp NM2A. During the first three months of activities, he and National Park Service engineer Robert S. Harris surveyed the Massai Point and Sugarloaf areas. In preparation for the dedication ceremony on September 3, 1934 Tovrea produced engineering plans for the construction of the parking lots and access roads (#4944, 4945) and the development of the amphitheater (#4946). Later Tovrea surveyed the Public Campground and developed engineering plans that set out locations for individual camping units, the access loops, water and sewer systems, and the Comfort Station (#4959, 4980).

In December 1934 engineer Harris and foreman Tovrea made an unusual exchange; they switched jobs (SWMMR). Tovrea was hired

[19] It is highly likely that J. H. Tovrea was responsible for additional plans since many (26) of the CNM engineering plans were unsigned.

by the Park Service first as an engineering aide and later as an assistant engineer on the technical staff at the Southwestern National Monument Coolidge office. Harris, in turn, became the senior foreman at Camp NM2A. Despite the changes in positions, Harris and Tovrea continued to work together on projects at Chiricahua.

In January of 1935 Tovrea and Harris surveyed the proposed site for the monument headquarters and developed the area plan locating future residential and utility buildings as well as the Ranger Station (#4953). Tovrea designed more detailed plans for the early Utility Area in May 1935 and its subsequent expansion in June 1937 (#4969, 5701).

Perhaps the largest and most complicated engineering effort by Tovrea was the overhaul of Bonita Canyon Highway in January 1936 (#4962). Tovrea proposed the addition of numerous drainage, sloping, and road stabilization improvements as well as alterations to the bed of Bonita Creek.

Tovrea was also responsible for the design of the original Echo Canyon Trail parking lot (# 5000, 5700), the siting of all telephone lines from the monument Headquarters to Sugarloaf Mountain and Massai Point (# 5301, 8000), and finally the plan to bury power lines around the Headquarters, Residential, and Utility Areas (#2040A).

Tovrea worked at many other southwestern monuments. In 1936 he was responsible for the restoration of the interior of Mission San Jose de Tumacacori. He supervised the stabilization of prehistoric ruins at Tonto National Monument; he designed the visitor loop road at Saguaro National Monument and the water distribution systems at Pipe Springs and Montezuma Castle National Monuments. Tovrea appears to have left the employ of the Southwestern National Monuments shortly after the termination of Camp NM2A.

***Robert S. Harris, Engineer***
Robert S. Harris, like J. H. Tovrea, was associated with the early history of Chiricahua National Monument's development. As one of the Park Service engineers in the Southwestern National Monument group in 1934, Harris surveyed most of CNM sites slated for early development. He continued to develop engineering plans even after he had exchanged jobs with J. H. Tovrea and became senior engineering foreman at Camp NM2A. Harris surveyed the area proposed by Frank Pinkley for Residential housing, Utility buildings, and the Ranger Headquarters (#4953). He also surveyed the Echo Park area in advance of construction of the Echo Canyon Trail (#4971), as well as the parking area at the head of that trail (#4987). Harris designed the service road accessing the Residential and Utility Areas and an enclosure protecting the monuments drinking water source (#4974, 4986). Harris's greatest contribution to Chiricahua, however, was his first engineering design, the Sugarloaf Trail (#4960). The Sugarloaf Trail was one of a few trails in Chiricahua National Monument for which there was no early Ed Riggs version. Harris's plan included a short tunnel blasted out of solid rock. It was the only trail at Chiricahua National Monument for which a design document for the entire trail was developed.

***Harry Langley, Landscape Architect***
Harry Langley was one of the first landscape architects at Chiricahua. He produced many of the preliminary plans for the monument. Other landscape architects and engineers would later use his sketches as the basis for a final design. Langley made early sketches for the Public Campground, the Sugarloaf parking area, and the Headquarters parking area (#3012, 3027, 3030).

Langley joined chief landscape architect Thomas Vint in his western design office in 1928. During the following year he was assigned as field landscape architect to the Utah and Arizona areas (McClelland 1998:200). In 1937 Langley moved to the Washington office to supervise project program development. He retired from the Park Service in 1958 (Tweed et al. 1977).

***Jerome C. Miller, Landscape Architect***
Jerome C. Miller was one of the last landscape architects to design sites at Chiricahua National Monument during the CCC era. Miller

joined the Southwestern National Monument staff in November 1938 and continued to visit Chiricahua until Camp NM2A was dismantled in 1940. As a result, Miller oversaw much of the finishing work at the monument. Miller designed the parking area and walkways around the Headquarters following construction of the museum wings (#2033). He provided the carpentry crew with a new design format for trail signs (#2034). He designed the back yard layouts with terraces and retaining walls in the Residential Area (#2038). He also drew plans for wooden guard rails installed along Bonita Canyon Highway (#2039). Miller later became a regional landscape architect in 1940. He chose to move into administration as Chief of Operations and finally Regional Director for the Southwest in the 1960s.

***Robert W. Albers, Architect***
Robert W. Albers was one of three identified architects who designed plans for Civilian Conservation Corps buildings at Chiricahua. There is no record of Albers ever visiting the monument although his supervisors, Lyle E. Bennett and Herbert Maier, Regional Director for the Southwest Region, often did.

Albers drew many of the early sketches for buildings at Chiricahua National Monument. His first plan in 1936 was a sketch for the proposed Equipment Shed (then called Garage, #3032). The design was partially modified and constructed shortly thereafter.[20] In 1937 Albers developed sketches for the Museum Wing addition to the early Ranger Station as well as for the second Ranger Quarters (#2025, 2027). Both structures were built as drawn. Albers was also responsible for the design of the Warehouse and its interior storage system (#2030).

Like other Park Service architects during the CCC era Robert Albers provided plans for buildings at many sites within the Southwest Region. Albers designed a restroom at White Sands National Monument. He also designed the Lodge Lobby, the Operator's Residence, and Cabin Group A at Bandelier National Monument (Harrison et al. 1991).

***Cecil J. Doty, Architect***
In 1935 Herbert Maier was hired as director of architecture in the Emergency Conservation Works (CCC) program for District Three. Two years later he became head of the National Park Service's Southwest Region. Maier encouraged his architects and landscape architects to design according to those naturalistic principles. Naturalistic design principles required that structures should blend into the landscape as part of the surrounding environment. Use of "indigenous materials, frontier methods of construction, construction of buildings with low silhouettes and horizontal lines, avoidance of right angles and straight lines, and elimination of lines of demarcation between nature and built structure" were the primary tools to achieve these design principles (McClelland 1998:394-395). When the regional headquarters was transferred from Oklahoma City to Santa Fe, New Mexico, a young architect named Cecil Doty accompanied Maier in the move (McClelland 1998:390; Allaback 2000:216).

The architectural legacy of Cecil Doty within the National Park Service has been thoroughly documented by Sarah Allaback and others (Tweed et al. 1977; Monroe 1986; Allaback 2000). His 35 year career in the National Park Service spanned two different design styles that were widely used by the agency. The rustic style applied in the 1920s through 1940s used local materials and traditional craftsmanship to match the architecture with the surrounding landscape. The Park Modern Style arose after World War II and was exemplified in the Mission 66 era Visitor Center. The style emphasized the use of modern materials -- glass, steel, and concrete -- to create highly functional spaces the provided more information and better educational opportunities to the park visitor.

Cecil Doty designed buildings and objects of Chiricahua during both of these stylistic periods. In 1939 Doty visited Massai Point and developed a design for the six-sided Orientation Station (#2035, 2035A). Doty also designed the furniture, museum display cabinets,

[20] No modified plan for the Equipment Shed has yet been found.

and wrought iron lighting fixtures for the newly finished Museum Wings. Doty returned to Chiricahua National Monument in the early 1960s at the end of the Mission 66 program to design a final addition of the Visitor Center to the Administration Complex.

Doty's buildings from the CCC era can be found throughout the Southwest Region including White Sands, Walnut Canyon and Wupatki National Monuments. In 1940 Doty moved to the San Francisco Western Office of Design and Construction and continued there as architect and later designer until his retirement in the late 1960s. Doty's Park Modern style buildings were constructed in Zion, Sunset Crater, Tonto, Canyon de Chelly, Montezuma Castle, Wupatki, Walnut Canyon, Arches, and Big Bend National Monuments and Parks as well as across the rest of the nation (Allaback 2000).

## Sources and Acknowledgements

This nomination was assembled and written using both primary and secondary sources. Two primary sources were most valuable. First, the set of National Park Service plans developed during and after the construction activities at Chiricahua National Monument provided documentary evidence of proposed and actual changes in the landscape. A subset of these plans was available at the National Park Service Denver Service Center in Colorado. A different, but somewhat overlapping, subset was available in the Chiricahua National Monument Archives. Individual plans are regularly referenced in the Narrative Description, e.g. (#3014), as well as listed in the Bibliography.

The second important primary source was the written descriptions of those changes. These descriptions were found in two locations. The Western Archaeological and Conservation Center in Tucson, Arizona provided copies of Southwestern Monument Monthly Reports (SWMMR). These reports were developed by Frank Pinkley, then superintendent of the Southwestern National Monuments. He collected individual reports from custodians and project superintendents at the various monuments, assembled them at his office in Coolidge, and sent the monthly publication back to the monuments so that all park service employees would be aware of the changes occurring in different monuments. These reports identified dates of construction and completion of individual projects and provided brief descriptions of the work accomplished (in varying detail depending on the individual narrator).

Another valuable but limited source of information was the Enrollment Period Reports written by the project superintendents at the CCC camps. These reports were submitted at the end of each enrollment period (usually six months long), and provided detailed descriptions, and later, photographs of each of the individual work projects. The reports are located in the National Archives in College Park, Maryland. Unfortunately only the first three of 12 Enrollment Period Reports for Chiricahua have been found.

Other primary sources of value were newspaper articles written during the 1920s and 1930s. These articles provided most of the information on activities and the associated participants in the southeastern region of Arizona. Most of these articles were found in the Chiricahua National Monument Archives or in the Arizona Historical Society in Tucson, Arizona.

Interviews with participants of the development of Chiricahua National Monument were also useful. Transcribed interviews with Lillian Erickson Riggs, owner of the Faraway Ranch and wife of Ed Riggs, provided important information regarding the extent of Riggs' contribution to the development of the Trail System at Chiricahua. Video and audio interviews with CCC enrollees have recorded their individual contributions and also documented the significance that this New Deal program had on their lives, those of their family members, and the communities of southeastern Arizona. Copies of these interviews were found in the Chiricahua National monument archives or in the Arizona Historical Society in Tucson, Arizona.

From the available secondary sources, William Tweed et al. (1977), Linda McClelland (1998) and Albert Good (1999) provided significant contextual information. Indeed, the Statement of Significance in this nomination is largely based on McClelland's research

into the history and role of landscape architecture in the development of the national parks.

This research could not have been assembled without assistance from many employees at Chiricahua National Monument. Kate Nielsen, Suzanne Moody, Dave Evans, José Ramirez, Elvin Cluff, Bob Black, and Diana Lott gave unreservedly of their collective wisdom when it was frequently asked of them.

## BIBLIOGRAPHY

***Reports and Government Documents***

Arthur, Guy B. 1937. "Construction of Trails." Civilian Conservation Corps, Project Training Series No. 7, Washington, D.C.: the National Park Service. Available in Chiricahua National Monument Archives.

Benson, Forrest M. "Area History: Chiricahua National Monument." December 10, 1959. Available in Chiricahua National Monument Archives.

Brown, Margie Coffin. 2002. "Landscape Line: Treatment of Historic Trails." Olmsted Center for Landscape Preservation, National Park Service. Draft Version.

Building Maintenance Log. Available in Chiricahua National Monument Archives.

Chappell, Gordon. "National Register of Historic Places Nomination Form for Faraway Ranch Historic District." July 1979. Available in Chiricahua National Monument Archives.

Clemensen, Berle. "National Register Documentation for Chiricahua National Monument Civilian Conservation Corps Buildings." Draft. September 14, 1992. Available in Chiricahua National Monument Archives.

Flitner, Frank W. "Report and Estimates One Proposed Highways for the Development of the Chiricahua National Monument, Route 32, Coronado National Forest, Cochise County, Arizona." November 1931.

Gart, Jason H. 2001." A Narrative History of the Civilian Conservation Corps at Chiricahua National Monument, Cochise County, Arizona." National Park Service, Southwest Support Office, Santa Fe, New Mexico.

Hammond, H. O. "ECW Progress Report, 3rd Enrollment Period, Camp NM-2-A." US Department of Interior, National Park Service, Chiricahua National Monument. June- September 1934. On file in National Park Service Archives, Records Group 79, National Archives and Records Administration, College Park, MD.

Hammond, H. O. "ECW Progress Report, 4th Enrollment Period, Camp NM-2-A." US Department of Interior, National Park Service, Chiricahua National Monument. October 1934-March 1935. On file in National Park Service Archives, Records Group 79, National Archives and Records Administration, College Park, MD.

Harrison, Laura S., Copeland, Randall, and Buck, Roger. 1991. "Bandelier National Monument, New Mexico. Historic Structure Report: CCC Buildings." United States Department of Interior, National Park Service, Denver Service Center. Available at University of Arizona Library.

List of Classified Structures 1995. Available in Chiricahua National Monument Archives.

Meinecke, Emilio. 1932. "A Camp Ground Policy." United States Forest Service.

Meinecke, Emilio. 1934. "Camp Planning and Camp Reconstruction." United States Forest Service.

Morrow, Reardon, Wilkinson Ltd. "Cultural Landscape Inventory, Chiricahua National Monument, Developed Areas." CLI Task 1:4. July 2001.

Otis, Allison T., William D. Honey, Thomas C. Hogg, and Kimberly K. Lakin. "The Forest Service and Civilian Conservation Corps: 1933-42." United States Department of Agriculture, Forest Service, FS-395. Aug. 1986. Available at University of Arizona Library.

Paige, John C. "The Civilian Conservation Corps and the National Park Service, 1933-1942. An Administrative History." National Park Service, U.S. Dept. of the Interior. 1985. Available at University of Arizona Library.

Pallister, John A., Edward A. DuBray, and Douglas B. Hall. 1993. "Geology of Chiricahua National Monument: a Review for the Nonspecialist." Available at University of Arizona Library.

Pallister, John A. and Edward A. DuBray. 1997. "Interpretive Map and Guide to the Volcanic Geology of Chiricahua National Monument and Vicinity, Cochise County, Arizona." Miscellaneous Investigations Series, US Geological Survey. Available in Chiricahua National Monument Archives.

Pinkley, Frank. "The Annual Report of the Southwestern Monuments." Dept. of the Interior, National Park Service. 1936. Available at University of Arizona Library.

Randall, James A. "A Conservation Study: Chiricahua National Monument, Arizona." March, 1957. Available in Chiricahua National Monument Archives.

Stevenson, William. "ECW Progress Report, 5th Enrollment Period, Camp NM-2-A." US Department of Interior, National Park Service, Chiricahua National Monument. March- October 1935. On file in National Park Service Archives, Records Group 79, National Archives and Records Administration, College Park, MD.

Sullivan, Michael, Terri Cleeland, and J. Michael Bremer. 1989. "Depression-Era USDA Forest Service Administrative Complexes in Arizona." National Register of Historic Places Multiple Property Documentation. Available at the Arizona State Historic Preservation Office.

Superintendents Narrative. April 1938 – December 1958. Unpublished collection of monthly reports from Chiricahua National Monument superintendents to Regional Directors. Available in Chiricahua National Monument Archives.

Swetnam, Thomas, Christopher Baisan, Tony Rio, Alex McCord, and Peter Brown. 1991. "Fire and Flood in a Canyon Woodland: the Effects of Floods and Debris Flows on the past Fire Régime of Rhyolite Canyon, Chiricahua National Monument." Available in Chiricahua National Monument Archives.

Torres, Louis and Mark Baumler. "The History of the Buildings and Structures of Faraway Ranch, Chiricahua National Monument, Arizona. Historical Structure Report." U.S. Dept. of Interior, National Park Service, Denver Service Center. July 1984.

Travis, Scott E. 2000. "Documentation and Preservation of Historic CCC Trails in Chiricahua National Monument, Arizona." In Preserving Historic Trails. Conference Proceedings, Olmsted Center for Landscape Preservation, National Park Service.

Travis, Scott E. "Chiricahua National Monument Historic CCC Trails Preservation Project." Southern Arizona Office, National Park Service, Phoenix, Arizona. February 23, 2001.

USDA Forest Service. "Lookouts in the Southwestern Region." Cultural Resources Management, Report No. 8. September 1989. Available at University of Arizona Library.

USDI National Park Service. "Final Environmental Impact Statement, General Management Plan." Chiricahua National Monument, Arizona. 2000.

Wegman- French, Lysa. 2006. "Chiricahua National Monument: Faraway Ranch Special History Study." Intermountain Cultural Resources Management, Professional Paper No. 72. Cultural Resources Division, Intermountain Region, National Park Service, US Department of Interior, Santa Fe, New Mexico.

Zube, Ervin H., Christina Kennedy, and David Simcox. "Fort Bowie National Historic Site and Chiricahua National Monument Visitor Survey." Cooperative National Park Resources Study Unit. University of Arizona, Tucson, Arizona and Western Region National Park Service, Department of Interior. San Francisco California. June 1987. Available at University of Arizona Library.

***Books and Theses***

Allaback, Sarah. 2000. Mission 66 Visitor Centers. The History of a Building Type. USDI, NPS, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, Washington, D.C.

Arizona Atlas and Gazetteer: Topographic Maps of the Entire State, Public Lands, Back Roads. 2002. DeLorme Mapping Company, Yarmouth, Maine

Booth, Peter McMillan. 1991A. "The Civilian Conservation Corps in Arizona, 1933-1942." Master's Thesis, University of Arizona.

Cohen, Stan. 2001. The Tree Army. A Pictorial History of the Civilian Conservation Corps, 1933-1942. Pictorial Histories Publishing, Co., Missoula, Montana.

Collins, William. 1999. The New Deal in Arizona. Arizona State Parks Board, Phoenix, Arizona.

Dana, Samuel T. and sally K. Fairfax. 1980. Forest and Range Policy: Its Development in the United States. McGraw-Hill Book Co., New York.

Drachman, Roy P. 1999. From Cowtown to Desert Metropolis. Ninety Years of Arizona Memories. Whitewing Press, Tucson, Arizona.

Hill, P.R. and J.C.E. Davis. 1995. Practical Stone Masonry. Donhead Publishing, Wimbleton, London, England.

Good, Albert H. 1999. Park and Recreation Structures. Volumes 1 and 2. Princeton Architectural Press, New York.

King, Dale S. 1945. Arizona's National Monuments. Popular Series No. 2. Southwestern Monuments Association, Santa Fe, New Mexico.

McClelland, Linda Flint. 1998. Building the National Parks: Historic Landscape Design and Construction. Johns Hopkins University Press, Baltimore, Maryland.

Monroe, Jonathan Searle. "Architecture in the National Parks: Cecil Doty and Mission 66." Master's Thesis, University of Washington. 1986.

Rothman, Hal. 1994. America's National Monuments: the Politics of Preservation. University Press of Kansas.

Sonnichsen C. L. 1987. Tucson: The Life and Times of an American City. Oklahoma Press, Norman OK

Taylor, Cachor. 1977. Hiking Trails and Wilderness Roots of the Chiricahua Mountains. Rainbow Expeditions, Tucson, Arizona.

Tweed, William C., Laura E. Soulliere, and Henry G. Law. National Park Service Rustic Architecture: 1916-1942. National Park Service Western Regional Office, Division of Cultural Resource Management. February, 1977.

Wirth, Conrad L. 1980. Parks, Politics, and the People. University of Oklahoma Press, Norman, Oklahoma.

***Articles, Correspondence, Maps, Manuscripts, Pamphlets and Newspaper Clippings***

*Arizona Daily Star*. June 22, 1930. "Arizona Holds Rocky Beauties."

*Arizona Highways*. March 1931:24

*Arizona Highways*. July 1931:27.

*Arizona Highways*. April 1932:26.

*Arizona Highways*. May 1932:17.

*Arizona Highways*. June 1932:18.

*Arizona Highways*. Oct. 1933:22.

*Arizona Highways*. Nov. 1933:15.

*Arizona Range News*. March 9, 1934. "Wonderland of Rocks is Made National Park."

*Arizona Range News*. October 5, 1934. "Ranger Station Located at Wonderland of Rocks Will Continue Operation."

*Arizona Range News*. January 25, 1935. "Park Service Is Pushing Improvements in Wonderland of Rocks."

*Arizona Range News*. October 23, 1936. "New Enrollees Arrive for CCC Camp."

*Arizona Range News*. March 25, 1938. "Three C Camp Will Hold Open House Saturday and Sunday, April 2 and 3."

*Arizona Range News*. No Date. "Huge Crowd Attends Wonderland Dedication." Article located in Chiricahua National Monument Archives.

*Arizona Republic*. April 17, 1934. "Chiricahua National Monument Opening to Feature Big Fete."

*Arizona Republic*. September 1, 1934. "Six Tons Meat for Chiricahua Barbecue Arrive in Special Car."

*Arizona Republic*. September 4, 1934. "6000 Persons Attended Chiricahua Fête."

Attwell Walter G. "Associate Engineer Describes Effort of Getting Chiricahua Monument Ready for People at Labor Day Celebration." *Douglas Daily Dispatch*, September 2, 1934.

Bahre, Conrad. 1995. "Human Disturbance and Vegetation in Arizona's Chiricahua Mountains in 1902." *Desert Plants*, 11:41-45. (Foldout of map on last page).

Booth, Peter McMillan. 1991B. "Cactizonians: The Civilian Conservation Corps in Pima County, 1933-1942." *The Journal of Arizona History*. Autumn, 32:291-332.

Borderland Climate Club. "On the Romantic Mexican Border, Douglas Arizona." No Date. Pamphlet at Special Collections, University of Arizona, Tucson Arizona.

Brinegar, David. "10,000 People Gather to See Natural Wonderland." *Arizona Daily Star*, September 4, 1934.

Chappell, Gordon. Letter to Carol Kruse, Superintendent of Chiricahua National Monument, June 27, 1996.

Chiricahua Hiking Trails. 1998. Available at Chiricahua National Monument.

Clemensen, Berle. Letter to Carol Kruse, Superintendent of Chiricahua National Monument, September 21, 1992.

*Coronado Bulletin*. November 25, 1932. Available in the Arizona Historical Society, Tucson Arizona.

*Coronado Bulletin*. May 10, 1935. Available in the Arizona Historical Society, Tucson Arizona.

*Coronado Bulletin*. February 28, 1936. Available in the Arizona Historical Society, Tucson Arizona.

Curry, John M. "A New Road into Wonderland of Rocks." *Arizona Highways*. August 1934, p. 6-7, 17.

*Douglas Daily Dispatch*. January 17, 1932. "Forest Service Announces Program to Put Wonderland of Rocks on Main Traveled Highway; Bids Called for."

*Douglas Daily Dispatch*. No date. "Highway Improvement into Chiricahua Monument Was Started in 1931, Being Carried Forward Steadily Since Then." Faraway Manuscripts, Series 38, Box 63. On File at Western Archeological and Conservation Center, Tucson Arizona.

*Douglas Daily Dispatch*. July 22, 1934. "Labor Day Celebration Plans Built on Belief 15,000 Will Eat Barbecue Beef in Wonderland of Rocks September 3." Page 2. On file in Chiricahua National Monument Archives.

Gardner, A. H. "Promoting Arizona Highway Development." *Arizona Highways*. March 1934, p. 10-11, 19.

Gastellum, Luis. July 14, 1986. Letter to Richard Murray. On file in Chiricahua National Monument Archives.

Greenway, Isabella, Manuscripts. Box 34, Folder 428. Arizona Historical Society, Tucson Arizona.

Hayden, Carl, US Senator. Letter to Arno B. Cammerer, Director of National Park Service. April 18, 1939. This letter contains a copy of the undated petition submitted to the Forest Service. In National Administration Records and Archives. File #632. "Chiricahua: Lands, Buildings, Roads and Trails, Approach Roads." Also in Chiricahua National Monument Archives.

Herring, L. A. "Cochise County, into the Heart of the Great Southwest." *Progressive Arizona*. October 1925, v.1(4).

Kittridge, Frank, Chief of Engineering, National Park Service. *Douglas Daily Dispatch*. April 15, 1934.

Macon, J. T. "Where Nature Jests." *Progressive Arizona*. September 1926, v. 3(3).

Masters, Carl A. September 21, 1988. Letter to Richard Murray. Files in Chiricahua National Monument Archives.

McColm, Milton M., Assistant Regional Director, National Park Service (Region Three). Memorandum to Herbert Maier, Acting Regional Director. November 2, 1939. In National Administration Records and Archives. File #632. "Chiricahua: Lands, Buildings, Roads and Trails, Approach Roads." In Chiricahua National Monument Archives.

McCullough, L. C. "Touring Arizona." *Arizona Highways*. August 1933, p.13, 22.

Merrill, Boyd E. "CCC Camp Educational Adviser Tells How Boys in Wonderland of Rocks Are Putting in Time at Work and Play." No source, no date (but prior to September 1934). Article from CCC Ephemera File, Arizona Historical Society, Tucson Arizona.

Murray, Richard. Files in Chiricahua National Monument Archives.

Pinkley, Frank, Superintendent of Southwestern Monuments. Letter to G. H. Ebsen, Secretary of San Simon Chamber of Commerce.

April 21, 1939. In National Administration Records and Archives. File #632. "Chiricahua: Lands, Buildings, Roads and Trails, Approach Roads." In Chiricahua National Monument Archives.

Richey, Charles A., Acting Regional Landscape Architect. Memorandum to Hillory A. Tolson, Regional Director, Region Three. June 21, 1939. National Park Service Archives, Record Group? File #632, Part One, National Archives and Records Administration, College Park, Maryland.

Riggs, Lillian. No date. "Edward Murray Riggs." Faraway Manuscripts, Series 4, Box 18, Folder 19. On file at Western Archeological and Conservation Center, Tucson, Arizona.

"Rock Formations Are One of the World's Wonders." *Arizona Highways*. March 1932, p. 8.

Southwestern Monuments Monthly Reports. May 1934-June 1940. Department of Interior, National Park Service. Available at Western Archeological and Conservation Center, Tucson, Arizona. Collection of Reports by National Park Service Landscape Architects, Engineers, Monument Custodians, Wildlife Specialists, and Park Superintendents.

Source unknown. Date unknown. "Say Yahdesut is Apache Spelling for Our New Park." Article from Ephemera File "National Parks and Reserves-Arizona-Chiricahua National Monument" at the Arizona Historical Society, Tucson Arizona.

Source unknown. July 10, 1934. "$26,000 to Provide Roads and Parking for Wonderland, Getting Ready for Big Celebration Labor Day, Announcement." Article on file at Chiricahua National Monument Archives.

Source unknown. September 2, 1934. "Chiricahua National Monument Will Make Bow As New Park Attraction to Motoring Public in Program Monday." Article in Ephemera File "National Parks and Reserves-Arizona-Chiricahua National Monument." At Arizona Historical Society, Tucson Arizona.

"A Summary of the Dedication Ceremony." No date. Document on file in Chiricahua National Monument Archives.

Paul. Sutter, S. 1998. "A Blank spot on the Map: Aldo Leopold , Wilderness, and U.S. Forest Service Recreational Policy, 1901-1924." *Western Historical Quarterly*. Summer, 29(2):187-214.

*Tombstone Epitaph*. May 2, 1924. "Chiricahua Pinnacles a National Monument." Available in Chiricahua National Monument Archives. Ephemera Files-National Parks and Reserves-Arizona-Chiricahua National Monument. In Arizona Historical Society, Tucson Arizona.

*Tombstone Epitaph*. October 15, 1929. "Strange and Fantastic Silhouette Found in Wonderland of Rocks; Top and Bridge Are among Attractions."

*Tombstone Epitaph*. September 6, 1934. "Thousands Attend the Dedication of Famous Wonderland of Rocks."
*Tucson Citizen*. April 28, 1930. "Chiricahua Road Done in Three Months." Ephemera Files-National Parks and Reserves-Arizona-Chiricahua National Monument. In Arizona Historical Society, Tucson Arizona.

*Tucson Citizen.* April 24, 1934. "Mississippi Man Climbs to See Rocks in Wonderland, Finds Forms Delightful and Beauty Greater Than He Expected." Article in Ephemera File "National Parks and Reserves-Arizona-Chiricahua National Monument." At Arizona Historical Society, Tucson Arizona.

USGS Map. 1917. "San Simon Quadrangle." Available in Arizona Historical Society, Tucson Arizona.

USGS Map. 1993. "Chiricahua National Monument."

Winn, Frederic Manuscripts, Box 10, Arizona Historical Society, Tucson Arizona. "1924 Fire Map of the Coronado National Forest, Paradise and Sunset Districts."

Winn, Frederic Manuscripts, Box 10, Arizona Historical Society, Tucson Arizona. "Undated Fire Survey Map for Chiricahua National Forest."

Winn, Frederic. "Proclamation by President Coolidge Established Fantastic Rocky Area As National Monument, Winn Explains." *Douglas Daily Dispatch.* September 2, 1934. Article in Frederic Winn Manuscripts at Arizona Historical Society, Tucson Arizona.

***Interviews and Personal Communication***

Crawford, Ray. April 4, 1998. Taped interview with Robert Black. On file at Chiricahua National Monument Archives.

Erickson, Ben. January 28, 1970. Taped Interview with S. R. Albert and L. E. Rawdon. On file at Chiricahua National Monument Archives.

Evans, Dave, Cultural Resource Specialist at Chiricahua National Monument. February 2003.

Harris, Woodrow, Charles Rap, John Sticht, and Jeff Thomason. May 7, 1988. Video Interview by Chiricahua National Monument Park Service Employees. Available in Chiricahua National Monument Archives.

Harris, Woodrow. April 1994. Video Interview. Available in Chiricahua National Monument Archives.

Cluff, Elvin, Maintenance Worker at Chiricahua National Monument. 2003.

McLaughlin, J. R. CCC Enrollee at Camp NM2A. September 10, 1998. Interview with Bob Black, Volunteer Historian at Chiricahua National Monument.

Nielsen, Kate, Park Ranger at Chiricahua National Monument. July 2002.

Ramirez, José, Facility Manager at Chiricahua National Monument. July 2003.

Riggs, Lillian. July 28, 1953. Transcript of Interview with Clair Cooke in "Reminiscences." Faraway Manuscripts, Series 4, Box 18, Folder 20. Western Archeological and Conservation Center, Tucson, Arizona.

Ringenbach, Ray and Luis Gastellum. February 11, 1986. Transcript of Interview with Richard Murray. On file in Chiricahua National Monument Archives.

Wheaton, Rodd, Assistant Regional Director for Cultural Resources at the National Park Service. August 2003.

***US Forest Service Plans***

Bureau of Public Roads. 1931. "Proposed Routes in Chiricahua National Monument. (Section B)." US Department of Agriculture, Bureau of Public Roads. National Archives and Records Administration, College Park, Maryland.

Bureau of Public Roads. 1932. "Plans for Route 32 -- Chiricahua National Monument Highway. (Section C)." US Department of Agriculture, Bureau of Public Roads. National Archives and Records Administration, College Park, Maryland.

Bureau of Public Roads. 1932. "Plans for Route 32 -- Chiricahua National Monument Highway. (Section D)." US Department of Agriculture, Bureau of Public Roads. National Archives and Records Administration, College Park, Maryland.

## GEOGRAPHIC DATA

UTM REFERENCES
All references Zone 12

| Ref. | Easting | Northing |
|---|---|---|
| 1 | 06521 | 503542330 |
| 2 | 06525 | 853542330 |
| 3 | 06525 | 853541950 |
| 4 | 06538 | 103541950 |
| 5 | 06538 | 103539960 |
| 6 | 06604 | 803540000 |
| 7 | 06604 | 703541720 |
| 8 | 06608 | 303541720 |
| 9 | 06599 | 803545640 |
| 10 | 06521 | 103545610 |

VERBAL BOUNDARY DESCRIPTION
See map 17

BOUNDARY JUSTIFICATION
The designated area for the historic designed landscape represents the approximate size and shape of the Chiricahua National Monument at the end of the designated period of significance (see Map 17). The area includes all the landscape elements, structures, and buildings inventoried in this nomination. Part of the original road constructed by the Bureau of Public Roads that lies outside the present Monument boundary (approximately 1 mile in length between private lands) is not included within the nominated area. Because of the intimate association between the Faraway Ranch, Bonita Canyon Highway, and the Civilian Conservation Corps developed sites, the nomination also includes the Faraway Ranch, an area of the Monument that has already been nominated to the National Register, but which at the time of the period of significance was still owned by Lillian and Ed Riggs. There are a few, small areas such as a mining claim in the far Northeast portion which are contained within the monument boundary but which were not part of the designed landscape. To restrict the landscape boundary more tightly to the actual constructed features, such as the outlying trails, would be infinitely more complicated.

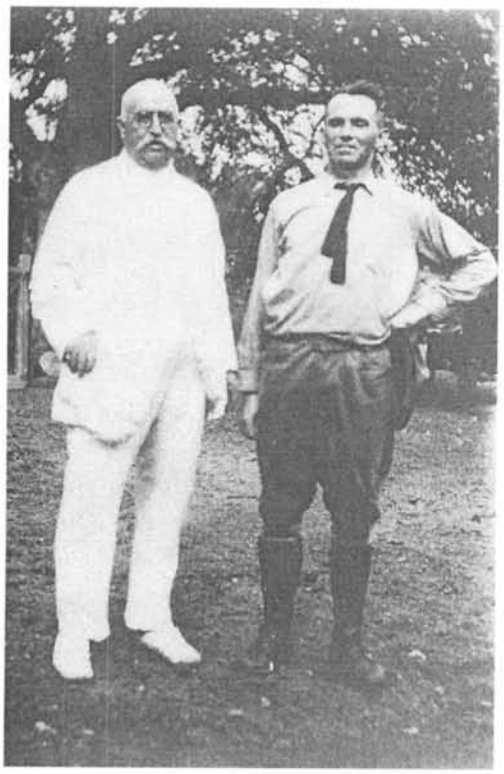


*Figure 1. Governor George W. P. Hunt and Edward Riggs preparing to tour the Wonderland of Rocks, 1923.*

*Figure 2. Old Forest Service road terminates at primitive campground, 2002.*

*Figure 3. Blasting overhanging rock on Bonita Canyon Highway.*

*Figure 4. Air compressor used for drilling rock on Bonita Canyon Highway.*

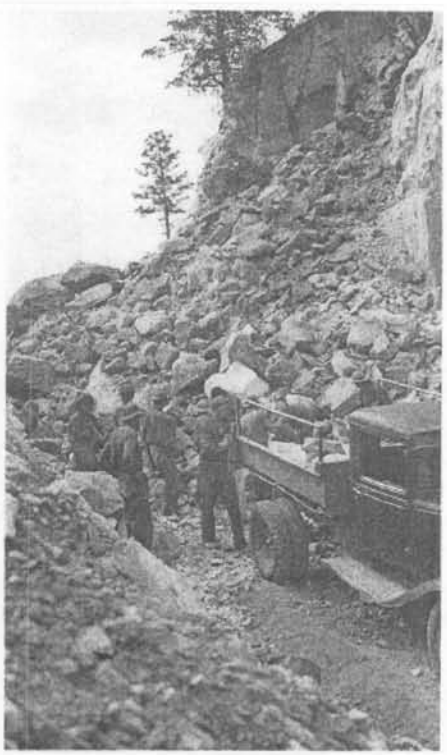


*Figure 5. Clearing Bonita Canyon Highway after blasting.*

*Figure 6. Shovel truck used on Bonita Canyon Highway.*

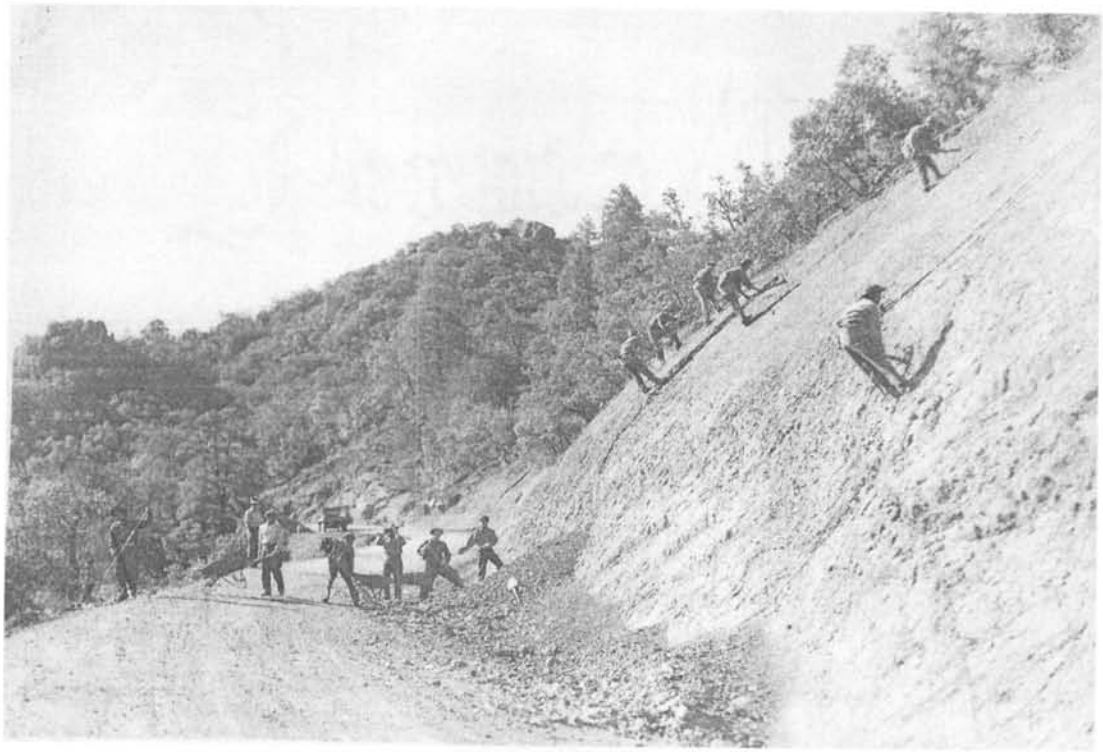


*Figure 7. Road crew uses picks and shovels in backsloping effort on Bonita Canyon Highway.*

*Figure 8. Clearing blasting debris on Bonita Canyon Highway*

*Figure 9. Road scars on Bonita Canyon Highway, 1935.*

*Figure 10. Road scars on Bonita Canyon Highway, 2003.*

*Figure 11. CCC enrollees reconstructed many Bureau of Public Roads culverts.*

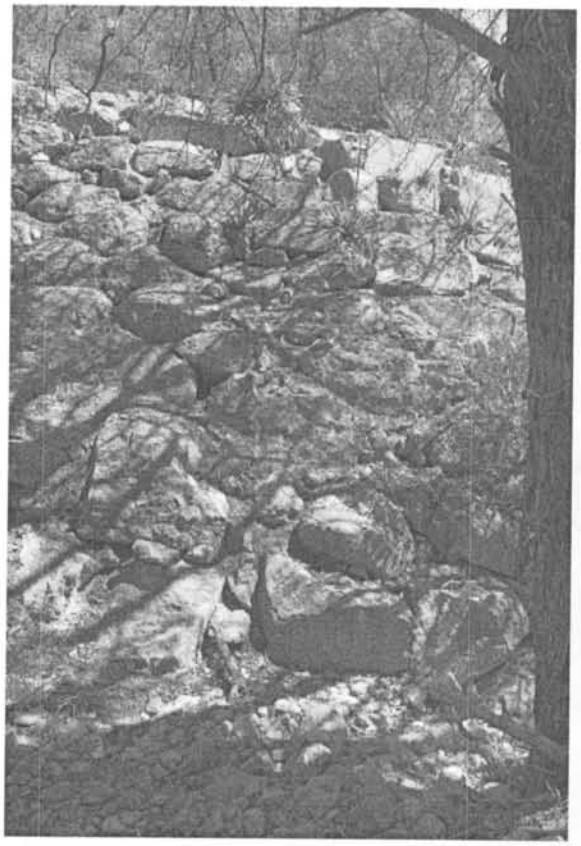


*Figure 12. Riprap along Bonita Canyon Creek, 2004.*

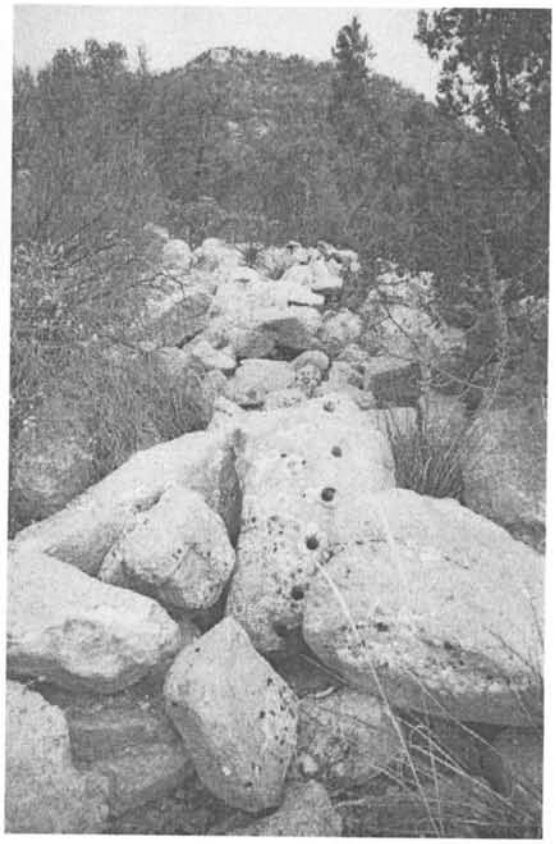


*Figure 13. Old BPR borrow pit located near Campground and later used by CCC for dumping road construction debris, 2003.*

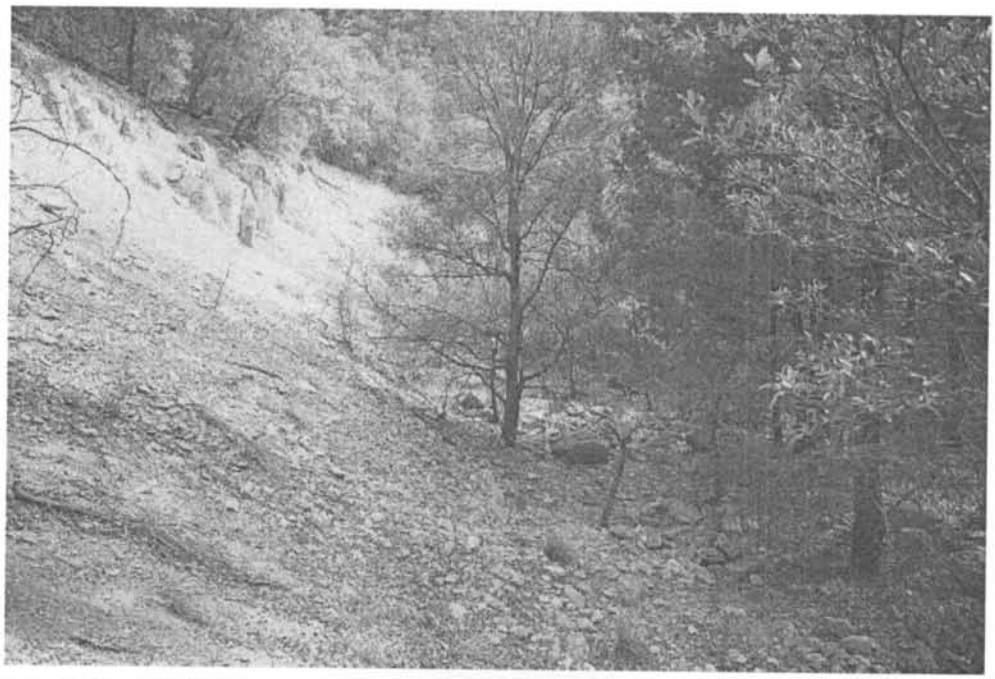


*Figure 14. Old BPR borrow pit located near north slope of Sugarloaf Mountain and partially covered with topsoil by CCC road crew to encourage revegetation, 2003.*

*Figure 15. CCC road crew obliterating old Forest Service road.*

*Figure 16. Obliteration of old road completed.*

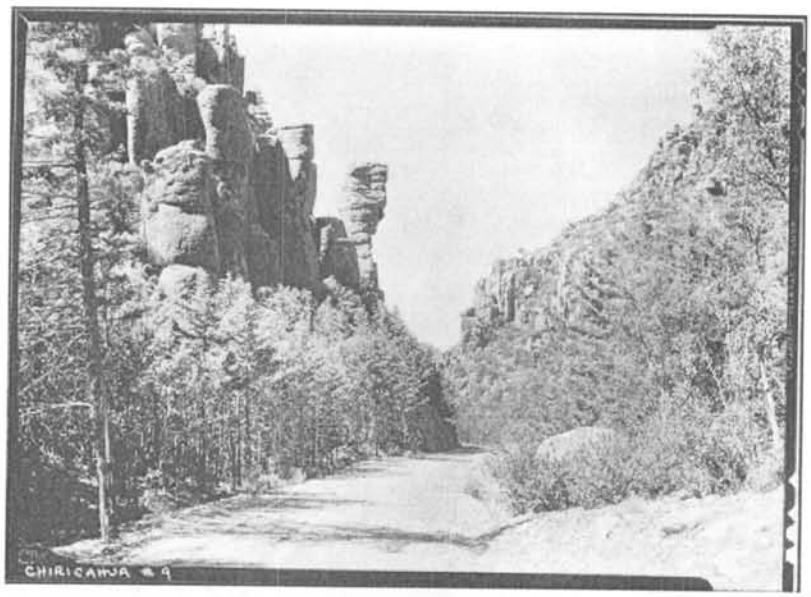



*Figure 17. View of China Boy from Bonita Canyon Highway, 1935.*

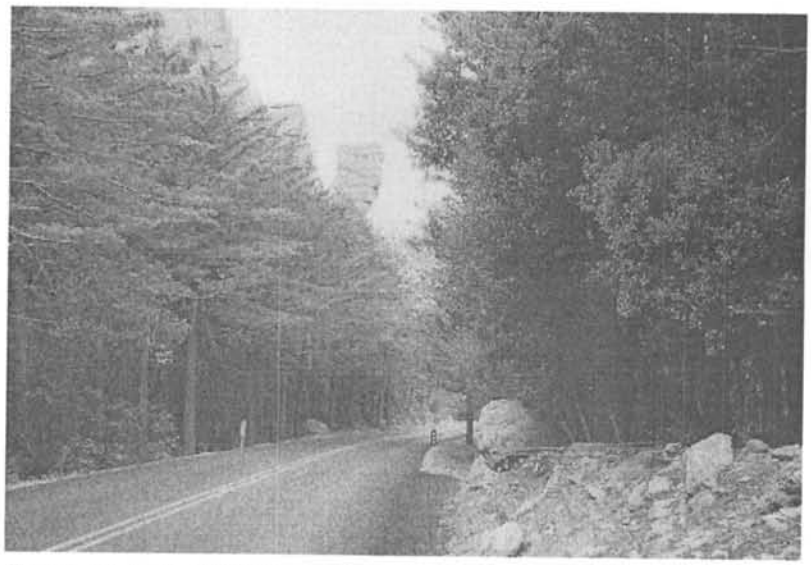


*Figure 18. View of China Boy from Bonita Canyon Highway, 2003.*

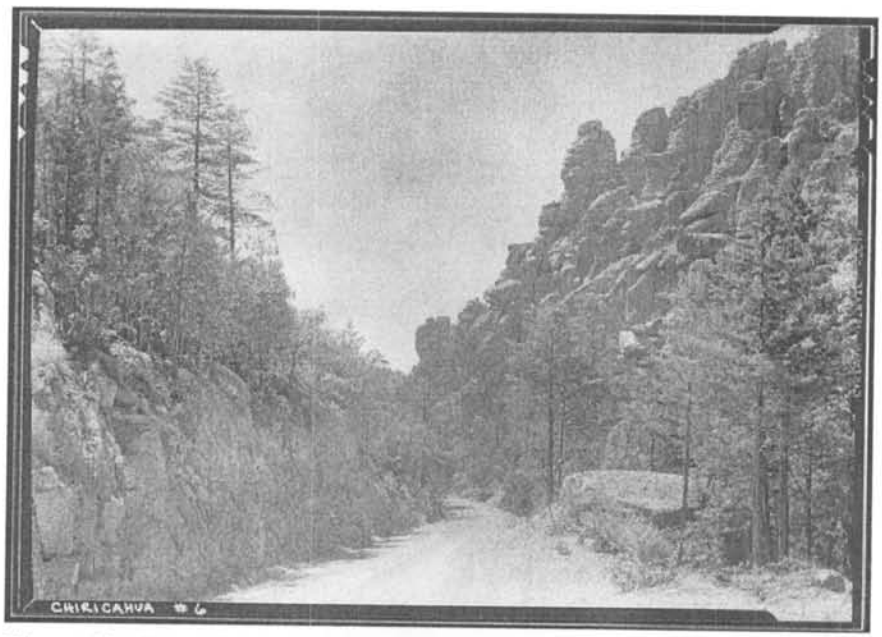



*Figure 19. View of rhyolite columnar features from Bonita Canyon Highway, 1935.*

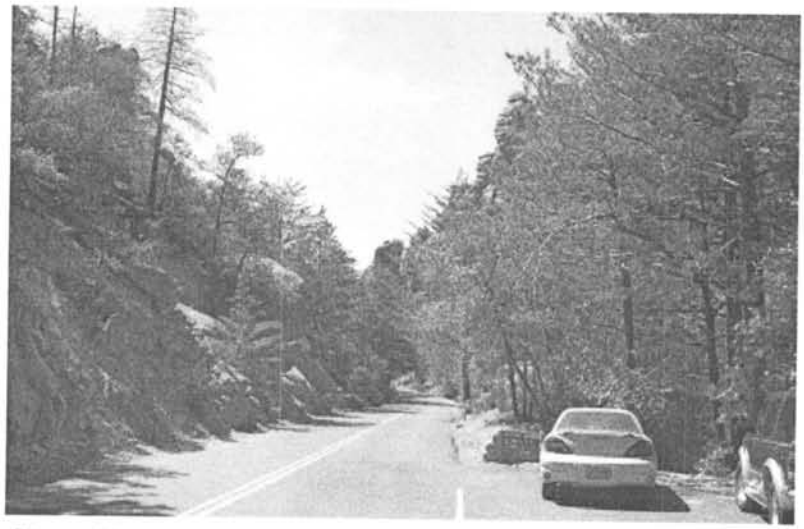


*Figure 20. View from Natural Bridge trail pullout on Bonita Canyon Highway, 2003.*

*Figure 21. CCC trail crew using air-powered jack-hammer to cut through rock.*

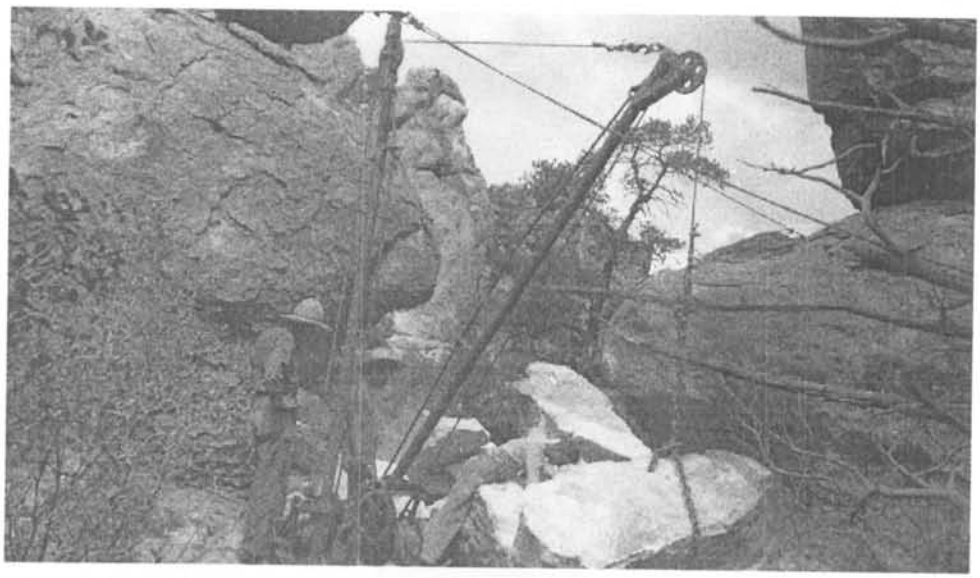


*Figure 22. Trail crews used a portable hoist system with boom and winch to move large rocks.*

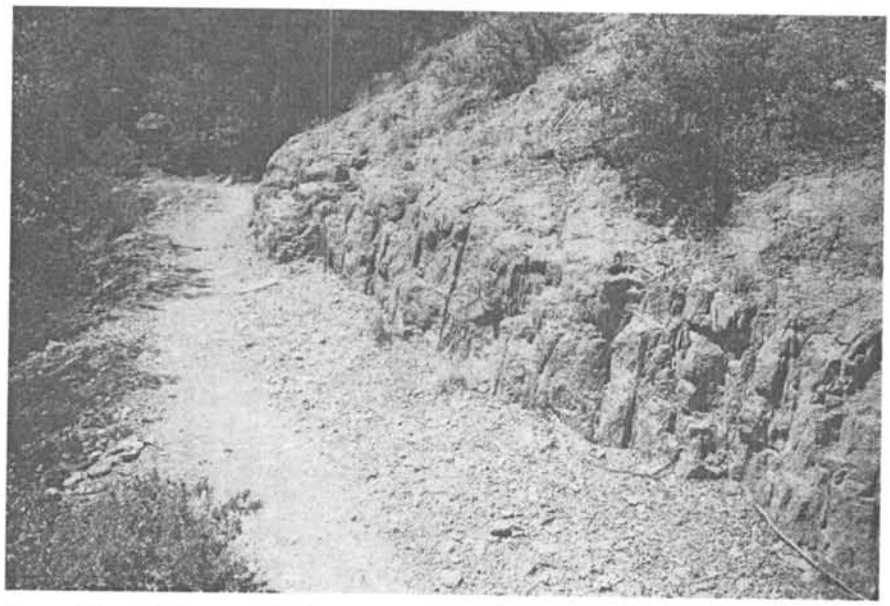


*Figure 23. Evidence of drill work in upper slope cuts on Lower Rhyolite Trail.*

*Figure 24. Retaining walls on Lower Rhyolite Trail show damage from rainstorms, 2002.*

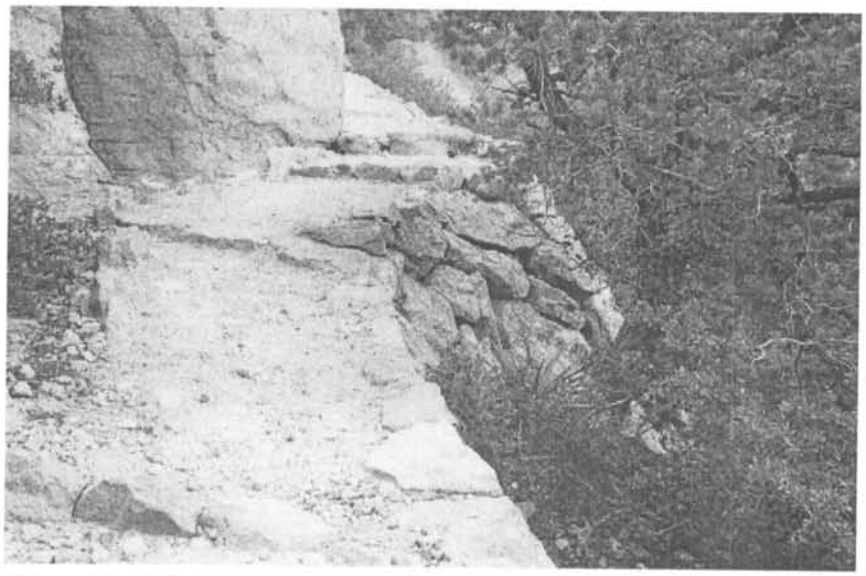


*Figure 25. Echo Canyon trail contains numerous constructed features: water bars, retaining walls, and drainage channels, 2002.*

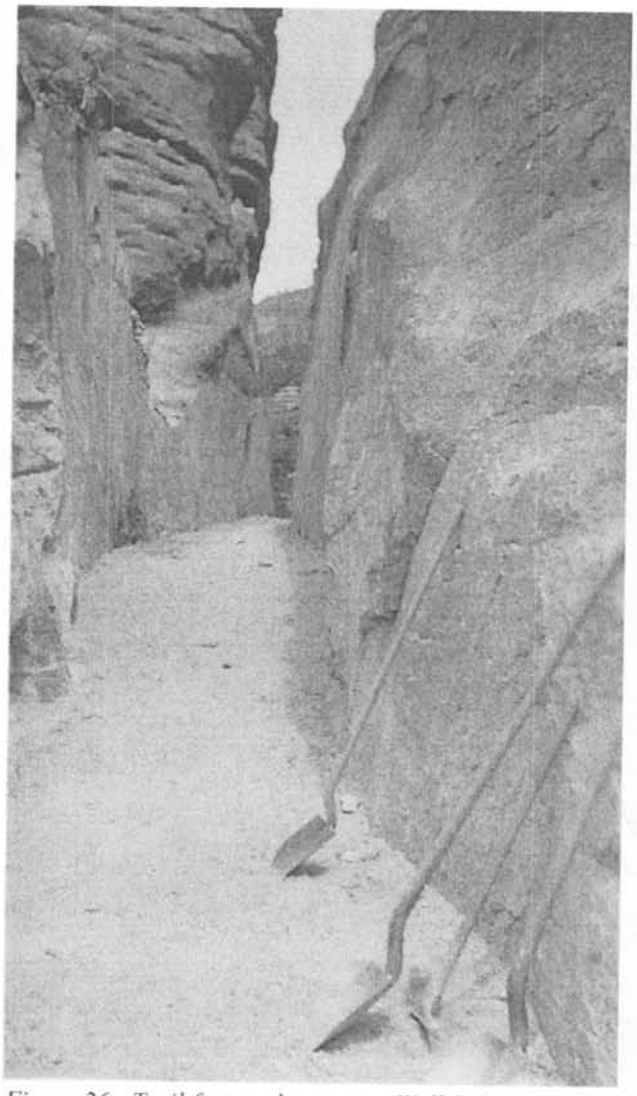


*Figure 26. Trail feature known as 'Wall Street' on Echo Canyon trail shortly after completion.*

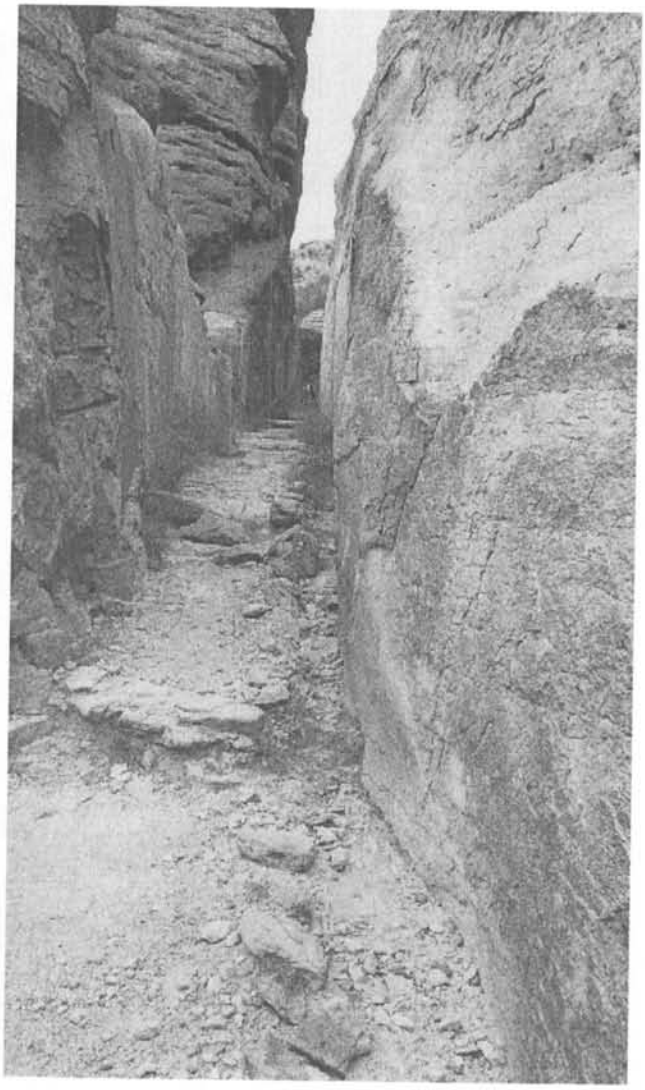


*Figure 27. Modern photograph of 'Wall Street' shows extent of trail base erosion, 2003.*

*Figure 28. Echo Canyon dam was constructed of concrete and faced with stone, 1993.*

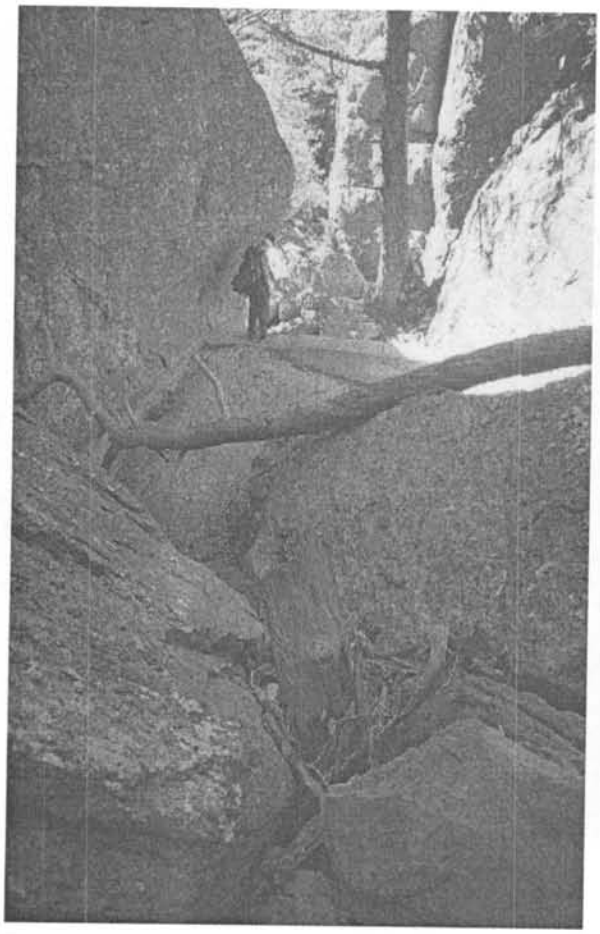


*Figure 29. Echo Canyon dam is now filled with sediment, 2004.*

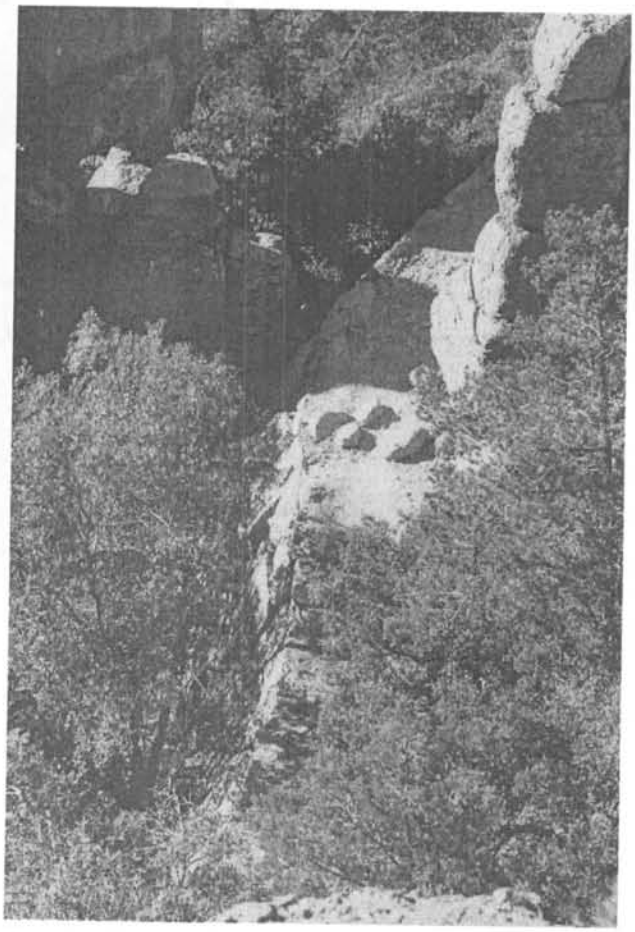


*Figure 31. Large retaining walls on upper Sarah Deming trail, 2003.*

*Figure 32. Water bars, drainage channels, and drill marks on upper Sarah Deming trail, 2003.*

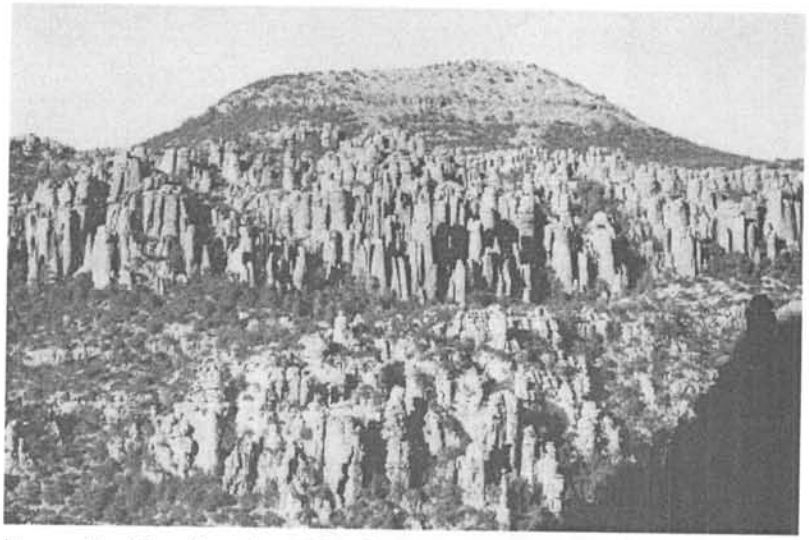


*Figure 33. View from lower Sarah Deming trail showing three layers of volcanic tuff found in the Monument, 2003.*

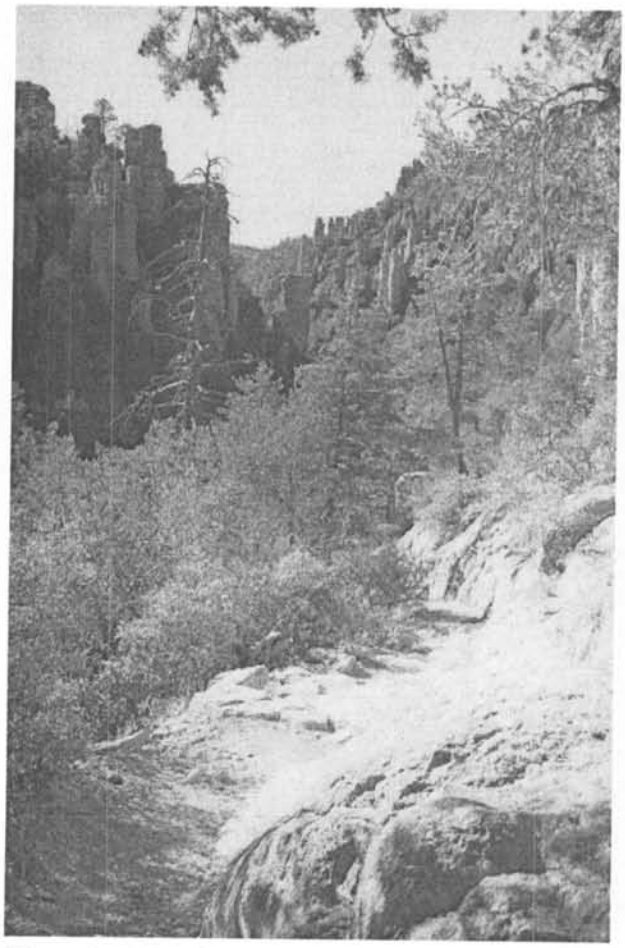


*Figure 34. View from Ed Riggs trail of Upper Rhyolite Canyon, 2003.*

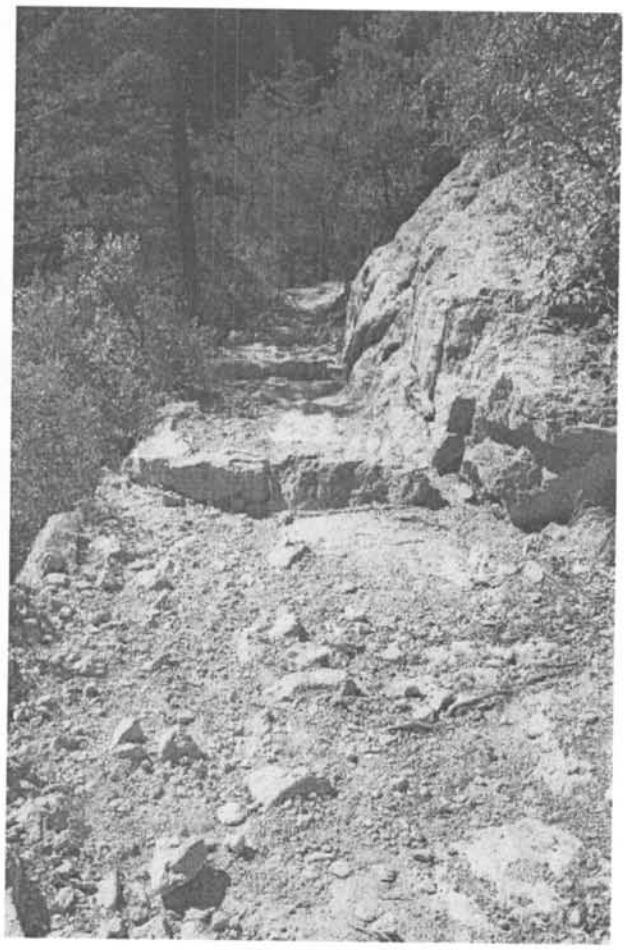


*Figure 35. Portions of Ed Riggs trail are cut from rock slope; others are built up with retaining walls. Jackhammer drill marks are visible on the right slope, 2003.*

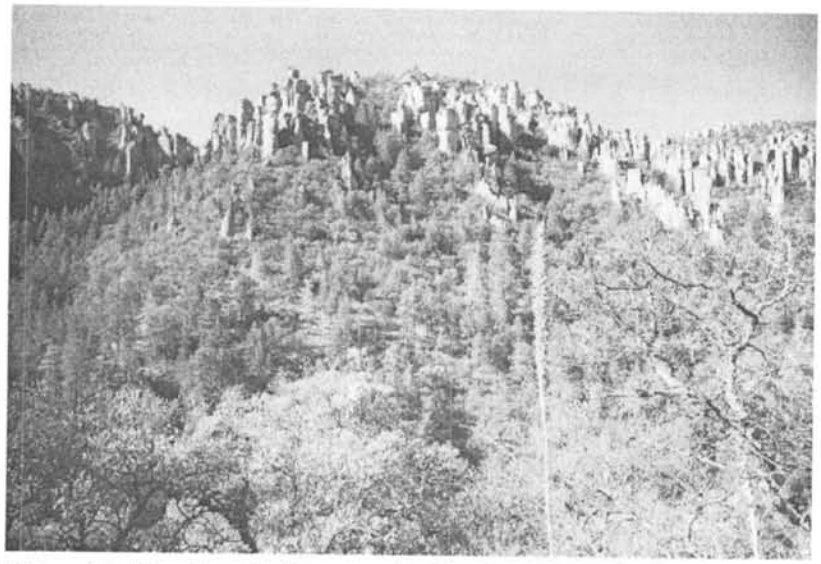


*Figure 36. View from Hailstone trail of the Totem Pole and the south slope of upper Rhyolite Canyon.*

*Figure 37. Spherulites or 'hailstones' found on Hailstone trail.*

*Figure 38. Remnant of early Ed Riggs trail parallels Upper Rhyolite trail (upper left).*

*Figure 39. Most of the CCC-constructed Upper Rhyolite trail on north-facing slope of Rhyolite Canyon remains unchanged.*

*Figure 40. Wildlife pool (at left) on Mushroom Rock trail (far right) has been partially destroyed by floods in Hunt Creek, 2003.*

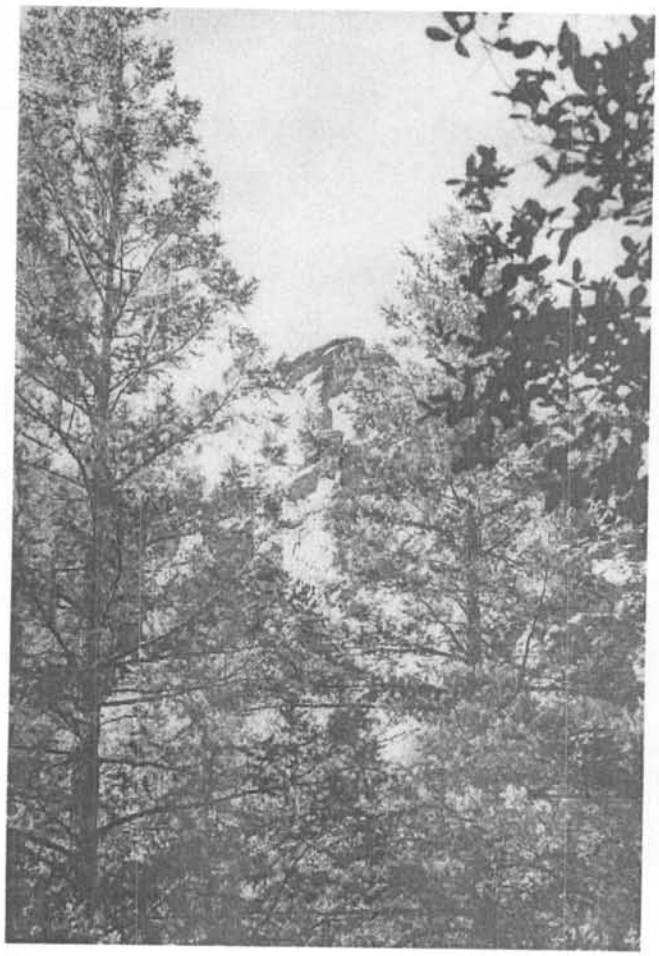


*Figure 41. The Mushroom Rock columnar feature viewed from Mushroom Rock trail is almost obscured by vegetation, 2003.*

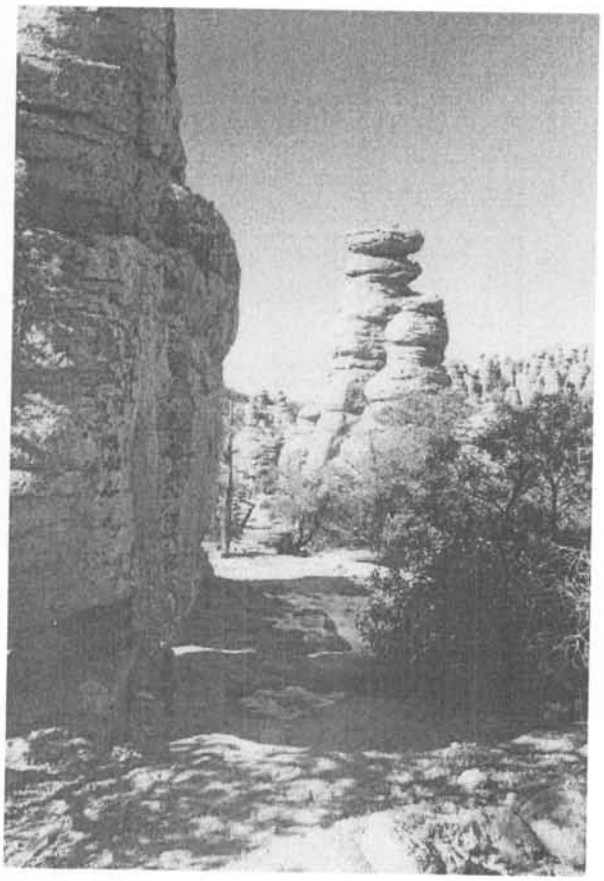


*Figure 42. Big Balanced Rock trail runs between rhyolite columns across the southern plateau, 2003.*

*Figure 43. Big Balanced Rock trail provides southern views of the central Chiricahua Mountain Range, 2003.*

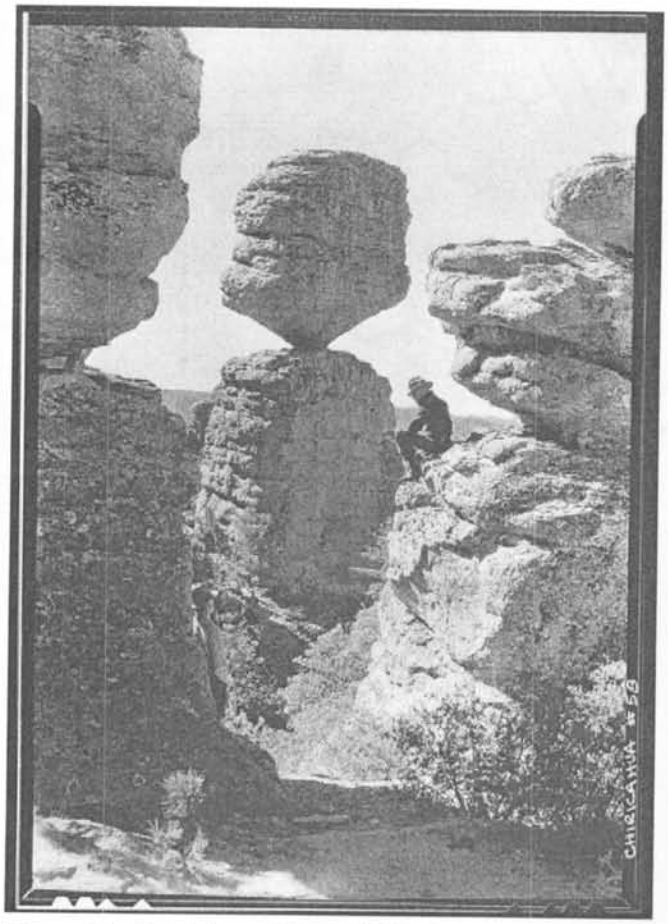



*Figure 44. Big Balanced Rock, 1935. George Grant.*

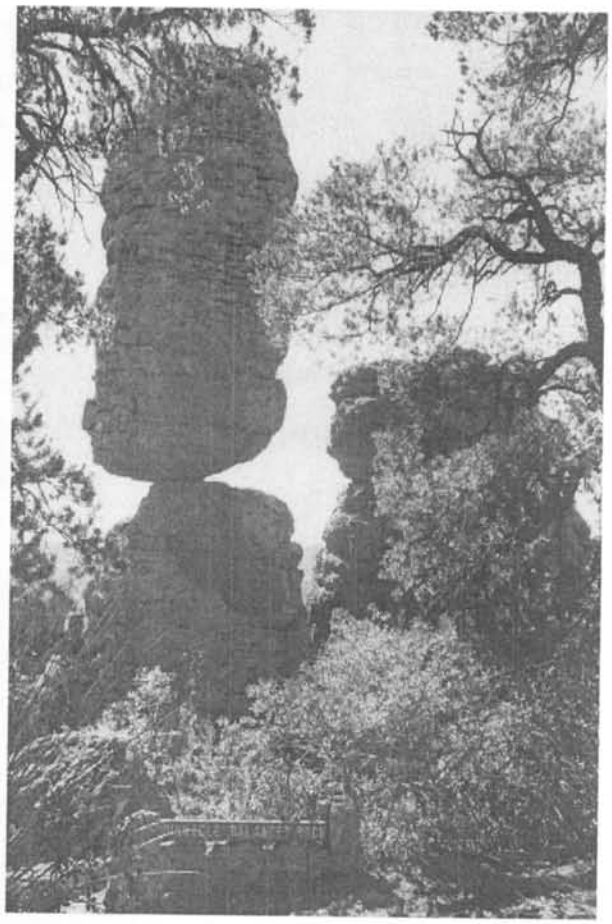


*Figure 45. Pinnacle Balanced Rock on Heart of Rocks trail, 2003.*

*Figure 46. Trail signs constructed by the carpentry crew to identify many named rhyolite features and other points of interest.*

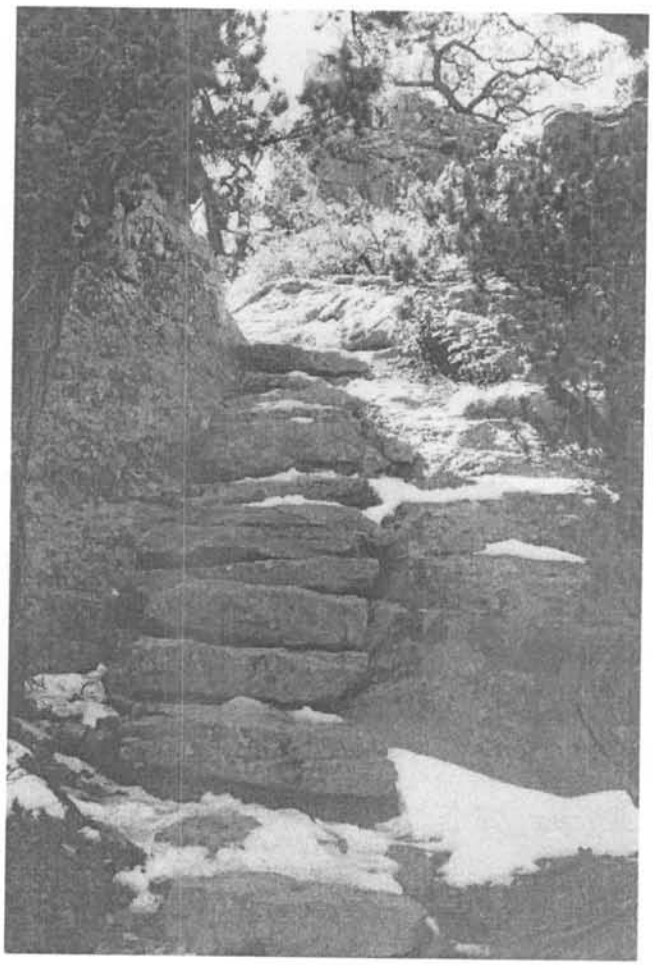


*Figure 47. Stairs on the Heart of Rocks trail, 2003.*

*Figure 48. View West of lower Rhyolite Canyon, Sulphur Spring Valley, Dos Cabezas from the Heart of Rocks trail, 2003.*

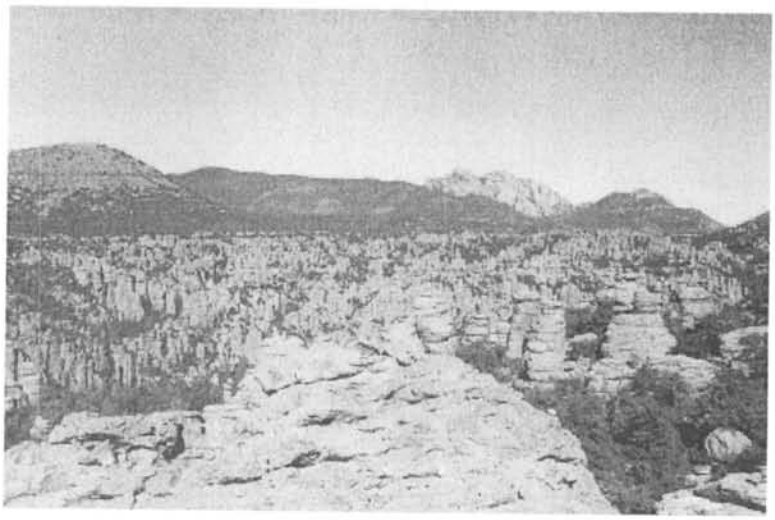


*Figure 49. View North of the Wonderland of Rocks, Sugarloaf Mountain, and Cochise Head from the Heart of Rocks trail, 2003*

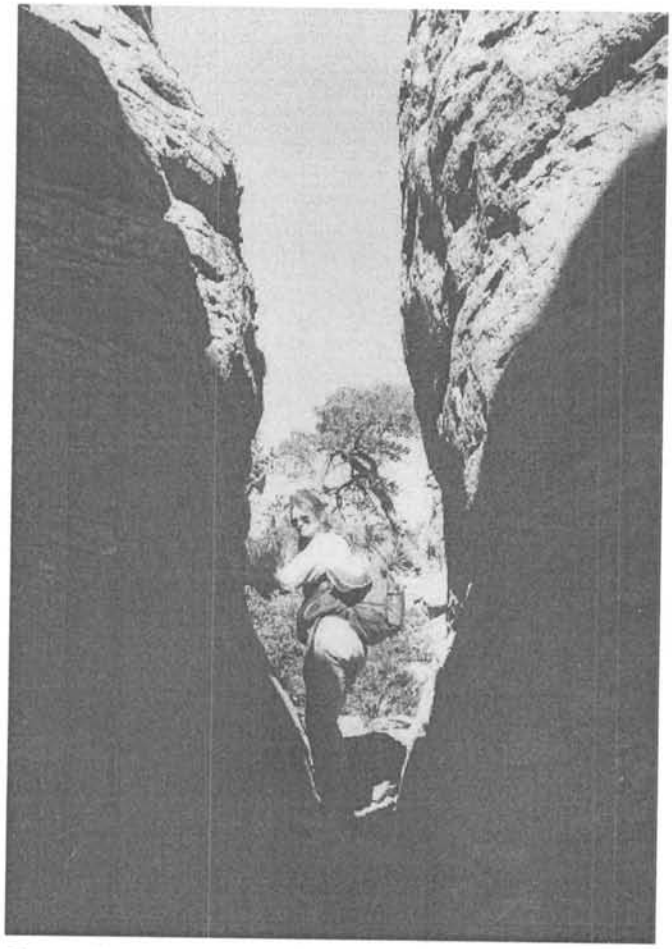


*Figure 50. Narrow trails and stairs make the Heart of Rocks trail suitable only for foot traffic, 2003.*

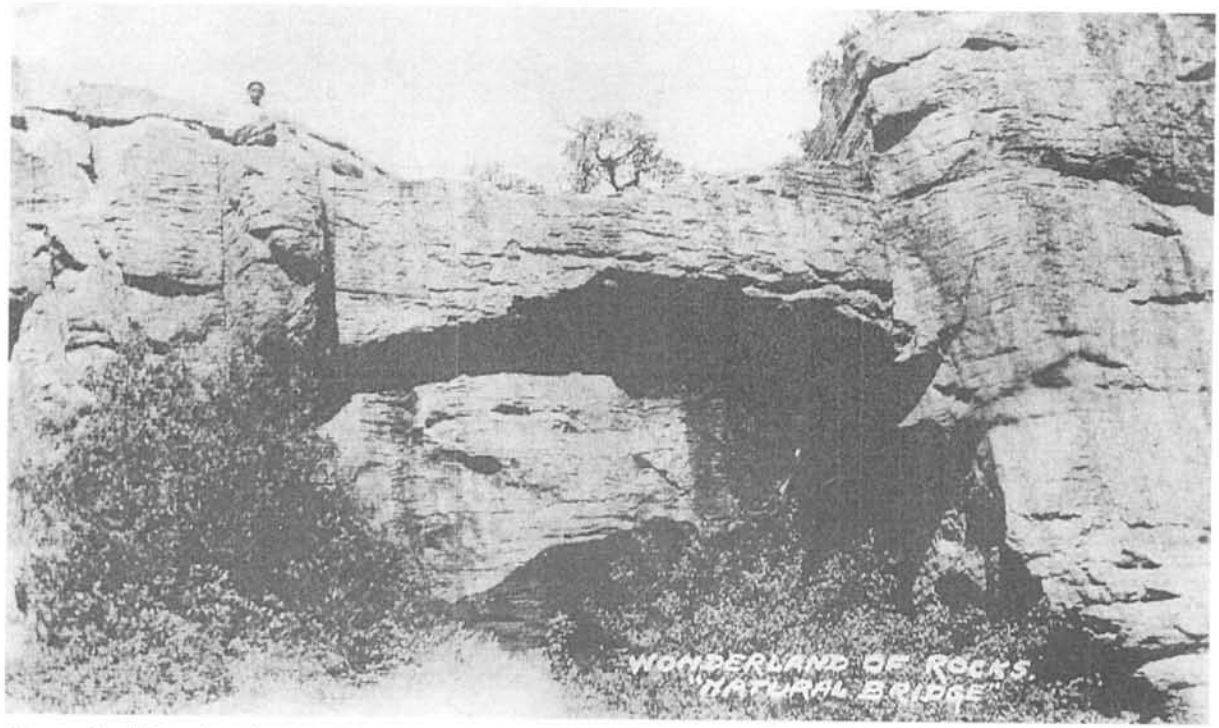



*Figure 51. Historic advertisement using image of Natural Bridge.*

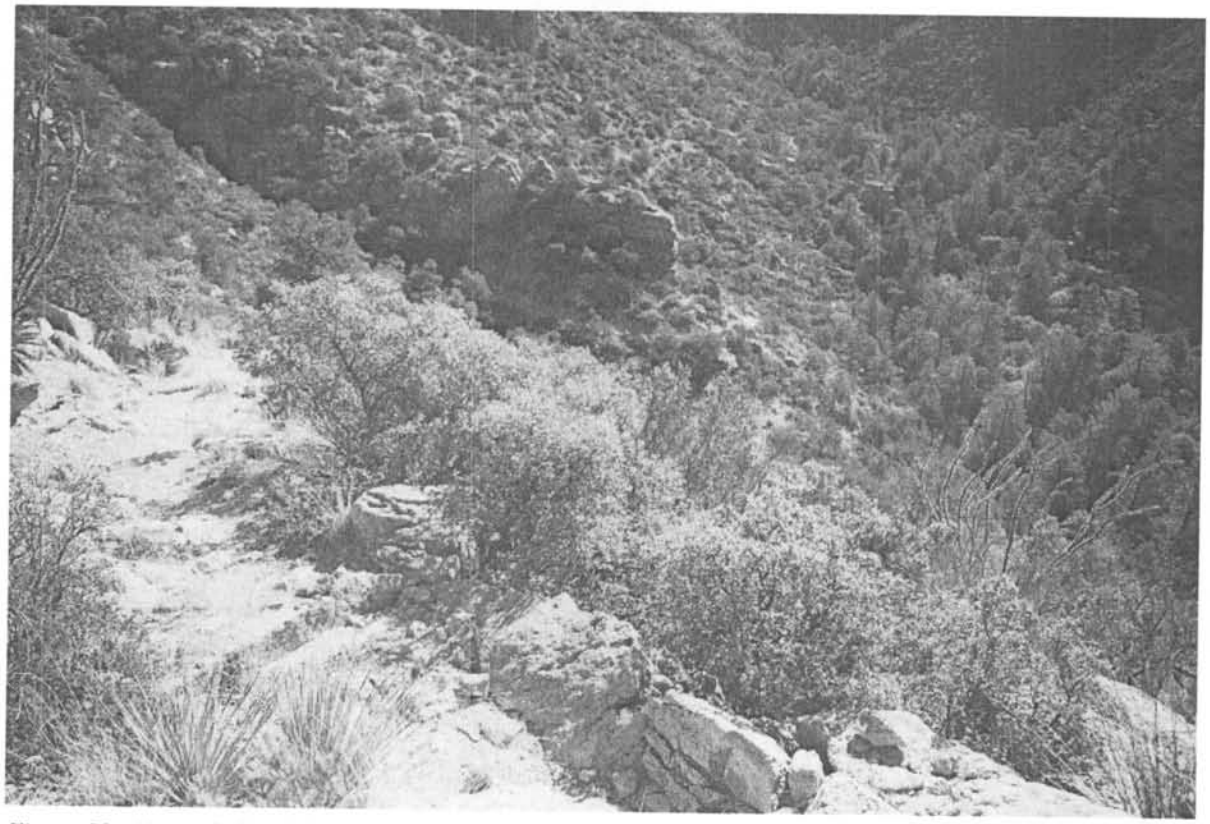


*Figure 52. Natural Bridge trail ascends out of North Bonita Canyon through a series of steep switchbacks, 2003.*

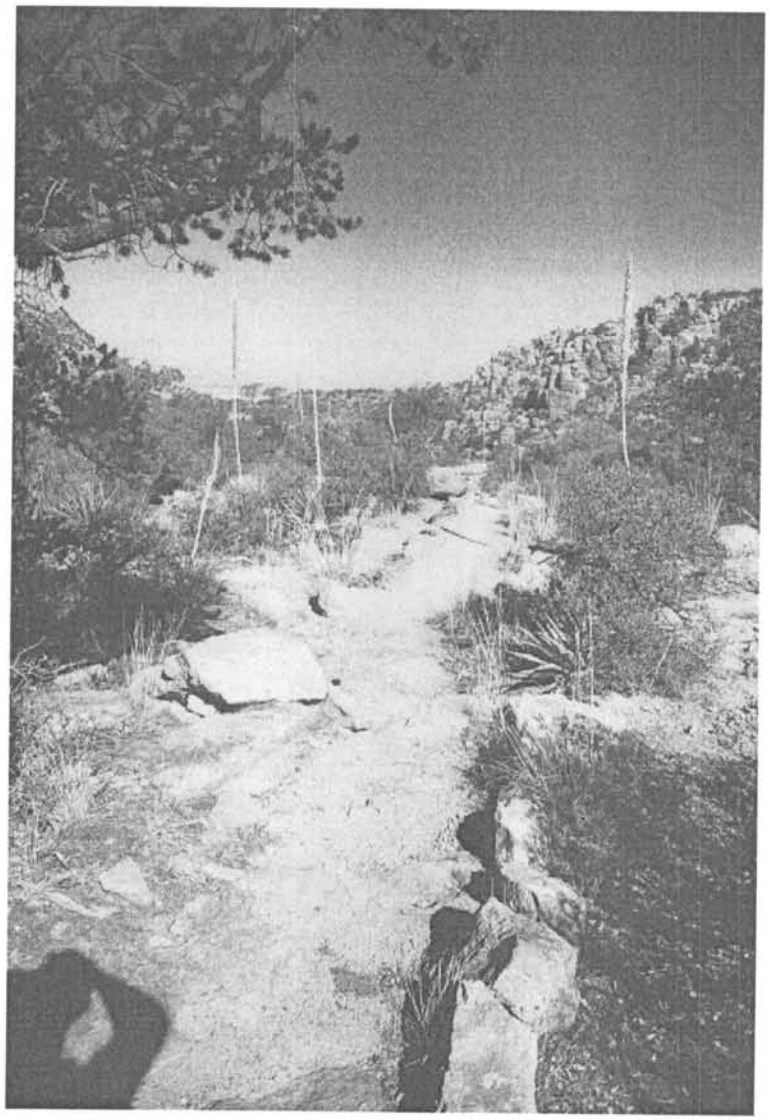


*Figure 53. Natural Bridge trail traverses the upper plateau before descending into Picket Park, 2003.*

*Figure 54. View of Natural Bridge feature (upper center) from the end of trail, 2003.*

*Figure 55. View from Inspiration Point of Rhyolite Canyon and Sulphur Springs Valley. Note Hailstone trail on below rhyolite columns on right, 2003.*

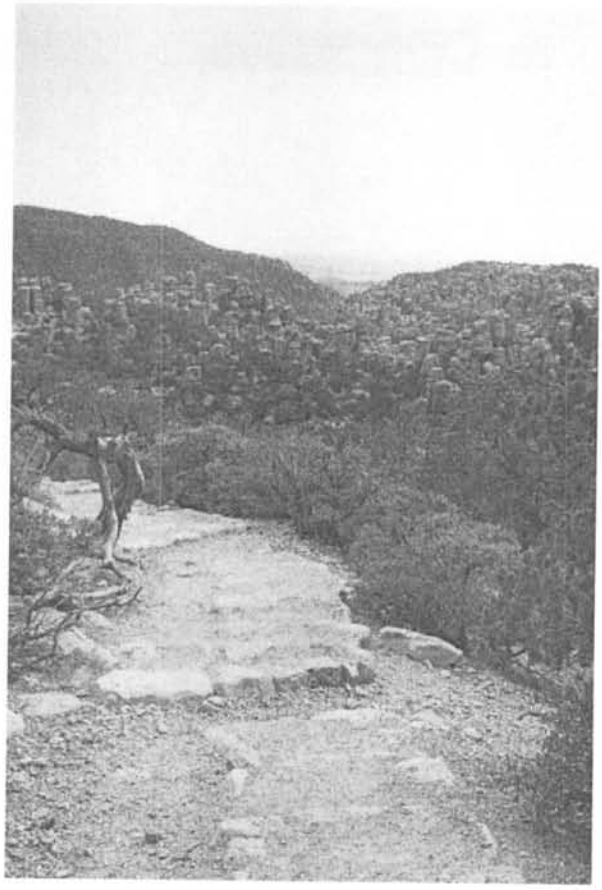


*Figure 56. View looking SW of the Wonderland of Rocks and Sulphur Springs Valley from Massai Point, July 2003.*

*Figure 57. Massai Point Turnaround, the terminus of Bonita Canyon Highway, 2003.*

*Figure 58. Aerial photograph showing Bonita Canyon Highway, Massai Point turnaround (bottom right), parking areas (west of Bonita Canyon Highway), Barbeque Hill (east of Bonita Canyon Highway). North is at the top of the image. 1935.*

*Figure 59. Parking lot at the Dedication Ceremony. September 1934.*

*Figure 60. Barbeque Hill at Massai Point at Dedication Ceremony, September 1934. View looking Northeast.*

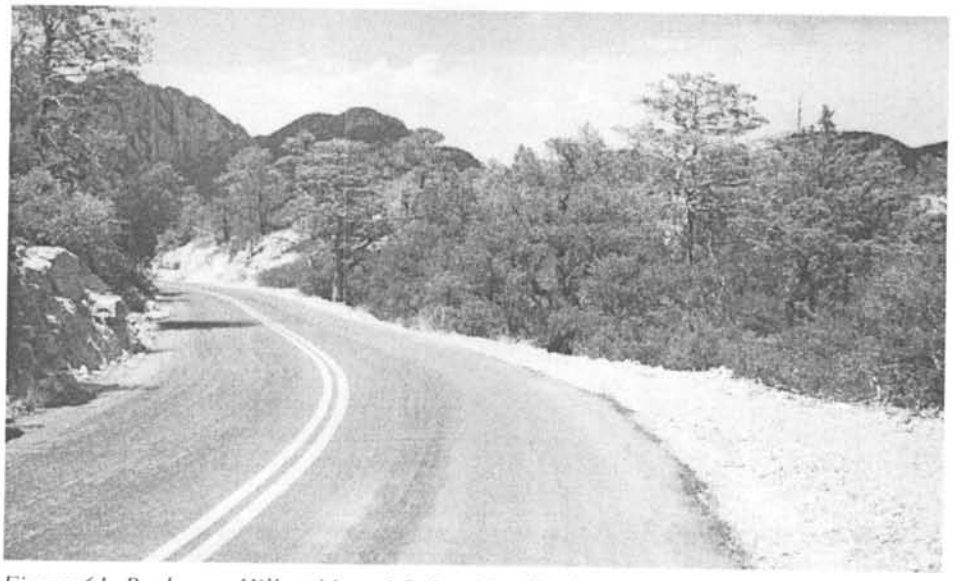


*Figure 61. Barbeque Hill at Massai Point. View looking Northeast, 2003.*

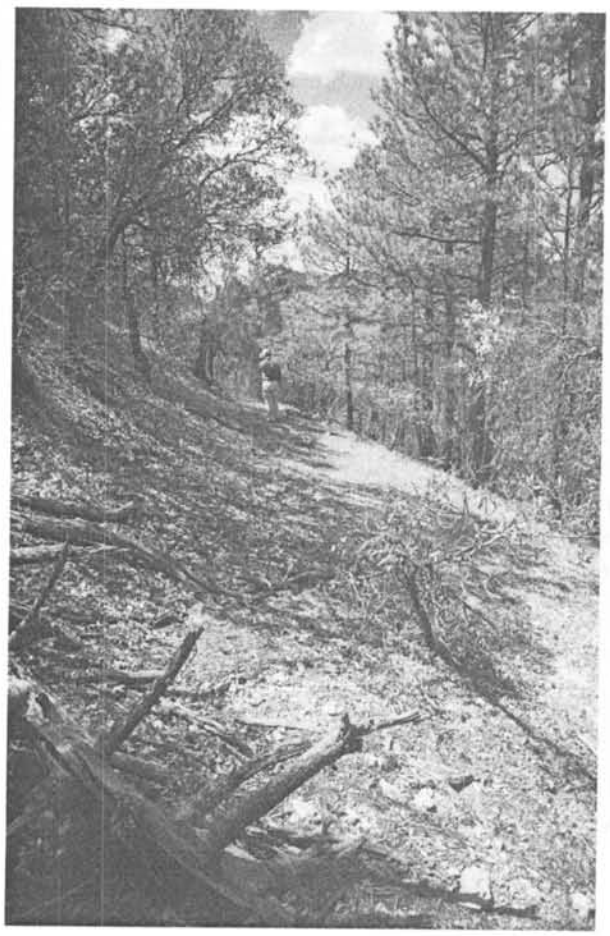


*Figure 62. Remains of temporary access road into Barbeque Hill. View looking Northwest. July 2003.*

*Figure 63. Camp NM2A enrollee tends the 85-foot long barbeque pit of beeves at Dedication Ceremony. View looking West. September 1934.*

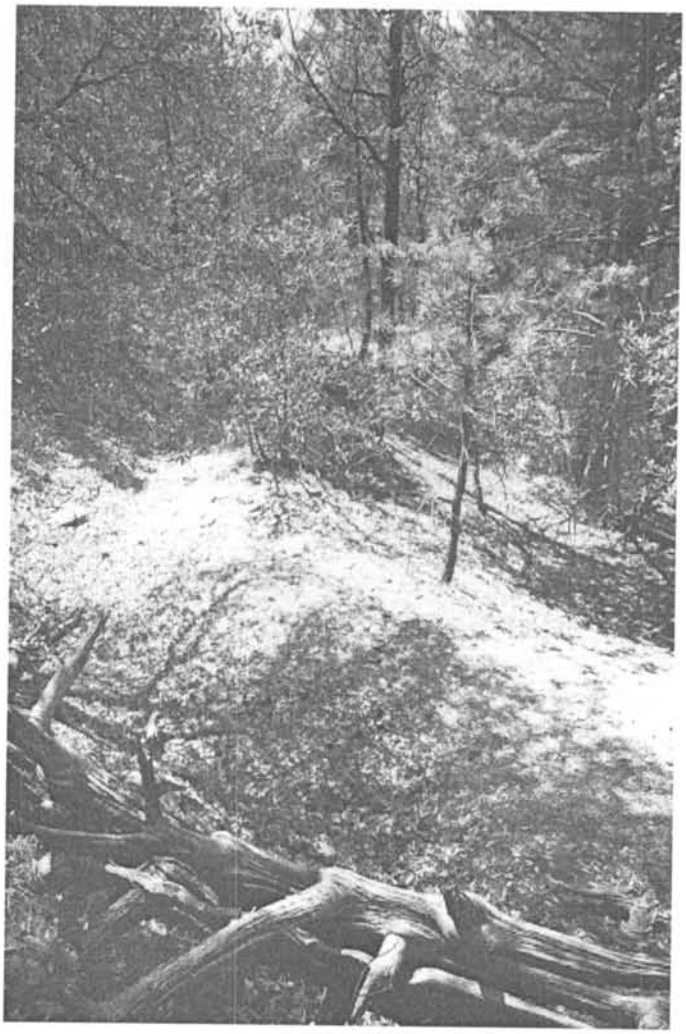


*Figure 64. Remains of barbeque pit from Dedication Ceremony. View looking West. July 2003.*

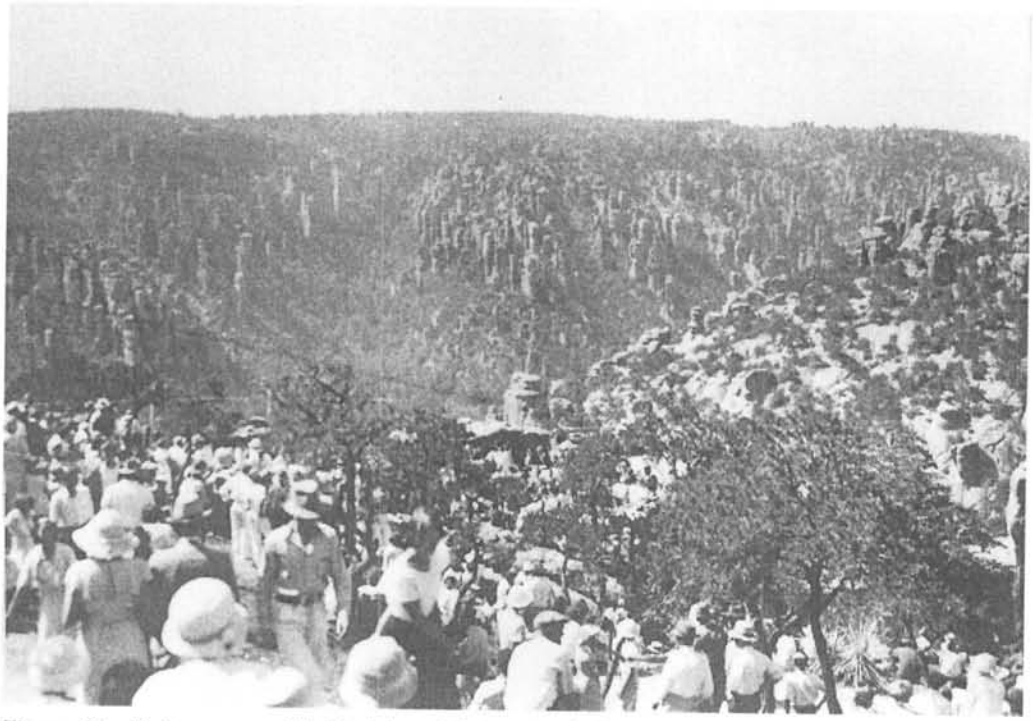


*Figure 65. Visitors assembled in Massai Point Amphitheatre listen to dignitaries on Speakers Rock. View looking South. September 1934.*

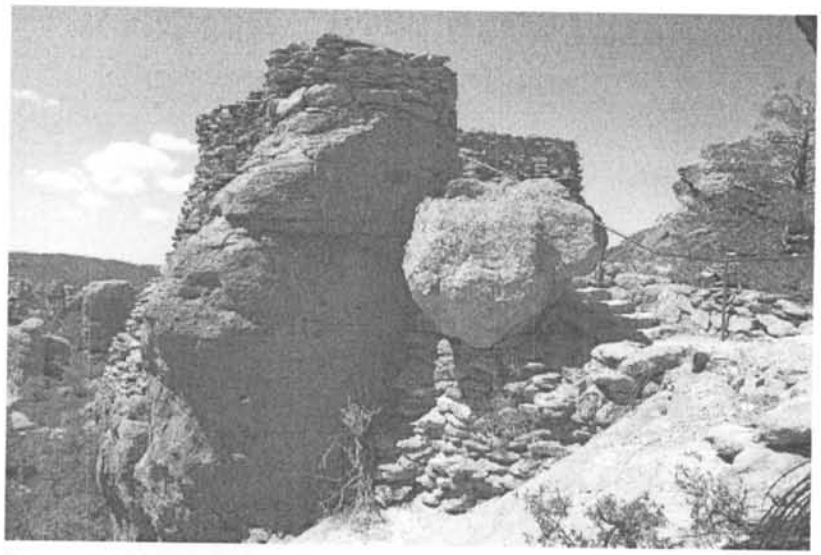


*Figure 66. Speakers Rock at Massai Point incorporates large boulders into base of rostrum and boundary of stairs. View looking Northwest. March 2004.*

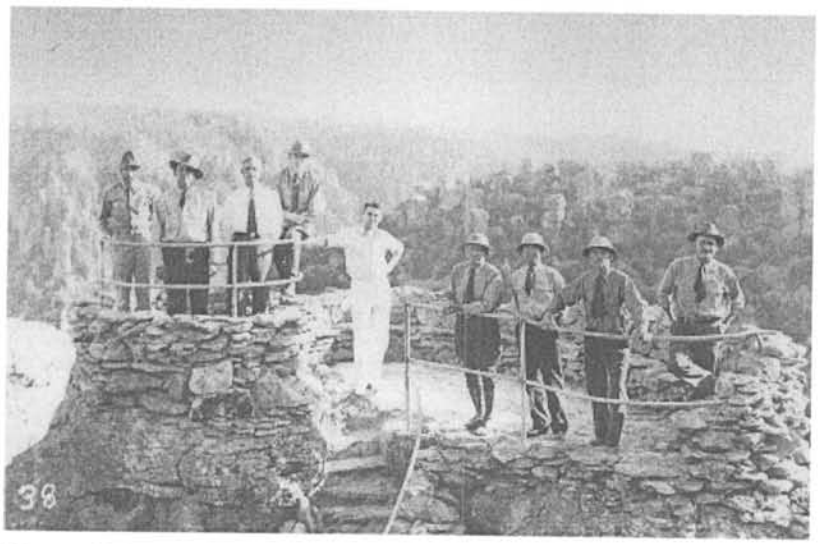



*Figure 67. Speakers Rock prior to removal of iron handrails and construction of seating wall on North side. View looking South.*

*Figure 68. View of the amphitheatre from Speakers Rock showing trail, steps and handrailing on left. View looking Northeast. October 2002.*

*Figure 69. Construction of Orientation Station walls. Note large boulder at right incorporated into Northwest wall. View looking West. 1939.*

*Figure 70. Orientation Station following completion of construction and landscaping in 1940. View looking East.*

*Figure 71. Terrace and seating wall at entrance to Orientation Station. View looking Northwest. October 2002.*

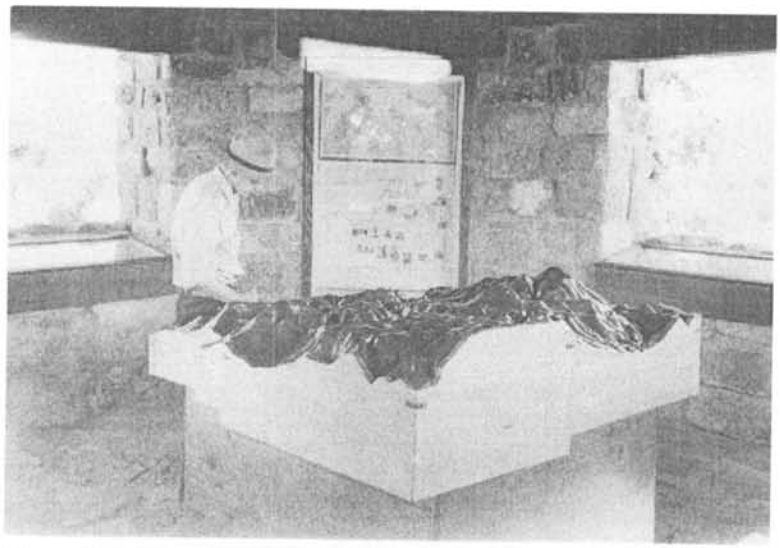


*Figure 72. Custodian Frank Fish examines relief model of CNM and natural history information in wall and window cases. View looking Northwest. 1941.*

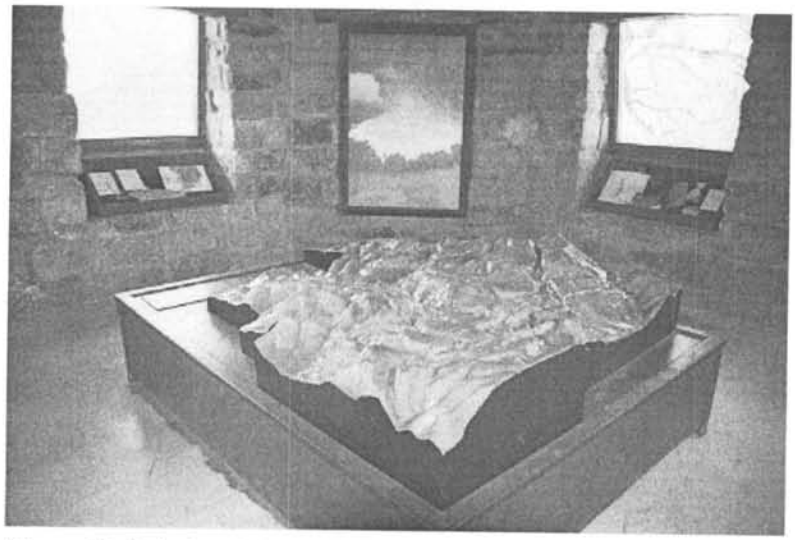


*Figure 73. Relief model, window and wall displays. View looking Northwest, 2003.*

*Figure 74. CCC enrollees create opening in Ranger Station to accommodate east wing of Administration Building, 1937. Note excavation for basement on left. View looking northwest.*

*Figure 75. Administration Building, paths, and parking area, 1939. View looking south.*

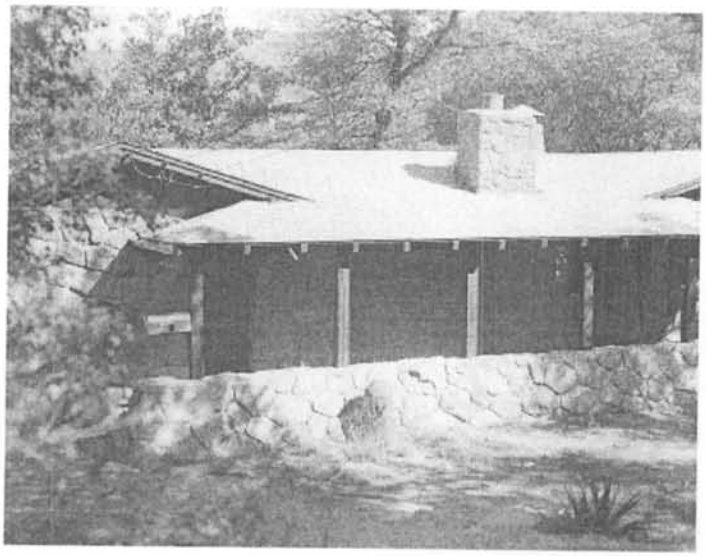


*Figure 76. Rear porch and entry to Administration Building, 1960. View looking northeast.*

*Figure 77. Display cases in Museum wing of Administration Building, 1941. Wrought iron lighting fixture is similar, though not identical, to those designed by Cecil Doty.*

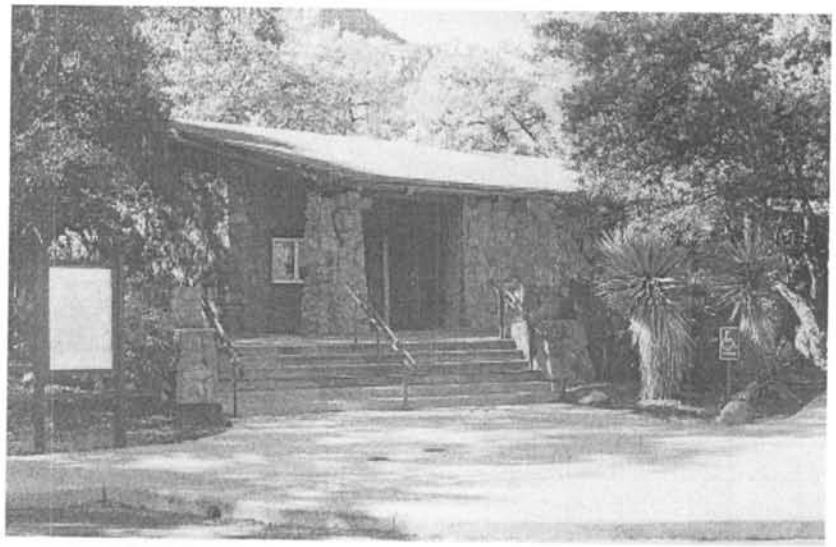


*Figure 78. Front entrance to Visitor Center with steps, porch, and stone-veneered walls, 2002. View looking southwest.*

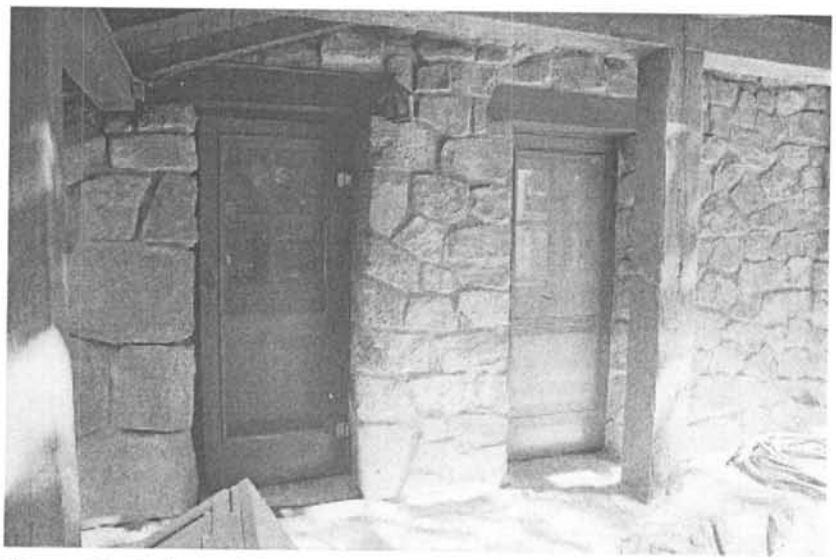


*Figure 79. Additional door on right was added in 1965 to rear of Administration Building, 2002.*

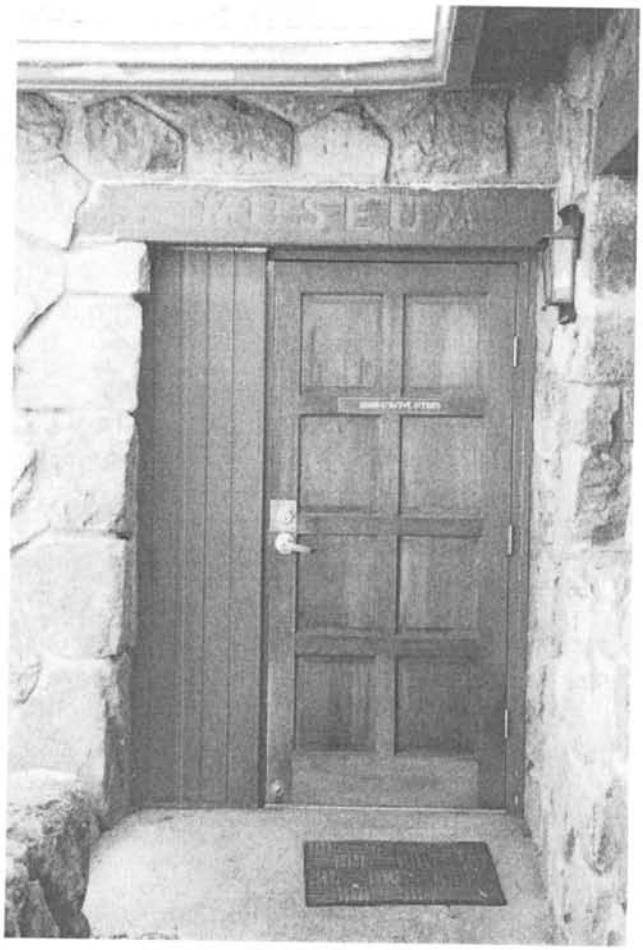


*Figure 80. Museum wing double French doors were replaced by a single door after 1965. Note entrance sign carved by CCC carpentry shop in lintel above door, 2002.*

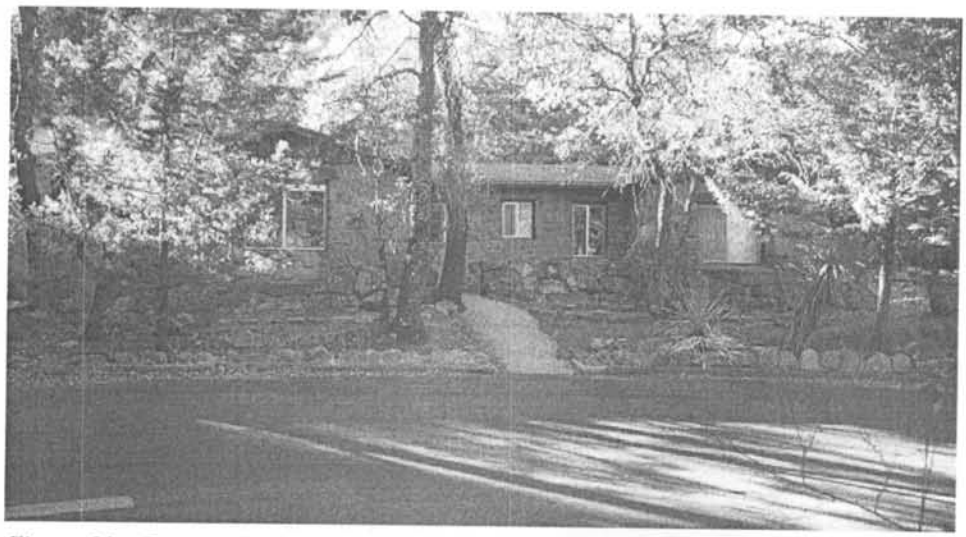


*Figure 81. Recent changes to Administration Building include windows, doors, and walkway, 2003. View looking south.*

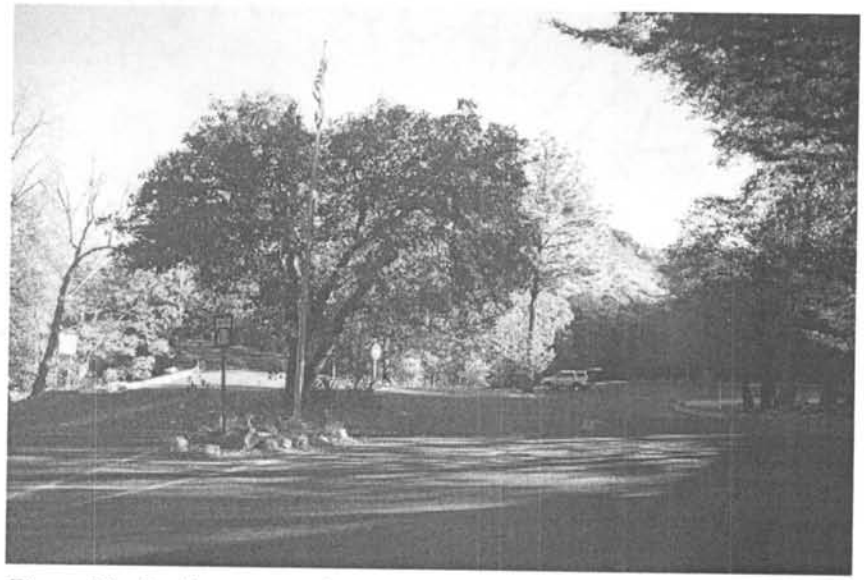


*Figure 82. Parking area and entrance were both enlarged in 1965 following construction of Visitor Center, 2003. View looking east.*

*Figure 83. Stairs to Residential Area from rear of Visitor Center, 1993.*

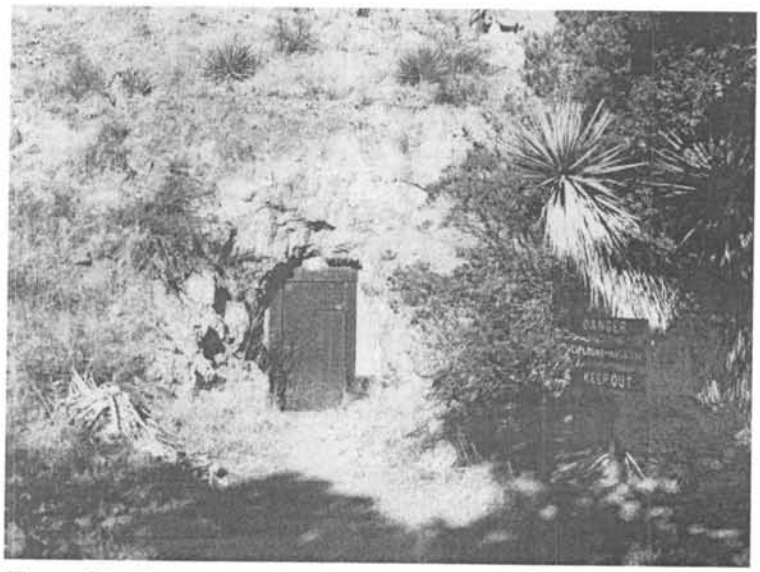



*Figure 84. Entrance to Powder Magazine cave. Note vent in upper right. View looking north.*

*Figure 85. Ruins of first Cap Magazine, 2002. Roof has partially collapsed. Note remains of wooden vent. View looking northwest.*

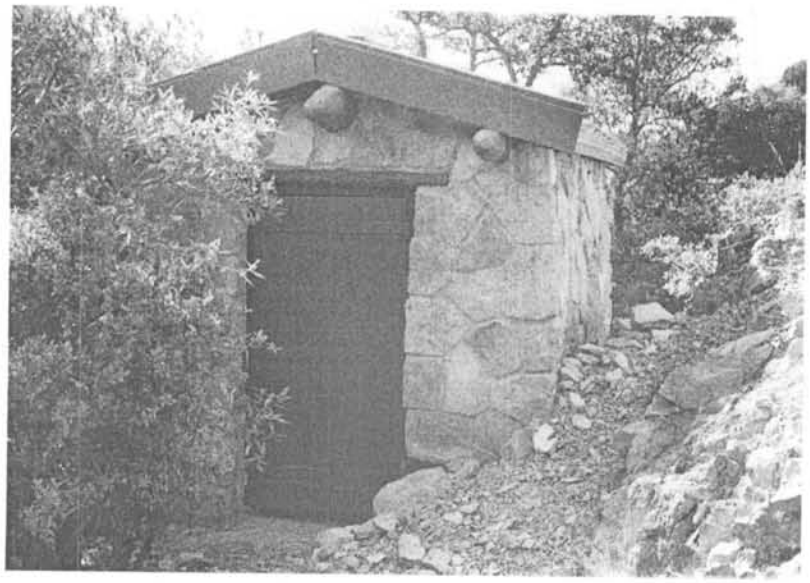


*Figure 86. Second Cap Magazine with steel door, vigas, and replaced roof, 2003. View looking west.*

*Figure 87. CCC enrollees lay wire mash prior to pouring concrete in first campground "dip," 1935. View looking southwest.*

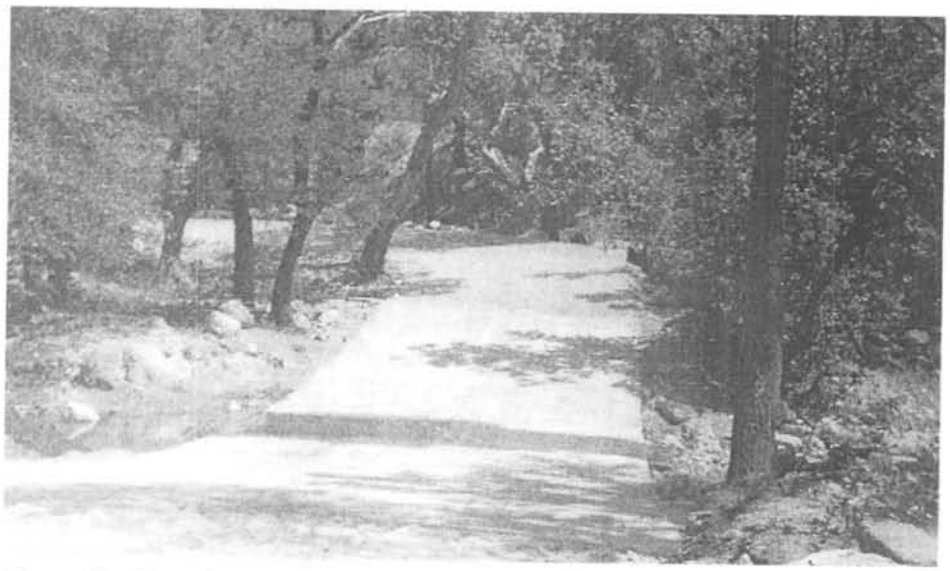


*Figure 88. Second concrete dip, 1935. View looking southeast.*

*Figure 89. Stones mark boundary of parking spur associated with each campsite, 1935.*

*Figure 90. CCC crews built wooden picnic tables and stone-and-mortar camp grills for each campsite unit, 1935.*

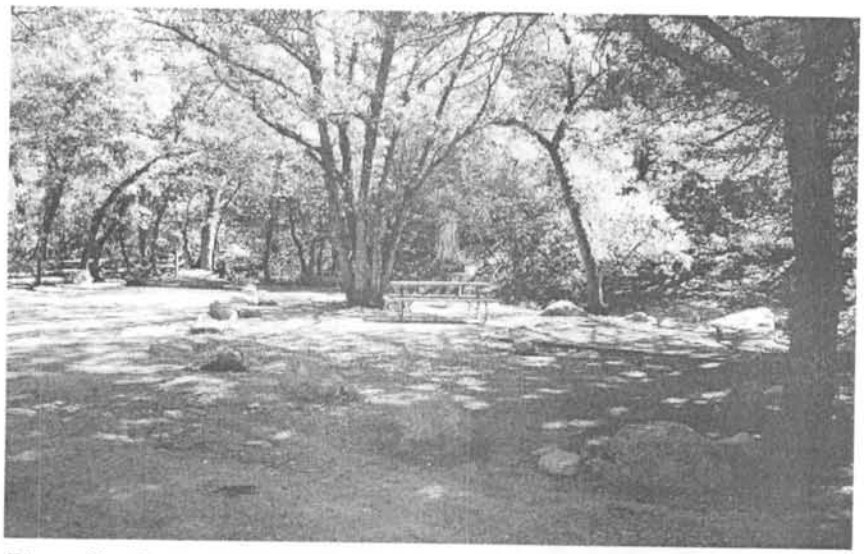


*Figure 91. Campsite with tent platform, picnic table, and grill, 2003.*

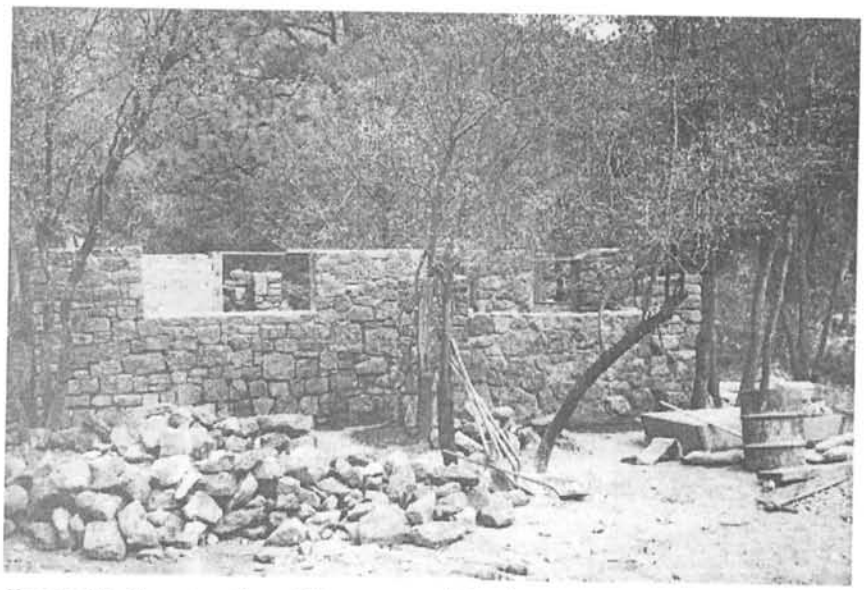


*Figure 92. Construction of Campground Comfort Station, 1935. View looking northeast.*

*Figure 93. Modern campground comfort station with pathways and handicap access, 1993. View looking southwest.*

*Figure 94. Campground Bath and Laundry House in 1970 was converted to employee residence, 1993. View looking west.*

*Figure 95. Rectangular layout of CCC Campsite as seen from water tower location, 1936. From left to right on far side of marching grounds: dispensary (in sycamore trees), recreation hall, and 4 barracks. Below left is mess hall. View looking southeast.*

*Figure 96. Photographic match to Figure 95, 2004. Vegetation has begun to encroach on open meadow. Note chimney ruin from CCC mess hall/Silver Spur Lodge in lower left. View looking southeast.*

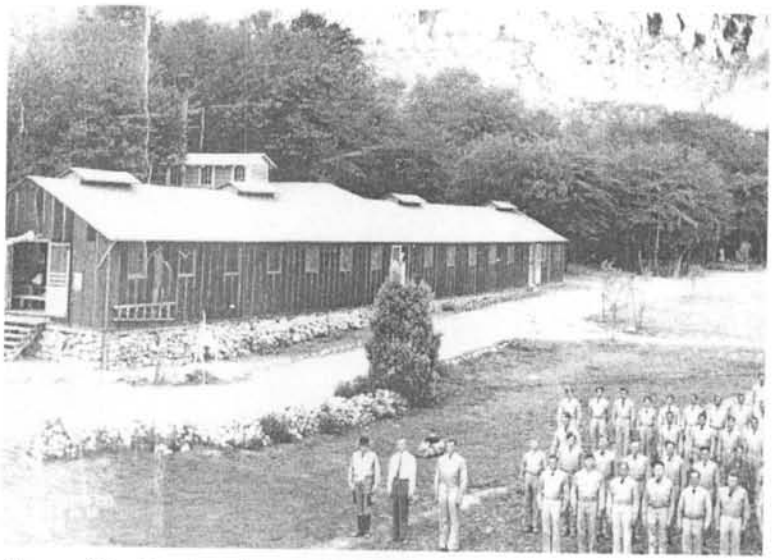


*Figure 97. Evening Retreat in marching grounds at CCC Campsite. Mess hall on left and Army Headquarters behind. View looking northeast.*

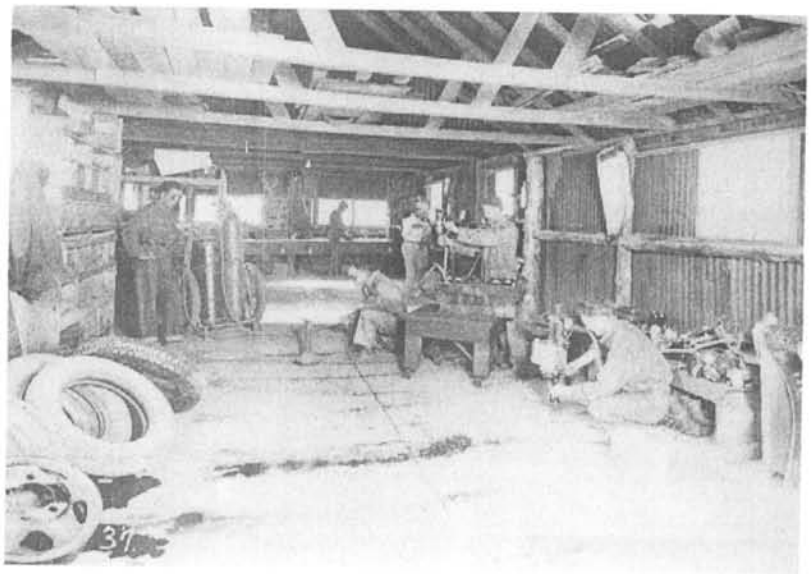


*Figure 98. Interior of truck garage in National Park Service area at CCC Campsite.*

*Figure 99. CCC enrollees display trail signage in carpentry shop at CCC Campsite.*

*Figure 100. Chimney ruins, 2002. One of two fireplaces added to CCC mess hall following sale to Silver Spur Guest Ranch. View looking southeast.*

*Figure 101. Foundation remains of Army buildings at CCC Campsite, 2002.*

*Figure 102. Remains of CCC access road to Campsite, 2002.*

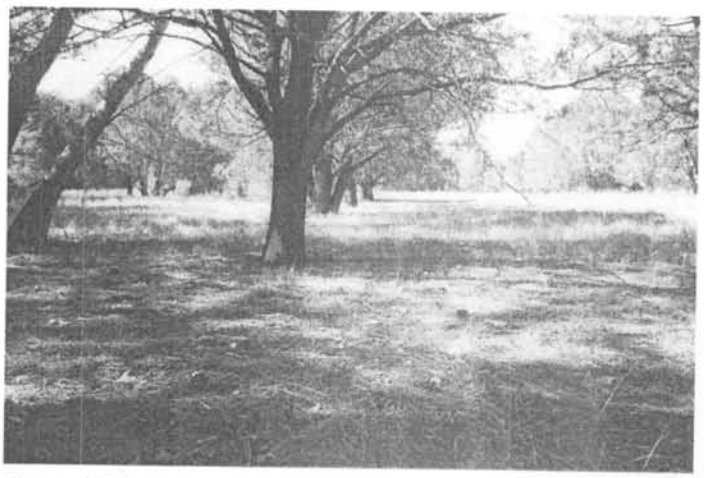


*Figure 103. Row of junipers planted by CCC enrollees for Campsite beautification, 2002. View looking west.*

*Figure 104. Remains of Cima Bear Cage built by CCC enrollees to house pet bear cub, 1993.*

*Figure 105. CCC enrollees used mules to haul materials to Sugarloaf Mountain during construction of the Lookout, 1935. Note boxes of dynamite for excavating the Lookout foundation. View looking north*

*Figure 106. Sugarloaf Lookout illustrates the National Forest Service L-4 design, 1935. View looking southwest.*

*Figure 107. Sugarloaf Lookout, 1949. Note cistern on south face. View looking northeast.*

*Figure 108. Sugarloaf Lookout, 2002. View looking southwest.*

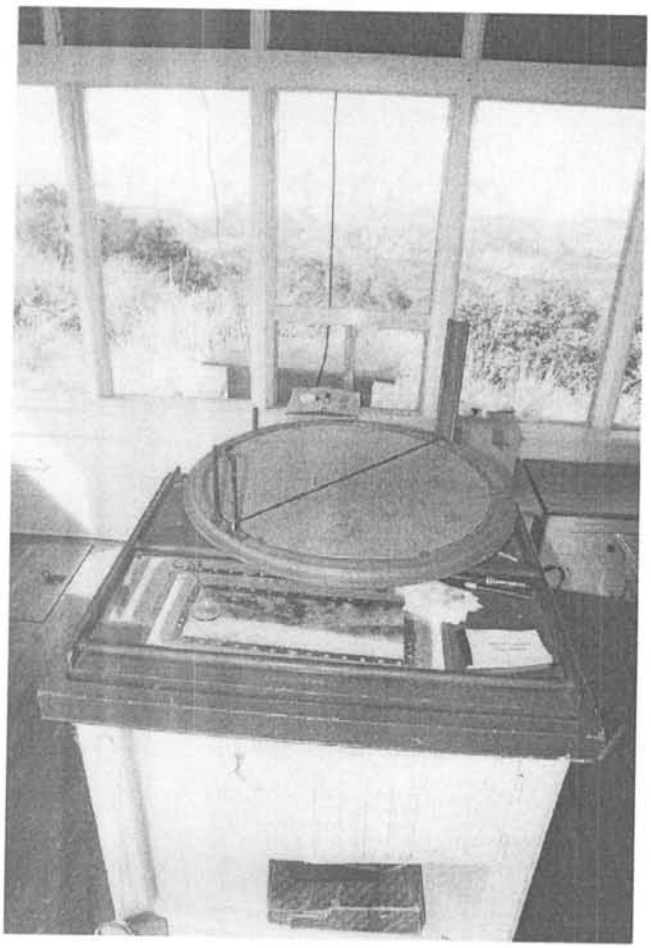


*Figure 109. The Osborne Firefinder was installed in the Lookout shortly after construction.*

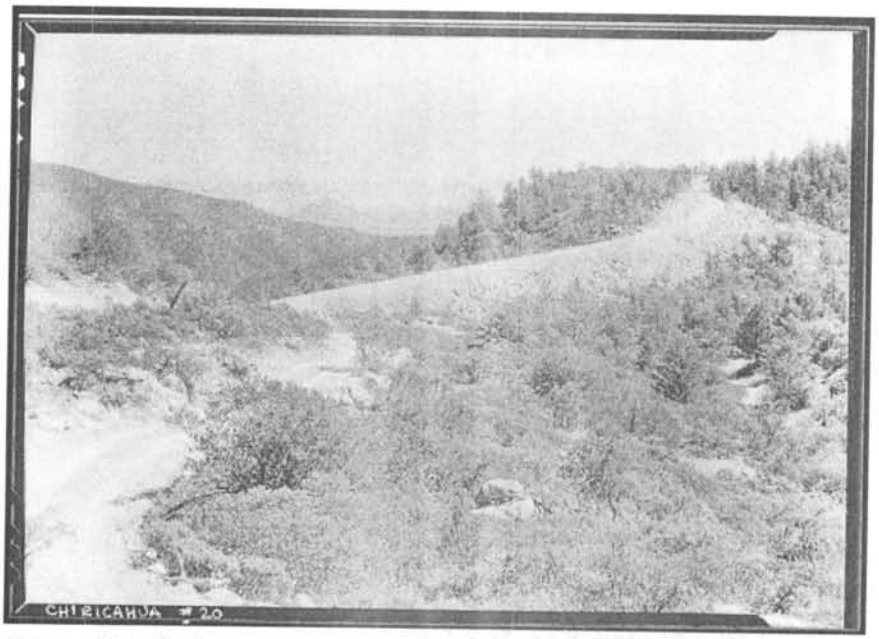



*Figure 110. Early access road to Sugarloaf Mountain diverges from Bonita Canyon Highway, 1935. View looking east.*

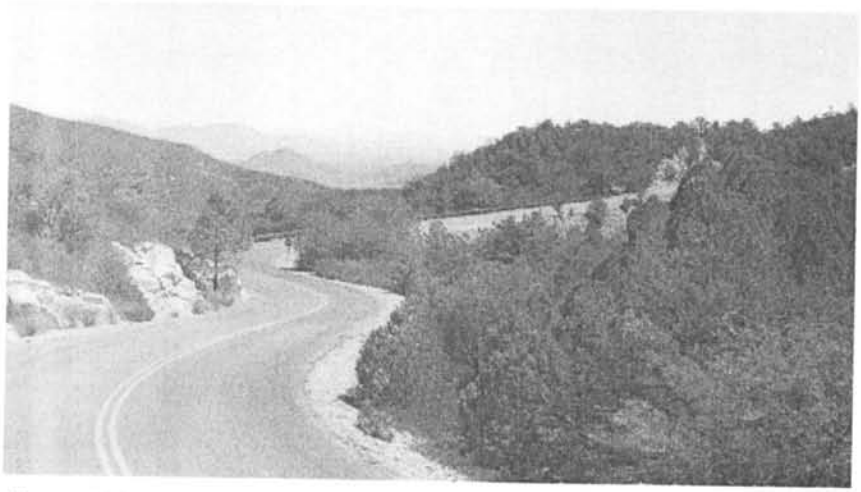


*Figure 111. View looking east from area near Echo Canyon parking lot, 2004.*

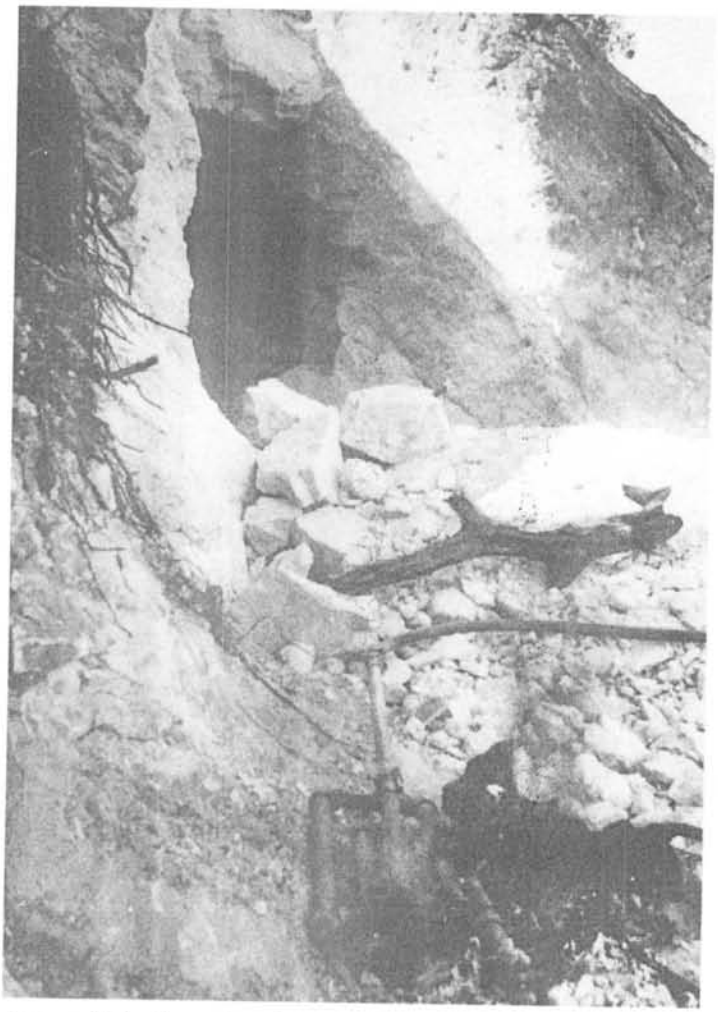


*Figure 112. Portable air compressor used for cutting through tunnel on Sugarloaf Trail, 1935.*

*Figure 113. Section of Sugarloaf Trail shortly after completion, 1935. View looking northeast.*

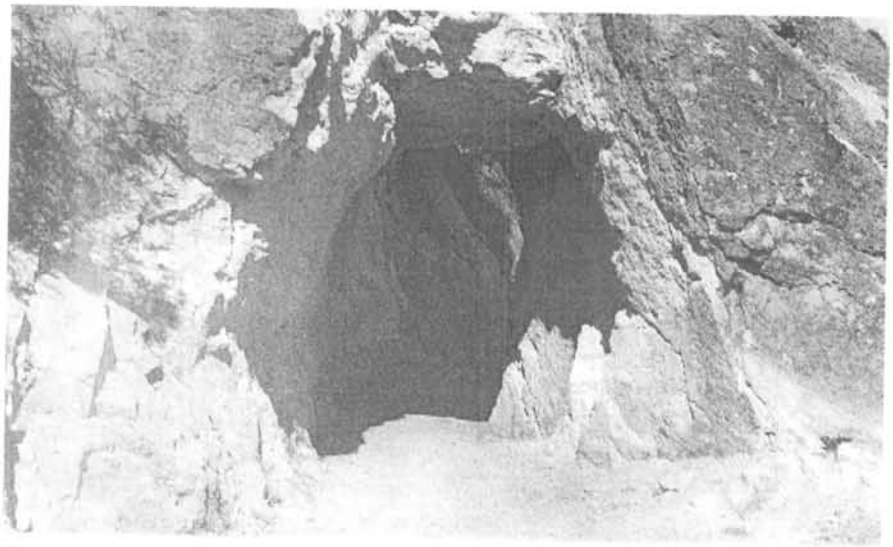


*Figure 114. Sugarloaf Trail tunnel shortly after completion, 1935.*

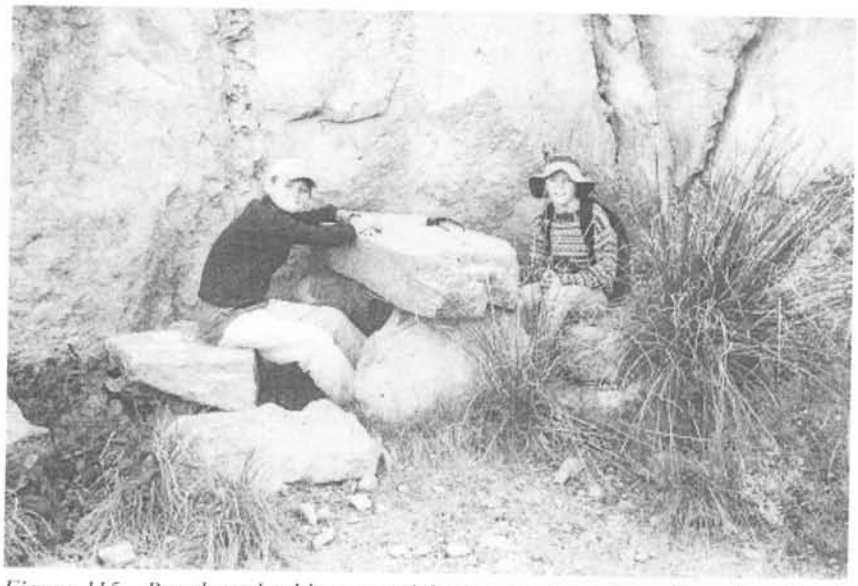


*Figure 115. Bench and table created from tunnel debris on Sugarloaf Trail, 2002.*

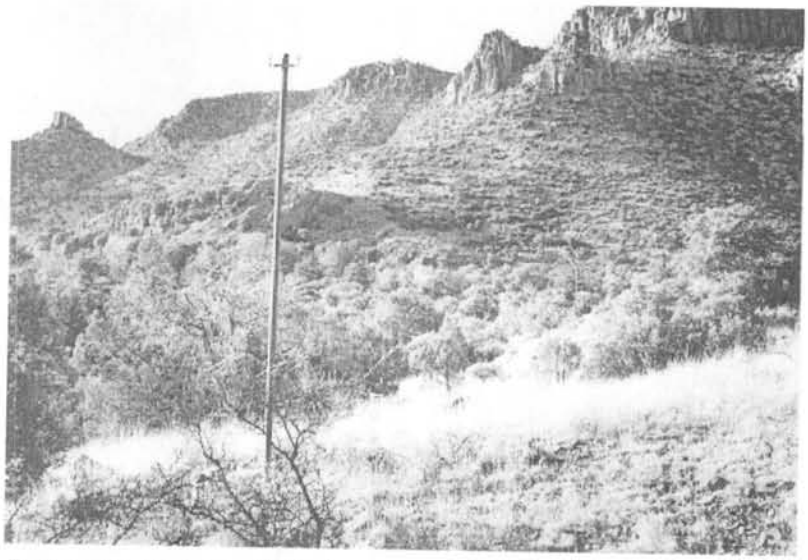


*Figure 116. Remains of telephone communication system between Headquarters, Sugarloaf Lookout, and NFS Portal Ranger Station, 1993. View looking northwest.*

*Figure 117. Northeast corner of the utility wall is constructed with largely uncut, uncoursed boulders, 2002. The wall is strongly battered. Note Warehouse incorporates wall in east and north faces. View looking southwest.*

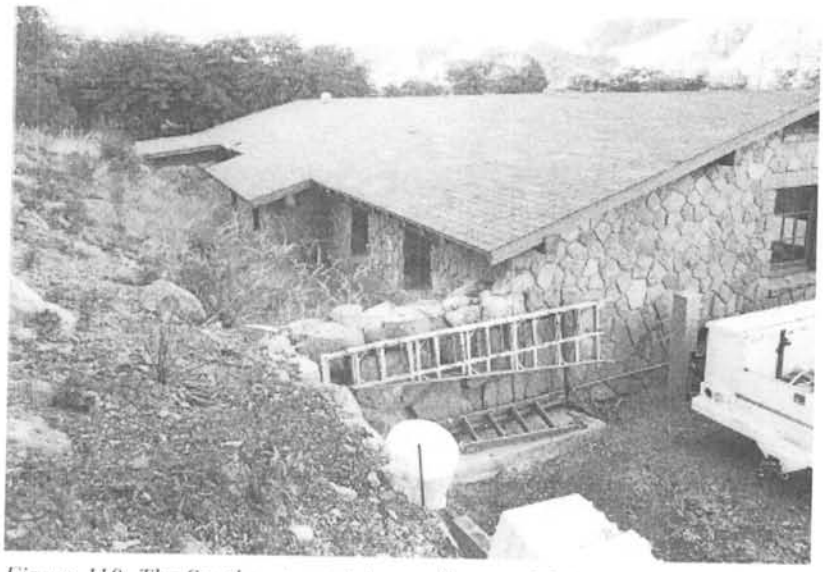


*Figure 118. The Southeast retaining wall was added on to existing Equipment Shed, 2003. Note difference in stonemasonry of the Equipment Shed and adjoining utility wall. View looking northwest.*

*Figure 119. Oil and Gas House, rock pier, and wooden gates at east entrance of the Utility Area, 1939. Note light fixture above door and gas pump on the far right. View looking southwest.*

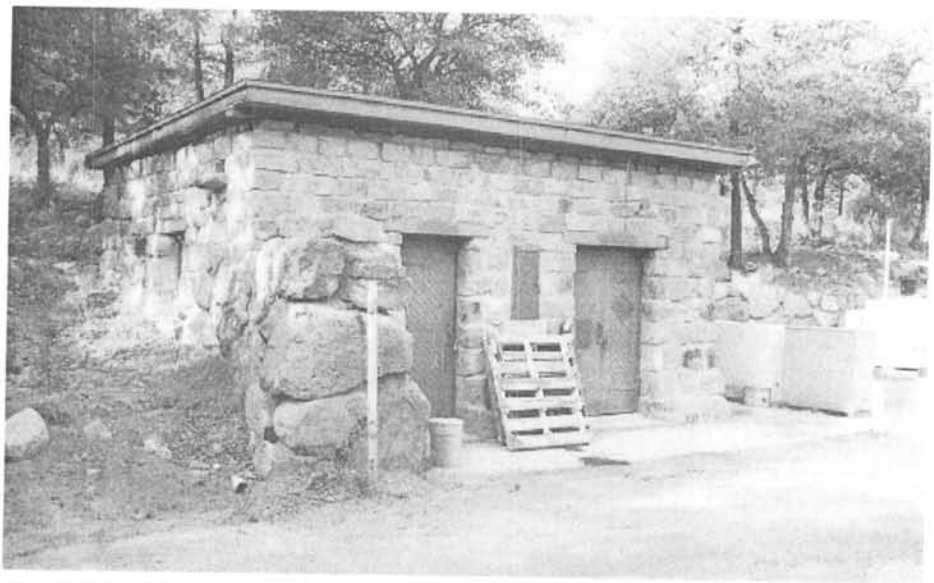


*Figure 120. The wooden gate was replaced by a chain link gate, 2002. The vertical post is all that remains today. View looking southwest.*

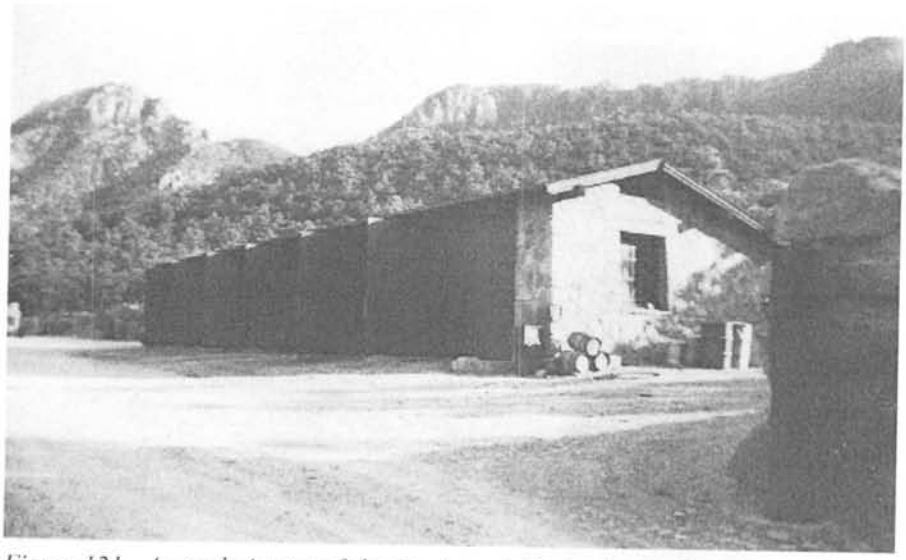


*Figure 121. An early image of the Equipment Shed prior to the western addition shows the original bay doors, 1949. View looking southeast.*

*Figure 122. The Equipment Shed with modern pulldown doors and its addition at right, 1993. View looking southwest.*

*Figure 123. Warehouse shortly after construction with three bays and 'ell' at southeast corner, 1939. Note wooden stockade at far right. View looking northeast.*

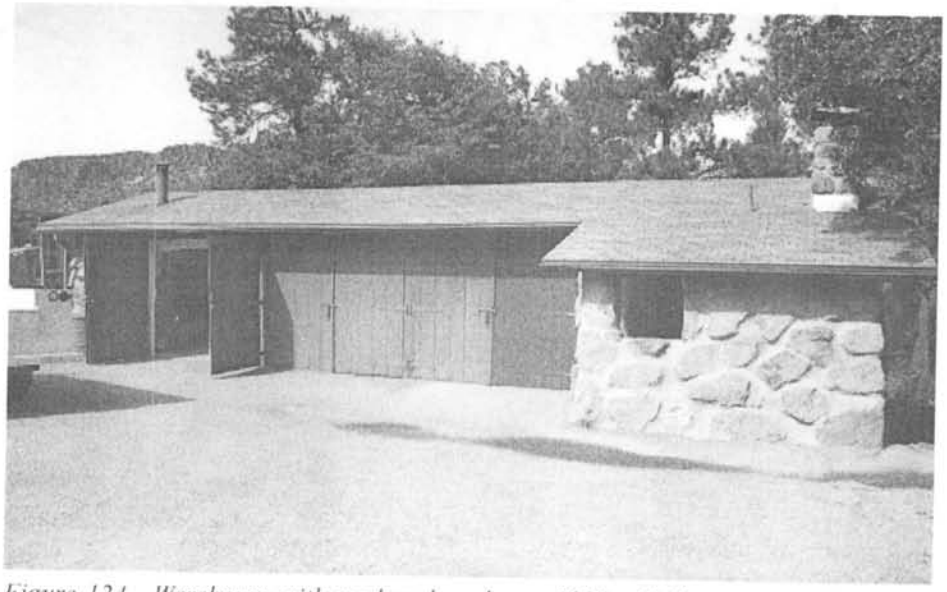


*Figure 124. Warehouse with modern bay doors, 1993. Walls are composed of uncoursed stone and are slightly battered. Note the decreasing size of stone from the foundation up. View looking northwest.*

*Figure 125. The Power House and Laundry incorporates the utility wall as part of its north and west faces, 2002. View looking southwest.*

*Figure 126. The south face of the Power House and Laundry walls are composed of rectangular cut block and show little batter, 1949. Note the wooden stockade on the left hand side. View looking north.*

*Figure 127. Porch entrance to Ranger Residence #1, 2002. Stonemasonry includes strongly battered walls constructed of large, uncut rubble. View looking south.*

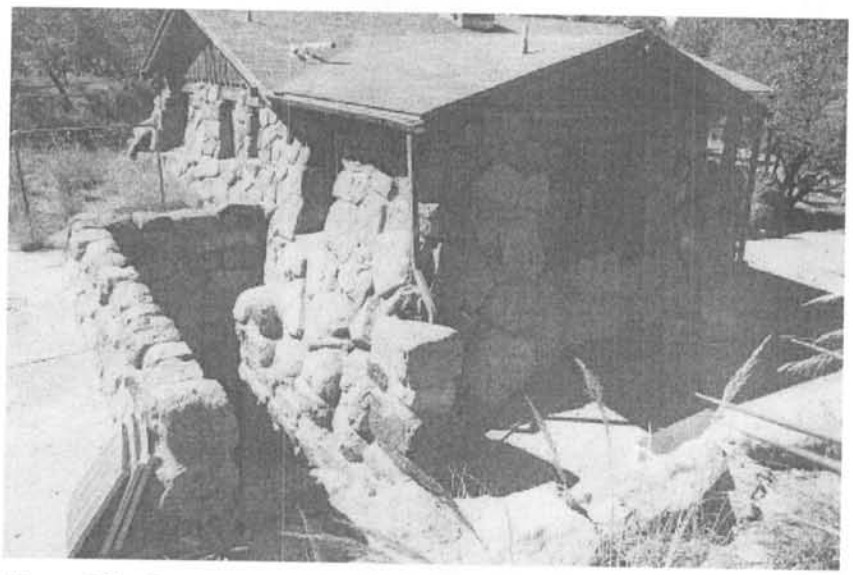


*Figure 128. Basement entrance to Residence #1, 2002. View looking west.*

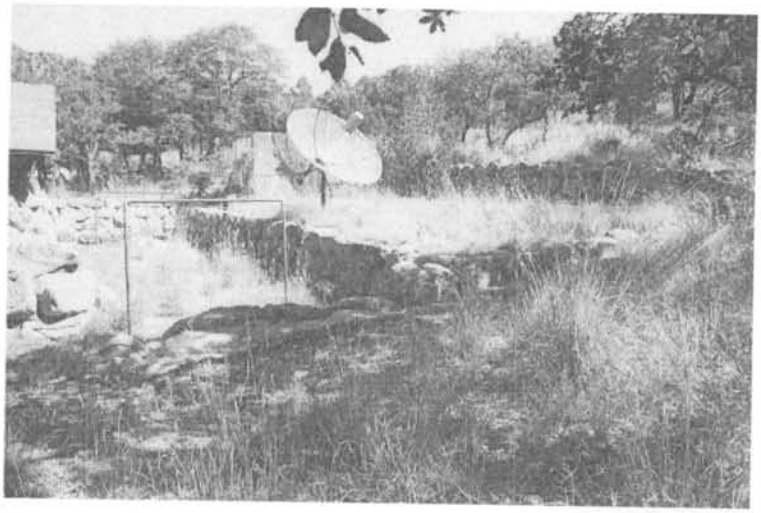


*Figure 129. Terraced backyard for Residence #1 first constructed as children's play area, 2002. View looking east.*

*Figure 130. Residence #2, 1939. Note stone retaining wall at left. View looking southwest.*

*Figure 131. Stone-veneered front porch of Residence #2, 1993. View looking southwest.*

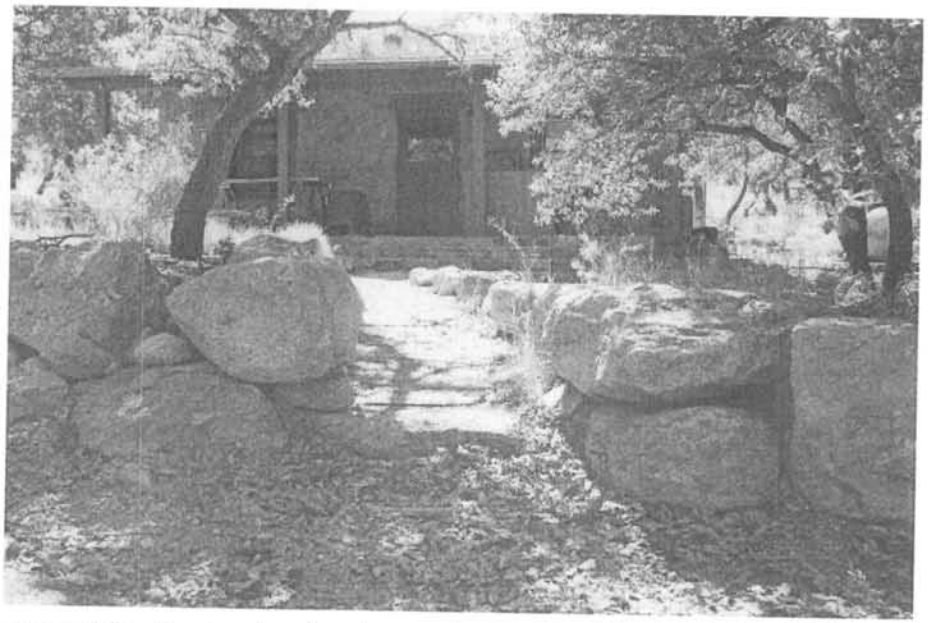


*Figure 132. Frontyard and pathway to Residence #2, 2002. View looking southwest.*

*Figure 133. Root cellar in backyard of Residence #2, 1993. View looking southeast.*

*Figure 134. Front of Residence #3 shows stonemasonry with rectangular cut block and strongly battered walls, 1949. Note walkway and vegetation in front yard. View looking east.*

*Figure 135. Basement entrance at rear of Residence #3, 1949. Note diminishing size of rock work from foundation up. View looking southwest.*

*Figure 136. Recent image of Residence #3 illustrates changes to front yard including lowering of driveway and construction of retaining Wall, 2002. View looking east.*

## FIGURE LIST AND SOURCES

Figure 1. Governor George W. P. Hunt and Edward Riggs preparing to tour the Wonderland of Rocks, 1923. Chiricahua National Monument Archives.

Figure 2. Old Forest Service road terminates at primitive campground, 2002. Robin L. Pinto.

Figure 3. Blasting overhanging rock on Bonita Canyon Highway. Chiricahua National Monument Archives.

Figure 4. Air compressor used for drilling rock on Bonita Canyon Highway. Chiricahua National Monument Archives.

Figure 5. Clearing Bonita Canyon Highway after blasting. Chiricahua National Monument Archives.

Figure 6. Shovel truck used on Bonita Canyon Highway. Chiricahua National Monument Archives.

Figure 7. Backsloping on Bonita Canyon Highway. Chiricahua National Monument Archives.

Figure 8. Clearing slide debris on Bonita Canyon Highway. Chiricahua National Monument Archives.

Figure 9. Road scars on Bonita Canyon Highway, 1935. Chiricahua National Monument Archives.

Figure 10. Road scars on Bonita Canyon Highway, 2003. R.L. Pinto.

Figure 11. CCC enrollees reconstructed many Bureau of Public Roads culverts. Chiricahua National Monument Archives.

Figure 12. Riprap along Bonita Canyon Creek, 2004. R.L. Pinto.

Figure 13. Old BPR borrow pit located near Campground and later used by CCC for dumping road construction debris, 2003. R.L. Pinto.

Figure 14. Old BPR borrow pit located near north slope of Sugarloaf Mountain and partially covered with topsoil by CCC road crew to encourage revegetation, 2003. R.L. Pinto.

Figure 15. CCC road crew obliterating old Forest Service road, 1935. Chiricahua National Monument Archives.

Figure 16. Obliteration of old road completed, 1935. Chiricahua National Monument Archives.

Figure 17. View of China Boy from Bonita Canyon Highway, 1935. George Grant. Chiricahua National Monument Archives.

Figure 18. View of China Boy from Bonita Canyon Highway, 2003. R.L. Pinto.

Figure 19. View of rhyolite columnar features from Bonita Canyon Highway, 1935. George Grant. Chiricahua National Monument Archives.

Figure 20. View from Natural Bridge trail pullout on Bonita Canyon Highway. 2003. R.L. Pinto.

Figure 21. CCC trail crew using air-powered jackhammer to cut through rock. Chiricahua National Monument Archives.

Figure 22. Trail crews used a portable hoist system with boom and winch to move large rocks, 1935. Chiricahua National Monument Archives.

Figure 23. Evidence of drill work in upper slope cuts on Lower Rhyolite Trail, 2002. R.L. Pinto.

Figure 24. Retaining walls on Lower Rhyolite Trail show damage from rainstorms, 2002. R.L. Pinto.

Figure 25. Echo Canyon trail contains numerous constructed features: water bars, retaining walls, and drainage channels, 2002. R.L. Pinto.

Figure 26. Trail feature known as 'Wall Street' on Echo Canyon trail shortly after completion. Chiricahua National Monument Archives.

Figure 27. Modern photograph of 'Wall Street' shows extent of trail base erosion, 2003. R.L. Pinto.

Figure 28. Echo Canyon dam was constructed of concrete and faced with stone, 1993. Dewey Livingston. Chiricahua National Monument Archives.

Figure 29. Echo Canyon dam is now filled with sediment, 2004. R.L. Pinto.

Figure 30. Echo Canyon trail descends through forest of oak, pine and rhyolite, 1939. Chiricahua National Monument Archives.

Figure 31. Large retaining walls on upper Sarah Deming trail, 2003. R.L. Pinto.

Figure 32. Water bars, drainage channels, and drill marks on upper Sarah Deming trail, 2003. R.L. Pinto.

Figure 33. View from lower Sarah Deming trail showing three layers of volcanic tuff found in the Monument, 2003. R.L. Pinto.

Figure 34. View from Ed Riggs trail of Upper Rhyolite Canyon, 2003. R.L. Pinto.

Figure 35. Portions of Ed Riggs trail are cut from rock slope; others are built up with retaining walls. Jackhammer drill marks are visible on the right slope, 2003. R.L. Pinto.

Figure 36. View from Hailstone trail of the Totem Pole and the south slope of upper Rhyolite Canyon, 2003. R.L. Pinto.

Figure 37. Spherulites or 'hailstones' found on Hailstone trail, 2003. R.L. Pinto.

Figure 38. Remnant of early Ed Riggs trail parallels Upper Rhyolite trail (upper left), 2003. R.L. Pinto.

Figure 39. Portions of CCC-constructed Upper Rhyolite trail on north-facing slope of Rhyolite Canyon are still extant, 2003. R.L. Pinto.

Figure 40. Wildlife pool on Mushroom Rock trail has been partially destroyed by floods in Hunt Creek, 2003. R.L. Pinto.

Figure 41. The Mushroom Rock columnar feature viewed from Mushroom Rock trail is almost obscured by vegetation, 2003. R.L. Pinto.

Figure 42. Big Balanced Rock trail runs between rhyolite columns across the southern plateau, 2003. R.L. Pinto.

Figure 43. Big Balanced Rock trail provides southern views of the central Chiricahua Mountain Range, 2003. R.L. Pinto.

Figure 44. Big Balanced Rock, 1935. George Grant. Chiricahua National Monument Archives.

Figure 45. Pinnacle Balanced Rock on Heart of Rocks trail, 2003. R.L. Pinto.

Figure 46. Trail signs constructed by the carpentry crew to identify many named rhyolite features and other points of interest. Chiricahua National Monument Archives.

Figure 47. Stairs on the Heart of Rocks trail, 2003. R.L. Pinto.

Figure 48. View West of lower Rhyolite Canyon, Sulphur Spring Valley, Dos Cabezas from the Heart of Rocks trail, 2003.

Figure 49. View North of the Wonderland of Rocks, Sugarloaf Mountain, and Cochise Head from the Heart of Rocks trail, 2003. R.L. Pinto.

Figure 50. Narrow trails and stairs make the Heart of Rocks trail suitable only for foot traffic, 2003. R.L. Pinto.

Figure 51. Historic advertisement using image of Natural Bridge. Chiricahua National Monument Archives.

Figure 52. Natural Bridge trail ascends out of North Bonita Canyon through a series of steep switchbacks, 2003. R.L. Pinto.

Figure 53. Natural Bridge trail traverses the upper plateau before descending into Picket Park, 2003. R.L. Pinto.

Figure 54. View of Natural Bridge feature from the end of trail, 2003. R.L. Pinto.

Figure 55. View from Inspiration Point of Rhyolite Canyon and Sulphur Springs Valley. Note Hailstone trail on below rhyolite columns on right, 2002. R.L. Pinto.

Figure 56. View looking southwest of the Wonderland of Rocks and Sulphur Springs Valley from Massai Point, 2003. R.L. Pinto.

Figure 57. Massai Point Turnaround, the terminus of Bonita Canyon Highway, 2003. View looking north R.L. Pinto.

Figure 58. Aerial photograph showing Bonita Canyon Highway, Massai Point turnaround (bottom right), parking areas (west of Bonita Canyon Highway), Barbeque Hill (east of Bonita Canyon Highway), 1935. North is at the top of the image. Chiricahua National Monument Archives.

Figure 59. Parking lot at the Dedication Ceremony, 1934. Chiricahua National Monument Archives.

Figure 60. Barbeque Hill at Massai Point at Dedication Ceremony, 1934. View looking northeast. Chiricahua National Monument Archives.

Figure 61. Barbeque Hill at Massai Point, 2003. View looking northeast. R.L. Pinto

Figure 62. Remains of temporary access road into Barbeque Hill, 2003. View looking northwest. R.L. Pinto.

Figure 63. Camp NM2A enrollee tends the 85-foot long barbeque pit of beeves at Dedication Ceremony, 1934. View looking west. Chiricahua National Monument Archives.

Figure 64. Remains of barbeque pit from Dedication Ceremony, 2003. View looking west. R.L. Pinto.

Figure 65. Visitors assembled in Massai Point Amphitheatre listen to dignitaries on Speakers Rock, 1934. View looking south. Chiricahua National Monument Archives.

Figure 66. Speakers Rock at Massai Point incorporates large boulders into base of rostrum and boundary of stairs, 2004. View looking northwest. R.L. Pinto.

Figure 67. Speakers Rock prior to removal of iron handrails and construction of seating wall on north side. View looking south. Chiricahua National Monument Archives.

Figure 68. View of the amphitheatre from Speakers Rock showing trail, steps and handrailing on left, 2002. View looking northeast. R.L. Pinto.

Figure 69. Construction of Orientation Station walls 1939. Note large boulder at right incorporated into Northwest wall. View looking west. Chiricahua National Monument Archives.

Figure 70. Orientation Station following completion of construction and landscaping in 1940. View looking east. Chiricahua National Monument Archives.

Figure 71. Terrace and seating wall at entrance to Orientation Station, 2002. View looking northwest. R.L. Pinto

Figure 72. Custodian Frank Fish examines relief model of CNM and natural history information in wall and window cases, 1941. View looking northwest. Chiricahua National Monument Archives.

Figure 73. Relief model, window and wall displays, 2003. View looking northwest. R.L. Pinto.

Figure 74. CCC enrollees create opening in Ranger Station to accommodate east wing of Administration Building, 1937. Note excavation for basement on left. View looking northwest. Chiricahua National Monument Archives.

Figure 75. Administration Building, paths, and parking area, 1939. View looking south. Chiricahua National Monument Archives.

Figure 76. Rear porch and entry to Administration Building, 1960. View looking northeast. Chiricahua National Monument Archives.

Figure 77. Display cases in Museum wing of Administration Building, 1941. Wrought iron lighting fixture is similar, though not identical, to those designed by Cecil Doty. Chiricahua National Monument Archives.

Figure 78. Front entrance to Visitor Center with steps, porch, and stone-veneered walls, 2002. View looking southwest. R.L. Pinto.

Figure 79. Additional door on right was added in 1965 to rear of Administration Building, 2002. R.L. Pinto.

Figure 80. Museum wing double French doors were replaced by a single door after 1965. Note entrance sign carved by CCC carpentry shop in lintel above door, 2002. R.L. Pinto.

Figure 81. Recent changes to Administration Building include windows, doors, and walkway, 2003. View looking south. R.L. Pinto.

Figure 82. Parking area and entrance were both enlarged in 1965 following construction of Visitor Center, 2003. View looking east. R.L. Pinto.

Figure 83. Stairs to Residential Area from rear of Visitor Center, 1993. Dewey Livingston. Chiricahua National Monument Archives.

Figure 84. Entrance to Powder Magazine cave. Note vent in upper right. View looking north. Chiricahua National Monument Archives.

Figure 85. Ruins of first Cap Magazine, 2002. Roof has partially collapsed. Note remains of wooden vent. View looking northwest. R.L. Pinto.

Figure 86. Second Cap Magazine with steel door, vigas, and replaced roof, 2003. View looking west. R.L. Pinto.

Figure 87. CCC enrollees lay wire mash prior to pouring concrete in first campground "dip," 1935. View looking southwest. Chiricahua National Monument Archives.

Figure 88. Second concrete dip, 1935. View looking southeast. Chiricahua National Monument Archives.

Figure 89. Stones mark boundary of parking spur associated with each campsite, 1935. Chiricahua National Monument Archives.

Figure 90. CCC crews built wooden picnic tables and stone-and-mortar camp grills for each campsite unit, 1935. Chiricahua National Monument Archives.

Figure 91. Campsite with tent platform, picnic table, and grill, 2003. R.L. Pinto.

Figure 92. Construction of Campground Comfort Station, 1935. View looking northeast. Chiricahua National Monument Archives.

Figure 93. Modern campground comfort station with pathways and handicap access, 1993. View looking southwest. Dewey Livingston. Chiricahua National Monument Archives.

Figure 94. Campground Bath and Laundry House in 1970 was converted to employee residence, 1993. View looking west. Dewey Livingston. Chiricahua National Monument Archives.

Figure 95. Rectangular layout of CCC Campsite as seen from water tower location, 1936. From left to right on far side of marching grounds: dispensary (in sycamore trees), recreation hall, and 4 barracks. Below left is mess hall. View looking southeast. Chiricahua National Monument Archives.

Figure 96. Photographic match to Figure 95, 2004. Vegetation has begun to encroach on open meadow. Note chimney ruin from CCC mess hall/Silver Spur Lodge in lower left. View looking southeast. R.L. Pinto.

Figure 97. Evening Retreat in marching grounds at CCC Campsite. Mess hall on left and Army headquarters behind. View looking northeast. Chiricahua National Monument Archives.

Figure 98. Interior of truck garage in National Park Service area at CCC Campsite. Chiricahua National Monument Archives.

Figure 99. CCC enrollees display trail signage in carpentry shop at CCC Campsite. Chiricahua National Monument Archives.

Figure 100. Chimney ruins, 2002. One of two fireplaces added to CCC mess hall following sale to Silver Spur Guest Ranch. View looking southeast. R.L. Pinto.

Figure 101. Foundation remains of Army buildings at CCC Campsite, 2002. R.L. Pinto.

Figure 102. Remains of CCC access road to Campsite, 2002. R.L. Pinto.

Figure 103. Row of junipers planted by CCC enrollees for Campsite beautification, 2002. View looking west. R.L. Pinto.

Figure 104. Remains of Cima Bear Cage built by CCC enrollees to house pet bear cub, 1993. Dewey Livingston. Chiricahua National Monument Archives.

Figure 105. CCC enrollees used mules to haul materials to Sugarloaf Mountain during construction of the Lookout, 1935. Note boxes of dynamite for excavating the Lookout foundation. View looking north. Chiricahua National Monument Archives.

Figure 106. Sugarloaf Lookout shortly after completion illustrates the National Forest Service L-4 design. View looking southwest. Chiricahua National Monument Archives.

Figure 107. Sugarloaf Lookout, 1949. Note cistern on south face. View looking northeast. Chiricahua National Monument Archives.

Figure 108. Sugarloaf Lookout, 2002. View looking southwest. R.L. Pinto.

Figure 109. The Osborne Firefinder was installed in the Lookout shortly after construction, 2002. R.L. Pinto.

Figure 110. Early access road to Sugarloaf Mountain diverges from Bonita Canyon Highway, 1935. View looking east. George Grant. Chiricahua National Monument Archives.

Figure 111. View looking east from area near Echo Canyon parking lot, 2004. R.L. Pinto.

Figure 112. Portable air compressor used for cutting through tunnel on Sugarloaf Trail, 1935. Chiricahua National Monument Archives.

Figure 113. Section of Sugarloaf Trail shortly after completion, 1935. View looking northeast. Chiricahua National Monument Archives.

Figure 114. Sugarloaf Trail tunnel shortly after completion, 1935. Chiricahua National Monument Archives.

Figure 115. Bench and table created from tunnel debris on Sugarloaf Trail, 2002. R.L. Pinto.

Figure 116. Remains of telephone communication system between Headquarters, Sugarloaf Lookout, and NFS Portal Ranger Station, 1993. View looking northwest. Dewey Livingston. Chiricahua National Monument Archives.

Figure 117. Northeast corner of the utility wall is constructed with largely uncut, uncoursed boulders, 2002. The wall is strongly battered. Note Warehouse incorporates wall in east and north faces. View looking southwest. R.L. Pinto.

Figure 118. The Southeast retaining wall was added on to existing Equipment Shed, 2003. Note difference in stonemasonry of the Equipment Shed and adjoining utility wall. View looking northwest. R.L. Pinto.

Figure 119. Oil and Gas House, rock pier, and wooden gates at east entrance of the Utility Area, 1939. Note light fixture above door and gas pump on the far right. View looking southwest. Chiricahua National Monument Archives.

Figure 120. The wooden gate was replaced by a chain link gate, 2002. The vertical post is all that remains today. View looking southwest. R.L. Pinto.

Figure 121. An early image of the Equipment Shed prior to the western addition shows the original bay doors, 1949. View looking southeast. Chiricahua National Monument Archives.

Figure 122. The Equipment Shed with modern pulldown doors and its addition at right, 1993. View looking southwest. Dewey Livingston. Chiricahua National Monument Archives.

Figure 123. Warehouse shortly after construction with three bays and 'ell' at southeast corner, 1939. Note wooden stockade at far right. View looking northeast. Chiricahua National Monument Archives.

Figure 124. Warehouse with modern bay doors, 1993. Walls are composed of uncoursed stone and are slightly battered. Note the decreasing size of stone from the foundation up. View looking northwest. Dewey Livingston. Chiricahua National Monument Archives.

Figure 125. The Power House and Laundry incorporates the utility wall as part of its north and west faces, 2002. View looking southwest. R.L. Pinto.

Figure 126. The south face of the Power House and Laundry walls are composed of rectangular cut block and show little batter, 1949. Note the wooden stockade on the left hand side. View looking north. Chiricahua National Monument Archives.

Figure 127. Porch entrance to Ranger Residence #1, 2002. Stonemasonry includes strongly battered walls constructed of large, uncut rubble. View looking south. R.L. Pinto.

Figure 128. Basement entrance to Residence #1, 2002. View looking west. R.L. Pinto.

Figure 129. Terraced backyard for Residence #1 originally constructed as children's play area, 2002. View looking east. R.L. Pinto.

Figure 130. Residence #2, 1939. Note stone retaining wall at left. View looking southwest. Chiricahua National Monument Archives.

Figure 131. Stone-veneered front porch of Residence #2, 1993. View looking southwest. Dewey Livingston. Chiricahua National Monument Archives.

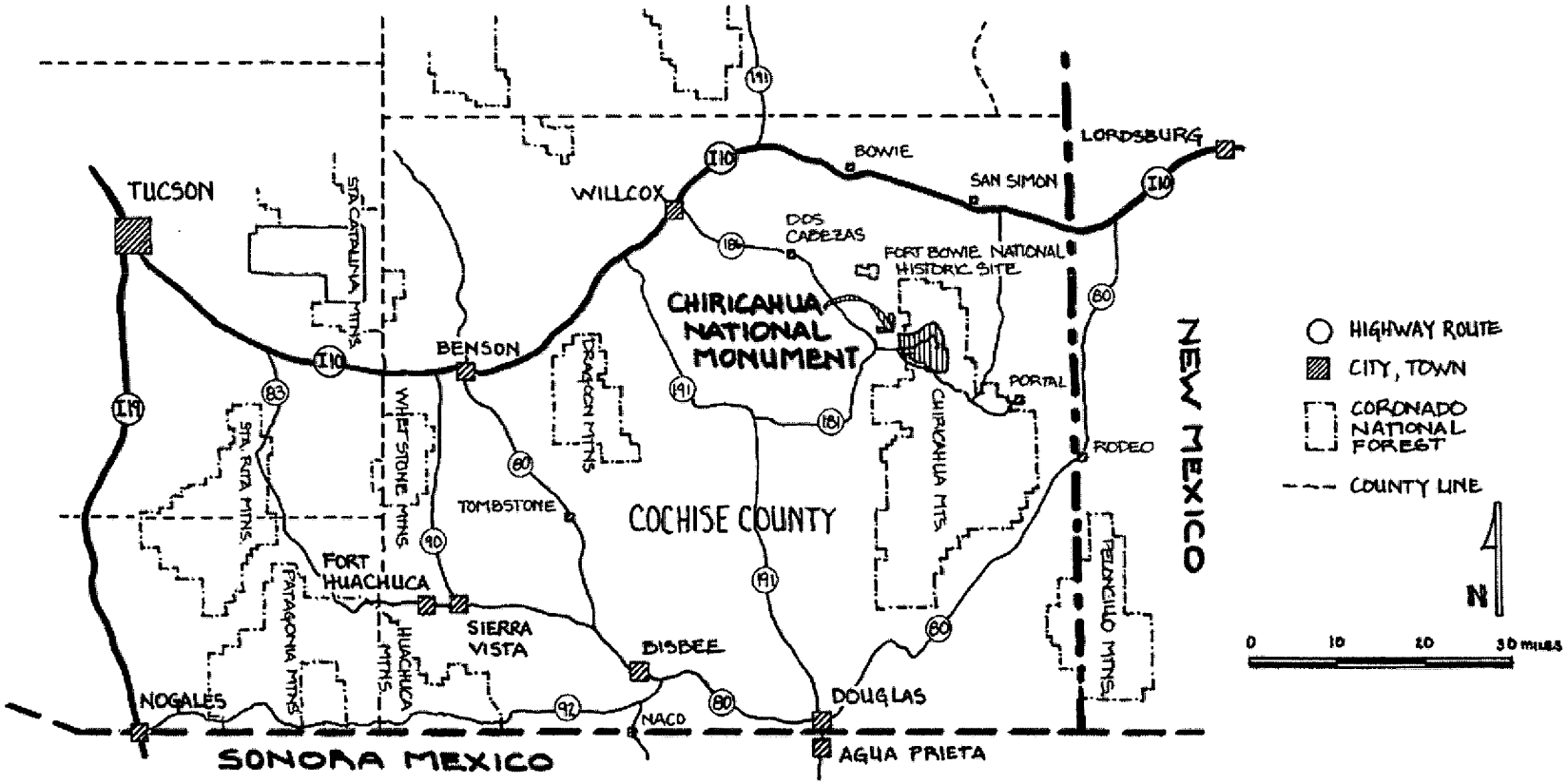
Figure 132. Front yard and pathway to Residence #2, 2002. View looking southwest. R.L. Pinto.

Figure 133. Root cellar in backyard of Residence #2, 1993. View looking southeast. Chiricahua National Monument Archives.

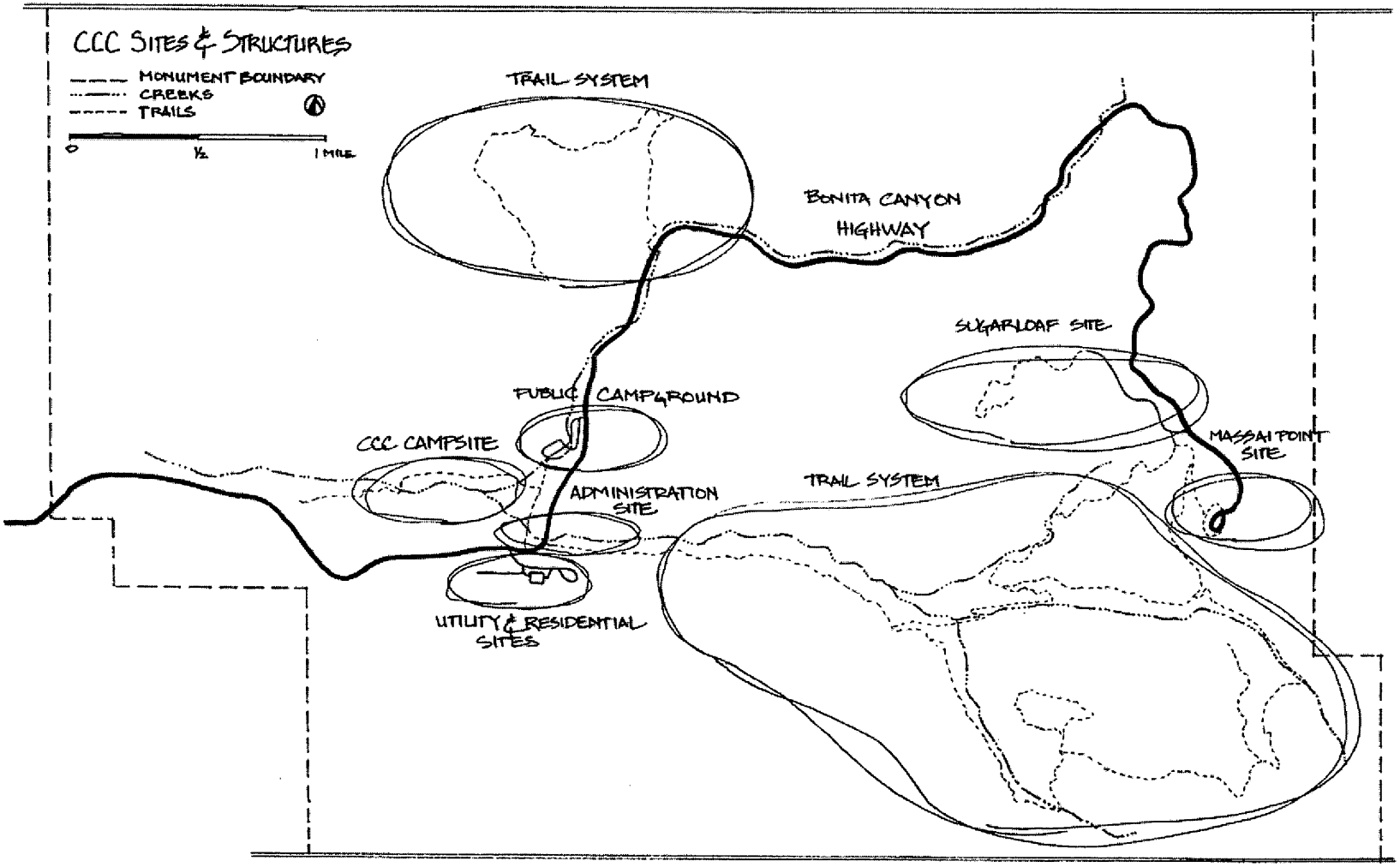
Figure 134. Front of Residence #3 shows stonemasonry with rectangular cut block and strongly battered walls, 1949. Note walkway and vegetation in front yard. View looking east. Chiricahua National Monument Archives.

Figure 135. Basement entrance at rear of Residence #3, 1949. Note diminishing size of rock work from foundation up. View looking southwest. Chiricahua National Monument Archives.

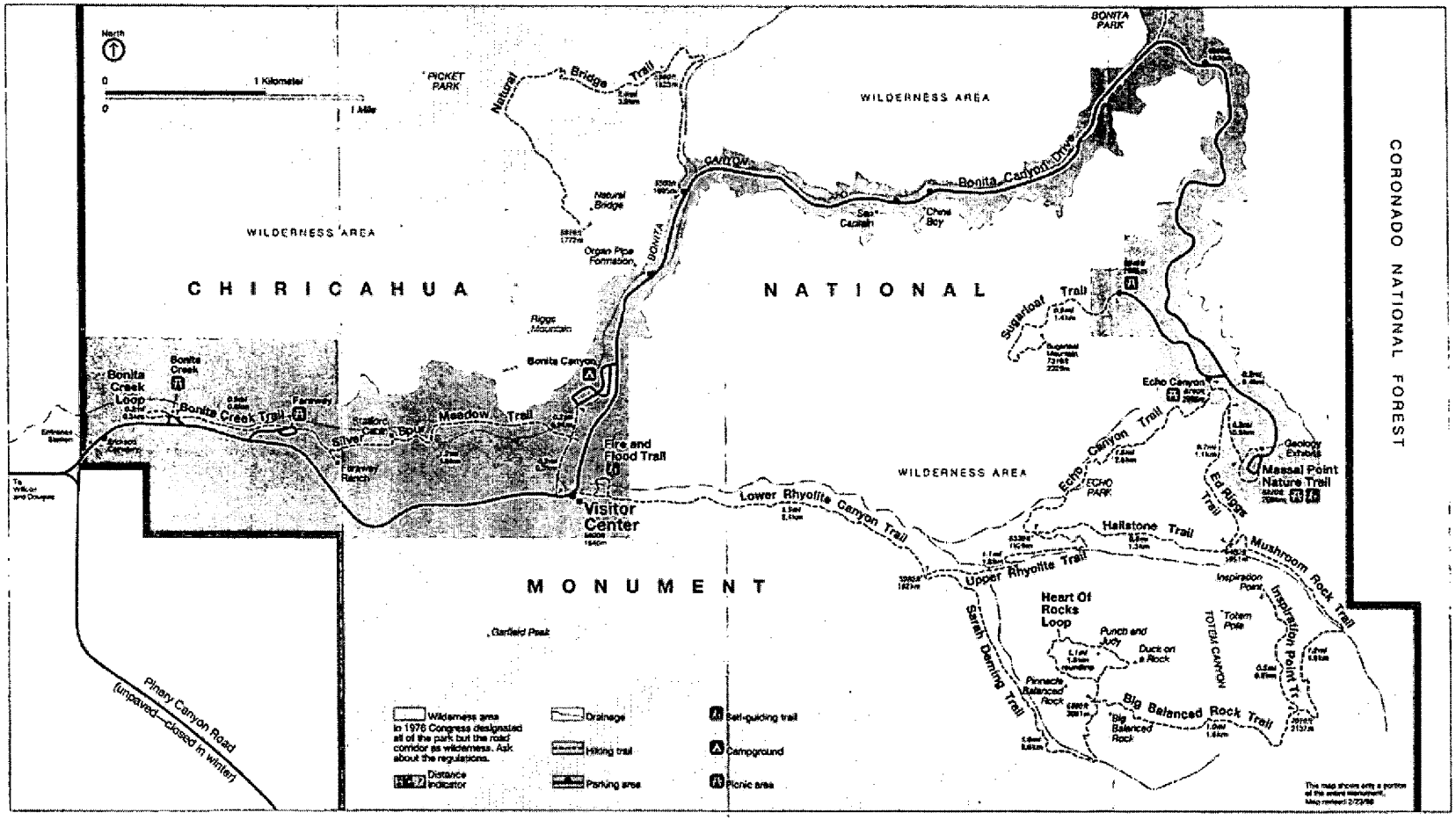
Figure 136. Recent image of Residence #3 illustrates changes to front yard including lowering of driveway and construction of retaining Wall, 2002. View looking east. R.L. Pinto.



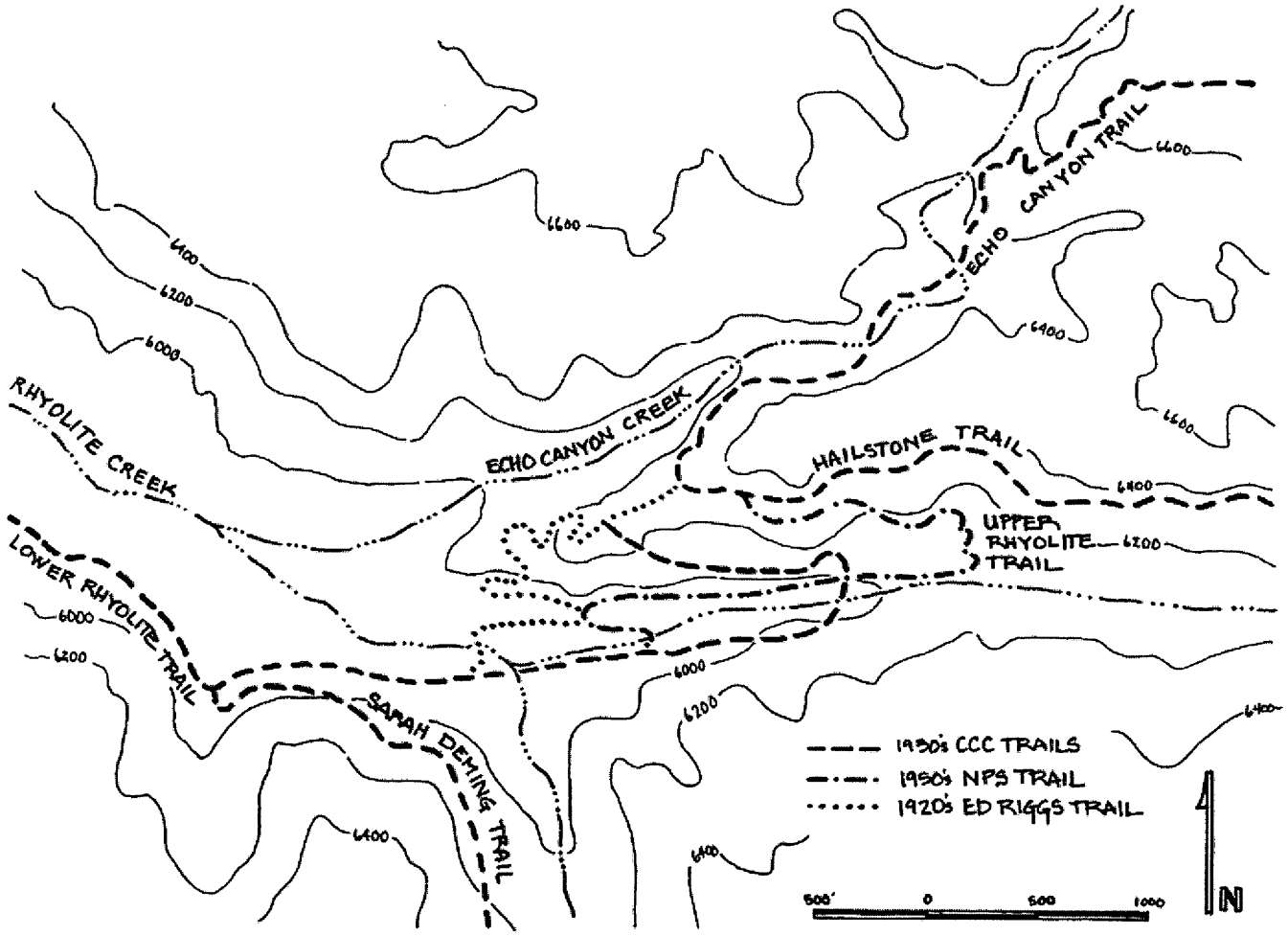

Map 1. Southeastern Arizona including Chiricahua National Monument.



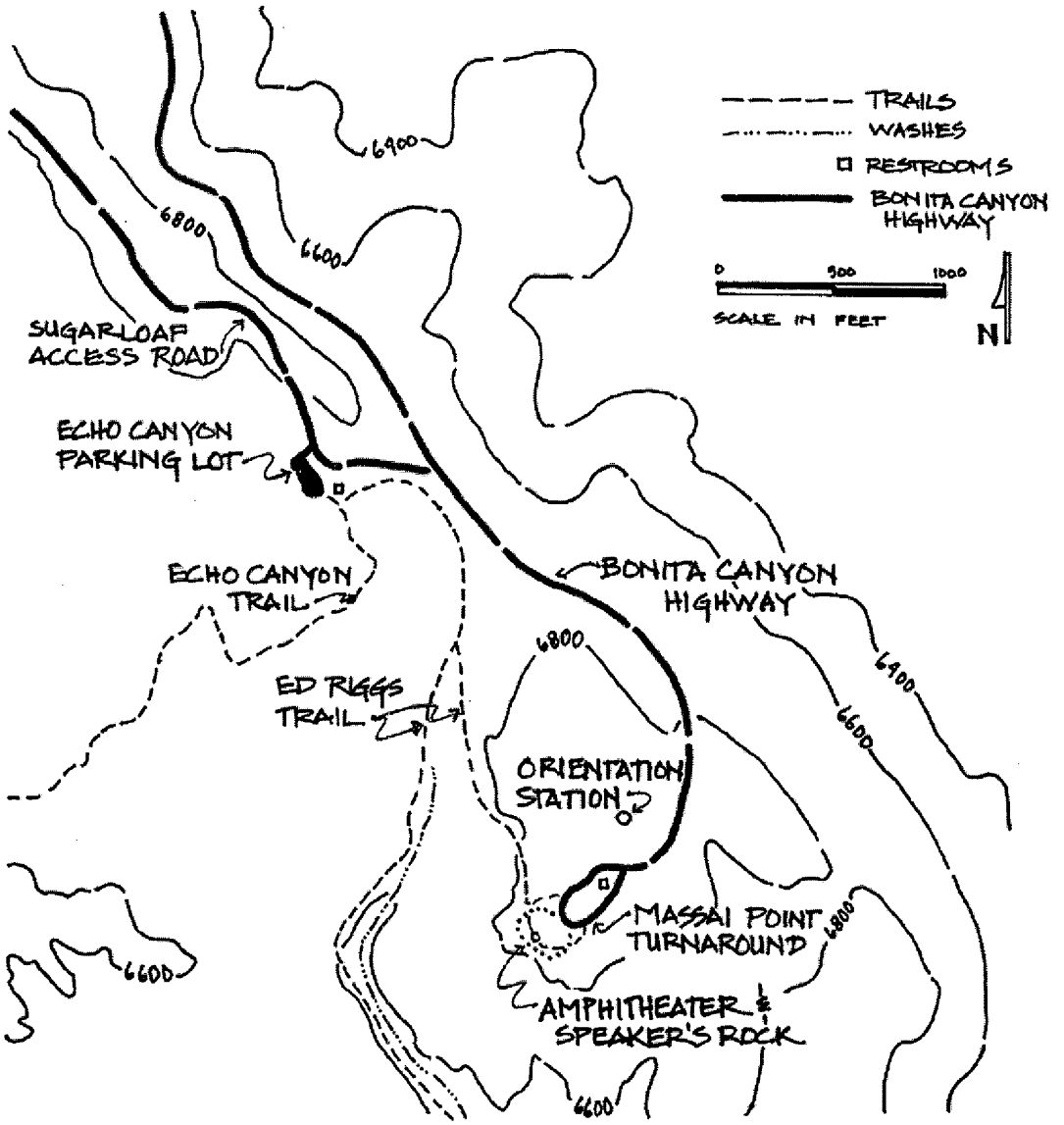

Map 2. Locations of sites and structures identified in Chiricahua National Monument Nomination.



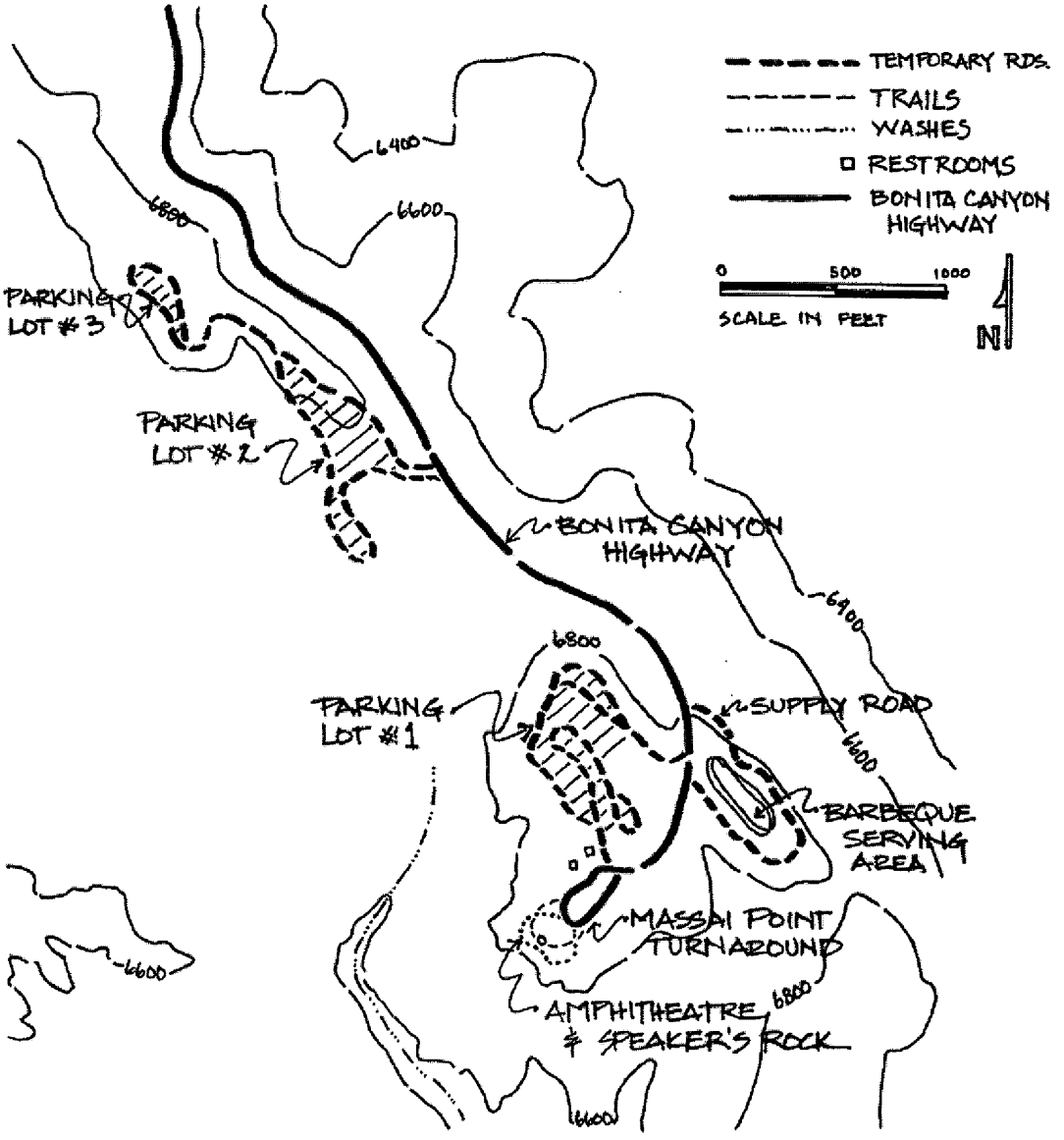

Map 3. Locations of and connections between Bonita Canyon Highway and the trail system in Chiricahua National Monument.



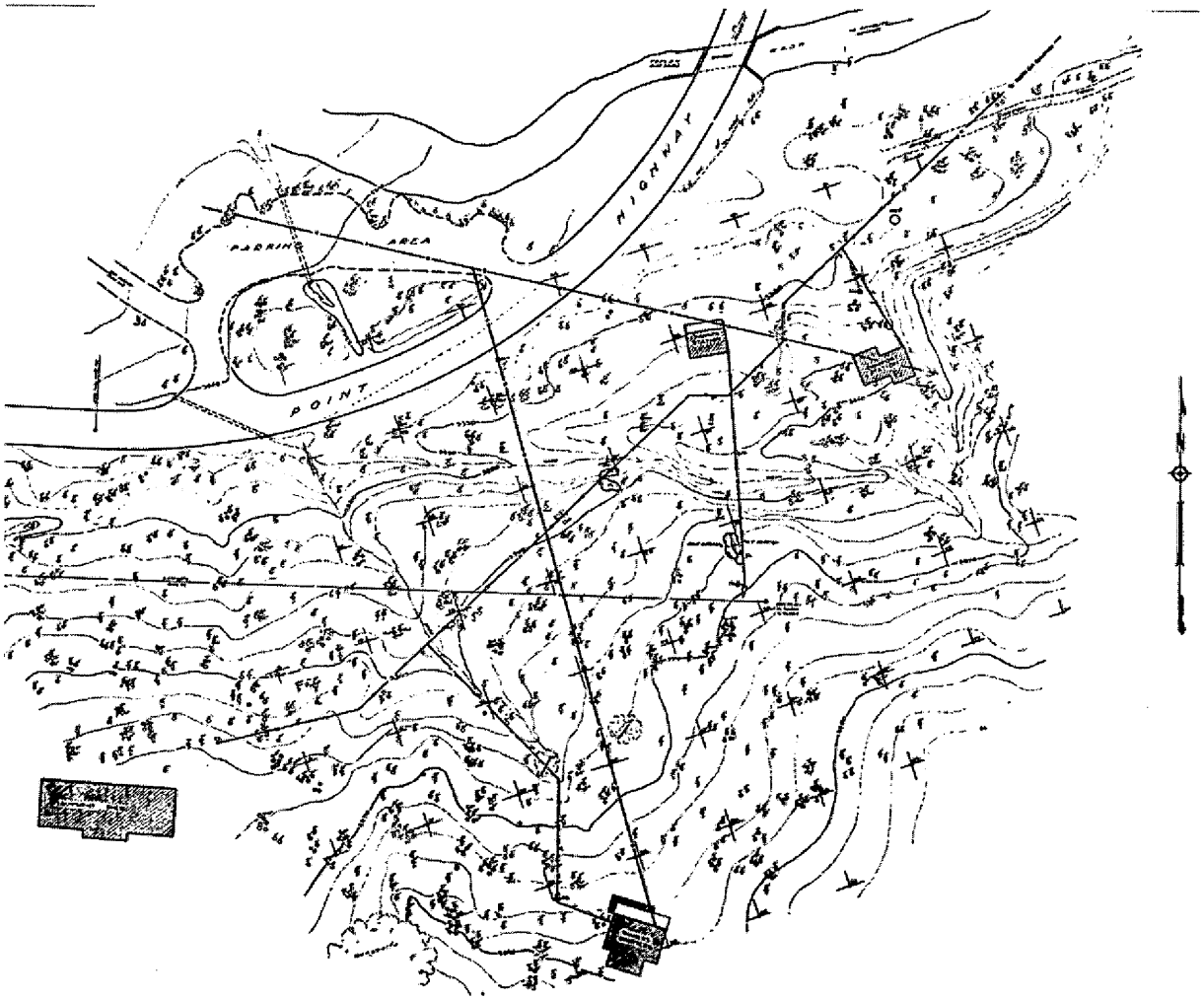

Map 4. Historic trails in Upper Rhyolite Canyon showing locations of early Ed Riggs trail, CCC-constructed trail, and present-day Upper Rhyolite trail built in the mid-1950s.



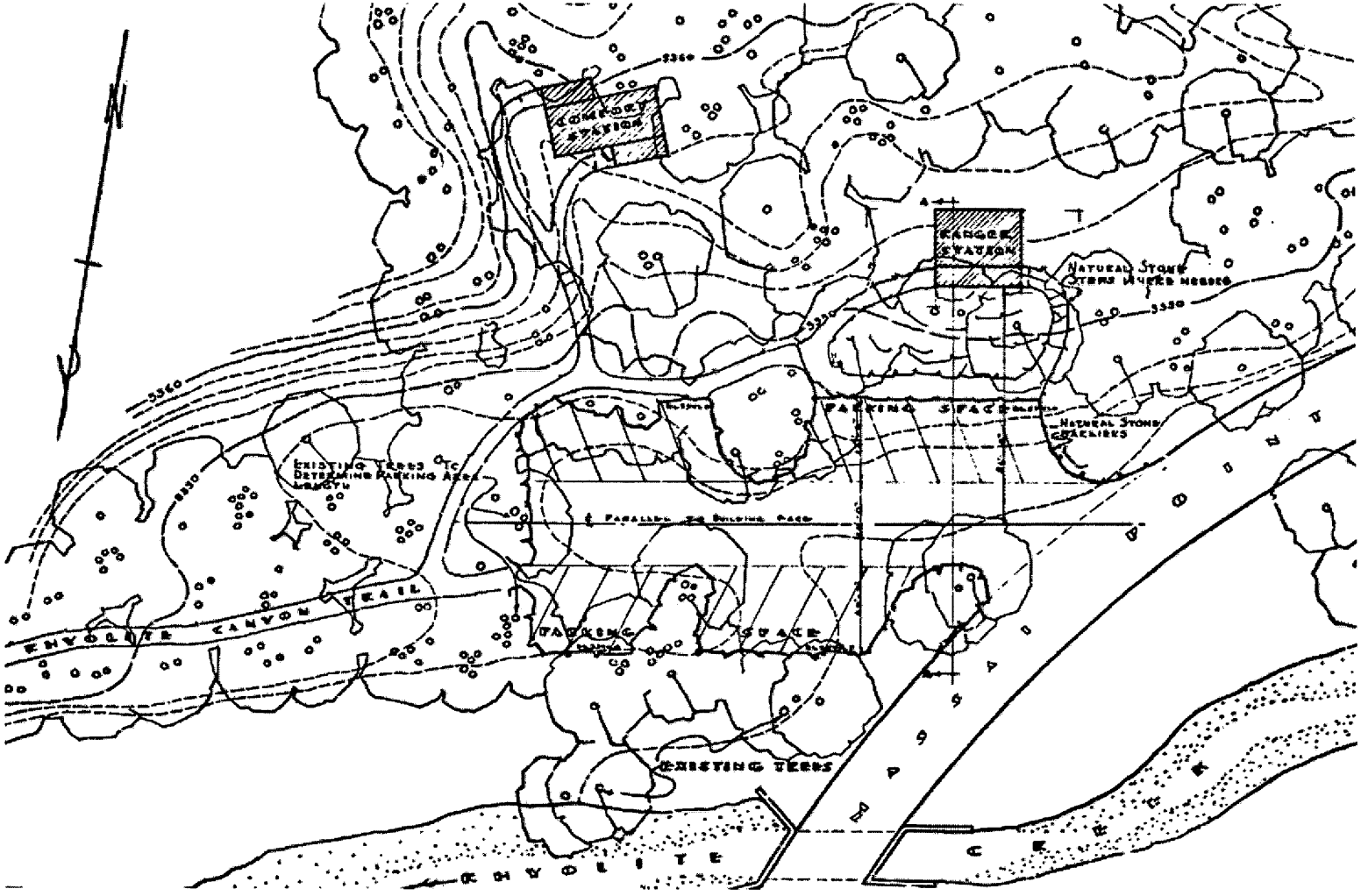

Map 5. Arrangement of Massai Point today with associated roads, trails, buildings, and structures.



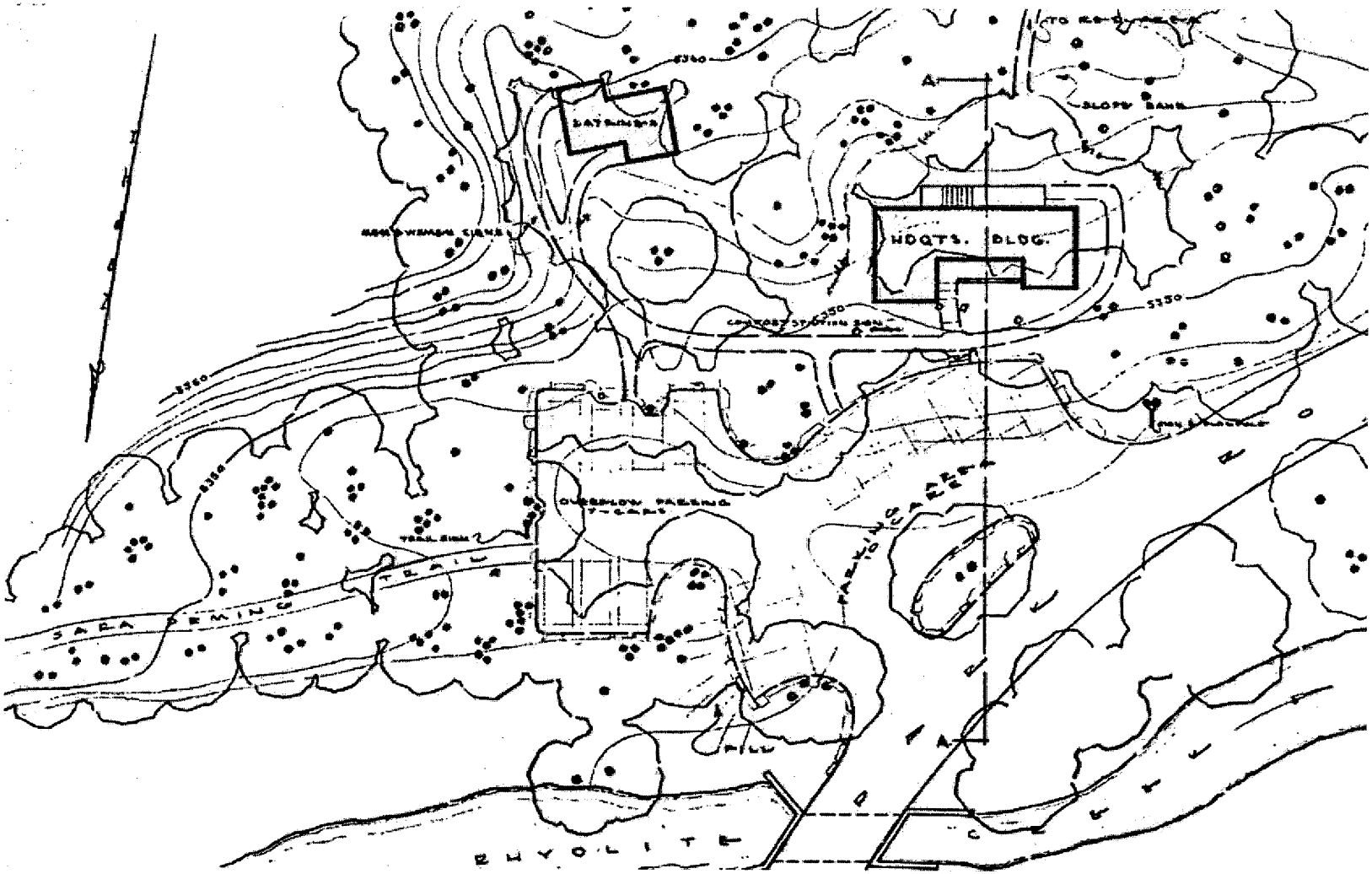

Map 6. Historic development at Massai Point for the Dedication Ceremony, September 3, 1934, showing temporary parking lots and barbecue serving area.



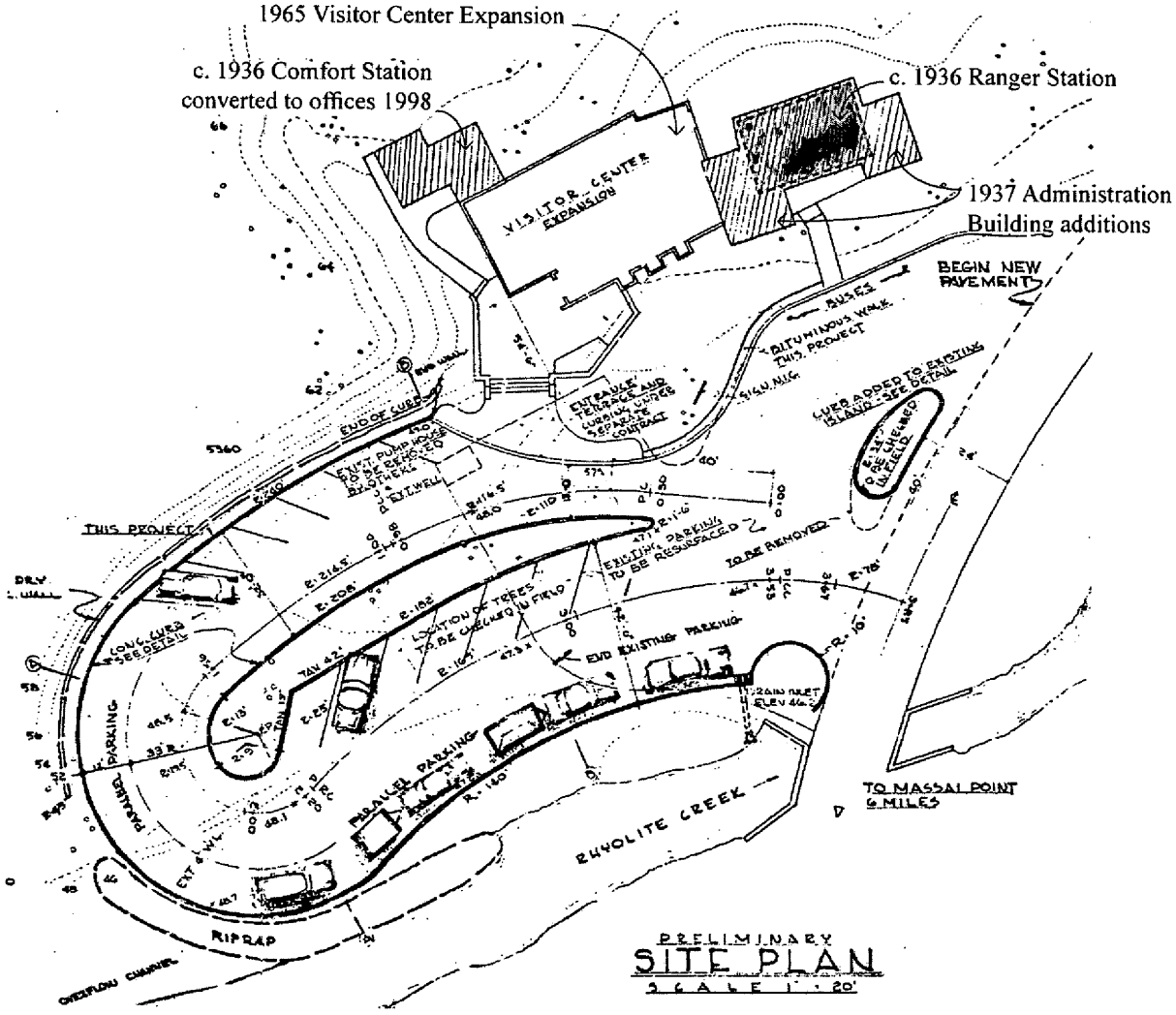

Map 7. Early survey of Administration Area with proposed locations for the Equipment Shed, Ranger Station, Comfort Station, and Ranger Residence #2, 1935.



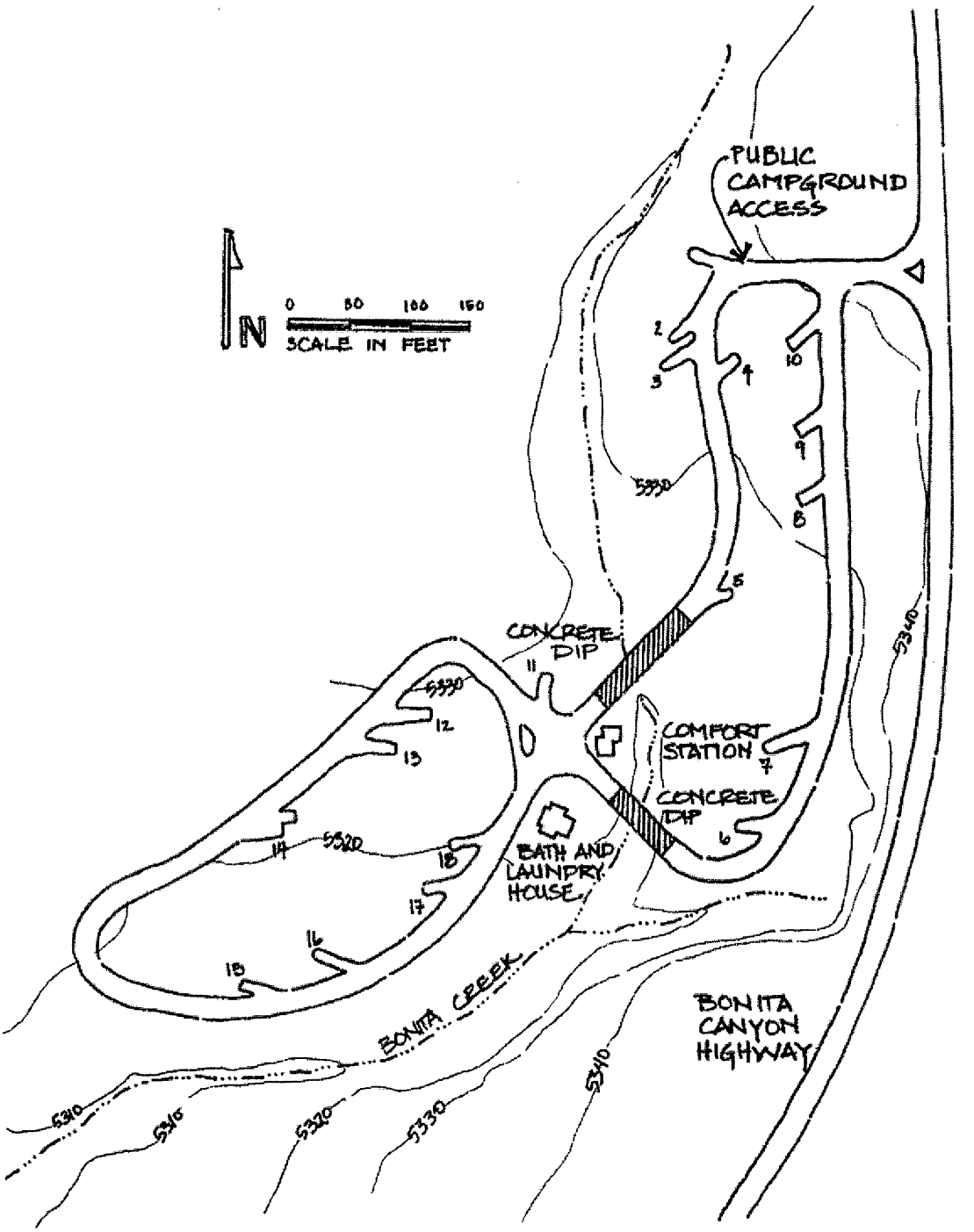

Map 8. Ranger Station and Comfort Station with pathway loop and parking area, 1936.



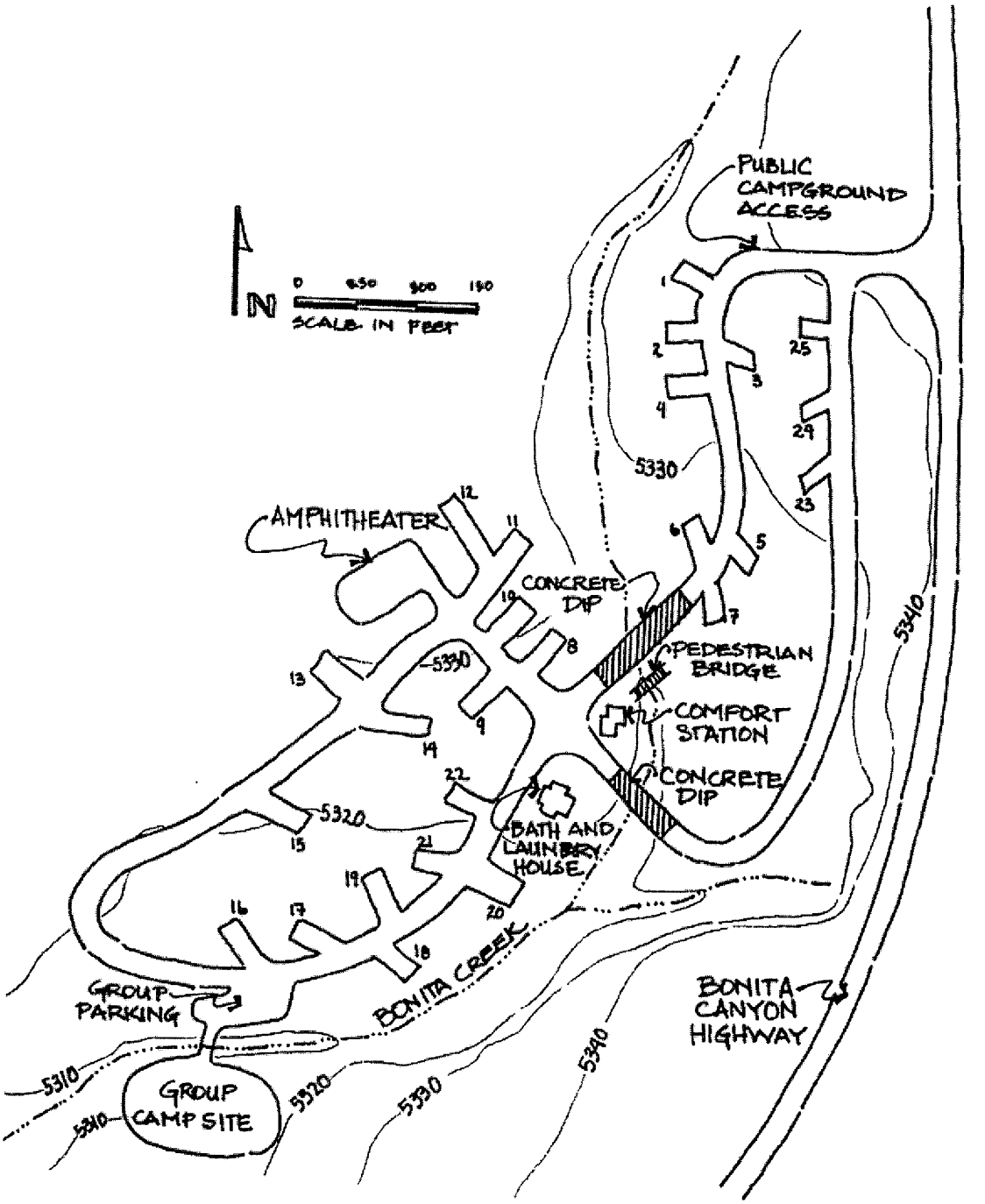

Map 9. Administration Building with pathway and parking area, 1938.



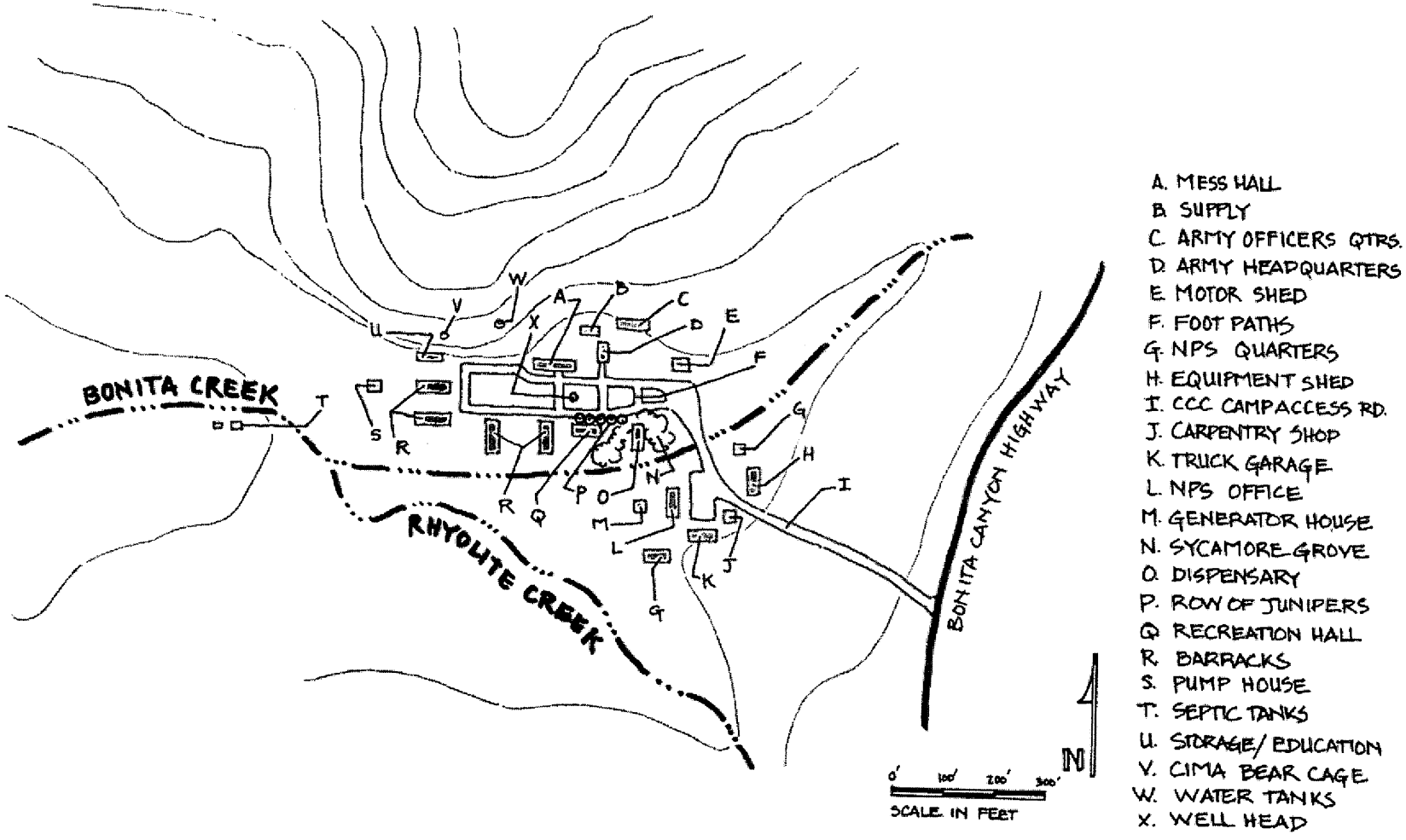

Map. 10. Development of the Visitor Center



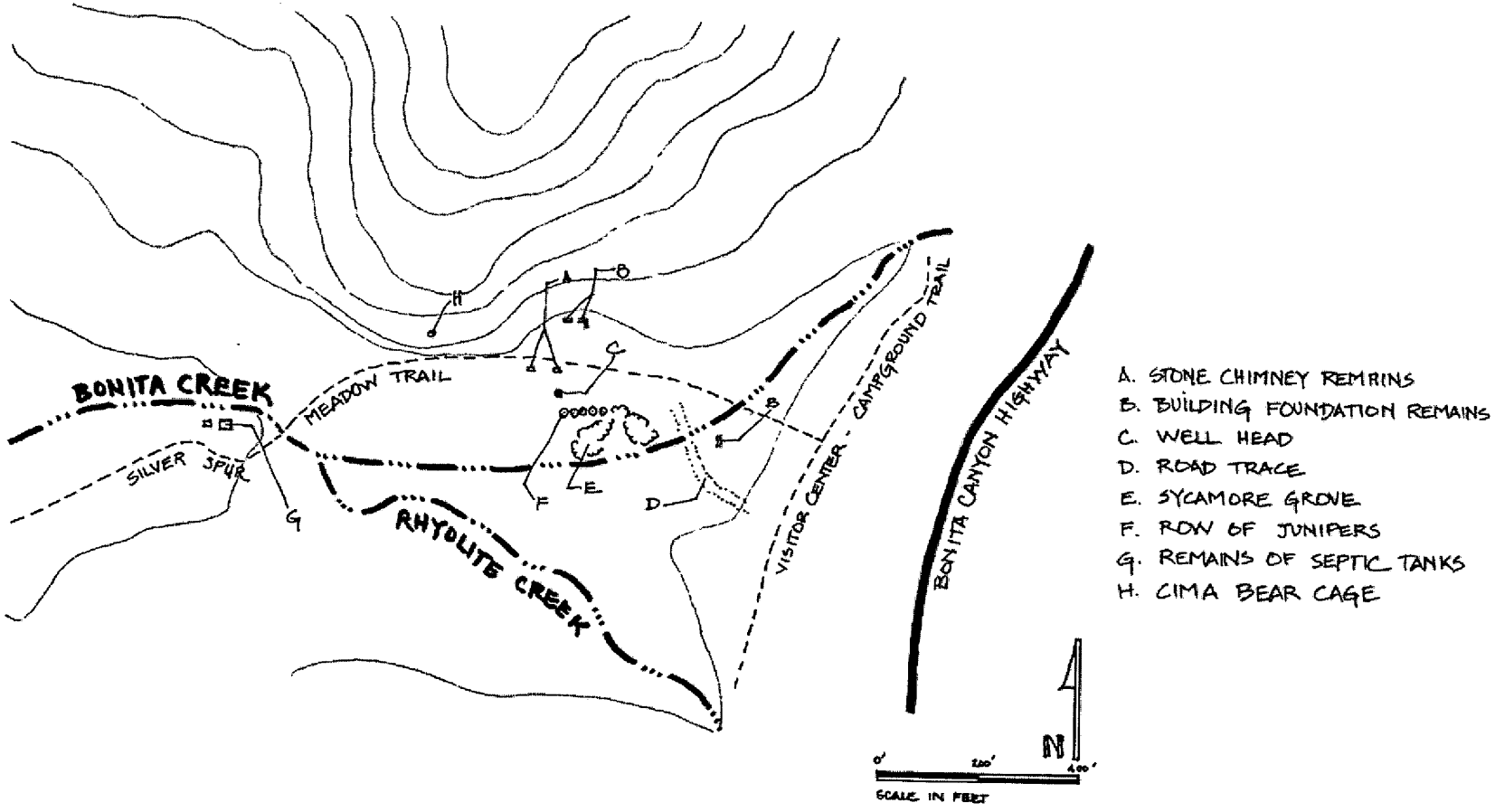

Map 11. Public Campground at Chiricahua National Monument showing historic locations of buildings, access road, and individual camping units.



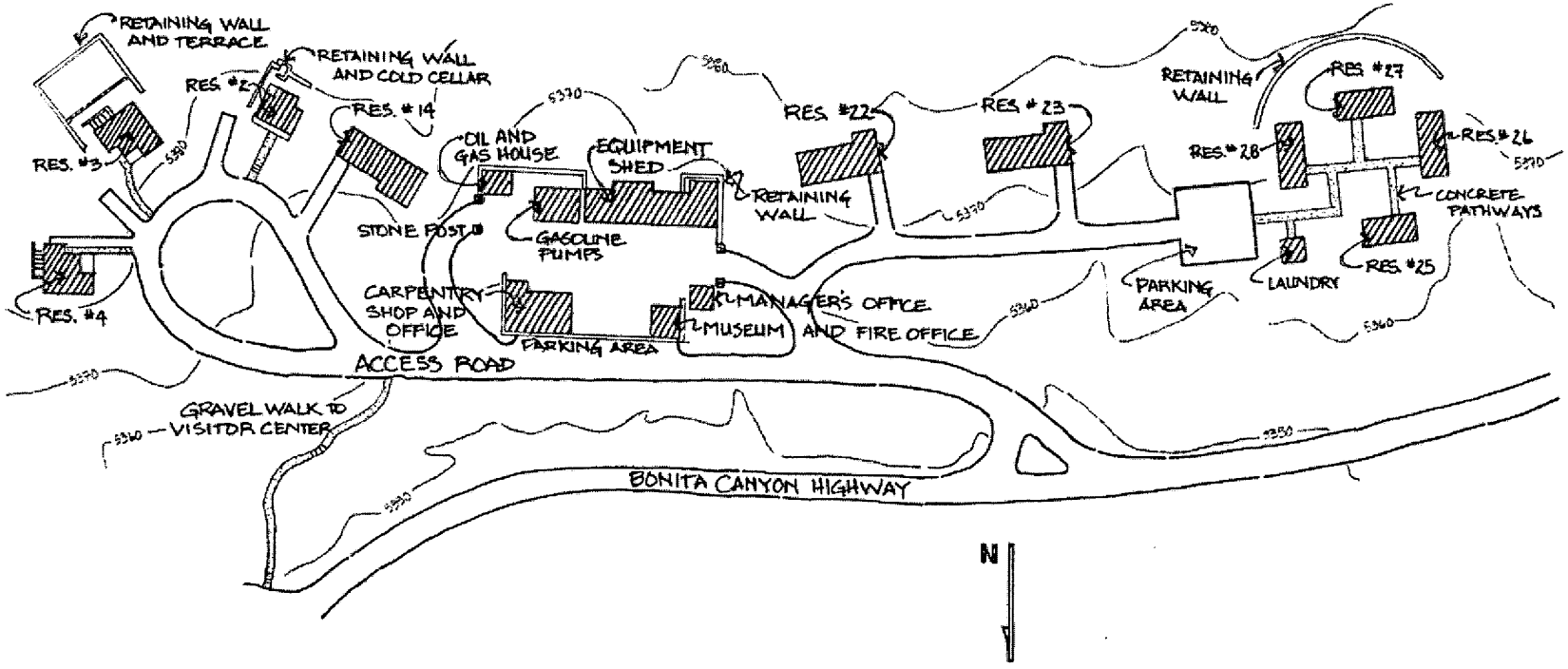

Map 12. Arrangement of Public Campground and associated buildings and structures today.



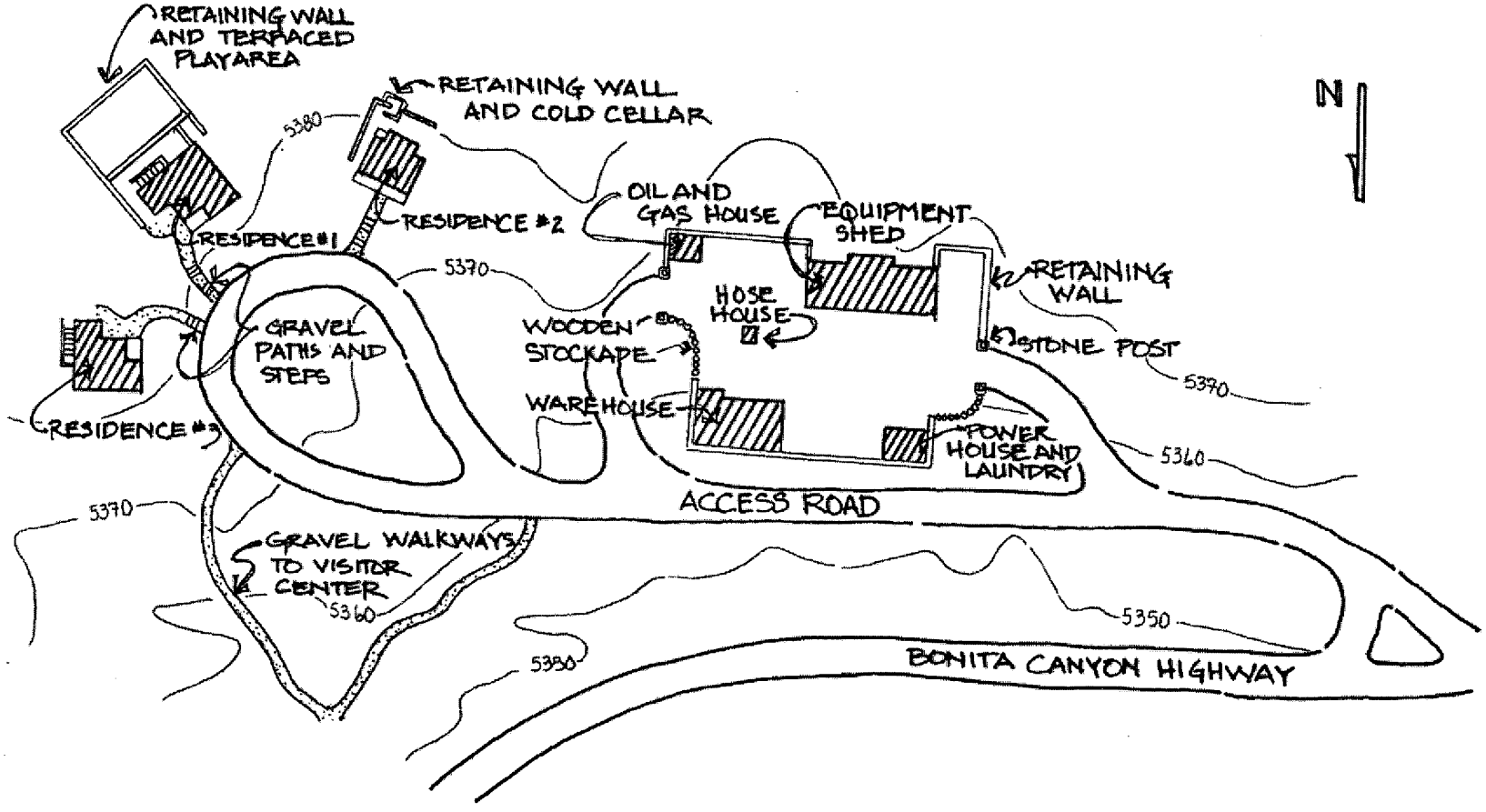

Map 13. Historic CCC Campsite as it might have existed in 1939.



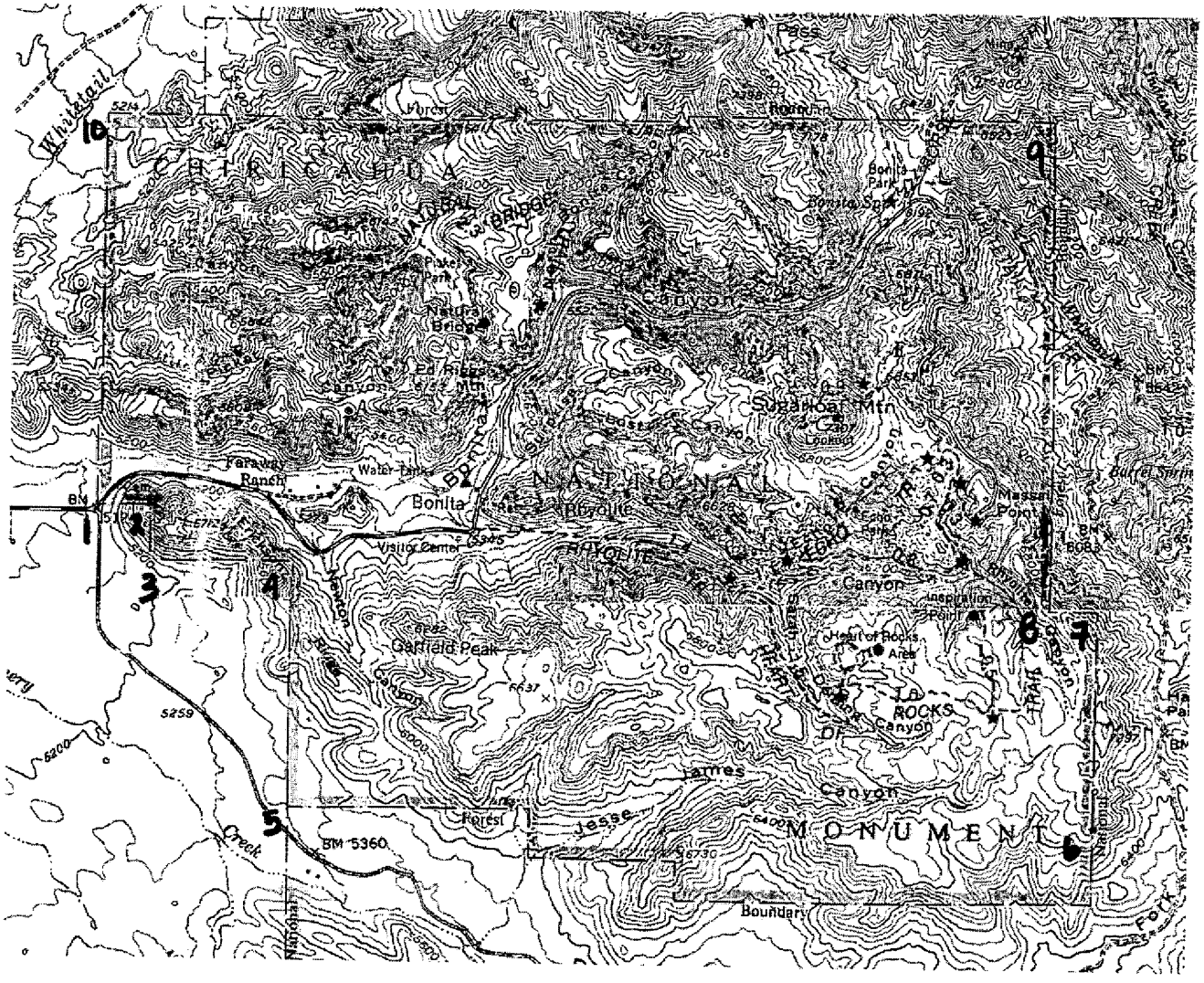

Map 14. Silver Spur Meadow today with remains of CCC structures.




Map 15. Residential and Utility Areas with associated buildings, access roads, and structures as they exist today.




Map 16. Historic arrangement of buildings, roads, and structures in Utility and Residential Areas.




Map 17. Chiricahua National Monument. Cochise County , Arizona.
USGS Map of Chiricahua National Monument with UTM References.

## MAP LIST AND SOURCES

Map 1. Southeastern Arizona including Chiricahua National Monument.
Sources: Arizona Atlas and Gazetteer 2002; National Park Service #7005.

Map 2. Locations of sites and structures identified in Chiricahua National Monument Nomination.
Sources: Chiricahua Hiking Trails, 1998.

Map 3. Locations of and connections between Bonita Canyon Highway and the trail system in Chiricahua National Monument.
Sources: Chiricahua Hiking Trails, 1998.

Map 4. Historic trails in Upper Rhyolite Canyon showing locations of early Ed Riggs trail, CCC-constructed trail, and present-day Upper Rhyolite trail built in the mid-1950s.
Sources: A. E. Clark Topographic Survey #5003; USGS "Chiricahua National Monument" 1993.

Map 5. Arrangement of Massai Point today with associated roads, trails, buildings, and structures.
Sources: USGS "Chiricahua National Monument" 1993.

Map 6. Historic development at Massai Point for Dedication Ceremony, September 3, 1934, showing temporary parking lots and barbecue serving area.
Sources: 1935 Soil Conservation Service aerial photograph; National Park Service #4945, #4940, #4944.

Map 7. Early survey of Administration Area with proposed locations for the Equipment Shed, Ranger Station, Comfort Station, and Ranger Residence #2, 1935.
Sources: National Park Service #4953.

Map 8. Ranger Station and Comfort Station with pathway loop and parking area, 1936.
Sources: National Park Service #3075.

Map 9. Administration Building with pathway and parking area, 1938.
Sources: National Park Service #2033.

Map 10. New Visitor Center addition joining original Comfort Station and Administration Building.
Sources: National Park Service #2025

Map 11. Public Campground at Chiricahua National Monument showing historic locations of buildings, access road, and individual camping units.
Sources: National Park Service #4980.

Map 12. Arrangement of Public Campground and associated buildings and structures today.
Sources: Campground handout.

Map 13. Historic CCC Campsite as it might have existed in 1939.
Sources: Historic and modern photographs of Campsite area, hand-drawn maps by CCC enrollees, Ray Ringenbach and others.

Map 14. Silver Spur Meadow today with remains of CCC structures.
Sources: CCC Campsite map drawn by Morrow, Reardon, Wilkinson 2001

Map 15. Residential and Utility Areas with associated buildings, access roads, and structures as they exist today.
Sources: National Park Service #3110, 1976 aerial photograph.

Map 16. Historic arrangement of buildings, roads, and structures in Utility and Residential Areas.
Sources: National Park Service #2038.

Map 17. Chiricahua National Monument. Cochise County , Arizona.
USGS Map of Chiricahua National Monument with UTM References.

## LIST OF NATIONAL PARK SERVICE PLANS FOR CHIRICAHUA NATIONAL MONUMENT DURING CIVILIAN CONSERVATION CORPS ERA

***Bonita Canyon Highway***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| January 1936 | J. H. Tovrea | 4962 | Proposed road improvement |
| June 1937 | R.H. | 5006A | Bridges -- Bonita Hwy. |
| August 1938 | R.H. | 5006B | Bridges -- Bonita Hwy. |
| August 1939 | Jerome C. Miller | 2039 | Typical guardrail |
| October 1941 | Unknown | 2042 | Parking area and exhibit shelter |

***Echo Canyon Area***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| July 1934 | J. C. Ray | 4934 | Proposed parking area at Echo Canyon |
| October 1934 | Tovrea | 4944 | Parking areas number two and number three |
| May 1935 | Unknown | 4970 | Proposed Echo Canyon horse Trail |
| May 1935 | Robert S. Harris | 4971 | Echo Park area topographic map |
| April 1936 | Unknown | 4987 | Echo Trail parking area topography |
| August 1936 | J. H. Tovrea | 5700 | Echo Trail parking area |
| August 1936 | J. H. Tovrea | 5000 | Echo Trail parking area |

***Massai Point Area***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| May 1934 | Unknown | 5009 | Topographical of turnaround at Massai Point |
| July 1934 | Unknown | 4935 | Proposed parking area at Massai Point |
| July 1934 | J. C. Ray | 4933 | Proposed parking area #1 at Massai Point |
| August 1934 | Richard D. Sias | 3006 | Amphitheater rostrum |
| October 1934 | J. H. Tovrea | 4945 | Parking road system at Massai Point |
| October 1934 | Unknown | 4949 | Plan & details of serving tables & BBQ pit |
| October 1934 | J. H. Tovrea | 4946 | Amphitheater & speakers rock at Massai Point |
| August 1935 | E. L. Keeling, Harry Langley | 3028 | Picnic area at Massai Point |
| January 1939 | Cecil Doty | 2035 | Orientation station |
| June 1939 | Cecil Doty | 2035A | Orientation station |
| January 1939 | E. L. Keeling | 3020D | Massai Point area-part of master plan |
| October 1941 | J. H. Reshoft | 2041 | Base relief model |

***Ranger Station/ Headquarters/ Administrative Area/ Museum/ Visitor Center***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| October 1934 | Unknown | 4952 | Sewage disposal system-administration |
| January 1935 | R.S. Harris, J.H. Tov | 4953 | Topological map of proposed headquarters area |
| November 1935 | Harry Langley | 3029 | Well improvements-headquarters area |
| November 1935 | Harry Langley | 3030 | Parking area-headquarters |
| September 1936 | Charles Richey | 3075 | Headquarters parking |
| December 1936 | Unknown | 4978 | Camp Refuse burner-headquarters area |
| February 1937 | Robert W. Albers | 2025 | Preliminary sketch for administration building |
| March 1938 | Cecil Doty | 2031 | Light fixtures for administration and residences |
| May 1938 | Cecil Doty | 2031 | Furniture plans for administration building |
| December 1938 | Jerome C. Miller | 2033 | Layout plan and sign detail |

***Public Campground***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| October 1934 | Unknown | 4951 | Sewage disposal |
| November 1934 | Harry Langley | 3012 | Preliminary sketch of public Campground |
| December 1934 | A. D. Q. | 4955 | Proposed sewer line at Campground |
| December 1934 | J. H. Tovrea | 4959 | Topological map of Campground |
| December 1934 | J. H. Tovrea | 4980 | Proposed public Campground area |
| January 1935 | Unknown | 4961 | Proposed picnic tables |
| January 1935 | G. E. M. | 3014 | Preliminary sketch for comfort station |
| January 1935 | A. O. J. | 3014A | Comfort station for Campground |
| May 1935 | Unknown | 4968 | Proposed dips in Campground |
| May 1935 | E. L. Keeling | 3026 | Stone column and sign at Campground |
| July 1935 | Unknown | 3025B, C | Bath House – campground - 2 sheets |

*Sugarloaf Mountain Area*

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| October 1934 | A. O. J. | 3010 | Sugarloaf Lookout Tower- 2 sheets |
| October 1934 | J. H. Tovrea | 4944 | Parking Areas #2&3 SE of Sugarloaf Mt |
| October 1934 | J. H. Tovrea | 4948 | Topo map of Sugarloaf Mountain Summit |
| December 1934 | Robert S. Harris | 4960 | Proposed Sugarloaf Trail |
| April 1935 | Walter H. Attwell | 4966 | Water filter and storage tank |
| June 1935 | H. D. K. | 4973 | Proposed lightning equipment |
| September 1935 | Harry Langley | 3027 | Sugarloaf parking area |
| February 1936 | Unknown | 4979 | Sugarloaf parking area |
| April 1936 | Robert S. Harris | 4987 | Topography of the Echo Trail Parking Area |
| August 1936 | J.H. Tovrea | 5000 | Echo Park Trail Parking Area |

*Telephone lines*

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| July 1934 | Unknown | 4936 | Proposed telephone line-Rhyolite to Massai |
| October 1934 | Unknown | 4941 | Proposed telephone line-Sugarloaf to Rhyolite |
| January 1936 | Unknown | 4977 | Telephone line-headquarters to portal |
| October 1936 | Unknown | 5001 | Telephone right-of-way-headquarters to Portal |
| July 1939 | J. H. Tovrea | 8000 | Underground telephone connections |

*Utility Area*

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| April 1935 | Lyle N. Barcume | 3024 | Equipment storage and shop |
| May 1935 | J. H. Tovrea | 4969 | Proposed utility area |
| September 1935 | Robert S. Harris | 4974 | Proposed service road to utility & Res. Area |
| February 1936 | Unknown | 3024A | Equipment shed |
| March 1936 | Robert W. Albers | 3032 | Garage |
| April 1936 | Unknown | 4982 | Proposed retaining wall |
| June 1937 | J. H. Tovrea | 5701 | Prop. Utility Area Ext.-Walls and Exit Road |
| March 1938 | Robert W. Albers | 2030 | Warehouse-utility area |
| March 1938 | Robert W. Albers | 2030 | Warehouse-interior-utility area |
| August 1938 | J. H. Tovrea | 5301 | Proposed Underground telephone line-HQ area |
| January 1939 | Unknown | 5302z1 | Utilities layout-HQ area master plan |
| June 1939 | P.C.B. | 2036 | Gasoline and Oil House- Utility Area |
| June 1939 | P.C.B. | 2037 | Power House and Laundry- Utility Area |
| September 1939 | J. H. Tovrea | 8002 | Proposed power lines-HQ area |
| December 1939 | Lyle Bennett | 2040A | Hose house |

***Residence Area***

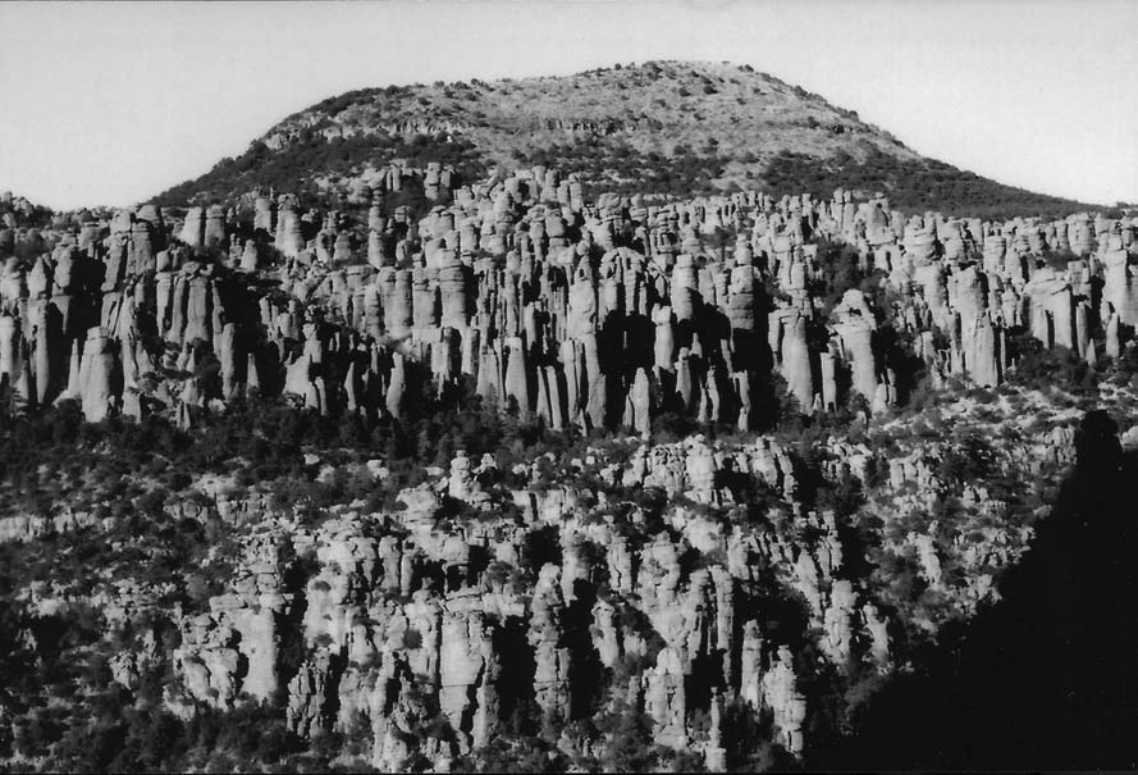
| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| January 1935 | A. P. B. /A. O. J. | 3009B | Rangers Quarters – Res. #2 |
| March 1937 | Robert W. Albers | 2027 | Preliminary sketch Rangers quarters – Res. #1 |
| April 1937 | Robert W. Albers | 2027A | Residence #1 – 3 Sheets |
| April 1938 | Clinton E. Rose | 2029 | Root cellar, court, wall –Res. #2 |
| November 1938 | C. D. Carter | 2050 | Revised propane system – Res. #1,2 |
| November 1938 | Cecil Doty | 2032 | Residence #2 |
| June 1939 | Jerome C. Miller | 2038 | Trails, walks and signs –Res. & utility area |
| June 1940 | C. E. Krueger | 8003 | Fuel oil and distribution system –Res. #1,3 |

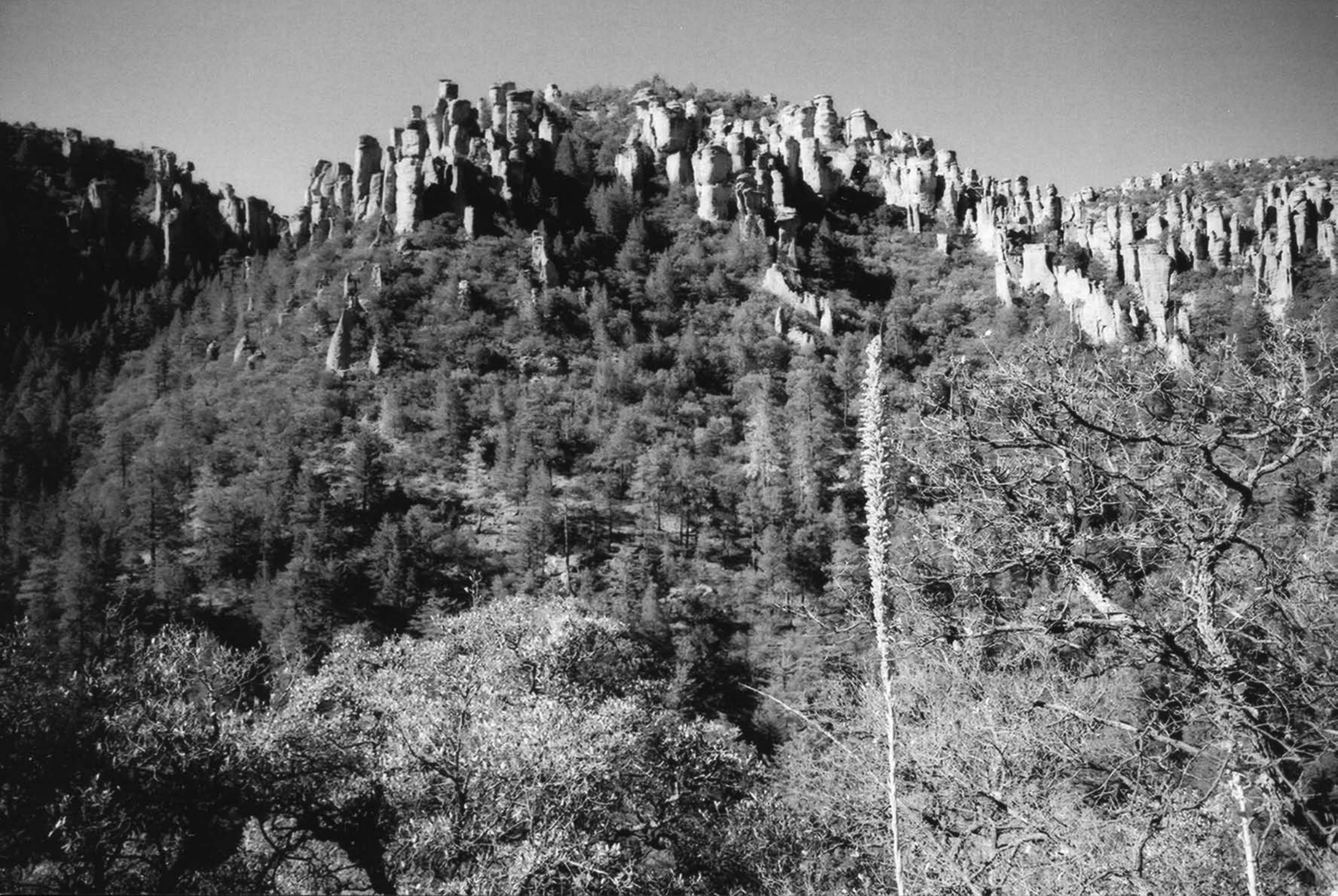
***Water System***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| September 1934 | Unknown | 4958 | Proposed water system |
| October 1934 | Unknown | 4947 | Proposed sewer system at admin & CG |
| December 1934 | Gene F. Gordon | 4957 | Proposed 10,000 gal. water reservoir |
| December 1934 | F. T. M. | 4956 | Proposed 2200 gal. collecting reservoir |
| May 1935 | Gene F. Gordon | 4967 | Proposed 5000 gal. collecting reservoir |
| May 1935 | C. E. L. | 4972 | Proposed Spring enclosure fence |
| December 1935 | Robert S. Harris | 4986 | Spring enclosure fence |
| November 1939 | Richardson | 5304 | 20,000 gal. water storage reservoir |
| September 1940 | Unknown | 5005A | Bonita Canyon Springs diversion |

***Other CCC-Era Plans***

| Date | Designer | Plan number | Subject and site |
|---|---|---|---|
| September 1934 | H. D. K. | 4942 | Proposed E.C.W. Program – 4th Enrollment |
| March 1935 | A. E. Clark | 4964 | Suggested boundary extension |
| September 1935 | Robert S. Harris | 4976 | Progress and Works Project Plan – 2 sheets |
| September 1936 | A. E. Clark | 5003 | Topographic map of CNM |
| January 1939 | Jerome C. Miller | 2034 | General Park signs |
| June 1939 | J. H. Tovrea | 5302 | Picket Trail |
| September 1939 | Unknown | 3011D | Roads, Trails, Developed Areas |





PINNACLE BALANCED ROCK

VISITOR
CENTER
KEEP
RIGHT

MUSEUM
ADMINISTRATIVE OFFICES