

HISTORICAL OVERVIEW AND ASSESSMENT OF CIVILIAN
CONSERVATION CORPS ROCK WORK ALONG GENERALS HIGHWAY FROM
ASH MOUNTAIN TO GIANT FOREST IN SEQUOIA NATIONAL PARK

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PREFACE

The purpose of this report is to provide an historical overview and assessment of Civilian Conservation Corps (CCC) rock work along the seventeen-mile stretch of Generals Highway from the southern entrance of Sequoia National Park to Giant Forest. As part of the environmental assessment for the Generals Highway, it was determined that the CCC rock work be examined, surveyed, and evaluated for documentation purposes and possible preparation of a request for determination of eligibility for inclusion on the National Register of Historic Places. After conducting research in the park library and archives and reconnoitering the highway with William Tweed, Management Assistant, I determined that the CCC rock work in question did not meet the necessary standards or criteria to request a determination of eligibility. Thus it was decided that an historical overview and assessment report be prepared and appended to the environmental assessment. The report will be divided into four sections: (1) historical documentation; (2) assessment, evaluation, and rationale for decision not to request a determination of eligibility; (3) recommendations for management to minimize impacts on CCC rock work and retain the essential rustic, rural character of the highway; and (4) photographs of existing rock work conditions.

It should be noted that Generals Highway extends another thirty miles from Giant Forest to Grant Grove in Kings Canyon National Park. That portion of the highway, however, was constructed with eleven-foot lanes, and thus any modernization work will not impact existing CCC rock work.

I wish to thank Diane Rhodes, an archeologist on the Western Team of the Denver Service Center, for providing me with research data she gathered in Record Group 79 at the National Archives in Washington, D.C.

A. INTRODUCTION

In 1911 the Mt. Whitney Power Company constructed a wagon road to Hospital Rock along the corridor of the present Generals Highway. In 1920, as the National Park Service commenced efforts to establish headquarters of Sequoia National Park at Ash Mountain, the bureau converted the wagon road corridor as the first leg of an entrance road to Giant Forest. In 1926 the portion of present Generals Highway from Hospital Rock to Giant Forest was completed as a gravel road. The highway to Giant Forest, averaging 18 to 20 feet in width, was paved during 1929-30. The final portion of the highway, with an average paved width of 20 to 22 feet, was completed from Giant Forest to Grant Grove in 1935.¹

B. HISTORICAL DOCUMENTATION

On March 31, 1933, Congress passed the Civilian Conservation Corps (CCC) Reforestation Relief Act as an unemployment relief measure. The law authorized establishment of the CCC to provide work for 250,000 jobless male citizens between the ages of 18 and 25 in reforestation, road construction, soil erosion prevention, and park and flood control projects. Four government departments cooperated in carrying out the program that by 1942 had employed over 2,000,000 men.²

During the three-month period from May to July 1933 five Civilian Conservation Corps work camps were established in Sequoia National Park. These camps were: Potwisha Camp No. 1, Marble Fork Camp No. 2, Wolverton Camp No. 3, Atwell Mill Camp No. 4, and Yucca Creek Camp No. 5. Supervisory personnel for each camp, consisting of a camp superintendent and 10 men or less, were selected largely from former park employees who had been trail construction foremen or men with known skills for the work to be accomplished.

Among the earliest projects of the Potwisha Camp enrollees in 1933 was the cleanup and removal of snow-damaged trees and shrubs and debris from 150 to 350 feet on either side of Generals Highway between Ash Mountain and Deer Ridge. The Wolverton Camp men performed similar duties in the Giant Forest area and along Generals Highway between Grant Forest and the General Sherman Tree.³

During the winter of 1933-34 the CCC enrollees in Sequoia undertook the first rock work projects that would lend a rustic appearance to the Generals Highway corridor. The parking area and campground at Hospital Rock were laid out and developed. Areas restricted for auto parking were protected by natural weathered boulders, sunk part way into the ground. In place of the wooden ladder in front of the pictographs, a natural stone stairway was built. To prevent the steps from being seen, a large "natural and weathered" rock slab "was placed vertical to curve the side of the steps". A natural rock step and ramp led to the foot of the stairway. The most significant CCC project at Hospital Rock in terms of its esthetic impact on the rustic appearance of Generals Highway was the construction of an automobile watering station. Landscape Architect Harold G. Fowler described the station as consisting of "a series of four hose attachments." He noted that:

a low stonewall eighteen inches high with round tapered redwood posts set in piers was the general design of this station. The stone used was of a boulder formation to harmonize with the surrounding rock conditions. The redwood posts were hand adzed and wrought iron bands and hose hooks were placed on them. A rock gutter drain was constructed in conjunction with this station.⁴

Further description of the CCC rock work at Hospital Rock is found in a report on the activities of the Potwisha Camp during October 1933 to April 1934. That report noted:

Hospital Rock landscaping includes the laying out of an automobile turn-around oval about 63 X 33 feet, by embedding 2 1/2 foot boulders one-half their depth in the earth. Individual camp sites and parking areas have also been bordered with boulders. A rock and cement wall 18 inches by 50 feet was built as a base for 6 water hydrants and a three foot box type culvert built of flat rock to take care of the overflow from the filling of radiators and gutter drainage was completed. A stairway of huge granite slabs was constructed. It leads to the top of the historical Hospital Rock enabling tourists to view the ancient indian painting there.⁵

During the winter months of 1933-34, CCC enrollees were engaged in making improvements to Generals Highway. These projects included sloping, building road berms, and constructing dirt drainage ditches along the roadway at Ash Mountain.⁶

The new CCC Buckeye Camp was especially active in making improvements to Generals Highway during the fall and winter months of 1933-34. Projects of these men included:

The drainage at Wall Springs necessitated the excavation of a trench one hundred and fifty feet in length, three and a half feet in width and four and half feet in depth. Small rock was placed in the bottom of this ditch, an eight inch culvert was then laid and also covered with small rock. This produced a very porous drain. Surfacing material was then spread over the drain and covered by an oil-mix. Surplus material was used to build and repair old burms in the vicinity. Nine miles of road burm was built or repaired. Seven rock walls were constructed to widen the highway and accommodate part of this burm. The largest of these walls is one hundred and thirty-five feet in length and averages ten feet in height. The rock to build these retaining walls was acquired off the side slopes, and required the use of hoisting equipment. Several wooden culverts were replaced by corrugated metal pipes, and rock head walls were constructed on the same. Metal burm drains were installed when necessary. Guard rails were set back to allow ample road width where necessary. Several banks of a very erosive nature were re-sloped in a manner to prevent further slides in rainy weather. During the recent storms, several large rocks slid off the banks onto the Highway and were promptly removed. Gutters and culverts were kept in efficient working order. Three miles of gutter was rip-rapped to prevent further erosion....⁷

During the 1934 season CCC enrollees continued various rock work projects along Generals Highway. Improvements were made to five springs along the upslope side of the highway to provide watering stations for tourists and their automobiles. The five spring developments (Big Fern, Granite, Slide, Moss and Wall) were described at some length in the 1934 CCC Seasonal Narrative Report:

BIG FERN: Below the road at this point a spring provides a continuous source of water for the use of tourists. The steps to this basin were improved and a new dam placed across the stream. On the upper side of the road the water had been dammed up in the stream and a concealed pipe laid, bringing the supply to the road. The reservoir was increased and a new pipe line laid, terminating in a masonry wall at the roadside, with hose connection and a drinking fountain....

GRANITE SPRINGS: At this point in the Generals Highway the flow of the springs has never been found to be sufficient for the water supply necessary for the season's operation. A large tank was used for storage and the water taken directly from it. This wood tank was removed from its former site and placed in a crevice left from

the road building at a point above the turnout and adjacent to the road, where it could be filled from tank trucks. The face of the crevice was then walled up with stone, concealing the installation from view. Hose connections were then brought out on the great granite face for the use of the tourists.

SLIDE SPRING: The treatment of this watering station was much the same as Big Fern, except that the masonry wall was laid up dry. The general effect of this location is much more pleasing than that of Big Fern for the reason of the informality of dry laid stone.

MOSS SPRING: This spring being in a woodland setting with several large Sequoias in the immediate vicinity, it was decided to use logs for the basin at this location. A down Sequoia of approximately forty inch diameter was selected and placed in a location providing the safest use of the roadside and remaining close to the spring. In hollowing out the log, the sap wood was left on, which may cause some trouble later, there being more deterioration in sap wood than in heart wood.

WALL SPRING: At this place the spring was located in the tee of the bank on the upper side of the road and below the road-bed. A well curb of granite was placed over the spring and a stone seat provided at either side of the well. The slope of the bank was then protected by masonry. The size of the rock was smaller than should have been used, and some of the desired effect was lost. It is necessary in both of these latter watering places for the user to dip up the water. The providing of suitable dippers which remain in place offers the greatest problem in these locations.⁸

Throughout the summer of 1934 the Buckeye Camp enrollees conducted extensive repair and maintenance activities along Generals Highway. The men cleaned and repaired the highway gutters for a distance of approximately 8.3 miles. Deep sections of these gutters were filled with crushed rock, and at sharp turns were filled and oiled, thus widening the curves. Five miles of berm were rebuilt and realigned, dirt for the work being hauled from various places where there was an excess of material. All existing culverts were cleaned, and 54 feet of 18-inch corrugated metal pipe was installed. Two sections of guardrail were removed to allow more road width. An additional 2 feet of pipe was added to each of four culverts. Work was started on draining subterranean seepage from the highway at Wall Springs. This work consisted of excavating a trench 110 feet long, 3.5 feet wide, and 5 feet deep parallel to the outside of the road. The trench was first filled with 10 inches of rock. An 18-inch perforated corrugated metal pipe was laid the entire length of the trench and surrounded with small rock; then 18 inches of dirt covered and filled the rest of the trench. Six lateral trenches were dug 12 feet long, 5 feet deep, and 3.5 feet wide. These trenches were also filled with rock, and 8-inch perforated corrugated metal pipes installed. Four lateral trenches, 30 feet long, 4.5 feet deep, and 3.5 feet wide were dug, and 8-inch perforated corrugated metal pipes were installed in the same manner. About 85 yards of rock was hauled from Lodgepole and used in filling these trenches.⁹

In 1935 CCC enrollees made major repairs to Generals Highway, necessitated by damage from heavy rains during the winter and spring of 1934-35. Two of the principal projects to be undertaken centered on a slide about 1 mile above Ash Mountain and a slide along the Little Baldy Trail. These repair projects were described in the 1935 CCC Seasonal Narrative Report by Resident Landscape Architect Harold G. Fowler:

In that section, which is about one mile above Ash Mountain, an old rock wall failed, causing a part of the road to cave in. There was a suggestion, at first, that the section should be replaced and supported by a big fill with most of the material being shot over from the rock formation above the road. This was not done because the road would be blocked for long periods after blasting and there would be a certain amount of scar to remedy. To replace the wall, which now would have to be made longer and with a greater foundation, it would be most costly and require a long period of time to complete.

Finally, a redwood timbered cribbing method was used for the job. The cribbing was 160 feet long and had an average height of 18 feet: (6" X 8" timber being used). The fill necessary in conjunction with the cribbing was obtained from a nearby point that needed daylighting....

After another major slide along the Little Baldy Trail, it was determined that more than 10,000 cubic yards of earth and rock would have to be moved. Some material was used for fill on the Dorst Creek camp approach road, and the remainder was moved to five locations along Generals Highway. The five sites were within easy haul of the shovel and were intended to strengthen existing highway fills.

A watering station was constructed during the summer of 1935 at what is now known as Black Oak Corner, approximately one-fourth mile above Big Fern Spring. The work accomplished at this point was described by Fowler:

This location is a spring issuing from a granite formation, and the water was caught in a half section of a hot water tank and then allowed to spill or overflow into the natural road drainage. This location was hazardous to use, owing to the sharp curve and narrow road. The development consisted of bringing the water across and to the road below at a place where parking space could be provided, and the construction of a rock basin backed with a dry rock wall. The water flows from a concealed pipe down the face of a rock into the pool, and the excess is carried away by a pipe. This location has proved to be quite popular, since it is shaded by a great Black Oak and affords a safe stopping place, numerous picnic parties having used this site.

Fowler went on to describe the placement of trash receptacles and associated rock work in "parking places" or turnouts along Generals Highway. He observed:

At the other previously developed parking places receptacles for trash cans were constructed. This receptacle consists of low rock curb large enough to contain the can with space around it for easy removal and to allow air space for combustion in the case of incinerator cans. This can then only protrudes above this curb about half its height. The type of rock used was determined by surroundings and other developments in the area. They have proved to be quite satisfactory, as the cans stay put and cannot be easily overturned by animals.¹⁰

Potwisha Camp enrollees carried out extensive rock work projects in the Ash Mountain headquarters area during 1935. Grounds landscaping included:

a dry Rock base wall put around three sides of the office building, a retaining wall at the entrance of the Post Office, and low border walls set in along the walks. A masonry curb wall set 14 inches below the surface and extending 8 inches above ground and 18 inches in thickness was constructed along the front bordering the highway, and around the side to the rear, designating the parking area.¹¹

Construction of the stone work at Ash Mountain during 1935 was described more fully in a Civil Works Administration report. This document stated:

As a barrier and protection a redwood puncheon fence had been erected many years ago along the Generals' Highway from the junction of the checking station to the messhall road a distance of 313 feet. This railing had badly deteriorated and had been seriously damaged from time to time through collisions of vehicles. It had served its usefulness but did not conform with the general landscape requirements for Ash Mountain Headquarters. The landscape architects designed a low rock wall to replace the rail fence and included provision for automobile radiator filling stations. Special rock was hauled in from the Moro Creek road, a distance of six miles, and this all hand placed. Excavation to the amount of 88 cubic yards was necessary and rock wall to the extent of 89.8 cubic yards was hand placed....¹²

During this time a new Indian head entrance marker was set up along Generals Highway at the Ash Mountain park entrance. According to a CCC report the old marker

had reached such a state of deterioration as not to be in keeping with the surroundings. The same design as appeared on the old marker enlarged and made in correct proportion was used. Sections of trees 3 feet 6 inches in diameter set in concrete with a stone base, constructed of natural faced stone, were used as columns. On the left (high) side the one 9 feet in height is proportionate with the one of 15 feet on the opposite side. The Indian Head which is carved on a redwood slab, on which also appeared the park name, is placed on the right side column and is supported by wrought iron braces and fasteners. Credit for the carving of the head is due to 'George Muno' an enrollee of this company.¹³

CCC enrollees performed extensive rock work projects along Generals Highway from October 1935 to April 1936. Embankments along several sections below Amphitheater Point were improved, with areas indicating possible future slides being removed and sloped. Rock walls were constructed in various places to stabilize the downslope side of the highway. A large slide that occurred at Deer Ridge in the early spring was cleared. Some 10,000 cubic yards of material were in the slide, but 20,000 additional yards were moved to make the highway safe and prevent future slides "as cracks in the ground indicated would occur." The furnished slope was planted with native grasses, herbaceous plants, and shrubs.

Rock gutters were laid along both sides of Generals Highway between the south entrance of the park and the Ash Mountain headquarters. This work, which extended for nearly 1 mile, was described:

The flat schist rock was used for the gutter paving, with a cement mortar bond. The gutter width is 30" with a 3" depth, the cross-section being on a curve. The inside of the gutter holds the road edge, while the back of the gutter warps and flares to carry the water to the culverts. This culvert head treatment is exceptionally good.

The finished work as a whole is quite presentable, and will reduce the future maintenance of that section of road, besides eliminating the unsightly gutter erosion.

It was noted that care would have to be taken not to dislodge the gutter rock during future surface treatment of the highway.

During 1935-36 a new 90-inch half-arch culvert was constructed at Elk Creek, one-fourth mile below Potwisha, to correct the problem of frequent road washouts. The earlier small culvert, consisting of a metal pipe and log-cribbed headwalls, had been inadequate to handle the runoff from heavy rains. The new culvert was set on a concrete slab and foundations. The head walls and adjoining retaining walls were built with boulders from the creek bed. The adjoining retaining wall was some 60 feet in length and varied from 3 to 12 feet in height. As part of the project the highway was widened several feet to ease the road curvature.¹⁴

Throughout the six-month period from April to October 1936 CCC enrollees conducted cleanup work on "the blasted rock condition" along Generals Highway between Giant Forest and Sherman Tree. Because that section of the road was being improved by day labor, there was little time for cleanup work "with the result that rock had been scattered down the natural slopes." The rock was to "be pulled into a toe slope or hauled to sharp hollows where other rock fills" occurred. The rock fill areas would "then be concentrated into as few places as possible" and the top soil "placed to cover and allow the reestablishment of plant growth."

That summer an old deteriorated timber culvert near Moss Spring was removed and replaced by a 48-inch metal culvert with rock headwalls. The highway was widened several feet at this point to improve the road curvature.¹⁵

Considerable CCC work was concentrated in the Ash Mountain Headquarters area during the period from October 1936 to April 1937. Much of the landscape improvement work during this time was rock masonry. Rock gutters were constructed "in the utility and residential areas, as well as along the Generals Highway through the area." Rock curbs outlined parking areas, driveways, and service roads to prevent the encroachment outside these areas." Masonry ditch basins and headwalls were built along the highway and in the headquarters area for drainage purposes.¹⁶

During the summer of 1937 the CCC constructed a new large culvert under Generals Highway about 1-1/2 miles above Hospital Rock. The new metal culvert was necessary to repair a washout and provide for better drainage. The masonry stone headwalls consisted of stone found in the vicinity of the culvert.¹⁷

Generals Highway was improved with bituminous surfacing during 1938-39. The highway improvements were constructed under contract with funds provided by the Public Works Administration. The work included base and top course surfacing and pavement and seal coating of shoulders and gutters in some areas. As part of the road improvements the contractors constructed dry masonry walls at various points along the highway, one of the best extant examples being the upslope side of the highway in the vicinity of Wall Spring.

While the surfacing work was underway, CCC enrollees made various improvements to the highway from the south entrance to Giant Forest. Their efforts included sloping around hairpin turns to improve driver vision and roadway appearance, cleanup of broken rock along the highway, straightening of road shoulders, construction of earth berms or dikes, and roadside sodding. The enrollees also were engaged in "gutter widening on the Generals Highway between Ash Mt. Entrance and the Checking Station."

Construction of the berms provided "a more regular appearance to the road," and "ragged edges and square shoulders" were "rounded over" for appearance. An oil mix was placed on the 2-foot inner section of the berms next to the roadway with sodding directly behind to join with the existing sodded slopes. The berms afforded "a driving guide," a "guard against skidding off the road," and prevention of erosion to road shoulders. "Bays" and "points" along the highway where sections of the original roadway were visible were "obliterated and restored to a natural condition."

During 1938-39 improvements were made to the Amphitheater Point parking area, which had become one of the favorite tourist stops on the highway. The point offered one of the most prominent panoramic views along the road, and thus encouraged many automobiles to stop. Prior to this improvement project, the area had been "rather ragged and unsightly." The improvements included development "of a systematic parking area and observation point," construction of some "300 lineal feet of schist rock wall and curb," oiling of the parking area and walks, and planting. A characteristic rustic sign ("Amphitheater Point") was incorporated in the parking area parapet rock wall, and a rounded rock wall lookout point with an interpretive marker on a stone foundation were among the items constructed to accommodate tourists.

CCC enrollees also made improvements at Tunnel Rock during 1938-39. Cut stone stairs were constructed so that tourists could stop and climb to the top of the rock. Masonry rock walls were built under Tunnel Rock on either side of the highway to stabilize it.¹⁸

With the outbreak of World War II in Europe in September 1939, the CCC program was slowly phased out. Declining numbers of enrollees during 1940 and 1941 resulted in fewer projects. The CCC was formally terminated in July 1942 and the work camps closed.

During the war a Civilian Public Service (CPS) Camp was located at Three Rivers. The purpose of the CPS was to allow those conscientiously opposed to participation in war to perform alternative public service. The Three Rivers camp performed many of the same tasks as those of the CCC in Sequoia and Kings Canyon National Parks. In 1944, for instance, the park superintendent observed that the camp assignees "were busy on erosion control and bank stabilization; rock walls on Generals Highway; manways and horse trails in lower elevations" and other park improvement projects.¹⁹ In their Sequoia and Kings Canyon National Parks, John R. White and Samuel J. Pusateri state that the stone work at Deer Ridge and Amphitheater Point was performed "by CCC and Selective Service men between 1934-46."²⁰

C. ASSESSMENT AND EVALUATION

After surveying, examining, and photographing the CCC rock work along Generals Highway, it was determined that collectively it did not meet the necessary standards to pursue a determination of eligibility for inclusion on the National Register of Historic Places. Upon reflection it was deemed that there are better and more representative examples of CCC highway-related rock work in other units of the national park system, such as at Grand Canyon, Yosemite, and Zion National Parks.

Although the CCC rock work along Generals Highway is significant and contributes to the rustic character of the winding mountain road, there are many instances where the rock work has lost its integrity. This is particularly the case of many stone parapet walls along the downslope side of the highway, and around turnouts and overlooks. In some places portions of these walls have been washed out or have slipped and are leaning down the mountainside, while in others they have sunk or been struck by automobiles. Periodic repairs have resulted in the walls being patched with various kinds of rock. It should be noted that many of these walls do not meet modern highway safety standards and can simply be kicked over by foot in some places.

D. RECOMMENDATIONS FOR MANAGEMENT TO MINIMIZE IMPACTS ON CCC ROCK WORK

The CCC rock work along Generals Highway is significant and contributes to the rustic, rural character of the winding mountain highway. It is essential that this character be preserved and that impacts on the rock work be held strictly to a minimum. Accordingly, the following recommendations are made to accomplish such purposes.

1. The upslope side of the highway from the south park entrance to Giant Forest should be preserved in its entirety. Thus, no rock work on the upslope

side of the roadway should be impacted.

2. All widening of the highway from the south park entrance to Giant Forest should be conducted on the downslope side of the roadway. Where parapet walls along the highway, turnouts, and overlooks are impacted, they should be replaced with concrete and stone veneer using the rock from the impacted walls. This would ensure that such walls meet present highway safety standards and yet blend with the rustic, rural character of the road. Stone gutters should also be replaced using the original stone.

3. In several places where widening will impact both upslope and downslope walls on switchbacks along the highway between the south park entrance and Giant Forest, special precaution should be taken to minimize the impact on the CCC rock work. Two such locations are near Granite Spring and Amphitheater Point, where the parapet walls for the upper part of the S-curves form the tops of the retaining walls for the lower part of the curves.

4. After culverts with rock head walls have been lengthened/widened the rock head walls should be replaced using the original stone.

5. At Tunnel Rock the highway should be designed to circumvent the rock on the downslope side. Provision should be made for Tunnel Rock to be used as a walk-in area.

It is understood that no CCC rock work will be impacted by highway improvements at Giant Forest or along Generals Highway from Giant Forest to Grant Grove.

ENDNOTES

1. Further data on the history of Sequoia and Kings Canyon National Parks and the Generals Highway may be found in John R. White and Samuel J. Pusateri, Sequoia and Kings Canyon National Parks (Stanford, Stanford University Press, 1949), and John Ise, Our National Park Policy: A Critical History (Baltimore, Johns Hopkins Press, 1961).

2. For further information on the CCC, see U. S. Department of the Interior, National Park Service, The Civilian Conservation Corps and the National Park Service, 1933-1942, by John C. Paige, 1983 and Perry H. Merrill, Roosevelt's Forest Army: A History of the Civilian Conservation Corps, 1933-1942 (Montpelier, Vermont, 1982).

3. Seasonal Narrative Report, Emergency Conservation Work, by Thomas E. Carpenter, Landscape Architect, Sequoia National Park, 1933 Season, pp. 1-2, 4-5, 20. This citation as well as the remaining citations in this report (except for those from the National Archives) are from materials found in the library and archives of Sequoia National Park.

4. Seasonal Narrative Report, E.C.W. and C.W.A. Projects, Sequoia National Park, November, 1933 to April, 1934 (Winter Period), by Harold G. Fowler - E.C.W. Landscape Architect.

5. General Report on E.C.W. for Second Enrollment Period, Potwisha Camp NP-1, October 1, 1933 to April 1, 1934, p. 9, Narrative Reports Concerning E.C.W. (CCC) Projects in National Park Service Areas, 1933-35, Record Group 79, Records of the National Park Service, National Archives and Records Administration, Washington, D.C. Hereinafter, these records will be cited as Narrative Reports, RG 79.

6. Superintendent's Monthly Report, December 1933, p. 9, in Superintendent's Monthly Reports, Sequoia National Park, 1933.

7. Narrative Quarterly Report, Buckeye Camp D - NP -9, October 1, 1933 to January 1, 1934, Narrative Reports, RG 79.

8. Seasonal Narrative Report, E.C.W. and P.W. Projects, 1934 Season-Third Enrollment Period, Sequoia National Park, Part 1 and Part 2, pt. 2, pp. 3-4.

9. Narrative Quarterly Report, Buckeye Camp D-NP-9, August 20 to September 30, 1934, Narrative Reports, RG 79.

10. Seasonal Narrative Report, E.C.W. and P.W. Projects, Sequoia National Park, April 1, 1935 to October 1, 1935 (Fifth Enrollment Period), by Harold G. Fowler, Resident Landscape Architect pp. 3-4, p. 3, 6.

11. Semi-Annual Narrative Report, Potwisha Camp, NP-1, Sequoia National Park, April 1, 1935 to September 30, 1935, Narrative Reports, RG 79.

12. Civil Works Administration Report, Sequoia National Park, 1935, RG

79, Central Classified Files, 1907-49, File No 619--Lands, Buildings, Roads, and Trails.

13. Semi-Annual Narrative Report, Potwisha Camp NP-1, Sequoia National Park, April 1, 1935 to September 30, 1935, Narrative Reports, RG 79.

14. Seasonal Narrative Report, E.C.W. and P.W. Projects by Harold G. Fowler, Resident Landscape Architect and Lloyd J. Fletcher, Assistant Landscape Architect, Sequoia National Park, October 1, 1935 to April 1, 1936 (Sixth Enrollment Period), pp. 2-3, and Superintendent's Monthly Report, February 1936, p. 5, and Superintendent's Monthly Report, March 1936, p. 4, in Superintendent's Monthly Reports, Sequoia National Park, 1936.

15. Seasonal Narrative Report, Emergency Conservation Work, by Harold G. Fowler, Resident Landscape Architect, Sequoia National Park, April 1, 1936 to October 1, 1936 (Seventh Enrollment Period), pp. 2-4.

16. Seasonal Narrative Report to Chief Architect by Harold G. Fowler, Resident Landscape Architect, Sequoia National Park, October 1, 1936 to April 1, 1937, pp. 3-4.

17. Superintendent's Monthly Report, August 1937, p. 6, in Superintendent's Monthly Reports, Sequoia National Park, 1937.

18. Superintendent's Monthly Report, January 1938, p. 6, Superintendent's Monthly Report, February 1938, p. 6, Superintendent's Monthly Report, April 1938, p. 8, and Superintendent's Monthly Report, July 1938, p. 8, in Superintendent's Monthly Reports, Sequoia National Park, 1938; Superintendent's Monthly Report, March 1939, p. 3, in Superintendent's Monthly Reports, Sequoia National Park, 1939; Superintendent's Monthly Report, January 1940, p. 3, in Superintendent's Monthly Reports, Sequoia National Park, 1940; and Seasonal Narrative Report to Chief of Planning, by Harold G. Fowler, Resident Landscape Architect, Sequoia National Park, October 1938 to November 1939, pp. 2-4.

19. Superintendent's Monthly Report, December 1944, p. 2, in Superintendent's Monthly Reports, Sequoia National Park, 1941-44 incl.

20. White and Pusateri, Sequoia and Kings Canyon National Parks, p. 61.

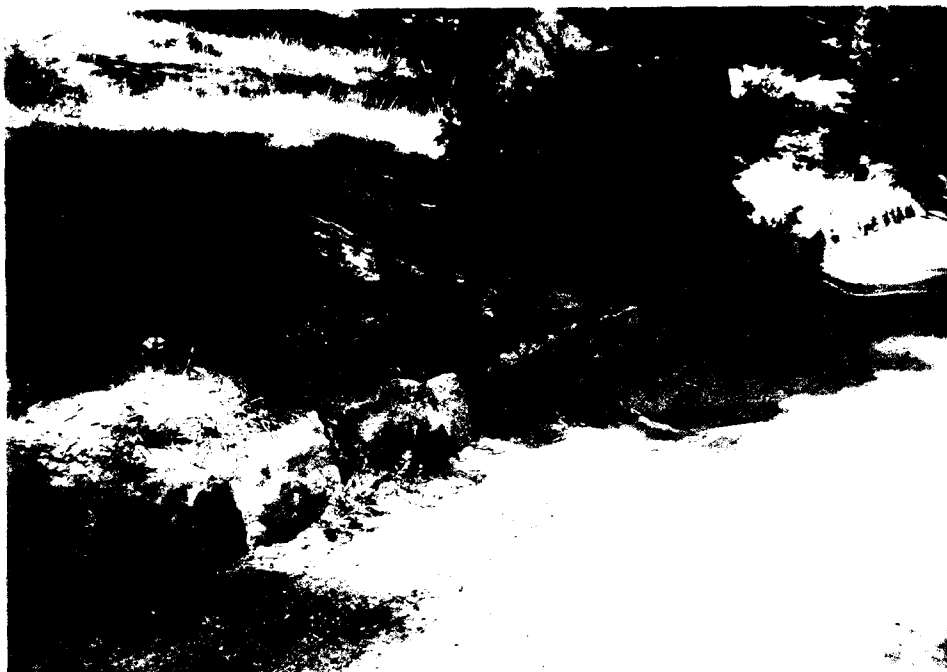
E. PHOTOGRAPHS OF EXISTING ROCK WORK CONDITIONS

Photographs of extant CCC rock work along Generals Highway will be divided into two sections. The first section will consist of photographs from Giant Forest to the southern entrance of Sequoia National Park. The second section will consist of photographs from Giant Forest to Grant Grove. The portion of the highway above Giant Forest already has eleven-foot lanes, and thus work on that section of the highway will not impact extant CCC rock work.

1. GIANT FOREST TO PARK SOUTHERN ENTRANCE



Photograph No. 1 -- Cut stone curbing around parking lot at Grant Forest Market Plaza



Photograph No. 2-- Rock curbing along highway across from Giant Forest Market Plaza



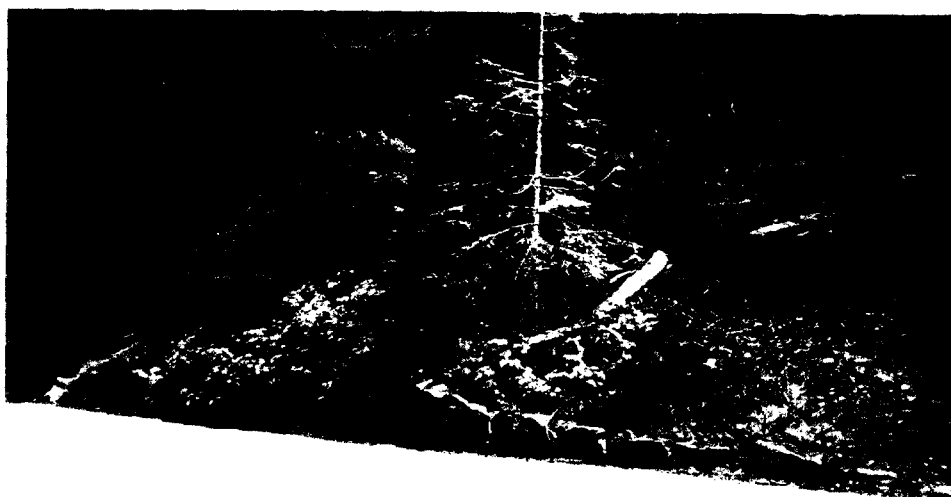
Photograph No. 3 -- Cut stone curbing and rock bench
along highway across from Giant Forest Market Plaza



Photograph No. 4 -- Cut stone steps leading from
highway toward Camp Kaweah Motel area



Photograph No. 5 -- Blacktop walk between cut stone curbing along highway just above Giant Forest Market Plaza



Photograph No. 6 -- Stone retaining wall protecting Sequoia along highway just above Giant Forest Market Plaza



Photograph No. 7 -- Stone retaining wall along highway
just above Giant Forest Market Plaza



Photograph No. 8 -- Wall Spring rock work along upslope side
of highway (0.9 mile below Giant Forest Market)



Photograph No. 9 -- Wall Spring rock work along upslope side of highway (0.9 mile below Giant Forest Market)



Photograph No. 10 -- Longest example of low granite retaining wall along highway; on upslope side just below Wall Spring (0.9 mile below Giant Forest Market)



Photograph No. 11-- Dry masonry low rock wall on upslope
side of highway near Eleven Range Overlook
(3.1 miles below Giant Forest Market)



Photograph No. 12 -- Another view of wall shown in
Photograph No. 11



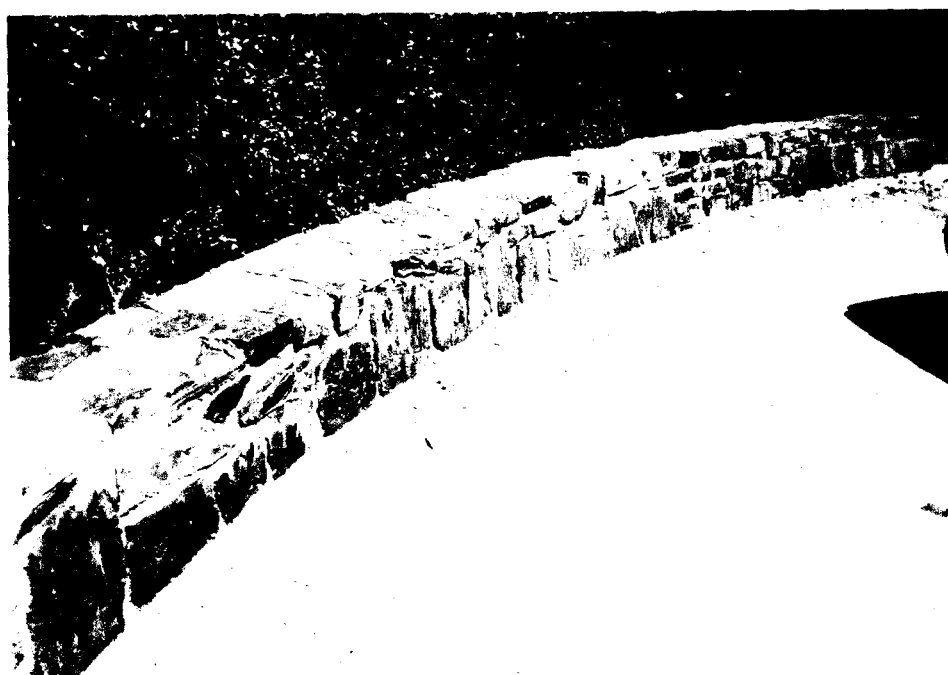
Photograph No. 13 -- Slide Spring rock work on upslope side of highway (3.35 miles below Giant Forest Market)



Photograph No. 14 -- Deer Ridge overlook parapet rock wall on downslope side of highway; uppermost turnout of rustic design (4.0 miles below Giant Forest Market)



Photograph No. 15 -- Parapet rock wall at Deer Ridge overlook and
along downslope side of highway below turnout
(4.0 miles below Giant Forest Market)



Photograph No. 16 -- Parapet rock wall at Deer Ridge
overlook on downslope side of highway
(4.0 miles below Giant Forest Market)



Photograph No. 17 -- Granite Spring rock work on
upslope side of highway; water fall ring
(4.7 miles below Giant Forest Market)



Photograph No. 18 -- Granite Spring water tower and stone
retaining wall on upslope side of highway
(4.7 miles below Giant Forest Market)



Photograph No. 19 -- Parapet wall on downslope side
of highway just above Granite Spring
(4.7 Miles below Giant Forest Market)



Photograph No. 20 -- Stone retaining wall on S-curve just above
Granite Spring; parapet wall in Photograph No. 19 forms
top of this retaining wall



Photograph No. 21 -- Stone culvert headwalls along upslope side of highway just below Granite Spring; culvert designed to carry water from steep drainage under highway (4.7 miles below Giant Forest Market)



Photograph No. 22 -- Amphitheater Point overlook parapet wall along downslope side of highway; only place where signing, exhibit and visitor view platform is located along highway (5.55 miles below Giant Forest Market)



Photograph No. 23 -- Amphitheater Point parapet wall on downslope
side of highway in background and circular platform parapet
wall on upslope side of highway in foreground
(5.55 miles below Giant Forest Market)



Photograph No. 24 -- Amphitheater Point overlook
parapet wall along downslope side of highway
(5.55 miles below Giant Forest Market)



Photograph No. 25 -- Amphitheater Point overlook parapet wall in foreground with parapet wall along downslope side of highway below (5.55 miles below Giant Forest Market)



Photograph No. 26 -- Amphitheater Point overlook parapet wall at left; parapet forms top of stone retaining wall on upslope side of highway below; parapet wall along downslope side of highway below at right (5.55 miles below Giant Forest Market)



Photograph No. 27 -- Sloping retaining wall along upslope
side of highway just above Black Oak Corner
(6.5 miles below Giant Forest Market)



Photograph No. 28 -- Sloping retaining wall along
upslope side of highway at Black Oak Corner
(6.6 miles below Giant Forest Market)



Photograph No. 29 -- Big Fern Spring rock work along upslope side of highway; watering station at left (6.95 miles below Giant Forest Market)



Photograph No. 30 -- Big Fern Spring rock work along upslope side of highway with short trail to spring in background (6.95 miles below Giant Forest Market)



Photograph No. 31 -- Big Fern Spring rock work on upslope side
of highway with culvert to carry spring water under road
(6.95 miles below Giant Forest Market)



Photograph No.32 -- Big Fern Spring stone water
fountain on upslope side of highway
(6.95 miles below Giant Forest Market)



Photograph No. 33 -- Double stone culvert
headwalls on S-curve along highway
(7.95 miles below Giant Forest Market)



Photograph No. 34 -- Double stone culvert
headwalls on S-curve along highway
(7.95 miles below Giant Forest Market)



Photograph No. 35 -- Typical drain and culvert along upslope
side of highway to carry water under road to downslope side
(8.0 miles below Giant Forest Market)



Photograph No. 36 -- Typical drain and culvert on upslope side
of highway to carry water under road to downslope side
(8.5 miles below Giant Forest Market)



Photograph No. 37 -- Double stone culvert headwalls
on S-curve curve along highway
(10.15 miles below Giant Forest Market)



Photograph No. 38 -- Double stone culvert headwalls
on S-curve along highway
(10.15 miles below Giant Forest Market)



Photograph No. 39 -- Hospital Rock stone curbing and
five-post watering station along upslope side of highway
(10.25 miles below Giant Forest Market)



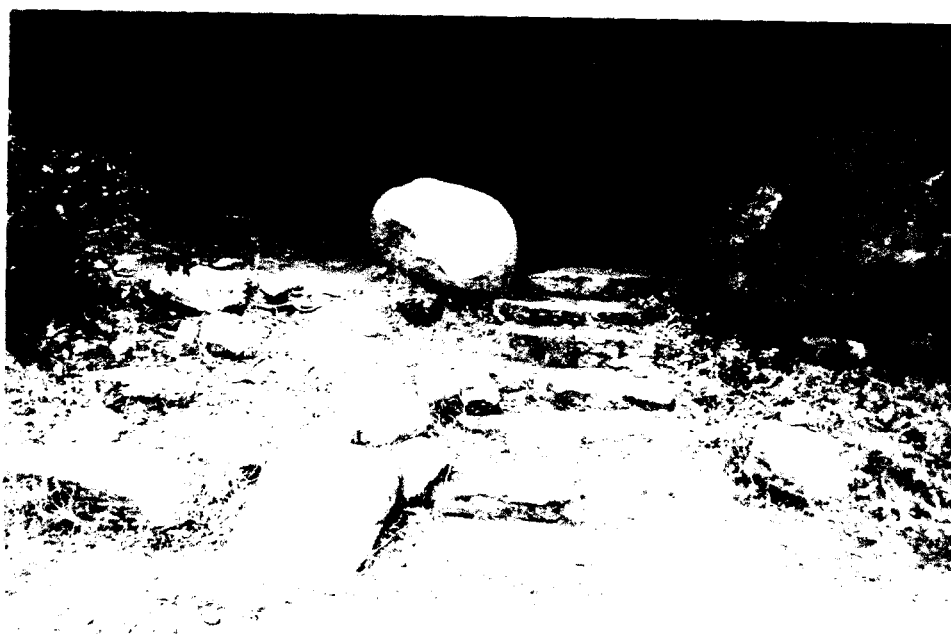
Photograph No. 40 -- Close-up of Hospital Rock watering station
post and curbing along upslope side of highway
(10.25 miles below Giant Forest Market)



Photograph No. 41 - Hospital Rock stone drinking
fountain along upslope side of highway
(10.25 miles below Giant Forest Market)



Photograph No. 42 -- Cut stone masonry steps leading to
exhibit at Hospital Rock along upslope side of highway
(10.25 miles below Giant Forest Market)



Photograph No. 43 -- Cut stone steps leading to exhibits
along upslope side of highway at Hospital Rock
(10.25 miles below Giant Forest Market)



Photograph No. 44 -- Hospital Rock river trail stone work
(10.25 miles below Giant Forest Market)



Photograph No. 45 -- Buckeye Flat Camp Road stone retaining wall and parapet wall curbing near Hospital Rock (10.25 miles below Giant Forest Market)



Photograph No. 46 -- Mt. Stewart turnout parapet
wall along downslope side of highway
(11.0 miles below Giant Forest Market)



Photograph No. 47 --- Stone or boulder parapet wall lining
typical turnout on curve of downslope side of highway
(11.2 miles below Giant Forest Market)



Photograph No. 48 -- Culvert and drain along upslope
side of highway just above Tunnel Rock
(13.7 miles below Giant Forest Market)



Photograph No. 49 -- Masonry stone foundation wall
for Tunnel Rock on upslope side of highway
(13.9 miles below Giant Forest Market)



Photograph No. 50 -- Masonry stone foundation wall for
Tunnel Rock on downslope side of highway
(13.9 miles below Giant Forest Market)



Photograph No. 51 -- Stone steps
leading to top of Tunnel Rock
(13.9 miles below Giant Forest Market)



Photograph No. 52 -- Stone-lined gutter on upslope
side of highway near Ash Mountain
(15.1 miles below Giant Forest Market)



Photograph Nos. 53 and 54 -- Stone-lined gutter on upslope
side of highway near Ash Mountain
(15.1 miles below Giant Forest Market)



Photograph No. 55 -- Culvert and drain across
highway from Ash Mountain Visitor Center
(15.1 miles below Giant Forest Market)



Photograph No. 56 -- Cut stone drinking fountain along
highway across from Ash Mountain Visitor Center
(15.1 miles below Giant Forest Market)



Photograph No. 57 -- Cut stone parapet wall in
front of Ash Mountain Visitor Center
(15.1 miles below Giant Forest Market)



Photograph No. 58 -- Stone parapet wall along highway with
Ash Mountain Visitor Center parking lot in upper left
(15.1 miles below Giant Forest Market)



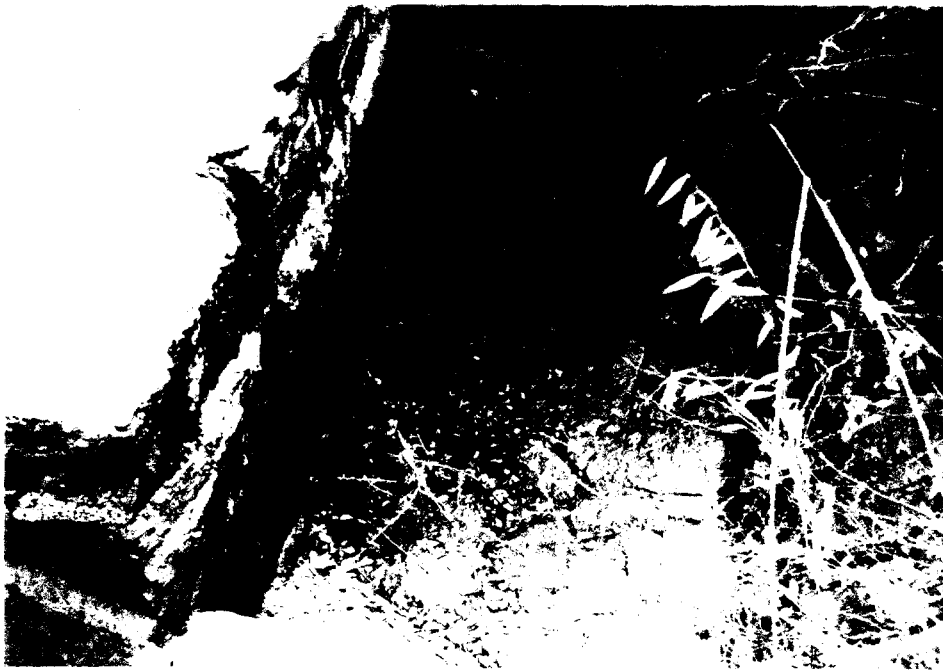
Photograph No. 59 -- Stone curbing on turnout along highway
across from Ash Mountain Visitor Center
(15.1 miles below Giant Forest Market)



Photograph No. 60 -- Stone parapet wall and stone-lined gutter along
upslope side of highway near turnout just below Ash Mountain
(15.35 miles below Giant Forest Market)



Photograph No. 61 -- Cut stone stairs leading from turnout
in Photograph No. 59 to park employee living area
(15.35 miles below Giant Forest Market)



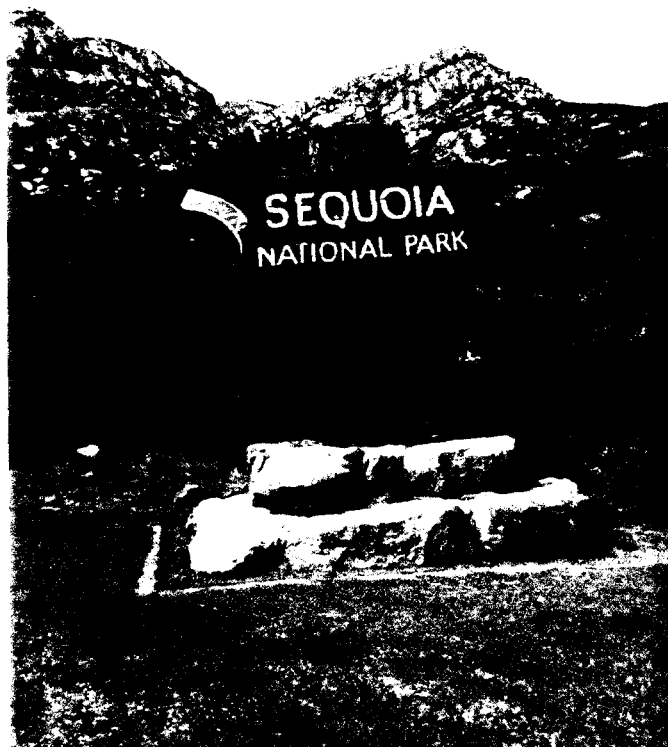
Photograph Nos. 62 and 63 -- Stone culvert and drain along upslope side
of highway between Ash Mountain and south park entrance
(15.75 miles below Giant Forest Market)



Photograph No. 64 -- Stone retaining wall along upslope side
of highway between Ash Mountain and south park entrance
(15.75 miles below Giant Forest Market)



Photograph No. 65 -- Distinctive Sequoia National Park Indian head
sign at turnout just above south park entrance
(15.9 miles below Giant Forest Market)



Photograph No. 66 -- Close-up of Sequoia National Park Indian
head sign just above south park entrance
(15.9 miles below Giant Forest Market)



Photograph No. 67 -- Stone steps on trail from Sequoia
National park Indian head sign to river
(15.9 miles below Giant Forest Market)

2. GIANT FOREST TO GRANT GROVE



Photograph No. 58 -- Stone retaining wall along upslope side of highway to protect Sequoia tree
(1.8 miles above Giant Forest Market)



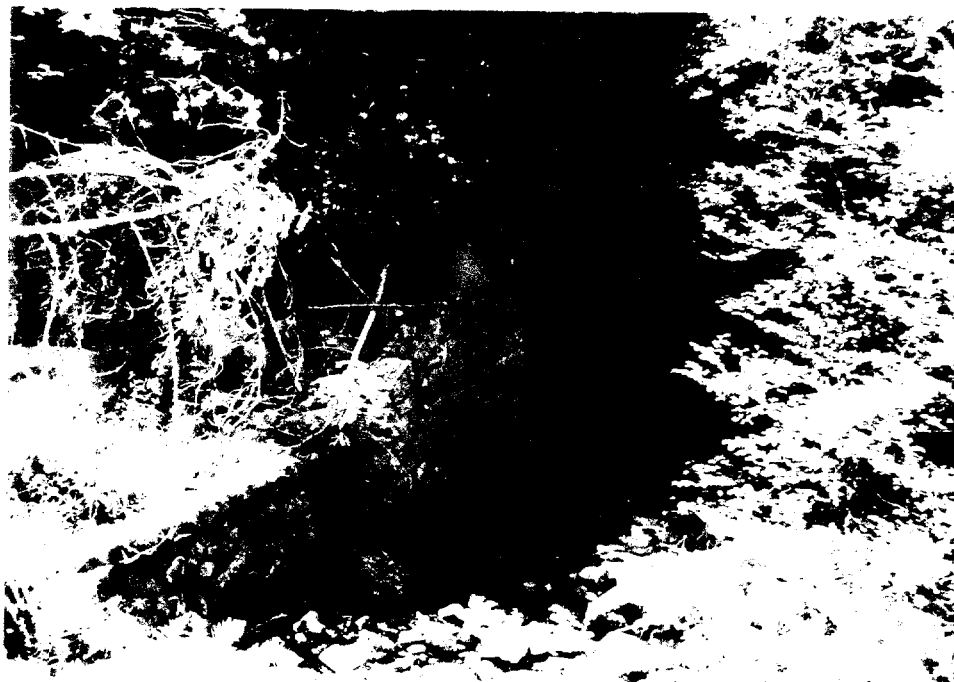
Photograph No. 69 -- Loose rock retaining wall along upslope side of highway to protect Sequoia tree
(1.85 miles above Giant Forest Market)



Photograph No. 70 -- Loose rock retaining wall along
upslope side of highway to protect Sequoia tree
(1.9 miles above Giant Forest Market)



Photograph No. 71 -- Wolverton Creek Culvert
along downslope side of highway



Photograph No. 72 -- Wolverton Creek culvert
along upslope side of highway



Photograph No. 73 -- Masonry rock parapet wall on bridge over
Marble Fork of Kaweah River on downslope side of highway



Photograph No. 74 -- Masonry rock parapet wall on bridge over
Marble Fork of Kaweah River on upslope side of highway



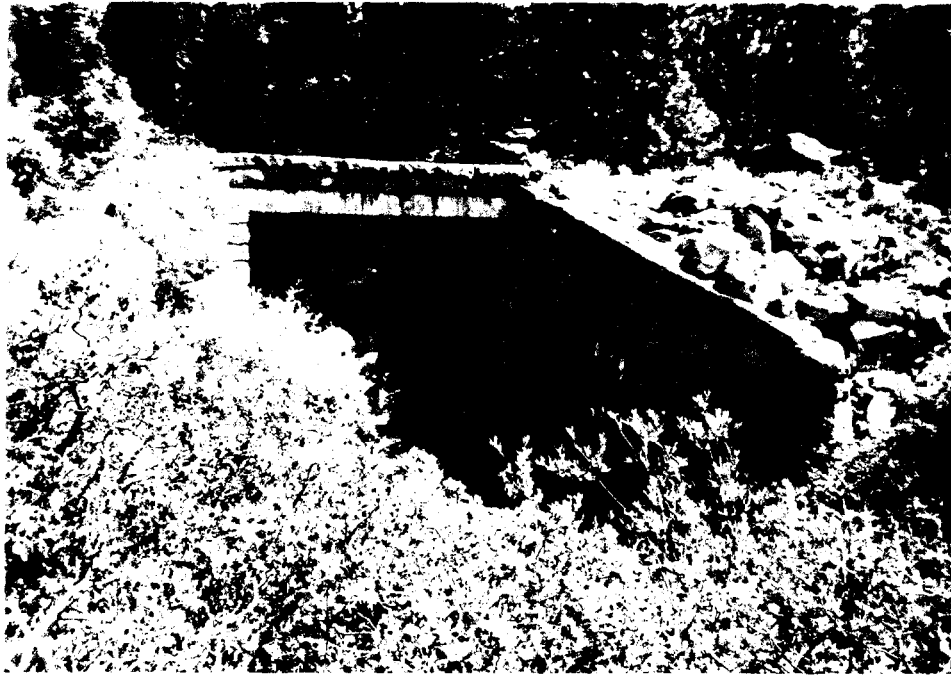
Photograph No. 75 -- Stone bridge over Marble Fork
of Kaweah River looking upstream



Photograph No. 76 -- Stone bridge over Marble Fork
of Kaweah River looking downstream



Photograph No. 77 -- Stone masonry culvert; downstream side
(4.55 miles above Giant Forest Market)



Photograph No. 78 -- Stone masonry culvert; upstream side
(4.55 miles above Giant Forest Market)



Photograph No. 79 -- Clover Creek Bridge; downstream side



Photograph No. 80 -- Clover Creek Bridge stone parapet wall along downslope side of highway



Photograph No. 81 -- Clover Creek Bridge from upstream side



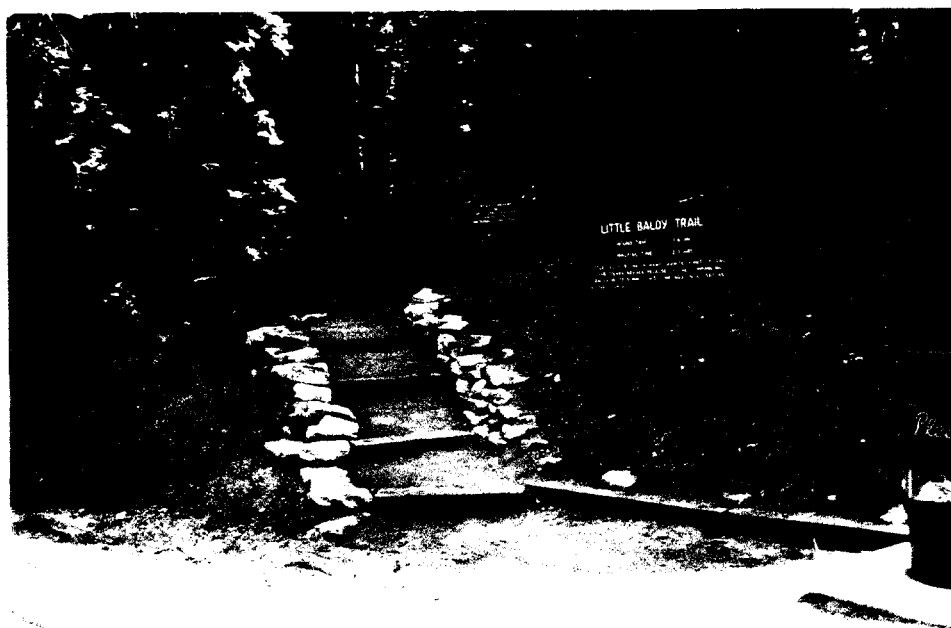
Photograph No. 82 -- Clover Creek Bridge stone
parapet wall along upslope side of highway



Photograph No. 83 -- Concrete and stone double
culvert at Halstead Creek; upstream side



Photograph No. 84 -- Stone double culvert at
Halstead Creek; downstream side



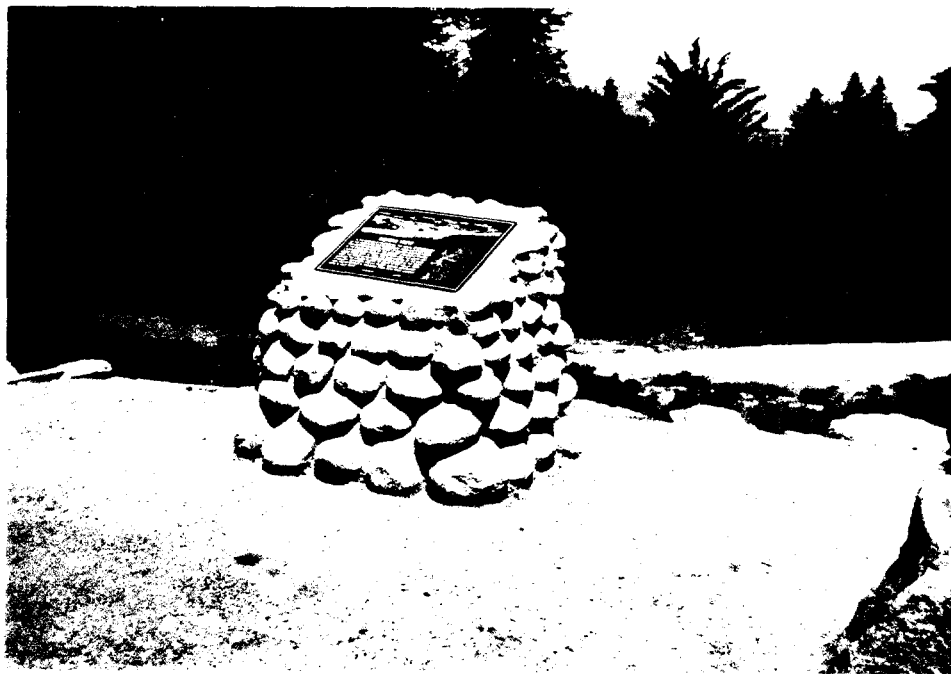
Photograph No. 85 -- Rock-lined Little Baldy trail
head along upslope side of highway



Photograph No. 86 -- Rock-lined Little Baldy trail
head along upslope side of highway



Photograph No. 87 -- Rock-lined Lost Grove trail
along upslope side of highway



Photograph No. 88 -- Sierra View Overlook
exhibit on stone work foundation



Photograph No. 89 -- Masonry parapet wall along downslope side of highway just below Redwood Mountain Grove turnout



Photograph No. 90 -- Masonry retaining wall which is topped by Photograph No. 89



Photograph No. 91 -- Masonry parapet wall along downslope side
of highway just below Photograph No. 88



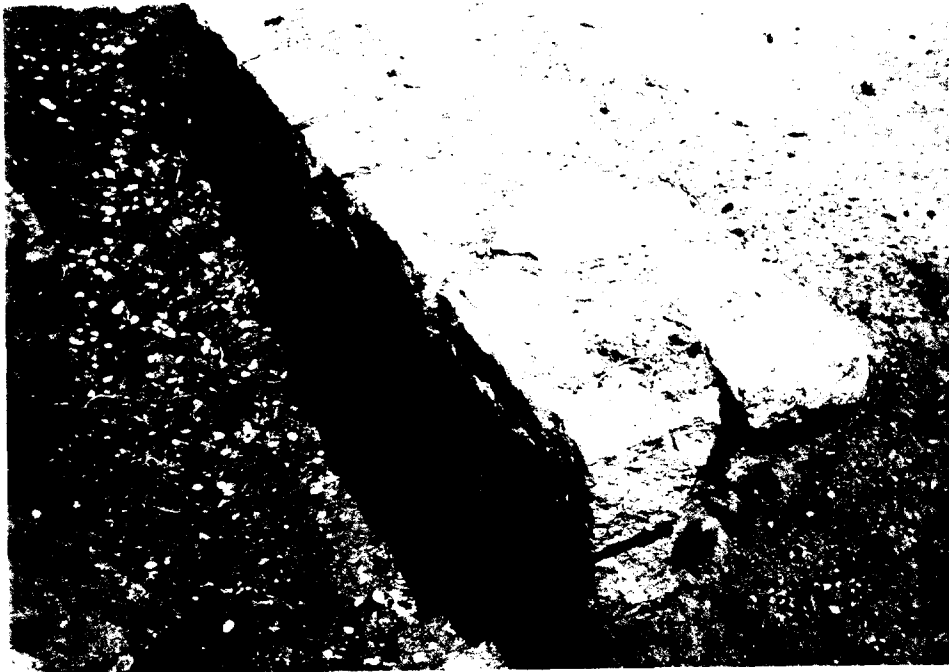
Photograph No. 92 -- Masonry retaining wall which
is topped by Photograph No. 91



Photograph No. 93 -- Masonry parapet wall along downslope side of highway just above Redwood Mountain Grove turnout



Photograph No. 94 -- Masonry retaining wall which is topped by Photograph No. 93



Photographs Nos. 95 and 96 -- Stone culvert and drain along upslope side of highway just above Redwood Mountain Grove turnout



Photograph No. 97 -- Cut stone wall along upslope side
of highway just above Stony Creek Village

