HISTORIC STRUCTURE REPORT
Mt. Mc Kinley Park Headquarters Historic District & Wonder Lake, Vol. 3
HISTORIC, EXISTING, & TREATMENT DRAWINGS
DENALI NATIONAL PARK & PRESERVE
## Contents

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National Register Nomination
**1 NAME**

**HISTORIC**

Mount McKinley National Park Headquarters District

**AND/OR COMMON**

Denali National Park and Preserve Headquarters

**2 LOCATION**

**STREET & NUMBER**

Mile 3.4, McKinley Park Highway

**CITY, TOWN**

Denali National Park and Preserve

**STATE CODE COUNTY CODE**

Alaska 02 Yukon-Koyukuk Div. 290

**3 CLASSIFICATION**

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**4 AGENCY**

**REGIONAL HEADQUARTERS (If applicable)**

Alaska Regional Office, National Park Service

**STREET & NUMBER**

2525 Gambell Street

**CITY, TOWN**

Anchorage

**STATE**

Alaska

**5 LOCATION OF LEGAL DESCRIPTION**

**COURTHOUSE, REGISTRY OF DEEDS, ETC.**

Bureau of Land Management, Alaska State Office

**STREET & NUMBER**

701 C Street

**CITY, TOWN**

Anchorage

**STATE**

Alaska

**6 REPRESENTATION IN EXISTING SURVEYS**

**TITLE**

"List of Classified Structures," Denali National Park and Preserve

**DATE**

1981

**DEPOSITORY FOR SURVEY RECORDS**

Alaska Regional Office, National Park Service

**CITY, TOWN**

Anchorage

**STATE**

Alaska
7. DESCRIPTION

Summary: The Mount McKinley National Park Headquarters Historic District is situated approximately three miles from the eastern entrance of Denali National Park and Preserve on the 90 mile park highway. Irregular in shape, the approximately 11.91 acre district occupies a natural, gently sloping forested terrace just north of Hines Creek, a tributary of the Nenana River. The Historic District encompasses 18 buildings and a network of narrow connecting roads. In keeping with the National Park Service philosophy of rustic (or nonintrusive) architecture, the physical features of the majority of buildings in the District reflect a conscious attempt to harmonize with their natural surroundings through the use of building materials and techniques indigenous to interior Alaska and through sensitive siting. Horizontal log (or log veneer), vertical log plank, board and batten, and clapboard siding are used predominantly on exterior walls. Logs or rough sawn lumber, characteristically exposed under the eaves or at the ends of gable roofs, serve to emphasize the rustic qualities of buildings. The contributing buildings in the District were erected between 1926 and 1941. Fourteen buildings maintain significant exterior integrity and contribute to the ambience of the District. Four are considered noncontributing structures due to their recent construction, loss of physical integrity, and/or their nonrustic architectural features.

Rustic Style Building Design: In exterior design, materials, and siting the ensemble of Headquarters buildings clearly exhibits tenets of the rustic style adopted and fully developed by the National Park Service between 1916 and the early 1940s. Reflecting the National Park Service attempts to design and construct buildings that harmonized with the surrounding environment and used local building traditions, the majority of Headquarters buildings utilize materials and techniques indigenous to interior Alaska. Logs were used predominantly to construct the exterior walls of Headquarters buildings. When suitable logs were unavailable, rough-sawn or machine rounded planks (simulating logs) were used on building exteriors, either alone or in combination with the log framing, to create a rustic effect. Design details such as saddle corner notching and exposed roof rafters and purlins contribute further to the rustic appearance of Headquarters buildings. At the same time, certain building
Summary: The 11.91 acre Mount McKinley National Park Headquarters District is historically significant since it illustrates the presence and early growth of the National Park Service in the State of Alaska. The National Park Service was established for the stated purpose of conserving areas of outstanding national beauty and wildlife and for providing outdoor recreational opportunities to the American public. The Civilian Conservation Corps (CCC), a Depression-era program whose life extended from 1933 to 1942, contributed greatly to the expansion and development of the Headquarters District in the late 1930s. Throughout the nation and locally at Mount McKinley National Park, the CCC facilitated and enhanced the efforts of the National Park Service. The Mount McKinley National Park Headquarters District, whose period of historical significance is identified in this nomination as the years extending from 1926 to 1941, visually represents the two historical themes of conservation and recreation.

Architecturally, the design, construction materials, and siting of buildings in the Headquarters District are good representative examples of the National Park Service philosophy of rustic style architecture during its zenith and last period of expression.

The Headquarters District possesses integrity of location, design, setting, materials, workmanship, and feeling and association. Of the eighteen buildings in the District, only four are noncontributing resources. Fourteen buildings contribute to the sense of time and place of the Headquarters District.

Criterion A. The Mount McKinley National Park Headquarters District achieves historical significance for its strong association with the National Park Service and the CCC, who, together, advanced the conservation and recreation movements in
The boundary of the Mount McKinley National Headquarters District is irregular in shape and tightly drawn around the greatest concentration of cultural features (consisting of buildings, roads, and the immediately surrounding natural environment which has visually impacted the district during the period of historical significance). The district embraces 11.91 acres and includes areas on both the north and the south of the park highway. It is located in NW 1/4, NW 1/4, Sec. 8, T.14S., R.7W., Fairbanks Meridian (see district map and detailed description included in this nomination.)

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE CODE COUNTY CODE
N/A

FORM PREPARED BY
NAME/ TITLE
Gail Evans, Historian

ORGANIZATION
National Park Service, Alaska Regional Office

DATE
December 1985

STREET & NUMBER
2525 Gambell Street

TELEPHONE
(907) 261-2638

CITY OR TOWN
Anchorage

STATE
Alaska

CERTIFICATION OF NOMINATION
STATE HISTORIC PRESERVATION OFFICER RECOMMENDATION
YES X NO NONE

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Historic Preservation Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The evaluated level of significance is National ___ State ___ Local ___.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY
I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE
techniques reveal awareness of local craft traditions practiced by miners and hunters in the region. (This is particularly true of the oldest buildings in the Headquarters Historic District.)

Headquarters buildings are relatively small in scale. Buildings rarely exceed 40 feet in width and most are no more than one and one-half stories in height. In one instance (No. 102) the siting of a two-story building against a small hillside effectively reduces the overall sense of height.

Finally, the rustic philosophy of nonintrusive building is evident in the overall spatial distribution and siting of buildings and roads in the Headquarters Historic District. Beginning in the early 1930s when National Park Service landscape architects became increasingly involved in the planning of Headquarters, it appears that an effort was made to minimize the impact of built features on the landscape. Excluding the tight concentration of buildings at the hub of the District, buildings are separated by considerable distances and surrounded by undisturbed stands of trees. Only native plant materials border buildings and walkways. Roads in the district are narrow and often follow the natural contour of the land.

Appearance During Period of Significance: Between 1926 and 1941 the physical appearance of Headquarters evolved. Between the fall of 1925 and the end of 1927, no less than nine structures were constructed along the park highway and a short stub road which now serves as the main access road into the district. Buildings were typically small, horizontal log cabins capped with low pitch gable roofs of rough sawn lumber covered with tar paper. One building, the Office Building (No. 22), is the sole survivor of this early period of vernacular buildings that closely resembled those built by local miners, trappers, and hunters.

An era of landscape architect designed buildings began in 1928. That year, two buildings (Nos. 101 and 106) were erected alongside the main road into Headquarters. (The Warehouse (No. 101) was among the first and is now the oldest extant landscape architect-designed building at Headquarters.) Both buildings
repeated design characteristics and materials used in the first generation of Headquarters buildings: each was one story in height, had a gable roof initially sheathed with tar paper, and was built of horizontal peeled logs. Building construction escalated in the late 1920s and through the mid-1930s. Most buildings constructed at Headquarters between 1929 and 1937 were designed by National Park Service architects. All were built in the rustic architectural mode typified by a heavy reliance on peeled logs, either for entire walls or wall framing, rough-sawn board-and-batten siding, and roof designs that revealed structural rafters and purlins under the eaves and in the gable ends. Six buildings from this period of exuberant growth and development are extant. Most are sited on or near the principal Headquarters road, which by 1937 formed the backbone of building development.

The final era of development at Headquarters witnessed the construction of five major buildings, the relocation of one, and the establishment of the pattern of roads that presently exists in the district. All five buildings built between 1938 and 1941 are attributed to National Park Service architects. The Civilian Conservation Corps (CCC) provided labor for new construction, for the relocation of one building, and for the construction of new roads at Headquarters. Great variety exists in the design and building materials used during this last period of building: two frame structures sheathed with clapboard siding were completed in 1938; the following year a combination log and stone veneer building and a reinforced concrete structure were completed. The substantial completion of an all log building in 1941 coincided with the close of the National Park Service's adherence to the rustic concept.

Headquarters Since the 1940s: The Headquarters Historic District has undergone relatively few changes since its period of historical significance. Building development at Headquarters entered a period of dormancy during and after World War II. The 1950s saw a renewal of changes, both unplanned and planned. In 1950, a substantial log and frame employee's quarters just west of the main park road burned to the ground. That year, the Office Building (No. 22) was relocated to the utility area, and two years later it was moved to its present location. The Garage and Repair Shop (No. 102) received a major addition in 1955. The 1950s also
witnessed the relocation of the superintendent's garage (No. 50) to its present site just south of the Garage and Repair Shop. Beginning in the 1960s, new construction accomplished under the National Park Service Mission 66 building program took place largely outside the Headquarters District. Inside the District during the 1960s and early 1970s only two minor buildings were removed. Most recently, changes inside the district boundaries are limited to the introduction of one building (No. 123) and the construction of new additions onto the Garage and Repair Shop. Only minor road changes likewise have occurred since the mid-1960s. Two short sections of road were abandoned; however, they still exist as cleared openings and are currently used as pedestrian walkways.

Boundary Description and Justification: The Mount McKinley National Park Headquarters Historic District encompasses less than ten acres. Boundaries are tightly drawn around the greatest concentration of significant cultural features that, combined, establish an integrity of feeling and association at Headquarters. Since the strong relationship between the natural and built environment reflects both the rustic design concepts that guided the development of Headquarters and the functional requirements of the occupants at Headquarters in the 1930s, the District boundaries embrace small areas of the natural setting. The District boundaries have been selected for reasons of visual impact as well as historical patterns of use which both exerted a great influence on the history of Headquarters during the period of significance.

The extreme northern boundary of the District follows the 2,130 contour, a few feet upslope from building Nos. 111 and 22 (the first two Headquarters' administration buildings) and extends eastward to the entrance of the residential loop road. Here, the boundary turns southward and follows a line ten feet east of the curvilinear residential road initially established by the CCC at the time residence buildings Nos. 12, 13, and 23 were constructed. Just east of the Barn (No. 106), the boundary takes in an area historically used as a horse corral.

The boundary around the southern portion of the district follows a line 10 feet from the eastern and western edges of the dog kennel
road and along the 2,060 foot contour just south of building No. 105 and the dog kennels at the south. Here the land drops precipitously. Since 1938 when the kennels were established by the CCC, both park personnel and visitors have traveled the loop kennels road to care for and observe the sled dogs. The semi-wooded area encircled by and bordering the road, although not actively used historically, has functioned passively as a buffer between the greatest concentration of human activity at Headquarters and the sights, sounds, and smells of the park kennel operation. The area encompassed by the dog kennel road is less than one acre.

From the juncture of the kennel road and the east-west service road, the District boundary runs east to the northwest corner of the parking area, then directly north. Building No. 141 is outside the District due to its recent move to the site and its noncompatible design. The small area inside the district and north of No. 21 is primarily wooded but broken by an open space, which, until a 1950 fire, was the site of a major building at Headquarters. In addition, this area provides a visual edge at the historically significant entrance into Headquarters that dates from 1926. The boundary curves eastward a few feet to exclude a parking area expanded to its present size in the last two decades then north and northwest to the point of beginning.

Contributing/Noncontributing Buildings: Mount McKinley National Park Headquarters Historic District is comprised of 14 contributing resources and 4 noncontributing resources. One significant building has noncontributing additions projecting from one wall. All 14 contributing resources in the Headquarters Historic District were constructed during the 15-year period of historical significance, 1926 to 1941. Noncontributing buildings or additions were constructed since 1941, or were built during the period of significance but have experienced a considerable loss of physical integrity. Each building included in the district is keyed by building number to an accompanying map of the Headquarters District. Photographs depicting individual buildings and significant vistas are appended.
Contributing Buildings

No. 22: Office Building. 1926; architect unknown; built by park personnel. Horizontal, peeled log exterior walls with double square corner notching; painted dark brown; 20'6" x 19'6"; one story; gable roof with ribbed metal sheathing; no foundation; six-light, paired windows. Alterations: building moved in 1950 and again in 1952; log walls peeled, porch reconstructed; recent frame board and batten, shed roof addition on rear, north elevation; exterior walls painted. (Photo No. 22-1).

No. 101: Warehouse. 1928; designed by National Park Service; built by park personnel. Walls of horizontal, peeled logs; 32' x 32'; 1 1/2 stories; gable roof with wood shakes; poured concrete foundation; single light windows; two pedestrian doors on west elevation. Alterations: tar paper replaced by metal roofing in early 1950s; wood panel infill of garage door opening on south wall; new pedestrian doors on west wall; new foundation and interior rehabilitation in 1982; recent addition of wood shakes on roof; exterior walls painted. (Photo No. 101-1 to 101-3.)

No. 106: Barn. 1928-1929; National Park Service probable architect; park personnel probable builders. Horizontal, peeled log walls with saddle and dovetail corner notching; painted dark brown; 19'3" x 42'; one story; gable roof with wood shakes; no foundation; multi-light casement windows on south elevation only; pedestrian door on west wall. Alterations: log addition on east wall in early 1930s; windows added in late 1940s; recent small board and batten addition on rear, east wall; recent addition of wood shakes on roof; exterior walls painted. (Photo No. 106-1 to 106-5.)

No. 105: Dog Feed Cache and Sled Storage. 1929-1930; designed by National Park Service; park personnel probable builders. Peeled log frame with reversed board-and-batten siding; painted dark brown; main portion, 14'10" x 24'10"; 1 1/2 stories; gable roof; two smaller adjoining sections are one story with shed roofs; all roofs sheathed with wood shakes; concrete slab foundation under two portions; six-light casement windows; solid wood doors on north elevation. Alterations: building moved in 1938; shed roof
addition on west wall of central portion in 1976; recent replacement of metal roof with wood shakes; exterior walls painted. (Photo No. 105-1, 105-2.)

No. 110: **Electric Light Plant (Power House).** 1930-1931; architect unknown; park personnel probable builders. Horizontal, peeled log and poured concrete (lower one-third) wall construction; saddle corner notching with sawn and battered log ends; painted dark brown; 14' x 16'; one story; gable roof sheathed with wood shakes; concrete foundation; eight-light casement windows; pedestrian door on west elevation. Alterations: replacement of single garage door with pedestrian door; replacement of corrugated metal roof with wood shakes; exterior walls painted. (Photo Nos. 110-1 to 110-3.)

No. 103: **Garage.** 1931; designed by National Park Service; built by park personnel and contracted labor. Peeled log frame with vertical board-and-batten exterior walls; painted dark brown; 25' x 42'2"; one story; salt-box type roof with wood shakes; concrete slab foundation under portions; six-light casement windows; pedestrian door (east elevation) and single garage door (west elevation). Alterations: infill of garage doors on south wall between 1950 and mid-1960s; interior repartitioning in late 1970s and in 1984; recent shake roof; exterior painted. (Photo Nos. 103-1 to 103-3.)

No. 112: **Comfort Station.** 1932; designed by National Park Service; park personnel probable builders. Peeled log and reverse board-and-batten exterior walls; painted dark brown; 16'6" x 10'; one story; gable roof with rolled-composition roofing; poured concrete foundation under one portion; small glass louvered windows. Alterations: window and door modification c.1967; concrete foundation poured under entire building and board-and-batten addition on north wall in 1985-86; recent picture window added on east wall; exterior walls painted. (Photo Nos. 112-1 to 112-3.)

No. 107: **Boiler House.** 1932; architect unknown; built by park personnel. Horizontal peeled log (upper portion) and poured concrete (lower portion) wall construction; saddle corner notching; painted dark brown; 25'8" x 19'; one story; gable roof with wood shakes; concrete foundation; six-light casement windows; single door on south elevation. Alterations: recent replacement of tar paper and corrugated metal roofing with wood shakes; exterior walls painted. (Photo Nos. 107-1, 107-2.)
No. 21: Rangers' Dormitory. 1934-1935; designed by National Park Service; built by park personnel and contracted labor. Horizontal peeled logs with saddle notching (ground floor) and vertical rounded planks over frame construction (second floor); log ends sawn and battered; painted dark brown; 34' x 34'; two stories; gable roof with wood shakes; poured concrete foundation with daylight basement; single light casement and picture windows; doors on east and west elevations. Alterations: interior alterations beginning in 1954; recent placement of multi-light windows with single pane casement windows; introduction of three picture windows on ground floor; wood shakes instead of original metal roof; exterior walls painted. (Photo Nos. 21-1 to 21-4.)

Nos. 12 and 13: Employee Residences. 1938; designed by National Park Service; built by Civilian Conservation Corps. Frame construction with clapboard siding (lower portion) and vertical board-and-batten siding (upper portion); painted dark brown; 25' x 26'10"; two stories; gable roof with wood shakes; concrete foundation with daylight basement; horizontal three- and four-light sash windows. Alterations: interior repartitioning of both in 1954 and recent remodeling; introduction of second floor fire escapes on rear, south walls; replacement of multi-light sash window on No. 12 with picture window; modification of ground floor porches on both; exterior walls painted since 1963; replacement of metal roofing with wood shakes. (Photo Nos. 12/13-1 to 12/13-4.)

No. 111: Superintendent's Garage. 1939; designed by National Park Service; built by Civilian Conservation Corps. Horizontal peeled log walls above poured concrete with stone veneer exterior walls; log portion painted dark brown; L-shape; measures 24'6" x 33'6" and 15'6" square; one story; intersecting gable roof with corrugated metal sheathing; concrete slab foundation; 12-light sash windows. Alterations: compatible addition constructed on west wall in 1943; infill of garage doors on east elevation; and interior repartitioning in 1943; interior remodeling in 1960 and early 1980s; new metal roof installed 1984. (Photo Nos. 111-1 to 111-3.)

No. 102: Garage and Repair Shop (Machine Shop and Garage). 1939; designed by National Park Service; built by Civilian Conservation Corps. Reinforced concrete wall construction with horizontal wood siding in gable ends; painted dark brown; 46' x 30'; two stories; gable roof with wood shakes; reinforced concrete foundation; multi-light casement windows; three vehicle bays and pedestrian door on north facade. Alterations: major concrete block addition
or west wall in 1955, this addition extended to the west in 1981; both recent additions are noncontributing elements. (Photo Nos. 102-1 to 102-3.)

No. 23: Employee's Residence. Substantially completed 1940-1941; designed by National Park Service; built by Civilian Conservation Corps, Alaska Road Commission, park personnel, and contracted labor. Horizontal peeled log walls (ground floor) and frame construction with vertical log planks (upper half-story); corners saddle notched with log ends sawn and battered; painted dark brown; 46'6" x 28'; 1 1/2 stories; steeply pitched gable roof with one shed roof dormer and two gable roof porches, all sheathed with ribbed metal; poured concrete foundation with daylight basement; one-over-one double-hung sash windows. Alterations: interior remodeling in early 1950s and in 1975. (Photo Nos. 23-1 to 23-3.)

(Additional information about each contributing building may be found in Mount McKinley Headquarters District, Historic Structures Report, by David Snow and Gail Evans (1986).

Noncontributing Buildings

No. 50: Superintendent's Garage (early 1930s). Moved since 1966 and possibly before. (Photo No. 50-1.)

No. 96: Storage Shed. (platform only, c. 1955; roof and walls since 1979).

No. 118: Equipment Storage (1955); Paint Shop (1980); Fire Engine Storage (1981). (Photo No. 101-1.)

No. 123: CCC Infirmary (c. 1938). Substantially altered and relocated. (Photo No. 123-1.)

No. 217: Employee Garage (mid-1950s). (Photo No. 217-1.)
Alaska and locally in the remote interior portion of the state. As agents of the furtherance of conservation and recreation, the National Park Service and the CCC were primarily responsible for the early physical development of the Mount McKinley National Park Headquarters District that took place between 1926 and 1941. In 1985, the physical appearance and character of the Headquarters District shows minimal alteration since that time, thus it visually recalls this fifteen-year period of historical significance.

Establishment of Mount McKinley National Park. The creation of Mount McKinley National Park reflected America's heightened concern for conservation, which captured the support of Progressive era government leaders in the first two decades of the twentieth century. Carved out of the great wilderness of interior Alaska, the establishment of Mount McKinley National Park epitomized the primary mission of the National Park Service, established in 1916. Under the leadership of its first two directors, Steven Mather (1916-1929) and Horace Albright (1929-1933), the dual concepts of conservation of the natural environment and the promotion of outdoor recreation emerged as the dominant management direction of the early national park movement.1 Often compared to the scenic splendor of the Alps and Himalayas, many early park supporters ranked McKinley alongside Yellowstone, Yosemite, and the Grand Canyon in its supremacy in world scenery.2 Largely in response to the committed efforts of influential East Coast conservation organizations,3 on February 26, 1917, Congress established by act (39 Stat. 938) a park approximately 2,200 square miles in area. It encompassed the crest and northern slopes of the central Alaska Range and featured 20,320-foot Mount McKinley, the loftiest mountain in North America, as the principal scenic attraction.4 In addition to preserving the natural scenery, the park aimed at protecting the game ranges of the prolific herds of caribou and Dall sheep presumably threatened by the encroachment of market hunters and the advancement of civilization prompted by the construction of the Alaska Railroad. Finally, park advocates argued that the park's establishment would encourage economic development of interior Alaska by stimulating travel and tourism in this remote undeveloped area of the state.5 The passage of legislation creating the park was significant: Mount McKinley National Park
became the first national park in Alaska, and it was second only to Yellowstone in size.6

Early Years. Administration of Alaska's first national park came slowly. No appropriation of money was initially provided for the development and protection of the park.7 It was not until 1920 that $8,000 was granted to establish an administrative area, to pay the salary of a superintendent and assistants, and to purchase and maintain a dog team.8 The following year, forty-year old Henry P. Karstens assumed the position of park superintendent.9 Working with one ranger, Superintendent Karstens at first administered to park needs from Nenana, a small town over fifty miles north of the park boundary. Upon his arrival there in mid-1921, the Nenana Daily News assuredly announced:

Of great importance to Interior Alaska is the arrival of Harry P. Karstens, newly appointed superintendent of Mt. McKinley National Park . . . [His] coming marks the beginning of a new epoch in the history of Interior Alaska, for [he is] here to blaze the trails for thousands of tourists who even now are waiting an invitation to visit America's largest [sic] National Park and one of the world's scenic wonders.10

In the summer of 1922, coinciding with the near completion of the Alaska Railroad, Superintendent Karstens moved park headquarters to McKinley Park railroad station near the east boundary of the park. During the next three years, Harry Karstens carried out the duties of park superintendent from a small enclave of log and frame buildings near the railroad depot and situated on the banks of a nearby creek.

A New Park Headquarters, 1925-1928. The severe cold and dampness of the creek channel, periodic flooding, and finally a fire that denuded the surrounding landscape, probably all contributed to the relocation of park headquarters in the fall of 1925 to its present site.11 Situated in a sheltered forest of spruce, birch, and cottonwood approximately two miles west of the McKinley Park Station, the establishment of the new park headquarters occurred simultaneously with the construction of the first summer tourist camp inside the park. Beginning in 1925, the Savage River Camp, consisting of a neatly arranged ensemble of wall tents,12 induced hardier visitors to travel into the park on horses owned and
operated by the camp concessionaire. With the gradual influx of summer tourists came new responsibilities for park personnel, added to those of wintertime game protection.

Reflecting this increase in recreational use of the park, the size of both the park staff and the headquarters area gradually expanded. Between 1925 and early 1928, new buildings were added to the initial small cluster of log and frame structures. By mid-1927, park headquarters consisted of no less than nine structures plus 800 lineal feet of road. The superintendent's office and park staff residence cabins fronted on the park road, while the utility buildings were located to the rear (south) and accessed by the headquarters stub road. Since no money was allocated for building construction during the first three years after headquarters was relocated, most of the materials used for construction were salvaged from abandoned railroad construction camp buildings and timber in the nearby forests. Park rangers accomplished all building construction.

Years of Expansion, 1928-1937. The year 1928 marked a turning point in the development and growth at park headquarters. Visitor attendance in the park continued to rise with the introduction of new concession operated automobile stages and the expansion of facilities at Savage River Camp. In addition, the ongoing construction and improvements of the park road allowed for the establishment of small tent camps spaced about sixteen miles apart and extending into the center of the park. Demands on the park rangers, and especially Superintendent Karstens, increased correspondingly with the increase in recreational use of the park. Additionally, the Park Service itself insisted upon greater accountability of park operations. Chafing under new bureaucratic responsibilities, Harry Karstens resigned as superintendent in the fall of 1928. That same year, Mount McKinley National Park received its first allotment of funds for building construction in the history of the park.

The arrival of Superintendent Harry Liek in December, 1928 ushered in a decade of steady growth and development of the park. During this ten-year period, construction and maintenance of the road made steady progress. By 1938, the road extended and was suitable
for vehicular travel for ninety miles into the park from the Alaska Railroad.17 In the mid-1930s, a new airplane field was completed at Savage River Camp.18 Facilities provided by the park's sole concessionaire, the McKinley Tourist and Transportation Company, correspondingly improved and expanded during the 1930s. Although visitation declined in the early 1930s due to depressed economic conditions in the United States, the total number of visitors recorded during the 1937 travel season reached 1,073, the largest attendance attained in the history of the park to date.19 The park administrative staff and rangers were kept busy year round facilitating the concession-operated recreational activities in summer and providing protection of wildlife against poachers in winter. In mid-1937, the management of the park was assumed by seven permanent employees and a total operating budget of $150,050.20

As the hub of all administrative and management activities for the park, the heightened development activity reflected not only the increased recreational use of the park, but the general expansion of the National Park Service in the 1930s. As a result of an executive order issued by President Franklin Roosevelt in 1933, the agency expanded multifold in the number of areas administered and in personnel. Park units jumped from 67 to 137, and Park Service employees quadrupled immediately after the agency reorganization.21 Park Service officials, and particularly the Branch of Plans and Design, became increasingly involved in the planning and development of park facilities - especially at park headquarters. Thomas Vint, head of the Service's landscape division, visited the park on an inspection trip in 1929.22

Planning for the overall placement of roads and buildings at headquarters began as early as 1928: in March that year, the superintendent noted that "all future development about headquarters will be influenced by the proper placing of these buildings and the space reserved for future construction."23 An official master plan for the headquarters area was completed by the mid-1930s.24 In early 1937, the Branch of Plans and Design produced a master plan for the entire park that included detailed maps and descriptions of existing and proposed buildings at park headquarters.25
This was a period of robust building construction. Beginning in 1928, an average of two major buildings a year were started at headquarters. Construction peaked in 1935 when, according to Superintendent Harry Liek, "the largest building program in the history of the park took place the past year when two of the finest buildings in the interior of Alaska were constructed at park headquarters, consisting of an eight room rangers' quarters and a five room employee's residence." With the completion of these two buildings, the headquarters was comprised of eighteen buildings. As headquarters physically expanded, the focus of activities shifted from the park road to the short headquarters road begun in the mid-1920s. The exuberance in building construction abruptly halted in 1937: that year the park received no appropriation for physical improvements.

**Influence of the Civilian Conservation Corps.** In a bold effort to curb the epidemic proportions of the nation's worst economic depression, newly inaugurated President Franklin Roosevelt initiated a wide array of New Deal emergency work relief programs. The Civilian Conservation Corps (CCC) more than any other New Deal program had the greatest impact on the long-term development of conservation and recreation-oriented projects in national park areas. At the program's peak size in 1935, the National Park Service employed a total of 126,000 CCC supervisors and enrollees.

The significance of the CCC in national history, as well as Park Service history, is great. During its years of existence from 1933 to 1942, the program provided work for 5 percent of the total United States male population. In the first three months of its establishment, the CCC accomplished the greatest peacetime mobilization of American youth ever experienced by the United States. The CCC was largely responsible for the coordination and development of a nationwide state parks program. Work visible to the public, such as new trails, campground facilities, and vista clearings contributed to the increase in park visitation by 25 to 50 percent. Park Service officials have claimed that the CCC advanced both forest conservation and recreational park development by ten to twenty years.
Due to the influence of the CCC, the hiatus in building construction at park headquarters lasted only briefly. On May 20, 1938, a full company of 200 CCC enrollees and 12 supervisory personnel arrived in the park. Immediately, the corpsmen began constructing CCC Camp Denali, located only a few hundred yards north of headquarters.31 Even before the summer building season was half over, the CCC was well along with several projects in the park, including fire hazard reduction, telephone line maintenance, landscaping at the new McKinley Park Hotel, and maintenance and improvement of the park highway. Most of their efforts, however, focused on the headquarters area. Throughout the summer, the CCC labored on sewer and water line construction, road construction and obliteration, and building relocation and new construction. By early November when the last contingent of corpsmen left the park, two 2-story employee residences were completed. Additionally, the CCC was responsible for moving the dog kennels to their present location and building loop roads that accessed the new dog kennel and residential areas at headquarters.32

A second full company of CCC enrollees returned to Camp Denali the following April. Major projects undertaken at headquarters during the summer of 1939 included the construction of a two-story reinforced concrete garage and repair shop and a log and stone veneer garage at the superintendent's residence. Before summer's end, the CCC completed the installation of underground drainage ditches and power and telephone lines at headquarters.33 Within a month after the departure of Superintendent Harry Liek from the park, newly appointed Superintendent Frank T. Been observed in June 1939: "the CCC Company assigned to the park is an asset of inestimable value as accomplishments are possible which would take years through regular appropriations.34

The expense of transportation to Alaska was the apparent reason for the disapproval of the park's request for a CCC company after 1939. Even without a CCC camp in the park, their influence continued to be felt. Through the CCC operation of the Alaska Fire Control Service, sufficient building logs were provided for the construction of a new residence.35 In April 1940, the logs arrived by freight car and were on the ground at the building site.36 Without qualified park personnel, adequate funds for hiring skilled labor, or available local workmen due to wartime
labor shortages, construction of the new log residence progressed slowly. Finally, by mid-1941, both exterior and interior work on the new residence were substantially completed.

Following the completion of this residence at headquarters, major building construction was curtailed during World War II. With only a few exceptions, the resumption of major construction activity which began in the early 1950s took place largely outside the historic Headquarters District. Changes that have occurred in the historic District at headquarters are primarily limited to building interiors or are compatible in exterior design and materials. Interior and minor exterior alterations that have taken place over time reveal the evolution in building uses and advancing technology which characterizes this building enclave as a dynamic administrative area.

Criterion C: The Mount McKinley National Park Headquarters District is eligible for the National Register since it embodies distinctive characteristics of a type, period, and method of construction. In addition, it represents, as a whole, a distinguishable entity. The Headquarters District clearly represents the rustic architectural style, adopted and developed by the National Park Service during the first twenty-five years of the agency's existence. Moreover, the District illustrates the evolution of the rustic style over a twelve-year period (1928-1940) from which time the extant National Park Service-designed buildings date. Finally, the grouping of features and relationships among those features in the Headquarters District possesses a coherence that makes it an identifiable historic environment.

Distinctive Characteristics of the Rustic Style. The total ensemble of buildings and the articulated spaces between these features visually expresses the philosophy of the rustic style. A growing cognizance of the ills provoked by the country's increasingly mechanized, industrialized society in the late 1800's which gave rise to a new romanticism about untouched natural environments, provided fertile ground for the emergence of the rustic style. Beginning in the early 1880s, summer resorts built by wealthy Easterners in New York's Adirondack Mountains achieved
an ornate "high style" architecture through the use of logs, poles, and branches in large mansion-like dwellings. The incorporation of native materials in buildings and their integration with the landscape was fostered by early professional associations between landscape architects and architects such as Frederick Law Olmsted, Sr. and H.H. Richardson. Harmony between buildings and their surrounding landscapes was of paramount concern to the early practitioners of the rustic style.

The adoption of this noninvasive design philosophy by the National Park Service after its creation in 1916 was natural. Many of the grand western parks inherited by the Service were renowned for their superlative natural scenery. In addition, the tradition of buildings constructed of natural local materials had already been firmly established by concessionaires who constructed tourist facilities in Yellowstone, Grand Canyon, Glacier, Mount Rainier, and Crater Lake before the birth of the National Park Service. In these and other early parks and monuments, although no one architectural style predominated, the most aesthetically appropriate buildings successfully harmonized with their natural setting. Early National Park Service landscape architects strove to continue the subordination of buildings and other improvements to their natural surroundings through thoughtful design, selection of materials that blended with their setting, and careful site selection and landscaping. As noted by William Tweed in his 1978 (revised) monograph on rustic architecture in the Park Service, the agency, in 1918, articulated its commitment to the noninvasive philosophy in its first "Statement of Policy":

In the construction of roads, trails, buildings, and other improvements, particular attention must be devoted always to the harmonizing of these improvements with the landscape... All improvements will be carried out in accordance with a preconceived plan developed in special reference to the preservation of the landscape... 39

This, then, became the guiding tenet of the rustic style embraced by the National Park Service in its effort to reconcile the need for physical improvements and the agency's mandate to protect and preserve areas of outstanding natural beauty.
At the Headquarters District adherence to the aesthetic ideals of the rustic philosophy are clearly evident. The design and materials utilized in the Headquarters Historic District successfully capture the National Park Service landscape architects' conscious effort to design buildings that harmonize with the natural setting.

Evolution of the Rustic Style. The greatest number of buildings designed by the National Park Service in the Headquarters District were produced by the Branch of Plans and Design between 1927 and 1935, a period of full development of the rustic style by the National Park Service. 40 The period from 1935 to 1942 was marked by expanding institutional growth and operations in the Park Service, which produced changing perceptions of what park architecture should be and brought about the decline of the rustic style. This era was characterized by the utilization of contemporary building materials and methods, the gradual incorporation of modern architectural styles, and uneven quality and diversity.41

This final phase in the evolution of the National Park Service rustic style is well represented by five buildings designed and constructed at park Headquarters between 1938 and 1941. Four of the five are notably different in design, scale, and materials. One building is entirely of reinforced concrete, and two others incorporate beveled wood siding on the exterior walls producing an effect of simplicity and structural honesty. The influence of modern architectural styles popular outside the Park Service is clearly evident. Workmanship is uneven, reflecting decreased development funds which restricted hiring skilled labor, and the increased influence of architectural styles outside the Park Service. This last generation of buildings at Headquarters, plus its predecessor, together visually illustrate the development of the rustic style of architecture by the Park Service from its years of maturity to its decline.

Significant and Distinguishable Entity. As a group, the buildings, roads, spaces between buildings, and the natural setting in the Headquarters District are a significant and distinguishable entity. The existing character of cohesiveness reflects the efforts of Park Service landscape architects to
develop plans aimed at preserving the landscape as well as meeting the functional needs of those who occupied the headquarters area during the period of significance.

INTEGRITY: The Headquarters District, as a whole, retains the physical characteristics it possessed during its period of significance, thus visually conveys its association with significant historical patterns.

LOCATION: The layout of buildings and roads in the district has remained at its original location at mile two on the park road. Although two individual buildings in the district have been moved since their construction, they are contributing resources. The Dog Feed Cache (No. 105) was moved to its present location by the CCC in 1938, during the period of significance. The Office Building (No. 22) was moved twice (1950 and 1952), yet its present location retains its original forested setting and orientation to the park road. Both former sites of the Office Building are contained in the district. The present site of the Office Building has been the site of Headquarters buildings since about 1930.

DESIGN: The overall pattern and linkage of cultural features included in the nominated district has remained intact since the late 1930s. Individual contributing buildings have undergone some change in design due to additions and alterations to the exterior, but these are in keeping with the original design, relatively minor (small in scale), inconspicuous (made to the rear of buildings), or are reversible (window and door treatment). The pattern and width of roads is consistent.

SETTING: The district retains its original physical surroundings. The gently sloping terrain, forested setting, and density of buildings in the district is unchanged since the period of significance.

MATERIALS: The combination of physical elements employed in buildings and roads is relatively unaltered. Logs, log framing,
and wood planking have remained the essential building materials. Where materials dating from the period of significance have been changed (noteably on roofs, in areas of infill, and log caulking) new materials introduced are generally in harmony with the original rustic building materials. Most roads in the district have been resurfaced. The loop road linking the dog kennels area to the rest of the district remains unpaved.

WORKMANSHIP: The wide range in the quality of workmanship represented by the fourteen contributing buildings in the district has generally been respected. Although buildings are not especially noted for the sophisticated quality of workmanship since many were constructed by unskilled laborers (noteably park managers and CCC enrollees); the aesthetic principles of the period of significance have been perpetuated on building exteriors.

FEELING AND ASSOCIATION: The district, as a whole, successfully evokes the historic sense and associative visual qualities present during the period of significance.
NOTES


8. Ibid., 228.


13. "Mount McKinley National Park" (Superintendent's Annual Report), Fiscal Year 1927; Naturalists' Study Collection, Denali National Park and Preserve, hereafter cited as "NSC; DENA."

14. Ibid.

15. Ibid.

16. Memorandum from Chief Naturalist to the Park Files regarding Superintendents of Mount McKinley National Park and Denali National Park and Preserve, 21 January 1981; taped interview with Fritz Nyberg: both in NSC; DENA.

17. "Superintendent's Annual Report, Fiscal Year 1939; Mount McKinley National Park," NSC; DENA.

18. "Mount McKinley National Park" (Superintendent's Annual Report), Fiscal Year 1935; NSC; DENA.

19. "Superintendent's Annual Report, Fiscal Year 1937; Mount McKinley National Park," NSC; DENA.

20. Ibid. The majority of this sum, $124,000, was allocated for road construction projects.

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<td>23. Ibid., March 1928; NSC, DENA.</td>
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<td>24. Ibid., October 1936; NSC, DENA.</td>
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<td>26. &quot;Mount McKinley National Park&quot; (Superintendent's Annual Report), Fiscal Year 1937, NSC, DENA.</td>
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<td>27. Historic photo files, NSC, DENA.</td>
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<td>33. Ibid., April [through September] 1939, NSC, DENA.</td>
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<td>34. Ibid., June, 1939; NSC, DENA.</td>
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<td>35. &quot;Superintendent's Annual Report, Fiscal Year 1940, Mount McKinley National Park,&quot; NSC, DENA.</td>
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<td>Ibid.; May, August, and September 1940; NSC; DENA.</td>
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<td>38.</td>
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<td>Ibid.; June 1941; NSC; DENA.</td>
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<td>40.</td>
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<td>Ibid.; 50-90.</td>
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<td>41.</td>
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9. Major Bibliographical References


United States Department of the Interior
NATIONAL PARK SERVICE
DENVER SERVICE CENTER
755 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO:

H30 (DSC-TWE)

Memorandum

To: Assistant Manager, Western Team, Denver Service Center

From: Peter Tomka, Structural Engineer, Western Team, Denver Service Center

Reference: Yukon-Charley Rivers National Preserve and Denali National Park and Preserve, No Package Number

Subject: Structural Evaluation of Log Buildings, July 21–August 2, 1985

PURPOSE

The purpose of the trip was to inspect for structural adequacy and to review corrective action methods on-site with Regional Historical Architect for the Slaven Roadhouse, Yukon-Charley Rivers, and for various log structures at Denali, and to assist the Regional Historical Architect in developing construction techniques and designs to replace log building foundations. A field trip occurred in summer, 1985, and findings and recommendations were verbally provided to the Regional Historical Architect at that time.

FINDINGS

Yukon-Charley Rivers National Preserve

1. Slaven Roadhouse: The building is a two-story log structure with a large roof overhang on the building’s south side. At a later date, wood stud walls were constructed under this overhang to expand the building. The log structure was constructed completely from logs except for the second floor joists and flooring which are milled lumber. The first floor is located below finish grade allowing the foundation, exterior log walls, and the first floor logs to contact the ground. The exterior log walls were backfilled to the window sill which has caused these walls to bow inward. Consequently, the bottom three or four log courses of the exterior walls exhibit extensive decay. The first floor joists also have major decay and subsidence along the exterior walls. The second floor joists are underdesigned and exhibit excessive deflection. The interior stairs are structurally inadequate and too steep to permit safe access to the second floor. The roof beams appear to be in acceptable condition, but the log roof decking is suspect to be decayed due to the permeable and moisture retaining sod roof.
1. Wonder Lake Ranger Station: This building consists of a reinforced concrete basement and a wood framed, single story structure. All of the building distress is occurring in the basement since the concrete walls are the most rigid elements and are therefore resisting most of the seasonal ground movements. The basement floor has separated four and one-half inches at the inside corner of the "L" shape building after the exterior walls moved outward. The basement walls at this re-entrant corner have separated as a result of the south wing subsiding. The west basement corner is also cracked through the total thickness of the wall. The basement floor has heaved in the center of the building causing the basement columns and structure above to raise. The northeast basement wall has also moved and bowed outward at the top of the wall. The first floor joists float above the sill plate along the northeast basement wall due to the basement column heave. No structural problems were found in the wood framed superstructure.

2. Headquarters: This building was constructed using logs for the first floor exterior walls. All other building elements on this two-story structure are conventional wood framed. The basement walls and floor are unreinforced concrete. All structural deficiencies occur in the basement except for the roof rafter separation at the ridge which results from the building's upward movement in the center. A portion of the north basement wall is in critical distress and could collapse without warning. This wall has cracked completely through the wall section, from the top of the wall to the floor and diagonally back to the top of the wall near the northwest building corner. This cracked section of the wall is leaning inward four inches. In the southwest building corner, the basement walls have also separated. It appears that the central portion of the basement slab has heaved, raising the first and second floors and the roof. A complete analysis of the basement floor could not be conducted due to the amount of material stored on the slab. An earlier attempt had been made back in the 1960's to lift the building to make repairs, but for some unknown reason, the project was never completed. Some of these lifting beams which penetrate through foundation walls and beam support columns were never removed. The first floor in the southwest building corner has been strengthened with the addition of wood beams and columns in the basement. On the exterior face at the basement's north wall, a grade beam was installed to strengthen this wall. Many of the logs on the exterior walls have radial log checks in the vertical plane which collect water and snow and exhibit inner log decay.

3. Building 106. This single story log structure has a dirt floor and a wood framed attic and roof. This building is leaning to the south as a result of soil accumulation on the exterior north wall. The logs in the southwest corner of the building are very loose and can be removed by hand. The building facade has been extensively altered with numerous windows which greatly reduces the structural integrity. It is probable that this building could collapse if unusual snow loading exists or if large amounts of snow are pushed against the structure.
4. Building 107. This single story log structure has a concrete foundation, floor slab, and three-foot high exterior walls. The exterior walls and roof rafters utilise logs. Excessive soil accumulation has occurred against the back side of this building which allows water and soil to run through the broken windows and deposit inside the building. The southeast corner of the roof has been hit by a large vehicle which broke some roof members.

5. Superintendent's House: This building consists of a concrete basement, exterior log structure on the first floor, and a stud framed second floor level. All floors and roof are wood framed from milled lumber. The building is in excellent structural condition except for the exterior log walls. All of the outside corners contain many log ends that are decayed and no longer effective in interlocking the building's corner together. Decayed wood can be found in many exterior logs that contain radial checks which are located in the near vertical position.

DISCUSSION AND RECOMMENDATIONS

Yukon-Charley Rivers National Preserve

1. Slaven Roadhouse: This building needs to be raised to an elevation which would permit the first floor to be above the exterior grade. Removing soil around this building is not recommended since this action will create a larger depression which moisture can saturate. A new pressure treated timber foundation and a treated wood first floor will be required under the existing log and wood framed structures. The root cellar and the depressed area remaining after the structure is raised should be filled with gravel which can be obtained from the nearby gold dredge tailings. All the decayed logs at the lower section of the exterior walls should be replaced in kind. The second floor will require strengthening by installing additional wood floor joists. The stairs should be completely rebuilt. Decayed portions of the log roof deck should be replaced. For recommended foundation details, see sketch "A."

Denali National Park and Preserve

1. Wonder Lake Ranger Station: The basement has lost all of its integrity due to ground movements. The annual ground frost heave and subsidence persist in this area due to a shallow groundwater or perched water table. As the saturated soil freezes, it expands and exerts tremendous pressure against the basement walls and slabs causing these elements to crack or move. After the ground thaws, the building settles back down to a slightly different elevation from its original position. This phenomenon is cyclic and is responsible for the destruction of this foundation.

There are four alternatives that will be considered for this building. The first alternative is the no action alternative. An estimated remaining building life cannot be determined until a monitoring system is installed and instrumented for three or four years. This alternative is not recommended
since this structure will continue to deteriorate and may eventually collapse. The second alternative is to shore up the building, demolish the existing basement, and rebuild a new foundation using arctic engineering techniques with proper foundation drainage. This alternative is very difficult, hazardous and costly, and not recommended. Moving the Ranger Station to an adjacent site and placing the structure on a new engineered foundation basement is the third alternative. This alternative would require a costly poured-in-place concrete basement and thereby not recommended. The last alternative is to move the building to a new site and place the structure on a new all-weather wood foundation with no basement. This foundation would utilize a concrete footing bearing on a thick stone base that is properly drained. The fourth alternative has the least construction cost of alternatives two through four, the foundation wall panels can be constructed off site, and has the least amount of construction difficulty and hazardousness to park personnel if they choose to perform this task. By eliminating the basement, this wood foundation will be less susceptible to lateral frost heave pressures and is a more ductile material for absorbment of vertical foundation movements than concrete. The fourth alternative is the recommended alternative for this building.

2. Headquarters: This building has the same distress symptoms as the Wonder Lake Ranger Station. The headquarters basement has not moved or cracked to the degree of the Ranger basement, but due to the findings that this basement has non-reinforced concrete walls and with heavier occupancy use, places this structure in a more hazardous safety risk than the Ranger Station. The ground north of this building slopes up to the parking lot, permitting surface water runoff to accumulate on the flat terrain adjacent to the building. Since there exists no drainage swale around the building, the water saturates the soil, becomes frozen in the winter and exerts tremendous forces against the north basement wall. This force has probably cracked the wall and is the reason why the concrete grade beam along the north side of the building was constructed. The central portion of this building has risen due to the upward heaving force applied against the column footings. Since the column footings impose a lighter building load on the frozen soil, as compared to the much heavier exterior walls, these footings will heave much more than the exterior walls. The upward movement of the interior columns has displaced upward the first and second floor and the roof. The roof rafters have separated from one another at the ridge, causing the roof material to be torn apart. Flashing around the chimney has also separated because of the shifting rafters.

A no action alternative is not recommended as a portion of the basement wall may eventually collapse and allow part of the building above to fall. The basement is slowly deteriorating due to seasonal frost heave forces by breaking up in a similar manner as the Ranger Station's basement. The second alternative considered was to temporarily move this building to another site until a new foundation and basement is reconstructed. This alternative is not recommended since this large two-story log structure is too heavy to economically move. The recommended alternative is to shore up one side of the building, remove the existing foundation and basement wall, and replace with a properly designed, concrete foundation system. Three or four phases will be necessary
to complete the whole building foundation. Expanding the basement under the whole structure should be considered, since the increased depth of a new basement wall in the front portion of the building will add considerable rigidity to the overall foundation system. Proper type and placement of backfill material, correct placement of exterior building insulation board, an installation of foundation drain and sump, and a good surface water drainage plan could then be implemented to insure a reliable foundation for this building.

An immediate, low cost solution to the accumulated water problem on the building's north side is to regrade this area or to build up a soil berm that would allow water runoff from the north slope to be channeled from and around this building.

Exterior wall logs which have checked and are permitting moisture to enter, collect and to decay the inner portions of the log need to be corrected before the log completely deteriorates. The recommended solution is to place a polystyrene backing rod in the log check, one quarter of an inch below the exterior surface, fill the remaining area flush with the log surface with a paintable silicone caulk, and paint the caulk to match the existing wall color. See sketch "B" for this repair detail.

3. Building 106: The severe deteriorated condition and complete lack of structural integrity of the exterior log walls will require immediate corrective action, otherwise this building will continue to decompose until collapse. A no action alternative should not be considered if the park prefers to continue using this structure. Moving this building to a temporary site until a new foundation is constructed is also not recommended because of the building's lack of structural integrity which could damage the salvageable building elements. The recommended alternative to rehabilitate this building is to dismantle, mark, and store each component part, construct a concrete foundation and floor slab, build wood frame structural perimeter walls which function as load bearing shear wall, support and anchorage for existing or replacement exterior logs. The existing attic floor and roof structural members should also be strengthened at this time. A recommended precaution against a potential loss of this building is to eliminate the storage and pushing of snow against the structure as previous snow removal operations have already damaged one building corner.

4. Building 107: This building is presently in good structural condition and only two minor recommendations can be suggested. The broken roof members should be replaced in kind before more serious damage can develop. The other suggestion is to remove the accumulated soil behind the building down to the concrete wall and to regrade this area to provide proper drainage around this building.

5. Superintendent's House: The only structural problem on this building occurs at the exterior log corners. The structural integrity of the log walls depends on the interlocking and overlapping feature of the exposed log corners.
This feature must be maintained to prevent the building corners from separating. The deteriorated, exposed log ends at each building corner should be replaced in kind. See sketch "C" for the recommended corrective action. All wall logs that exhibit checking and allow moisture to collect inside the log should be repaired using the same procedure as described for the Headquarters building.

A recommended log building lifting frame was developed in the field after conversations with log building preservationists who actively work on log structures. The attached sketches "D," "E" and "F" were designed to be used for lifting a single story log building for replacement of sill logs and installation of a foundation and should simplify the preservationist work. These frames are simple to build and can be constructed by the park.

Signed

Peter Tomka

Attachments

cc:
Reg. Dir., Alaska Region
Supt., Yukon-Charley Rivers NP
Supt., Denali NP&P
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**NATIONAL PARK SERVICE**
**DENVER SERVICE CENTER**

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**Feature**

**Interior**

- Radial log check that needs to be sealed. See enlarged view.
- Decayed wood.
- Paintable silicone caulk.
- Polystyrene backing rod.

**Enlarged View**

**Typical Wall Section**

**Sketch "B"**
1/2" threaded rod w/coupling nut and hanger rod. Penetrate hanger rod into sound wood.

Typical Building Corner Elevation

Malleable iron washer. New log end.

EXISTING LOG WALL

Beginning of sound wood

1" hole except for bottom of hole, use 3/8" x 6" deep for hanger rod. 1 or 2 holes as req'd.

Plan

Sketch "C"
NOTES
1. ALL LUMBER SHALL BE DOUGLAS FIR-LARCH NO. 1
2. USE 9/16" DRILL FOR BORE HOLES FOR BOLTS

NEW 2 x 12 RAFTERS @ 16" O.C.

NEW 2 x 8 JOISTS @ 16" O.C. (CTE BELOW RAFTER)

2 x 6 CEILING JOISTS @ 16" O.C.

NEW 2 x 6 STUD WALL @ 16" O.C.

2 x 4 STUD WALL

2 x 4 RIBBON WALL @ 16" O.C.

4 - 1/2" φ BOLTS

2 x 4 KNEE WALL @ 16" O.C.

2 x 12 BLOCKING BETWEEN NEW AND EXISTING RAFTERS

3 - 16d COMMON NAILS

BOTTOM OF SHEATHING

2 x 6 DIAGONAL BRACE, EACH SIDE OF RAFTER AND 2ND FLR JOIST.

3 - 16d COMMON NAILS

2 x 4 RIBBON WALL (LET IN)
The Ranger Station was finally reached after great difficulty due to the cut back of bus service on and after Labor Day. With the assistance of Craig Stowers, and the staff of the West District, I was able to gain some information concerning the structure's problems and the interim solution.

The work in place consisted of jacks and timbers designed to stabilize the floor supports and eliminate the need for the unstable foundation walls on two sides. The installation of diagonal bracing which was to provide lateral support was not completed yet.

After investigating the possible causes for this unstable condition I discovered the spread footings were originally placed just inches below grade at the rear of the structure. At the fornt, where the foundation has rotated so severely, there was no soil under the slab and the footing was not on solid bearing surface.

If Ranger Station is to be restored it will need emergency stabilization of footings. This is not to be a repair of the existing structural system since the present spread footing doesn't appear to go below frost line at the rear and the front foundation wall has overturned as result of inadequate support and unstable soil.

A preferred foundation would be one that is set beneath the average frost line, and onto solid bearing. To determine
the footing's depth and shape would require soils engineers to test around the perimeter and under the existing structure.

My gut level feelings call for a new foundation wall set on piles to be erected under the jacked up (on cribbing) Station.

The old foundation would be demolished and removed and a new one poured right in place. This loss of basement scheme would involve relocating those facilities currently in the basement.

For a starter, the asbestos lined old coal furnace should be safely demolished and removed in a way approved by OSHA due to asbestos health hazards. Perhaps those maintenance functions could be relocated to the Kantishna area where some buildings are now vacant and more suitable to those functions.

All interior finishes not deemed historically significant (i.e. period hardware, molding) needs to be replaced with fire rated materials.

The immediate need before allowing visitors to use the front office, is to establish an allowable live load. My guess would be 20 psf, ½ of normal living quarters, since this floor is so extremely deflected and only temporarily braced. 20 psf or 2000 lbs. for a 100 SF room, therefore no more than 10 people at one time.

The architectural significance of this structure is not in question as much as the historical use and the viability of
its continuation. Architecturally, the structure has been built elsewhere in NPS by CCC according to staff. The style and craftsmanship are certainly not of the highest quality. Therefore the continued preservation of this structure would not be for its architectural merits.
September 10, 1981 with David Snow, I plan to hand out the following:

(1) Examples of SWR Assessment of Effects  
(2) Examples of Specifications for Log Restoration work  
(3) Cost Estimate Summary for the Comprehensive Preservation Maintenance of all inspected LCS structures  
(4) Individual breakdown of costs per structure  
(5) Bibliographies of readings on related subjects.

Follow up

Since I was able to visit 19 sites and documented their current conditions, the Park staff will need to write up comparable assessments of the conditions of the border patrol cabins. There was a recent helicopter flight to those seven cabins and the needs are commonly known.

I have not included any repair costs for these cabins nor have I visited or assessed Building #1, the newly built cabin at Government Draw. This was supposedly a prefabricated cabin which replaced the old Eielson cabin. Since it is a new building it should receive routine maintenance.

I will be culling and organizing my photos and field inspection forms in the near future and will send all directly to you. Please distribute copies of all the work I have given you to the others involved.
The 1976 LCS by Harold LaFleur contains a recommendation for an historic district or cultural district, "It is recommended that a cultural district be established at the Headquarters Area. There are several structures contemporary with the Administration Building (dating between 1925 - 1935) and in the same style."

I concur with Harold on the desire to have an identified cultural district but I have to be more "conditional" in incorporating all structures that fall within these boundaries. Conditions that affect these structures are threefold: 1) location, 2) age of structure, and 3) use (historic and operations).

If the use of the HQ area by Maintenance Division changes in time, then it's unlikely that buildings 106, and 107 will be viable without major rehabilitation work for adaptive use. (106 was recently fire damaged.) These facilities will probably deteriorate by neglect. The age of building No. 23, residence, at this time is 40 years old and the structure has been remodelled in 1952, 1975. It is in good condition and serves as the Superintendent's quarters. By its location and age it many not warrant including in a district. Eventually it will be eligible on an individual basis. No other residences are eligible except building 112 which is questionable. It was originally constructed in 1932 as a comfort station and changed use in 1967 when it was remodelled into a residence. By its location which is downhill from Administration (as are buildings
23 and 107), and its recent changes, I couldn't support its
inclusion in a district and would find its case for eligibility
in the N.R. a weak one.

I could support those buildings that are closely related
physically and by use; these include:

21: Administration
110: East District Ranger Office
101: Warehouse, Naturalist Division
103: Equipment Storage or Ranger Cache.

All others could be considered on their own merits.

Two residences sit upon the hill overlooking HQ Area,
Q111 and Q22. Harold includes both in the district. Q22
although built in 1926 was first moved to its present location
in 1950 - original site unknown. It has been converted from
a museum to quarters in 1960, and today is in need of major
remodelling to be useful as quarters. Q111 is a larger
residence and atypical in its appearance. Originally built
in 1939 as the Superintendent's garage and remodelled in 1944
to office space and 1960 to a dorm and today it's a residence.

These two residences are not connected strongly enough,
in my opinion, to be in a district, but may be eligible as well.

Finally, Building 105, the dog kennels area structure is
of another historic relationship, not that of HQ Area. As
Harold LaFleur puts it: "This structure is an integral part
of the group of structures which are used by the dog sled
patrol operation. It is the main HQ for this operation".
Built in 1929 it is still vital to the patrol and interpretative operation of the park all year long. "The dog sled patrol system at McKinley is the only operation of its type in the NPS..." according to Harold and it involves this structure as well as all of the patrol cabins in the backcountry:

- #4 Toklat Patrol Cabin
- #7 Upper Windy
- #8 Lower Savage
- #9 Lower East Fork
- #14 Wonder Lake (more on this later)
- #15 Lower Windy
- #17 Sushana
- #18 Lower Toklat
- #19 Moose Creek Shelter Cabin
- #20 Riley Creek
- #24 Toklat
- #25 Igloo
- #29 Upper East Fork
- #30 Upper Savage (more on this to Craig)
- #31 Sanctuary
- #1 Mt. Eielson (totally reconstructed)

These structures all are familiar to the visitors and have been used by backcountry hikers for overnights (border cabins) up until the 1960's. Their historical significance seems to blend with their architectural significance (or lend it support), since early rangers were indeed the architects and builders of the cabins and the patrol system. Their age and the condition they are in lends support to the concept of continued preservation, not only because they have weathered well in this climate through their intrinsic durability, but because people have cared for and rely upon their shelter. Their eligibility to the N.R. as a system should be considered. Their integrity from an architectural standpoint is sufficient from exterior appearances only.
PLAN
WONDER TAPE
RANGER STATION
\[
\frac{1}{4} = 1'-0\"
\]
SIDE ELEVATION 35'-10"
DOUGLED CACHE, BLDG #105
DENALI.
EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS

EXIST. LOGS
FURR OUT RAFTERS 6"
INSTALL 12" BATT INSUL.
W/VAPOR RETARDANT

EXIST 3-6 RAFTERS

EXIST & NEW 2x4 STUDS
@ EA Rafter

2x4 WOOD BLOCKING
6" BATT INSUL. W/VAPOR RET.

3/4" PLYWOOD
LOW PILE CARPET FIN.

12" BATT INSUL
2x12 WOOD BLOCKING

2x12 JST: 1'-0" O.C.
6" BATT INSUL.
2x4 STUDS 16" O.C.

1/2" SHEETROCK
LOW PILE CARPET
1/2" PLYWOOD
6" BATT INSUL

2x6 TREATED SILL
W/ 1/2" ANCH BOLTS
6" O.C.
* 5 BENT BARS
4'-0" O.C.
2 ROWS * 5 BAR

INTERIOR WALL
SECTION

SCALE 1"=1'-0"
SHT. 11 OF 11

3 ROWS * 5
BAR W/ 3" CLEAR
FROM CONC. SURFACE
NEW 2x12 FLOOR JOISTS @ 13'-0" O.C.
EXISTING 2x8 FLOOR JOISTS @ 4'-0" O.C.
TOP PLATE OF BEARING WALLS

SECOND FLOOR FRAMING PLAN
SCALE 1/4" = 1'-0"

D. SNOW 8/29/82
Bldg. 101 Denali N.P.
Sh. 7 of 11
2X6 FLOOR JOISTS @ 12" O.C., TYP.

HEATED & INSULATED

SIMILAR

FOUNDATION PLAN

SCALE 1" = 1'-0"

D SLOW 8/24/82 PLIG 101, PENAL HP
SHT 8 OF 11