National Park Service
Cultural Landscapes Inventory
2004

Mowich Lake Entrance Road

Mount Rainier National Park

National Park Service
Cultural Landscape Inventory
2001

Mowich Lake Entrance Road
Mount Rainier National Park

Mount Rainier National Park concurs with the management category and condition assessment identified by this CLI Level II report, as given below:

MANAGEMENT CATEGORY: **Should be preserved and maintained**

CONDITION ASSESSMENT: **Good**

David V. Uberuaga 3/2/04

Superintendent, Mount Rainier National Park Date

Please return to:

Erica Owens
Historical Landscape Architect
National Park Service
Pacific West Regional Office
909 First Avenue
Seattle, WA 98104-1060

STATE OF WASHINGTON

Office of Archaeology and Historic Preservation

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
(Mailing Address) PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 Fax Number (360) 586-3067

June 18, 2004

Dr. Stephanie Toothman, Chief
National Park Service, Pacific West Region
909 First Avenue, Fifth Floor
Seattle, Washington 98104-1060

In future correspondence please refer to:
Log: 061804-52-NPS
Property: Mt. Rainier, Olympic, and North Cascades National Parks
Re: Formal Concurrence on 12 Cultural Landscape Inventory and List of Classified Structures

Dear Dr. Toothman:

Thank you for contacting the Washington State Office of Archaeology and Historic Preservation (OAHP). The above referenced properties have been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800.

Based upon your documentation, I understand that the National Park Service (NPS) requests formal concurrence from the SHPO in order to certify that the Cultural Landscape Inventory (CLI) and List of Classified Structures (LCS) is complete. My review is based upon documentation contained in your documentation.

In response, you will find our concurrence on the 12 CLIs and associated LCS located in Mount Rainier, Olympic and North Cascades National Parks. The documentation prepared for this review will be retained in the Washington State Inventory of Cultural Resources for future reference and research.

Again, thank you for the opportunity to review and comment on these reviews as well as for the assistance and work of Erica Owens. Should you have any questions please feel free to contact me at 360-586-3073 or gregg@cted.wa.gov.

Sincerely,

Gregory Griffith
Deputy State Historic Preservation Officer

Enclosures

RECEIVED
JUN 07 2004
Archaeology and Historic Preservation

MOWICH LAKE ENTRANCE ROAD
MOUNT RAINIER NATIONAL PARK

Washington SHPO Eligibility Determination

Section 110 Actions Requested:

1) SHPO concurrence with the Setting description, and
2) SHPO concurrence with the addition of structures to the List of Classified Structures (LCS). (See chart below)

__✓__ **I concur,** _____ **I do not concur** that the **Setting** as described in the Cultural Landscape Inventory (CLI) contributes to the Mowich Lake Entrance Road (The 1997 National Historic Landmark District Nomination describes the general setting of the NHLD. This CLI describes specifically, the setting of Mowich Lake Entrance Road including: spatial organization, natural systems and features, land use, and views and vistas. See the Analysis and Evaluation section.).

The following structures, located within the historic designed landscape, are already listed on the National Register as contributing elements of the Mowich Lake Entrance Road:

LCS number	Structure Name
(No number)	Mowich Lake Entrance Road (The listing of the road includes "all historic structures associated with the road construction, including ditches, swales, culverts, and retaining walls" (NHLD 1997, 85).
(No number)	Thirty-nine Culverts
(No number)	One Retaining Wall with Guardwall
(No number)	Ditch on uphill side of road

Based on the information provided in the CLI, the following previously unevaluated structures have been identified as **contributing** to the Mowich Lake Entrance Road:

LCS number	Structure Name	**Concur**	**Do Not Concur**
(No number)	Grindstone Trail/Old Bailey Willis Trail (see Archeological Sites in the Analysis and Evaluation.)	✓	
(No number)	Grindstone Trail Cabin Site (foundation logs located on southwestern shore)	✓	
(No number)	Grindstone Trail Swamp Bridge	✓	
(No number)	Unidentified Cabin Ruin	✓	

Based on the information provided in the CLI, the following structures have been identified as **not contributing** to the Mowich Lake Entrance Road:

LCS number	Structure Name	**Concur**	**Do Not Concur**
N/A	Pull-outs	✓	
N/A	Modern Signs	✓	
N/A	Gate (located at 0.8 miles)	✓	
N/A	Ranch-style fencing (located at 5.5 miles and at the Mowich Lake Campground)	✓	
N/A	Vault toilets (located at the Paul Peak Entrance Station and the Mowich Lake Campground)	✓	
N/A	Ten Non-historic Culverts	✓	

Reasons/comments why any 'Do Not Concur' blocks were checked:

Gregory Griffith DSHPO 6/18/04

FOR Washington State Historic Preservation Officer Date

Please return forms to the attention of:
Erica Owens
CLI Co-coordinator
National Park Service
Pacific West Regional Office-Seattle
909 1st Ave, Floor 5
Seattle, WA 98104
(206) 220-4128
erica_owens@nps.gov

Table of Contents

Executive Summary

General Introduction to the CLI

The Cultural Landscapes Inventory (CLI) is a comprehensive inventory of all historically significant landscapes within the National Park System. This evaluated inventory identifies and documents each landscape's location, physical development, significance, National Register of Historic Places eligibility, condition, as well as other valuable information for park management. Inventoried landscapes are listed on, or eligible for, the National Register of Historic Places, or otherwise treated as cultural resources. To automate the inventory, the Cultural Landscapes Automated Inventory Management System (CLAIMS) database was created in 1996. CLAIMS provides an analytical tool for querying information associated with the CLI.

The CLI, like the List of Classified Structures (LCS), assists the National Park Service (NPS) in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, NPS Management Policies (2001), and Director's Order #28: Cultural Resource Management (1998). Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report on an annual performance plan that is tied to 6-year strategic plan. The NPS strategic plan has two goals related to cultural landscapes: condition (1a7) and progress on the CLI (1b2b). Because the CLI is the baseline of cultural landscapes in the National Park System, it serves as the vehicle for tracking these goals.

For these reasons, the Park Cultural Landscapes Program considers the completion of the CLI to be a servicewide priority. The information in the CLI is useful at all levels of the park service. At the national and regional levels it is used to inform planning efforts and budget decisions. At the park level, the CLI assists managers to plan, program, and prioritize funds. It is a record of cultural landscape treatment and management decisions and the physical narrative may be used to enhance interpretation programs.

Implementation of the CLI is coordinated on the Region/Support Office level. Each Region/Support Office creates a priority list for CLI work based on park planning needs, proposed development projects, lack of landscape documentation (which adversely affects the preservation or management of the resource), baseline information needs and Region/Support office priorities. This list is updated annually to respond to changing needs and priorities. Completed CLI records are uploaded at the end of the fiscal year to the National Center for Cultural Resources, Park Cultural Landscapes Program in Washington, DC. Only data officially entered into the National Center's CLI database is considered "certified data" for GPRA reporting.

The CLI is completed in a multi-level process with each level corresponding to a specific degree of effort and detail. From Level 0: Park Reconnaissance Survey through Level II: Landscape Analysis and Evaluation, additional information is collected, prior information is refined, and decisions are made regarding if and how to proceed. The relationship between Level 0, I, and II is direct and the CLI for a landscape or component landscape inventory unit is not considered finished until Level II is complete.

A number of steps are involved in completing a Level II inventory record. The process begins when the CLI team meets with park management and staff to clarify the purpose of the CLI and is followed by historical research, documentation, and fieldwork. Information is derived from two efforts: secondary sources that are usually available in the park's or regions' files, libraries, and archives and on-site landscape investigation(s). This information is entered into CLI database as text or graphics. A park report is generated from the database and becomes the vehicle for consultation with the park and the

SHPO/TPO.

Level III: Feature Inventory and Assessment is a distinct inventory level in the CLI and is optional. This level provides an opportunity to inventory and evaluate important landscape features identified at Level II as contributing to the significance of a landscape or component landscape, not listed on the LCS. This level allows for an individual landscape feature to be assessed and the costs associated with treatment recorded.

The ultimate goal of the Park Cultural Landscapes Program is a complete inventory of landscapes, component landscapes, and where appropriate, associated landscape features in the National Park System. The end result, when combined with the LCS, will be an inventory of all physical aspects of any given property.

Relationship between the CLI and a CLR

While there are some similarities, the CLI Level II is not the same as a Cultural Landscape Report (CLR). Using secondary sources, the CLI Level II provides information to establish historic significance by determining whether there are sufficient extant features to convey the property's historic appearance and function. The CLI includes the preliminary identification and analysis to define contributing features, but does not provide the more definitive detail contained within a CLR, which involves more in-depth research, using primary rather than secondary source material.

The CLR is a treatment document and presents recommendations on how to preserve, restore, or rehabilitate the significant landscape and its contributing features based on historical documentation, analysis of existing conditions, and the Secretary of the Interior's standards and guidelines as they apply to the treatment of historic landscapes. The CLI, on the other hand, records impacts to the landscape and condition (good, fair, poor) in consultation with park management. Stabilization costs associated with mitigating impacts may be recorded in the CLI and therefore the CLI may advise on simple and appropriate stabilization measures associated with these costs if that information is not provided elsewhere.

When the park decides to manage and treat an identified cultural landscape, a CLR may be necessary to work through the treatment options and set priorities. A historical landscape architect can assist the park in deciding the appropriate scope of work and an approach for accomplishing the CLR. When minor actions are necessary, a CLI Level II park report may provide sufficient documentation to support the Section 106 compliance process.

Park Information

Park Name: Mount Rainier National Park
Administrative Unit: Mount Rainier National Park
Park Organization Code: 9450
Park Alpha Code: MORA

Property Level And CLI Number

Property Level: Landscape
Name: Mowich Lake Entrance Road
CLI Identification Number: 400030
Parent Landscape CLI ID Number: 400030

Inventory Summary

Inventory Level: Level II

Completion Status:

Level 0
Date Data Collected - Level 0: 2/18/1997
Level 0 Recorder: E. Carr
Date Level 0 Entered: 2/18/1997
Level 0 Data Entry Recorder: E. Carr
Level 0 Site Visit: Yes

Level I
Date Level I Data Collected: 9/25/2001
Level I Data Collection M.J. Hankinson and E. Owens
Date Level I Entered: 9/25/2001
Level I Data Entry Recorder: M.J. Hankinson and E. Owens
Level I Site Visit: Yes

Level II
Date Level II Data Collected: 9/25/2001
Level II Data Collection M.J. Hankinson and E. Owens
Date Level II Entered: 9/25/2001
Level II Data Entry Recorder: M.J. Hankinson and E. Owens
Level II Site Visit: Yes
Date of Concurrence 3/2/2004
Explanatory Narrative:

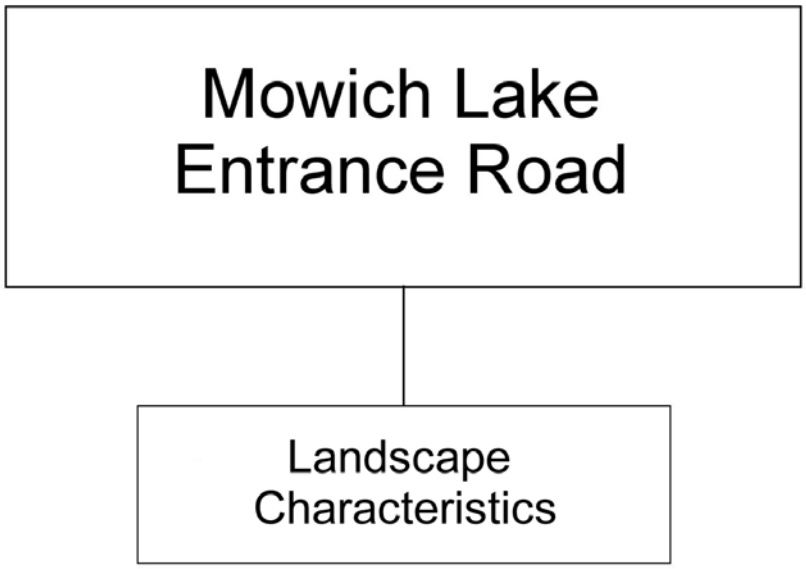
Historic research and fieldwork for the CLI was conducted by Mike Hankinson and Erica Owens in summer 2001. The data was entered into the CLI database by Mike Hankinson and Erica Owens in summer and fall of 2001.

Landscape Description

Mowich Lake Entrance Road is a 6-mile, unpaved access route to Mowich Lake in the northwestern corner of Mount Rainier National Park. Engineered and constructed between 1929 and 1934, the road was part of the first master plan for the national park. An extension of State Route 165 into the park, the road continues from the western park boundary to Mowich Lake. Along its route, the road passes Paul Peak Entrance Station and terminates at the Mowich Lake Campground. Original features from the road's period of significance (1929-1934) include one stone retaining wall/guardwall and thirty-nine rustic culverts with mortared stone headwalls.

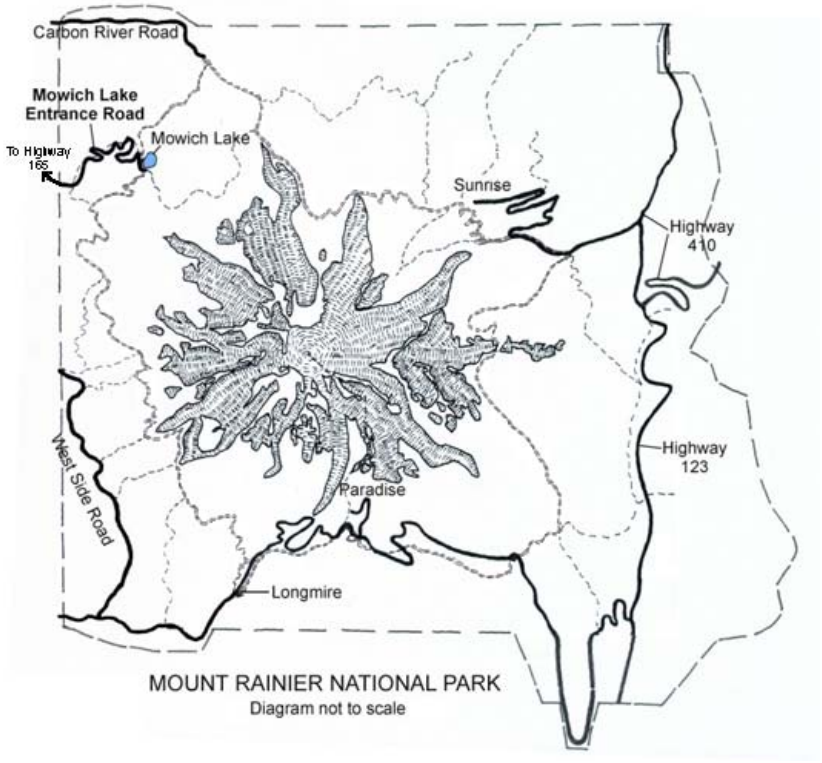
Cultural Landscapes Inventory Hierarchy Description

The Mowich Lake Entrance Road is a cultural landscape within the Mount Rainier National Historic Landmark District. Six landscape characteristics of the road contribute to the historic integrity. These characteristics include spatial organization, circulation, small-scale features, land use, natural systems and features, and views and vistas.



CLI hierarchy diagram showing the Mowich Lake Entrance Road, a cultural landscape composed of landscape characteristics that contribute to its historic integrity. (CCSO, 2001)

Location Map



The Mowich Lake Entrance Road is located in the northwestern corner of Mount Rainier National Park. (CCSO, 2001)

Boundary Description

The Mount Rainier National Historic Landmark District Nomination defines the Mowich Lake Entrance Road boundary as a sixty-foot wide corridor that is measured thirty feet from the centerline of the road in either direction. The road follows its original 6-mile route from the western park boundary to Mowich Lake as it did during the period of significance. The boundary includes the road itself and associated structures such as culverts, retaining walls, view points, parking areas, and a campground. Universal Transverse Mercator (UTM) reference points provided in this report are recorded at one mile intervals along the centerline of the road from the park boundary to the campground at its terminus.

Regional Context

Physiographic Context

The Mowich Lake Entrance Road ascends from the western park boundary at 3600' to the Mowich Lake Campground at 4900'. As a result of elevation gain, the road winds through lowland coniferous forest and ends in montane forest interspersed with some subalpine forest species. As the road penetrates the lowland forest dominated by Western hemlock (Tsuga heterophylla), it encounters such understory species as Oregon grape (Berberis nervosa), Blueberry species (Vaccinium spp.), Salal (Gaultheria shallon), Devilsclub (Oplopanax horridum), and Skunk cabbage (Lysichitum americanum) (Butchard 1998, 18-21). Montane forests are generally dominated by Pacific Silver fir (Abies amabilis), while the subalpine forests are characterized by Mountain hemlock (Tsuga mertensiana), Subalpine fir (Abies lasiocarpa), and Alaska yellow cedar (Chamaecyparis nootkatensis). Understory plants found within both the montane and subalpine forests are Dwarf bramble (Rubus lasiococcus), Fool's huckleberry (Menziesia ferruginea), and Pacific rhododendron (Rhododendron albiflorum).

Cultural Context

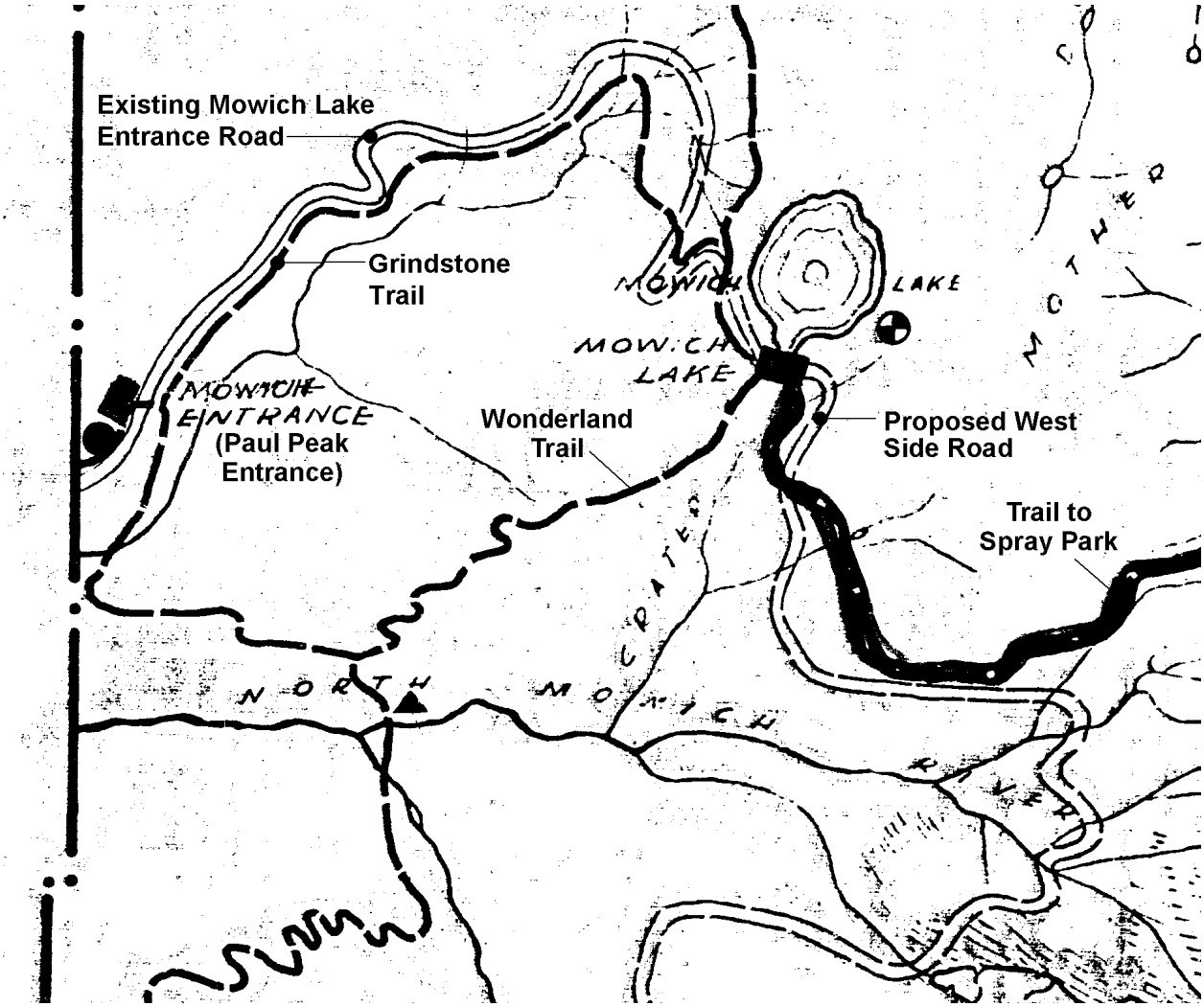
Located within the northwestern corner of the park, Mowich Lake is about 65 miles from Seattle, Washington. It is one of the closest park entrances to the urbanized Puget Sound region. However, because the road is not paved and other park entrances yield more amenities for visitors, the Mowich Lake Entrance Road is not as highly used as other roads within the park. Along its length, the road provides the Paul Peak comfort station, views of Mount Rainier's peak, a campground at its terminus with pit toilets and Mowich Lake Patrol Cabin. The nearest developed area is the town of Wilkeson, located 13-miles from the park boundary, which has a National Park Service Wilderness Information Center.

Political Context

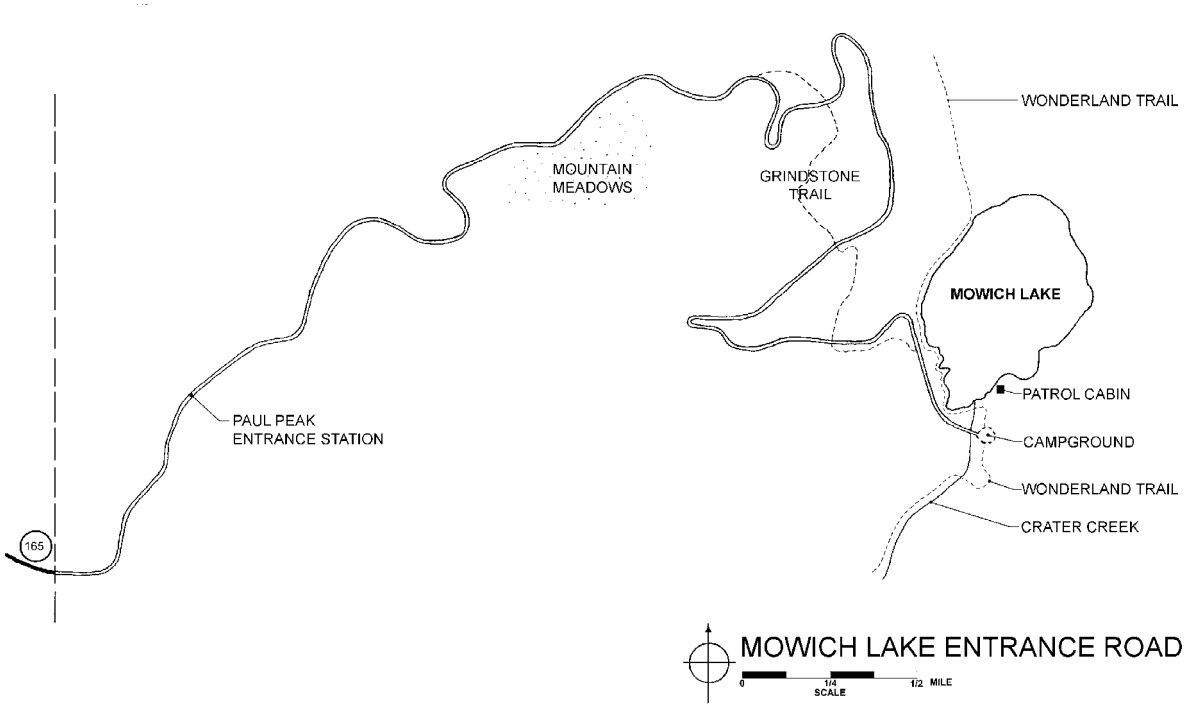
Mowich Lake Road is located within the northwestern corner of Mount Rainier National Park. It is an extension of State Route 165, which travels through Mount Baker-Snoqualmie National Forest.

Site Plan

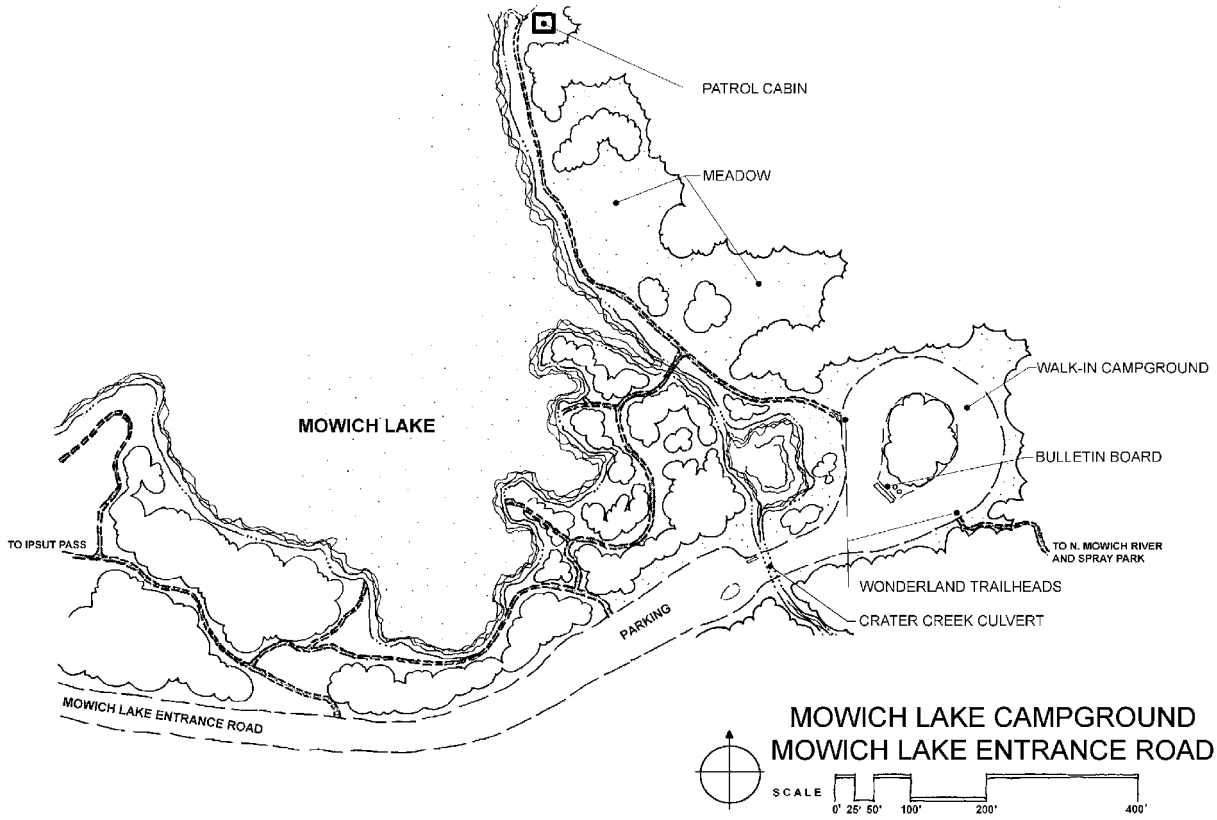
1931 plan view indicates the alignment of the Mowich Lake Road. (Source: 1931 Mount Rainier National Park Master Plan)



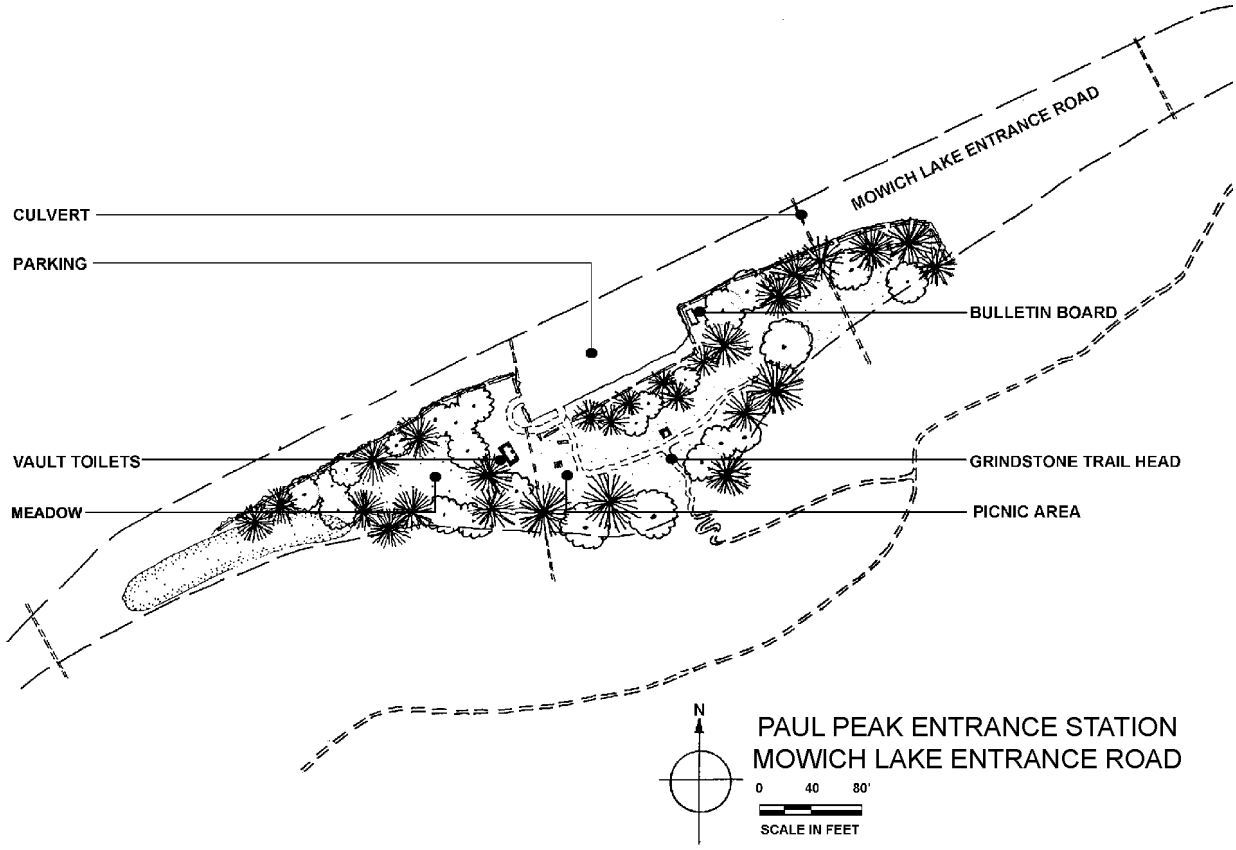
Existing conditions map of Mowich Lake Entrance Road beginning at the park's northwest corner and terminating at the southern end of Mowich Lake. (CCSO, 2001)



2001 plan view map of Mowich Lake campground located at the southern tip of Mowich Lake. (CCSO, 2001)



2001 Plan view map of Paul Peak Entrance in 2001. (CCSO, 2001)



Chronology

Year	Event	Description
1833 AD	Explored	Dr. William Fraser Tolmie, a medical officer for the Hudson's Bay Company, was the first EuroAmerican to enter the present-day park boundaries.
1881 AD	Explored	While exploring natural resources on Mount Rainier for the Northern Pacific Railroad, Bailey Willis discovered and named Crater Lake (presently known as Mowich Lake).
1884 AD	Built	The Grindstone Trail, the original route to Mowich Lake, was completed by Bailey Willis.
1918 AD	Established	1918 map of Mount Rainier indicates the lake is called Crater Lake.
1922 AD	Built	The Mowich Lake Patrol Cabin is constructed.
1922 AD	Engineered	NPS initated a survey for the West Side Road from Ipsut Creek to Mowich Lake.
1922 AD	Established	The West Side Highway was integrated into a plan for an around the mountain road.
1924 AD	Altered	The official name of the lake was converted to the Chinook name, "Mowich." A 1924 USGS map labeled the lake as "Mowich Lake".
1924 AD	Designed	National Park Highway Law authorized construction of fifteen miles of road from Carbon River road to North Mowich River. This was not built due to the steep grade of the Ipsut Creek valley. A new proposal for a road from the western park boundary evolved.
1924 - 1967 AD	Established	Mowich Lake was stocked with trout.

1925 AD	Engineered	Bureau of Public Roads began a new road survey, beginning at Fairfax, WA to the park's western boundary that would provide access to the Lake Mowich entrance located at the park boundary.
1927 AD	Engineered	BPR engineer C.R. Short located a route along the north edge of the park and a 1500' spur road to a proposed hotel site at Spray Park. It was rejected when the north part of the park was reserved for wilderness purposes.
1927 AD	Engineered	Survey extended from the park boundary to Mountain meadows, where it crossed Meadow Creek and climbed along Elizabeth Ridge to reach Mowich Lake.
1927 AD	Established	A contract was issued for clearing 5.3 miles between the western boundary and Lake Mowich.
1927 AD	Established	Spray Park area was under consideration as the north end destination of the West Side Road.
1928 AD	Altered	The road alignment was adjusted by a new survey to follow Meadow Creek to its headwaters, then loop around before crossing the ridge and reaching the lake. This route was adopted by Chief Landscape Engineer Thomas C. Vint.
1928 AD	Established	Construction was postponed due to the State's failure to construct an 11-mile access road form Fairfax, WA.
1929 AD	Built	The road was cleared between the park boundary and Mowich Lake. The road terminated in a clearing at the south end of the lake.
1931 AD	Designed	Asahel Curtis asked NPS Landscape Architect E.A. Davidson to design an entrance station to honor Dr. William Fraser Tolmie. This was never built due to lack of funding.
1931 - 1932 AD	Built	Grading of a 2.5-mile section of the road near the west park boundary completed.

1932 AD	Built	An approach road was constructed and graded by the State from Fairfax, WA to the western park boundary.
1933 AD	Built	The entrance parking area at Paul Peak was completed and a small pylon with a plaque in Dr. Tolmie's honor is erected.
1933 AD	Built	The upper 2.944-mile section of the Mowich Lake road was cleared.
1933 AD	Memorialized	The new entrance at Paul Peak was dedicated.
1934 AD	Built	North Mowich trail shelter was built.
1934 AD	Established	There was doubt about the viability of the West Side Road project.
1935 AD	Built	Grading of the upper 2.944-mile section of the road was completed. Other improvements included culverts and retaining walls.
1935 AD	Built	The entire Mowich Lake Road was completed
1935 AD	Designed	A water supply system was proposed for the Mowich Lake Campground, but never built.
1935 AD	Developed	By this time Mowich Lake area had a barn on south end of lake, a parking lot on south end of lake & campsites at water's edge on south end of lake.
1936 AD	Designed	Plans for a comfort station at the Mowich Lake Entrance were drawn.
1937 AD	Demolished	The barn located on south end of the lake has demolished.
1937 AD	Established	A trail was proposed to circumnavigate Mowich Lake.

1937 AD	Established	U.S. Representative John M. Coffee urged NPS to pave the Mowich Lake Road and open it to the public. NPS Associate Director responded that the area could not handle the increase in visitors without harm to the surrounding sensitive natural areas.
1938 - 1939 AD	Established	Private citizens complained that the road remained closed to the public.
1945 AD	Established	Regional Director Tomlinson argued against the idea of opening the road to the public because he believed it would increase demands for more overnight and recreational facilities in the Mowich Lake area.
1947 AD	Established	Park Superintendent John C. Preston noted that Mowich Lake Entrance Road was in poor condition due to lack of maintenance.
1955 AD	Established	The road was opened to cars for the first time. Park visitors could drive up to the lake and camp.
1956 AD	Established	Mission 66 plan proposed expanding campground at Mowich Lake from 25 to 100 sites.
1956 AD	Maintained	Mission 66 funding provided for repairs and resurfacing of Mowich Lake Entrance Road.
1960 AD	Established	Mount Rainier's backcountry, including Mowich Lake, was suffering damage from overuse.
1964 AD	Established	Wilderness Act was enacted.
1966 AD	Designed	A proposal for Mowich Campground included spaces for car-trailers east of Crater Creek and parking sites on the west side of Crater Creek. This plan was never implemented.
1972 AD	Altered	Road was closed at Crater Creek crossing. Camping along lake shoreline was discontinued. The old parking area became designated as a walk-in camp. Revegetation of the lake shore began.

1972 AD	Designed	Mowich Lake Entrance Road was proposed to be closed year round except for a shuttle bus service in the summer.
1972 AD	Established	National Park Service completed a wilderness proposal for Mount Rainier that included the Mowich Lake area.
1975 AD	Designed	NPS, once again, planned to close the road to public access after the summer season.
1975 AD	Established	Penberthy filed a suit against the NPS for restricting visitor use of Mowich lake Entrance Road.
1977 AD	Established	NPS Pacific Northwest Regional Director Russell Dickenson recommended keeping the road open.

Statement Of Significance

The Mowich Lake Entrance Road is nationally significant for its association with the events of the American Park Movement and early National Park Service (NPS) master planning (criterion A) and for its design and construction (criterion C).

In association with the events of the American Park Movement and early NPS master planning, the Mowich Lake road is significant as an integral part of the master plan of the park, as first developed in the 1920s. Mount Rainier National Park remains the most complete example of early master planning. Other national parks were also extensively developed in the 1920s and 30s, but Mount Rainier was the first park to develop a master plan, and the plan was the most fully implemented. Additionally, the park has retained most of the facilities built during the master planning period. Consequently, Mount Rainier National Park is the most outstanding example of a national park master planned before World War II. The landscape architecture of Mount Rainier's early master plan was recognized by a National Historic Landmark District designation in 1997, which included Mowich Lake Entrance Road.

In association with significant design and construction, the Mowich Lake Road is an outstanding example of early NPS landscape design, embodying the complimentary styles of rustic architecture and naturalistic landscape architecture. These landscape styles, influential in the planning and design of the early 1900s, aimed to harmonize artifice and nature by minimizing the natural impact of constructed elements and accentuating the picturesque qualities of nature. This design-era coincides with the most significant period of development within NPS history, a time when the NPS created what is now recognized as the hallmark style for developments within natural areas, in order to preserve their scenic beauty. Forms of the rustic and naturalistic styles were intended to be subordinate to the natural environment, irregular like naturally occurring features, and appearing hand-crafted or primitive, as if created without the use of technology available at the time. Indigenous rock, lumber, and native plants were basic materials used for these styles to fully integrate the built features within the surrounding landscape.

The Mowich Lake road was designed and built in a partnership between the NPS landscape architects and the Bureau of Public Roads between 1928 and 1935. Most of the original features designed and built still exist making the road an excellent example of the naturalistic landscape architecture methods practiced by the NPS during that time period. Originally, the road was to be integrated into the Western Highway, a segment of a larger park highway system circumnavigating Mount Rainier. Like the other early park roads, it was designed as a scenic drive to capture views and to harmonize with the surrounding landscape by fitting native contours and balancing cut and fills where possible. Additionally, the road was built with a number of stone features that disguised and integrated road elements. The road features include culverts with stone headwalls and stone retaining walls that reflect the naturalistic style.

Physical History

1833-1905

The Mowich Lake Entrance Road and campground, located in the northwest corner of Mount Rainier National Park, is a gravel route entering from the western boundary, a 6-mile continuation of Washington State Route 165. From the park entrance (3560'), the road climbs to its final destination at Mowich Lake and the walk-in campground (4929'), providing access to the Spray Park area as well as the Wonderland Trail (Quinn 1992, 7). Although the road was originally conceived of in the 1920s and constructed in the1930s, its history extends back to the previous century with ties to the early exploration of the area by scientists and prospectors.

Exploration and Trail Blazing

In 1833, Dr. William Fraser Tolmie, a medical officer for the Hudson's Bay Company, entered the Mowich Lake area on a botanizing trip--the first EuroAmerican to enter the present park boundaries (Quinn 1992, 3). Exploration was minimal or undocumented in the following 50 years, but by 1881 Geologist Bailey Willis entered the present day park boundaries working for the Northern Pacific Railroad in search of mineral resources. While exploring, Willis came across the 122-acre Mowich Lake and named it "Crater Lake," wrongly believing it was formed by volcanic activity.

The name of the lake was later changed from "Crater" to "Mowich": Native Americans had known about the lake for centuries and had previously named the lake Mowich, from the Chinook language, meaning "deer"(Filley 1998,1 25). Native Americans used a landmark located in the steep hills above the lake for their inspiration. According to a 1980 interview with Carl Fabiani, MORA Trails Supervisor, "There's a landmark on the side of the mountain that's quite visible on what we call the Mowich face or west face of the mountain...[and]...a series of rock cliffs just below Liberty Cap, near the top of the mountain. With a little imagination, they resemble a deer's head" (Russell 1980, 31). According to a map of the Mowich area, the lake was known as "Crater Lake" as late as 1918. However, by 1924, a USGS map of the area indicated the lake was renamed using its present day name: Mowich Lake.

To prospectors, the Mowich Lake area offered potential wealth from mineral extraction. In order to explore the region and extract these resources, Willis blazed the Grindstone Trail in 1883 (Grater 1949, 74). Mining and prospecting operations commenced in the following years in the Mowich Lake area through 1905, according to Fabiani (Russell 1980, 9). A small cabin was constructed where the Grindstone Trail meets Mowich Lake on the southwest shore. Mowich Lake Entrance Road alignment maps drawn in 1931 indicate the existence of the cabin. Other NPS maps indicate the cabin existed as late as 1937 (NPS Proposed Water Supply System, 1937).

1908-1935

Road Survey

In 1908, Major Hiram Chittenden of the Army Corps of Engineers asserted the need for a trail encircling the mountain to increase access within the park to benefit both rangers and visitors (USDI 1908, 471). He suggested the trail be aligned in such a way to allow future widening as a wagon road. In turn, this trail sparked the idea for a highway to circumnavigate the mountain. The NPS pursued the idea of constructing a road along the west side of the park, calling it the West Side Road. Today, the road's

current alignment is a reflection of these early park-planning efforts not only for public vehicle access into and through the park, but also for a contiguous route around the mountain.

A survey was initiated in 1922 for the northwestern segment of the West Side Road, which was originally planned to run from Ipsut Creek to Mowich Lake. In 1924, the National Park Highway Law authorized its construction. As the difficulty of building a road through the Ipsut area was realized due to the steep topography, this route was eventually rejected (Quinn 1992, 2). Eventually, a new proposal evolved from the western park boundary to Mowich Lake (Thompson, 1981). This required an access road be built through adjoining State and U.S. Forest Service lands. As a result, in 1925, the Bureau of Public Roads surveyed the land from Fairfax, Washington to the park's western boundary (Quinn 1992, 3).

Next, the road's alignment from the park's western boundary to Mowich Lake and the Spray Park area was considered with three surveys in 1927 and 1928. In 1927, a road survey extended from the park boundary to Mountain Meadows, where it crossed Meadow Creek and climbed along Elizabeth Ridge to reach Mowich Lake (Quinn 1992, 2). At this time, the Spray Park area was under consideration as the north end destination of the West Side Road, but was rejected when the north part of the park was reserved for wilderness purposes (Quinn 1992, 3). In 1928, the alignment was readjusted by a new survey to follow Meadow Creek to its headwaters, then loop around before crossing the ridge, finally reaching Mowich Lake. Chief Landscape Engineer Thomas C. Vint adopted the 1928 route (Quinn 1992, 2). The final alignment ultimately followed the original Grindstone Trail very closely for the first 3 miles, from the western park boundary until the last 2.5 miles of the road. The road presently follows the same alignment today as originally constructed.

Road Construction

In 1927, a contract was issued to clear and grub the entire length of the road (Quinn 1992, 2). Construction was postponed in 1928 due to the State's failure to construct the eleven-mile access road from Fairfax, Washington to the U.S. Forest Service boundary (Quinn 1992, 2). The U.S. Forest Service, on the other hand, had already appropriated funds to build a road within its lands to the western boundary of the park (Quinn 1992, 2).

In 1929, Asahel Curtis, Chairman of the Rainier Park Advisory Board, planned a dedication ceremony at the park entrance, at what is now known as Paul Peak Entrance, in honor of Dr. William Fraser Tolmie's 1833 trip into the Mt. Rainier Park area. Curtis envisioned a Hudson's Bay-styled fort at the entrance near the park boundary, with a memorial arch to honor Tolmie. A grand dedication was to take place including the presence of Dr. William Fraser Tolmie's son, then the Prime Minister of British Columbia. Director Albright approved Curtis' plan, but declared the State's access road must first be completed. In the fall of 1931, Ernest Davidson, Assistant Landscape Architect, was asked to design the entrance station. Park Superintendent Tomlinson was not impressed with the design, but Curtis insisted it was appropriate because Tolmie was an employee of the Hudson Bay Company (Quinn 1992, 3). By July 1933, although the original plans for the entrance were not fully implemented, the Paul Peak Entrance parking lot was complete and a peeled-log pylon with plaque in Dr. Tolmie's honor was erected. The new entrance was dedicated on September 2, 1933 (Quinn 1992, 4).

Construction of the road began again in 1929 with the goal of clearing between the park boundary and Mowich Lake by Lucich and Company of Seattle, Washington (Quinn 1992, 3). Between 1931 and 1932, Rumsey and Company graded the first 2.5-mile section of the road, which was completed in time for the entrance dedication. Simultaneously in 1932, the State constructed and graded the access road (Washington State Route 165) from Fairfax to the western park boundary (Quinn 1992, 4). In 1933, the

upper 2.9-mile section of the Mowich Lake road was cleared by Erickson and Sons, and between 1934 and 1935 graded by A.C. Greenwood from Portland, Oregon:

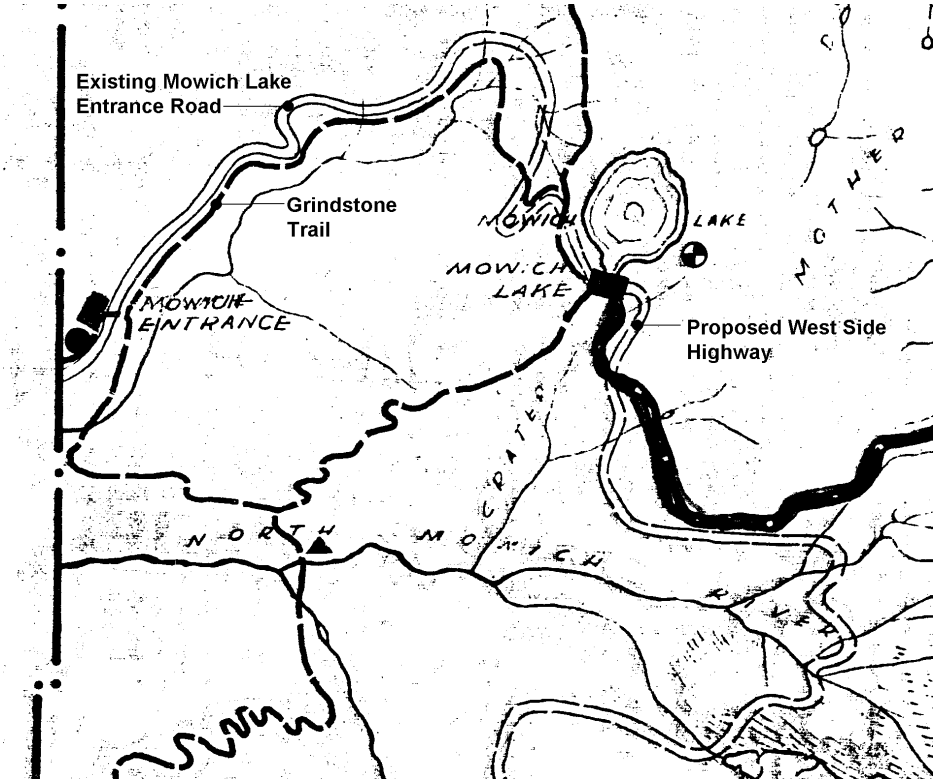
“In addition to the grading, the work included construction of a number of pipe culverts, a reinforced concrete box culvert at the outlet of Mowich Lake, and two sections of masonry retaining wall on a steep curve, sometimes called “Sunset Point,” located at Mountain Meadows” (Quinn 1992, 4-5).

By 1935, the gravel road was complete from the western boundary of the park to Mowich Lake, incorporating a 2-3' wide ditch on the cut side of the road, with a 2% cross-slope towards the fill side of the road. To convey water from the ditch and under the road, concrete and metal culverts spanned the width of the road approximately 35'. However frequent turnouts expanded the width of the road an average of 12' beyond the 35' width. On the intake end of the culverts, cut stone, mortared headwalls were installed, while the outfall end of the culverts were covered with loosely piled rocks in order to make the culvert pipes inconspicuous along the roadside. The headwalls on the intake ends were built in such a manner to stabilize the culverts during heavy water flow. The road's gradient ranged from 1-8%, with steeper segments of the road found on the road's second half. Finally, the road terminated at the southern tip of the lake, with camping indicated near the lakeshore and parking located at the road-end.

Buildings and Structures

Also during this period, the Wonderland Trail was aligned by 1915. Heading north from Longmire, the trail met Mowich Lake at its southern shore, then continued along its western banks. As part of a plan to place patrol cabins and trail shelters at 10-mile intervals along the Wonderland Trail, the Mowich Lake patrol cabin was built on the southeastern shore of the lake in 1922. Built before the construction of the road, this patrol cabin was intended to serve park rangers patrolling the northwestern corner of the trail system. The patrol cabin still exists and is located approximately .25 miles from the current campground at the end of Mowich Lake Entrance Road. A 1935 NPS map of the area shows a barn was located near the patrol cabin to accommodate those travelling with pack animals. The patrol cabin is included in the Wonderland Trail Cultural Resources Inventory (CLI). Approximately 5 miles south of Mowich Lake along the Wonderland Trail, where the North and South Mowich Rivers converge, is the current location of South Mowich trail shelter and the historic location of North Mowich trail shelter. These shelters are also included in the Wonderland Trail CLI.

1924 USGS map showing the existence of the Grindstone Trail before the construction of the Mowich Lake Entrance Road. (CCSO library)



1931 plan view indicates the coexistence of the Grindstone Trail and the Mowich Lake Entrance Road. (Source: 1931 Mount Rainier Master Plan)

Historic photograph showing a campsite for construction workers located along road during its clearing and grubbing stage, c. 1928. (MORA Archives, ps 2231)

Historic photograph showing the road's terminus at the lake during its clearing and grubbing stage, c. 1928. (MORA Archives, ps 2690)

Historic architectural rendering showing a Hudson's Bay-styled fort in honor of William Fraser Tolmie, planned as an official entrance into the northwest portion of the park in the early 1930s. (Courtesy Carl Fabiani))

Historic photograph showing the Paul Peak Entrance Station dedicated in honor William Fraser Tolmie in 1933. Note the wood pylon monument and graded parking area. (MORA Archives 3656 SF, Box 5)

1936-1954

Mowich Lake Entrance Road Completed, But Closed to Public/
Proposals For Future Developments in Mowich Lake Area

When the Mowich Lake Entrance Road was completed, the original Grindstone Trail "...fell into disuse" (Rutter 1975, 7). However, even as the old Grindstone Trail fell into disrepair, park officials planned further development in the Mowich Lake area. Plans were drawn for a comfort station, highway surfacing, and infrastructure improvements at Mowich Lake. However, these improvements were never realized.

During the late 1920s and early 1930s, NPS managers expressed doubts about the West Side Road project. Among those disapproving of extending the Mowich Lake Entrance Road segment to meet the southern West Side Road segment (running from Longmire to North Puyallup River) was Landscape Architect Ernest A. Davidson (Catton 1996). Although the Mowich Lake Entrance Road had been finished and the new entrance dedicated, it remained closed to private automobile traffic for more than two decades (Quinn 1992, 5). The decision to not pave the road or connect it to the lower West Side Road section, and to keep it closed to public traffic were all reflections of a shifting perception within the NPS in the late 1920s master planning period about the appropriate extent of development in the national parks. The present state of the road (its unimproved surface and campground facilities) is a result of this 1920s philosophy: preservation of the natural systems versus development within the park. During this time, park planners recognized that fragile ecosystems surrounding Mowich Lake would suffer if further development occurred in the area (Catton 1996, 576). However, park visitors made use of the Mowich Lake Entrance Road, by parking at the Paul Peak and accessing the lake on foot or horseback.

A 1936 NPS topographic map continued to associate Mowich Lake Entrance Road with a longer park road by referring to it as the "West Side Highway." By the late 1930s, however, the National Park Service decided against the extension of the Mowich Lake portion, making the road "...an isolated, dead-end section" (Quinn 1992, 2). The 1936 map of the Mowich Lake Area also indicates the clearing at the terminus of the road as "Parking Space," while campgrounds are located along the southwestern shoreline. Moreover, infrastructure development around Mowich Lake was planned. A map for a water supply system proposed linking the Ranger patrol cabin, barn, and a shelter cabin located on the southwest corner of the lake, but was never implemented (NPS Water Facilities map, 1935).

In 1936, plans for a rustic-styled comfort station were developed, to be located near the pylon memorial at Paul Peak. Additionally, a trail was proposed to circumnavigate Mowich Lake, but like the water conveyance system and comfort station, was never built. These design proposals and lack of implementation are indicative of the larger management challenge facing park planners during this time. On one hand, people such as U.S. Representative John M. Coffee requested that the NPS pave the Mowich Lake road and additionally connect it with the West Side Road. On the other hand, NPS managers did not want to accommodate more people. NPS Associate Director A.E. Demaray argued that Mowich Lake Entrance Road was too close to population centers. Development, according to Demaray, would be costly economically as well as environmentally – eventually forcing the park to create new parking, camping, and sanitary facilities to accommodate greater numbers of people, while in turn damaging the park's fragile surrounding landscape (Quinn 1992, 5).

During the period from the late 1930s through the 1940s, the road remained closed to the public with Superintendent Tomlinson, in 1945, echoing the thoughts of Director Demaray. He argued that opening the road would increase the necessity for completion of the West Side Road as envisioned earlier--creating the eventual need for overnight accommodations at Mowich Lake:

"The surfacing of the road will head us squarely into all the difficulties of a dead-end road, which would open one of the choice areas of the park nearer to centers of population than any of the other developed areas of the park. Not only will pressure develop for overnight accommodation, but there will be increasing demand for facilities for winter use of the area" (Catton 1996, 505).

The road was neglected during World War II. Park Superintendent John C. Preston emphasized the lack of maintenance and poor overall condition of the road in 1947 (Quinn 1992, 5). In contrast, in the early 1950s under the Mission 66 plan, the Mowich Lake road became part of a service-wide strategy to accommodate vehicular traffic in national parks. On July 30, 1955 the Mowich Lake road opened to the public, creating convenient access for park visitors to the once remote northwest portion of the park (Catton 1996, 500).

1955-1966

Mission 66

Generally, Mission 66 emphasized road development in otherwise remote areas of a park to "head off overcrowding by dispersing visitors more widely around the park"(Catton 1992, 500). Because the majority of visitors were dependent on cars to experience the park, they were inextricably tied to the road.

More specifically, Mission 66 provided "the clearest statement of policy on road development for the west side in twenty years" at Mount Rainier (Catton 1992, 504). The plan was to improve the Mowich Lake Entrance Road, but not extend or join it with the West Side Road, in an effort to maintain a wilderness area inbetween. Moreover, Mission 66 proposed new campgrounds and picnic areas at Mowich Lake, and by 1956, a plan indicated the campsite would grow from 25 to 100 campsites (Catton 1992, 507; Mission 66 Master Plan maps, c. 1956).

Although the opening of the Mowich Lake road during the Mission 66 era provided improved access for park visitors, it also contributed to damaging effects on Mowich Lake area. By 1964, its was recognized that "Heavy and rapidly mounting pressure about...Mowich Lake in Mount Rainier National Park, following completion of highways to these places and their opening to general public use has resulted in severe damage to significant vegetation and scenic interests" (Brockman 1964, 10)

Historic photograph taken in the early 1960s indicates parking was designated at the terminus of the Mowich Lake Entrance Road, east of Crater Creek. (MORA Archives, ps collection))

1967-present

NPS Shift in Values

Superintendent John Rutter found the Mowich Lake area “beaten to death” in the 1960s; the impact of overuse in Mount Rainier’s backcountry was unacceptable. Described in the Mount Rainier Administrative History, “Trails were gullied, shortcuts were ubiquitous and badly eroded, and parallel trails were established across many meadow areas. Heavily used campsites, easily recognizable from the sprawling bare patches that developed around them in the subalpine meadows, were sprinkled helter skelter around the most scenic beauty spots in the backcountry” (Catton website 2000, 3). By 1974, the Mowich Lake shoreline was “virtually denuded of vegetation” (Catton website 2000, 4). Damage to the Mowich Lake area was attributed to the opening of the Mowich Lake Entrance Road to automobile traffic and to unregulated visitor use at the lake (Brockman 1964, 10).

In 1964, the Wilderness Act led to significant changes in park zoning and management. The Act defined wilderness as “an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain” (Catton website 2000, 2). Under this Act, NPS was required to produce a wilderness preservation proposal for Mount Rainier National Park. Completed in 1972, the proposal included the Mowich Lake as part of the wilderness area. It was not legally enacted until 1988, but in the meantime, the NPS backcountry management plan of 1973 guided management, dividing wilderness into management zones, with the Mowich Lake zoned as a “general outdoor recreation area” (Catton website 2000, 1-2).

Recommendations for Campsite and Road Management

In light of land management changes, NPS officials began to reevaluate how wilderness areas, such as Mowich Lake, were to be regulated. Designated campgrounds along the southern lakeshore, dating from 1935, were showing signs of overuse, concerning park officials about future use (Brockman 1964). In response, park officials and citizen groups offered solutions to curb these problems. Frank Brockman recommended in a 1964 report to Superintendent John A. Rutter to move camping activities away from the shoreline:

“[I]t is recommended that public access to the lake shore be limited to hikers, riders and fishermen; that picnicking and camping be prohibited along the lake shore and that suitable picnic and camping facilities be developed at a distance but within reasonable access of the lake” (Brockman 1964, 10).

A 1966 NPS campground proposal for Mowich Lake indicated plan to locate the camping facilities within the old parking area. The proposal included amenities on both the west and east sides of Crater Creek. On the west, car-trailers and day parking were provided, and on the east, car camping facilities (with fire pits, picnic tables, log dividers and parking spaces) were included within the circular parking area.

In 1969, the Seattle Mountaineers recommended closure of the road altogether. They wrote: “many fragile areas in the park could not tolerate the heavy use they received". The closure of the road would make “access to some of these areas more difficult and the hikes more rewarding” (Catton 1996, 576).

The Development Concept Plans (DCP's) of the 1970s for the Carbon River, White River, Sunrise, and Tipsoo Lake areas responded to “problems with facilities which are outmoded and uses which have seriously impacted park resources” (MORA Env. Review 1976, 1). Although these plans did not relate specifically at the Mowich Lake area, they reflect NPS philosophy concerning natural resources and public access at the time:

"These areas . . . can no longer continue to serve the public's future demands without optimal capital improvements…Every effort has been made to seek a balance between adaptive use and new construction as well as visitor use and park resources" (MORA Env. Review 1976, 1).

In 1972, in accordance with the DCP, the Mowich Lake Entrance Road was closed at the Crater Creek crossing while the parking area on the other side became designated as a walk-in campground. Visitors were no longer allowed to camp along the lakeshore (Kruse 1979, 12; Russell 1980, 41).

Shoreline revegetation projects were implemented in the 1970s. In a 1980 interview, Carl Fabiani, MORA Trails Supervisor, mentioned, "I can remember before I worked in the park going to Mowich Lake and camping—in those days camping was allowed right on the lakeshore anywhere around the lake…They [SCA, Student Conservation Association, in the 1970s] did a lot of rehabilitation work and rebuilt and redefined the trail around Mowich Lake so that area has definitely come back" (Russell 1980, 41).

MORA Reports and master plans from 1972 through 1976 all suggested the Mowich Lake Entrance Road be closed. In 1973, the DOI Draft Environmental Impact Statement and the 1976 master plan made similar proposals: "Removal of the automobiles from the vicinity of this highly scenic area would greatly increase the quality of the visitor experience…[E]fforts should be made to keep automobiles as far from the lake as possible" (Catton 1996). However, as a compromise, a shuttle bus was proposed however, once again, the bus proposal was not implemented in the summer months (US NPS Final Env. Statement 1976, 53-54).

Hiking routes were considered for alternative access once the road was closed. Superintendent Rutter recommended using the Grindstone Trail as the main access to the lake. He felt that, "This trail contains steeper grades with more ups and downs than the abandoned road, narrow and winding, and travels through native forests with little impact from road construction. This trail provides a more direct and enjoyable route to hike to Mowich Lake" (Rutter 1975, 1). In response to the suggestion of road closure, a 1976 DCP for the Paul Peak Entrance proposed to close the road, place a vehicular barrier above the improved parking lot, and revegetate the closed portion of roadbed.

Public Opinion Concerning the Road Closure

The plan to close the road generated public discussion about the purpose of national parks and the public's right to access. A 1974 survey indicated that the majority of those interviewed were in favor of the proposed road closure (Hendee 1974, 65). In contrast, Larry Penberthy of Seattle protested road closure in 1974. He claimed, "A park should be a park, a place for the benefit and enjoyment of people. A place for restoration and tranquility. It should not be a wilderness. If it is, then lock the gates and put on guards" (Catton website 2000, 6). Penberthy filed a suit against NPS in 1975 for their proposed implementation of park usage restrictions. In the end, the court decided in favor of the Federal Government (Catton website 2000, 6).

Road Stays Open

Despite the Mowich Lake Entrance Road debate through the 1970s, after a drive up the road in 1977, NPS Pacific Northwest Regional Director Russell Dickenson recommended keeping the road open for public use (Thompson 1981, 209).

Current Issues

From early conservation decisions made by individuals, such as Superintendent Tomlinson, to the activists who supported citizen rights to visit national parks, such as Penberthy, a struggle to strike a balance has characterized the development history of the Mowich Lake Entrance Road and Campground. The NPS repeatedly chose to preserve the natural aspects of the park experience over its further development. As a result of the lack of development, the road has not significantly changed since its completion in 1935 and has been inadvertently preserved, remaining an outstanding example of early park planning and road construction techniques typical of the period.

Contemporary photographs of the Mowich Lake Entrance Road and Mowich Lake. (CCSO 2001)

Contemporary photograph showing that some of the area cleared and graded during the 1920s and 1930s has revegetated at the Paul Peak Entrance Station. (CCSO 2001)

Contemporary photograph showing entrance to the Mowich Lake Campground. (CCSO, 2001)

Contemporary photograph of the Mowich Lake parking lot and turnaround. (CCSO, 2001)

Contemporary photograph showing a Mowich Lake revegetation sign. (CCSO, 2001)

Analysis And Evaluation

Summary

The Mowich Lake Entrance Road was evaluated as a cultural landscape within the Mount Rainier National Historic Landmark District. In this evaluation, the road was found to retain the following landscape characteristics that contribute to its overall integrity. These features include spatial organization, circulation, small-scale features, land use, natural systems and features, and views and vistas. These landscape characteristics and associated features retain in the present day their historic qualities and the original intentions of the Mount Rainier Master Plan as expressed during the period of significance 1928-1935.

Landscape Characteristics And Features

Spatial Organization

The spatial organization of Mowich Lake Entrance Road and Campground retains integrity and contributes to the road's historic significance. The major spatial organizational feature of the road is its linear alignment connecting two elements along its route, the Paul Peak Entrance Station near the park boundary and the former parking area at its terminus.

The road extends from the park entrance approximately 6 miles to the current Mowich Lake Campground. Its alignment between these two points reflects planning decisions made in the late 1920s by early park planners, such as Chief Landscape Engineer Thomas C. Vint. The road was originally intended to become the main Tacoma-area access to the West Side Road project, thus influencing its location in the northwestern corner of the park. Because of changes in road building policies in the late 1920s, the decision against the completion of the West Side Road resulted in the Mowich Lake Entrance Road's ultimate endpoint at Mowich Lake, leaving the road as a detached segment from the rest of the park's road system. The road still ends at the same point, at the clearing at the end of the road, as it did during the period of significance.

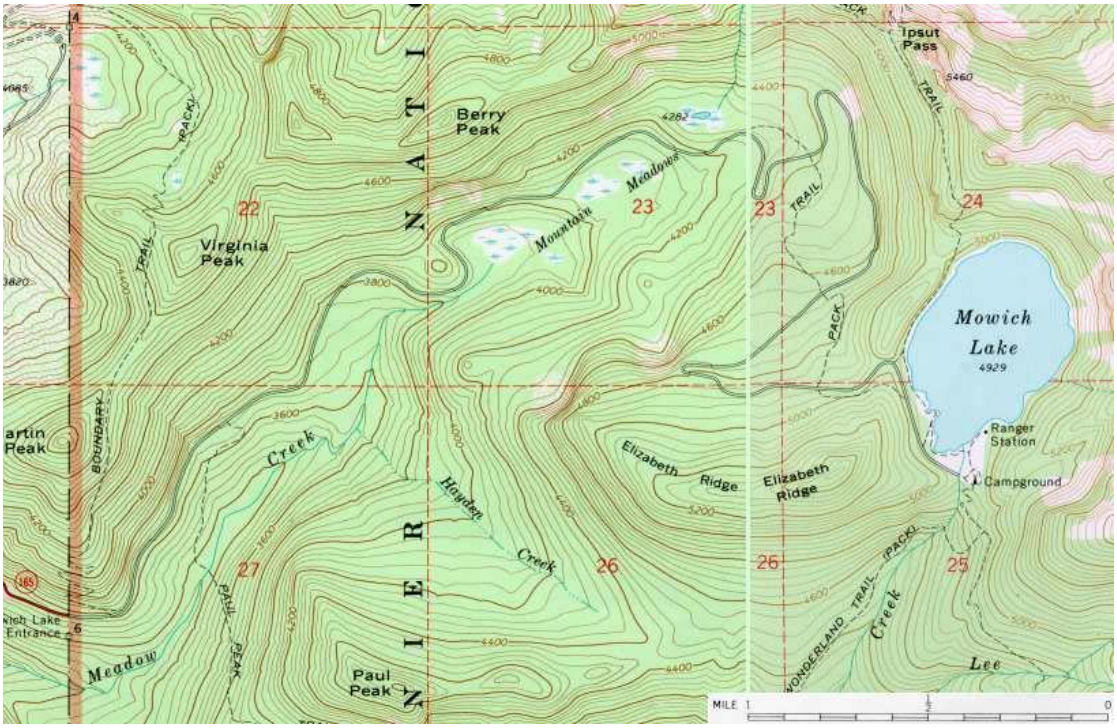
The road closely follows the original alignment of the Grindstone Trail blazed by Bailey Willis in 1884. However, in the last 2.5 miles of the road, it was adjusted from the Grindstone Trail route, the most direct route to the lake, to a more curvilinear path that winds through a forested, steep landscape, capturing views of the mountain, valleys, and meadows. The road travels from the western boundary of the park, past Mountain Meadows, then loops around the head waters of Meadow Creek, captures views of the valley below, turns to follow along Elizabeth Ridge, then terminates at the lake. Vint adopted this final alignment of the road in 1928. Comparison of past and current USGS maps show that the road alignment has not been altered since its completion in 1935 which contributes to its historic integrity.

At the 0.7-mile mark, the road widens to a parking area and trailhead access point currently called the Paul Peak Entrance Station. This clearing was originally planned to be a grand entrance built in the Hudson Bay Company Fort-style to honor a Hudson Bay Company explorer, Dr. William Fraser Tolmie. Designed in 1931, the area was cleared and graded, but the main structures were never built. However, the original clearing is still evident, marked by older trees along the edges of the terrace. Within the originally leveled area are younger trees and a small grassy opening where a vault toilet has been sited. The original clearing and terrace retains historic integrity in its form and location.

The Mowich Lake Entrance Road terminates after approximately 5.8 miles with a large, bulbous clearing. Originally, the clearing was created in the late 1920s as a vehical turnaround. After

construction, the clearing was designated as a parking space on maps in the mid-1930s, even though the road was closed to the public. Currently, the clearing still exists, but is used as a walk-in campground. The bulbous form of the clearing and location at the end of the road still retain historic integrity. The only part of the original spacial organization of the road that has been altered since the period of significance is the removal of campsites from the lakeshore and the addition of a new parking area before the bulbous clearing. When parking was removed from the clearing a new parking area was created through an expansion of the road immediately before the bulb.

Due to minimal changes to the road and elements along its route since 1935, spatial organization is a landscape characteristic that retains integrity.



1971 USGS map indicates the alignment of the Grindstone Trail (Pack Trail) and the Mowich Lake Entrance Road. (CCSO library)

Circulation

Existing Conditions:

Road prism
The cross section of the road generally includes a 2' to 3’ ditch on the cut side of the road and a roadbed with a 2% cross-slope slanting toward the fill side of the road.

Surface
The roadbed is currently surfaced with a thin layer of gravel. At the entrance, the layer of gravel is approximately ¼” thick with bare spots due to wear along the tire tracks. After 2.3 miles, the amount of gravel increases, but is mostly swept to one side of the road and the tire tracks are still bare. At four points along the road, there are short segments (1/5 mile or less) of washboarded surface.

Width
The road has a fairly consistent width of 35’ throughout its 5.8-mile length except for some segments where vehicles can pull off and park on the side. These wide segments occur at eleven points along the road, suggesting that they were intentionally designed as pullouts (see “Small-scale Features”). They tend to be 9-25’ wide, except for one 40’ wide area (in addition to the road’s width) occurring just before the gate (0.8) suggesting a turn around point for vehicles when the road is closed over winter. It is not clear when these pullouts were created, but appear to be the result of road maintenance and use over time. Despite these wider segments, the majority of the road maintains a 35’ width.

Gradient
The gradient of the road ranges from 1-8%. From the entrance of the park to Mountain Meadows (2.2 miles), the slope ranges between 2 and 5%. After Mountain Meadows, the road becomes steeper with grades up to 8%. As the road reaches the lake (5.6 miles), the slope reverts back to a gentle 2% grade leveling off at the campground.

Summary

The circulation conditions that exist today are almost identical to those during the period of significance. Few changes have been made to the road since its completion in 1935. A 1992 HAER report states that, “Little work was done during WWII or for several years afterward” (Quinn 1992, 5). The fact that 39 original culverts still exist support the statement that the road has had very few alterations to road prism, width, or gradient.

The most significant work occurred in 1977 when sections of the road were washed out after a winter storm and were repaired (Quinn 1992). The locations of 10 contemporary culverts incompatible with the historic design, exist mostly within the first three miles (see Small-scale Features), and probably may correspond to the location of the 1977 washouts.

The surface of the road has not changed significantly. Photographs taken at the 1933 Paul Peak Entrance Station dedication and at the former lake parking area in the 1960s show that the road was not paved or covered with gravel. In 1977, after the storm, 2” of gravel were laid on the roadbed (Quinn 1992).

The road circulation system has changed little since the period of significance. Circulation is a landscape characteristic that contributes to the historic integrity of Mowich Lake Entrance Road.

Contemporary photograph of a typical pullout on the Mowich Lake Entrance Road. The circulation conditions that exist today are almost identical to those during the period of significance. (CCSO 2001)

Small Scale Features

Small-scale road features were designed and constructed along the Mowich Lake Entrance Road during the historic period. Many of these features still exist and are integral to the functioning of the road. In addition, many of these features were designed in a naturalistic style in an effort to blend human development with the surroundings. Like other roads built in the 1920s, Mowich Lake Entrance Road was highly engineered in accordance with the plan for the park's system of scenic roads around the mountain. Many of the original small-scale features, such as culverts, a retaining wall and guardwall, super-elevations, a turnpike, and ditches still exist. Other features, such as signs, a gate, fences, modern pit toilets, and new culverts have been added since the period of significance, and are considered to be non-contributing to the significance of the road.

Contributing Features:

Culverts
Forty-nine culverts are located along the approximately 6 mile-long road, indicative of the heavy rain flows on the west-side of the mountain. 39 of these culverts are original. Built from 1928 to 1935, these culverts reflect the naturalistic-style of that era. Each culvert is constructed with a carefully fitted, mortared stone headwall on the uphill cut-side of the road and a loosely stacked stone headwall on the downhill fill-side of the road. The stonework masks an 18" concrete or corrugated steel pipe inside. The headwalls are generally 5-6' wide and 3' high, constructed with three horizontal layers of cut stones. The majority of the original culverts along the road fit this description with two interesting exceptions.

The first exception, at the 2.8-mile mark, is a double culvert located where a small waterfall flows under the road. Constructed in a similar fashion as the other culverts, this headwall is altered to incorporate two 32" corrugated steel pipes side by side and is therefore taller and wider than the typical culvert found along the road. To the left of the headwall, a set of stone steps has been incorporated to allow people easy access to view the waterfall.

The other exceptional culvert is located near the campground. This is an extremely large reinforced concrete box culvert with a 10' high headwall, built to allow Crater Creek to flow under the roadbed. The culvert's concrete opening measures 6' high and 4' wide to allow water debris flow. The roadbed is raised as a superelevation an additional 10' above the headwall. Unlike the typical pattern seen in the culverts found along the road, this culvert was constructed with mortared stonework method on both ends.

Out of the total 49 culverts along the road, 10 are not original. These 10 non-contributing culverts are either later additions or replacements of originals since the period of significance. The majority of these culverts are made of corrugated steel (one is concrete). The ends are either entirely exposed or covered with a loose pile of small rocks. None of these culverts exhibit finely crafted stone headwalls.

Retaining Wall with Guardwall
Retaining walls and guard walls are features also carefully designed in the naturalistic-style by the BPR in association with the NPS. Located at the 1.6 mile mark along the road is a 16' tall retaining wall that extends another 4'above the roadbed as a guardwall. Like the headwalls of the culverts, the wall is crafted from cut stones fitted and mortared together with very little batter. From the downhill side of the wall, the retaining wall and guardwall appear built as one seamless structure - no changes in quality of masonary esist between the retaining wall and guardwall. The guard wall features 6" crenellations varying the height of the wall from 3.5' to 4' feet above the road grade. Placed along the curve around Sunset Point, the wall spans approximately 70' feet in length, and protects a driver from Meadow Creek

flowing just below. Both terminal ends of the wall curve slightly back away from the road.

Cut-and Fill, Super-elevations, and Turnpike
Mowich Lake Entrance Road follows along the steep slopes of the Meadow Creek valley wall. As a result, the majority of the road is built on cut-and-fill benches or super-elevations. The average height on the fill side of the road is approximately 20-30 feet, at times as high as 80 feet, exhibiting large exposed rocks taken from the cut side of the road. At the 3.2-mile mark, a turnpike spans a low point where a small creek flows under the roadbed through an original culvert. Created with rocks in a similar fashion to the super-elevations, it raises the roadbed about 6' from the original ground elevation. These road features allow the road to follow along the steep terrain to the lake and were all a part of the original road bed construction.

Ditch
A ditch runs along the entire uphill side of the road (except where turnpikes occur), varying from 2' to 3' in depth. The ditch captures water from the uphill slope and conducts the water under the road via culverts. The ditch is part of the historic drainage infrastructure of the road.

Non-Contributing Features:

Pullouts
The road widens noticeably at eleven points, but there is no evidence that these wider areas are intentional pullouts. They tend to be 9-25' wide and do not typically correspond with views or access to natural features. There are three potential exceptions to this pattern: one wide area in the road is 40' wide occurring just before a gate (0.8) suggesting a turn around point for vehicles when the road is closed over winter; another area has a view of a sweeping valley below (4.6); and a third is close to a trail head (5.4 mile). It is clear these pullouts were created, but appear to be used for predominately for road maintenance.

Signs
During the historic period, signs were used sparingly, and consisted of small, treated wood plaques with routed and painted lettering. Most of these signs have been removed and replaced with steel and fiberglass. Today trailhead signs are small, engraved steel plates, bolted to steel posts 3' in height. Additional signs include standard reflective highway signs warning of tight turns, road conditions and parking restrictions. The large number of signs added since the period of significance, along with the materials used to make them, do no contribute to the road's historic integrity. However, one newer sign marking the entrance to the park is compatible with the historic period – it is made of wood and the lettering is routed and painted white.

Other Features
Several other non-contributing features occur along the road including: a gate made of milled lumber located at the 0.8-mile (but evidence of a much older gate post foundation suggests the gate placement may be historic); poorly constructed ranch-style fencing made of split wood (5.5 mile and at campground); and modern vault toilets (at the campground and Paul Peak Entrance Station).

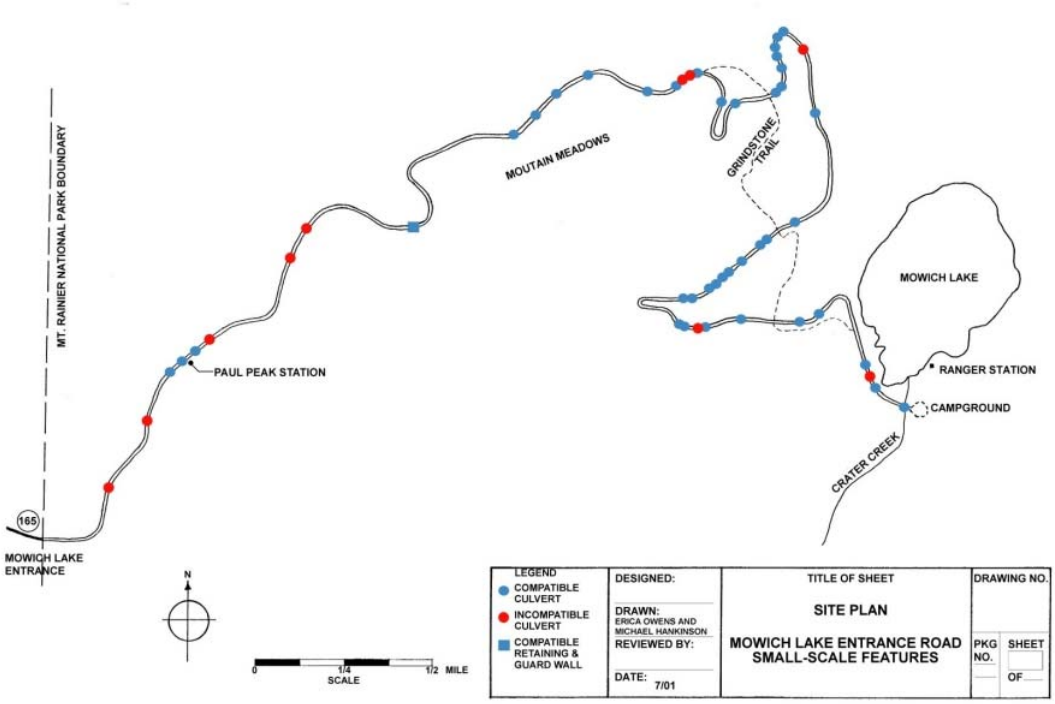
Even though several non-contributing small-scale features have been added along the road, the main features that contribute to the road's overall functionality still remain: the culverts, retaining wall and guardwall, super-elevations, and turnpikes. The majority of these features are originals built during the period of significance and still function as intended. Small-scale features is therefore a landscape characteristic that retains integrity.

Contemporary photograph showing a typical culvert outfall. Note that the pipe is covered by loosely piled rock. All original culverts on the Mowich Lake Entrance Road have outlets such as this one. (CCSO 2001)

Contemporary photograph showing a typical culvert inlet. Note that the pipe is surrounded by a mortared stone headwall. All original culverts on the Mowich Lake Entrance Road have inlets such as this one. (CCSO 2001)

Contemporary photo of Crater Creek stone culvert located at Mowich Lake campground. (CCSO 2001)

Contemporary photo of guardwall showing crenellation detail. (CCSO 2001)



Map illustrating approximate location of culverts found on Mowich Lake Entrance Road. (CCSO 2001)

Land Use

The Mowich Lake Entrance Road was originally designed as a scenic drive to furnish park visitors recreational opportunities through convenient access to Mount Rainier's largest lake and ultimately to a highway around the mountain. However, the road was not opened to the public during the period of significance, due to changes in National Park Service development philosophies and the abandonment of the road-around-the-mountain idea. As a result, instead of vehicular traffic, the road supported access by park visitors on foot or horseback. The lake served as the road's destination and as a site with fishing, camping, hiking, and horseback riding opportunities. A barn was located on the southeast side of the lake to accommodate pack animals. Camping occurred along the lakeshore. Visitors could also access the Wonderland Trail from the road's terminus.

The contemporary use of the Mowich Lake area maintains its historic design intent by continuing to provide park visitors the same recreational opportunities of fishing, camping, hiking, and horseback riding in the Mowich Lake area. Access to the area continues to be via the Mowich Lake Entrance Road. These continued land uses support the historic integrity of the site.

However, since 1955 (after the period of significance) the road has been opened to the public for vehicular access during the summer months. Even though the segment of Wonderland Trail that passes through the Mowich Lake Campground is still designated as a pack trail, pack animals are no longer accommodated with a barn at Mowich Lake. The designated camping area has also changed. It has been moved away from the lake's shore to the historic terminus of the road, which is now a walk-in campground. These land use changes are significant and have negatively impacted the historic integrity of the site.

Contemporary photograph showing the terminus of the road, east of Crater Creek. The parking lot has been converted for use as the walk-in campground. (CCSO 2001)

Historic photograph taken in the early 1960s indicates parking was designated at the terminus of the Mowich Lake Entrance Road, east of Crater Creek. (MORA Archives, is 807)

Historic photograph taken during the Mission 66 era indicates camping along the lakeshore was made possible for park visitors arriving by car. (MORA Archives, is 681)

Natural Systems And Features

Mowich Lake, Ipsut Pass, and the valley created by Meadow Creek are natural systems and features that influenced the siting, alignment, and development of the Mowich Lake Entrance Road and campground during the historic period. However, Mowich Lake was central to the road's design and development. Meant to provide recreational access for park visitors, Mowich Lake was an obvious choice as a destination location, a scenic subalpine lake enclosed by a dramatic, rocky hillside.

From the earliest survey conducted in the 1920s, it was determined that a road from Ipsut Creek to Mowich Lake, requiring a tunnel through Ipsut Pass, was unfeasible. As a result of Ipsut Pass' steep grade, Chief Landscape Engineer Thomas C. Vint chose a more circuitous and shallow graded route, following the approximate alignment of the Grindstone Trail, from the western boundary of the park to Mowich Lake.

Beginning at the park's western boundary, the road was meant to follow the path of least resistance along the ridge below Virginia Peak to the north and Meadow Creek to the south. In conformance with the surrounding topography, the road was cross-sloped towards Meadow Creek below, the most efficient engineering solution to conveying water away from the road, downstream towards Mountain Meadows and Meadow Creek to the south.

Intended to allow park visitors access to Mowich Lake, the road terminated at the headwaters of Crater Creek—the most level and open area around the lake. This open area was designed for visitors to not only have access to the lake, but to enjoy the lake's captivating beauty—parking and camping were intended uses and were the reasons why the road lead to the southern tip of the lake.

Today, these natural systems and features are still evident, and continue to contribute to the historic character of the road. The road, located in one of the wettest areas of the park has washed out in places—especially in the mid-1970s, but has maintained its original historic alignment and intent: to provide park vistors access to the western portion of the park and Mount Rainier's largest lake.

Views And Vistas

The Mowich Lake Entrance Road was originally aligned as a segment of a larger system known as the West Side Road to allow park visitors a convenient and pleasurable drive to Mowich Lake. After much consideration by park planners to design a route to the lake, Chief Landscape Engineer Thomas C. Vint chose a circuitous and scenic route following the approximate alignment of the Grindstone Trail. The choice of a scenic route is a clear reflection of early park planning efforts in the 1920s and 1930s to build indirect pleasure drives, that captured unique views and regional vistas for park visitors travelling by car.

Mowich Lake was chosen as the road's destination, as it was scenic subalpine lake enclosed by a dramatic hillside, and offered glimpses of Mount Rainer's peak. Additionally, the relatively level lakeshore at the south end of the lake provided a location for campsites. The road's primary view was captured at its terminus, with sweeping views of Mowich Lake and the steep hills behind, finally offering a broad view of Mount Rainier to the southeast.

Historically, the road has been characterized by its destination: the pristine waters of the Mowich Lake at the foot of Mount Rainier. The views of the lake and the mountain from the road were captured by design in the historic period and still exist in the present day. Views and vistas is a landscape characteristic that contributes to the integrity and significance of the road.

Contemporary photograph of Mowich Lake as seen from the Mowich Lake Entrance Road looking east. (CCSO 2001)

Contemporary photograph looking north from the Mowich Lake campsite, formerly the parking area. (CCSO 2001)

Archeological Sites

Two archeological sites exist along the Mowich Lake Entrance Road that contribute to the road's historic integrity. These sites include segments of the Grindstone Trail and a cabin site on the southwestern shore of Mowich Lake. These were both built in the late 1800s and were used into the period of significance of the road.

The Grindstone Trail, a corridor running from the park's western boundary past Mowich Lake to Spray Park, was the original access route to Mowich Lake. Also known as the Old Bailey Willis Trail, the approximately 4.5-mile Grindstone Trail was blazed by Bailey Willis in 1883 to explore the region and access minerals for the Northern Pacific Rail Road Company (Grater 1949, 74). The Grindstone Trail may have been the first trail (aligned and constructed by Euro-Americans) within the present day Mount Rainier National Park boundaries (Fabiani 2001). This trail continued to be used by park visitors for access to the lake after the park was designated in 1899, until the Mowich Lake Entrance Road was completed in 1935. After 1935, the trail fell into disuse while people used the road for access, on foot or horseback (Rutter 1975, 7). The Park Service has maintained only portions of the trail for winter access since the period of significance (Fabiani 2001).

Currently, sections of the Grindstone Trail parallel, weave, or have been obliterated by the Mowich Lake Entrance Road. Only the lower 2.8 miles are considered as an archeological site due to their condition. The first .75-mile trail segment, which runs from the park boundary to Paul Peak Entrance Station, has not been maintained and is difficult to follow (Fabiani 2001). The next section of trail, which begins at Paul Peak Entrance Station and heads approximately 2.05 miles north toward the lake, parallels the road and crosses it once. This segment has had some maintenance completed in the 1970s to prepare for reuse with the planned closure of Mowich Lake Entrance Road. These improvements included some realignments and new bridges. However, when the road remained open, the trail fell into neglect again. Along this section of trail, some parts are still usable, while others are obstructed by blown down trees or overgrown vegetation. Original features related to the trail still exist along this segment in a dilapidated state. These features include an overgrown swamp bridge, a collapsed cabin, tree blazes, and a tree inscription dated 1892 (Fabiani 2001).

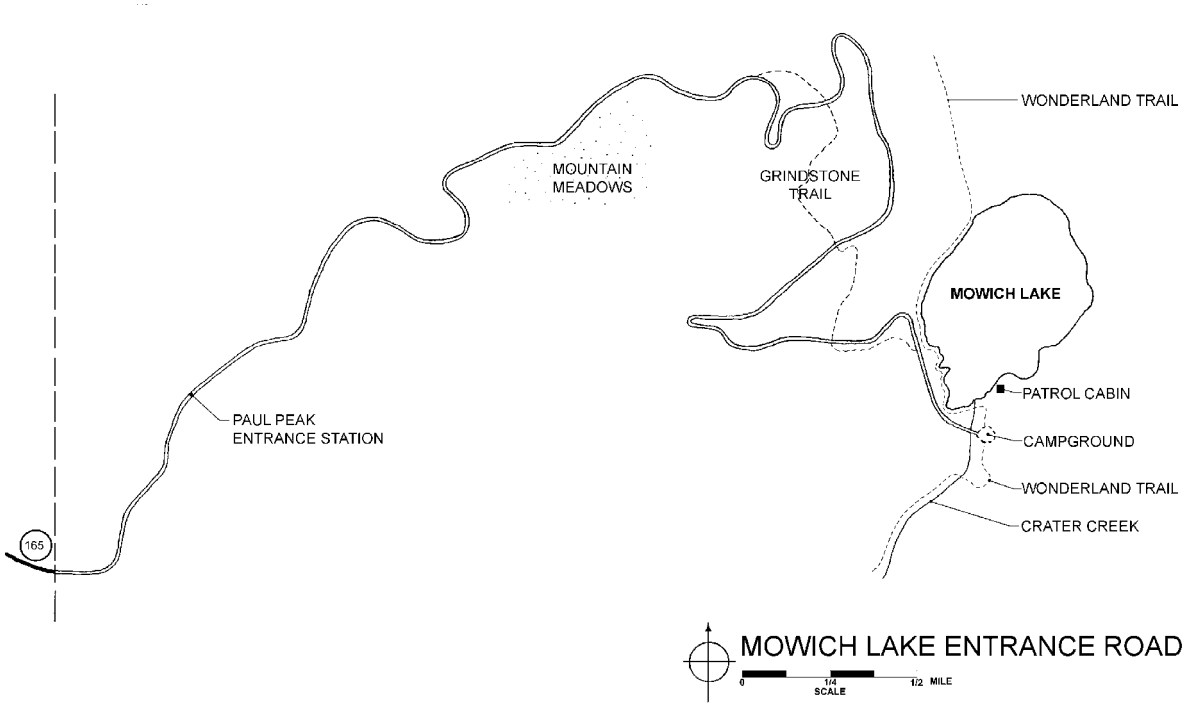
The third segment of trail, which begins at the second point where the trail crosses the road to the last point where they cross (approximately 1.2 miles of trail), weaves with the road, crossing it several times. This section has continued to be maintained by the park. Tree blazes and one bridge dating before 1935 are still present (Fabiani 2001). Because this section of trail continues to be maintained and used, it is not considered part of the archeological site. The last .25-mile segment of original trail has been obliterated by the entrance road and is not part of the archeological site.

Where the Grindstone Trail originally met the Mowich Lake, a cabin was once located on the southwestern shore. Little has been documented about this site other than its location. A 1931 Mowich Lake Entrance Road alignment map verifies the cabin's existence during the period of significance. An historic photograph indicates that hikers used the cabin. It is likely that it was constructed in conjunction with the Grindstone Trail's completion in 1883. A 1937 NPS plan for a "Proposed Water Supply System" suggests that the cabin still existed one year after the entrance road's period of significance. However, this cabin may have fallen out of use, just as the Grindstone Trail did, after the road became the main access route to the lake in 1935. The cabin had deteriorated by the 1970s (Fabiani 2001).

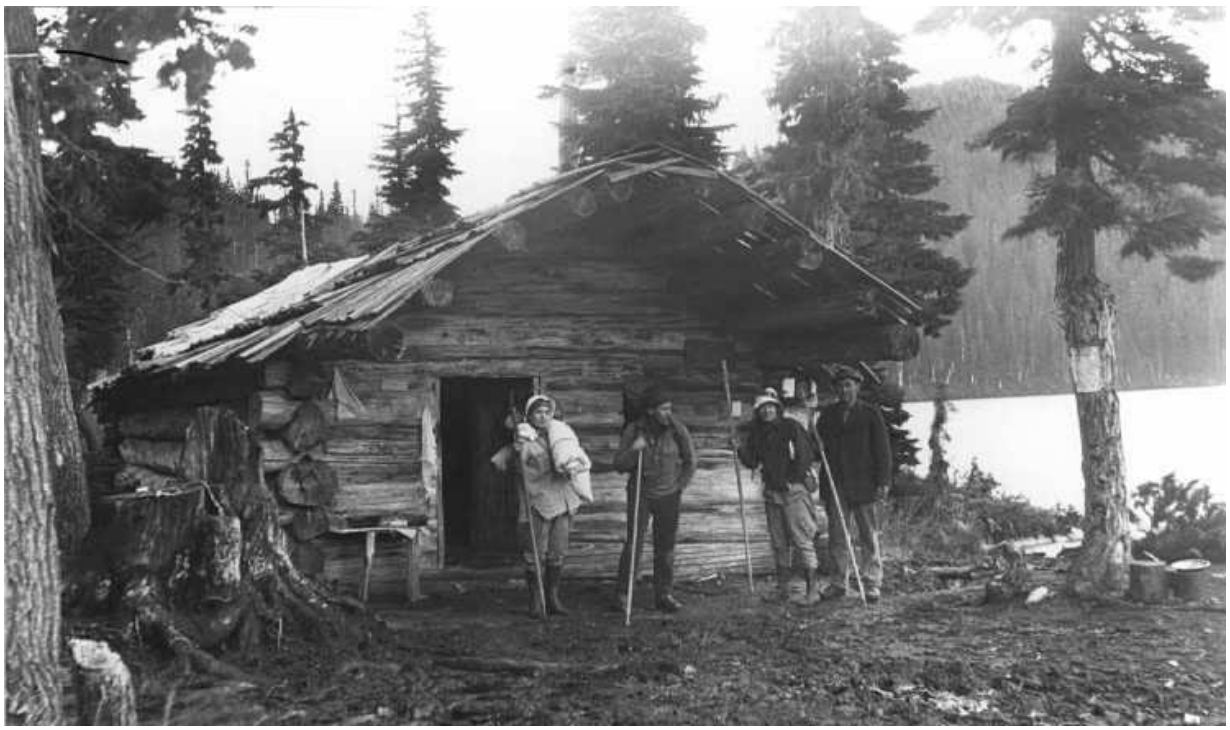
Presently, the cabin no longer exists. Two logs in the ground, positioned at a right angle to one another, suggest an original corner of the cabin. An earthen mound, cupped by the two logs, marks the center of cabin. This mound may indicate where the cabin's stove was located (Fabiani 2001). The logs in the

ground continue to deteriorate and the mound is being overgrown with young trees and vegetation.

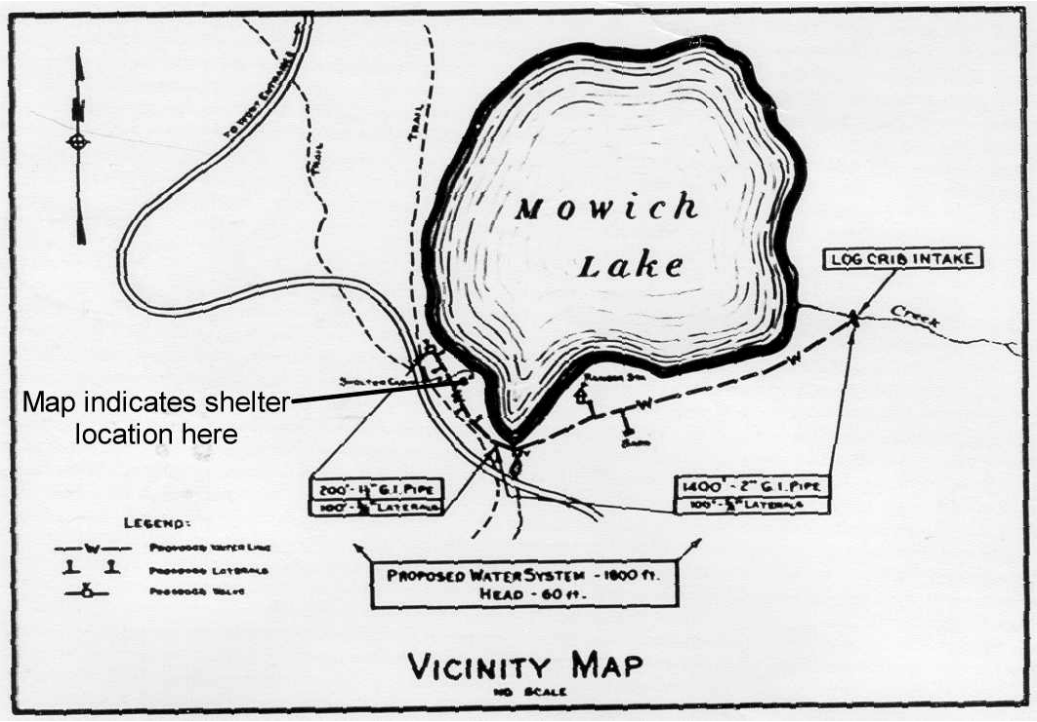
The presence of these two archaeological sites, which existed into the period of significance of the road, supports the historic integrity of the Mowich Lake Entrance Road. As of yet, neither of these sites have been adequately documented by the park. Their continued deterioration without documentation threatens the archaeological sites' support of historic integrity of the road.



An existing conditions map showing the current relationship of the Grindstone Trail to the Mowich Lake Entrance Road. (CCSO, 2001)



Historic photograph of shelter cabin located at the terminus of the Grindstone Trail constructed in the c. 1883 (Fabiani 2001). The cabin no longer exists. (Photo courtesy of Carl Fabiani)



A 1937 Mount Rainier National Park map entitled "Proposed Mowich Lake Water Supply System" indicates location of the shelter cabin at the terminus of the Grindstone Trail. (CCSO microfische)

Management Information

Descriptive And Geographic Information

Historic Name(s): Mowich Lake Road, Mowich Road
West Side Road

Current Name(s): Mowich Lake Entrance Road

Management Unit:

Tract Numbers:

State and County: Pierce County, WA

Size (acres): 7.30

Boundary UTM

Boundary UTM(s):

Source	Type	Datum	Zone	Easting	Northing
USGS Map 1:24,000	Line	NAD 27	10	584467	5199301
USGS Map 1:24,000	Line	NAD 27	10	582637	5197439
USGS Map 1:24,000	Line	NAD 27	10	585820	5198523
USGS Map 1:24,000	Line	NAD 27	10	583636	5198487
USGS Map 1:24,000	Line	NAD 27	10	586181	5199112
USGS Map 1:24,000	Line	NAD 27	10	585638	5199385

GIS File Name:

GIS File Description:

National Register Information

National Register Documentation: Entered -- Documented

Explanatory Narrative:
Mowich Lake Entrance Road was identified in the National Historic Landmark nomination of 1997. The road and its associated features were listed in the NHLD nomination as part of the greater road system and designed landscape of Mount Rainier. This CLI provides additional analysis and more detail of these landscape characteristics. In addition, the Mowich Lake Patrol Cabin was listed on the National Register in 1991.

NRIS Information:

NRIS Number:	97000344
Primary Certification:	Listed In The National Register
Primary Certification Date:	2/18/1997
Other Certifications:	Designated National Landmark
Other Certification Date:	2/19/1997
Name In National Register:	Mount Rainier National Park

NRIS Number:	91000183
Primary Certification:	Listed In The National Register
Primary Certification Date:	3/13/1991
Other Certifications:	Date Received/Pending Nomination
Other Certification Date:	1/29/1991
Name In National Register:	Mowich Lake Patrol Cabin
Other Names In National Register:	C-252

National Register Classification: District

Significance Level: National

Contributing/Individual: Individual

Significance Criteria: A -- Inventory Unit is associated with events that have made a significant contribution to the broad patterns of our history

C -- Inventory Unit embodies distinctive characteristics of type/period/method of construction; or represents work of master; or possesses high artistic values; or represents significant/distinguishable entity whose components lack individual distinction

Period Of Significance

Time Period: 1928 - 1935 AD

Historic Context Theme:	Creating Social Institutions and Movements
Historic Context Subtheme:	Recreation
Historic Context Facet:	General Recreation
Historic Context Theme:	Expressing Cultural Values
Historic Context Subtheme:	Landscape Architecture
Historic Context Facet:	Regional Planning
Historic Context Theme:	Expressing Cultural Values
Historic Context Subtheme:	Architecture
Historic Context Facet:	Rustic Architecture

Area Of Significance:

Category:	Landscape Architecture
Priority:	1
Category:	Engineering
Priority:	2
Category:	Transportation
Priority:	3
Category:	Entertainment/Recreation
Priority:	4

National Historic Landmark Information

National Historic Landmark Status:	Yes
Date Determined Landmark:	2/18/1997
Landmark Theme:	National Park Service landscape architecture, and National Park Service master planning

World Heritage Site Information

World Heritage Site Status:	No

Cultural Landscape Type and Use

Cultural Landscape Type:	Historic Designed Landscape

Current and Historic Use/Function:

Use/Function Category:	Transportation
Use/Function:	Road-Related
Detailed Use/Function:	Automobile
Type Of Use/Function:	Both Current And Historic
Use/Function Category:	Recreation/Culture
Use/Function:	Outdoor Recreation
Detailed Use/Function:	Campground/Picnic Area
Type Of Use/Function:	Both Current And Historic
Use/Function Category:	Transportation
Use/Function:	Road-Related
Detailed Use/Function:	Parking Area
Type Of Use/Function:	Historic

Ethnographic Information

Ethnographic Survey Conducted: Yes-Restricted Information

Associated Groups

Name of Peoples:	Cowlitz (Tainapan)
Type of Association:	Both Current And Historic
Name of Peoples:	Muckleshoot
Type of Association:	Both Current And Historic
Name of Peoples:	Nisqually
Type of Association:	Both Current And Historic
Name of Peoples:	Puyallup
Type of Association:	Both Current And Historic
Name of Peoples:	Yakama
Type of Association:	Both Current And Historic

Significance Description:

Documented in "Ethnographic Guide to the Archaeology of Mount Rainier national Park" by Allan H. Smith, 1964 and "Review and Assessment of the Ethnographic Literature of Mount Rainier National Park, Volumes 1 and 2" by Astrida R. Blukis Onat, 1999.

Adjacent Lands Information

Do Adjacent Lands Contribute? No

Adjacent Lands Description:

General Management Information

Management Category: Should Be Preserved And Maintained

Management Category Date: 1/1/2001

Explanatory Narrative:
The 2001 GMP calls for the Mowich Lake Entrance Road to "be closed to vehicle traffic approximately a half-mile from the lake. Visitors who want to visit the lake would have to walk from the new parking area. To provide the opportunity for additional visitors to come to Mowich Lake, without exceeding the area's parking capacity, a voluntary shuttle service for visitors would be provided along the entire road, up to the new turnaround a half-mile from the lake."

As a result of these approved changes, the management category has been demoted from "Must Be Preserved and Maintained" as authorized by the 1997 NHLD to "Should Be Preserved and Maintained" as authorized by the GMP. The landscape of the Mowich Lake Entrance Road retains numerous cultural resources, which collectively exemplify the NHL theme. As part of a National Historic Landmark District, these cultural resources should be preserved and maintained.

Condition Assessment And Impacts

The criteria for determining the condition of landscapes is consistent with the Resource Management Plan Guideline definitions (1994) and is decided with the concurrence of park management. Cultural landscape conditions are defined as follows:

Good: indicates the landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The landscape's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the landscape shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character-defining elements will cause the landscape to degrade to a poor condition.

Poor: indicates the landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Undetermined: Not enough information available to make an evaluation.

Condition Assessment: Good

Assessment Date: 09/30/1998

Date Recorded: 09/30/1998

Park Management Concurrence: Yes **Concurrence Date:** 3/2/2004

Level Of Impact Severity: Low

Stabilization Measures:

The following measures are recommended in order to stabilize the condition of the road:

(1) Remove vegetation that is growing along the guardwall (at 1.6 miles from park boundary). The vegetation consists of tree seedlings and weeds that can be pulled. Moss growing on the face of the wall needs to be removed as well.
(2) Uncover weep holes at base of wall at the road grade by digging away debris with a shovel.
(3) Repair one culvert stone headwall at the 5.25-mile mark along the road. Some of the cut stones have fallen off and need to be re-mortared into place.
(4) Clean out culverts that are filling up with rock and debris, including two culverts located at the 4.4-mile mark, one at 5.0-miles, and one at 5.6-miles. These need to be carefully cleaned out without damaging the headwalls.
(5) Revegetate slopes on the up and downhill sides of the road that have been denuded during a recent road maintenance project. Discontinuous segments along the road, which add up to approximately 1/4 of a mile in length and average 10 feet in width, need to be revegetated to prevent erosion problems.

Impact:

Type of Impact: Exposure To Elements
Internal/External: Internal
Description:

Type of Impact: Other -- Snow loading and snow removal
Internal/External: Internal
Description:

Agreements, Legal Interest, and Access

Management Agreement: None

Explanatory Narrative:

NPS Legal Interest: Fee Simple

Explanatory Narrative:

Public Access: Other Restrictions

Road closed during winter season.

Treatment

Approved Treatment:	Undetermined
Approved Treatment Document:	
Document Date:	
Explanatory Narrative:	
Approved Treatment Completed:	

Approved Treatment Cost

LCS Structure Approved Treatment Cost:	$0
Landscape Approved Treatment Cost:	
Cost Date:	
Level of Estimate:	
Cost Estimator:	
Explanatory Description:	Mowich Lake Entrance Road is not listed in the LCS database.

Stabilization Costs

LCS Structure Stabilization Cost:	$0
Landscape Stabilization Costs:	$67,000
Cost Date:	November 1, 2001
Level Of Estimate:	C - Similar Facilities
Cost Estimator:	Support Office
Explanatory Description:	The stabilization costs are based on the work described in the “Stabilization Measures” section. Labor = $1000 Allow 2.5 days for a two-person, seasonal crew at GS-05 for work on guardwall, and cleaning out specified culverts. Approximately $800.00 Allow 1 day for a skilled mason to repair culvert headwall. Approximately $200.00

Slope Revegetation = $66,000
Allow $5/sq.ft. for approximately 13,200 sq.ft. area = $66,000
Cost includes materials and labor for plant propagation and stabilization of slope.

Documentation Assessment and Checklist

Documentation Assessment: Poor

Documentation:

Document: Administrative History
Year Of Document: 1996
Adequate Documentation: No
Explanatory Narrative:
The Adminisrative History does not describe or analyze landscape features of the road, nor assess its historic integrity.

Document: General Management Plan
Year Of Document: 2001
Amplifying Details: The GMP is still in draft form.
Adequate Documentation: No
Explanatory Narrative:
The General Management Plan does not describe or analyze landscape features of the road, nor assess its historic integrity.

Document: Historic Resource Study
Year Of Document: 1981
Adequate Documentation: No
Explanatory Narrative:
The Historic Resource Study does not describe or analyze landscape features of the road.

Document: Other
Year Of Document: 1992
Amplifying Details: Historic American Engineering Record Road and Bridge Report
Adequate Documentation:
Explanatory Narrative:
The HAER report does not describe or analyze landscape features of the road, nor assess its historic integrity.

Appendix

Bibliography

Citations:

Citation Author:	Thompson, Erwin N
Citation Title:	Mount Rainier National Park, Washington, Historic Resource Study
Year of Publication:	1981
Publisher:	National Park Service
Source Name:	CRBIB
Citation Number:	011441
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Catton, Theodore
Citation Title:	Wonderland, An Administrative History of Mount Rainier National Park
Year of Publication:	1996
Publisher:	National Park Service
Source Name:	CRBIB
Citation Number:	017248
Citation Type:	Both Graphic And Narrative
Citation Location:	MORA, CCSO

Citation Author:	Quinn, Richard H.
Citation Title:	The Roads and Bridges of Mount Rainier National Park
Year of Publication:	1992
Publisher:	National Park Service
Source Name:	HAER
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Filley, Bette
Citation Title:	Discovering the Wonders of the Wonderland Trail: Encircling Mount Rainier
Year of Publication:	1993
Source Name:	Library Of Congress/Dewey Decimal
Citation Type:	Both Graphic And Narrative
Citation Location:	MORA, CCSO

Citation Author:	Kruse, David
Citation Title:	D.C.P. Workshop, c. 1979
Year of Publication:	1979
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	National Park Service
Citation Title:	Department of the Interior Draft Environmental Statement Proposed Mount Rainier Wilderness, Mount Rainier National Park, Washington
Year of Publication:	1973
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	United States Department of the Interior
Citation Title:	Director's Annual Report
Year of Publication:	1908
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	National Park Service
Citation Title:	Draft: General Management Plan, Environmental Impact Statement, Mount Rainier National Park, Washington
Year of Publication:	2000
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Mount Rainier National Park
Citation Title:	Environmental Review: Proposed Mowich Lake Access Route Mount Rainier National Park
Year of Publication:	1979
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Rutter, John
Citation Title:	Environmental Review: Proposed Mowich Lake Access Route Mount Rainier National Park, Washington
Year of Publication:	1975
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	National Park Service
Citation Title:	Final Environmental Statement: Master Plan. Pacific Northwest Region
Year of Publication:	1976
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Grater, Russell K.
Citation Title:	Grater's Guide to Mount Rainier National Park
Year of Publication:	1949
Source Name:	Other
Citation Type:	Both Graphic And Narrative
Citation Location:	MORA, CCSO

Citation Author:	Brockman, C. Frank
Citation Title:	Investigation of Damage at Tipsoo Lake and Mowich Lake, Mount Rainier National Park, Washington
Year of Publication:	1964
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Hendee. John
Citation Title:	Public Response to the Mount Rainier National Park Draft Wilderness Proposal and Master Plan--Analysis and Summary
Year of Publication:	1974
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Coenm Reid; Shader, Nancy
Citation Title:	Records of Mount Rainier National Park
Year of Publication:	1998
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Russel, Julie
Citation Title:	Sources of Information About and History of Carbon River District Mount Rainier National Park: An Interview With Carl Fabiani
Year of Publication:	1980
Source Name:	Other
Citation Type:	Narrative
Citation Location:	MORA, CCSO

Citation Author:	Burtchard, Greg
Citation Title:	Environment, Prehistory & Archaeology of Mount Rainier National Park, Washington
Year of Publication:	1998
Publisher:	National Park Service
Source Name:	Other
Citation Type:	Both Graphic And Narrative
Citation Location:	CCSO, MORA

Citation Author:	Carr, Ethan
Citation Title:	National Historic Landmark District Nomination for Mount Rainier National Park
Year of Publication:	1997
Publisher:	NPS
Source Name:	Other
Citation Type:	Graphic
Citation Location:	MORA, CCSO

Supplemental Information

Title: 1931 Mount Rainier National Park Master Plan Map

Description: Master Plan map proposing new trails.

Title: Map of Mowich Lake Area

Description: 1935 map proposes a water supply system

Title: Topographic Map of Mowich Lake Area

Description: 1936 National Park Service topgraphic map.

Title: United States Geographic Map of Mount Rainier

Description: This is a 1924, 1:125,000 map.

Title: United States Geologic Survey Map

Description: 1971, 7.5-minute series quadrangle, Golden Lakes.
