National Park Service
Cultural Landscapes Inventory
1999

Revised 2008

Historic Motor Road System
Acadia National Park

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Inventory Summary

The Cultural Landscapes Inventory Overview:

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Cultural Landscapes Inventory – General Information

The Cultural Landscapes Inventory (CLI) is a database containing information on the historically significant landscapes within the National Park System. This evaluated inventory identifies and documents each landscape's location, size, physical development, condition, landscape characteristics, character-defining features, as well as other valuable information useful to park management. Cultural landscapes become approved inventory records when all required data fields are entered, the park superintendent concurs with the information, and the landscape is determined eligible for the National Register of Historic Places through a consultation process or is otherwise managed as a cultural resource through a public planning process.

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, National Park Service Management Policies (2001), and Director's Order #28: Cultural Resource Management. Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report information that respond to NPS strategic plan accomplishments. Two goals are associated with the CLI: 1) increasing the number of certified cultural landscapes (1b2B); and 2) bringing certified cultural landscapes into good condition (1a7). The CLI maintained by Park Historic Structures and Cultural Landscapes Program, WASO, is the official source of cultural landscape information.

Implementation of the CLI is coordinated and approved at the regional level. Each region annually updates a strategic plan that prioritizes work based on a variety of park and regional needs that include planning and construction projects or associated compliance requirements that lack cultural landscape documentation. When the inventory unit record is complete and concurrence with the findings is obtained from the superintendent and the State Historic Preservation Office, the regional CLI coordinator certifies the record and transmits it to the national CLI Coordinator for approval. Only records approved by the national CLI coordinator are included on the CLI for official reporting purposes.

Relationship between the CLI and a Cultural Landscape Report (CLR)

The CLI and the CLR are related efforts in the sense that both document the history,

significance, and integrity of park cultural landscapes. However, the scope of the CLI is limited by the need to achieve concurrence with the park superintendent resolve eligibility questions when a National Register nomination does not exist or the nomination inadequately addresses the eligibility of the landscape characteristics. Ideally, a park's CLI work (which many include multiple inventory units) precedes a CLR because the baseline information in the CLI not only assists with priority setting when more than one CLR is needed it also assists with determining more accurate scopes of work.

In contrast, the CLR is the primary treatment document for significant park landscapes. It, therefore, requires an additional level of research and documentation both to evaluate the historic and the existing condition of the landscape in order to recommend preservation treatment that meets the Secretary of Interior's Standards for the treatment of historic properties.

The scope of work for a CLR, when the CLI has not been done, should include production of the CLI record. Depending on its age and scope, existing CLR's are considered the primary source for the history, statement of significance, and descriptions of contributing resources that are necessary to complete a CLI record.

Inventory Unit Description:

The coastal islands and rugged shorelines of Maine serve as the setting for the historic motor road system at Acadia National Park, located in Hancock County. Acadia was the first national park established east of the Mississippi River and today encompasses over 47,000 acres across Mount Desert Island, Schoodic Peninsula, and numerous smaller islands. Upwards of 2.5 million visitors annually experience the park's diverse landscape of granite-domed mountains, woodlands, lakes, marshes, and shorelines of Frenchmans Bay and the Atlantic Ocean, and many do so from the historic motor road system. A majority of the 33.25-mile system is on the east side of Mount Desert Island, where it criss-crosses some of the park's historic carriage roads, a 44-mile system envisioned, designed, and funded by John D. Rockefeller, Jr. that predates the motor roads and prohibits vehicular traffic, and the 115-mile network of historic hiking trails that offer woodland walks to rugged climbs.

The historic motor road system at Acadia National Park was built in eighteen different phases, between 1922 and 1958. Sixteen of the motor road segments are located on the eastern half of Mount Desert Island, and twelve of them comprise the 18.5-mile park loop road: Kebo Mountain Road (completed 1938), Kebo Mountain Road Extension (1940), Bureau of Public Roads Project 4A2 (1958), Champlain Mountain Road (1940), Ocean Drive (consists of three segments completed in 1929 and 1933-1934), Otter Cliffs Road (1936), Otter Cove Causeway and Blackwoods Road (1939), Day Mountain Road (1941), Day Mountain Road Extension (1951), and Jordan Pond/Eagle Lake Road (1927). Four segments are spurs that connect to the park loop road: Paradise Hill Road on the north side of the loop (two segments completed in 1941 and 1952), Stanley Brook Road (1936) on the south side of the loop, and Cadillac Mountain Road (1931), an interior spur that extends to the summit of Cadillac Mountain. Although originally designed for two-way traffic, most segments of the park loop road, from Kebo Mountain Road to Day Mountain Road, were converted to one-way traffic in the 1980s. The historic motor road system on Mount Desert Island also includes four access roads that connect to local roads: Schooner Head Overlook Access Road, Sieur de Monts Entrance Road, West Street Extension, and

Access to State Route 233.

The Schoodic Peninsula is the location of the other two segments of the historic motor road system. Schoodic Loop Road (completed 1933-1935) is a one-way road that traces the shoreline. It connects to local roads off State Route 186. Schoodic Point Road (1935) is accessed from Schoodic Loop Road and accommodates two-way traffic. It leads to the Schoodic Education and Research Center (the former U.S Naval Radio Station – Winter Harbor) and Schoodic Point.

OVERVIEW OF THE HISTORIC MOTOR ROAD SYSTEM

The planning and design of Acadia's historic motor road system responded to the constraints of challenging topography, complex land boundaries, economic interests of the year round residents, conservation goals of the wealthy summer residents, and the national realities brought forth by the Great Depression and World War II. Because of these issues, the system was constructed in non-contiguous segments over a thirty-six year period. The road projects provided steady work for local tradesmen and laborers, especially in the 1930s for those associated with the Civilian Conservation Corps and other New Deal programs. Ultimately, though, it was the vision, advocacy, and talent, of several individuals that shaped the development of the historic motor road system.

The origins of Acadia National Park are well documented elsewhere and are a fascinating story of public and private cooperation and controversy. The central figure in its founding is George Buckman Dorr, who devoted most of his life and fortune to the creation of the park. Dorr served as the first Superintendent, from the founding of "Sieur de Monts National Monument" in 1916, until his death in 1944. In 1922, Dorr proposed two park motor roads to connect Eagle Lake and Jordan Pond and reach the summit of Cadillac Mountain, Mount Desert Island's highest peak.

The concept and implementation of the comprehensive motor road system we enjoy today, though, is primarily from the vision of John D. Rockefeller, Jr. Just as George Dorr had ideas reaching beyond the Hancock County Trustees for Public Reservations (the lands from which Acadia was founded), Rockefeller was thinking about more than merely efficient and well-engineered park motor roads. Extending well beyond Acadia, Rockefeller helped to set the standard of quality for National Park roadways and landscapes by his direct sponsorship of projects in Yellowstone National Park and elsewhere. He was also influential through the close personal relationships he developed with the early Directors of the National Park Service (NPS). Rockefeller personally funded many of Acadia's motor road projects and, as was the case with his network of carriage roads, was intimately involved in their planning, design, and construction. In later years, his role changed to donating and acquiring lands to build the remaining motor road segments.

The historic motor road system is also a product of the talents of many engineers and designers. They included Walters Hill and Paul Simpson, who also designed many of Rockefeller's carriage roads, and Benjamin Breeze and Charles Peterson, landscape architects with the NPS who contributed to numerous park projects. One of the most notable individuals was Frederick Law Olmsted, Jr. who along with other professionals in the Olmsted Brothers landscape architectural firm, planned and

designed several motor road segments and advised on many other routes. Another prominent individual was a young resident engineer with the Bureau of Public Roads (BPR) named Leo Grossman, who managed the Cadillac Mountain Road project and worked closely with Rockefeller in the planning of other BPR segments of the historic motor road system.

The collaborations between John D. Rockefeller, Jr., the Olmsted firm, the NPS, and the BPR resulted in excellent road designs that were sensitively integrated with the landscape and the existing carriage roads and hiking trails. A drive along the historic motor road system today still reveals these qualities, and despite the long period of construction, a remarkable consistency in the use of Rustic Design principles that aimed to blend built features with the natural surroundings. The horizontal and vertical alignments of the motor roads follow the land's natural contours wherever possible. As such, the motor roads wind along the mountain slopes and around the coastlines, but because of the use of superelevation and spiral transition curves, it is possible to maintain the posted speeds of 25-35mph. The motor roads are surfaced in bituminous concrete and the grades never exceed seven percent, and pavement widths average 18.7 feet and are typically wider at curves.

As the design and construction of the historic motor road system proceeded, great efforts were also made to limit the removal of vegetation and preserve mature specimens. After the devastating fire in 1947, burned out areas were reforested and many of these plantings have matured. Today, the motor roads are bounded by vegetation that ranges from deciduous and coniferous forests to wetlands and open meadows. The shoulders of the motor roads are covered with a mix of grass and native plants, helping blend the motor roads with the surrounding landscape.

In some areas, engineering structures such as bridges, causeways, retaining walls, guardwalls, and drainage structures were required in the road design. But unlike typical roads, these features were built or faced with the native granite stone so that they too would harmonize with the local conditions. There are currently twenty bridges associated with the system, and most are constructed with reinforced concrete with masonry parapet walls, facings, and unique ornamentation that contributes to the park's rustic character. Two causeways span tidal water bodies on Mount Desert Island and the Schoodic Peninsula and feature flat stone embankments as reinforcement. However, it is the historic guardwall stones that are arguably the most identifiable feature of the historic motor road system. Depending on the period of construction, the guardwalls are comprised of either large angular ledge stones typically between two and four feet high and set between three and five feet apart into the road shoulder, or large rectangular quarried blocks slightly smaller in height with narrower gaps. Like the guardwalls, the date of construction can also be read in the types of culverts used and in the choice of curbing material, steps, and walkways.

The primary purpose of the historic motor road system was to provide visitors in automobiles recreational access to the park's diverse landscapes and highlight the many scenic views. In addition to connecting to the roadside parking areas at the park's major destinations and developed areas, such as Sand Beach, Thunder Hole, Cadillac Mountain, and the Jordan Pond House, numerous paved pullouts were built. Many of these stops correspond to spectacular views and vistas. There are a total of twenty-five panoramic viewsheds and fifty-seven framed and filtered viewsheds along the historic

motor road system today. Maturing vegetation has closed some of the historic views, and in other areas developments beyond the park boundaries are visible from the motor roads.

As park visitation began to steadily increase in the 1970s, the park installed parking management stone walls along the motor roads to control parking and protect the vegetated shoulder from becoming informal pullouts. Most of these stones are smaller and rounder than the historic guardwall stones, making them an easily distinguishable and effective management tool. In the 1980s, a large portion of the motor road system on Mount Desert Island, from Kebo Mountain Road to Day Mountain Road Extension, as well as Schoodic Loop Road, was converted to one-way traffic. This directional change opened up the right lane for parking and has helped protect the shoulders, but during summer afternoons on the Mount Desert Island segments it often contributes to traffic congestion before and after major overlooks and developed areas. The presence of parked cars in these areas, as well the steady increase in the number of automobiles and tour buses, somewhat detracts from the experience of driving on the historic motor road system during peak periods. Fortunately, the implementation of an island-wide shuttle system has successfully reduced the number of vehicles.

SIGNIFICANCE SUMMARY

According to the "Historic Resources of Acadia National Park" Multiple Property Documentation Form, accepted on June 29, 2007, all segments of the historic motor road system are associated with two contexts: Rustic Design (both the Picturesque Style and Rustic Design in the National Park Service sub-themes) and John D. Rockefeller, Jr. The historic motor road system is significant at the national level and eligible for the National Register under Criterion A for conservation, recreation, and transportation; Criterion B for John D. Rockefeller, Jr. for conservation, recreation, and philanthropy at Acadia National Park; and Criterion C for architecture, engineering, and landscape architecture. Under Criterion A, the park's historic motor roads illustrate the NPS system-wide goal of providing public access to national parks while conserving natural beauty. Under Criterion B, Acadia's historic motor road system is significant as an example of John D. Rockefeller, Jr.'s interest in the construction and beautification of roads in the national parks and his collaboration with the NPS. Under Criterion C, the historic motor roads are excellent examples of the Rustic Design, a harmonious combination of the Picturesque Style and the Rustic Design standards developed by the NPS.

The period of significance for the entire historic motor road system is 1922-1958. The period begins with the planning and construction of the first segment of the system in 1922, originally called Mountain Road and later known as Jordan Pond/Eagle Lake Road. The period continues up through the beginning of World War II, by which time most of the segments were completed, and ends with the construction of Bureau of Public Roads Project 4A2 in 1958, the final segment in the system. This period of significance spans thirty-six years.

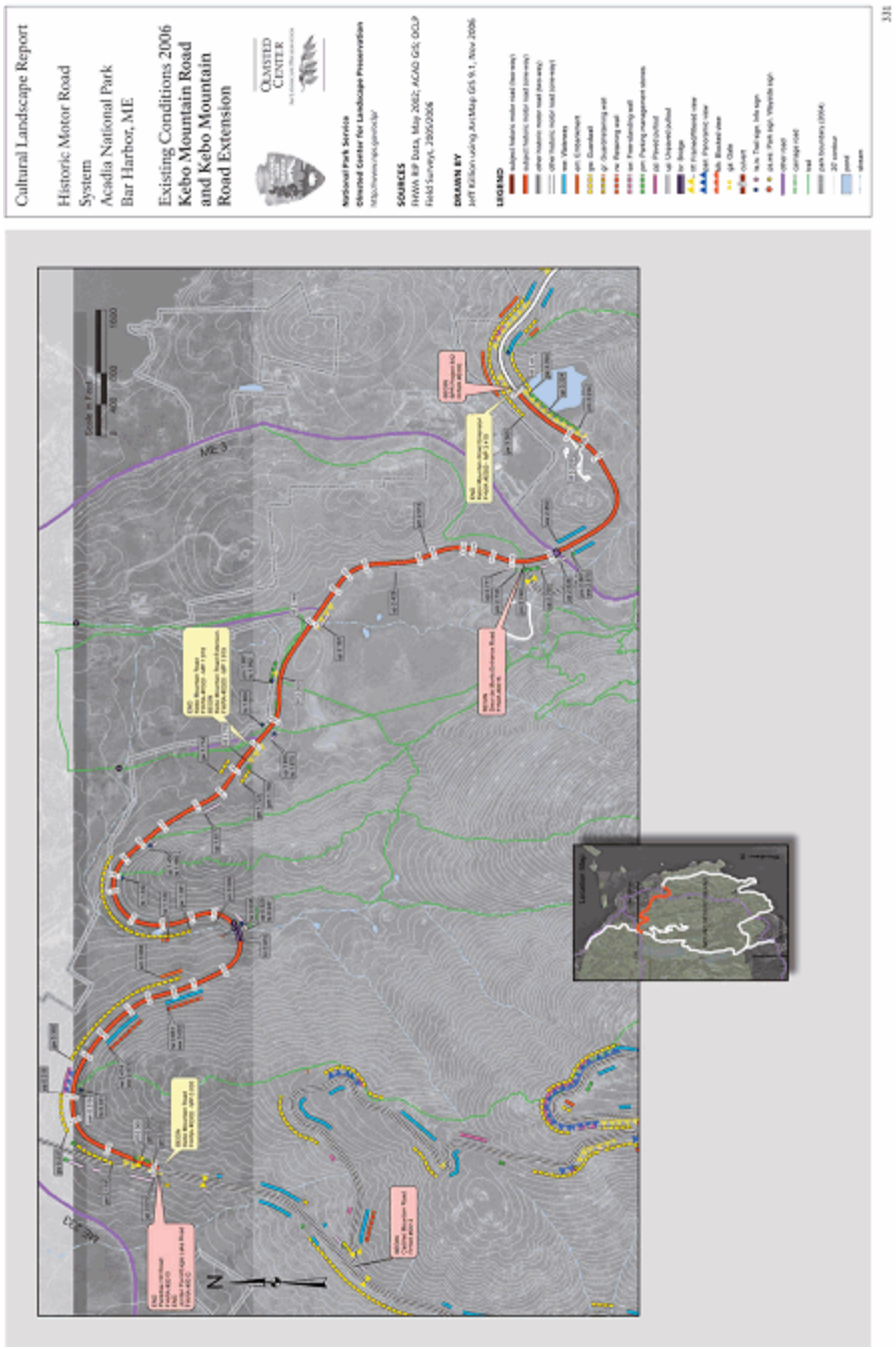
ANALYSIS AND EVALUATION SUMMARY AND CONDITION

Overall, the historic motor road system at Acadia National Park possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The historic alignments (vertical and

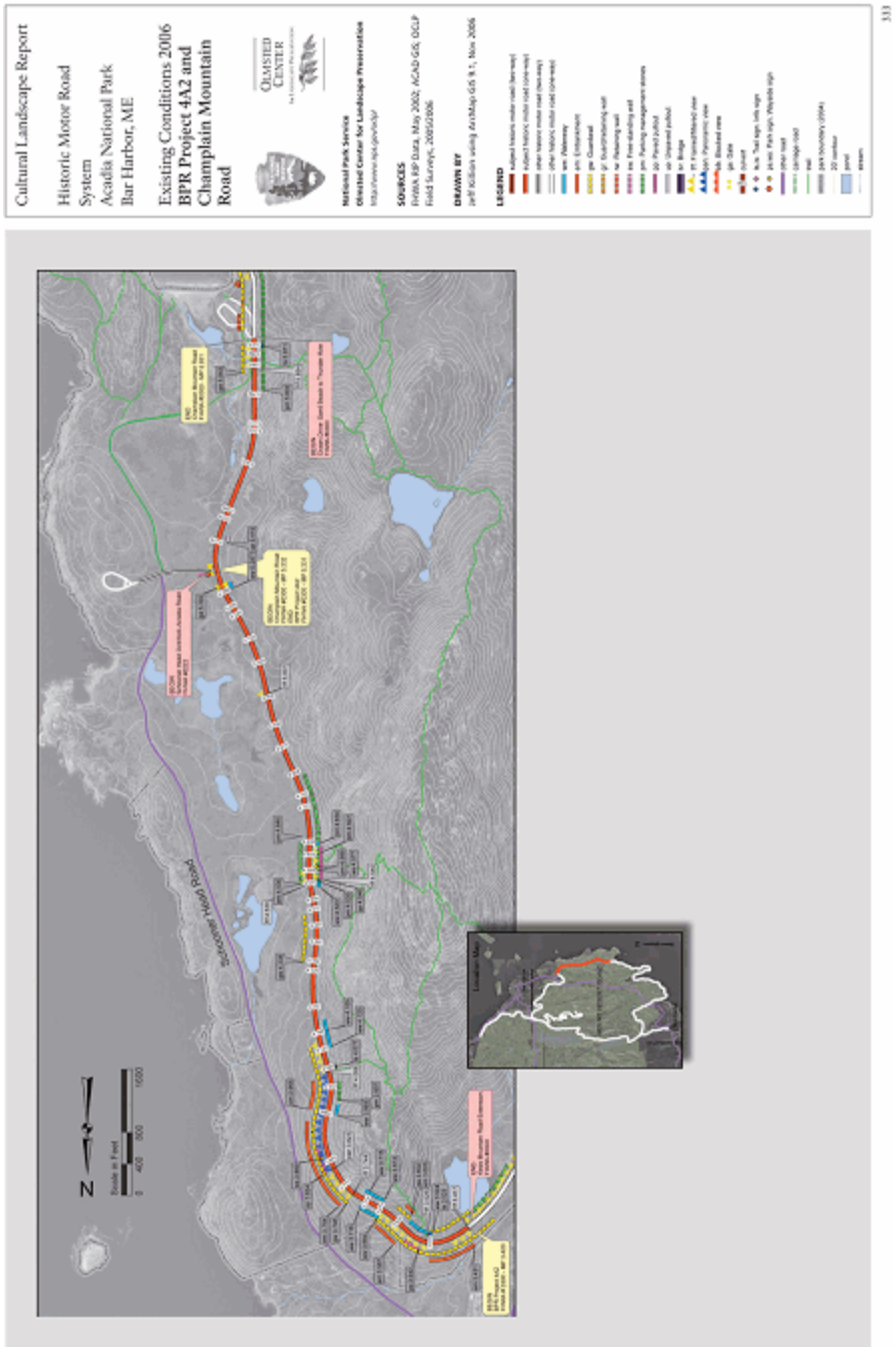
horizontal), and cross-section of the motor roads are intact, as are the major views and vistas and natural features associated with them. A majority of the system's original built features – bridges, causeways, retaining walls, guardwalls (coping stones), embankments, drainage features, medians, curbs, and walkways – are also still present and continue to convey the Rustic Design principles that emphasized the harmonization of built features with the surrounding landscape. Since 1958, unpaved pullouts have developed along some of the grass shoulders, and parking management stones, bituminous waterways, and paved shoulders have been intstalled in some areas. These changes can be linked to increased visitation and traffic along the motor roads. However, taken as a whole, Acadia's historic motor road system retains a high degree of integrity in its original layout, construction techniques, and rustic characteristics, and continues to provide unparalleled recreational access to the spectacular landscapes of Mount Desert Island and the Schoodic Peninsula.

The overall condition of the historic motor road system at the time of this report's completion is evaluated as "good." The motor roads and most of their associated features have been rehabilitated in the last fifteen years. Road surfaces have been periodically maintained and rehabilitated through cyclic pavement resurfacing and rehabilitation projects. Routine mowing, patching and pothole repair, culvert and drain maintenance, and removal of excessive roadside vegetation is performed by park crews dedicated to the motor road system.

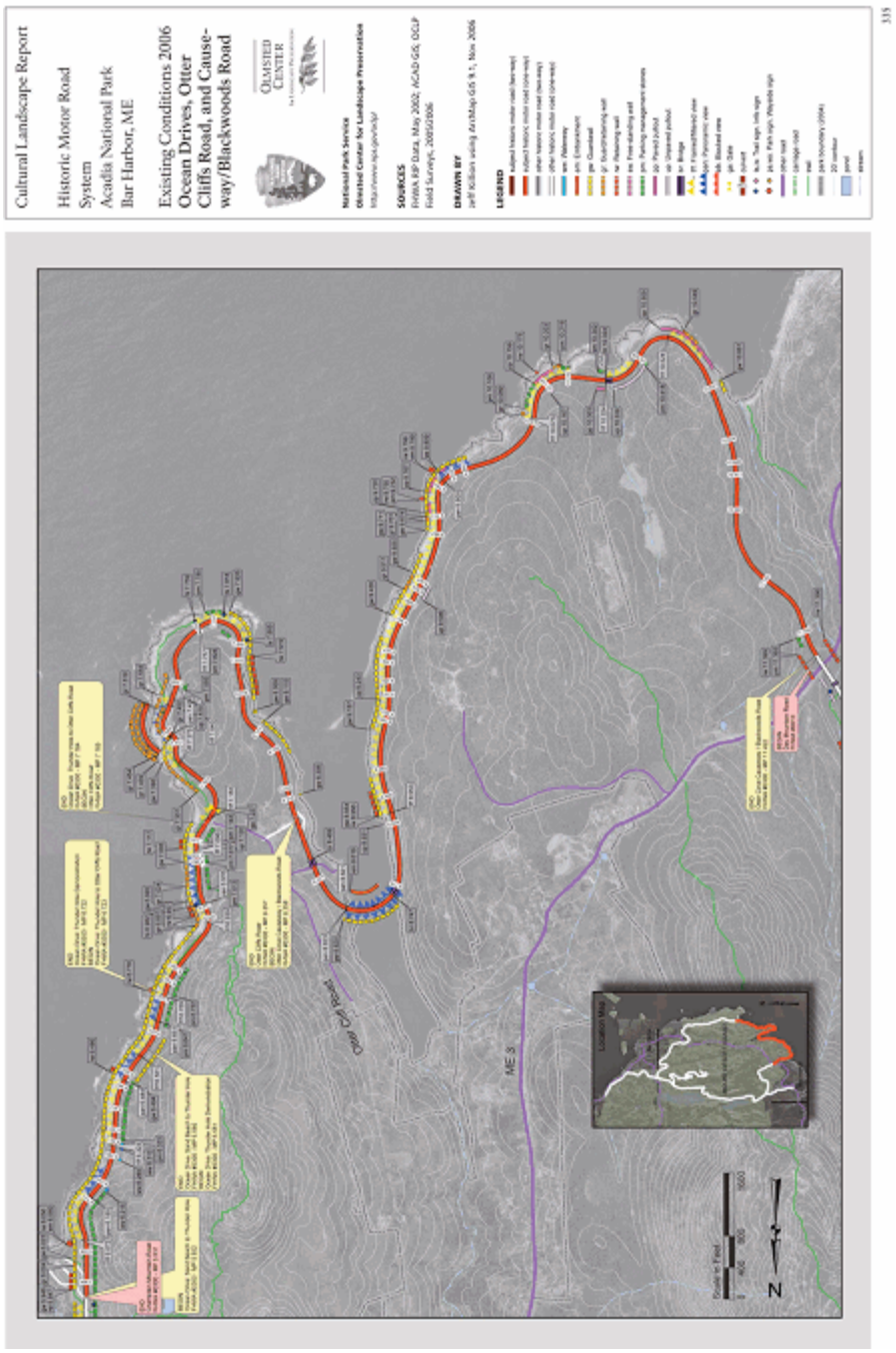
Site Plan



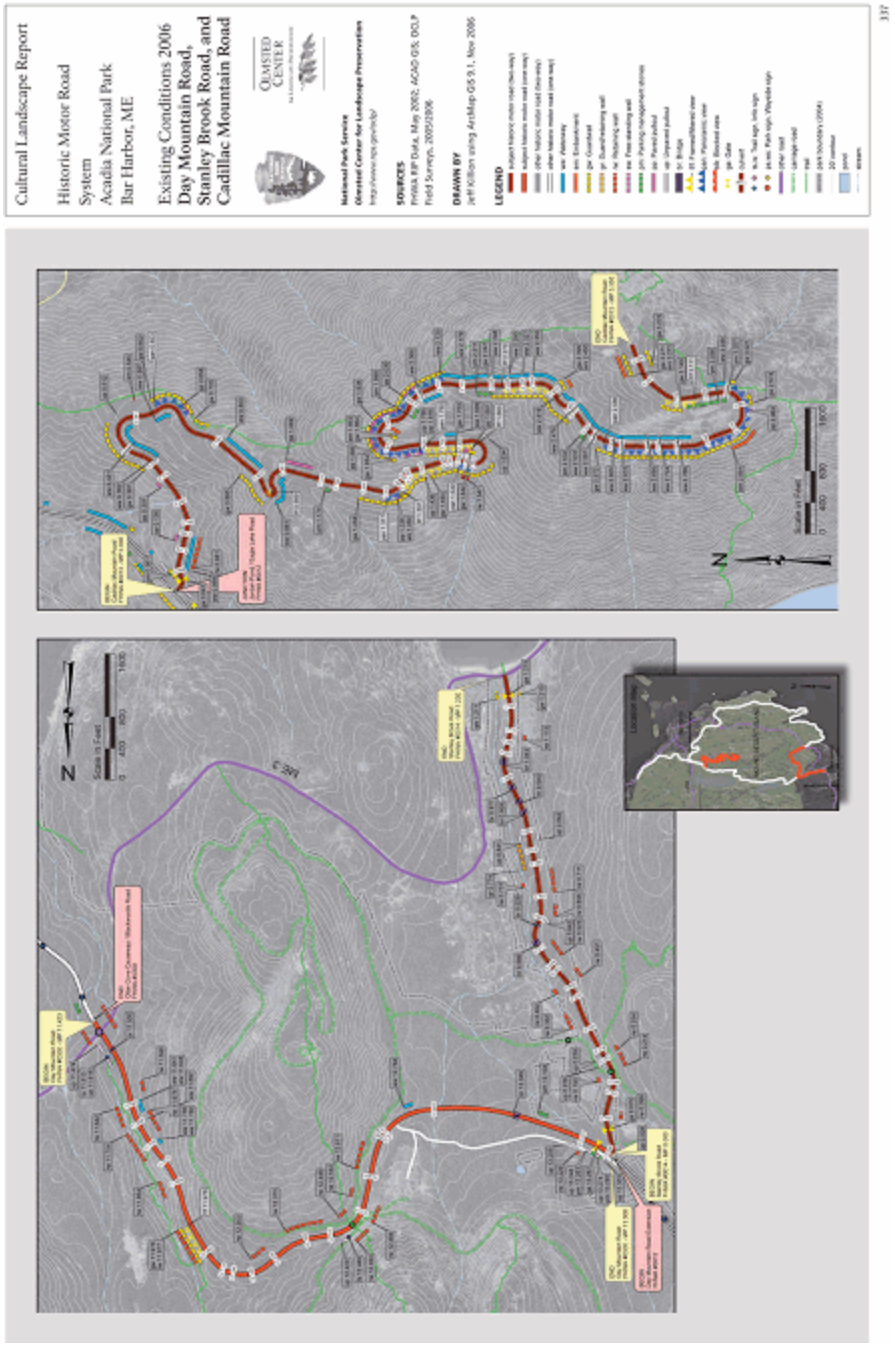
Site plan, Kebo Mountain Road and Kebo Mountain Road Extension, 2006. (Olmsted Center for Landscape Preservation-hereafter OCLP-2008)



Site plan, Bureau of Public Roads Project 4A2 and Champlain Mountain Road, 2006. (OCLP, 2008)

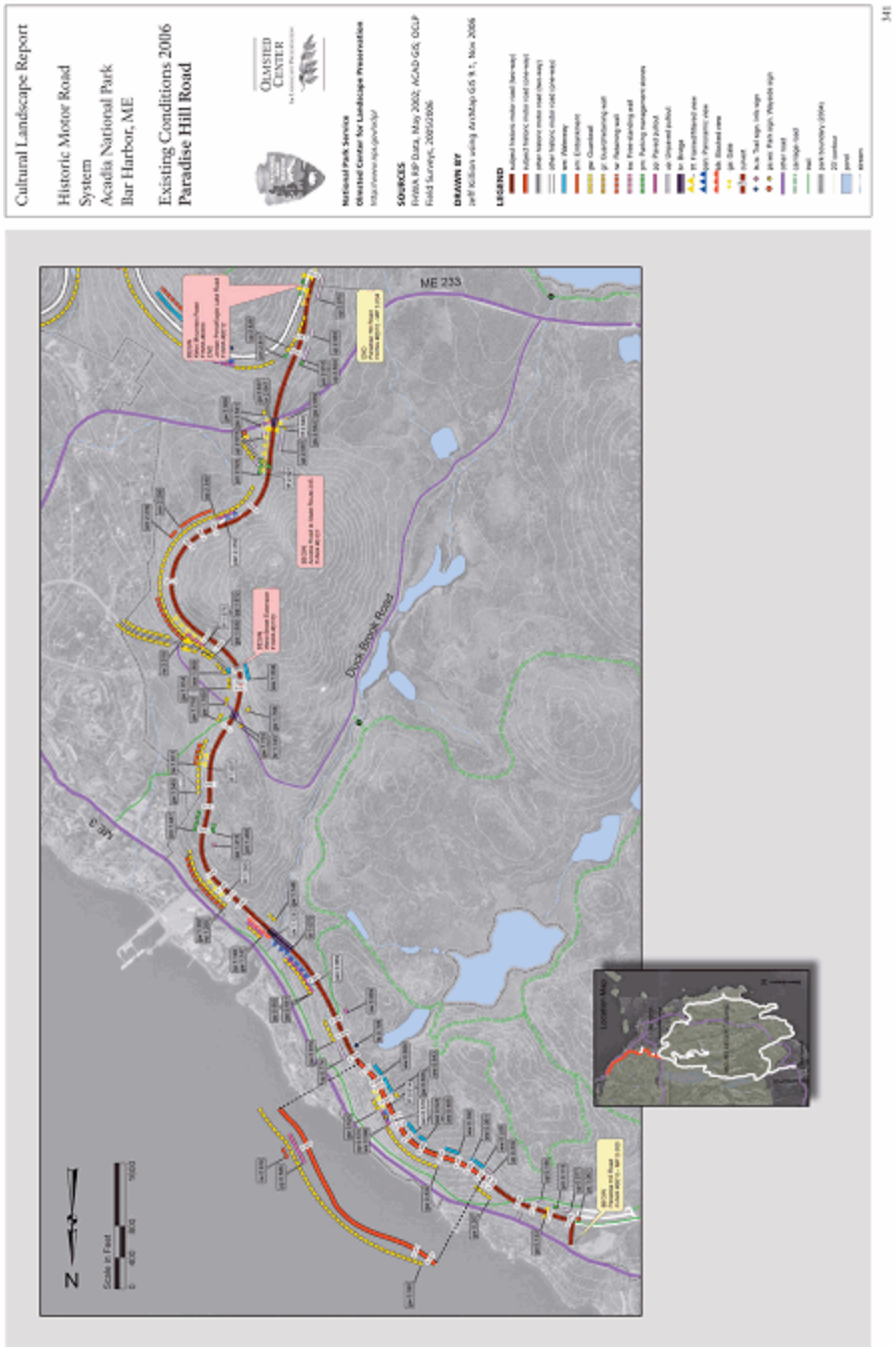


Site plan, Ocean Drive, Otter Cliffs Road, and Otter Cove Causeway and Blackwoods Road, 2006. (OCLP, 2008)

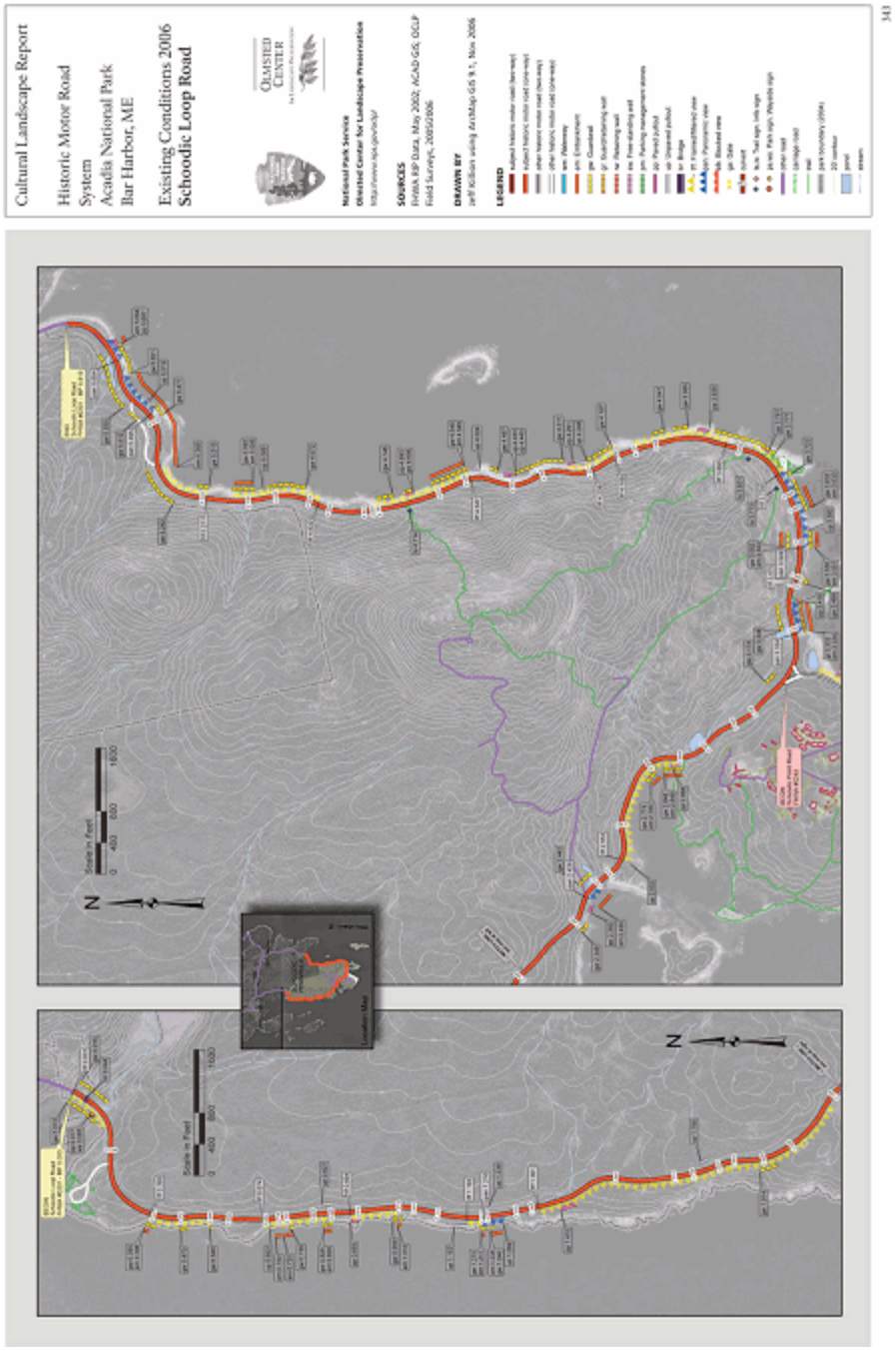


Site plan, Day Mountain Road, Stanley Brook Road, and Cadillac Mountain Road, 2006. (OCLP, 2008)

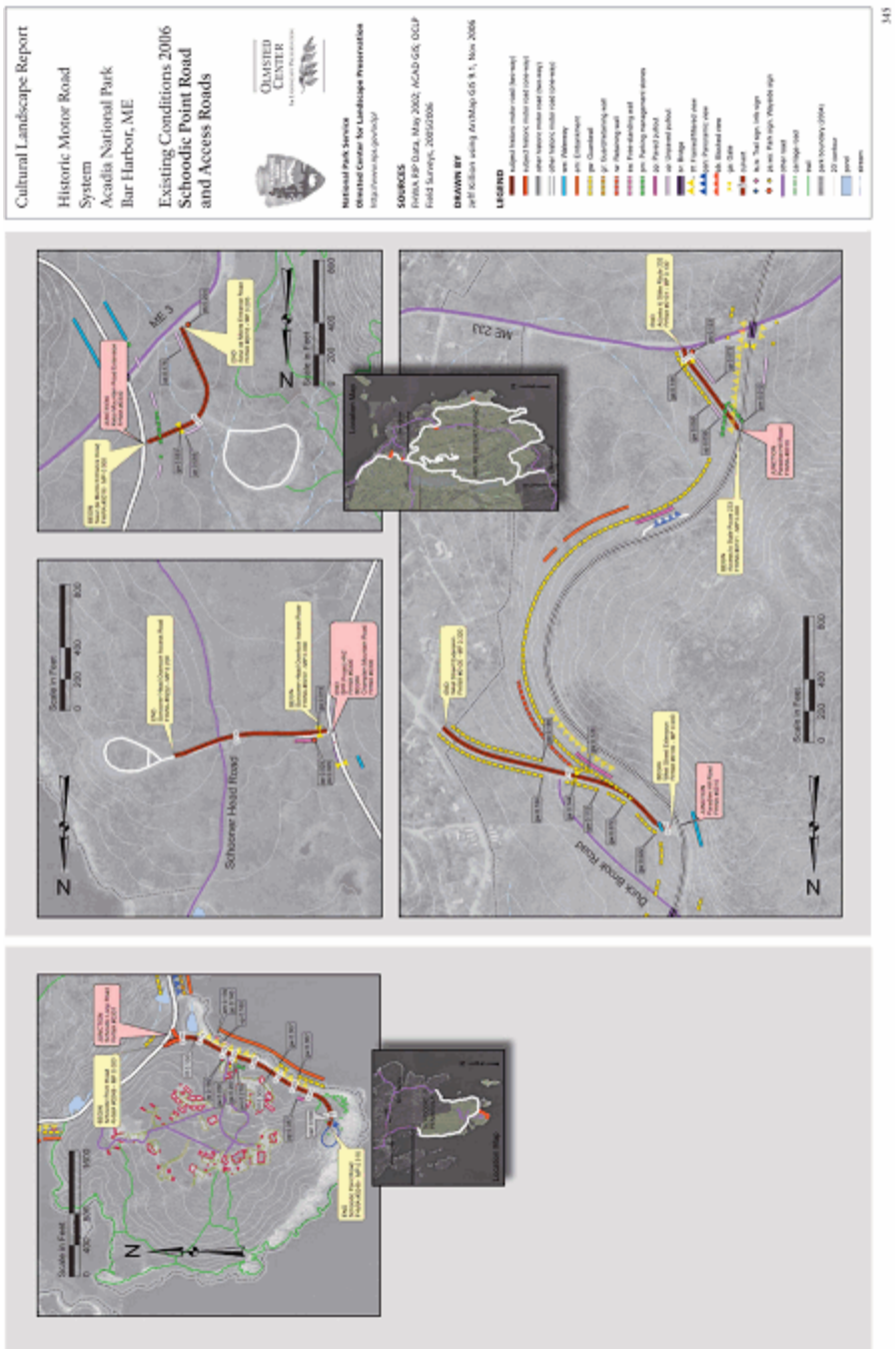
Site plan, Day Mountain Road Extension and Jordan Pond/Eagle Lake Road, 2006. (OCLP, 2008)



Site plan, Paradise Hill Road, 2006. (OCLP, 2008)



Site plan, Schoodic Loop Road, 2006. (OCLP, 2008)



Site plan, Schoodic Point Road and Access Roads, 2006. (OCLP, 2008)

Property Level and CLI Numbers

Inventory Unit Name: Historic Motor Road System

Property Level:	Landscape
CLI Identification Number:	650064
Parent Landscape:	650064

Park Information

Park Name and Alpha Code:	Acadia National Park -ACAD
Park Organization Code:	1700
Park Administrative Unit:	Acadia National Park

CLI Hierarchy Description

In addition to the historic motor road system, Acadia National Park currently includes twelve other landscapes (and one component landscape): Blackwoods Campground, Cadillac Mountain Summit, Carriage Road System, Hiking Trail System, Jordan Pond House, Picnic Areas, Sand Beach, Schoodic Peninsula (Schoodic Peninsula Naval Base), Seawall Campground, Sieur de Monts Spring District, Thunder Hole, and Wildwood Stables.

Concurrence Status

Inventory Status: Complete

Completion Status Explanatory Narrative:

Existing features and conditions of the historic motor road system at Acadia National Park were documented in April, July, August, September, and November 2005 and in November 2006 for the "Cultural Landscape Report for the Historic Motor Road System," completed in 2007. Field work utilized the Federal Highway Administration's Visi-Data inventory, collected in May 2002. The Visi-Data consists of a database that is linked to photographs taken at specific mile points along the Federal Highway "Routes" for the various motor road segments. When viewed in sequence, this collection of photographs has the effect of a video, with the point of view of traveling down the roadway.

This data was field checked, and additional features were identified. In many cases, the Visi-Data was expanded for the purposes of the CLR. For example, "guardwalls" recorded in the Visi-Data were further defined as "guardwalls, guard/retaining walls, retaining walls, and parking management stones" with additional details on the types and dimensions of stones used, methods of construction, and the types of materials. All of the information collected in the field was then entered into an Access database. With the expertise of Mr. Daniel W. Van Gilder, Engineering Software Support Team Leader at the Federal Highway Administration, the information in the Access database was transformed into unique shapefiles by utilizing a dynamic linear referencing method in ArcGIS version 9.0. This personal geodatabase data was then imported into the park's Geographic Information System. The Existing Conditions maps included in this CLI are a product of these shapefiles and the park's existing Geographic Information System data.

Field work for the CLR was collected by Jeff Killion and Eliot Foulds, Historical Landscape Architects with the National Park Service's Olmsted Center for Landscape Preservation in Boston. The park contact for the Cultural Landscapes Inventory is Rebecca Cole-Will, Cultural Resources Program Manager. She can be reached by telephone at (207) 288-8728 or by email at Rebecca_Cole-Will@nps.gov.

Concurrence Status:

Park Superintendent Concurrence:	Yes
Park Superintendent Date of Concurrence:	08/01/2008
National Register Concurrence:	Eligible -- SHPO Consensus Determination
Date of Concurrence Determination:	09/18/2008

National Register Concurrence Narrative:

On September 18, 2008, the Maine Historic Preservation Commission Division concurred with the National Park Service's categorizations of the historic motor road system's resources and features as contributing and noncontributing. In the review comments, the State Historic

Preservation Officer recommended augmenting the discussion of setting, feeling, and association as it relates to scenic views and to include a reference to the park's 1991/1992 General Management Plan and the 1961 Vista Plan.

Geographic Information & Location Map

Inventory Unit Boundary Description:

The boundary of the historic motor road system is tailored to its linear nature. The length of the boundary simply reflects the total length of the eighteen segments (and the four access roads) on Mount Desert Island and the Schoodic Peninsula that comprise the system, which is 33.25 miles. In a 1999 draft National Register nomination for the system, the width of the boundary was previously considered as six hundred feet, or three hundred feet on either side of the road centerline. This width included cuts, fills, pullouts, parking areas, and vegetation associated with designed vistas, but excluded developed areas and viewsheds. (The draft did not include the motor road segments on the Schoodic Peninsula.)

Based on research conducted for the "Cultural Landscape Report for the Historic Motor Road System" in 2005/2006 and this CLI, a more accurate boundary width is three hundred feet, or one hundred fifty feet on either side of the centerline. This width includes the road cross-section, shoulders, retaining walls, guardwalls, embankments, pullouts, parking areas, ditches, culverts, and vegetation associated with designed vistas. This width also considers how the boundary of the road is perceived in the landscape; along certain motor road segments the physical boundaries may narrow, such as between a rock cliff on the cut side and a steep embankment on the fill side, while in other segments the apparent boundaries of the road broaden into the entire viewshed from the road. In other words, the boundary actually fluctuates along the length of the motor roads, but is accurately approximated by 150 feet either side of the centerline to encompass the significant characteristics and features of the historic motor road system.

State and County:

State: ME

County: Hancock County

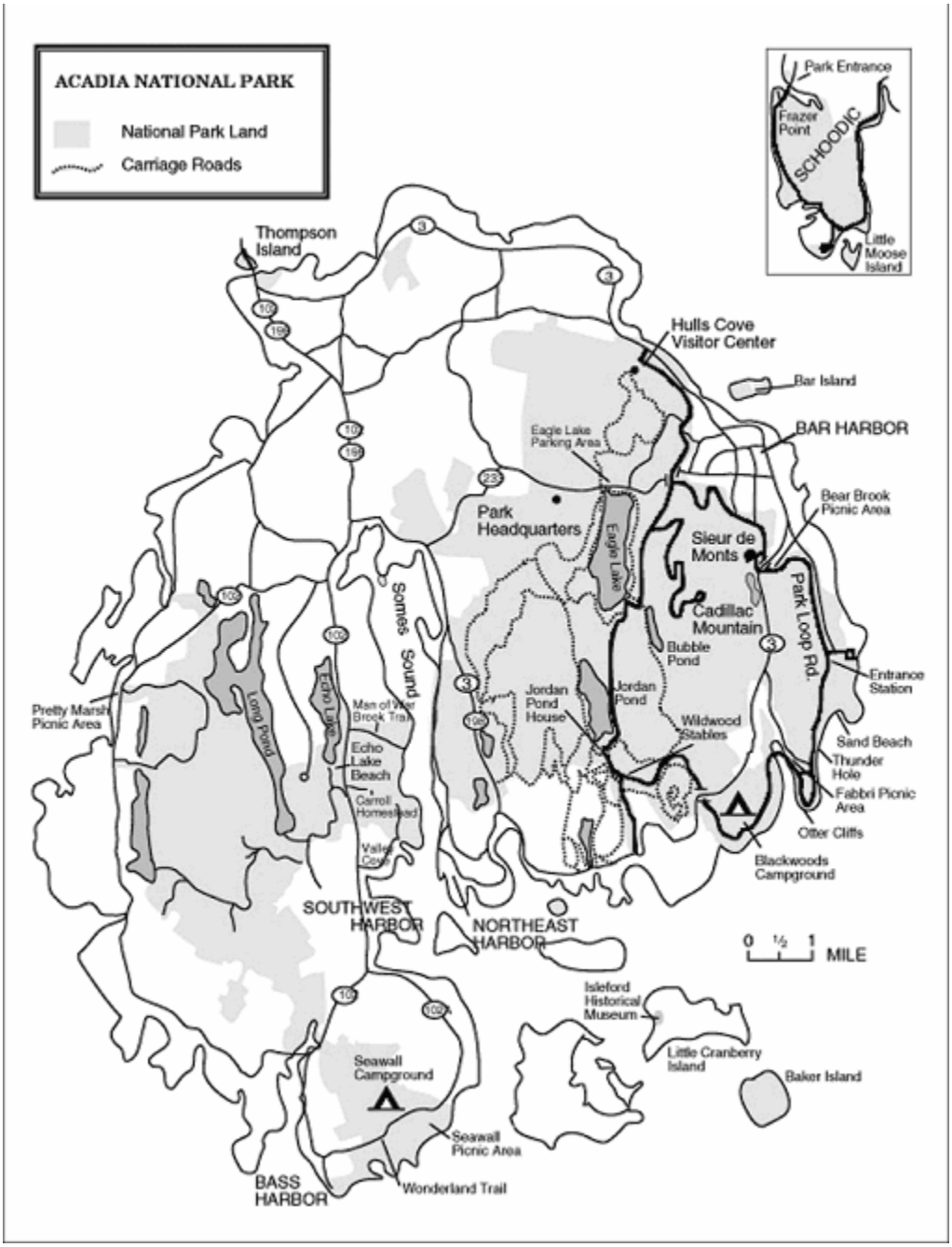
Size (Acres): 1,209.00

Boundary UTMS:

Source	Type of Point	Datum	UTM Zone	UTM Easting	UTM Northing
	Line	NAD 83	19	560,034	4,917,722
	Line	NAD 83	19	561,487	4,916,183
	Line	NAD 83	19	561,060	4,913,856
	Line	NAD 83	19	564,327	4,912,510
	Line	NAD 83	19	564,972	4,908,949
	Line	NAD 83	19	564,515	4,906,307
	Line	NAD 83	19	562,696	4,905,179
	Line	NAD 83	19	561,543	4,907,425
	Line	NAD 83	19	560,004	4,906,993
	Line	NAD 83	19	559,684	4,909,274
	Line	NAD 83	19	560,689	4,913,124
	Line	NAD 83	19	561,695	4,911,306
	Line	NAD 83	19	560,481	4,905,062
	Line	NAD 83	19	574,070	4,913,968
	Line	NAD 83	19	573,684	4,913,831
	Line	NAD 83	19	573,862	4,911,179
	Line	NAD 83	19	575,315	4,909,929
	Line	NAD 83	19	576,199	4,910,153
	Line	NAD 83	19	576,036	4,912,408
	Line	NAD 83	19	576,635	4,912,886
	Line	NAD 83	19	574,888	4,909,279

Location Map:

Map of Acadia National Park and its environs. (Acadia National Park website).



The historic motor road system at Acadia National Park is indicated with a dark black line. (Map adapted by Olmsted Center for Landscape Preservation, hereafter OCLP, www.nps.gov/acad/maps/ismaprot.gif)

Regional Context:

Type of Context: Cultural

Description:

Long before the development of the historic motor road system, footpaths and roads marked the landscapes of Mount Desert Island and Schoodic Peninsula. Native Americans likely developed portage and carry routes to access seasonal camps, and these routes were probably used and expanded by European settlers that slowly arrived after Samuel de Champlain explored the area in 1604. As towns and local economies developed, so too did footpaths and roads to improve trade and access the rich supply of natural resources. By the mid-nineteenth century, however, tourism was beginning emerge as the driving force in the area's economy, mostly because of artist Thomas Cole's landscape paintings and writings. Other painters and scientists came too, and by the 1860s and 1870s the island and peninsula attracted an annual summertime influx of visitors, called the "rusticators." This hastened the improvement and construction of roads, such as Ocean Drive in the 1890s, as well as many hiking trails and walking paths. By the turn of the twentieth century, the area was a favorite summertime destination of some of the country's wealthiest families, who built elaborate "cottages" and fought against the introduction of automobiles on the island. Among them was John D. Rockefeller, Jr., who in 1913 began to build the first of many carriage roads on his property. In 1916, Sieur de Monts National Monument was established, and in 1918 Rockefeller received approval to extend the carriage roads on to the federal lands. In 1922, with the presence of cars inevitable, he supported and funded the construction of the park's first motor road and in time began to embrace the idea of a comprehensive motor road system that would be separate and distinct from the carriage roads and hiking trails. Rockefeller's vision resulted in the construction of over thirty miles of motor roads that are still enjoyed by millions of park visitors each year.

Type of Context: Physiographic

Description:

The landscape of coastal Maine was shaped millions of years ago by complex events of geological upheaval, scouring, and inundation. Erosion gradually exposed the pink granite bedrock core of Mount Desert Island and the Schoodic Peninsula, while glaciers later rounded the peaks and scoured the valleys to form fresh-water lakes and ponds. The physiographic outcome guided the locations of footpaths likely created by Native American inhabitants and inspired the networks of trails, carriage roads, and motor roads that lace Acadia National Park today.

Acadia's historic motor road system was purposely designed to lay lightly on the land and conform to local topographic characteristics as much as possible. The motor roads were also planned to highlight the park's diverse natural scenery – from bare mountains and lush forests to sandy beaches and rocky shorelines – through views of the inland mountains, Frenchman Bay and the many islands including the Cranberries, the Porcupines, and Isle au Haut, and the vast Atlantic Ocean. Cadillac Mountain is the park's highest point, and due to its height and

longitude, its summit is one of first places in the U.S. to see the sunrise. Cadillac Mountain Road winds and curves up to this granitic mountaintop. It is much different in character than Ocean Drive and Schoodic Loop Road, both of which trace rugged shorelines, and Stanley Brook Road, which meanders along a quiet stream and through a dense forest.

Type of Context: Political

Description:

In 1903, the Hancock County Trustees of Public Reservations was incorporated to protect Mount Desert Island's water supply and to preserve scenic views and walking paths. By 1916, over 5000 acres of land that had been amassed by the Trustees became part of the national park system as Sieur de Monts National Monument (the park's name was changed to Lafayette National Park in 1919 and then to Acadia National Park in 1929). In the ensuing years, additional lands on the island and the Schoodic Peninsula were acquired or donated through the efforts of the Trustees, John D. Rockefeller, Jr., and others. The historic motor road system was constructed over a thirty-six year period beginning in 1922. It was developed in non-contiguous segments because of land acquisition issues, availability of funding, and national events such as the Great Depression and World War II. This patchwork of land holdings and road construction meant local roads had to be used as temporary connections with the park's completed motor road segments. Finally, in 1955, the parcel needed to complete the system was acquired and construction of the final segment was complete by 1958.

GIS File Name: acad

GIS File Description:
ANNO
Bnds
coastline
cult
FHWA data
FHWA ROUTE DATA
fire
geol
hydro
images
interp
invmon
misc
Railroad
regional
Schoodic
soil
tax
topo
trans
utils

veg
vista
wetl
wild
zoning

Management Information

General Management Information

Management Category: Must be Preserved and Maintained

Management Category Date: 08/01/2008

Management Category Explanatory Narrative:

Acadia National Park's historic motor road system meets the "Must Be Preserved and Maintained" management category because the motor roads themselves are nationally significant structures. Two segments of the historic motor road system at Schoodic Peninsula are listed on the National Register of Historic Places, while the sixteen segments on Mount Desert Island have been determined as eligible for listing. In addition, the findings of this CLI conclude that the historic motor roads are an integrated system that together with their associated characteristics and features are nationally significant under National Register criteria A, B, and C.

NPS Legal Interest:

Type of Interest: Fee Simple

Public Access:

Type of Access: Other Restrictions

Explanatory Narrative:

The one-way segments of the park loop road on Mount Desert Island, from Champlain Mountain Road to Day Mountain Road Extension, and the Cadillac Mountain Road, are closed to vehicular traffic during the winter season, generally from December 1 to April 15.

Adjacent Lands Information

Do Adjacent Lands Contribute? Yes

Adjacent Lands Description:

Lands outside of the boundaries of Acadia National Park are directly related to the significance of the historic motor road system. The system was designed to highlight the scenic views and vistas both within the park and the vast scenery beyond its boundaries. In addition to the lands on Mount Desert Island and the Schoodic Peninsula, the panoramic views include the mainland to the west and north and the many smaller islands that dot Frenchman Bay and the Atlantic Ocean.

National Register Information

Existing National Register Status

National Register Landscape Documentation:

SHPO Inadequately Documented

National Register Explanatory Narrative:

On November 14, 1979, two bridges currently associated with the Acadia National Park's historic motor road system on Mount Desert Island were listed in the National Register of Historic Places under "Carriage Paths, Bridges and Gatehouses, Acadia National Park." They are the Dane Farm Bridge (LCS #041106) and the Stanley Brook Bridge (LCS #006572). The segments of the historic motor road system on Mount Desert Island are not currently listed on the National Register, but in consultation with the Maine Historic Preservation Commission, were determined eligible for listing on March 26, 1993, through a report, "Evaluation of Eligibility of the Historic Motor Road System, Acadia National Park, for the National Register of Historic Places." The evaluation report identifies the national significance of the motor road system for association with John D. Rockefeller, Jr. The design of the motor road system is significant at the national level as the work of the Olmsted landscape architectural firm under the direction of Frederick Law Olmsted, Jr. and at the state level for the development of tourism in the State of Maine. The evaluation report also notes the National Register listings of other roads and related structures by the Bureau of Public Roads (BPR) in the national park system. At the time the report was written in 1993, Criteria Consideration G was identified for the road segments and structures built on the island after World War II: the Paradise Hill Road bridges, Day Mountain Road Extension, and Bureau of Public Roads Project 4A2. The report identified the period of significance as the period of planning and construction for the motor roads, 1921-1958. The Maine Historic Preservation Commission concurred with the additions of these motor road segments, as well as nineteen bridges, to the List of Classified Structures on July 1, 1996.

The two segments of the historic motor road system on Schoodic Peninsula, Schoodic Loop Road and Schoodic Point Road, were entered into the National Register as part of the Schoodic Point Historic District on June 29, 2007. According to the National Register listing, the two motor road segments on the Schoodic Peninsula are significant under criteria A, B, and C under two historic contexts: John D. Rockefeller, Jr. and the National Park Service (1913-1958), and Rustic Design (1890-1958). Specifically, the two motor roads relate to one of the Rustic Design subthemes – Rustic Design in the National Park Service (1916-1958). The period of significance for Schoodic Peninsula Historic District is 1930-1941, which begins when development of the Schoodic Peninsula lands began and ends when the last park-related structures were built in the Rustic Design style. The National Register listing does not provide a specific period of significance for the two historic motor road segments. In addition to the two motor road segments, the Fraser Creek causeway and the John Godfrey Moore Memorial Plaque (LCS #041362) were determined as contributing resources.

The "Historic Resources of Acadia National Park" Multiple Property Documentation Form (MPDF) was accepted by the National Register for Historic Places on June 29, 2007. The MPDF identifies property types and historic contexts with which to evaluate park resources. The motor road system is identified as part of the "Circulation Systems" property type under two contexts: "John D. Rockefeller,

Jr. and the Development of the National Park System (1913-1958)," and "Rustic Design (1890-1958)" and its subthemes, the Picturesque Style (1890-1950) and "Rustic Design of the National Park Service (1916-1958)." It defines the historic motor road system as being comprised of automobile tour roads on both Mount Desert Island and the Schoodic Peninsula. Registration requirements outlined in the MPDF for the motor roads require that they retain sufficient integrity in design, setting, and location. (Specific registration requirements are discussed in the Analysis and Evaluation section of this CLI.) The MPDF describes the collaborative efforts of John D. Rockefeller, Jr., Frederick Law Olmsted, Jr., the BPR, and the NPS. It notes the minimal impact of the motor roads on the landscape and their respect to the natural topography, the standards of the rustic design style, and the unifying design characteristics of the road segments themselves and their associated bridges and other engineering structures. At the time the MPDF was approved in 2007, it noted that Criteria Consideration G does not need to be applied because the final motor road segment completed in 1958, Bureau of Public Roads Project 4A2, was an integral component of the motor road network and therefore contributed to the overall significance of the historic motor road system.

Pursuant to Section 110 of the National Historic Preservation Act, there has been a recent consultation with the Maine Historic Preservation Commission regarding the historic motor road system. The Allesandro Fabbri Memorial Plaque, erected in 1937 along the park loop road to honor the founder and commander of the Naval Radio Station at Otter Cliffs, was determined eligible for listing in the National Register on October 31, 2007.

Existing NRIS Information:

Primary Certification Date:	06/29/2007
Other Names:	ACAD, Historic Resources of Acadia National Park Multiple Property Listing, NRIS #0700614
Primary Certification Date:	06/29/2007
Other Names:	ACAD, Schoodic Peninsula Historic District, NRIS #0700614
NRIS Number:	79000131
Primary Certification Date:	11/14/1979
Name in National Register:	Carriage Paths, Bridges and Gatehouses

National Register Eligibility

National Register Concurrence:	Eligible -- SHPO Consensus Determination
Contributing/Individual:	Individual
National Register Classification:	District
Significance Level:	National

Significance Criteria:

A - Associated with events significant to broad patterns of our history
B - Associated with lives of persons significant in our past
C - Embodies distinctive construction, work of master, or high artistic values

Period of Significance:

Time Period:	AD 1922 - 1958
Historic Context Theme:	Creating Social Institutions and Movements
Subtheme:	Recreation
Facet:	General Recreation
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Expressing Cultural Values
Subtheme:	Architecture
Facet:	Rustic Architecture
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Expressing Cultural Values
Subtheme:	Landscape Architecture
Facet:	Protection Of Natural And Cultural Resources
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Shaping the Political Landscape
Subtheme:	Political and Military Affairs 1865-1939
Facet:	The Great Depression And The New Deal, 1929-1941
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Shaping the Political Landscape
Subtheme:	World War II
Facet:	The Home Front
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Developing the American Economy
Subtheme:	Transportation by Land and Air
Facet:	Carriage Roads, Touring Roads and Parkways
Other Facet:	None

Time Period:	AD 1922 - 1958
Historic Context Theme:	Transforming the Environment
Subtheme:	Conservation of Natural Resources
Facet:	Origin And Development Of The National Park Service
Other Facet:	None
Time Period:	AD 1922 - 1958
Historic Context Theme:	Transforming the Environment
Subtheme:	Conservation of Natural Resources
Facet:	The Great Depression And Conservation
Other Facet:	None

Area of Significance:

Area of Significance Category	Area of Significance Subcategory
Architecture	
Conservation	
Engineering	
Entertainment - Recreation	
Landscape Architecture	
Other	
Transportation	

Statement of Significance:

Acadia National Park's historic motor road system is nationally significant under National Register of Historic Places Criterion A for conservation, recreation, and transportation; Criterion B for John D. Rockefeller, Jr. for his association with conservation, recreation, and philanthropy at Acadia National Park; and Criterion C for architecture, engineering, and landscape architecture. Under Criterion A, the motor roads are illustrative of the NPS system-wide goal of providing public access while seeking to conserve the natural beauty of the parks. Under Criterion B, the resource is significant as an example of John D. Rockefeller Jr.'s interest in the construction and beautification of roads in the national parks, his collaborative efforts with the National Park Service (NPS), and his philanthropic contributions. Under Criterion C, the motor roads are excellent examples of Rustic Design, a harmonious combination of the Picturesque Style and the Rustic Design standards developed by the NPS. The motor road system is also distinctive in its relationship with both the natural topography and the other circulation systems. At Acadia, the motor roads are woven into the existing network of hiking trails and carriage roads, creating distinctly separate circulation systems.

Research conducted for this CLI has determined that the period of significance for the historic motor

road system is 1922-1958. The period begins with the planning and construction of the first segment of the system in 1922, which is the date Superintendent George B. Dorr submitted a plan to NPS Director Stephen Mather for the park's first motor road, originally named Mountain Road and later known as Jordan Pond/Eagle Lake Road. Over the next thirty-six years, John D. Rockefeller, Jr., the Olmsted Brothers landscape architectural firm, the Bureau of Public Roads (BPR), and the NPS collaborated in the construction of seventeen additional motor road segments on Mount Desert Island and the Schoodic Peninsula. The period ends with the completion of Bureau of Public Roads Project 4A2 in 1958, the last segment of the 33.25-mile long motor road system.

NATIONAL REGISTER CRITERION A

The historic motor road system is nationally significant under Criterion A for its association with the context identified in the MPDF, "Rustic Design (1890-1958)," in the areas of conservation, recreation, and transportation. According to the Organic Act of August 25, 1916, the NPS was directed "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment for the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The physical development of the parks was therefore intended to attract and accommodate people. This was to be accomplished, in part, through park roads and related visitor facilities.

The planning and construction of the Acadia's first motor road segment, Jordan Pond/Eagle Lake Road, from 1922-1927, coincided with a larger program of road construction projects underway throughout the NPS. NPS Director Stephen Mather's request in 1922 for park superintendents to submit road proposals was a response to the rapidly increasing number of visitors arriving at parks by automobile. Park roads were considered a necessity to lead visitors to scenic points and developed areas. (CLR 2007:227; McClelland 1993:102-103)

National park roads were also viewed as an important part of the park experience. The philosophy of park roads taking shape at that time was influenced by the nineteenth century pleasure grounds described by Andrew Jackson Downing and his classification of approach, circuit, and service roads. In particular, the concept of a circuit, or loop, road was seen as an ideal fit for the automobile experience and was proposed in many national parks. A separation of automobile, carriage, and pedestrian circulation systems was also desireable, a concept refined by Frederick Law Olmsted, Sr. in his designs for the urban parks of New York, Boston, and other cities. (CLR 2007:227-228; McClelland 1993:102-104)

National park road planning in the 1920s was primarily advanced by Daniel Hull and Thomas Vint, landscape engineers with the NPS. Where earlier park roads included dangerous hairpin curves and steep grades or had otherwise marred the natural scenery, Hull and Vint aimed to build safer park roads and protect scenery from damage. They sought to design all built features in harmony with and subordinate to the surrounding landscape. The careful alignment of motor routes provided convenient access to major attractions while offering the best views of scenery. (CLR 2007:228; McClelland 1993:103,106)

Identifying scenic routes was paramount, and recommendations in Hull and Vint's approach to road design drew heavily on Downing's principles toward creating a sequential experience, one in which the visitor would pass through landscape spaces of varying character and past picturesque features en route to a scenic vista. According to Frank Waugh, who designed roads for the U.S. Forest Service, it was the natural scenery and views that should be fully utilized. Vistas, he wrote in 1917, should be open with a clear focal point and should be framed. Inferior views were to be blocked or minimized. Henry Hubbard, a principal with the Olmsted firm, also advised on park road design, suggesting that roads lay lightly on the land and interrupt the natural topography as little as possible. Hubbard added that the roads should be surfaced with gravel or broken stone, and that if asphalt was to be used, the edges of the road should be softened so that the final appearance was similar to macadam. He also recommended that roadside ditches and waterways be constructed with cobblestones or grass as part of the rustic park aesthetic. (CLR 2007:228; McClelland 1993:106-107)

Beginning in 1924, Director Mather successfully secured substantial appropriations for construction of park roads. To ensure that the parks obtained the highest quality results from this investment, the NPS formalized a working relationship with the BPR, a part of the Department of Agriculture, through an interbureau agreement in January 1926. The agreement enabled landscape architects with the NPS to focus on the aesthetic and scenic aspects of the park roads and civil engineers with the BPR to take the lead in the technical and practical details. (CLR 2007:228)

By this time, the protection of natural features and scenic beauty dominated the planning, design, and construction of NPS tour roads. Alignments were carefully laid out in curving lines in sympathy with the topographic contours. Overlooks were located to take advantage of scenic views and provide access to outstanding natural features without impairing them. Park roads were designed to minimize cut and fill, steep grades, and sharp turns or switchbacks. When viewed from a distance, the appearance of entire road was to blend into the surrounding scenery. (CLR 2007:228-229; McClelland 1993:111-112)

The construction process was also strictly managed. NPS landscape architects spelled out rules on the burning of debris cleared from the right-of-way. Locations of borrow pits, quarries, and stone crushing plants were chosen for minimal impact, and cleanup of stones and stumps was required throughout and just beyond the road corridor. The appearance of the roadway and its major structures was also carefully designed. Roads were surfaced with macadam using local stone to harmonize with soil and surrounding rock outcrops, and where possible, local stones were used in guardwalls, culvert headwalls, and bridge side walls and arch rings. (CLR 2007:229; McClelland 1993:110-111)

By the late 1920s, the NPS had settled on a consistent design style for park structures and facilities, including park roads. The style, called NPS Rustic Design, was derived from the Picturesque Style, which was born of the English landscape gardening and urban park traditions where natural elements and materials were used to create scenic effects that appeared naturalistic rather than artificial. NPS Rustic Design was also influenced by the "wilderness" qualities of the early national parks and the Prairie Style and its philosophical penchant for native plants. Features constructed in the NPS Rustic

Design style evoked a rugged and wilderness character that fit well into many park settings. While general design standards remained the same throughout the national parks, features were customized with local materials such as stone or timber to fit the unique natural and cultural setting of a particular park. (CLR 2007:229; MPDF 2007:E35,E62)

The idea of park roads both protecting and providing access to natural features and breathtaking scenery was well-suited to the rugged landscapes of Mount Desert Island and the Schoodic Peninsula. The picturesque scenery had, after all, attracted the rusticators, cottagers, and tourists in the mid- to late-nineteenth century and encouraged the land preservation and conservation efforts that ultimately established Acadia National Park. (CLR 2007:229-230)

Both Jordan Pond/Eagle Lake Road and Cadillac Mountain Road were part of Superintendent George Dorr's 1922 motor road plan. After reconstructing a small section of Ocean Drive in 1929, Rockefeller envisioned a comprehensive motor road system that would allow visitors to experience the park's diverse landscape of barren mountains, lush forests, and rocky shorelines from their vehicles and also a distinct system seperate from pedestrian and equestrian traffic within the park. Utilizing the expertise of noted designers such as Frederick Law Olmsted, Jr., Rockefeller incorporated the picturesque style elements of the carriage roads in his plan for the motor roads, such as having a minimal impact on the landscape, utilizing the natural contours of the land, highlighting the scenic views, and designing road-related structures with the surroundings. Other motor road segments were completed on Mount Desert Island and the Schoodic Peninsula as additional park lands were acquired, many as a collaboration between the NPS and the BPR using NPS Rustic Design standards.

Beginning in 1933, as part of the Roosevelt Administration's New Deal programs, the Civilian Conservation Corps (CCC) also contributed to the development of some of the motor road segments on Mount Desert Island and especially those on the Schoodic Peninsula. Under the supervision of NPS landscape architects, their work included construction of some culverts, pullouts, roadside trails, curbs, gates, fences, and signs, as well as several revegetation projects. CCC involvement ended with the start of World War II, and work on the motor road system essentially stopped as there was little money and few qualified engineers available. After the war, several additional motor roads and bridges were constructed, and by 1958 the final segment of the motor road system was completed. (CLR 2007:42,65; MPDF 2007:E89)

The historic motor road system retains integrity of location, design, setting, materials, workmanship, feeling, and association to convey its significance with the context, "Rustic Design (1890-1958)," in the areas of conservation, recreation, and transportation. There have been no changes to the routes of the motor road system since the historic period except for the abandonment of a small section at Bubble Pond on the Jordan Pond/Eagle Lake Road in the early 1960s, and construction of a grade separation feature along Paradise Hill Road. The historic motor roads continue to serve as the primary setting from which a majority of visitors experience the park's diverse resources, landscapes, and scenic views. Use of the motor roads has increased dramatically since 1958, and in response a large portion of the system was converted to one-way circulation to allow for parking in the right lane. The directional change and the presence of parked cars has somewhat diminished the driving experience.

Some views from the motor road have been compromised along Bureau of Public Road Project 4A2 and Otter Cliffs Road by outside development, but a majority of the views are still intact. As a whole, the motor road system illustrates the dual mission of the NPS of providing access to parks while at the same time protecting resources. The motor roads also continue to function as a comprehensively planned system that is distinctly separate from the park's other circulation systems but at the same time complementary to them in terms of Rustic Design characteristics. Lastly, the subtle variations between each motor road segment reflect the evolution of the system and the successful collaborations between the NPS, BPR, the Olmsted Brothers landscape archetectural firm, and John D. Rockefeller, Jr.

NATIONAL REGISTER CRITERION B

The historic motor road system is nationally significant under Criterion B for its association with the context identified in the MPDF, "John D. Rockefeller, Jr. and the Development of the National Park System (1913-1958)," in association with conservation, recreation, and philanthropy. Rockefeller's contributions to the historic motor road system at Acadia resulted from two primary roles that were essential to the completion of the network. For many of the earliest road segments, he personally funded design and construction by providing design services of the Olmsted Brothers landscape architectural firm and engineering and surveying assistance from carriage road engineers Paul Simpson and Walters Hill and the Kidde Construction Company. With the skillful carriage road construction crew already mobilized on the island, Rockefeller used them to build several motor road segments. When necessary he also assisted with land acquisition through financial backing, donations, and negotiation. Later segments of the motor road plan were constructed through the interagency agreement between the NPS and the BPR, but Rockefeller continued his attention to the larger vision by providing design review services himself or through the Olmsted firm. (MPDF 2007:E32)

Early on, Rockefeller was involved in perhaps the most divisive issue on Mount Desert Island: the use of automobiles. The contentious debate involved the village improvement groups, the Hancock County Trustees for Public Reservations, the NPS, and various members of Congress for nearly two decades. The issue was essentially one on road building, also widened the rift between summer residents who believed cars were a threat to the natural scenery, and year-round residents who saw the roads as an economic opportunity. Beginning in 1903, efforts were made to prohibit automobiles from the island, mainly by the summer residents, but by 1915 the bans had been lifted. Shortly after Rockefeller began constructing carriage roads on Mount Desert Island in 1913, the new presence of automobiles on the island prompted much discussion about the role of cars in the Acadian landscape. Although initially against the use of automobiles on the island, Rockefeller eventually saw their popularity as inevitable and actively lead the effort to build motor roads in the park. (MPDF 2007:E30)

In 1922, the NPS began planning efforts for road construction in national parks as part of a major proposal to Congress that would establish a Federal park road program. Rockefeller predictably took great interest in Superintendent George Dorr's plan for motor roads connecting Eagle Lake and the Jordan Pond House and to the summit of Cadillac Mountain. Working closely with NPS officials, Rockefeller envisioned a limited system of motor roads that would both facilitate efficient public use and enjoyment and provide a beautiful and finely constructed road network sited harmoniously with the

island landscape. Dorr and Rockefeller sought to control the number of access roads to the park and thereby minimized their impact on the landscape. (MPDF 2007:E30)

Rockefeller proposed to complete a number of connecting carriage roads, and offered $150,000 for the construction of the first park road for automobiles. Construction of 4,300-feet of this motor road, later named Jordan Pond/Eagle Lake Road, began in 1922 and was completed in 1924, at which time work was stopped due to the opposition of some notable individuals from the village improvement groups and lead by Pennsylvania Senator George Wharton Pepper. After congressional hearings, however, Secretary of the Interior Hubert Work agreed to approve Rockefeller's road program. Summer resident Richard W. Hale stated that they were living under "benevolent despotism" when the federal government enforced the decisions and wishes of Rockefeller. That same year, initial grading of Cadillac Mountain Road began. (MPDF 2007:E30, citing Roths 1998:26)

By 1927, Jordan Pond/Eagle Lake Road was complete and construction of the Cadillac Mountain Road by the BPR was well underway. Rockefeller reconstructed a part of Ocean Drive, an old Bar Harbor town road, in 1929 as a demonstration of what the Ocean Drive could become. It was around this time that he began to expand his vision from a limited number of roads to a much more comprehensive and distinctive motor road system that would create a clear separation of vehicle, pedestrian, and equestrian traffic within the park. The concept of separate circulation systems across the same terrain using different routes was patterned after Olmsted, Sr.'s design at Central Park. Rockefeller hired the Kidde Construction Company of New York, with whom he had worked at his Pocantico Hills estate, and the Olmsted Brothers, landscape architects in Brookline, Massachusetts, to address the design of a new entrance road near Sieur de Monts Spring and possible connections between Jordan Pond/Eagle Lake Road and Ocean Drive. In 1930, Rockefeller offered $4 million dollars to build these roads. (CLR 2007:32-36; MPDF 2007:E31)

Most year-round residents were in favor of increased automobile access and the boost to the tourist economy. However, vocal opposition to his road project continued, mainly among summer residents. Stung by the criticism, Rockefeller decided to withdraw his offer in 1931, although appeals by the NPS and the town of Bar Harbor convinced him to let the offer "lie on the table" for a year. During this time, however, two preconditions for Rockefeller's road program were met: the Town of Bar Harbor abandoned their legal interest in Ocean Drive and the Navy agreed to relocate their radio station at Otter Cliffs to Schoodic Peninsula. Also at this time, Rockefeller pursued his plan for the construction of Stanley Brook Road on land he owned. (MPDF 2007:E31-E32)

In 1933, the massive road project as proposed by Rockefeller in consultation with the Olmsted firm finally moved forward. The transfer of the naval station to Schoodic, and motor roads leading to it, were completed by 1935, allowing Rockefeller to extend Ocean Drive and build Otter Cliffs Road. By this time, the role of federal New Deal programs in national park development increased, resulting in a shift of Rockefeller's involvement from design and construction to land acquisition. This would ensure that an appropriate route could be secured to complete the system while the BPR and NPS continued to design and construct the remaining segments. In a 1935 letter to Secretary of the Interior Ickes, Rockefeller outlined his willingness to deed lands to the park for completion of the roads project. He

stated succinctly:

"The lands that I am now prepared to give total 3835 acres and cost me over $600,000. For their development with roads and the usual other improvements I have already spent at least $500,000. In addition, I have spent for roads built on Park lands roughly $2,000,000. My total expenditure on the project is therefore some $4,000,000." (MPDF 2007:E32, citing Letter, J.D. Rockefeller Jr. to Harold Ickes, March 14, 1935)

In 1935, the park received a $350,000 appropriation to continue road construction. Rockefeller remained an active partner in the realization of the motor road system, sponsoring the Olmsted firm through 1937 and continuing to encourage the NPS to complete the remaining segments. In 1939 Rockefeller donated land necessary for the construction of the Paradise Hill Road. By 1940, Rockefeller's direct involvement was waning, although he continued to press for completion of the system through the 1950s. In 1955, the year of Rockefeller's eightieth birthday, the acquisition of land to complete the last remaining segment of the motor road system was secured. For his contributions to the preservation of "landscape character and beauty" at Acadia and elsewhere, Rockefeller received an honorary membership from the American Society of Landscape Architects in 1938. (MPDF 2007:E32-E33,E57)

The historic motor road system retains integrity of location, design, setting, materials, workmanship, feeling, and association to convey its significance with the context, "John D. Rockefeller, Jr. and the Development of the National Park System (1913-1958)," in the areas of conservation, recreation, and philanthropy. Rockefeller expanded George Dorr's 1922 park road plans into the extensive 33-mile motor road system on Mount Desert Island and the Schoodic Peninsula now enjoyed by millions of visitors each year. Although his roles in the development of the motor road system changed over time, from design and direct project funding to land donation and acquisition, he was nonetheless actively involved in this massive construction project. The association of the historic motor road system with Rockefeller can still be seen in virtually every aspect of the system, from its sensitive placement in the landscape and access to scenic views, to the detailed craftsmanship found in the many bridges, walls, and culverts that define it. Finally, the motor road system is itself a testament to Rockefeller's generosity and philanthropy that bestowed millions of dollars and thousands of acres of land to Acadia and other national parks.

NATIONAL REGISTER CRITERION C

The historic motor road system is nationally significant under Criterion C for its association with the context identified in the MPDF, "Rustic Design (1890-1958)," in the areas of architecture, engineering, and landscape architecture. Because of its lengthy period of construction, from 1922 to 1958, the various segments of the historic motor road system can be associated with either the "Picturesque Style (1890-1950)" or "Rustic Design in the National Park Service (1916-1958)" subthemes associated with the Rustic Design context.

The Picturesque Style grew out of the nineteenth century English garden and park traditions that

emphasized scenic views and a naturalistic appearance. The new trend influenced the writings of Andrew Jackson Downing (1815-1852) and the landscape designs of Frederick Law Olmsted (1822-1903), Frederick Law Olmsted, Jr. (1870-1957), and others who promoted an aesthetic appreciation for the picturesque qualities of the natural environment. By the end of the nineteenth century, the Picturesque Style incorporated natural elements and materials to create a scenic effect that appeared naturalistic rather than artificial and contrived. These naturalistic and romantic qualities also paralleled the style of American landscape paintings in the mid to late nineteenth century. (MPDF 2007:E34-E35)

The topography of Mount Desert Island was well suited to the picturesque genre, and the island was a popular topic of artistic expression in the late nineteenth century. Many noteworthy architects, landscape architects, and builders completed commissions on the island between 1880 and 1920, including expansive summer cottages and civic improvements in the village centers. Popular design styles were adapted to fit the rugged landscape. The Picturesque Style also influenced the development of trails by the local village improvement societies and the carriage road system constructed by John D. Rockefeller, Jr. Picturesque qualities of the trails included a careful attention to route and alignment, proximity to unique geologic or water features, variations in the character of different trail types, and dramatic views. Likewise, the carriage roads were located to maximize views of island features while conforming to existing topography and preserving vegetation. Native granite was used in coping stones, curbs, drainage features, and to face bridges to better blend them in with the surrounding landforms. (MPDF 2007:E44,E46)

The Picturesque Style is also evident on the park's early motor roads and in segments designed in consultation with the Olmsted Brothers landscape architectural firm. They include Jordan Pond/Eagle Lake Road (completed 1927), Ocean Drive - Thunder Hole Demonstration Segment (1929), Ocean Drive - Thunder Hole to Otter Cliffs (1933), Ocean Drive - Sand Beach to Thunder Hole (1934), Otter Cliffs Road (1936), Stanley Brook Road (1936), and Otter Creek Causeway and Blackwoods Road (1939). One of the most distinguishable features of these segments is the use of angular-shaped stones in the guardwalls. (CLR 2007:230)

These segments also have variations in their designs that responded to local site conditions. On Stanley Brook Road, the Olmsted firm preserved the delicate topography and scenery of the winding Stanley Brook Valley by using a narrow road surface, eliminating shoulders, and constructing six simple and low-profile bridges across the brook. Unlike retaining walls on the other segments, rounded stones common at the site were used in the retaining walls. At Otter Cliffs, in order to fit the motor road into the existing rocky landscape and preserve the panoramic ocean views, the Olmsted firm designed a grade separation feature with two independent lanes of traffic (as well as a hiking trail). The structure's granite stone retaining walls stone blend perfectly with the granite bedrock on which it is built. The Olmsted firm also consulted on the broad curved alignment of the Otter Cove Causeway and the Blackwoods Road segment. The causeway and masonry bridge perfectly complement the shape of the shoreline and surrounding landforms. (CLR 2007:230; MPDF 2007:E56-E57)

The origin of the NPS Rustic Design style can be traced back to the nineteenth and early twentieth

century social movements to protect and preserve natural scenery for the public's benefit. In 1916, Frederick Law Olmsted, Jr. articulated this philosophy in the enabling legislation of the NPS, which sought to conserve natural scenery in parks while providing public access to them. In the early years of the NPS, landscape architects, architects, and engineers recognized the need to develop unified design principles and standards that would guide the development of park facilities and simultaneously protect a park's natural, cultural, and scenic resources. This new style came to be known as NPS Rustic Design. It drew heavily from the Picturesque Style, which incorporated natural features and materials with rustic constructed features to create an effect that was naturalistic and romantic rather than artificial and contrived. It was also influenced by the Prairie Style that emphasized the use of native plants. (MPDF 2007:E35,E61-E62)

In NPS Rustic Design, constructed features utilized labor-intensive methods that created a rugged, frontier-like quality appropriate to a wilderness setting. Though general design standards remained the same, features were typically customized with local materials, such as stone or wood, to fit the environment in which they were constructed. By the end of the 1920s, NPS Rustic Design guided plans and specifications for site features and structures, techniques for the location of roads and trails in relation to natural scenery, methods to repair construction damage to natural conditions, and construction of park facilities. (MPDF 2007:E35,E61-E62)

The NPS Rustic Design is best observed in the motor road segments designed and constructed by the NPS and the BPR. They include Cadillac Mountain Road (completed 1931), Schoodic Loop Road and Schoodic Point Road (1933-1935), Kebo Mountain Road (1938), Kebo Mountain Road Extension (1940), Champlain Mountain Road (1940), Paradise Hill Road (1941), Day Mountain Road (1941), Day Mountain Road Extension (1951), Paradise Hill Road bridges (1952), and Bureau of Public Roads Project 4A2 (1958). Most of the guardwalls on these segments utilize rectilinear-shaped stones (the notable exception is Cadillac Mountain Road). (CLR 2007:230)

These segments also illustrate BPR/NPS road standards and unique engineering techniques that included the use of spiral transitions, superelevated curves, and grades that did not excede seven percent. Cadillac Mountain Road, for example, was hailed for its use of continuous curves and a consistent grade to accommodate the limitations of vehichles in the 1930s while at the same time successfully using the NPS Rustic Design standards. The BPR motor roads also feature numerous and noteworthy bridges, which followed the design tradition of the carriage road bridges. Most are simple, single-arched structures that utilized locally quarried granite ashlar applied over a reinforced concrete structure, with parapet walls. However, each bridge features variations in the stone coursework and dimensions of the arches, dependent on the site's topography. Arguably the most impressive bridge is the massive three-arched Duck Brook Bridge, which carries Paradise Hill Road over the Duck Brook ravine. (CLR 2007:230; MPDF 2007:E77-E78)

As the discussion above shows, there are more similarities between the Picturesque Style and NPS Rustic Design than there are differences, and together they make up the Rustic Design style. Regardless of which particular style was the influence, all segments of the historic motor road system were planned and designed to conform to the local topography, highlight scenic views, and preserve

large trees and unique natural features wherever possible. In areas where construction scars were inevitable, they were repaired through replanting projects with native plants. Alignments featured tangent segments, arced segments, frequent use of spiral transitions and superelevations between the segments, gradients of no more than seven percent, and shoulders covered with grass and native vegetation. Bridges, causeways, guardwalls, retaining walls, and drainage features were constructed or faced with locally quarried granite to blend in with the surrounding landscape.

The historic motor road system retains integrity of location, design, setting, materials, workmanship, feeling, and association to convey its significance with the context, "Rustic Design (1890-1958)," in the areas of architecture, engineering, and landscape architecture. Stone bridges, guardwalls, retaining walls, and drainage features continue to illustrate both the Picturesque and NPS Rustic Design styles. Repairs, additions, and alterations in surface materials have occurred but have not comprimised the integrity of the historic motor road system. Widenings in 1964 on Jordan Pond/Eagle Lake Road straightened out some of that motor road's dangerous curves, but the design and materials used in this reconstruction were consistent with the historic road segments built earlier by the BPR. The most noticeable non-historic feature is the addition of parking managements along certain segments of the motor roads since the 1970s. These rounded stones are compatible with historic character, though the recent use of angular-shaped parking management stones is a distraction because they are indistinguishable from the historic angular-shaped guardwall stones. The dramatic increase in traffic has also resulted in the development of numerous informal pullouts and has damaged some of the historic vegetated shoulders. The careful use of parking management stones and other techniques to control traffic, as well as implementation of an island-wide shuttle system, has helped minimize the effect. Historic signage and entrance gates have mostly been lost over time, though new designs that are compatible with the historic designs have been introduced. Most of the changes to the 33-mile historic motor road system, taken as a whole, are minor, and it retains a high degree of integrity in its original layout, construction techniques, and rustic characteristics.

National Historic Landmark Information

National Historic Landmark Status: No

World Heritage Site Information

World Heritage Site Status: No

Chronology & Physical History

Cultural Landscape Type and Use

Cultural Landscape Type: Designed

Current and Historic Use/Function:

Primary Historic Function: Automobile

Primary Current Use: Automobile

Other Use/Function	Other Type of Use or Function
Outdoor Recreation-Other	Both Current And Historic
Overlook	Both Current And Historic
Parkway (Landscape)	Both Current And Historic
Public Works	Both Current And Historic
View	Both Current And Historic
Vista	Both Current And Historic

Current and Historic Names:

Name	Type of Name
Historic Motor Road System	Current
Motor Road System	Historic
Motor Roads	Historic

Ethnographic Study Conducted: No Survey Conducted

Chronology:

Year	Event	Annotation
AD 1604	Explored	Samuel de Champlain explores and names “Isle des Monts Deserts,” or Mount Desert Island, for its rocky and treeless summits.
AD 1688	Settled	Private ownership begins when Mount Desert Island is given as a feudal fief by Louis XIV to Antoine de Lamothe, the self-proclaimed Sieur de la Mothe Cadillac.
AD 1713	Settled	Louis XIV is defeated and all of the Acadia region lands (except Cape Breton) ceded to England.
AD 1763	Settled	English begin settling area after Treaty of Paris is signed.
AD 1777	Built	A road between Cromwell Cove in Bar Harbor and Sand Beach is in use by 1777.
AD 1827	Built	By 1827, a toll bridge is built across the Mount Desert Narrows to connect the island and the mainland.
AD 1844	Explored	Thomas Cole, a leading artist of the Hudson River School, arrives on Mount Desert Island. This marks the beginning of the island’s tourist economy as other artists, writers, scientists, and travelers begin to flock to the area. In time, wealthy visitors build massive summer ‘cottages.’
AD 1890 - 1899	Built	On Mount Desert Island, Ocean Drive traces shoreline from Schooner Head to Otter Cove. On the Schoodic Peninsula, Moore Road follows shoreline from Frazer Creek to Schoodic Head.
AD 1901	Established	George Dorr and Charles Eliot organize the Hancock County Trustees of Public Reservations to acquire land parcels on Mount Desert Island to protect water supply and preserve walking paths and scenic vistas. It receives tax-exempt status in 1903.
AD 1903	Established	Maine legislature permits towns to ban automobiles.
AD 1909	Established	Automobiles banned throughout Mount Desert Island.

AD 1913	Established	Automobile ban is lifted.
AD 1913	Built	John D. Rockefeller, Jr. begins construction of his first carriage road on his Seal Harbor estate.
AD 1916	Established	On July 8, Sieur de Monts National Monument is established. The park is comprised of around 6,000 acres that were under the stewardship of the Trustees.
AD 1916	Established	National Park Service (NPS) established.
AD 1919	Established	On February 16, Sieur de Monts National Monument name changed to Lafayette National Park.
AD 1922	Planned	As requested by NPS Director Stephen Mather, Superintendent George B. Dorr develops a road plan for the park. It includes a motor road between Jordan Pond and Eagle Lake and to the summit of Cadillac Mountain. Rockefeller pledges his financial support.
AD 1922 - 1923	Built	Construction of what will become Jordan Pond/Eagle Lake Road is begun in 1922 and advances 4,300 feet by 1923. Work is halted due to public opposition, but Dorr and Rockefeller successfully promote projects at congressional hearings in 1924 and work resumes.
AD 1924	Built	Preliminary grading for Cadillac Mountain Road is begun in mid-1924 by NPS crews.
AD 1926	Established	Director Mather initiates interbureau agreement between NPS and Department of Agriculture's Bureau of Public Roads (BPR).
AD 1927	Built	Jordan Pond/Eagle Lake Road completed in 1927.
AD 1927	Planned	Master plan in 1927 supports the recently finished Jordan Pond/Eagle Lake Road and the previously approved Cadillac Mountain Road.
AD 1928	Built	Director Stephen Mather decides BPR should take over Cadillac Mountain Road project.

AD 1928	Planned	Charles W. Eliot II prepares alternative master plan that supports the two existing motor roads but recommends no others be built.
AD 1929	Built	Ocean Drive-Demonstration Section completed in 1929.
AD 1929	Established	On January 19, Lafayette National Park is renamed Acadia National Park.
AD 1930 - 1933	Planned	In association with Rockefeller, Olmsted firm reveals 14-mile comprehensive motor road plan from Jordan Pond/Eagle Lake Road to Hunter's Beach and Route 3. NPS and year-round residents support the plan but summer residents oppose it. Rockefeller pledges $4 million for the project but then withdrawls offer in mid-1931 for a year due to the opposition.
AD 1931	Built	Cadillac Mountain Road completed in 1931.
AD 1933	Established	The Civilian Conservation Corps is established as part of Roosevelt's New Deal program. CCC contributes to fabricating some of the site details along the motor road system as well as revegetation projects.
AD 1933	Planned	Rockefeller again makes the offer to fund the motor road project and construction resumes. Controversial route through the Tarn valley and around Gorham Mountain is abandoned in favor of a proposed route across the north and east slopes of Champlain Mountain.
AD 1933	Built	Ocean Drive-Thunder Hole to Otter Cliff Road completed in 1933.
AD 1933 - 1935	Built	Schoodic Loop Road, from Frazer Creek to Big Moose Island, is completed in 1933, allowing for construction to begin on the relocated naval radio station at Big Moose Island, opened in 1935. The section from from Big Moose Island to Wonsqueak Harbor is completed in 1935.
AD 1934	Built	Ocean Drive-Thunder Hole to Sand Beach completed in 1934.

AD 1935	Built	Schoodic Point Road completed in 1935.
AD 1935	Planned	With a significant government appropriation for road construction at Acadia secured in 1935, Rockefeller's role in the motor road system shifts from design, construction, and direct project funding to donating and acquiring land needed for the remaining segments.
AD 1936	Built	Stanley Brook Road completed in 1936.
AD 1936	Built	Otter Cliffs Road completed in 1936.
AD 1938	Built	Kebo Mountain Road completed in 1938. The use of rectilinear quarried guardwall stones begins with this project.
AD 1939	Built	Otter Cove Causeway and Blackwoods Road completed in 1939.
AD 1940	Built	Champlain Mountain Road completed in 1940.
AD 1940	Built	Kebo Mountain Road Extension completed in 1940.
AD 1941	Planned	Master plan in 1941 documents existing conditions and proposed facilities in the park and at the summit.
AD 1941	Planned	Management of vegetation at some of the scenic overlooks on the motor roads is proposed.
AD 1941	Military Operation	Radar station built on the Cadillac Mountain summit to seek out enemy submarines. During duration of the war, Cadillac Mountain Road is closed to the public.
AD 1941	Built	Day Mountain Road completed in 1941.
AD 1941	Built	Paradise Hill Road completed in 1941.

AD 1942	Abandoned	CCC camps closed at Acadia due to World War II.
AD 1947	Destroyed	Devastating fire burns over 17,128 acres of land on Mount Desert Island (around 11,753 acres of which are currently in the park).
AD 1951	Built	Day Mountain Road Extension completed in 1951.
AD 1952	Built	Paradise Hill Road bridges completed in 1952 as well as several Access Roads connecting local roads to the motor road system.
AD 1955 - 1957	Altered	Most motor roads repaved with a modern plant-mixed, hot-asphalt bituminous concrete surface treatment, and many shoulders reconditioned.
AD 1958	Built	Bureau of Public Roads Project 4A2 completed in 1958. This represents the final segment of the motor road system.
AD 1962 - 1964	Altered	Jordan Pond/Eagle Lake Road is widened, spiral transition sections added, and curves superelevated. Some pullouts added, and the S-curve at Jordan Pond House and a small section at Bubble Pond are realigned, which abandons the portion of the motor road passing under the Bubble Pond Bridge.
AD 1965	Built	Grade separation feature built along Paradise Hill Road. A new road for southbound traffic built uphill from the existing road, which is converted to northbound traffic.
AD 1970 - 1979	Altered	Parking management stones added along portions of the historic motor road system.
AD 1980 - 1989	Altered	In the 1980s, the park loop road, from Keboo Mountain Road to Day Mountain Road, is converted to one-way traffic, which opens up the right lane for parking.
AD 1985	Altered	Sections of gray sawn-top granite steps and curbing are installed throughout motor road system during FHWA rehabilitation Project 1A9.

AD 1988	Altered	Sections of bituminous shoulder added along Jordan Pond/Eagle Lake Road and Cadillac Mountain Road.
AD 2000	Built	New entrance fee station built at beginning of Champlain Mountain Road.

Physical History:

INTRODUCTION

The following physical history narrative is condensed from the "Cultural Landscape Report for the Historic Motor Road System, Acadia National Park: Site History, Existing Conditions, Analysis, and Treatment" completed in 2007.

FOOTPATHS AND ROADS, PRIOR TO 1922

Native American and European Settlements:
Up to the seventeenth century, coastal areas of Maine's Frenchman Bay region were the sites of small Native American camps. Settlements were reportedly located at Frazer Point on the Schoodic Peninsula, and seasonal encampments at several protected coves on Mount Desert Island. Native Americans were fishermen, hunters, and gatherers, who may have used stream valleys as routes to access the interior of the island for resources and as portage and carry routes. However, there is little documentation or archeological evidence for these routes. (CLR 2007:15)

French and English settlers also intermittently occupied this area, and their numbers gradually increased after French navigator Samuel de Champlain explored Mount Desert Island in 1604, calling it "Isles de Monts Desert" for the rocky and treeless summits. King Louis XIV granted the island to Antoine de la Mothe Cadillac in 1688 in an effort to establish an outpost of French feudalism, but widespread settlement did not follow due to the continual threat of war between England and France. After the signing of the Treaty of Paris in 1763, the English began to dominate the area and gradually displaced the earlier inhabitants. These new settlers also hunted and fished, but supplemented their livelihood through farming, logging, and especially shipbuilding. This yielded surpluses of fish, lumber, ice, and granite that were traded locally and to distant ports. The Towns of Mount Desert, Eden (later Bar Harbor), Southwest Harbor, Tremont, and Gouldsboro were founded around this time. (CLR 2007:15)

Old footpaths were used to move goods and supplies, and over time some were widened for use as horse roads and for logging carriages. New roads were also built, ranging from rudimentary roads cut by loggers to public roads built to improve trade, such as a road from Cromwell Cove in Bar Harbor to Sand Beach, which was in use by 1777. By 1827, a toll bridge was built across the Mount Desert Narrows to connect the island and the mainland. (CLR 2007:16)

The Influence of the Rusticators and the Cottagers:
By the mid-nineteenth century, tourism was beginning to displace the extraction of natural resources as the driving force in the area's economy. This change began in 1844 when Thomas Cole, the leading artist of the Hudson River School, arrived on Mount Desert Island. On his way to his lodgings, he complained of the poor condition of the road, describing it as "…exceedingly bad, stony, overhung with beech and spruce, and, for miles, without inhabitant." Nevertheless, the route afforded many fine views that Cole captured through writings, and more significantly, through scenic landscape paintings. These works inspired other artists such

as Frederic Church, Thomas Birch, and William Morris Hunt to visit. The island's rich natural resources also attracted the leading scientists of the day. Although transportation was difficult, an annual summertime influx of visitors, called the "rusticators," descended on the area throughout the 1860s and 1870s. Visitors lodged at private homes or inns, such as the Jordan Pond House, and began using the old lumber roads as walking paths to scenic vistas, particularly those situated above the tree lines of the mountains. Paintings by the rusticators introduced the island to the larger public, and by 1880 Mount Desert Island was being hailed as one of the most beautiful vacation spots in the country. Wealthy visitors seeking relief from hot summers in Boston, New York, and Philadelphia were among the tourists, and many built massive summer homes, euphemistically known as "cottages," in and around Bar Harbor, Seal Harbor, and other towns. (CLR 2007:16-17; from St. Germaine and Saunders 1993:24, as cited in HAER ME-11:9)

New and Improved Roads:
One of the more popular destinations at the time was the summit of Green (Cadillac) Mountain. In 1853 the U.S. Coast Survey built a rough road to its triangulation station at the summit, and the road became a popular path for hikers. In time a buckboard road, so named for the small wagons popular on the island, and later an improved carriage road were also built on the north slope to reach privately-run lodging and dining facilities on the summit. By 1883, a cog railway began operating from the east side of Eagle Lake to the summit, but by 1896 the railroad and hotel had gone out of business and were removed. Their demise coincided with a land boom and bust in the 1880s. (CLR 2007:16)

On Mount Desert Island, year-round residents began to improve the local roads to serve the growing number of tourists and to encourage them to visit the island's natural wonders. In the 1890s, the Town of Bar Harbor constructed Ocean Drive, a scenic road that traced the eastern shoreline from Schooner Head Road to Otter Cove. This road created a convenient loop that connected to Otter Creek Road (Route 3) that passed through the Tarn valley. Progressive local citizens also thought of ways to extend the summer tourist season into fall. "A road shall be built along the shore of Eagle Lake," wrote a local reporter in 1888, "and thence through dense forests, across picturesque streams and brooks, and under overhanging crags and cliffs with mountains looming up on either side." The purpose of the road was to "at once call the attention of the public to it, so that before many months the nucleus of a fall resort will be established." As historian Neil Maher writes, "where roads had once been built to access and extract natural resources, now they were built to make the beauty of natural resources accessible to tourists; both were a means to achieve these economic ends." (CLR 2007:17-18; from "A Grand Boheme," 25 October 1888, as cited in HAER ME-11:12)

On the Schoodic Peninsula, by the early 1890s much of the land was purchased by John Godfrey Moore, who had hoped to develop it as a recreation area and construct a resort hotel on the Schoodic Head summit. Moore died before his resort plans were realized, but he did construct a scenic road from Frazer Creek, along the shoreline to West Pond Cove, to Schoodic Head. The Moore Road became popular with local residents who used it for picking berries, picnicking, and enjoying the shoreline views. (CLR 2007:17)

Village Improvement Groups, the Trustees for Public Reservations, and the National Monument:
Increases in tourism and land development were paralleled by organized actions aimed at bettering public amenities and preserving the area's natural beauty. This effort began in earnest in the 1880s with the establishment of local village improvement associations and societies that improved the appearance of public areas in and around the towns. Walking paths linking towns to shorelines and mountain vistas were constructed, eventually expanding into a network of scenic and well-crafted trails. Some trails were endowed by association members, and received continued maintenance funding as well as commemorative markers. (CLR 2007:18)

Throughout the country, the acquisition of land for preservation was deemed a worthwhile goal of village improvement groups. On Mount Desert Island, there was a growing concern among the summer residents that the island's natural resources were being squandered not only by the developers buying up huge tracts of land but also from lumbering, which had been made increasingly profitable through the introduction of the portable saw mill. In 1895, the Roads and Paths Committee of the Bar Harbor Village Improvement Association recommended its members donate or purchase parcels so that the trails and scenic vistas could be protected and preserved from developers and loggers. (CLR 2007:18)

These calls to action did not have a great impact until 1901 when two summer residents, George Bucknam Dorr, founding member of the Bar Harbor Village Improvement Association, and Charles W. Eliot, president of Harvard University, gathered a group of residents to form the Hancock County Trustees of Public Reservations. Their mission was to acquire land parcels on the island, mainly to protect the local water supply while at the same time preserve walking paths and scenic vistas. In 1903 the Trustees were incorporated and given tax-exempt status by the state. In 1908, on behalf of the Trustees, Dorr helped facilitate acquisition of 85 acres of Cadillac Mountain summit area, and in 1909 purchased Boiling Spring at the north end of the Tarn valley, where a bottle works had once stood, and surrounding lands in what would become Great Meadow. Naming the ten-acre parcel Sieur de Monts Spring, Dorr built a spring house and a canopy, an octagonal structure in the Italian Renaissance style featuring concrete arches and a domed tile roof, over the spring to enable visitors to see the source of water. (CLR 2007:18)

By 1913, the Trustees had preserved over 5000 acres on Mount Desert Island. However, the organization had its share of critics who argued against removing large tracts of land from the tax roles and possibly discouraging development and commerce. Given the Trustees political vulnerability, Dorr argued that to protect the lands for all time the Trustees should seek federal assistance. At the time, however, there were several bills stalled in Congress proposing establishment of national parks. Dorr asked President Wilson to instead make these lands part of a national monument, which did not require an act of Congress. After much lobbying and title searches, Sieur de Monts National Monument was authorized in July 8, 1916. At this time, the Trustee's reservation had grown to over 6000 acres protecting four lakes and ten mountains, with a contiguous boundary superimposed over a mosaic of donated lands with extant features. By October of that year, Dorr, as the monument's first superintendent,

reported that 105,255 tourists and 15,361 automobiles had visited the park. (CLR 2007:19)

The Role of Automobiles:
The fact that automobiles had entered Sieur de Monts National Monument was remarkable in itself because of the often contentious battle that had strained for the previous fifteen years the relationship between the year-round residents and the summer residents. The automobile question was essentially a referendum on road building on the island; the year-round residents saw the roads as a pipeline for economic opportunity, by accommodating tourists and summer residents, while the summer residents viewed the roads as a threat to the reasons they came here in the first place, which was the island's isolated natural beauty. "It is to escape the sights and sounds of the city that intelligent people come in summer to such a place as this rough and beautiful island," wrote Charles W. Eliot in 1904, "the short season populations do not wish to be reminded in summer of the scenes and noises amid which the greater part of their lives inevitably passes." (CLR 2007:19; from Goldstein 1992:181, as cited in HAER ME-11:12)

In 1903, the cottagers successfully lobbied the state legislators to give town voters the power to prohibit cars on the island. The cottagers won the vote to restrict cars from selected roads near Bar Harbor, and in 1909 were able to extend the ban throughout the island. Year-round residents protested on economic and democratic grounds. One accused the "city millionaires" of attempting by "every means in their power to make Bar Harbor a quiet, exclusive resort where their little clique can have full sway and where no state of Maine man is welcome." Dorr was able to promote a compromise lifting the vehicle prohibition in Bar Harbor, the economic hub of the island, but maintaining it in other exclusive towns. By 1913, however, automobiles were ubiquitous and the prohibition of cars had been lifted. (CLR 2007:19; from "Opponents of Automobile Bill…," 27 January 1909, as cited in HAER ME-11:13)

Rockefeller's Carriage Roads:
Having recently bought his 150-acre estate named "Eyrie," on Bar Hill near Seal Harbor, summer resident John D. Rockefeller, Jr. was troubled at the repeal of the automobile ban in 1913 and concerned that more cars would threaten the area's tranquility. Rockefeller shared his concerns about automobiles in 1915 when he donated money to the Trustees to complete the required title searches for the national monument. Writing to Charles W. Eliot: "Do you not feel that the establishment of this monument will bring an undesirable class of tourists to Bar Harbor in their automobiles who, if automobiles are admitted to the south side of the Island, will be a real nuisance to the residents there?" Rockefeller's opinion of modern conveniences apparently did not completely disappear, for forty years later, in 1955, he stated that he "would like to see Mount Desert Island invaded as little by modern standards of life as possible." According to historian Neil Maher, it was the presence of cars that inspired Rockefeller to begin construction carriage roads, first at Eyrie and then eventually on lands held by the Trustees or owned by the national monument. (CLR 2007:20; from Letter, J.D. Rockefeller, Jr. to Charles W. Eliot, 26 February 1915; and Letter, J.D. Rockefeller, Jr. to Charles K. Savage, 17 May 1955, both cited in HAER ME-11:15,17)

Rockefeller's keen interest in road building can be traced to his father and the carriage road system at Forest Hill, his childhood home in Cleveland. Rockefeller often performed some of

the maintenance on the roads, resurfacing, clearing brush, and planting trees. Later, at the family estate at Pocantico Hills north of New York City, he helped lay out the carriage roads along the contours of the land and sought out views that reflected what he thought were the best scenic highlights. Young Rockefeller was also influenced by family excursions to the recently completed Central Park in the 1870s. There, carriage paths designed by Frederick Law Olmsted and Calvert Vaux offered uninterrupted carriage riding thanks to the ban of omnibuses, hacks, and railroads from the drives and the diversion of city traffic to sunken roads cutting across the park. (CLR 2007:20)

The technical challenges of building carriage roads on Mount Desert Island were too great for Rockefeller to ignore. Sparing no expense, he enlisted the services of the best engineers, architects, and designers, many of whom worked with him at Pocantico Hills. Construction began in 1913, and in 1918 Rockefeller received approval to extend the carriage roads on to national monument lands. When building carriage roads on federal property, Rockefeller established a method of working designed to avoid controversy; he typically chose the route, provided funds for the engineering and construction, and prepared contract documents for Superintendent Dorr's signature. (CLR 2007:20-21)

Rockefeller's attention to detail resulted in carriage roads consistently excellent in Picturesque Style design and craftsmanship. State of the art construction techniques were used to build the roads with gentle curves and grades that fit the topography and which took advantage of the scenic views. For the park, distinctive features such as rustic stone-faced arched bridges, hand laid rock walls and embankments, large coping stones serving as guardwalls, and gatehouses designed in the French Norman Revival style ultimately had a profound effect on the design and character of future park developments. For the local economy, construction provided year-round work for a number of islanders through the Depression. When the last segment was completed in 1940, the carriage road system totaled fifty-seven miles in length. (CLR 2007:21)

PLANNING AND CONSTRUCTING THE HISTORIC MOTOR ROAD SYSTEM, 1922-1958 (PART 1)

Lafayette National Park, Initial Road Plans, and the Agreement with the Bureau of Public Roads:
Primarily because of George Dorr's dedication and tireless promotion, Sieur de Monts National Monument was later reauthorized as Lafayette National Park in 1919, so named to honor the island's colonial heritage. The park was the first national park east of Mississippi River and the only park in the country created solely from donations of private land. (CLR 2007:21)

In 1922 NPS Director Stephen Mather instructed Superintendent Dorr and all national park superintendents to prepare maps, estimates, and other data concerning proposed road projects. These were to be packaged and submitted to Congress as part of a general roads construction program in the national parks in hopes of bolstering chances of obtaining funds, which up to this time had been minimal. Finally, by 1924 Congress authorized $7,500,000 for road construction in the national parks. (CLR 2007:21-22)

Director Mather had long recognized that the "greatest flow of tourist gold" followed the routes of improved highways. However, to make certain the overall visual and ecological effect of road construction would be minimized and effectively harmonize with the natural environment, Mather required the development of design standards and arranged for careful construction supervision. Mather also worried that major road construction projects, made possible by the large appropriation, might cause unnecessary damage to scenery and that the varied skill levels of NPS engineers and different approaches to road building would hinder the agency's ability to manage such projects. (CLR 2007:22; from NPS, "1925 Annual Report," as cited in MPDF 2007:E75)

Mather's solution was to establish an interbureau agreement with Department of Agriculture's Bureau of Public Roads (BPR) in January 1926. Through this agreement, the BPR would undertake surveys, develop specifications, and supervise construction while NPS engineers and landscape architects would undertake the planning and review. This relationship ensured that the park surroundings were well preserved and the overall character of the new roads was compatible with the natural environment. However, a funded road project managed through this agreement would not arrive at Lafayette National Park until 1928. (CLR 2007:22-23)

Jordan Pond/Eagle Lake Road (constructed 1922-1927):
Fulfilling Director Mather's road project request of 1922, Superintendent Dorr drew up a plan for a motor road stretching from Eagle Lake Road (Route 233), alongside Eagle Lake and Jordan Pond, to the Jordan Pond Tea House, a popular island eatery since 1896. The "Mountain Road," as it became known, echoed a route proposed in 1888. According to Dorr, such a road was necessary "to enable our rangers to pass readily between the northern and southern sides of our mountain range, for wildlife and woods protection." The plan also called for a route to the top of Cadillac Mountain and a variety of trails. (CLR 2007:23; from Butcher, "Carriage Roads and Bridges…," as cited in HAER ME-11:20)

Predictably, Rockefeller took great interest in Dorr's idea, both from a road-building point of view but also as a way to counter his automobile nemesis. Ever since he began constructing carriage roads around the "Eyrie," motorists had attempted and had usually succeeded in driving on them. This practice only grew worse after he donated many of the carriage roads to the park. Rockefeller was also alarmed that motorists were pressuring park officials to officially open the carriage roads to cars. Motor roads, he thought, would keep the automobiles off his prized carriage roads. (CLR 2007:23)

Rockefeller and Dorr were well acquainted through the planning and construction of the carriage roads. The two men, along with Charles W. Eliot of the Trustees, agreed that automobiles were not a passing fashion and that their presence and access to park roads needed to be carefully controlled. While Rockefeller wished the motor roads to be as scenic as the carriage roads, he also desired them to be independent of the carriage roads through bridges, grade separations, and gatehouses so that the distinctiveness of both systems could be maintained, much like the circulation systems in New York City's Central Park. Wishing to see that if any road was to be built that it be done well, Rockefeller offered the services of Paul Simpson and Walters Hill, his carriage road engineering and surveying team. (CLR 2007:23)

In June 1922, Director Mather and Assistant Director Cammerer visited the park to discuss Dorr's plan. Cammerer's trip report noted the scenic qualities of the proposed motor roads, and focused on the desirability of having them in place as a barrier to wildfire as well as making the park's scenery accessible to the typical citizen. Both motor roads in Dorr's plan were approved, with Cammerer emphasizing that the plan should be kept confidential to avoid inflation of land values. Rockefeller had received a copy of the map of the proposed route, and as Dorr had expressed doubts that enough public funding would be approved, then composed a letter of financial commitment to the project. Thus, Rockefeller formally began his involvement with the creation of Acadia's historic motor road system and ultimately pledged $150,000 to compensate for insufficient funding from the federal government. (CLR 2007:24)

Construction of the first 4300-foot-long section of the Jordan Pond/Eagle Lake Road began in the fall of 1922, and was completed in September 1923. Starting at Eagle Lake Road (Route 233), the new motor road tracked west and uphill to the old Puffer farm, offering views of Eagle Lake and the Breakneck Ponds, and ended at the future intersection with Cadillac Mountain Road. The gravel-surfaced motor road was 18 feet wide and featured 2-foot wide vegetated shoulders. The average grade was 4.4 percent with a maximum of 6 percent. (CLR 2007:24-25)

Even before this first section of the motor road was finished, opposition surfaced from summer residents on Mount Desert Island, led by Pennsylvania Senator, and Northeast Harbor resident, George Wharton Pepper. In January 1924, Pepper voiced his concerns to Secretary of the Interior Hubert Work, convincing him to issue a temporary injunction halting construction, pending a public hearing that was scheduled for March 26, 1924. In the interim other summer residents spoke out against the two motor roads. By far the most common concern was the perceived threat to the wilderness quality of the backcountry regions through which the motor roads would travel. Pepper inveighed that the proposed Jordan Pond/Eagle Lake Road was "a rich man's folly" and that it "destroys the wilderness for pedestrians and campers without benefiting the mass of people in autos." (CLR 2007:25; from Allen, "Scarring Mount Desert," as cited in HAER ME-11:22)

At the hearing in Washington D.C., Rockefeller and Dorr rallied enough support to lift the injunction. This was mainly due to the broad support of the year-round residents, the Maine congressional delegation, and through personal testimonies and written letters from influential road proponents such as Charles W. Eliot. The hearing did, however, seem to heighten the concern for the motor road's impact on the wilderness quality of the area. When construction of the next section of the motor road was authorized on July 25, 1924, Secretary Work instructed Superintendent Dorr to minimize construction scars. Later that summer, Secretary Work accompanied by Director Mather, visited the site of the controversy himself. Both were impressed by the project and its minimal marring to the landscape, and praised it as a benchmark for quality in the NPS. (CLR 2007:25-26)

The remaining sections of the Jordan Pond/Eagle Lake Road were completed by 1927 and were designed with the same cross-section as the first section (Figure 1). In 1928, the entire

motor road was paved with bituminous macadam, an early term for surface treatments utilizing asphalt rather than clay to bind together the final aggregate layer of the road. The final seal coat of the surface was topped with native pink granite from a quarry near Bubble Pond, giving the road the same color as the surrounding outcroppings. Drainage systems included stone headwalls, stone box culverts, and corrugated metal pipes. Guardwalls were made of large granite boulders like those used on the carriage roads, and were approximately 3.5 feet high and evenly spaced no more than 4 feet apart. The speed limit was posted at 18mph, with the road being closed from 9pm to 7am. (CLR 2007:26)

In subsequent years, as other motor roads were built in the park, improvements to the Jordan Pond/Eagle Lake Road were proposed. Project drawings from 1935 indicated a proposed widened traveled way for the entire length of the motor road – from 18 to 22 feet with 2-foot shoulders in cut sections and 1-foot shoulders in fill sections – and the widening and superelevation of the road curves and the addition of spiral transitions. A realignment of the broad S-curve near the Jordan Pond House was also proposed, moving the motor road away from the building and across a plowed field and requiring the removal of a nearby stable building and several outbuildings. Perhaps the most interesting feature on the 1935 plans for reconstruction of the road, though, was a 350-foot grade separation feature located where the road made its closest track to Jordan Pond. This feature may have corresponded to a rock slide area mentioned by Cammerer in his 1922 inspection report. It is not known if the structure was ever constructed. By 1940, the original pavement surface had deteriorated badly and was repaved. In 1956-1957, the centerline of the motor road at the Cadillac Mountain Road intersection was shifted 70 feet to the west in order to create a larger level area for a more generous intersection between the two motor roads. This redesign broadened the curve of the motor road and added medians and turning lanes as well as new sections of guardwall and mortared rubble waterways. It also transformed the triangular-shaped median at the base of Cadillac Mountain Road to a narrow, rectangular-shaped median. This project also involved overlaying the motor road with a modern plant-mixed, hot-asphalt bituminous concrete surface treatment and reconditioning some of the shoulders with a 1/3 topsoil to 2/3 gravel mixture. (CLR 2007:26-27)

NPS Rustic Design and the 1927 Park Master Plan:
By the end of the 1920s, planning, design, and construction of park facilities throughout the NPS became increasingly standardized. Projects were characterized by the emerging NPS Rustic Design style, which derived from the Picturesque Style in landscape design, the “wilderness” qualities of the early parks, and the Prairie Style emphasis on native plants. Features constructed in NPS Rustic Design utilized labor-intensive methods to create a rugged and frontier-like quality appropriate to a wilderness setting. General standards were developed, but they allowed flexibility so that features could be customized with local materials such as stone or timber to fit the setting. (CLR 2007:26-27)

Lafayette National Park was unique because it was located adjacent to communities with an established infrastructure and summer tourism industry, and its development and boundaries had been mostly shaped by private interests. Park projects were guided by the Picturesque Style traditions already established, and this was continued through the use of the NPS Rustic Design

style. The park's first master plan, completed in 1927, reflected this complex relationship. In addressing increasing visitation, which was 70,000 a year in mid-1920s, the master plan proposed a general development scheme that included the "essential extensions of the park, plans for roads and trails, utility sites, and other developments," illustrating that present and future construction projects were part of an overall plan. (CLR 2007:27)

The 1927 master plan supported the nearly completed Jordan Pond/Eagle Lake Road along with the recently approved Cadillac Mountain Road project. Chief NPS Landscape Engineer Thomas Vint and Assistant Director Cammerer reviewed and approved the plan, and in a memorandum to Secretary Work remarked that normal objections to road construction in wilderness areas did not apply to Lafayette National Park because the Mount Desert Island landscape had existing wagon roads and had been logged for years. The memorandum went on to state that roads in national parks provided access to areas that would otherwise be unreachable except by "the most strenuous of exertions" and that roads could serve a public that by and large "…(did) not desire walking trips over rugged territory or strenuous climb." (CLR 2007:27-28; from Cammerer and Vint, "Memorandum on a Development Plan…," as cited in MPDF 2007:E31,63)

Not surprisingly, proposals made in the 1927master plan met some resistance. Earlier, in 1926, a group of summer residents, still stung by their defeat in the 1924 hearings, hired Charles Eliot II to work on an alternative park development plan Eliot was a summer resident on Mount Desert Island and a the nephew of Trustees founder Charles W. Eliot. The plan, "The Future of Mount Desert Island," was published in 1928, and proposed doubling the acreage proposed in the master plan and establishing ten "wilderness zones" that would be separate from developed areas. Eliot wrote, "the introduction of large scale man made objects such as buildings, roads, etc., should be avoided as far as possible." As for the motor roads, he felt the existing system, including the proposed Cadillac Mountain Road, was sufficient and that the best way to take in the scenery was by walking on the trails and footpaths. The park did not adopt Eliot's plan. (CLR 2007:28; from Eliot, "The Future of Mount Desert Island," as cited in HAER ME-11:24).

The 1927 master plan ultimately served as the foundation for many of the projects completed from 1928-1940. In 1929, Lafayette National Park was renamed Acadia National Park. The legislation authorized the expansion of park acreage through donations but gave no power to purchase additional lands. It was through this legislation that the park acquired lands on the Schoodic Peninsula, which had been previously held in reserve by the Hancock County Trustees for Public Reservations. (CLR 2007:28)

Ocean Drive: Thunder Hole Demonstration Segment (constructed 1929):
By the summer of 1929, with his interest in motor roads in Acadia National Park growing, Rockefeller directed his engineers and construction crews to reconstruct a 500-foot section of Ocean Drive at Thunder Hole, the old scenic road built by the Town of Bar Harbor in the 1890s (Figure 2). Rockefeller, making use of his experience with and pleasure in road construction, completed this work as an example of what the whole of Ocean Drive could become. The completed road was 24 feet wide with 2-foot shoulders so that parking could be accommodated along the west side. The motor road featured rubble-lined ditches, drainage by

stone drop inlets and reinforced concrete pipes with stone headwalls, and used the same type of guardwall stones as those used on Jordan Pond/Eagle Lake Road. There was also a 4-foot wide shore path on the ocean side, paralleling the motor road, allowing townspeople and visitors to observe the demonstration section and the ocean views. (CLR 2007:28)

Cadillac Mountain Road (constructed 1928-1931):
Both the preliminary road proposals submitted by Superintendent Dorr to Director Mather in 1922 and the 1927 park master plan advocated for a motor road leading to the summit of Cadillac Mountain. By the early 1920s, the existing road to the summit was severely deteriorated, prompting Maine Congressman John A. Peters to write Director Mather in support of a new road designed for automobiles. In his June 1922 inspection report, Assistant Director Cammerer successfully urged Mather to support the road, and spoke eloquently of the project:
"…anyone who has climbed any one of the major mountain masses will come to the sure conviction that a road for motorists should lead to the top of at least one of the mountains so that those who cannot climb may get an opportunity to receive the inspiration and feel the exaltation of spirit that come with an hour spent on the breeze-swept hills with their superb views over sea and island, losing themselves in the far distance. If the good motor road to the top of Cadillac Mountain is not provided on this plan, it will inevitably come through popular insistence in the future…" (CLR 2007:29; from Cammerer, "Report of Inspection Trip…," as cited in HAER ME-58:8-9)

Sometime around the completion of the first section of Jordan Pond/Eagle Lake Road in 1923 and the hearings of 1924, preliminary grading for Cadillac Mountain Road was begun by NPS crews. By 1928, though, they had only advanced to the top of the White Cap, a prominent outcrop on the northwest side of the Cadillac Mountain. Cammerer and Chief Landscape Engineer Vint felt that the NPS should develop the plans and specifications for the remainder of the motor road. Mather, perhaps noting the slow progress, decided that the BPR, per the 1926 agreement, should carry out this work as well as the actual construction. (CLR 2007:29)

In 1928, the BPR surveyed an improved alignment for the road. The original grading work up to the White Cap was retained as much as possible, and from the White Cap to the summit new alignments were surveyed. Some of the embankments had to be hand laid using a derrick because the rocks would not stay in place on some of the steeper slopes. Drilling in the rock was also a challenge, and the BPR had to consult with experts to advise on a strategy. In blasted areas where excess material was produced, the fill sections were widened to create a pullout. Drainage features included stone box culverts and reinforced concrete pipes, with some of the stone box culverts from the original NPS section retained. Grades were consistent with the BPR standards for road construction in the national parks, and to accommodate the limitations of early twentieth century automobiles, the grades did not exceed seven percent. For economy of construction, there were no level sections to increase the length and cost of the road. Instead, the motor road was designed to climb continuously all the way to the summit through a series of curves. The road curvature was laid out with spiral transitions and superelevations, an adaptation of railroad industry techniques resulting in a smoother and more fluid transition between tangents and curves. The typical cross-section for this project was 25

feet wide featuring an 18-foot traveled way, 2-foot shoulders in cut, and 3-foot shoulders in fill. Project management was provided by a BPR engineer named Leo Grossman, who's "Final Construction Reports" provide many of the details on this and other segments in the motor road system. (CLR 2007:29-30)

Road surfacing on Cadillac Mountain Road was completed in October 1931, at which point automobiles were allowed access during daylight hours. On opening day, more than 3000 visitors in 800 cars made the trip. The motor road was praised as both an excellent example of outstanding road construction in mountainous terrain and the use of the new NPS Rustic Design style. The top layer of the bituminous macadam surface featured a pink aggregate blasted from a 50-foot cut two-thirds of the way up the mountain, helping the motor road to blend in with the surrounding landscape (Figures 3-4). Like Jordan Pond/Eagle Lake Road, Cadillac Mountain Road featured boulder guardwalls. According to Grossman, "As wooden or steel cable guide rail did not seem to be appropriate for this type of road, it was specified that selected boulders should be taken from the excavation…" (CLR 2007:30-31; from "Final Construction Report, Project 1A" and "3000 Visitors to Cadillac Sunday," 14 October 1931, both cited in HAER ME-58:18)

Although the motor road was open in late 1931, the roadside cleanup had not yet been completed. A month earlier, Assistant NPS Landscape Architect Charles E. Peterson inspected the motor road and criticized the contractor's poor cleanup, the large amount of blasting debris along the roadside, and inadequate parking provided at the summit that at the time consisted of only a widened pullout just prior to the terminal loop. One of the worst areas of construction debris was found inside this loop, and Peterson felt a large parking area here would limit landscape impacts and concentrate the damage. He also recommended a system of trails to connect the parking lot with view points and the construction of a teahouse. In the fall of 1932, Peterson's recommendations for a larger parking area and trails at the summit were begun. (CLR 2007:31)

In 1956-1957, a project was undertaken to address repairs and modifications to the parking lot pavement, stone curbs, catch basins, and sidewalks at the summit. This project also included the reconfiguration of the entrance to the motor road, at the intersection with Jordan Pond/Eagle Lake Road as discussed earlier. This project also involved repaving and shoulder work. (CLR 2007:31)

A Comprehensive Motor Road System:
In the summer of 1929, with the Ocean Drive Demonstration Section complete, construction of Cadillac Mountain Road underway, and the Jordan Pond/Eagle Lake Road almost two years old, Rockefeller became a proponent of automobiles in the park. His earlier idea of a limited number of motor roads separate from his carriage roads expanded into a much larger system of scenic roadways taking motorists from the mountaintops to the coasts. In order to control how his vision might be realized, Rockefeller proposed that he assume the costs associated with its construction. His change of heart toward automobiles may have come in light of the good effect of his sponsorship of roadside improvements and landscaping in Yellowstone National Park. (CLR 2007:32)

In August 1929, Rockefeller hired the Kidde Construction Company of New York City as a consultant, a company he had worked with at his Pocantico Hills estate in the Hudson Valley, to study the possible routes for the motor road system he had in mind. Rockefeller also brought in the expertise of the Olmsted Brothers, the landscape architectural firm based in Brookline, Massachusetts. The Olmsted firm's services were initially solicited to settle a dispute between Superintendent Dorr and Rockefeller about the location of a motor road and entrance road in the vicinity of the Sieur de Monts Spring area, which was the original core of the park. Most of the features here had been developed by Dorr, including the Springhouse, Abbe Museum, and the Wild Gardens of Acadia. To the north was the Great Meadow and to the south was the Tarn, a former wetland area dammed into a small lake and bounded by hiking trails. (CLR 2007:32-33)

To connect Jordan Pond/Eagle Lake Road with the ocean views on the eastern shore of the island, Rockefeller felt the most scenic route was to traverse the north side of Kebo Mountain, hug the eastern base of Dorr Mountain along Hemlock Road, continue behind or west of Sieur de Monts Spring, and then proceed down the west side of the Tarn. Dorr felt the motor road should come down off Kebo Mountain, avoid Hemlock Road and instead pass through Great Meadow and in front of or east of the spring, and then continue down the east side of the Tarn. From the Tarn, both agreed, the route should then head south down the valley until turning east near Gorham Mountain and the Beehive saddle to join Ocean Drive. As both men owned parcels over which either route would pass, Rockefeller wrote, "Neither of us can develop our ideas most fully or most satisfactorily without the complete cooperation of the other." (CLR 2007:33; from Letter, J.D. Rockefeller, Jr. to Henry Hubbard, 19 September 1929, as cited in HAER ME-11:27)

Dorr and Rockefeller agreed to consult with the Olmsted firm regarding the matter, with Dorr's preferred route eventually getting the nod. In July 1930, in collaboration with engineers Hill and Simpson and the Kidde Construction Company, Frederick Law Olmsted, Jr. prepared a lengthy report to sum up the conclusions of the firm's planning effort for a 14-mile circuit route. Beginning at Jordan Pond/Eagle Lake Road, five specific sections headed along the north slope of Kebo Mountain, along the Great Meadow, through the Tarn valley and the east slope of Gorham Mountain, along Ocean Drive, and to Otter Cliffs. Olmsted's report also alluded to another motor road segment, from the Otter Cliffs section through the Blackwoods area and then continuing through to Hunter's Beach and connecting with Route 3, which would also be designed to meet the guidelines within the report. Design standards included a standard pavement width of 18 feet with widening at the curves, 2-foot vegetated shoulders, a maximum 200-foot radius at curves, and a maximum gradient of 7 percent. (CLR 2007:34)

Anticipating controversy, Olmsted noted that while the construction of the motor roads would require some alterations to the scenery, they would nonetheless allow countless people to enjoy the park's scenery, more so than any other means. It was around this time that Charles Eliot II had revoiced opposition to expanding the motor road system beyond its present form and advocated the use of existing public roads to complete the circuit. However, Olmsted argued that such local roads would seriously interrupt the continuity of the experiencing the natural

scenery, especially around Bar Harbor. (CLR 2007:35)

Olmsted's report included a plan, and both were sent to the park office in Bar Harbor to be posted for public comment. Rockefeller had already made a $4 million offer to the federal government to fund this immense project, which not surprisingly received a favorable response from the NPS, and in September 1930 his offer was reported in the local and national media. The headlines, however, caught the residents of Mount Desert Island off guard and once again a cloud of controversy gathered over Rockefeller and his roads. Many residents were angry, especially some of the summer residents who felt that a motor road through the Tarn valley would destroy one of the last vestiges of wilderness on the east side of Mount Desert Island. Within the week of the news release, editorials filled local papers, and letters were sent to not only to Rockefeller but also to the Secretary of Interior, Ray Wilbur, insisting that he refuse Rockefeller's offer. Olmsted and Dorr were also criticized for not sharing the plan with the public sooner. Others went even further, such as Mr. Potter Palmer who owned land along the proposed route and simply refused to sell it for the project. Rockefeller took the attacks seriously and personally, and in a letter to NPS Director Albright dated January 19, 1931, decided to withdraw his generous offer, which was as big a news story as his initial offer. In a letter to the communities of Mount Desert Island he wrote, "I have no desire to be put in the position of forcing on upon even a small minority of the people who frequent Mount Desert Island something they do not want." (CLR 2007:35-37; from "Rockefeller Moves to Withdrawal Offer…," 28 January 1931, as cited in HAER ME-11:29-30)

The effect of Rockefeller's withdrawal was to once again pit the wealthy summer residents against the year-round residents, and essentially the wilderness preservation philosophy against local economic interests. The response from the summer residents was to organize a committee to sort out the apprehension and controversy, but this committee eventually split into two factions. The response from the year-round residents was much more dramatic and was lead by the Bar Harbor Board of Trade, which recognized the important economic link between the town economy and the tourist dollars the proposed motor roads would bring. Organizing a "Citizens Committee," the Board determined that a majority of year-round residents supported Rockefeller's plan and encouraged the submittal of letters of support to politicians and the press. (CLR 2007:38-39)

Meanwhile, the Town of Bar Harbor, in spite of the Rockefeller's withdrawal of the offer, voted to abandon their ownership interest in Ocean Drive in March 1931 as part of the precondition to the commencement of Rockefeller's road program. Going one step further, town officials passed a resolution appealing to Rockefeller that he reconsider his withdrawal. Similar appeals were also tendered by the NPS, and in May 1931 Rockefeller agreed to let his request for release from the motor road project to "lie on the table" for the period of one year. This decision was made concurrently with the completion of the Kidde Construction Company's motor road construction drawings commissioned earlier by Rockefeller for the road proposal (Figure 5). (CLR 2007:39)

While Rockefeller's offer lay "on the table" from mid-1931 to 1932, the leadership of the Department of the Interior advanced several projects that would enable Acadia's road program

to be resumed. One of the most complicated involved the removal of the Otter Cliff Naval Radio Station. The station was originally built in 1917 by Alessandro Fabbri and acquired by the Navy in 1919, but by 1930 many of the structures were in disrepair. The radio station site was critical because it was in the direct path of Rockefeller's proposed motor road, and the donation of several thousand more acres to the park by Rockefeller was contingent upon its removal. The effort of relocating a military facility required a great amount of lobbying and political deal-making on the part of Rockefeller. That fall, two possible locations on Mount Desert Island, at Gorham Mountain and Bass Harbor, were rejected in favor of a site on the Schoodic Peninsula. The Navy eventually agreed to move the facility to Schoodic pending construction of an access road in 1933 and new buildings in 1934. (CLR 2007:39-40)

Rockefeller used the one year hiatus to continue to work on motor road projects outside of the park, closer to the "Eyrie." In June 1932, Rockefeller once again contacted the Olmsted firm seeking advice on a motor road he was planning for the Stanley Brook valley. He also sought out the Olmsted firm's services for the reconstruction of Ocean Drive, with the assistance of his engineers Hill and Simpson. Around this time, the Cadillac Mountain Road was formally dedicated. (CLR 2007:40)

Perhaps one of the biggest changes to Rockefeller's proposed motor road system came about in early 1933 when Hill and Simpson had been conducting a preliminary survey of a possible route around the north end of Champlain Mountain. This route was preferable to the controversial route through the Tarn valley and over Gorham Mountain because it was shorter in length and less expensive. Rockefeller had avoided it until this time because he thought it impossible to obtain land for the alignment from the wealthy summer residents along Schooner Head Road. Also around this time, with the Hoover administration about to end, Rockefeller drafted a letter that formalized the relationship between the Department of the Interior and himself in regard to the Acadia National Park road building project. The government's acceptance of this letter effectively took the massive road program "off the table" and allowed construction to proceed. (CLR 2007:41)

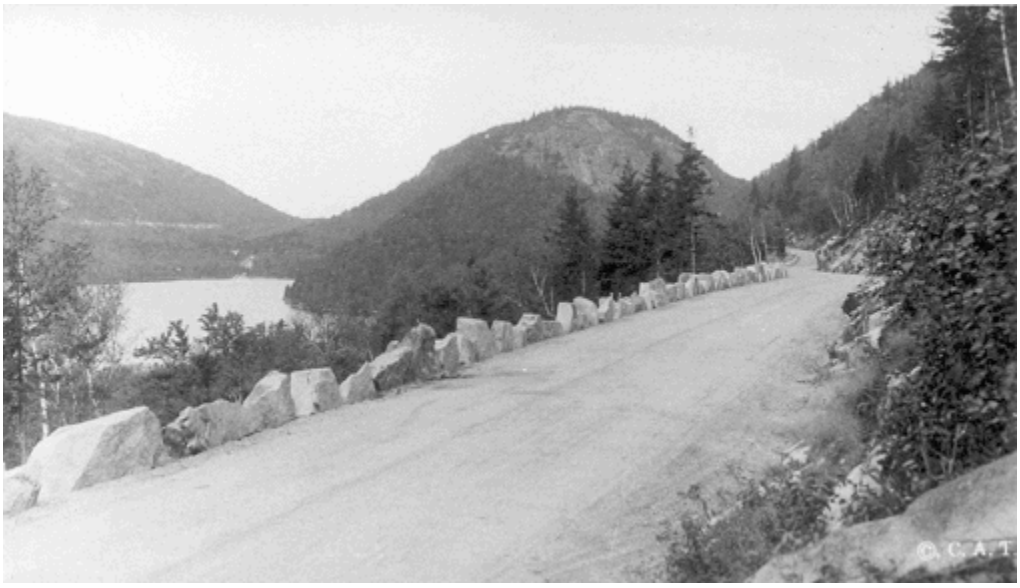


Figure 1. View from Jordan Pond/Eagle Lake Road, looking north at Jordan Pond, with Bubble Rock in the distance. (Acadia National Park archives)

Figure 2. Ocean Drive, circa 1928, view looking south. (Charles Eliot II. The Future of Mount Desert Island. Bar Harbor, Maine: Bar Harbor Village Improvement Association, 1928)

Figure 3. View of the rock cut on Cadillac Mountain Road from 1929. (Acadia National Park archives)

Figure 4. Later view of the rock cut on Cadillac Mountain Road from 12 September 1931. (Courtesy Leo Grossman Personal Collection, #66-6)

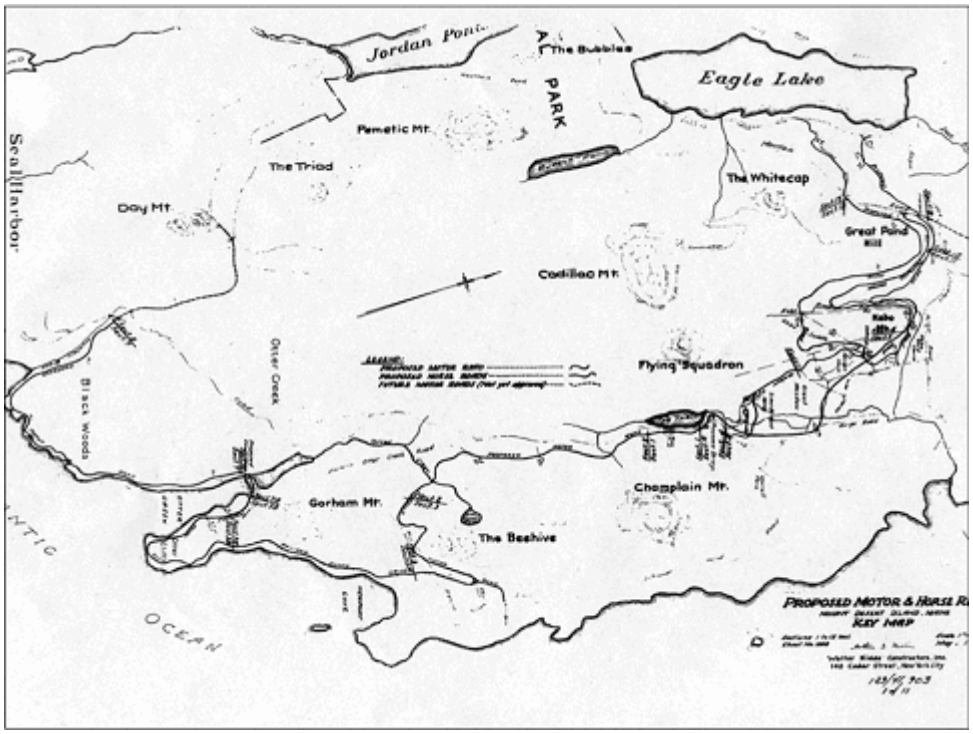


Figure 5. Key map of Rockefeller's motor road proposal by the Kidde Construction Company, 1931. (National Park Service, Denver Service Center Microfilm Collection)

PLANNING AND CONSTRUCTING THE HISTORIC MOTOR ROAD SYSTEM, 1922-1958 (PART 2)

The New Deal and the Civilian Conservation Corps:
The year 1933 ultimately became a watershed year for Acadia's motor road program. By this time, all approvals necessary to begin Rockefeller's plan, meeting with so much controversy in 1930, had been secured. As much as anything else, the deepening Great Depression had eliminated the vocal opposition to Rockefeller's multi-million dollar building project. In its worst period, the Depression left fifteen million people out of work, and economies based on tourism, like those at Mount Desert Island, were hit hard as Americans simply went without vacations and eliminated leisure time expenses. Rockefeller's own great fortune was also greatly reduced, but he continued to sponsor many charitable causes, which because of the Depression needed his good works more than ever. Nevertheless, Rockefeller became less enthusiastic about being sole benefactor of Acadia's motor road project. (CLR 2007:42)

During 1933, the Roosevelt administration's "New Deal" make-work programs were passed into law as an effort to stop the downward spiral of the nation's economy. The New Deal provided money and labor to the NPS, mostly through the Public Works Administration and the Emergency Conservation Works Act. Some motor road construction at Acadia was accomplished under contract primarily from and making use of Emergency Conservation Work funds. The Civilian Conservation Corps (CCC), which performed "Emergency Conservation

Work," had two camps in the park. From 1933-1941, Camp NP-1 at McFarland Hill was involved in trail and landscaping work and fabricated many of the site details for the motor roads such as granite curbs, wood gates and fences, and signs. Camp SP-1, based out of Ellsworth, worked on the construction of the new naval station, park road, and developed areas on the Schoodic Peninsula from 1933-1937. (CLR 2007:42)

Ocean Drive: Thunder Hole to Otter Cliffs, Thunder Hole to Sand Beach (constructed 1933-1934):
The next segment of Ocean Drive to be reconstructed was a 2300-foot section running south from the Thunder Hole Demonstration Section to the surveyed line for the Otter Cliffs segment. This section was completed by August 1933. Work then began on the segment of Ocean Drive extending north from Thunder Hole to Sand Beach and the neighboring Satterlee property at Great Head, which was completed in August 1934 (Figure 6). (CLR 2007:43)

For both of these segments, Olmsted took care in his correspondence with Rockefeller and Hill to avoid what he perceived as errors in the Thunder Hole Demonstration Segment, which in a report from July 1930 he described as being too wide. Instead, he proposed an 18' traveled way with 2' shoulders and widenings to 20-24' at some of the tighter curves. Rockefeller was of course interested in these and every detail of the Ocean Drive construction. Olmsted advised Rockefeller on the layout of Thunder Hole's "pedestrian concourse" and on minor changes to the sidewalk curbing next to the old parapet at Thunder Hole. Rockefeller also reiterated his desire not to provide parking spaces along the edge of the road and instead provide designated parking areas off the road: "Even if parking along the road does not block the road, it so seriously detracts from the beauty of the ocean view that it seems to me greatly to be deplored…" In March 1934, bituminous surface treatment was applied on the five parking lots designed to offer an alternative to roadside parking alongside Ocean Drive. A sixth parking lot at Sand Beach was created out of the old roadbed of the 1890s Ocean Drive. (CLR 2007:44, citing Letter, J.D. Rockefeller, Jr. to Walters Hill, 26 June 1933)

Aware of the opportunity that the CCC presented to the development of the motor road system, Rockefeller and Superintendent Dorr took steps to obtain the greatest benefit from their availability. The CCC was directed to rebuild and improve the Ocean Drive footpath system, a 4-foot wide trail paralleling the motor road from Sand Beach to Otter Point. The trail and motor road projects were proceeding simultaneously, and the two sets of workers shared construction materials, with excess debris from the road used on the trail. Initially, the quality of the work on the trail had some shortcomings until supervision was taken over by a talented young landscape architect named Benjamin Breeze. The CCC also built granite curbs in the parking lots, erected protective safety railings around Thunder Hole, and undertook several revegetation projects to hide construction scars. By late July 1934, the reconstruction work along Ocean Drive was largely complete. A ranger station was built at Thunder Hole and the roadsides were seeded with a mixture of bentgrass and hard fesque. The curvilinear alignment along the shoreline, the use of native stone in the guardwalls and culvert headwalls, and the abundant sweeping vistas were all representative of the Picturesque Style. Ocean Drive also represented the first completed section of Rockefeller's comprehensive yet controversial motor road system. (CLR 2007:44-45)

In 1953-1955, a large terraced parking lot was constructed at Sand Beach, north of the existing parking lot. This parking area had its own entrance off the motor road featuring concrete curbs, stone steps, dry rubble masonry retaining walls, rock paved gutters, bituminous sidewalks, and split stone guardrails. The parking lot was paved with a modern plant-mixed, hot-asphalt bituminous concrete surface, as was the entire stretch of Ocean Drive segment. The motor road paving project also included reconditioning some of the shoulders with a mixture of 1/3 topsoil to 2/3 gravel. (CLR 2007:46)

Schoodic Loop Road and Schoodic Point Road (constructed 1933-1935):
Concurrent with the Ocean Drive reconstruction project, new motor roads were built on the Schoodic Peninsula. Conservation efforts by local citizens and the Trustees successfully transferred the lands once owned by John Godfrey Moore to Acadia National Park in 1929. However, few improvements were planned there until late 1932 when the Navy agreed to relocate the naval radio station from Otter Cliff on Mount Desert Island to Big Moose Island on the peninsula. One of the first stipulations for the move was to construct a suitable access road from Winter Harbor to Big Moose Island, which commenced in 1932. (CLR 2007:46-47)

The first section of what would become the Schoodic Loop Road, from the north side of Frazer Creek to Big Moose Island, was completed in November 1933 and incorporated many parts of the old Moore Road that tracked along the peninsula's western shoreline. Historically called Moore Road or Winter Road, the 22-foot cross-section was designed with a 16-foot traveled way, 2-foot shoulders in cut, and 3-foot shoulders in fill, but a year later was repaved and the traveled way increased in width to 18 feet, narrowing each shoulder by a foot. The road also featured widened and superelevated curves with spiral transition sections. Project drawings from 1933 show the motor road ending as a curved driveway on the east side of the Big Moose Island, presumably at the entrance to the proposed naval radio station. However, drawings from 1934 eliminated this driveway and extended the motor road to an entrance on the south side of the island. At Frazer Creek, project drawings showed a new route alongside an existing timber bridge, and indicated that a much shorter timber bridge within a long causeway was constructed. Later drawings from 1948 and 1957 showed a concrete box culvert with masonry stone abutments and a causeway clad in rip rap and stone guardwalls along both sides of the road, suggesting that the proposed bridge and causeway may not have been constructed until well after the motor road was first constructed. (CLR 2007:47)

The reconstruction of the Moore Road/Winter Road section, along with the 1934 completion of an approach road from the Town of Winter Harbor to Frazer Creek, satisfied the Navy's required access route from Winter Harbor to Big Moose Island and permitted them to begin construction of the new radio facility. Earlier park planning efforts had envisioned the motor road extending beyond Big Moose Island only if land to the north (up to Wonsqueak Harbor) became available. By 1934, these land acquisitions had apparently taken place and the park began planning the road extension as the unifying element to providing public access to facilities and scenic views on the peninsula. This second section of the future Schoodic Loop Road, from Big Moose Island to Wonsqueak Harbor, was also known as Wonsqueak Road, or Summer Road, and followed portions of an old road bed along the eastern peninsula shoreline

(Figures 7-8). Like the first section, it was designed with spiral transitions and widened and superelevated curves, but featured a wider cross-section of 26 feet, an 18-foot traveled way, 2-foot shoulders in cut, and 4-foot shoulders in fill. It was completed in early 1935. At the northeast boundary of the park, the proposed route required the removal of several fish shacks and outbuildings and the construction of several service roads to access private in-holdings at the interior of the peninsula. Blueberry Hill, a popular trailhead during Moore's time prior to construction of the motor road, was formalized with an entrance road and a small parking area. (CLR 2007:47-48)

The motor road now known as Schoodic Point Road, on Big Moose Island, was also completed in 1935, the same year that the naval station was opened. The 26-acre military complex featured a variety of buildings linked by a network of service roads connecting to the motor road. The most notable feature at this facility was a two-story apartment building, sharing design characteristics with the two carriage road gatehouses on Mount Desert Island. Schoodic Point Road featured superelevated curves and spiral transitions and cross-sections ranging from 22-24 feet with an 18-foot traveled way, 1-2-foot shoulders in cut and 2-3-foot shoulders in fill. It terminated as a large NPS-designed paved parking area with three levels separated by stone steps and boulder embankments that allowed for panoramic views. In 1936 or early 1937, a commemorative plaque acknowledging John Godfrey Moore's contributions was erected near one of the steps. In 1940, the Works Progress Administration constructed a restroom and pumphouse near the parking area. (CLR 2007:48-49)

Like Cadillac Mountain Road, the motor roads on Schoodic Peninsula were built cooperatively through the interbureau agreement with the BPR, with Leo Grossman supervising. Hill and Simpson, Rockefeller's engineers, provided construction consultation and regular updates. The motor roads on Schoodic Peninsula were not articulated as part of Rockefeller's comprehensive motor road system, and consequently there was no direct design input from Rockefeller or the Olmsted firm on these projects. Nevertheless, the motor roads featured the same NPS Rustic Design characteristics as Cadillac Mountain Road. The curvilinear alignments traced the general shape of the shoreline, and local stone materials were used on culvert headwalls, angular-shaped stone guardwalls, and hand laid rock embankments, all of which blended in with the exposed granite outcrops and cobble beaches. Vistas were plentiful, and small pullouts, likely vestiges of Moore's roads, as well as the more developed parking areas, were designed to take advantage of the excellent ocean views. CCC crews, supervised by Benjamin Breeze, contributed to the construction of culverts and headwalls, roadside cleanup, surveying, fire hazard reduction, maintenance, and landscaping through 1937. (CLR 2007:48-49)

Stanley Brook Road and Otter Cliffs Road (constructed 1934-1936):
Before the work was complete on the reconstruction of Ocean Drive, and concurrent with the park motor road projects on the Schoodic Peninsula, work was underway in June 1934 on clearing and grubbing out a line for Stanley Brook Road, on land owned by Rockefeller. Rockefeller felt this road, which would connect to Jordan Pond/Eagle Lake Road, would make for an excellent entrance to the park from the south. The design process for Stanley Brook Road had begun earlier through consultations with the Olmsted firm while Rockefeller's road

program offer lay on the table. Olmsted made several site visits to consult with Rockefeller's engineer Paul Simpson on the alignment, and offered recommendations on ways to reduce the size of the road prism, or graded area, to minimize landscape damage in this narrow valley. In subsequent site visits, the alignment of the road was adjusted in certain locations to preserve large specimen trees. As to the multiple bridges for the proposed Stanley Brook Road, Olmsted decided on a "very simple and unpretentious granite-lintel bridge or culvert, not very different in appearance from 'indigenous' structures of this sort to be found on many of the old roads of Mount Desert." This resulted in low bridges with wooden guardrails supported by granite posts that blended in perfectly in both design and scale with the surrounding landscape. Olmsted also proposed experimentation with wheel guides along the edge of the road to contain the road in a type of channel, but this idea was abandoned because the sloped-faced wheel guides had the disconcerting tendency to allow an auto to ride up onto and over them, leaving the vehicle stuck straddling the wheel guide. (CLR 2007:49-52, citing Intra-Office Trip Report, 21-26 May 1933)

In April 1936, Stanley Brook Road was complete except for some final planting details, and soon thereafter Rockefeller deeded the property to the federal government. The design of the road was a classic example of the Picturesque Style, with features blending in with the surrounding landscape and yet uniquely adapted to fit the local site conditions. Features included six low bridges across Stanley Brook and retaining walls built with rounded stones rather than angular stones used on the other motor roads in the park. Another unique feature was the triple-arched bridge designed by Charles Stoughton in 1933 to carry the Barr Hill-Day Mountain Carriage Road over the motor road, Stanley Brook, and a trail. (CLR 2007:52)

The survey for Otter Cliffs Road was completed in 1930, around the time of Olmsted's original report on the proposed motor road system. It began at the southern end of the reconstructed Ocean Drive, traced the shoreline of Otter Point, and ended as a turnaround loop at the former naval radio station. There was also a connection with Otter Cliff Road. As had been the case with Stanley Brook Road, the Olmsted firm had a major role in the design of this motor road, which resulted in similar Picturesque Style effects. At Otter Cliffs, considerable analysis was undertaken to ensure that the motor road harmonized with the existing landscape and that important views were preserved. At the summit of the cliffs, where the topography was particularly challenging, Olmsted designed a grade separation feature where the two lanes of traffic were separated by a change in elevation and retaining walls. Incorporated into this structure was a lower third level accommodating the rebuilt Ocean Path (Figure 9). This remarkable design prevented the construction of a single massive retaining wall and at the same time allowed for spectacular views uninterrupted by other automobiles. Viewed from water, the structure looked as if it was part of the granite bedrock outcroppings. Sited above and tucked behind the grade separation and rock outcrops was a parking area. (CLR 2007:52-53)

Another pullout/parking area was located at Otter Point. Here, the alignment was revised to track closer to the water to take in the view toward Otter Cove and the long north view to the summits of Cadillac Mountain, Day Mountain, and the glacial gorge between the summits. The revised alignment passed over the foundation of the former naval radio station building, which the Navy finally abandoned in 1935 when it formally opened the new facility at Schoodic Peninsula. Its removal made possible the earlier agreed upon donation of several thousand

acres to the park. In a letter to Secretary of the Interior Harold Ickes, Rockefeller stated his willingness to deed these lands to the park:
"The lands I am now prepared to give total 3,835 acres and cost me over $600,000. For their development with roads and the usual other improvements I have already spent at least $500,000. In addition, I have spent for roads built on Park lands roughly $2,000,000. My total expenditure on the project is therefore some $4,000,000." (CLR 2007:53; from Letter, J.D. Rockefeller, Jr. to Harold Ickes, 14 March 1935, as cited in MPDF 2007:E32)

Otter Cliffs Road was completed in August 1936. The road cross-section was 24 feet wide and featured an 18-foot traveled way, 2-foot shoulders on each side, and a bituminous macadam surface treatment. There were no superelevated curves or spiral transitions, and drainage was handled by rubble ditches and reinforced concrete pipes with stone headwalls and drop inlets. This motor road segment was the first to make use of some sections of rectilinear-shaped guardwall stones, which derived from drawings that showed the coping stones as rectilinear forms on the shoulder. This detail evolved into the more rigidly rectilinear quarried blocks installed on subsequent motor road segments built by the BPR. In 1955, the existing bituminous surface treatment on Otter Cliffs Road was overlayed with a modern plant-mixed, hot-asphalt bituminous concrete surface treatment, and some of the shoulders were reconditioned. In 1956-1957, the same overlay procedure was undertaken on Stanley Brook Road. (CLR 2007:53-54)

Rockefeller's Role Changes:
The Roosevelt administration's New Deal programs directed federal funding to road construction to Acadia National Park. In June 1935, while the Stanley Brook Road and the Otter Cliffs Road segments were under construction, the Acting Director of the NPS notified Rockefeller that $350,000 had been allocated to extend the motor road system from the northern end of Jordan Pond/Eagle Lake Road to the vicinity of Sieur de Monts Spring. This was good news to Rockefeller because as noted earlier he had been hopeful of forging another financial arrangement for future construction of the park's motor roads. Rockefeller's role in the motor road system thus changed from design, construction, and direct project funding to donating and acquiring the land needed for the remaining motor road segments. The new role allowed Rockefeller to essentially retain direct control over the design and the quality of the road, and also continue to use the services of the Olmsted firm. Consequently, all relevant parties kept Rockefeller apprised of the progress of any given project. Regarding his concerns or ideas about the motor roads, Rockefeller never hesitated to contact anyone, from the BPR's Leo Grossman in Bar Harbor to the Secretary of the Interior in Washington D.C. From this point on, the NPS and the BPR partnered in the design and construction aspects of the motor road system, with John D. Rockefeller, Jr. serving much like an independent third party coordinating the activities of both. (CLR 2007:54)

Kebo Mountain Road (constructed 1936-1938):
The first motor road segment constructed following the 1935 appropriation became known as Kebo Mountain Road. It connected to the 1924 portion of Jordan Pond/Eagle Lake Road and trekked around the north end of Great Pond Hill up into the Kebo Brook Valley, around the north end of Kebo Mountain, and joined the pre-existing Harden Farm Road flanking the

eastern side of the Great Meadow. The lands over which the new motor road passed were owned by Superintendent Dorr, Rockefeller, and the Town of Bar Harbor. (CLR 2007:54-55)

The concept for this motor road segment first appeared on a draft version of the plan submitted by Superintendent Dorr to Director Mather in 1922, but any mention of it escaped written comment. The route appeared again in Rockefeller's comprehensive 1930 proposal, envisioned as an approach road from the town of Bar Harbor to Jordan Pond/Eagle Lake Road and Cadillac Mountain Road and effectively bypassing County Route 233. It was around this time, in 1930, that Rockefeller first asked Frederick Law Olmsted, Jr. to collaborate with the Kidde Construction Company in the preparation of surveys and plans for this motor road. (CLR 2007:55)

The route of Kebo Mountain Road was revised in 1935 after the BPR reviewed the original surveys prepared by Kidde and revised the centerline location and profile to meet their standards. Construction work began in May 1936 and was completed in September 1938. The 28-foot cross-section featured a 20-foot traveled way, 2-foot shoulders in both cut and fill, and was paved with a bituminous surface treatment. The motor road was designed with spiral transitions and superelevated curves, with most curves being quite broad, over 500 feet in radius. The maximum gradient was 7 percent. The project also included construction of a two-forked approach road at Great Meadow that connected to Bar Harbor. (CLR 2007:55)

The mountainous terrain required the construction of dry-laid and mortared stone retaining walls, hand laid rock embankments, and the Kebo Brook Bridge (1937-1938), a single-arched and slightly curved structure designed and constructed by the NPS and BPR, in consultation with the Olmsted firm. The concrete bridge was clad in mortared stone, allowing it to blend in with the surrounding landscape. Stormwater drainage was facilitated with culverts featuring stone drop-inlets and stone headwalls, some of which were incorporated into retaining walls. There were also several sections of underdrains, or perforated asphalt coated pipes, installed to help drain the saturated and heavy clay subsoils. Where the motor road crossed the Great Meadow, project drawings proposed an 8x7-foot box culvert, but according to Grossman, "…the [National] Park Service requested that we restrict the flow of the stream…" Limiting the discharge out of the Great Meadow may have been driven by downstream flood control issues or perhaps out of a desire to raise the water level in the Great Meadow and prevent it from becoming woodland. (CLR 2007:55-56, citing "Final Construction Report, Project 6A1")

Grossman's "Progress Views" for the Kebo Mountain Road project photographically documented the widespread use of rectilinear quarried blocks of granite as guardwalls, a significant departure in the type of stones used as guardwalls on earlier motor road segments (Figure 10). The spacing between some of the stones was much closer than the 4-foot maximum gap between stones as was the convention on the BPR's Cadillac Mountain Road project. In 1939-1940, the CCC helped build a paved pullout to provide a panoramic view of Bar Harbor and Frenchman Bay. In 1955, Kebo Mountain Road was overlayed with a modern plant-mixed, hot-asphalt bituminous concrete surface treatment and some of the shoulder areas were reconditioned. (CLR 2007:56-57)

Otter Cove Causeway and Blackwoods Road (constructed 1938-1939):
In September 1936, the NPS successfully obtained another appropriation for road construction at Acadia, this time to continue the motor road system from the terminus of Otter Cliffs Road, across Otter Cove, around to Western Point, and ending at Route 3. After the funding was obtained, Rockefeller deeded to the federal government the lands necessary to complete the work. Planning for this motor road segment, however, had begun in 1925 when Rockefeller engaged the C.G. White Engineering Company to study and provide estimates for a bridge and causeway over Otter Cove to replace a structure that had been destroyed by the sea some years previous. This evaluation was further advanced in drawings by the Kidde Construction Company and the Olmsted firm, and published as part of Rockefeller's 1930 comprehensive motor road proposal. (CLR 2007:57)

The motor road crossing at Otter Cove posed engineering challenges. The cove was not only very wide, but all previous structures had eventually succumbed to the high sea levels and constant tidal action. As described by BPR engineer Leo Grossman, the distance to overcome was "…a long stony bar thrown up by the full force of the seas above normal tides and the suctional pull of the ocean even at normal tides." To support the roadbed, a stable and high dike was needed that would also permit outflow of Otter Creek. Given these complexities and the highly visible location, the NPS again asked Rockefeller to retain the Olmsted firm as a consultant. After surveying the site, Olmsted initially felt that the causeway road line drawn first by Kidde, featuring sharp curves at the approaches and a flat curve in the causeway itself, would mimic the appearance of the natural sandbar on which the structure rested. However, the BPR argued that the sharp, broken-back curves would necessitate difficult maneuvering by motorists, and proposed an alternative with a more gradual line crossing the causeway on a continuous 500-foot radius curve. The NPS, Olmsted, and Rockefeller concurred with their recommendation and construction began in the spring of 1938. (CLR 2007:57, citing Grossman 1989:3)

This collaboration resulted in one of the most spectacular features on the motor road system. Buried deep within the broad arc of the causeway was a long concrete stem wall designed to serve as a spine preventing the undermining of the fill. The causeway was faced on both sides with dry-laid rubble except at the west end around the bridge, where the rubble was mortared in place. The bridge was constructed entirely of masonry to avoid saltwater degradation and featured three arched bays that allowed for unimpeded passage of water from Otter Cove with the changing of the tide (Figure 11). The three arches in the bridge were also designed to receive removable flashboards impounding the tidal outflow behind the causeway and forming a massive natural swimming pool. This feature was associated with preliminary plans for a recreational beach behind the causeway and bridge, along with a two-story concession building, pier, and access road. The plans were ultimately abandoned. In addition to the causeway, the motor road required the construction of two other bridges, both designed by the BPR in 1938: Fish House Bridge carrying the motor road over the realigned Fish House Road and the Little Hunters Beach Brook Bridge at the beach of the same name. Additionally, several small perennial streams were rerouted through culverts under the new motor road. (CLR 2007:58)

When completed in September 1939, the motor road's 28-foot cross-section featured a 20-foot

traveled way (26 feet at the causeway), 2-foot shoulders in cut, and 4-foot shoulders in fill, and was paved with a bituminous surface. The road curves were designed with spiral transitions and were widened and superelevated. Three formal pullouts were planned and built along the motor road to take in the panoramic views of the Atlantic Ocean. Project drawings showed locations for mortared stone masonry retaining walls and hand laid rock embankments, and included specifications for the rectilinear quarried block guardwalls similar to those on Kebo Mountain Road. Several drawing sheets also included a design for an approach road connecting to the Blackwoods Campground, but it was not built because Rockefeller did not want trucks and trailers on this or any park motor road. In 1955, the existing bituminous surface treatment was overlayed and shoulder areas were improved. (CLR 2007:58)

Kebo Mountain Road Extension and Champlain Mountain Road (constructed 1939-1940):
The construction of the Kebo Mountain Road Extension and the Champlain Mountain Road segments of the motor road system signified a commitment to the route around the north end of Champlain Mountain, forever abandoning the controversial 1930 route through the Tarn valley and up and over Gorham Mountain. However, this new route around Champlain Mountain was fraught with difficulties in obtaining land holdings and rights-of-way from the wealthy residents of the Schooner Head Road area. The landholdings in question belonged to Mr. Kent and Mr. Palmer of Schooner Head Road. Kent within time donated his property to the park, as did the Palmer family, although Palmer's widow held back her land until shortly before her own death in 1955. These two road segments worked towards a union at these two difficult properties. In reference to this decision, Rockefeller wrote to Secretary of the Interior Ickes:
"... If I thought that the omission of this remaining link was regarded as anything other than temporary, I should feel very differently about having recommended this plan but, knowing that the whole theory of the Acadia Park Motor Road is that there shall be a continuous, unbroken-by-highways, park road circuit to the top of Cadillac Mountain, down to the sea, for miles along the seacoast and back to Cadillac Mountain, I view with equanimity the necessary temporary use of existing highways..." (CLR 2007:59, citing Letter, J.D. Rockefeller, Jr. to Harold L. Ickes, 22 August 1939)

The Kebo Mountain Road Extension consumed the remainder of the 1935 appropriation. From the east end of Kebo Mountain Road, at Harden Farm Road, the Extension continued south and east past the Great Meadow along an existing section of Harden Farm Road, and then past the Sieur de Monts Spring area where it turned eastward crossing lands formerly owned by Superintendent Dorr, passing by the Bear Brook campground, and ending at the Beaver Dam Pond where it connected to Dorr Quarry Road. This in turn connected to Schooner Head Road. The Champlain Mountain segment was a northerly extension of Ocean Drive, continuing that road from Sand Beach to the "Wire Gate Road," which also connected to the Schooner Head Road. Thus, until the Kent and Potter lands could be acquired, Schooner Head Road became the temporary link between Kebo Mountain Road and Ocean Drive. (CLR 2007:59-60)

Both motor roads were designed by the NPS and BPR. Surveying was completed in 1939 with construction beginning in November 1939 and ending in November 1940. The bituminous-treated traveled ways were 20 feet wide, with 2-foot shoulders in cut and 6-foot

shoulders in fill. Curves were designed with spiral transitions and widened and superelevated, and the maximum grades were 7 percent. The Kebo Mountain Road Extension project also included a redesign of the circulation in and around Sieur de Monts Spring. It required the elevation of Route 3 onto a new bridge, the Sieur de Monts Spring Bridge, designed by Arthur R. McFarland in 1940. A new access road connecting Route 3 and the motor road was constructed, from which another road was built to access a new parking area and loop on the east side of the Sieur de Monts Spring area. In 1955, the surface treatments of both motor roads were overlayed and shoulders were reconditioned. (CLR 2007:60-61)

Day Mountain Road (constructed 1939-1941):
The idea for a motor road connecting Otter Cove Causeway and Blackwoods Road with the Jordan Pond/Eagle Lake Road first appeared in a collaboration of the Kidde Construction Company and Frederick Law Olmsted, Jr. On the key map that accompanied the construction plans printed for Rockefeller's 1930 proposal, the Day Mountain Road appeared as a dashed line, indicating "planned/not approved." The two-mile project was routed between Day Mountain and the Triads and administered by the BPR. Consistent with other BPR work of this time, the motor road featured spiral transition curves, and superelevation and widening on the curves for a design speed of 50mph. As with Ocean Drive, neither Rockefeller nor the NPS were able to acquire all of the necessary rights-of-way to build the entire road within park boundaries, so the west end was linked to Jordan Pond/Eagle Lake Road and Stanley Brook Road via a local road. The remainder of the road was built on land donated by Rockefeller. (CLR 2007:61)

Construction of Day Mountain Road began in September of 1939. Topographic conditions and the presence of existing roads required the construction of five bridge structures along Day Mountain Road. The most challenging and most innovative was the Blackwoods Bridge, designed by BPR engineers (1939-1941) to carry Route 3 over the motor road. Because of heavy clay subsoils, construction of this bridge necessitated what engineers called a concrete barge, and the bridge became known as the "Floating Bridge." Other bridges included Hunters Beach Brook Bridge designed by the BPR (1939-1940) to carry the motor road over the creek, the Triad-Day Mountain Bridge designed by Leo Grossman and Philip Mabel (1939-1941) to carry the Triad-Day Mountain Carriage Road over the motor road, and the Dane Farm Bridge designed by the NPS and BPR (1939) to carry the motor road over a portion of the Wildwood Farm Road. The fifth bridge structure was a 150-foot long timber trestle built over a small creek near the west end of the road. Except for the timber bridge, all of the bridges as well as hand laid rock embankments, mortared and dry-laid retaining walls, stone culvert headwalls, and guardwalls comprised of rectilinear quarried blocks utilized native stone material consistent with the NPS Rustic Design vocabulary found on Acadia's other motor roads. (CLR 2007:61-62)

Day Mountain Road was completed in May 1941. It featured a 30-foot cross-section with a 20-foot traveled way, 2-foot shoulders in cut, and 6-foot shoulders in fill. A pullout was planned along the motor road, presumably to highlight a long view to the north of the valley formed by Pemetic Mountain and Cadillac Mountain, but apparently was not built. Like the other park motor roads, this too was overlaid in 1955 with the modern plant-mixed, hot-asphalt bituminous concrete surface treatment. (CLR 2007:62)

Paradise Hill Road (constructed 1940-1941):
Concurrent with the construction of Day Mountain Road was the construction of a motor road connecting Hulls Cove at Route 3 to the northern terminus of the Jordan Pond/Eagle Lake Road at Route 233. Planning for this road, named Paradise Hill Road, first commenced in 1934 when Rockefeller directed Paul Simpson to survey the route, most of which was on Rockefeller's property. As early as March 1935, Rockefeller communicated his intentions with Secretary of the Interior Ickes to deed to the federal government this land. Several alternate designs were studied before the final location was approved by the BPR, NPS, and Rockefeller. (CLR 2007:62)

Although Rockefeller was an advocate for this motor road, he also had some concerns about its effect on Bar Harbor. During the late 1930s, the town was prone to traffic congestion caused by increases in park visitation, and one of the reasons for building this road was to directly connect the park motor road system with the state highway system and bypass the congested streets. This would mean visitors would turn into the park before they had entered the residential areas of Bar Harbor, which Rockefeller worried would "…be appreciated by the summer people but regretted by the winter residents and summer storekeepers." Nonetheless, the project proceeded, and with some urgency; World War II had begun in Europe in 1939 and it was Rockefeller's understanding that as the war progressed, and the potential of the United States being drawn into the conflict increased, funding for these road projects would be diverted to the war effort. Thus, Rockefeller pressed both this project and the Day Mountain Road project as priorities. (CLR 2007:62-63; from Letter, J.D. Rockefeller, Jr. to Arno Cammerer, 20 October 1938, as cited in HAER ME-11:41)

Construction of the 3.5-mile Paradise Hill Road segment began in December 1940. Rough grading was finished in June 1941 and the project was completed in October 1941. However, project funding did not include sufficient monies to construct three bridges that the route required at Route 233, at what was then known as the "New Eagle Lake Road," and a 402-foot long triple-arch span over Duck Brook, the longest bridge in the park. World War II intervened before funding was obtained for the three bridges, leaving the motor road unusable until they were completed eleven years later. (CLR 2007:63)

The design for Paradise Hill Road featured a 30-foot cross-section, 20-foot traveled way, 2-foot shoulders in cut, and 6-foot shoulders in fill. The alignment featured spiral transition curves, and curves were widened and superelevated based on the design speed of 50mph. Paradise Hill Road also featured hand laid rock embankments, rectilinear quarried guardwall stones, and mortared and dry-laid stone headwalls, all of which followed the NPS Rustic Design style. Spectacular views from the motor road toward Frenchman Bay and Kebo Mountain were highlighted at four formally designed pullouts. The bituminous surface treatments were overlayed with plant-mixed, hot-asphalt bituminous concrete surface treatments in 1955. (CLR 2007:63)

1941 Park Master Plan, World War II, and the Great Fire:
Beginning in 1933, the park's resident landscape architect, Benjamin Breeze, designed and

implemented many projects aimed at improving public facilities at Acadia National Park. Meticulously drawn plans were created for picnic areas, campgrounds, recreation areas, and the naval station on Schoodic Peninsula as well as the motor roads on both the island and peninsula. Designs and details were consistent with the master planning components of the "Park Development Outline" developed for the NPS by Chief Landscape Engineer Vint and prescribed by Director Albright. All of the projects followed the NPS Rustic Design style. (CLR 2007:63)

In 1941, Breeze improved and repackaged the site plans and schematics as a new park master plan that addressed both existing and proposed facilities (Figure 12). The 1941 master plan served as a snapshot of what projects had been accomplished and what was left to be done. It also illustrates that by this time, a majority of Rockefeller's comprehensive motor road system was built or nearly completed. The master plan showed the proposed realignment of the S-curve at the Jordan Pond House, on Jordan Pond/Eagle Lake Road, which was initially proposed in drawings from 1935. The plan also illustrated three missing segments that were needed to complete the motor road system: a new link between Day Mountain Road and Jordan Pond/Eagle Lake Road on park property; the bridges along Paradise Hill Road; and a new road on the east side of Champlain Mountain connecting the Kebo Mountain Road Extension and the Champlain Mountain Road. In the plan, this last segment was shown with two alternative routes through the park, both of which continued to follow a stretch of the town of Bar Harbor's Schooner Head Road. All three of these missing segments were eventually completed. (CLR 2007:64)

The 1941 master plan also indicated pullouts and developed areas along the motor roads. In June 1941 Director Newton Drury instructed Acting Superintendent Hadley to formulate a program of vegetation maintenance at the scenic overlooks. The correspondence suggests that vegetation on some of the older motor road segments was maturing and beginning to obstruct views. It is unclear what came of this directive given the onset of World War II. (CLR 2007:64)

In 1941, priorities in the park, not to mention throughout the country, were changing as the likelihood of the nation entering World War II increased. The focus of the CCC was shifted to civil defense projects, while on the Schoodic Peninsula the naval radio station was expanded, with some structures constructed on park lands. That same year, the military began operation of a radar station on the summit of Cadillac Mountain to seek out enemy submarines. During the duration of the war, Cadillac Mountain Road remained closed to the public. In 1942, the CCC camps were closed and Benjamin Breeze left Acadia National Park. Project work in the park subsequently declined and was limited to the completion of park facilities begun in the 1930s and repairs to deteriorated buildings. For the motor road system, land acquisition, construction, and design essentially stopped as there was little money and few qualified engineers available for road design and construction. When the end of World War II drew near, Rockefeller again took up the cause to finish the motor road system. (CLR 2007:65)

In October 1947, after an unusually dry summer, 17,128 acres of land on Mount Desert Island (11,753 acres of which are currently in federal ownership), were devastated by the "Bar

Harbor Fire." Several park buildings and structures were destroyed, such as the springhouse building at Sieur de Monts Spring, as well as log guardrails, road and trail signs, gates, and most of the plantings by Beatrix Farrand along the carriage roads. More than 170 homes of year-round residents and sixty-seven summer cottages were destroyed. Both the carriage roads and motor roads served as firebreaks and access points. Two clean up crews salvaged timber, burned slash, and installed soil erosion measures along roads and throughout areas around visitor facilities. Rockefeller sponsored one of these crews and other reforestation efforts in the park. (CLR 2007:65-66)

Day Mountain Road Extension (constructed 1951):
This motor road was the first of three segments to be built after Word War II. A short route, it was made possible by Rockefeller's ongoing philanthropy and eliminated use of local roads to provide a direct connection between Day Mountain Road and Jordan Pond/Eagle Lake Road. It also relocated the intersection of these motor roads with Stanley Brook Road to within park boundaries (Figure 13). The motor road was completed in 1951 by the BPR, and like the Day Mountain Road segment, featured a 30-foot cross-section with a 20-foot traveled way, 2-foot shoulders in cut, and 6-foot shoulders in fill. The project made necessary the relocation of portions of local roads in the vicinity, removal of the spur and timber trestle built in 1941, and construction of a box culvert for Stanley Brook and several runs of pipe underdrain. In 1955, some shoulder areas were reconditioned with a 1/3 topsoil to 2/3 gravel mixture and a plant-mixed, hot-asphalt bituminous concrete surface treatment was applied. (CLR 2007:66)

Paradise Hill Road bridges and Access Roads (constructed 1950-1952):
Three bridges along Paradise Hill Road were planned and designed by the BPR in the mid-1940s, but it was not until well after the end of World War II that money was appropriated for their construction (Figure 14). This project was included in the Department of Interior's 1950 roads and trails appropriation, and work began that year with completion in 1952. In November 1955, a new access road was completed connecting Paradise Hill Road with New Eagle Lake Road. At this intersection, the motor road was widened and medians were added to accommodate new turning lanes onto West Street. (CLR 2007:66-67)

Bureau of Public Roads Project 4A2 (constructed 1956-1958):
As early as 1938, Rockefeller had walked the centerline of this route with Leo Grossman, and survey work proceeded intermittently up until 1942 when the BPR office in Bar Harbor was closed because of World War II. Alternatives for this segment were also illustrated in the 1941 master plan. Many refinements were made during the intervening years between choosing and surveying the route, but the basic design decisions remained in force through the project's completion. Much of this changed, though, in 1955 when Schooner Head Road resident Mrs. Potter Palmer deeded the portion of her property to the park. This gift allowed the park to connect the Kebo Mountain Road Extension and Champlain Mountain Road on park property. (CLR 2007:67)

Bureau of Public Roads Project 4A2 was a "Mission 66" project, a ten-year program of park development designed to help the NPS accommodate the enormous increase in visitation after the war. The shear volume of projects oftentimes led to a lack of oversight on the part of the

NPS, and many of the Mission 66 projects have been criticized for not maintaining the agency's high pre-war standards and rustic traditions. This cannot be said of this final segment of Acadia's motor road system as there was a remarkable consistency in the use of features in the NPS Rustic Design style. This included the use of rectilinear quarried blocks for the guardwalls, hand-laid rock embankments, stone headwalls and inlet structures, and especially the large amount of mortared rubble waterways. The design consistency can probably be attributed to George O'Neil, the BPR's resident engineer for the project who before the war had worked with Leo Grossman. (CLR 2007:67-68)

Clearing work began in October 1956, and drilling and blasting of ledge rock and establishment of the rough grade continued in 1957. The project was completed in August 1958 except for mulching of the shoulders and minor cleanup. The cross-section of the motor road was 31 feet with a 20-foot traveled way, 3-foot shoulders in cut, and 6-foot shoulders in fill. Consistent with BPR work elsewhere in the park, the curves along the road were widened and superelevated and designed with spiral transitions. There were some firsts for this road segment, including the use of precast concrete curbing and rubble medians at some of the pullouts and developed areas. The project also included a paved pullout called Champlain Mountain Overlook and a pullout/parking lot at the Precipice Trailhead. Like the other motor road segments by this time, it was paved with a plant-mixed, hot-asphalt bituminous concrete as a surface treatment. The completion of this segment was the last in Rockefeller's comprehensive motor road plan. Mr. Rockefeller died at the age of eighty-seven on May 11, 1960, and was able to realize a vision that occupied well over three decades to complete. (CLR 2007:68-69)

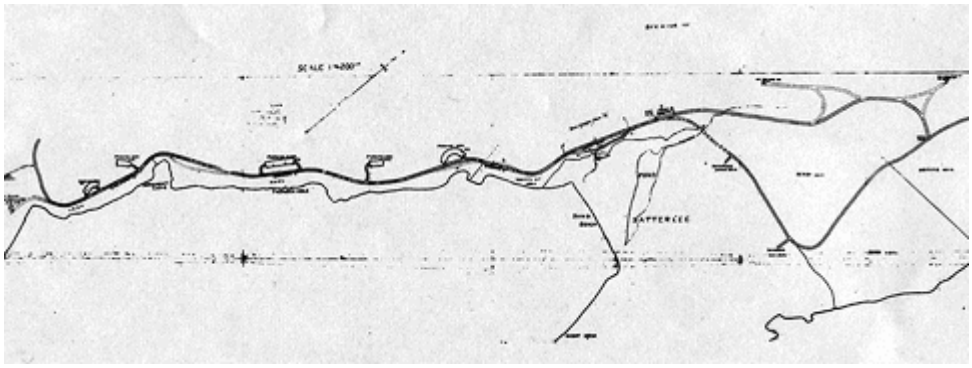


Figure 6. The reconstruction of Ocean Drive, 1934. (Rockefeller Archives Center)

Figure 7. Construction of Schoodic Loop Road, known historically as Wonsqueak Road/Summer Road, 1934-1935. (U.S. Department of Agriculture, Bureau of Public Roads, "Progress Views: Schoodic-Acadia-Big Moose Island-Wonsqueak Harbor, Project 2A1-2A4-5A1.")

Figure 8. Finished view of Wonsqueak Road/Summer Road, 1934-1935. (U.S. Department of Agriculture, Bureau of Public Roads, "Progress Views: Schoodic-Acadia-Big Moose Island-Wonsqueak Harbor, Project 2A1-2A4-5A1.")

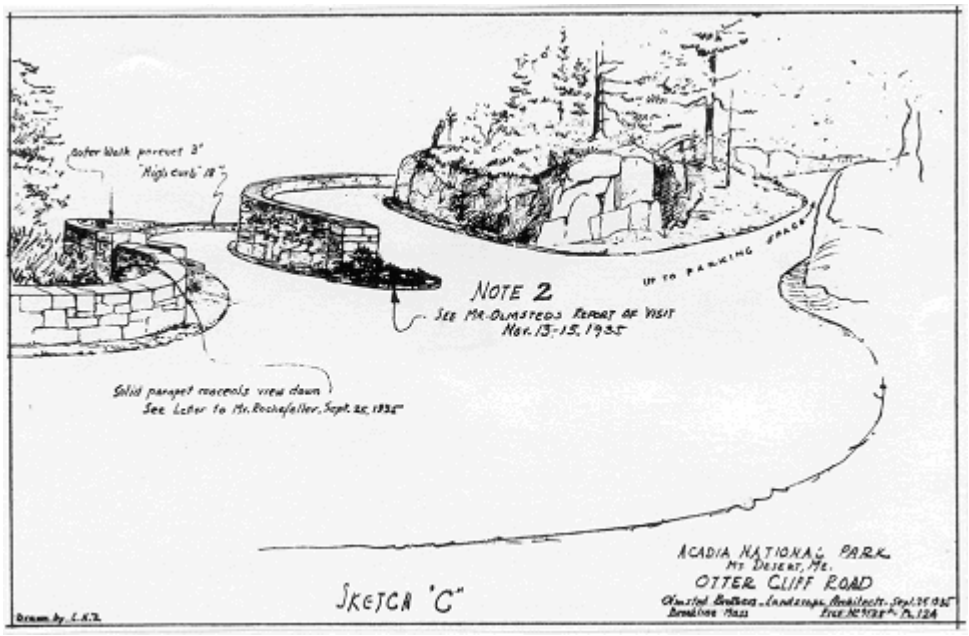


Figure 9. Olmsted's design for the grade separation and parking lot on Otter Cliffs Road, 1935. (National Park Service, Frederick Law Olmsted National Historic Site)

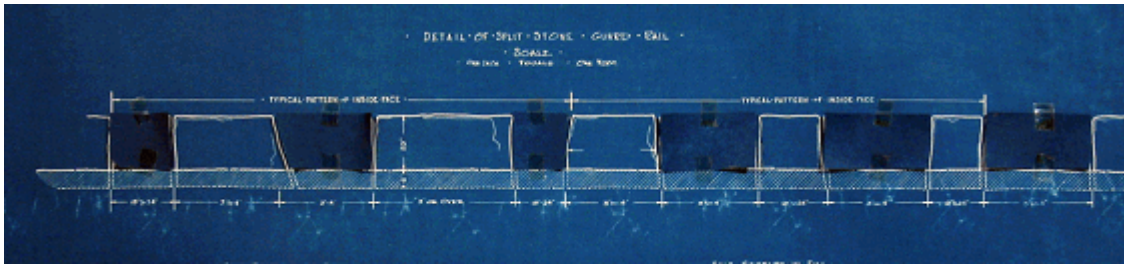


Figure 10. Detail of rectilinear guardwall stones on Kebo Mountain Road, 1936. (U.S. Department of Agriculture, Bureau of Public Roads, Project 6A1, Sheet 14 of 14, 1936)

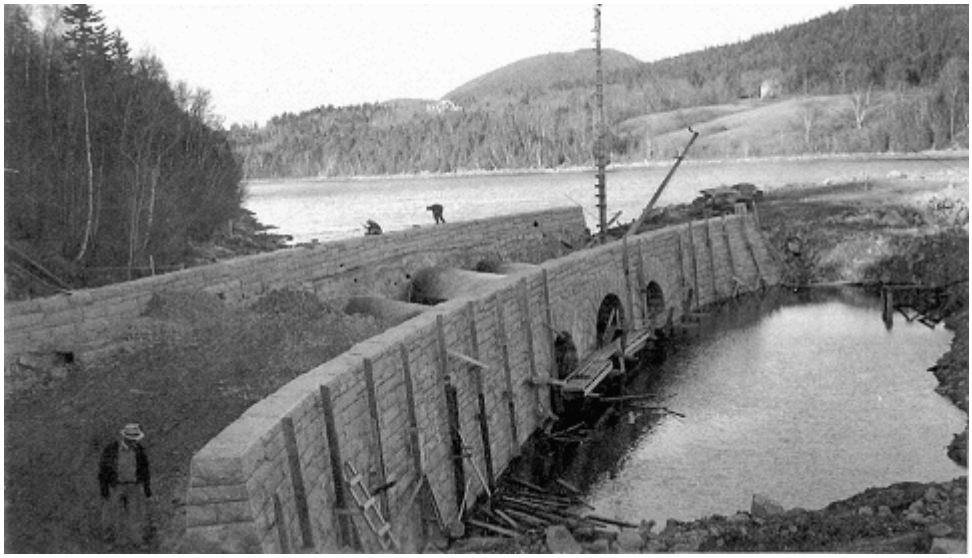


Figure 11. Construction of causeway at Otter Cove in 1939, view north. (Federal Works Agency, Public Roads Administration, "Progress Views: Structures, Black Woods Project 7A1.")

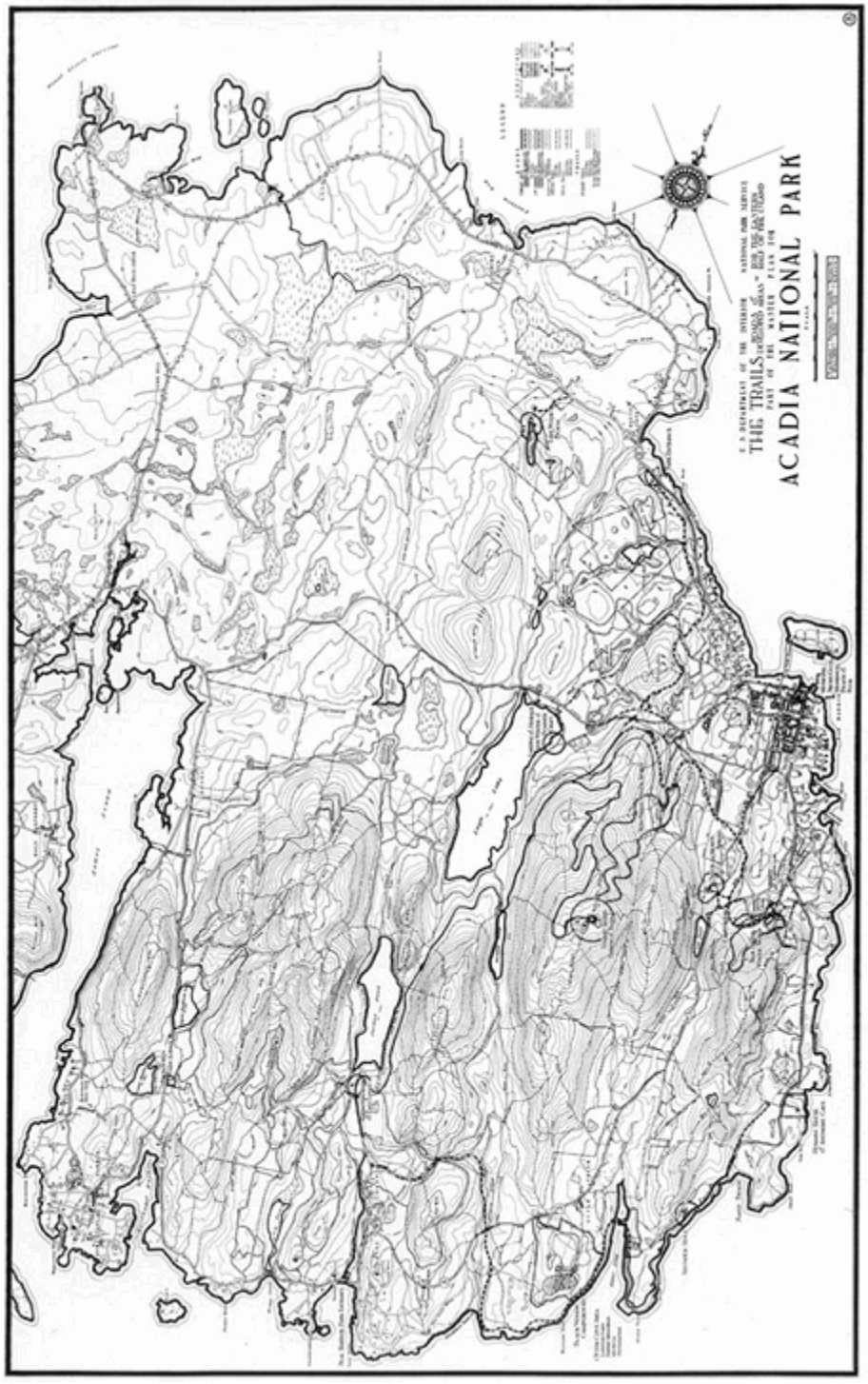


Figure 12. Part of the 1941 Master Plan showing motor roads existing, under construction, and proposed, and two alternative routes to connect Kebo Mountain Road Extension and Champlain Mountain Road. (National Park Service, Denver Service

Center)

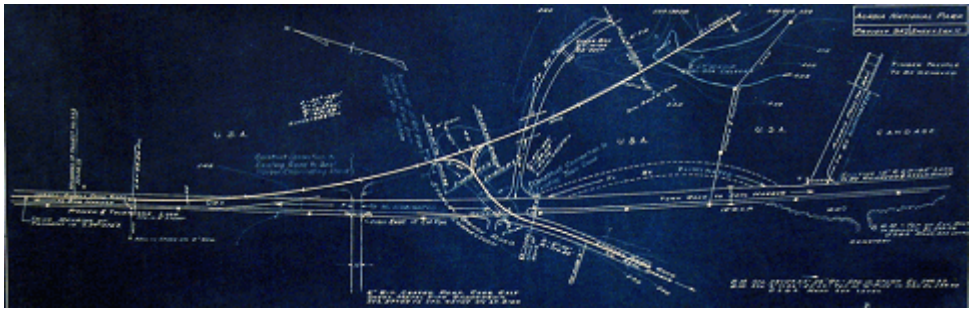


Figure 13. Plan of the new intersection of Day Mountain Road Extension, Jordan Pond/Eagle Lake Road, and Stanley Brook Road, 1950. (U.S. Department of Commerce, Bureau of Public Roads, Project 9A2, Sheet 3 of 11, November 1950)

Figure 14. Construction of Duck Brook Bridge, 1952. (Courtesy of Bar Harbor Historical Society)

MANAGING THE HISTORIC MOTOR ROAD SYSTEM, POST-1958

Projects in Developed Areas:
The Mission 66 programs at Acadia National Park focused on developed areas by adding restrooms, improving access, and upgrading utilities. Projects in areas adjacent to the historic motor road system included the conversion of the Bear Brook campground into a picnic area (1958); construction of a new concession building and rerouting of some trails at the Cadillac Mountain summit (1960, 1983); improved public access and updated swimming facilities at Sand Beach (1961); construction of the Wild Gardens of Acadia at Sieur de Monts Spring (1961);

and construction of restrooms at Bear Brook and Fabbri (1962). In 1964, Frazer Point, off of Schoodic Loop Road, was developed as a picnic area. An access road from the motor road and a parking lot were built at this time, and recently restrooms and a pumphouse were constructed. When the motor road was built in 1933-1935, this area was conceived as a boat landing for NPS use and not as a developed area, possibly because at the time there was a lobster pound operation nearby. It later closed in the 1950s. The footings for the current pier may date to that time. In 1967, the Hulls Cove visitor center was constructed, along with a large parking area and a spur road leading to Paradise Hill Road. (CLR 2007:69-70)

There have been numerous post-Mission 66 improvements closely related to the historic motor road system. These include the following: construction of the Fabbri picnic area in the 1980s; construction of a new Jordan Pond House in 1982 (the original structure burned in 1979); construction of restrooms at Thunder Hole in the late 1980s and in 1997; new buildings at the Entrance Fee Station (2000); and most recently a new accessible walkway at the historic Thunder Hole ranger station which is now a concessions-operated store and information center. (CLR 2007:70)

Motor Road Realignments:
The changes to the historic motor road system since the end of the historic period in 1958 can be understood as responses to the steady increases in vehicular traffic, and arguably the most significant was the redesign of Jordan Pond/Eagle Lake Road. Various aspects of this project had materialized previously in 1935 and 1941, but it was a planning effort from 1954-1955 that set the stage for the eventual reconstruction with standards and details consistent with the later constructed segments of the historic motor road system. At that time, it was proposed to widen the motor road to 20 feet, realign the S-curve at Jordan Pond and build additional parking, construct new pullouts along the motor road, and realign the road at Bubble Pond. (CLR 2007:70)

When the NPS and the BPR could not agree on the alignment details and design standards, most of the plan was dropped except for repaving and a redesign of the intersection at Cadillac Mountain Road. However, the project was revived again in 1962-1964, during which time the road was closed in order to reconstruct the road. Work involved widening the traveled way to 20 feet with 5-foot shoulders in fill and 2-foot shoulders in cut, widening and superelevating the curves, and adding spiral transition sections. At the Jordan Pond House, the S-curve was broadened and realigned, requiring the removal of several dormitories and outbuildings that predated the park. At Bubble Pond, the previous proposal was revised so that the tight radius curve passing alongside the shoreline of the pond was eliminated and shifted well away from the water. This realignment abandoned the portion of the motor road passing under the Bubble Pond Bridge that carried the Bubble Pond Carriage Road. Additional pullouts were also created along the motor road, along with expanded parking at the Jordan Pond House and Bubble Pond. With a new design speed of 35mph, the project was intended to "bring up to acceptable standard of construction the last portion of the loop road…" (CLR 2007:71, citing "Final Construction Report, Project 4A6-33A2-48A1-85A1.")

A year later, on Paradise Hill Road, a second grade separation feature on the historic motor

road system was developed. It was built at the first panoramic overlook encountered by visitors after they entered the park. Congestion here had become a major problem with southbound motorists crossing northbound traffic to park at the existing overlook. The new road for southbound traffic was built uphill from the original motor road, which was converted to northbound traffic. Both levels included a paved pullout, walkways, and wayside signs. (CLR 2007:71)

Motor Road Additions, Alterations, and Maintenance:
All the roads have been resurfaced since 1958. As a safety measure, centerline striping has been added to all of the motor roads, and fog lines are present on Cadillac Mountain Road. The park also recently completed one of the most daunting tasks, the rehabilitation of all of the bridges associated with the historic motor road system. (CLR 2007:71)

The treatment of some individual features associated with the historic motor road system, such as waterways, shoulders, curbs, walkways, gates, signs, and fences, also has changed since 1958. Soon after Rockefeller's death in 1960, sections of bituminous waterways were installed in some of the roadside ditches, especially along Cadillac Mountain Road. Several sections of the vegetated shoulder were replaced with bituminous asphalt or loose rubble in 1988, again mostly in the Jordan Pond/Eagle Lake Road and Cadillac Mountain Road vicinity. Other changes have included the installation of sawn-top granite curbing around some pullouts, sidewalks, and medians; construction of several concrete walkways; installation of galvanized steel pipe access gates; the use of contemporary directional and regulatory signs, metal entrance signs, and wayside signs; and the installation of post and rail fencing along some stretches of the Otter Cove Causeway and Blackwood Road segment. (CLR 2007:71)

Perhaps the most noticeable feature added to the historic motor road system since the historic period is the presence of the parking management stones, which in most cases are rounded boulders smaller in size than the historic guardwall stones. First introduced in the 1970s, the park has installed the stones to prohibit parking on the vegetated shoulders, especially at the popular developed areas such as the Jordan Pond House, Sand Beach, and Thunder Hole. Much of the park loop road, from Kebo Mountain Road to Day Mountain Road Extension, was converted to one-way traffic in the 1980s. Although automobiles can utilize the right lane to park, traffic and parking are among the most challenging issues on the historic motor road system today. (CLR 2007:71)

Analysis & Evaluation of Integrity

Analysis and Evaluation of Integrity Narrative Summary:

The historic motor road system is identified in Acadia National Park's "Multiple Property Documentation Form" (MPDF) as one of three circulation systems. The MPDF outlines registration requirements that individual motor roads need to posses to be eligible for listing in the National Register. According to the MPDF, a motor road must retain sufficient integrity in its design, setting, and location. Alterations should not substantially diminish the historic alignment (vertical and horizontal) and cross-section of the road. Major vistas and natural features associated with the property should be largely intact, and integrity of workmanship and materials is also important. Specifically, these resources should retain their original coping stone (guardwall) assemblages, stone bridges and stone retaining walls. In addition to bridges, large-scale engineering features associated with the road's function and character (structures, causeways, overlooks, walks and trails, retaining walls etc.) should be intact. Principal small-scale engineering features such as rubble waterways, culverts, inlets, outlets, are also considered character-defining features of the system. (MPDF 2007:F91)

Landscape characteristics identified for the Acadia's historic motor road system include natural systems, vegetation, topography, circulation, buildings and structures, views and vistas, and small-scale features. Many of these characteristics have associated with them features that contribute to the site's overall historic significance and identity as well features that do not contribute. The most significant characteristics for the historic motor road system are natural systems, vegetation, circulation, structures, and views and vistas, which together define its character.

For the purposes of this CLI, the integrity of the historic motor roads are evaluated as a system rather than by individual segments. Physical integrity is evaluated by comparing landscape characteristics and features present during the period of significance (1922-1958) with current conditions. Many of the characteristics and features are unchanged, although the system has not entirely escaped alterations over its eighty-year history and a few features have somewhat diminished integrity of design and materials. In the early 1960s, portions of the first segment of the historic motor road system, Jordan Pond/Eagle Lake Road, were redesigned to increase the design speed and eliminate the dangerous tight curves at Bubble Pond and the Jordan Pond House. However, the design and materials used in this project were consistent with the earlier historic motor road segments built by the National Park Service (NPS) and Bureau of Public Roads (BPR) at Acadia. Most of the historic vegetated shoulders remain intact despite the development of informal pullouts at some of the more popular developed areas and trailheads, where the vegetated cover has been damaged, leaving exposed and erodible gravel surfaces. A limited number of shoulder sections have been also paved with asphalt to accommodate bicyclists. The application of bituminous paving over rubble waterways and in formerly vegetated ditches has been greatly reduced since rehabilitation guidelines were developed and implemented for part of the historic motor road system in 1994.

Non-historic parking management stones continue to be used along some of the vegetated shoulders, but recently the park has been able to remove some of them. In most cases their rounded shape and smaller size make them compatible with the rustic character of the motor roads and distinguishable from

the historic guardwall stones. However, some of the stones now used are more angular in shape, making them appear more like the historic angular-shaped guardwall stones.

The experience of driving on the historic motor road system continues to be one of diverse scenery and spectacular views, and views and vistas remain intact for the most part. The 1991 public review draft of the General Management Plan/Environmental Assessment and the 1992 General Management Plan identify the importance of the views and vistas along the park loop road. However, on Mount Desert Island, the Jackson Laboratory at the end of the Kebo Mountain Road Extension segment is visually intrusive to the motor road experience, as are several massive private homes at Schooner Head and Ingraham Point. The presence of parked cars in the right lane of the one-way portion of the park loop road also diminishes the motor road experience. This parking accommodation is a result of the dramatic increase in park visitation, and although it is not an ideal situation, it is fortunately limited to the major developed areas during the peak hours of the busy summer months. The introduction of the Mount Desert Island shuttle system has helped with this problem somewhat. Historic signs and entrance gates have been replaced with contemporary versions that comply with modern highway standards and park needs, but recent efforts have been made to gesture to these historic details, resulting in designs that are compatible with the historic character. (GMP/EA 1991:116 and 1961 Vista Plan in Appendix D, and GMP 1992:33)

ASPECTS OF INTEGRITY

Location:
The original locations of the motor road system segments on Mount Desert Island and the Schoodic Peninsula are for the most part unchanged. The motor roads were purposely sited to have minimal impact on natural conditions, and they continue to make the park's diverse landscapes and scenic views and vistas accessible to the public. A small section of Jordan Pond/Eagle Lake Road at Bubble Pond was abandoned and rerouted, and a grade separation section was constructed on Paradise Hill Road. In both cases, these changes improved safety and do not diminish the system's overall integrity of location.

Design:
The combination of elements that characterize the built features associated with the historic motor road system is recognized as the Rustic Design style, which includes both the Picturesque and NPS Rustic Design styles. The historic design as applied by BPR engineers, the Olmsted Brothers landscape architectural firm, NPS landscape architects, and designers employed by John D. Rockefeller, Jr. is still evident throughout the system. The winding alignment of the motor roads highlight the park's diverse landscapes and scenic views and vistas, and makes use of consistent grades, cross-sections, and superelevated curves to create an enjoyable driving experience. The road design was attuned to the local topography and vegetation, which minimized the impact on the landscape and preserved vegetation. The designers also built bridges and causeways with arches and curves and made use of naturalistic materials so they would harmonize with the surroundings. Since the historic period, some original features such as curbing and waterways have been replaced, new features such as parking management stones and asphalt waterways have been installed, and unpaved pullouts have developed

and have worn away some of the grass shoulders. These changes have somewhat diminished the historic design but are fortunately not widespread. Overall, the Rustic Design style that aimed to integrate the built features with the landscape is still intact.

Setting:
The relationship between the routes and built features of the historic motor road system fit perfectly within the mountains, forests, meadows, and shorelines of Mount Desert Island and the Schoodic Peninsula. The motor roads were intentionally chosen to highlight the scenic views and vistas of these diverse landscapes, both within the park and beyond its boundaries. The careful attention to the design and construction of the motor road system's' built features allows them to further blend in with the landscape.

Materials:
Consistent with the Picturesque and NPS Rustic Design styles, the designers of the historic motor road system consciously chose local native granite to face bridges and causeways and to construct embankments, retaining walls, guardwalls, culverts, waterways, curbs, and steps. Asphalt was used to surface the roads and many of the walkways, and in the case of Cadillac Mountain Road and Jordan Pond/Eagle Lake Road, the adjacent pink granite was used in the final wearing course to blend it in with the surrounding outcrops. Likewise, grass was planted in the shoulders and on many of the embankments, and wood was used in the signage and gates so these features would blend in with the surroundings. However, as the motor road system was built over a thirty-six year period, some materials were changed. In later motor road segments, concrete rather than rough cut granite was used in curbs, and road surfacing materials were changed to reflect current road construction and maintenance practices and to best respond the area's harsh weather conditions.

Granite, asphalt, concrete, wood, and grass continue to define the motor road system today. The application of these materials has in a few instances changed, such as the recent use of smooth cut granite curbs, parking management stones, and asphalt waterways and shoulders, but overall their use is limited and they do not significantly detract from the historic character.

Workmanship:
The local granite used in most of the built features of the historic motor road system were rough in texture and without smooth surfaces or straight edges so that they would complement the landscape's rocky ledges and outcrops. These features were carefully designed and well-built, and most have been rehabilitated and are in good condition. On some features, such as the rectilinear quarried guardwall stones, tool marks are still visible. More refined sawn-top curbs and steps have been added along some of the motor road segments, but as a whole they do not detract from the historic scene.

Feeling:
The design, materials, workmanship, and setting of Acadia's historic motor road system continue to convey the feeling of a historic motor road in a national park. Individually, each of Acadia's motor road segments can be distinguished by Picturesque and NPS Rustic Design styles used in the built features, mostly in the variations of guardwalls and bridges. However, these differences are subtle, because as a

whole the motor road segments were successfully planned and designed to blend in with the landscape and provide automobiles recreational access to the park's scenic landscapes, views, and vistas.

Association:
The historic motor road system continues to reflect its thirty-six year evolution and the roles of the NPS, BPR, the Olmsted Brothers landscape architectural firm, and John D. Rockefeller, Jr. The system also retains most of its original features that convey the Rustic Design style. The routes of the various segments and their intended purpose of highlighting scenic views and vistas and providing recreational access to the spectacular landscapes of Mount Desert Island and the Schoodic Peninsula are still intact.

Landscape Characteristic:

Other - Natural Systems and Vegetation

Historic Conditions:
John D. Rockefeller, Jr., the Olmsted Brothers landscape architectural firm, and the NPS desired that the impact of the motor road system on the landscape be minimized through good road design and that any scars created during construction were addressed and repaired. Great care was taken to protect and save trees along the sides of the historic motor roads. On Stanley Brook Road for example, some of the motor roads' tight curves were a result of the preservation of larger specimen trees. In areas where landscape scars were inevitable, efforts were lavished on their repair, with some of the revegetation work accomplished by the Civilian Conservation Corps (CCC). As was the case throughout the NPS, native plants were used in the affected areas so that they would blend in with the surrounding landscapes. After the Great Fire of 1947 on Mount Desert Island, Rockefeller funded major reforestation efforts along the affected motor roads. (CLR 2007:191-192)

As will be discussed in the "Buildings and Structures" section, grass was the most widespread type of planting along the shoulders, ditches, and embankments. Unfortunately, there are few historical records of specific plantings along the historic motor road system mainly because most landscaping work was completed after construction ended and after the "Final Construction Report" and Progress Views" were submitted. Scattered correspondence, however, does speak of using grasses and native shrubs and trees to repair landscape scars and clearings, stabilize slopes, frame scenic views, and screen roadside parking areas and undesirable views. Such landscaping was undoubtedly designed by Frederick Law Olmsted, Jr., Henry Hubbard, and others in the Olmsted firm, which planned and designed several motor road segments and consulted on many others at the request of Rockefeller and the park. Landscape plans were also likely developed by Benjamin Breeze, the park's resident landscape architect from 1933-1942 and by the talented pool of landscape architects within the NPS who worked at various times on projects at Acadia, chief among them Charles E. Peterson. Additionally, some of the plantings designed by landscape architect Beatrix Farrand, who worked closely with Rockefeller on the carriage roads, may have also been installed in areas where the motor road and carriage road systems intersected. Some of the views described in a Vista Plan from 1961 referenced specific views of vegetation (#23, view into mixed-growth forest and #25, view into spruce-fir forest) as well as different types of vegetation (#s 53-55 look out across the Great Meadow). (CLR 2007:191-192)

Post-historic and Existing Conditions:
The coastal landforms that make up Acadia National Park represent millions of years of geological history written by glaciers and waves. The product of these events is a landscape rich in ecological and biological diversity, one that supports 219 species of birds, 37 species of terrestrial mammals, 11 species of amphibians, 7 species of reptiles, 35 species of fish, and thousands of species of invertebrates. There is one federally listed threatened species – the bald eagle. The park also supports 1135 vascular plants, including 14 that are listed as endangered or threatened in Maine. (CLR 2007:2)

Habitats range from the seaside to the mountaintops. The rocky shorelines support intertidal flora and fauna, while coastal and interior lowlands feature wetlands, bogs, and swamps. Red maples and northern white cedars can be found along some of these saturated soils, while larger areas of northern coniferous and southern deciduous forest spread up into the hillsides and abut rock outcrops and ledges. The highest peaks are rocky and interspersed with alpine vegetation, and are the best place to view the expansive scenery of sky, ocean, and land. (CLR 2007:2-3)

The historic motor road system still navigates through these diverse environments. In the more densely forested areas, the road corridor is bordered by trees but still opens to the sky above. The type of plants either limits or allows views beyond the road, and in some areas, large specimen trees grow just beyond the shoulder, creating a primeval effect. As noted above, it is likely many of these were intentionally saved when the motor roads were built (Figure 15). (CLR 2007:192)

Character-defining Features:

Feature: Vegetation in and along historic motor road system road corridors

Feature Identification Number: 132200

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:

Figure 15. The historic motor road system was designed and constructed to preserve mature vegetation wherever possible, such as these trees along Stanley Brook Road. (Acad0014_0.940(4), OCLP 2005)

Topography

Historic Conditions:

The topography of Mount Desert Island and Schoodic Peninsula was altered to accommodate road alignments and geometry, which includes characteristics and features related to horizontal and vertical alignment, cross-section, and structures. (Cross-section is discussed below under

"Circulation" and most structures such as causeways, bridges, and walls are discussed under "Buildings and Structures.") Horizontal alignment concerns the design and relationships of straight road sections, called tangents, connected to curved road sections, named horizontal curves. Vertical alignment, or "profile," speaks to how the line of the road in a plan view fits in the three dimensional aspects of topography. Together, these requirements required that the land be cleared and graded, which created sections of cut and fill. Depending on local site conditions, this sometimes required the construction of elevated curves, earthen and rock embankments, walls, and drainage structures. Excess fill also resulted in the construction of pullouts along the roads. Fortunately, the designers of the historic motor road system adhered to the principles of the Picturesque and NPS Rustic Design styles and chose meandering routes that followed the land's natural contours, thus minimizing as much as possible the construction of engineering features. (CLR 2007:167-168)

One of the most interesting structures on the motor road system was built in response to topography. At Otter Cliff, the Olmsted Brothers adapted the road profile to separate the traffic into two levels, with a third level devoted to a pedestrian trail. This feature solved the topographic challenges at the site, safely separated two circulation systems, and preserved panoramic views to the ocean. (CLR 2007:167-168)

Post-historic and Existing Conditions:
Overall, topography has not changed considerably along the road corridors since the historic period as little new road construction has occurred since 1958, with two notable exceptions. From 1962-1964, Jordan Pond/Eagle Lake Road, the park's first motor road segment, was widened and redesigned with spiral transitional and superelevated curves. The resulting higher design speed did not change the original alignment except at the Jordan Pond House, where the former S-curve was reversed, moving the motor road farther way from the building, and at Bubble Pond, where the tight radius curve alongside the shoreline of the pond was eliminated. As a result, the portion of the motor road passing under the Bubble Pond Bridge that carried the Bubble Pond Carriage Road was abandoned. On Paradise Hill Road, a second grade separation was constructed in 1964 to eliminate traffic hazards at the first major overlook south of the Hulls Cove. The new road for southbound traffic was built uphill from the original motor road, which was converted to northbound traffic. The design of these projects was consistent with previous motor road segments built by the BPR during the historic period. (CLR 2007:168)

The grade separation feature at Otter Cliffs has recently been rehabilitated. However, the structure no longer serves to separate opposing traffic due to the conversion of this part of the park loop road to one-way traffic. Instead, motorists now have the option of heading south on either the upper level roadway or the lower level roadway (Figure 16).

Character-defining Features:

Feature: Grade separation at Otter Cliffs Road

Feature Identification Number: 132202

Type of Feature Contribution: Contributing

Feature: Grade separation at Paradise Hill Road

Feature Identification Number: 132204

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:

Figure 16. View of the Ocean Path and the lower travel lane at the grade separation, on Otter Cliffs Road. The upper travel lane is behind the retaining wall on the right. (ACAD Otter Cliffs Path, 1998)

Circulation

Historic Conditions:
Road Segments.
The historic motor road system at Acadia National Park was constructed in eighteen different phases from 1922-1958. The development and design of the historic motor road system accommodated the constraints of challenging topography and complex land boundaries. The best possible route often encountered the ledge rock of granitic mountains or the rocky shorelines battered by storms and tides. The ongoing and contentious debate regarding the development of Mount Desert Island for automobiles and the resistance of some property owners to accept the project resulted in the construction of the motor road system in non-contiguous segments. A mosaic of property holdings had to be assembled to make these routes possible, and as a result, the circumstances of the site affected the ideal layout of the road. The chronological development of the historic motor road system is as follows and includes the year completed:

1. Jordan Pond/Eagle Lake Road, 1927
2. Ocean Drive: Thunder Hole Demonstration Segment, 1929
3. Cadillac Mountain Road, 1931
4. Ocean Drive: Thunder Hole to Otter Cliffs Road, 1933
5. Schoodic Loop Road, 1933-1935
6. Ocean Drive: Sand Beach to Thunder Hole, 1934
7. Schoodic Point Road, 1935
8. Stanley Brook Road, 1936
9. Otter Cliffs Road, 1936
10. Kebo Mountain Road, 1938
11. Otter Cove Causeway and Blackwoods Road, 1939
12. Champlain Mountain Road, 1940
13. Kebo Mountain Road Extension, 1940
14. Day Mountain Road, 1941
15. Paradise Hill Road, 1941
16. Day Mountain Road Extension, 1951
17. Paradise Hill Road bridges, 1952
18. Bureau of Public Roads Project 4A2, 1958

Cross-sectional attributes of the road – including width and crown of the traveled way and width and grade of shoulders in cut and fill – varied throughout the historic motor road system. All of the roads were constructed with a paved traveled way between 18-20 feet wide except for the Ocean Drive Demonstration Segment, which was 24 feet wide to allow room for parking at the Thunder Hole area. The four motor road segments originally engineered by Hill and Simpson relied on tangents and arcs with wider pavement widths at curves and pavement crowns pitched at 1/3" per foot. These shoulders, in both cut and fill, were generally 2 feet wide. The motor road segments designed by the BPR were designed with spiral transitions and superelevated curves and featured pavement crowns pitched at ¼-inch per foot. These cross-sections were generally more variable, with shoulder widths in cut areas 1-3 feet and in fill areas 3-6 feet. (CLR 2007:168)

Just as the alignments and cross-sections were an indication of the date and designer of a particular motor road segment, so too were the surfacing materials. The first constructed section of Jordan Pond/Eagle Lake Road, from State Route 233 to Cadillac Mountain Road, utilized a water-bound macadam surface, which used clay in the final wearing course to hold the surface together. This surface treatment was also used on the Rockefeller's carriage road system. However, before the remainder of this motor road was completed in 1927, it was given a bituminous surface treatment in which asphaltic material was used to bind the aggregate of the final wearing course. The texture of this treatment was coarse due to the installation of a final "chip coat" of raw, uncoated aggregate to the surface. (CLR 2007:171-172)

Aggregate material was typically obtained from small quarries scattered within the park, which

helped reduce the cost of the material by minimizing transportation. This also gave the historic motor roads the hue of the local stone, allowing it to blend in with the landscape. The wide range of color in the granite throughout the park resulted in a variety of surface colors, but the only documented color was for Cadillac Mountain Road, which featured a pink granite surface. The material for this surfacing came out of the cuts in the mountain made for the road itself. (CLR 2007:171-172)

Techniques in maintaining the road surface wearing course evolved as the historic motor road system was built, and beginning in the mid-1950s the older bituminous surface treatments on the motor roads were replaced with plant-mixed, hot asphalt bituminous concrete surface treatments, called Type I-1. The primary difference between the two was the plant mix featured smaller-sized aggregates, which resulted in a finer surface texture. (CLR 2007:171-172)

Pullouts and Parking Lots.
Pullouts are defined as parking areas directly alongside the motor roads, while parking lots are generally set back from the road, accessed by one or more short access roads, and separated from the road by a raised median planted with grass, shrubs, or trees. During the construction of the Ocean Drive segments, Rockefeller was adamant that parking along the shoulder should be discouraged and instead should be "…off the road under the trees at various convenient and available intervals." The park's 1941 Master Plan showed the locations of parking lots and pullouts along the completed motor roads and those motor roads that were under construction at the time. Not surprisingly, the highest density of parking areas was along the popular Ocean Drive segments where visitors had easy access to the Ocean Path and the scenic shoreline. Some parking lots were designed in multiple levels to take advantage of the views, such as Schoodic Pont Road, or to fit local topographic conditions, like Sand Beach. (CLR 2007:174-175, cites Letter, John D. Rockefeller, Jr. to Walters Hill, 26 June 1933, Rockefeller Family Archives, Homes, box 127, folder 123)

For the motor road segments in more mountainous terrain, pullouts rather than parking lots were more common due to limited space along the road corridor. Their locations were generally determined in the field during construction and dependent on the amount of excess material associated with cut and fill sections. Some of these pullouts are also indicated on the 1941 Master Plan. To date, no documentation has been found to determine if unpaved pullouts were present along the motor roads during the historic period. However, in considering Rockefeller's well-known desire to control the access and movement of motor vehicles and motorists, and his insistence on restricting parking along Ocean Drive, it would seem unlikely that unpaved pullouts would have been tolerated. (CLR 2007:174-175)

Medians and Curbs.
Medians were an important part of the effort to isolate and screen parking areas from the traveled way of the historic motor road system. They also were used early on to direct traffic flow at intersections, such as Cadillac Mountain Road and Jordan Pond/Eagle Lake Road. The

configuration of the parking lot or intersection and its setback from the motor road typically dictated the shape, width, and length of the medians. In general, smaller medians were simply areas of grass bounded by curbing while larger medians featured grass interspersed with trees and shrubs. The larger medians tended to be more natural in appearance and did not have any curbing material. (CLR 2007:185-186)

In the 1950s, at some of the larger and busier pullouts along the historic motor road system, mortared rubble medians were installed to accentuate the separation between the traveled way and the pullout. They also served as rumble strips that provided an auditory warning that the motorist had left the roadway. Their existence confirms that rustic values were not entirely abandoned on motor road segments built in this decade. (CLR 2007:185-186)

Curbing was used in association with parking areas, pullouts, walkways, and medians, and like many of the features of the historic motor road system, local granite was the material of choice. Reports from the CCC camp at McFarland Mountain suggest that splitting and tooling of granite curbing was a common work activity. The parking lots along the Ocean Drive segments feature granite curbs of very short lengths, which would be typical of the work of unskilled labor. In contrast, the granite curbs at the parking area atop Cadillac Mountain Road were longer in length and of a much higher quality. (CLR 2007:187-188)

Regardless of length, the curbing had a rough-cut quality on the faces and edges, qualities that were consistent with the Rustic Design style. A granite curb with a sloped-face was introduced into the historic motor road system after World War II, and by the 1950s, concrete curbs were also in use. The concrete curbs, with their smoother faces and lighter colored hues, contrasted with the rustic character of the older granite curbs. However, the 1955 project drawings for the Champlain Mountain Overlook on Bureau of Public Roads Project 4A2 specified an admixture of carbon black into the concrete to render the finished curbing a tone of grey. (CLR 2007:187-188)

Walkways, Trails, and Steps.
Walkways were typically installed at major developed areas, parking areas, and overlooks to allow visitors to access nearby scenic areas. Like other features of the historic motor road system, they were designed in the Rustic Design style. Historically, the walkways were constructed with the same bituminous surface treatment as used on the roadways, meaning they featured a gravel “chip coat” as a final surface that was both durable and had the appearance of a gravel trail. Most of the walkways were bounded by curbs to provide a safe separation from vehicles. Except for the parking lot at the Cadillac Mountain summit, there are no drawings of walkway details because most project drawings did not indicate the locations of parking areas or pullouts along the motor roads. However, later drawings from pullouts and the parking lot on Bureau of Public Roads Project 4A2 as well as the Sand Beach parking area all show walkways surfaced in bituminous asphalt. (CLR 2007:186-187)

Several trails paralleled and intersected the historic motor road system, and the most prominent

was the Ocean Path, a trail constructed by the CCC running alongside the Ocean Drive from Sand Beach to Otter Point. The trail was included in the lower level of the Olmsted-designed grade separation feature at Otter Cliffs. Guardwalls and retaining walls separated the trail from the motor road in other areas. This trail, as with all trails in the park, was constructed with locally extruded gravel. (CLR 2007:186-187)

In several locations, granite steps were constructed to connect the motor road or parking lots to trails or provide access to the shoreline. Some were simple steps of rough-cut stones set into the vegetated embankments, while others featured wider treads and were constructed with carefully tooled stones. (CLR 2007:186-187)

Post-historic and Existing Conditions:
Road Segments.
By 1964 on Jordan Pond/Eagle Lake Road, curve segments at Bubble Pond and the Jordan Pond House were rerouted, and much of the traveled way was widened and other curves were redesigned with superelevation and spiral transitions. On the other motor roads, all of the other cross-sectional elements – width of the traveled way, road crown, and shoulder widths – have remained relatively consistent since the end of the historic period. The major exceptions are along portions of Cadillac Mountain Road and Jordan Pond/Eagle Lake Road, where bituminous pavement has been applied atop historic waterways, along previously vegetated ditches, or on the vegetated shoulders. These actions have essentially increased somewhat the width of the traveled way. (CLR 2007:169)

All surfaces throughout the historic motor road system today feature plant-mixed, hot-asphalt bituminous concretes, and all have been resurfaced numerous times since they were constructed. Over the years, these projects have added material to the road surfaces and in some instances have altered cross-sectional relationships of the road surface to other character-defining features, such as the vegetated shoulders. (CLR 2007:172)

Pullouts and Parking Lots.
There are currently 115 pullouts on the historic motor road system, and although there are less paved pullouts than unpaved (47 to 68), the paved pullouts have a total linear footage greater than the unpaved pullouts (9174 linear feet versus 7607 linear feet). Most of the unpaved pullouts are shorter in length and are typically located just before or after paved pullouts, at major developed areas, at trail junctions, or other locations where there are views. Other unpaved pullouts exist throughout the historic motor road system for reasons that are not well understood (Figures 17-18). (CLR 2007:174-175)

The introduction of one-way traffic circulation along much of the park loop road in the 1980s opened up the right lane for parking, but there still appears to be a physiological resistance to park there despite the encouragement of signs. As a result, visitors continue to pull off well into the vegetated shoulders. Many of the unpaved pullouts were created before the switch to one-way traffic, however, probably beginning in the 1970s when park visitation numbers began

to increase. (CLR 2007:174-175)

There are fifteen paved parking lots within a short distance of the historic motor road system. The largest parking lots correspond to the most popular destinations and developed areas – Sand Beach, Thunder Hole, Jordan Pond House, the summit of Cadillac Mountain, and the Hulls Cove Visitor Center. Most of these will be addressed in separate CLIs as part of specific developed areas at Acadia National Park. Smaller paved parking lots are scattered along the motor roads at popular trailheads and scenic views. (CLR 2007:174-175)

Medians and Curbs.
Field work in 2005 identified three types of medians along the historic motor road system: landscaped, mortared rubble, and bituminous paved. Given the variable size of landscaped medians, only the smaller grass medians were assessed during field work undertaken for this report. In all, there are fourteen landscaped medians, and all but one feature curbing. There are also three mortared rubble medians. There is one small bituminous paved median with curbing at the Access Road to State Route 233. (CLR 2007:186)

In the 1980s, sawn-top granite curbing was introduced in the historic motor road system. Although it was intended to gesture to the rustic character of the historic rough-cut granite curbs, its sharp edges and smooth surfaces instead introduced yet another type of curbing to the historic motor road system. These new granite curbs were replacements for some sections of concrete curb, which were historic despite their inconsistently with the rough-cut granite curbs (Figure 19). (CLR 2007:188)

Field work revealed that the historic rough-cut granite curbs are associated with two landscaped medians, one paved pullout, five paved walkways, and three unpaved walkways. The historic slope-faced granite curbs can be found at six landscaped medians, and historic concrete curbs are associated with five landscaped medians, two paved pullouts, and two paved walkways. The non-historic sawn-top granite curbs are present at one landscaped median, five paved pullouts, and three paved walkways – three of the paved pullouts and the two of the paved walkways are at the Otter Point overlooks on Otter Cove Causeway and Blackwoods Road. (CLR 2007:188)

Walkways, Trails, and Steps.
Since the historic period, many walkways have received overlays of plant-mixed, hot-asphalt bituminous concretes, the same surface treatments used on the roadway wearing courses. As a result, the appearance of most walkways is the same as the roadways, which was the case historically. Others have been replaced with Portland cement surfaces, such as some of the walkways at Thunder Hole. There are currently eleven paved walkways, all but one of which are asphalt and all but one of which include a curb edge. (CLR 2007:187)

Surface treatment of the Ocean Path still features a gray colored gravel surface, as does a small trail near the Blackwood Campground service road. A short trail at the Triad-Day

Mountain Bridge features a gravel/pea gravel surface. (CLR 2007:187)

There are presently eleven sets of steps along the historic motor road system, six of which are constructed with tooled stones and three with rough-cut stones. There are also two sets of concrete steps with grey colored galvanized steel railings at the Thunder Hole developed area, connecting the parking area to the observation area at the shoreline. At Little Hunters Beach, a multi-landing wooden stairway takes visitors from the motor road to the shoreline. (CLR 2007:187)

Character-defining Features:

Feature: Motor Roads – Kebo Mountain Road (MR300B)

Feature Identification Number: 132206

Type of Feature Contribution: Contributing

IDLCS Number: 41056

LCS Structure Name: Motor Roads - Kebo Mountain Road

LCS Structure Number: MR300B

Feature: Motor Roads – Kebo Mountain Road Extension (MR300D)

Feature Identification Number: 132208

Type of Feature Contribution: Contributing

IDLCS Number: 41057

LCS Structure Name: Motor Roads - Kebo Mountain Road Extension

LCS Structure Number: MR300D

Feature: Motor Roads – Bureau of Public Roads Project 4A2 (MR300H)

Feature Identification Number: 132210

Type of Feature Contribution: Contributing

IDLCS Number: 41050

LCS Structure Name: Motor Roads - BPR Project 4a2

LCS Structure Number: MR300H

Feature: Motor Roads – Champlain Mountain Road (MR300E)

Feature Identification Number: 132212

Type of Feature Contribution: Contributing

IDLCS Number: 41052

LCS Structure Name: Motor Roads - Champlain Mountain Road

LCS Structure Number: MR300E

Feature: Motor Roads – Ocean Drive (Reconstruction) (consists of three segments) (MR300A)

Feature Identification Number: 132214

Type of Feature Contribution: Contributing

IDLCS Number: 41058

LCS Structure Name: Motor Roads - Ocean Drive (Reconstruction)

LCS Structure Number: MR300A

Feature: Motor Roads – Otter Cliffs Road

Feature Identification Number: 132216

Type of Feature Contribution: Contributing

Feature: Motor Roads – Otter Cove Causeway and Blackwoods Road (MR300C)

Feature Identification Number: 132218

Type of Feature Contribution: Contributing

IDLCS Number: 41059

LCS Structure Name: Motor Roads - Otter Cove Causeway & Blackwoods Rd.

LCS Structure Number: MR300C

Feature: Motor Roads – Day Mountain Road (MR300F)

Feature Identification Number: 132220

Type of Feature Contribution: Contributing

IDLCS Number: 41053

LCS Structure Name: Motor Roads - Day Mountain Road

LCS Structure Number: MR300F

Feature: Motor Roads – Day Mountain Road Extension (MR300G)

Feature Identification Number: 132222

Type of Feature Contribution: Contributing

IDLCS Number: 41054

LCS Structure Name: Motor Roads - Day Mountain Road Extension

LCS Structure Number: MR300G

Feature: Motor Roads – Jordan Pond/Eagle Lake Motor Road (MR012) (incl. realignments/improvements)

Feature Identification Number: 133396

Type of Feature Contribution: Contributing

IDLCS Number: 41055

Feature: Motor Roads – Stanley Brook Road (MR014)

Feature Identification Number: 132226

Type of Feature Contribution: Contributing

IDLCS Number: 41061

LCS Structure Name: Motor Roads - Stanley Brook Road

LCS Structure Number: MR014

Feature: Motor Roads – Cadillac Mountain Road (MR013)

Feature Identification Number: 132228

Type of Feature Contribution: Contributing

IDLCS Number: 41051

LCS Structure Name: Motor Roads - Cadillac Mountain Summit Road

LCS Structure Number: MR013

Feature: Motor Roads – Paradise Hill Road (consists of two segments) (MR010)

Feature Identification Number: 132230

Type of Feature Contribution: Contributing

IDLCS Number: 41060

LCS Structure Name: Motor Roads - Paradise Hill Road

LCS Structure Number: MR010

Feature: Motor Roads – Schoodic Loop Road

Feature Identification Number: 132232

Type of Feature Contribution: Contributing

Feature: Motor Roads – Schoodic Point Road

Feature Identification Number: 132234

Type of Feature Contribution: Contributing

Feature: Motor Roads – Access Roads (4)

Feature Identification Number: 132236

Type of Feature Contribution: Contributing

Feature: Paved pullouts

Feature Identification Number: 132238

Type of Feature Contribution: Contributing

Feature: Paved parking lots

Feature Identification Number: 132240

Type of Feature Contribution: Contributing

Feature: Grass medians

Feature Identification Number: 132242

Type of Feature Contribution: Contributing

Feature: Mortared rubble medians

Feature Identification Number: 132244

Type of Feature Contribution: Contributing

Feature: Rough-cut granite curbs

Feature Identification Number: 132246

Type of Feature Contribution: Contributing

Feature: Slope-faced rough-cut granite curbs

Feature Identification Number: 132248

Type of Feature Contribution: Contributing

Feature: Concrete curbs

Feature Identification Number: 132250

Type of Feature Contribution: Contributing

Feature: Slope-faced concrete curbs

Feature Identification Number: 132252

Type of Feature Contribution: Contributing

Feature: Asphalt walkways

Feature Identification Number: 132254

Type of Feature Contribution: Contributing

Feature: Gravel trails adjacent to motor roads

Feature Identification Number: 132256

Type of Feature Contribution: Contributing

Feature: Tooled stone steps

Feature Identification Number: 132258

Type of Feature Contribution: Contributing

Feature: Rough-cut stone steps

Feature Identification Number: 132260

Type of Feature Contribution: Contributing

Feature: Unpaved pullouts

Feature Identification Number: 132262

Type of Feature Contribution: Non Contributing

Feature: Bituminous medians

Feature Identification Number: 132264

Type of Feature Contribution: Non Contributing

Feature: Sawn-top granite curbs

Feature Identification Number: 132266

Type of Feature Contribution: Non Contributing

Feature: Concrete walkways

Feature Identification Number: 132268

Type of Feature Contribution: Non Contributing

Feature: Concrete steps

Feature Identification Number: 132270

Type of Feature Contribution: Non Contributing

Feature: Wood steps

Feature Identification Number: 132272

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:

Figure 17. One of three paved pullouts on Bureau of Public Roads Project 4A2. On the right is the Precipice. (Acad0300_4.546, OCLP 2005)

Figure 18. Unpaved pullout on Kebo Mountain Road Extension, just after the access road to Sieur de Monts Spring. (Acad0300_2.790, OCLP 2005)

Figure 19. View of a paved pullout with a mortared rubble median and paved walkway along Bureau of Public Roads Project 4A2. Smooth-cut granite curbs were installed in the 1980s to replace historic concrete curbs. (Acad0300_3.825(1), OCLP 2005)

Buildings and Structures

Historic Conditions:
Bridges, Causeways, and Buildings.
The vertical alignment of the historic motor road system originally utilized twenty-one bridges to cross streams and to eliminate "at grade" intersections with state and county roads as well as the existing carriage road system. Twelve of the bridges were designed to carry motor roads over streams, three bridges carried the motor roads over public highways or local roads, and one bridge carried the motor road over a carriage road. Five bridges carried carriage roads or highways over the historic motor road system. The Olmsted landscape architectural firm designed the six small bridges along Stanley Brook Road and provided the preliminary design for the Otter Creek Cove Bridge and Causeway, while the NPS and BPR designed most of the others. Following the principles of the Rustic Design style, the bridges were faced with locally quarried granite ashlar to gracefully blend with the surroundings and complement the character of the older carriage road bridges. With exception of the Otter Creek Cove Bridge, all of the motor road bridges were constructed with reinforced concrete. The historic motor road system also featured two causeways, one at Otter Creek Cove and another at Frazer Creek on the Schoodic Peninsula. They were designed to allow the passage of tidal flows between streams and the sea and were faced with locally quarried flat granite stones to withstand the wave action. Several building were constructed along the along the historic motor road system, such as Thunder Hole, Jordan Pond House, and Cadillac Mountain, but they are part of specific developed areas and will be addressed in separate CLIs. (CLR 2007:169-170)

Shoulders.
Vegetated shoulders were part of the original design of the historic motor road system. In addition to their function of moving stormwater runoff from the traveled way and toward the ditches, the vegetated shoulders were also intended to aesthetically blur the line between the paved road and the surrounding landscape and to provide a softer and more rustic edge than would a typical shoulder surfaced in gravel or pavement. To provide the support necessary for a vehicle to pull on and off without leaving ruts, the vegetated shoulders were originally constructed by using equal parts of gravel to soil, although some road segments, and later repair work, featured a mixture with more gravel than soil. They were then seeded with commonplace mixtures of grass to provide quick cover, but the eventual succession of native plants was intended and encouraged. (CLR 2007:173-174)

Ditches and Waterways.
Ditches, waterways, and underdrains were designed to collect and move streamwater, stormwater, and groundwater away from the road prism as quickly and efficiently as possible. A majority of the historic motor road system featured vegetated ditches. This simple type of ditch treatment fit perfectly in the Rustic Design style and required little maintenance. In areas where the amount of flowing water in vegetated ditches was likely to cause erosion, the ditch was stabilized with a run of mortared rubble, a material that complemented the rustic character

of the other built structures throughout the historic motor road system. These waterways often terminated at culvert inlets. Variations in the materials later appeared in project drawings from the 1950s including waterways with loose rubble, stabilized gravel cement, and bituminous pavement. It should be noted that the bituminous paved waterway detail was developed in 1957 for the Schooner Head Access Road project, but according to park records, this type of waterway construction was not installed until the early 1960s. (CLR 2007:176)

Culverts, Inlet Structures, and Outlet Structures.
A culvert is the structure that connects an inlet and an outlet and conveys water from one side of the road to another. Some of the older segments of the historic motor road system featured beautifully constructed dry-laid stone box culverts. Many were built along Stanley Brook Road, but larger and more impressive structures were constructed along Jordan Pond/Eagle Lake Road and Cadillac Mountain Road. Concrete box culverts were also constructed during the historic period, as were corrugated metal pipes (CMP) and reinforced concrete pipes (RCP) with diameters ranging from 18 inches up to 60 inches. However, by far the most common type of culvert installed throughout the historic motor road system was the 18" diameter reinforced concrete pipe. (CLR 2007:177-178)

The type of inlet or outlet selected for a particular culvert assembly was determined by the shape of the shoulders, ditches, and embankments. However, as these structures were often visible from the traveled way, their appearance was carefully considered. Many segments of the historic motor road system featured inlets and outlets constructed with local stone, typically as loose stones set around the pipe or as part of a headwall structure constructed with dry-laid stones or mortared stones. In situations where the road corridor was narrow, more elaborate structures in the form of drop-inlets were installed, also with stone. With the completion of Kebo Mountain Road in 1938, the Bureau of Public Roads introduced two modern drop-inlets: brick or concrete curb types, and precast concrete boxes with steel grate covers. In highly visible locations, the Bureau of Public Roads continued to use stone headwalls so as not to compromise the rustic character of the historic motor road system. Some of these headwalls were massive curved structures. (CLR 2007:177-178)

Many of the project drawings after 1950 included boiler plate culvert detail sheets produced by the BPR office in Arlington, Virginia, from 1946-1948. Other project drawings indicate that in the late 1950s, variations in the treatment of headwalls and types of inlets and outlets were proposed, such as concrete and brick headwalls and concrete and galvanized inlet and outlet structures. (CLR 2007:177-178)

Guardwalls and Berms.
Prior to the development of the historic motor road system, large stones were placed alongside the local roads on Mount Desert Island to better define the edges and serve as a guardrail. This vernacular approach was present along Ocean Drive prior to its reconstruction in the late 1920s and was also used earlier on portions of Rockefeller's carriage road system. Such guardwalls were also used on the carriage road system at Rockefeller's boyhood home in

Cleveland. Their use throughout Acadia's historic motor road system is a unique reminder of Rockefeller's involvement, so much so that locally the stone guardwalls became known as "Rockefeller's teeth." (CLR 2007:179)

The guardwall stones were typically used in sections where fills were greater than three feet with a slope greater than 1.5 to 1. The stones themselves were unique in that the style of stones varied from one motor road segment to another. The earlier motor roads such as Jordan Pond/Eagle Lake Road, Cadillac Mountain Road, and the Ocean Drive segments made use of angular-shaped stones, which were made available during construction. The first use of rectilinear-shaped stones was on Otter Cliffs Road in 1936, and was a product of Olmsted firm's drawings that showed the stones as rectilinear forms on the shoulder. This detail evolved into the more rigidly rectilinear quarried blocks installed on Kebo Mountain Road. In subsequent motor road segments constructed by the BPR, the length of the stones and widths of the gaps between the stones varied. Despite these variations, the guardwalls stones were consistent with the Rustic Design style and evoked the character of guardwall stones illustrated on a drawing produced in the 1920s by Thomas Vint, Chief Landscape Architect of the NPS. Another guardwall style on the historic motor road system was a low earthen berm on the edge of the shoulder. Planted with grass, they were primarily used along Otter Cove Causeway and Blackwoods Road. (CLR 2007:179)

Embankments.
Roads are either in cut or in fill, and as such they require a transition from the edge of the shoulder to the existing grade that is typically achieved with a graded section of earth called an embankment. A majority of the embankments on the historic motor road system were constructed in this manner and were stabilized with grasses, much like the shoulders and ditches, and also with shrubs and trees. (CLR 2007:181)

In areas where vegetated embankments alone were not enough to stabilize the motor road, hand-laid rock embankments were constructed. These embankments were constructed with large angular stones evenly placed across the slope. In some situations, large trees were preserved and incorporated into the embankments. In general, rock embankments were minimized throughout the historic motor road system because the motor roads were designed and constructed to have minimal impact on the landscape. At the same time, their use was not necessarily discouraged because they helped limit the width of slopes in fill and preserved the adjacent vegetation. (CLR 2007:181)

Retaining Walls.
In situations where a rock embankment was going to be too wide or tall, stone retaining walls were built. The use of such walls helped minimize the width of cut and fill sections, particularly in areas where the road corridor was narrow. Like the rock embankments, the use of retaining walls also helped preserve adjacent vegetation. (CLR 2007:181-182)

Some of the retaining walls were mortared, but most were dry-laid construction, which allowed

water to seep through the joints. In the steepest areas, the retaining walls often included part of a longer guardwall feature. The guardwall stones, discussed previously, were secured on top of the wall in a mortared trench. Locally quarried stones were used for the walls, which resulted in beautiful structures that evoked the Rustic Design style and blended well with adjacent rock outcroppings. (CLR 2007:181-182)

Parking management stones.
Parking management stones were not used on the historic motor roads during the historic period. (CLR 2007:179)

Post-historic and Existing Conditions:
Bridges, Causeways, and Buildings.
Realignments of Jordan Pond/Eagle Lake Road were undertaken at Bubble Pond and Jordan Pond House in 1962-1964. This work abandoned the section of roadbed under the Bubble Pond Bridge. The bridge is therefore no longer considered part of the motor road system. On Schoodic Loop Road, the bridge in the causeway structure at Frazer Creek was repaired and altered in the 1970s and again in the 1990s. Unlike the bridge rebuilt here in the 1950s, the current bridge is not faced with stone masonry. In the last ten years, all of the other motor road bridges have been rehabilitated. Additional detail on the bridges can be found in Acadia National Park's List of Classified Structures (Figures 20-21, see also Figure 15). (CLR 2007:169-170)

Today, there are twelve bridges that carry motor roads over a water feature: Kebo Brook Bridge, Otter Creek Cove Bridge and Causeway, Little Hunters Beach Brook Bridge, Hunters Beach Brook Bridge, Stanley Brook Road Bridge #s1-6, Duck Brook Bridge (Paradise Hill Road), and the Frazer Creek causeway and bridge. Three bridges carry the motor road over public highways or local roads: New Eagle Lake Road Bridge, Route 233 Bridge, and Fish House Bridge. One bridge, the Dane Farm Bridge, carries the motor road over a carriage road. Four bridges carry carriage roads or highways over the historic motor road system: Triad-Day Mountain Bridge, Stanley Brook Bridge, Sieur de Monts Spring Bridge, and Blackwoods Bridge. The current collection of small buildings at the entrance fee station on the park loop road, at the intersection of Schooner Head Overlook Access Road, was constructed in 2000. They replaced earlier buildings built after 1958 and feature board and batten siding and peaked shingled roofs. (CLR 2007:169-170)

Shoulders.
Vegetated shoulders continue to define a majority of the road margins of the historic motor road system. The width of the vegetated shoulders varies, and during a typical growing season they are mowed once a year. A mix of red fescues, annual ryes, and forbs are currently used to revegetate shoulders. In some areas, however, repeated traffic pulling on and off the shoulders has damaged the vegetative cover, leaving a bare gravel surface that has created erosion problems. The park's installation of parking management stones has helped matters in some areas. Some shoulders have been paved with bituminous asphalt to accommodate a bicycle

lane, such as those approaching Cadillac Mountain Road. A section of loose rubble shoulder is present on one of the tight curves on Cadillac Mountain Road. It was installed because tour buses were continually damaging this particular shoulder as they rounded the curve. (CLR 2007:173-174)

Ditches and Waterways.
Vegetated ditches remain the most common type of ditch treatment throughout the historic motor road system. Mortared rubble waterways are also still functioning, although some are partially obscured by vegetation (Figure 22). Since the end of the historic period, however, and soon after Rockefeller's death in 1960, waterways paved with bituminous asphalt were introduced, beginning with the redesign of Jordan Pond/Eagle Lake Motor Road in 1962. The paved waterways were installed in situations where existing vegetated ditches were eroding and as a solution for deteriorated historic rubble waterways. By the late 1980s, bituminous waterways were the typical ditch detail and were installed along many of the ditches on Cadillac Mountain Road. Loose rubble waterways have also been introduced in several locations of the motor road system as a way to minimize erosion in some of the ditches. (CLR 2007:176-177)

In the early 1990s, a new detail for a mortared rubble waterway was developed and installed in two test sections off of Schooner Head Overlook Access Road. In keeping with the rustic character of the historic motor road system, the new waterway made use of large granite stones with split surfaces. Today, bituminous waterways outnumber mortared and loose stone waterways combined. There are currently fifty-seven bituminous waterways (13,021 linear feet), seventeen mortared rubble waterways (3,923 linear feet), and eleven loose rubble waterways (1,020 linear feet). There are also many underdrains throughout the system, but due to their subterranean location they were not observed in the field. (CLR 2007:176-177)

Culverts, Inlet Structures, and Outlet Structures.
The current number of culverts inventoried in the historic motor road system is impressive. There are 26 stone box culverts, 5 concrete box culverts, 17corrugated metal pipe culverts, and 389 reinforced concrete pipe culverts. There are also two combination corrugated metal pipe/reinforced concrete pipe culverts, one clay pipe culvert, one plastic pipe culvert, and nine culverts where the type of assembly could not be determined (Figures 23-24). (CLR 2007:178)

The most common inlet treatment on the historic motor road system is a headwall constructed with native stone. There are 224 such structures (150 dry-laid stone and 74 mortared stone). There are also 181 drop-inlet structures (53 dry-laid stone, 52 pre-cast concrete with grate, 65 curb type concrete, and 11 curb type brick), 19 inlets stabilized with loose stones, and 15 inlets that are simply the pipe itself. Two combination structures (one curb type concrete/pre-cast concrete with grate and one dry-laid stone headwall/dry-laid stone drop inlet) were identified, but seven inlets could not be located. The most common outlet treatment is simply a pipe by itself. There are 165 pipe-only inlets, 29 of which are part of an embankment or wall structure. There are also 122 outlets stabilized with loose stones, 109 stone headwall structures (59

dry-laid stone and 50 mortared stone), and 51 outlets where the type of structure could not be determined. (CLR 2007:178)

Embankments.
Many of the vegetated embankments along the historic motor road system now feature a mix of grass, shrubs, and trees, further blending them into the surrounding landscape. Field work in 2005 inventoried thirty-seven rock embankments (11,852 linear feet). Initially stark when constructed, the appearance of some of these embankments has softened over time as vegetation has established itself in the voids between the stones (Figure 25). (CLR 2007:181)

Guardwalls and Berms.
The historic motor road system currently consists of 118 guardwalls with angular ledge stones (49,091 linear feet) and fifty-two guardwalls with rectilinear quarried stones (27,601 linear feet) (Figures 26-27). Most of the historic guardwalls are intact and in good condition, although some individual stones need to be replaced or reset. Grass around the stones is mowed annually. There are six earthen berms (2,202 linear feet) along the historic motor road system, primarily along the Otter Cove Causeway and Blackwoods Road. The berms are currently maintained with grass cover and are mowed at the same time as the shoulders. (CLR 2007:179-180)

Retaining Walls.
The historic motor road system features forty-four dry-laid stone retaining walls (10,504 linear feet) and nine mortared stone retaining walls (1,708 linear feet) (Figure 28). There are also seventeen guardwall/retaining wall structures (4,430 linear feet), which feature dry-laid or mortared retaining walls topped by a guardwall comprised of individual stones or a low mortared parapet-type wall. For all of these stone structures, the patina of the stones lends a timeless quality and contributes to the rustic character of the roads. (CLR 2007:182)

Parking management stones.
Beginning in the 1970s, with visitation numbers dramatically increasing, the park installed small boulders, called parking management stones, along portions of the historic motor road system to manage informal pullouts and protect the historic vegetated shoulders. Though non-historic, the stones were compatible with the rustic character of the motor roads, and were clearly distinguishable from the historic guardwall stones because of their smaller size and rounded shapes. (CLR 2007:180)

There are currently fifty-two parking management stone walls (12,973 linear feet) along the historic motor road system (Figure 29). In several instances, parking management stones are also used as an extension of the historic guardwalls. The conversion of the park loop road to one-way traffic in the 1980s, from Kebo Mountain Road to Day Mountain Road, made possible parking in the right lane. This alleviated some of the parking problems and allowed some sections of parking management stones to be removed, but stones have been added elsewhere as the volume of cars on the historic motor road system continues to climb and additional informal parking areas develop. Recent installations of parking management stones have featured stones that are more angular in shape, which are somewhat indistinguishable from the historic guardwalls constructed with angular ledge rock. (CLR 2007:180)

Character-defining Features:

Feature: Kebo Brook Bridge (BR18P)

Feature Identification Number: 132274

Type of Feature Contribution: Contributing

IDLCS Number: 41118

LCS Structure Name: Kebo Brook Bridge

LCS Structure Number: BR18P

Feature: Otter Creek Cove Bridge and Causeway (BR19P)

Feature Identification Number: 132276

Type of Feature Contribution: Contributing

IDLCS Number: 41122

LCS Structure Name: Otter Creek Cove Bridge and Causeway

LCS Structure Number: BR19P

Feature: Little Hunters Beach Brook Bridge (BR08P)

Feature Identification Number: 132278

Type of Feature Contribution: Contributing

IDLCS Number: 41119

LCS Structure Name: Little Hunters Beach Brook Bridge

LCS Structure Number: BR08P

Feature: Hunters Beach Brook Bridge (BR21P)

Feature Identification Number: 132280

Type of Feature Contribution: Contributing

IDLCS Number: 41113

LCS Structure Name: Hunters Beach Brook Bridge

LCS Structure Number: BR21P

Feature: Stanley Brook Road Bridge #1 (BR33P)

Feature Identification Number: 132282

Type of Feature Contribution: Contributing

IDLCS Number: 41133

LCS Structure Name: Stanley Brook Road Bridge #1

LCS Structure Number: BR33P

Feature: Stanley Brook Road Bridge #2 (BR32P)

Feature Identification Number: 132284

Type of Feature Contribution: Contributing

IDLCS Number: 41134

LCS Structure Name: Stanley Brook Road Bridge #2

LCS Structure Number: BR32P

Feature: Stanley Brook Road Bridge #3 (BR31P)

Feature Identification Number: 132286

Type of Feature Contribution: Contributing

IDLCS Number: 41135

LCS Structure Name: Stanley Brook Road Bridge #3

LCS Structure Number: BR31P

Feature: Stanley Brook Road Bridge #4 (BR30P)

Feature Identification Number: 132288

Type of Feature Contribution: Contributing

IDLCS Number: 41136

LCS Structure Name: Stanley Brook Road Bridge #4

LCS Structure Number: BR30P

Feature: Stanley Brook Road Bridge #5 (BR29P)

Feature Identification Number: 132290

Type of Feature Contribution: Contributing

IDLCS Number: 41137

LCS Structure Name: Stanley Brook Road Bridge #5

LCS Structure Number: BR29P

Feature: Stanley Brook Road Bridge #6 (BR28P)

Feature Identification Number: 132292

Type of Feature Contribution: Contributing

IDLCS Number: 41138

LCS Structure Name: Stanley Brook Road Bridge #6

LCS Structure Number: BR28P

Feature: Duck Brook Bridge (Paradise Hill Road) (BR01P)

Feature Identification Number: 132294

Type of Feature Contribution: Contributing

IDLCS Number: 41107

LCS Structure Name: Duck Brook Bridge (Paradise Hill Road)

LCS Structure Number: BR01P

Feature: New Eagle Lake Road Bridge (BR10P)

Feature Identification Number: 132296

Type of Feature Contribution: Contributing

IDLCS Number: 41121

LCS Structure Name: New Eagle Lake Road Bridge

LCS Structure Number: BR10P

Feature: Route 233 Bridge (Paradise Hill Road) (BR20P)

Feature Identification Number: 132298

Type of Feature Contribution: Contributing

IDLCS Number: 41123

LCS Structure Name: Route 233 Bridge (Paradise Hill Road)

LCS Structure Number: BR20P

Feature: Fish House Bridge (BR02P)

Feature Identification Number: 132300

Type of Feature Contribution: Contributing

IDLCS Number: 41112

LCS Structure Name: Fish House Bridge

LCS Structure Number: BR02P

Feature: Dane Farm Bridge (BR04P)

Feature Identification Number: 132302

Type of Feature Contribution: Contributing

IDLCS Number: 41106

LCS Structure Name: Dane Farm Bridge

LCS Structure Number: BR04P

Feature: Triad-Day Mountain Bridge (BR05S)

Feature Identification Number: 132304

Type of Feature Contribution: Contributing

IDLCS Number: 41139

LCS Structure Name: Triad-Day Mountain Bridge

LCS Structure Number: BR05S

Feature: Stanley Brook Bridge (BR26S)

Feature Identification Number: 132306

Type of Feature Contribution: Contributing

IDLCS Number: 6572

LCS Structure Name: Stanley Brook Bridge

LCS Structure Number: BR26S

Feature: Sieur De Monts Spring Bridge (BR06P)

Feature Identification Number: 132308

Type of Feature Contribution: Contributing

IDLCS Number: 41131

LCS Structure Name: Sieur De Monts Spring Bridge

LCS Structure Number: BR06P

Feature: Blackwoods Bridge (BR03P)

Feature Identification Number: 132310

Type of Feature Contribution: Contributing

IDLCS Number: 41103

LCS Structure Name: Blackwoods Bridge

LCS Structure Number: BR03P

Feature: Frazer Creek causeway

Feature Identification Number: 132312

Type of Feature Contribution: Contributing

Feature: Vegetated shoulders

Feature Identification Number: 132334

Type of Feature Contribution: Contributing

Feature: Vegetated ditches

Feature Identification Number: 132336

Type of Feature Contribution: Contributing

Feature: Mortared rubble waterways

Feature Identification Number: 132338

Type of Feature Contribution: Contributing

Feature: Stone box culverts

Feature Identification Number: 132340

Type of Feature Contribution: Contributing

Feature: Concrete box culverts

Feature Identification Number: 132342

Type of Feature Contribution: Contributing

Feature: Pipe culverts with stone headwalls

Feature Identification Number: 132344

Type of Feature Contribution: Contributing

Feature: Pipe culverts with drop-inlets

Feature Identification Number: 132346

Type of Feature Contribution: Contributing

Feature: Vegetated embankments

Feature Identification Number: 132348

Type of Feature Contribution: Contributing

Feature: Rock embankments

Feature Identification Number: 132350

Type of Feature Contribution: Contributing

Feature: Guardwalls with angular ledge stones

Feature Identification Number: 132352

Type of Feature Contribution: Contributing

Feature: Guardwalls with rectilinear quarried stones

Feature Identification Number: 132354

Type of Feature Contribution: Contributing

Feature: Earthen berms

Feature Identification Number: 132356

Type of Feature Contribution: Contributing

Feature: Dry-laid stone retaining walls

Feature Identification Number: 132358

Type of Feature Contribution: Contributing

Feature: Mortared stone retaining walls

Feature Identification Number: 132360

Type of Feature Contribution: Contributing

Feature: Dry-laid stone and mortared stone guardwalls/retaining walls

Feature Identification Number: 132362

Type of Feature Contribution: Contributing

Feature: Frazer Creek bridge (part of causeway)

Feature Identification Number: 132364

Type of Feature Contribution: Non Contributing

Feature: Entrance fee station

Feature Identification Number: 132368

Type of Feature Contribution: Non Contributing

Feature: Gravel shoulders

Feature Identification Number: 132366

Type of Feature Contribution: Non Contributing

Feature: Bituminous shoulders

Feature Identification Number: 132370

Type of Feature Contribution: Non Contributing

Feature: Loose rubble shoulders

Feature Identification Number: 132372

Type of Feature Contribution: Non Contributing

Feature: Bituminous waterways

Feature Identification Number: 132374

Type of Feature Contribution: Non Contributing

Feature: Loose rubble waterways

Feature Identification Number: 132376

Type of Feature Contribution: Non Contributing

Feature: Parking management stones

Feature Identification Number: 132378

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:

Figure 20. View of the curved causeway and bridge at Otter Cove. Unlike other bridges on the historic motor road system, this one is entirely masonry in construction. (Otter Cove Causeway 2, OCLP 1998)

Figure 21. The Stanley Brook Bridge carries the Barr Hill-Day Mountain Carriage Road over the Stanley Brook Road. The three portal structure accommodates the stream, the motor road, and a trail. (IMG0010, OCLP 2005)

Figure 22. Mortared rubble waterways can still be found along the historic motor road system, such as this one on Jordan Pond/Eagle Lake Road. (Acad0012_4.801, OCLP 2005)

Figure 23. View of one of the historic motor road system's larger culverts and stone headwalls. Some of the most impressive structures are on Jordan Pond/Eagle Lake Road. (Acad0012_3.920_Out(1), OCLP 2005)

Figure 24. Stone box culverts are among the oldest drainage structures on the historic motor road system. This picture shows the stone work of an outlet on Cadillac Mountain Road. (Acad0013_0.920_Out, OCLP 2005)

Figure 25. One of eighteen riprap embankments along Schoodic Loop Road. (Acad0301_2.430, OCLP 2005)

Figure 26. Guardwalls along Cadillac Mountain Road feature massive angular-shaped stones.(Acad0013_2.572(3), OCLP 2005)

Figure 27. Guardwalls along Kebo Mountain Road feature rectilinear quarried stones. (Acad0300_1.723(2), OCLP 2005)

Figure 28. Retaining wall along the cut side of Day Mountain Road. (Acad0300_11.697, OCLP 2005)

Figure 29. These rounded parking management stones have been installed after a run of historic rectilinear guardwall stones on Kebo Mountain Road. (Acad0300_1.760, OCLP 2005)

Views and Vistas

Historic Conditions:
The historic motor road system was planned and designed to showcase the many scenic views on Mount Desert Island and the Schoodic Peninsula. Except for the Champlain Mountain overlook on Bureau of Public Roads Project 4A2, construction drawings did not indicate the development of formal overlooks. In most cases, overlooks and pullouts were created in the field in locations where the quantities of cut and fill did not balance and excess material was available. In such circumstances, the excess stone from dynamited ledge was used to create a wider cross-section that allowed level space for vehicles to pull off the road. Numerous pullouts and parking areas were shown on the 1941 Master Plan, at which time several motor road segments were under construction or were planned but had not yet been built. These locations were presumably associated with scenic views. (CLR 2007:189-190)

In 1941, Assistant Superintendent Benjamin Hadley had been instructed to develop a plan to maintain the overlooks and manage the vegetation. From the outset, managing the vegetation below the scenic overlooks became an ongoing challenge. According to the correspondence, vegetation along the older road segments was beginning to obscure the views at this time. The 1947 fire transformed much of the eastern half of Mount Desert Island into a barren landscape, and historic photographs indicate it was not until the early 1950s that new vegetation had begun to take root. (CLR 2007:189-190)

Thanks in large part to Rockefeller's sponsorship of reforestation efforts, by 1961 vegetation in burned areas was well on its way to reclaiming the barren slopes. At this time, the park prepared a Vista Plan of overlooks and scenic views on Mount Desert Island that were to be kept clear of the quickly growing young forest. Even though the 1961Vista Plan falls outside of the historic motor road system's period of significance, it was carried out at a time when the personnel involved in the survey likely had first hand knowledge of planned historic vistas. A comparison of the 1941 pullout/parking lot locations and the 1961 vista locations shows that the pullout/parking lot locations on the 1941 plan correspond to nineteen of the sixty-seven vistas identified on the 1961Vista Plan. (CLR 2007:189-190)

According the 1961Vista Plan, the vistas were locations that had been cleared previously or were established because of the 1947 fire. A memorandum accompanying the plan outlined strategies of vista management and stated that the vistas were not to be maintained as total clear zones, but to be groomed to allow specimen trees to mature in the foreground. This technique was, and still is, well established in the traditions of landscape architecture, and provides a frame within which to view spectacular park scenery. The sheer number and scale of scenic views along the historic motor road system precluded the preparation of individual vegetation plans for each scenic vista. Instead, the views were to have been a long-term management proposition, which was to proceed under the direction of a sensitive eye, following well-established principles. The Vista Plan and the memorandum are in Appendix D in the

park's 1991 General Management Plan/Environmental Assessment. (CLR 2007:189-190, from General Management Plan and Environmental Assessment, August 1991: Appendix D, 230-239)

Post-historic and Existing Conditions:
The 1991 public review draft of the General Management Plan/Environmental Assessment used the same numbering system for the vistas and continued the philosophy of the 1961 Vista Plan. It excerpted portions of Eckart Lange's "Vista Management in Acadia National Park," which promoted uneven-age management of the effected stands and the periodic removal of trees in several or all classes. According to Lange, trees were to be individually evaluated for cutting. Information regarding bearings and widths of viewsheds as well as observation position and condition was also provided. The General Management Plan/Environmental Assessment also noted lost vistas, and of the 67 located along the historic motor road system, six were identified (#s 10,23,26,38,40,58). (CLR 2007:189-190)

The character of the views along the historic motor road system overall is much the same as it was at the end of the historic period. Inventory work undertaken in 2005/2006 for the CLR recorded the linear distance of views along the historic motor road system based on three categories: panoramic views (at least 200 feet in length, predominantly open, with a horizon line present), framed/filtered views (any length through trees to a distance, without a horizon line present), and blocked views (Figures 30-31). Including the historic motor roads on the Schoodic Peninsula, there are twenty-five panoramic views that total approximately 2.8 linear miles. There are fifty-seven framed/filtered views that total just over seven miles, and one blocked view. In several instances, a view mapped in the field corresponded to multiple historic vista points identified on the 1961 Vista Plan. Plans are underway at the park to prepare an updated vista management plan for the historic motor road system. (CLR 2007:189-190)

Character-defining Features:

Feature: Scenic views and vistas along and from historic motor road system corridors

Feature Identification Number: 132382

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:

Figure 30. A framed/filtered view across Great Meadow to Huguenot Head and Champlain Mountain, from Kebo Mountain Road Extension. (Acad0300_2.149(1), OCLP 2005)

Figure 31. Visitors can park in the right lane to take in the panoramic views from Ocean Drive. (Acad0300_7.013, OCLP 2005)

Small Scale Features

Historic Conditions:

Access Gates.

Rockefeller's grand vision of an integrated historic motor road system included the smallest of details. In 1938 he wrote to NPS Director Arno Cammerer about the need for gates to subtely inform the public that they were traveling on a park road and not a public highway. Typical of the working relationship that Rockefeller enjoyed with the NPS, Director Cammerer responded with instructions to Assistant Superintendent Hadley to advance this idea. The result of these conversations was the development of a number of different gate details for different situations throughout the park. Gates were designed for the general access to the motor road, and for access to the carriage roads. Campground gates and fire trail gates were also designed and constructed with CCC labor. (CLR 2007: 182-183)

Fences.

One of the many tasks undertaken by the CCC at Acadia was the construction of fencing. The

standard detail that was developed was called the "Down East Bunk Rail Fence," a style commonly used throughout the region and one that could even be found fronting some of the wealthier residences on Schooner Head Road. The advantage of this fence style was that its design required limited use of post holes, an important consideration given the rocky soils of Mount Desert Island. Unfortunately, the exact locations of these fences along the historic motor road system are not known, but they were presumably used around the heavily visited areas such as Ocean Drive as a way to control pedestrian traffic and protect revegetated areas. (CLR 2007:183-184)

Signage and Lights.
Signs on the historic motor road system were historically a combination of regional traditions and the rustic values espoused by the NPS. In particular, directional signage was an interpretation of many of the vernacular sign posts commonly seen at intersections in the surrounding countryside. The signs were installed by the CCC and featured an overscaled sign post with a simple finial top, with individual sign boards giving place names, directional arrows, and distances fastened to the post. Text and numbers were painted yellow on a brown background. Regulatory signage also existed throughout the historic motor road system, but details regarding those signs are not known. There is no record of park entrance or wayside signs, or lighting. (CLR 2007:184)

Monuments.
Two monuments were installed along the historic motor road system. One was at the site of the former U.S. Naval Station on Otter Point, where Otter Cliffs Road ends and Otter Cove Causeway/Blackwoods Road begins. The monument was erected in 1939 in memory of Alessandro Fabbri (1877-1922), who commanded the Otter Cliff Naval Radio Station from August 28, 1917 to December 12, 1919. Another monument was erected on the Schoodic Peninsula, at the parking area at the end of Schoodic Point Road. It honored John Godfrey Moore (1848-1899), who owned Schoodic Peninsula and in 1897 built the first public road on it. It was erected in 1929. (CLR 2007:189)

Post-historic and Existing Conditions:
Access Gates.
Only one of the original CCC gates remains today, off Schoodic Point Road at the entrance to the former naval base that now serves as the Schoodic Education and Research Center (Figure 32). The other rustic gates have fallen victim to decay or vandalism. They were not replaced due to the cost and skill required for the repair of intricate wood construction and because they were so heavy that a single person would have trouble opening them. Some of the rustic gates have been replaced with sixteen contemporary gates comprised of galvanized steel pipes, painted brown. However, one rustic gate was recently reconstructed on the Schooner Head Overlook Access Road, prior to the entrance fee station on the park loop road. (CLR 2007:183)

Fences.

There are no remaining examples of the Down East Bunk Rail Fence. There are only two sections of fence today directly adjacent to the motor roads, and they are contemporary post and rail fences. Such fences, as well as contemporary stainless steel railings, can also be found in some of the parking lots. The park has also erected temporary rope fencing at some of the developed areas, such as the Jordan Pond House, where it is used to curtail parking along the shoulders and in the lawn areas. (CLR 2007:183)

Signage and Lights.
Today, none of the rustic directional signs remain and have been replaced with modern UniCor designs and materials (UniCor is a Government Services Administration procurement program with the Federal Prison Industries). As with other units in the NPS, these signs feature a brown background with white letters and generally blend in with the surroundings, although some at Acadia are quite large. The regulatory signs throughout the historic motor road system are also contemporary in style. Most of the signs, however, are mounted on 4x4" square wood posts rather than typical metal posts. (CLR 2007:184-185)

There are currently four locations where park entrance signs have been installed. Two signs are metal, and one of them is framed in wood. The other two, at the Schooner Head Overlook Road entrance and the Sieur de Monts entrance, are wood with wood frames and represent a return to the rustic characteristics of the historic period. They were installed in the mid-1990s. (CLR 2007:184-185)

The six wayside signs found along the historic motor road system are contemporary additions but generally blend in with the landscape. Some are supported by mortared stone bases. The historic motor road system also intersects with twenty-two wood trailhead signs, which are wood posts with a cut at the top and etched writing in black describing the name of the trail and the names and mileage of upcoming trails. The only lights on the historic motor road system are located at the entrance fee station. Here, there are several street lights mounted on black-painted poles. (CLR 2007:184-185)

Monuments.
The Fabbri monument is a rectangular bronze plaque mounted on a triangular shaped granite boulder on the west side of the road, at the Fabbri picnic area (Figure 33). The Moore monument is a rectangular bronze plaque attached to a granite boulder. Both monuments are in good condition. (CLR 2007:189)

Character-defining Features:

Feature: Civilian Conservation Corps gate

Feature Identification Number: 132384

Type of Feature Contribution: Contributing

Feature: Allesandro Fabbri Memorial Plaque (MON20)

Feature Identification Number: 132386

Type of Feature Contribution: Contributing

IDLCS Number: 41356

Feature: John Godfrey Moore Memorial Plaque (MON28)

Feature Identification Number: 132388

Type of Feature Contribution: Contributing

IDLCS Number: 41362

Feature: Rustic wood access gate

Feature Identification Number: 132390

Type of Feature Contribution: Non Contributing

Feature: Galvanized steel pipe access gate

Feature Identification Number: 132392

Type of Feature Contribution: Non Contributing

Feature: Post and rail fences

Feature Identification Number: 132394

Type of Feature Contribution: Non Contributing

Feature: Stainless steel railings

Feature Identification Number: 132396

Type of Feature Contribution: Non Contributing

Feature: Contemporary regulatory signs

Feature Identification Number: 132398

Type of Feature Contribution: Non Contributing

Feature: Contemporary directional signs

Feature Identification Number: 132400

Type of Feature Contribution: Non Contributing

Feature: Metal park entrance signs

Feature Identification Number: 132402

Type of Feature Contribution: Non Contributing

Feature: Wood park entrance signs

Feature Identification Number: 132404

Type of Feature Contribution: Non Contributing

Feature: Wayside signs

Feature Identification Number: 132406

Type of Feature Contribution: Non Contributing

Feature: Wood trailhead signs adjacent to motor roads

Feature Identification Number: 132408

Type of Feature Contribution: Non Contributing

Feature: Street lights at entrance fee station

Feature Identification Number: 132410

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:

Figure 32. View of the last remaining Civilian Conservation Corps gate on the historic motor road system, at the entrance to the former U.S. Radar Station-Winter Harbor off of Schoodic Point Road. (IMG_0223, OCLP 2005)

Figure 33. The Allesandro Fabbri Memorial Plaque is located at the junction of Otter Cliffs Road and Otter Cove and Blackwoods Road, at the site of the former U.S. Radar Station before relocation to the Schoodic Peninsula. (Acad0300_8.360, OCLP 2005)

Condition

Condition Assessment and Impacts

Condition Assessment: Good

Assessment Date: 07/15/2008

Condition Assessment Explanatory Narrative:

The historic motor road system is overall in good condition. A majority of the roadways, bridges, engineering structures, and drainage features have been rehabilitated in the last fifteen years. Surface treatments have been regularly maintained to extend the life of the roadway as determined by the Federal Highway Administration - Eastern Federal Lands Highway Division. Six personnel are dedicated to the park roads and perform routine grounds maintenance, roadside mowing, road repairs (potholes and patching), culvert and drain maintenance, and removal of excessive roadside vegetation.

Stabilization Measures:

The park has requested funding to clear road side ditches and drains of sediment, debris, and obstacles through a project entitled, "Rehabilitate Shoulders and Drainage Ditches on Park Roads" (PMIS 106642). The project will reestablish proper road shoulders on the historic motor road segments on Mount Desert Island to allow runoff to flow into appropriate drains.

Impacts

Type of Impact: Deferred Maintenance

External or Internal: Internal

Impact Description: Deferred removal of excessive roadside vegetation, cyclic cleaning of ditches and culverts, and repair of damaged or failing drainage and guardwall structures along portions of the historic motor road system has been a recurring problem due to reduced funding and allocation of resources to other higher priority areas. Acadia's 50 inches of rain per year creates rapid vegetation growth and erosion. This has resulted in some road segments with inadequate shoulder areas, sight distances, and drainage capacities. Due to vegetation growth in some areas, cars using the shoulder can not completely exit traffic lanes, and the height of the vegetation restricts site distance for identifying disabled vehicles or potential obstructions, especially on curves. Similarly, poorly maintained drainage structures can result in flooding, development of gullies, and damage to road surfaces and embankments. Deferment of repairs to damaged or failing guardwalls, retaining walls, and headwalls can lead to further deterioration of these structures and become a public safety hazard.

Type of Impact:	Erosion
External or Internal:	Internal
Impact Description:	Erosion of seaside embankments has created hazardous situations in the past along some segments of the historic motor road system. Erosion also contributes to deterioration or failure of the vegetated shoulders and ditches, waterways, and culverts.
Type of Impact:	Inappropriate Maintenance
External or Internal:	Internal
Impact Description:	The use of angular-shaped parking management stones to control parking and close unpaved pullouts is incompatible with the character of the historic motor road system. As recommended in the CLR, rounded parking management stones should be used so that they are distinguishable from the angular-shaped ledge stones used in the historic guardwalls.
Type of Impact:	Vegetation/Invasive Plants
External or Internal:	Both Internal and External
Impact Description:	The scenic views from the historic motor road system are both the most popular feature of the roads and the motivation for constructing them. The 2007 CLR identified 20 vistas from a 1961 vista management plan that were no longer present due to vegetation growth and/or a lack of maintenance. Additional loss of vistas may negatively impact the visitor experience.
Type of Impact:	Visitation
External or Internal:	Both Internal and External
Impact Description:	The presence of the more obvious non-significant features throughout the historic motor road system – namely unpaved pullouts, parking management stones, bituminous waterways, and paved shoulders – can all be linked to increased visitation and increased traffic. The allowance of parking in the right lane of the one-way portions of the park loop road on Mount Desert Island may diminish the character of the historic motor road system.

Stabilization Costs

Landscape Stabilization Cost: 238,124.00

Cost Date: 02/01/2008

Level of Estimate: C - Similar Facilities

Cost Estimator: Park/FMSS

Landscape Stabilization Cost Explanatory Description:

The stabilization cost estimate above is generated from PMIS 106642.

Treatment

Treatment

Approved Treatment: Rehabilitation

Approved Treatment Document: General Management Plan

Document Date: 10/01/1992

Approved Treatment Document Explanatory Narrative:

All segments of the historic motor road system on Mount Desert Island and the Schoodic Peninsula were identified in the park's 1992 "General Management Plan" (GMP) as the "park loop road" and considered a key historic property. One of the numerous resource planning directives articulated in the GMP is to "Protect the Aesthetic and Historic Values of the Park Loop Road and Other Auto Roads." Specifically, the GMP states that the park will "protect and enhance the original design intent of the historic park loop road" and develop and implement guidelines "for the management of the road and its landscape corridor to protect the overall design and such character-defining features as vistas, road width, roadside mowing, granite coping stones, retaining walls, and gutters." The GMP also states that: new construction will be minimized and will use materials harmonious with those already used; existing additions or alterations to the system will be evaluated for compatibility and possible removal; and no new parking will be added except at Wildwood Stables. (CLR 2007:233, citing GMP 1992:18,25,33,36)

Preliminary compliance documentation related to individual rehabilitation of several segments of the motor road system was completed in a 1993 report, "Compliance Documentation and Rehabilitation Guidelines for FHWA Project #PRA-ACAD-4A10, Historic Motor Road System, Acadia National Park." As this report focused only on half of the motor road segments on Mount Desert Island, a treatment workshop held at the park in November 2006 provided an opportunity to evaluate past decisions in the 1993 report and articulate system-wide treatment recommendations. Based on the GMP and the workshop, rehabilitation was recommended and approved as the preferred treatment approach in a "Cultural Landscape Report for the Historic Motor Road System." The rehabilitation treatment acknowledges the reality that periodic work will be needed to maintain the integrity of the road surfaces, shoulders, and associated engineering structures, and to ensure that the historic motor roads contribute to a positive and memorable visitor experience. (CLR 2007:239-240)

It should be noted here that the management area of the historic motor road system is different in size than the boundary description presented in the "Geographic Information and Location Map" section of this CLI. The width of the road corridor can be generally defined as where the cut and fill slopes of the engineered road meets the undisturbed existing topography. However, as discussed in the CLR, for more practical purposes of management, the management boundary of the road corridor is defined as sixty feet, or thirty feet on either side of the road centerline. In places where the engineered slopes are either beyond or well within this 60-foot corridor, or where there are managed vistas, paved pullouts, or parking lots, the boundary can be adjusted inward or outward as conditions require. (CLR 2007:241-242)

Approved Treatment Completed: No

Approved Treatment Costs

Cost Date: 10/01/1992

Bibliography and Supplemental Information

Bibliography

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Year of Publication: 1888

Citation Publisher: Bar Harbor Record

Citation Author: Allen, Joseph

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Year of Publication: 1925

Citation Publisher: New York Herald Tribune

Citation Author: Brown, Margaret Coffin

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Year of Publication: 2006

Citation Publisher: Boston, MA: NPS, Olmsted Center for Landscape Preservation

Citation Author: Butcher, Russ

Citation Title: "Carriage Roads and Bridges of Acadia National Park," August 1972.

Year of Publication: 1972

Citation Publisher: Downeast Magazine

Citation Author: Cammerer, Arno and Thomas Vint

Citation Title: "Memorandum on a Development Plan for Lafayette National Park." MSS, 1927, 19-21. National Archives, Record Group 79, Acadia National Park file.

Year of Publication: 1927

Citation Author: Cammerer, Arno

Citation Title: "Report of Inspection Trip to Lafayette National Park, Maine," 10 June 1922, NARA, Record Group 79, Central Classified Files.

Year of Publication: 1922

Citation Author: Eliot, Charles W. II

Citation Title: "The Future of Mount Desert Island: A Report to the Planning Committee, Bar Harbor Village Improvement Association." Bar Harbor, Maine: Bar Harbor Village Improvement Association, 1928.

Year of Publication: 1928

Citation Author: Evans, Catherine

Citation Title: "Evaluation of Eligibility of the Historic Motor Road System, Acadia National Park, for the National Register of Historic Places."

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