



National Park Service
U.S. Department of the Interior
Hovenweep National Monument
Cortez, Colorado

Construct a Public Parking Lot for Goodman Point Unit

Environmental Assessment/Assessment of Effect

June 2009



Overview of Goodman Point Unit

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Summary

Hovenweep National Monument (HOVE) proposes to construct a new parking lot at its Goodman Point Unit. The new parking lot would replace the existing current pull-off located on the shoulder of Montezuma County Road P currently being used as a parking lot. This small parking area, located between the NPS fenceline and the edge of County Road P, has recently been compromised by road work along County Road P and a new parking area is required. The construction project will provide a permanent, minimally intrusive, convenient, and safe parking lot and address the safety risks associated with parking along an increasingly busy county road.

This environmental assessment (EA) evaluates three alternatives: a no action and two action alternatives. The no action alternative addresses using the current pull-off area outside the boundary of Goodman Point Unit. The two action alternatives address the construction of the new parking lot in two different locations within the northern boundary of Goodman Point Unit. An assessment of effect (AEF) addresses the issues of constructing a parking lot on cultural resources and is included with the developed EA. This combined environmental assessment/assessment of effect (EA/AEF) has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to HOVE's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. This EA/AEF will also meet the obligations for §106 of the National Historic Preservation Act of 1966 and is in accordance with the Advisory Council on Historic Preservation.

Resource topics included in this document because the resultant impacts may be greater-than-minor are archeological resources, cultural landscapes, soil, vegetation, visitor use and experience and park operations. All other resource topics have been dismissed because the project would result in negligible or minor effects to those resources. Public scoping was performed to assist with the development of this document and three comments were received, all in support of the proposed project.

Public Comment

If you wish to comment on the Environmental Assessment/Assessment of Effect, you may post comments online at <http://parkplanning.nps.gov/hove> under Construct a Public Parking Lot for Goodman Point Unit or mail comments to:

Compliance Coordinator, Southeast Utah Group
National Park Service
2282 W. Resource Blvd
Moab, UT 84532

This EA/AEF would be on public review for 30 days ending June 27, 2009. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we would be able to do so.

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Abbreviations

ACHP	Advisory Council of Historic Properties
AEF	Assessment of Effect
APE	Area of Potential Effect
CDOW	Colorado Department of Wildlife
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
DO	Director's Order
DOI	Department of Interior
EA	Environmental Assessment
HOVE	Hovenweep National Monument
NEPA	National Environmental Policy Act
NHPA	National Historical Protection Act
NPS	National Park Service
SEUG	Southeast Utah Group
SHPO	State Historical Preservation Office
USFWS	United States Fish and Wildlife Service
§	Section

CHAPTER 1: PURPOSE AND NEED

Introduction

Hovenweep National Monument (HOVE) is located in southeastern Utah and southwestern Colorado. It was first established by Warren G. Harding in 1923 through Presidential Proclamation 1654 (42 Statute 2299). The Proclamation states in part, "Whereas, there are in southwestern Colorado and southeastern Utah four groups of ruins, including prehistoric structures, the majority of which belong to unique types not found in other National Monument's, and show the finest prehistoric masonry in the United States; and It appears that the public good would be promoted by preserving these prehistoric remains as a National Monument with as much land as may be necessary for the proper protection thereof, ... that there is hereby preserved, subject to prior valid claims and set apart as a National Monument to be known as Hovenweep National Monument ..."

Subsequent Presidential Proclamations 2924, April 29, 1951; 2998, November 20, 1952, 3132, April 6, 1956; and Public Land Order 2604, February 5, 1962, added other areas and adjusted the boundaries of the monument. Given the proclamations listed above and the Organic Act of August 25, 1916 (Public Law 235, 39 Stat. 535) the National Park Service's mandate is to preserve and protect the cultural and natural resources associated with the six ruin groups, and to assist visitors in understanding the life and culture of the prehistoric inhabitants and their adaptation to the environment.

The resource values at HOVE consist of significant cultural resources and their associated pristine natural settings. The Cajon, Square Tower, Holly, Horseshoe/Hackberry, Cajon, and Cutthroat units contain clusters of Ancestral Puebloan room blocks and towers situated around canyon heads containing permanent springs. These canyon rim towers and villages are the best preserved and protected, most visually striking, and accessible examples of 13th century Ancestral Puebloan architecture and community locations within the San Juan River Basin. Other archeological sites representative of Paleo-Indian, Archaic, and early Puebloan occupation are also found here. These five units are particularly significant because they contain a large number and wide variety of structures possessing a high degree of physical and locational integrity. In addition, the towers are noteworthy because of their many stylistic variations.

The Goodman Point Unit, the eastern-most unit of HOVE (Figure 1), is located in Montezuma County, Colorado and consists of the collapsed remains of a large Ancestral Puebloan village that was inhabited during the Pueblo II and Pueblo III time periods, approximately spanning the years AD 900 to AD 1300. The village site represents one of the largest Ancestral Puebloan communities in the San Juan Basin consisting of approximately 1,000 rooms and numerous kivas and towers. One great kiva is located at the southern edge of the site. There is evidence of an ancient roadway segment in the northern portion of the unit and elsewhere remnants of check dams, ditches, and irrigation systems can be found.

These remains reflect Goodman's Point position as a regional center for the Mesa Verde Ancestral Pueblos, and it is the one of the longest-protected sites in the West. On



Figure 1.

September 13, 1889 it became the first archeological site withdrawn from homesteading by the federal government (NPS 2008).

Unlike the other units of Hovenweep, which are located at canyon heads, Goodman Point is situated in a mesa top location between two canyons, Goodman Canyon and Sand Canyon. Its proximity to the large village site in Sand Canyon, part of Canyons of the Ancients National Monument, has raised intriguing questions about the relationship between the two villages. The crumbled ruins of this extensive pueblo have been extensively overgrown by vegetation so there is little for the untrained eye to see.

The purpose of this environmental assessment/ assessment of effect (EA/AEF) is to examine the environmental impacts associated with the proposal to construct a new parking lot at Goodman Point Unit in Hovenweep National Monument. The new parking lot would be constructed near, and replace, the site that currently serves as the current Goodman Point Unit parking lot since that area that has become unsafe due to recent and planned roadwork and was not intended for

long-term public use. This EA/AEF was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and the National Park Service Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*). The assessment of effect was developed in conjunction with this EA to meet its obligations for NEPA and under §106, in accordance with the Advisory Council on Historic Preservation's regulations implementing §106 (36 CFR 800.8, Coordination with the National Environmental Policy Act).

Background

Parking for the Goodman Point Pueblo consists of a 67' x18' pull-off area along Montezuma County Road P in the public right-of-way between the NPS fenceline and the road. This pull-off area is small and can safely accommodate only 2-3 vehicles. Once the pull-off area is full, visitors, monument staff and researchers must park elsewhere. For example, the large vans driven by researchers from Crow Canyon Archaeological Center cannot fit in the current parking area and they must be parked on private land further along County Road P. Vehicle traffic on County road P has increased significantly in recent years due to active oil & gas development and residential expansion in the Goodman Point area. These pressures are likely to continue growing in future years. Oil and gas development has introduced use by heavy, sometimes oversized, truck traffic and with the projected paving of the road, vehicle speeds will in all probability increase. County Road P also crests a hill immediately adjacent to the current pull-off heightening safety risks for individuals entering and exiting the site or walking next to the road.

In addition, Montezuma County has added gravel and regraded County Road P to prepare it for chip sealing which was originally planned for the summer of 2008. Regrading County Road P made the road wider and created a steep drop-off between the road edge and the current parking area. At that time the county gave a general offer to the National Park Service to provide fill and/or chip sealing materials to improve and enlarge the existing pull-off area located in the right-of-way. The National Park Service agreed to consider its options for improving the pull-off in order to assist the county with finalizing preparations for paving the road. However due to a shortage of materials in 2008 chip sealing was not completed as planned and the county is now proposing to pave County Road P in the summer of 2009. Furthermore, after extra consideration the county has now requested that the current parking area be removed entirely from the right-of-way.

Purpose and Need

Montezuma County officials, local residents, Crow Canyon Archeological Center staff, and monument staff all recognize that this situation is no longer feasible and propose establishing a designated parking lot beyond the road right-of-way within the northern boundary of the Unit. The Montezuma County Highway Department and a County Commissioner have specifically requested the

monument to address this issue and have offered to actively support implementation of a solution.

This project would construct a small, gravel parking lot about 2500 square feet (50'x50') within the Goodman Point Unit adjacent to its north boundary. The lot would provide parking for approximately six vehicles and would correct a safety issue which endangers monument visitors, employees, researchers, local residents and the general public. By moving the parking area away from the county road and enlarging the parking area, visitors and employees accessing the Unit would be able to park safely away from the road and its inherent safety concerns.

The project is needed to accomplish the following objectives;

1. To provide a safe, permanent parking area that meets federal and state standards.
2. To provide a convenient parking location for visitors and monument staff and researchers that facilitates the monument's operations.
3. To identify a site for the new parking area that minimizes impacts to the monuments resources and would not result in impairment to these resources.

Relationship to Other Plans and Policies

Current plans and policy that pertain to this proposal include the draft *General Management Plan* (NPS 2008) and the 2006 *Management Policies* (NPS 2006). The following is more information pertaining to how this proposal meets the goals and objectives of these plans and policies.

- This project is consistent with the draft General Management Plan, which proposes small scale improvements to parking areas while still focusing on preserving the resources and the remote primitive character of HOVE.
- The proposal is consistent with the goals and objectives of the 2006 National Park Service *Management Policies* (NPS 2006) that state that parking areas would be located to not unacceptably intrude, by sight, sound, or other impact, on monument resources or values. When parking areas are deemed necessary, they would be designed to harmoniously accommodate motor vehicles and other appropriate users. Permanent parking areas would not normally be sized for the peak use day, but for the use anticipated on the average weekend day during the peak season of use.

Appropriate Use

Sections 1.4 and 1.5 of NPS 2006 *Management Policies* direct that the National Park Service must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on, park resources and values. A new form of park use may be allowed within a park only after a determination has been made in the professional judgment of the park manager that it would not result in unacceptable impacts.

Section 8.1.2 of NPS 2006 *Management Policies, Process for Determining Appropriate Uses*, provides evaluation factors for determining appropriate uses. All proposals for park uses are evaluated for

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the service; and
- whether the public interest would be served.

Park managers must continually monitor all park uses to prevent unanticipated and unacceptable impacts. If unanticipated and unacceptable impacts emerge, the park manager must engage in a thoughtful, deliberate process to further manage or constrain the use, or discontinue it. More information on the definition of unacceptable impacts as cited in §1.4.7.1 of NPS 2006 *Management Policies* can be found in the *Affected Environmental and Environmental Consequences* chapter.

A parking lot is a common and vital structure in most park units. Proper location, sizing, as well as construction materials and methods would ensure that unacceptable impacts to monument resources and values would not occur. The proposed parking lot is consistent with the monument's general management plan and other related park plans. With this in mind, the NPS finds that creation and use of a parking lot is an acceptable use at Hovenweep National Monument.

Public Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Hovenweep National Monument conducted both internal scoping with appropriate NPS staff and external scoping with the public and interested/affected groups and agencies.

Internal scoping was conducted by an interdisciplinary team of professionals from Hovenweep National Monument and the Southeast Utah Group (SEUG). Interdisciplinary team members met on June 11, 2008 on site to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. Over the course of the project, team members also conducted additional site visits to view and evaluate the proposed sites and issues for the new parking lot at Goodman Point Unit.

External scoping was initiated with the distribution of a scoping letter and brochure to inform the public of the proposal to construct a new parking lot, and to generate input on the preparation of this EA/AEF. The scoping letter as well as a press release for local newspapers dated February 20, 2009 was mailed to interested parties, in the Cortez and Dolores areas including landowners adjacent to the monument. In addition, the scoping letter was mailed to various federal and state agencies, consulted Native American Tribes, and local governments. The scoping brochure was also posted on the PEPC website.

During the 21-day scoping period, three responses were received. The responses all came from consulted Native American Tribes who had no objection to the proposed project and requested to be kept informed of the project's progress. However, if additional cultural resources are identified during the projects progress that would be adversely affected by project activities; they would like the opportunity for additional review and comment. More information regarding scoping can be found in *Comments and Coordination*.

Impact Topics Retained for Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; 2006 *Management Policies*; and National Park Service knowledge of resources at Hovenweep National Monument. Impact topics that are carried forward for further analysis in this EA/AEF are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the existing setting or baseline conditions (i.e. affected environment) within the project area would be used to analyze impacts against the current conditions of the project area in the *Affected Environment and Environmental Consequences* chapter.

Archeological Resources

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve cultural resources for the enjoyment of present and future generations. Management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources. The National Park Service would protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the 2006 *Management Policies* and the appropriate Director's Orders.

Section 106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*); the National Park Service's Director's Order-28 *Cultural Resource Management Guideline*; and National Park Service 2006 *Management Policies* require the consideration of impacts on historic properties that are listed on or eligible to be listed in the National Register of Historic Places. The National Register is the nation's inventory of historic places and the national repository of documentation on property types and their significance. The above-mentioned policies and regulations require federal agencies to coordinate consultation with State Historic Preservation Officers regarding the potential effects to properties listed on or eligible for the National Register of Historic Places.

In addition to the National Historic Preservation Act and the National Park Service 2006 *Management Policies*, the National Park Service's Director's Order-28B *Archeology* affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are

nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park System reflect a commitment to the conservation of archeological resources as elements of our national heritage.

The proposed location for the parking lot was 100% surveyed, and archeological sites were identified in and near the immediate project area (Hovezak et al. 2004). The area proposed for development is located within the western extent of one archeological site. Although no apparent structural rubble exists within the proposed area for development, intact cultural deposits of artifacts or other subsurface materials is likely, therefore this topic will be retained for further analysis.

Cultural Landscapes

Cultural landscapes are settings humans have created in the natural world. They reveal the ties between the people and the land. These ties are based on the need to grow food, build settlements, recreate, and find suitable land to bury their dead. They range from prehistoric settlements to cattle ranches, from cemeteries to pilgrimage routes. They are the expressions of human manipulation and adaptation of the land. Cultural Landscape Inventories have not been completed for Hovenweep and after analyzing proposed actions of constructing a parking lot, the new parking lot may detract from the integrity of a possible cultural landscape. The proposed parking lot would also affect spatial arrangement, vegetation and visual resources of the cultural landscape. Therefore this topic will be retained for further analysis.

Soil

According to the National Park Service's 2006 *Management Policies*, the NPS would strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The proposed construction of a new parking area would be located in an area of the monument that does not contain significant topographic or geologic features. However, Goodman Point Unit contains a wide range of soils. Three soil complexes occupy the gently sloping hills and mesas which are like the location of the proposed parking area. Biological soil crusts are also well developed within HOVE, particularly where thin sandy soils overlie slickrock and in the nutrient poor openings between tree canopies and clumps of vascular plants. No ground disturbance is anticipated, nevertheless, soil compaction would occur due to the fill material that would be laid on top of the soil surface. Additional fill would be required to create a level surface for the parking area, but would have a negligible to moderate effect to the soils of this area. Soils may also be disturbed and compacted on a temporary basis in the locations used to access the parking area as well as in the immediate area of the parking lot. Therefore, soil will be retained for further analysis.

Vegetation

According to the National Park Service's 2006 *Management Policies*, the National Park Service strives to maintain all components and processes of naturally

evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). The existing vegetation in the project area primarily consists of basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), rubber rabbitbrush (*Ericameria nauseosa*), two-needle pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) (NPS 2009a).

Vegetation, only within the parking area, would be hand cut flush to the ground's surface and removed from the area. Approximately 2 to 5 trees could be removed from this area as well. The potential to introduce or increase exotic vegetation during construction activities is a possibility. Therefore, vegetation will be retained for further analysis.

Visitor Use and Experience

According to NPS 2006 *Management Policies*, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units (NPS 2006). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and would maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service would provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park Service 2006 *Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect (NPS 2006). Also in accordance with NPS 2006 *Management Policies*, policy states that the National Park Service and its concessionaires, contractors, and cooperators will seek to provide a safe and healthful environment for visitors as well as employees.

The Goodman Point Unit can receive an estimated 400 visitors a year. Visitors typically visit this group to see the Goodman Point Pueblo and hike the trail through the site. Construction of the proposed parking lot may create adverse and beneficial impacts that would be minor to moderate to visitor use and experience. Not constructing a parking lot may also have moderate adverse impacts to visitor use and experience. However, establishing a safe, permanent parking area for visitors, employees and researchers to use is a beneficial objective of this EA/AEF. Therefore, visitor use and experience will be retained for further analysis.

Park Operations

Constructing a new parking lot at Goodman Point Unit may have a minor to moderate effect on park operations. The proposed size and material used would have a minor effect on maintenance issues and would not require additional equipment or staff to implement and maintain the new parking area outside of current maintenance issues. Maintenance needs after completion would be minimal and only needed the next 2 to 5 years. This would include dealing with erosion and adding fill material if needed. However, one site of the proposed parking area would require more fill and maintenance than the other since the proposed area has a greater slope.

The project may also have minor impacts to law enforcement operations given that the proposed parking lot may present a nuisance use issue by providing a

new secluded space for loitering for local individuals. Increased patrols may be required, if this becomes an issue.

Not constructing the parking lot would have moderate adverse impacts to monument research programs by not providing a safe parking area within or near Goodman Point Pueblo. Because the new parking lot would experience negligible to minor to moderate impacts to park operations, this topic will be retained for further analysis.

Impact Topics Dismissed from Further Analysis

In this section of the EA/AEF, NPS provides a limited evaluation and explanation as to why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e. no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented. There is no impairment analysis included in the limited evaluations for the dismissed topics because the NPS's threshold for considering whether there could be an impairment is based on "major" effects.

Air Quality

The Clean Air Act of 1963 (42 U.S.C. 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. Hovenweep National Monument is designated as a Class II air quality area under the Clean Air Act. A Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter as specified in §163 of the Clean Air Act. Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts (EPA 2009).

Construction activities such as hauling materials and operating heavy equipment would result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area. Any exhaust, emissions, and fugitive dust generated from construction activities would be temporary and localized and

would likely dissipate rapidly because air stagnation at Hovenweep National Monument is rare. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction. The Class II air quality designation for Hovenweep National Monument would not be affected by the proposal. Further, because the Class II air quality would not be affected, there would be no unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because there would be negligible effects on air quality, and the proposed actions would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

Threatened and Endangered Species and State Listed Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service (or designated representative) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the NPS 2006 *Management Policies* and Director's Order-77 *Natural Resources Management Guidelines* require the National Park Service to examine the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species (NPS 2006). For the purposes of this analysis, the U.S. Fish and Wildlife Service (USFWS) and the Colorado Division of Wildlife (CDOW) were contacted with regards to federally- and state-listed species to determine those species that could potentially occur on or near the project area.

An email from the USFWS dated February 27, 2009 submitted a county by county list of threatened and endangered species. With regard to Montezuma county, there are no records of threatened or endangered species in the project area, and no further consultation under §7 of the Endangered Species Act are necessary (USFWS 2008). The Colorado Division of Wildlife did not respond. A species lists was retrieved from the CDOW website (CDOW 2008) and three state-listed species have been known to occupy HOVE and/or Goodman Point Unit (NPS 2009a).

It was determined after a wildlife survey by a SEUG wildlife biologist that there is no evidence of any state-listed species or threatened and endangered species within the project area or vicinity. The sage habitat appeared to be too dense and the soil too compact to appeal to the three Colorado state special concern species found in HOVE, the Leopard Lizard (*Gambelia wislizenii*), the Common King Snake (*Lampropeltis getula*), Botta's Pocket Gopher (*Thomomys bottae rubidus*) (Sloan 2009). Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because there are no known threatened, endangered and state listed species near or within the project area and the proposed actions would not result in any unacceptable impacts, this topic is dismissed from further analysis.

Soundscape

In accordance with 2006 *Management Policies* and Director's Order-47 *Sound Preservation and Noise Management*, an important component of the National Park Service's mission is the preservation of natural soundscapes associated with national park units (NPS 2006). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

During construction, human-caused sounds would likely increase due to construction activities, equipment, vehicular traffic, and construction personnel. Equipment and personnel would consist of two to three pieces of equipment and less than five NPS employees. Any sounds generated from construction would be temporary, lasting only as long as the construction activity is generating the sounds, and would have a negligible to minor adverse impact on visitors and employees. Further, such negligible or minor impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

Water Resources

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The proposed project area does not contain surface waters, and is mostly dry, except for periodic runoff during storm events. Water quality and water quantity from storm water runoff may have minor affects but would be temporary. The proposed action would result in minor effects to water resources but would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, §404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in 2006 *Management Policies* and Director's Order 77-1 *Wetlands Protection*, strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In accordance with DO 77-1 *Wetlands Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a statement of findings for wetlands.

No wetlands are located in the project area; therefore, a Statement of Findings for wetlands would not be prepared. The impact of constructing or not constructing the parking lot on wetlands would be negligible. Further, there would be no unacceptable impacts to wetlands; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because there are no wetlands in the project area and because there would be no unacceptable impacts, this topic is dismissed from further analysis in this document.

Floodplains

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The National Park Service under 2006 *Management Policies* and Director's Order 77-2 *Floodplain Management* would strive to preserve floodplain values and minimize hazardous floodplain conditions. According to Director's Order 77-2 *Floodplain Management*, certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains.

The project area for the new parking area is not within a 100-year floodplain; therefore, a statement of findings for floodplains would not be prepared. The impact of the parking lot on floodplains would be negligible. Further, there would be no unacceptable impacts to floodplains; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because there are no floodplains in the project area, there would be no unacceptable impacts. Therefore this topic is dismissed from further analysis in this document.

Historic Structures

§106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*); the National Park Service's Director's Order-28 *Cultural Resource Management Guideline*; and National Park Service 2006 *Management Policies* require the consideration of impacts on historic structures that are listed on or eligible to be listed on the National Register of Historic Places. The National Register is the nation's inventory of historic places and the national repository of documentation on property types and their significance. The above-mentioned policies and regulations require federal agencies to coordinate consultation with State Historic Preservation Officers regarding the potential effects to properties listed on or eligible for the National Register of Historic Places.

The term “historic structures” refers to both historic and prehistoric structures, which are defined as constructions that shelter any form of human habitation or activity. The proposed location for the parking lot was 100% surveyed and there were no historic or prehistoric structures found within the proposed parking area. Because there are no historic structures in the project area, there would be no unacceptable impacts. Therefore, this topic is dismissed from further analysis in this document.

Ethnographic Resources

Ethnographic resources are defined by the National Park Service as a “site, substance, object landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (Director’s Order -28). Although no formal survey has been conducted, the monument may have a number of resources that could be considered ethnographic.

E.O. 13007 directs federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. Specifically, federal agencies are directed to (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites.

At Hovenweep, tribal representatives, through consultation, have identified resources such as seeps and springs that are associated with subsistence, religious, ceremonial, or other traditional activities. However, no ethnographic resources were identified near or within the project site. The National Park Service would continue to consult with these Native American Tribes and copies of the Goodman Point Parking Lot EA/AEF would be forwarded to each consulted tribe or pueblo for review or comment. If subsequent issues or concerns are identified, appropriate consultations would be undertaken. Because no ethnographic resources exist within the area and impacts will be negligible, this topic will not be retained for further analysis.

Museum Collections

According to Director’s Order 24, *Museum Collections*, the National Park Service requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections. The NPS has recently entered into a cooperative agreement with Crow Canyon Archeological Center. Crow Canyon is a non-profit organization that is in the process of conducting a six year testing project which includes archeological excavations and processing artifacts within Goodman Point Unit. Any artifacts that are collected within the proposed parking area from the archeological sites are part of Crow Canyon’s scope of work and would not impact the NPS museum collections. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

Long-term Management of Resources or Land/Resource Productivity

CEQ's NEPA regulations 40 CFR §1502.16 require a discussion of "...the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity..."

The development of a 2500 sq. foot parking area would permanently remove 2500 sq. feet of vegetation from Hovenweep National Monument. This could have a long-term ecological impact to this energy producing area and could diminish the total productivity of soils and vegetation and affect wildlife. However, the size of this proposed site is relatively small and the less than minor impacts are worth the long-term benefits of providing a safe parking area for visitors and monument staff and researchers. Further, there would be no unacceptable impacts to long-term management of resources or land/resource productivity; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because the impacts to long-term management and productivity in the project area would be less than minor and there would be no unacceptable impacts, this topic is dismissed from further analysis in this document.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to the NRCS, the project area does not contain prime or unique farmlands (NRCS 2003). Further, there would be no unacceptable impacts to prime and unique farmlands; the proposed actions are consistent with §1.4.7.1 of NPS 2006 *Management Policies*. Because there would be negligible effects on prime and unique farmlands, this topic is dismissed from further analysis in this document.

CHAPTER 2: ALTERNATIVES CONSIDERED

During June 2008 an interdisciplinary team of National Park Service employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need*, and a list of alternatives that could potentially meet these objectives. A total of four action alternatives and one no action alternative were originally identified for this project. Of these, two of the action alternatives were dismissed from further consideration for various reasons, as described later in this chapter. The no action alternative and two action alternatives are carried forward for further evaluation in this EA/AEF. A summary table comparing alternative components is presented at the end of this chapter.

Alternatives Carried Forward

Alternative 1- No Action- Use current parking area. Continue to use the current 67' x 18' pull-off area along Montezuma County Road P.

In the past, this pull-off area could safely accommodate 4-5 vehicles. Once the pull-off area was full, visitors, monument staff and researchers would park elsewhere along the county road. Today, current regrading of the county road P has created a steep edge along each side of the road and parking in this location can only accommodate 2-3 vehicles and is no longer safe or feasible. Montezuma County has requested that the current parking area be removed entirely from the right-of-way.

Due to nearby oil and gas development, vehicle traffic has increased and the county road is used by more and more heavy, sometimes oversized, truck traffic. With the projected paving of the road, vehicle speeds will in all probability increase. County Road P also crests a hill immediately adjacent to the current pull-off heightening safety risks for cars entering and exiting the pull-off area or individuals walking next to the road.

Under this alternative, this parking area, with its steep edge, would remain and would be the only place visitors, monument employees and researchers can park. There would be no additional improvements to this area and no new parking area would be built.

Alternative 2 – Action- Construct New Parking Lot: Option 1- Construct a parking area 15 feet west of the existing Goodman Point Pueblo trail.

This alternative proposes to construct an approximately 2500 square foot (50'X50') parking area parallel to the existing trail to the Goodman Point Pueblo plus the entrance area to the lot (~3000 sq. ft total). A 16" to 18" wide culvert approximately 24 feet long would be installed under the entrance access road and may be installed by monument maintenance personnel or county road personnel.

This alternative would require that no trees be removed even though vegetation would still need to be cut flush to the ground. A fabric barrier would be placed

on top of the cut vegetation and the soil surface and less than 370 cubic yards of fill material would be placed on top of the fabric barrier. One inch layer of wash rock would be placed under one inch layer of gravel fill. The proposed location of this alternative would require less fill material and less overall maintenance. However, this location would potentially have a greater impact on cultural resources in the area. Located on the east edge of the proposed parking area is the western extent of an artifact scatter (see Figure 2).

The main boundary fenceline along the road, with an opening created for access to the parking area (8'-10' wide), will remain barbed wire. A new metal t-post fence with barbless wire would be constructed around the perimeter of the parking area with a 'cow bender' gate to access the adjacent trail (2'-3' wide). The soil along the proposed fenceline would be disturbed during the placement of the metal posts. A 10' vegetative buffer would be left along the north boundary of the parking area to the existing fence to screen the parking area from the road.

All gravel material will be commercially purchased and brought to the proposed site as a haul and dump operation. There will be no staging areas or borrow sources.

Alternative 3- Action- Construct New Parking Lot: Option 2- Construct a parking area 30 feet west of the existing Goodman Point Pueblo trail.

This alternative proposes to construct the same size parking area as Alternative 2 (2500 sq. ft) but would be located approximately 30' west of the existing trail to the Goodman Point Pueblo. The entrance access road would be longer for this alternative and would require additional material. A 16" to 18" wide culvert approximately 24 feet long would be installed under the entrance access road and may be installed by monument maintenance personnel or county road personnel. A fabric barrier would be placed on top of the cut vegetation and the soil surface and approximately 370 cubic yards of fill material would be placed on top of the fabric barrier. Two inch layer of wash rock would be placed under two inch layer of gravel fill. Due to the greater slope issue, six to ten inches of rip rap along the west and southwest edge of proposed parking area would be needed to level and hold the fill material. The proposed location of this alternative would require more fill material and more overall maintenance upkeep due to erosional issues as the fill material would potentially erode. This alternative would also impact more vegetation since 2-5 juniper and or pinyon pine trees would need to be removed. Under this alternative, only a small portion of cultural resources within the parking area boundary may be affected (see Figure 2).

The main boundary fenceline along the road, with an opening for access to the parking area (8'-10' wide), will remain barbed wire and a new metal t-post and barbless wire fence would be constructed around the perimeter of the parking area with a 'cow bender' gate to access the adjacent trail (2'-3' wide). The soil along the proposed fenceline would be disturbed for the placement of the metal posts. A 10' vegetative buffer would be left along the north boundary of the parking area to the existing fence to screen the parking area from the road.

All gravel material will be commercially purchased and brought to the proposed site as a haul and dump operation. There will be no staging areas or borrow sources.

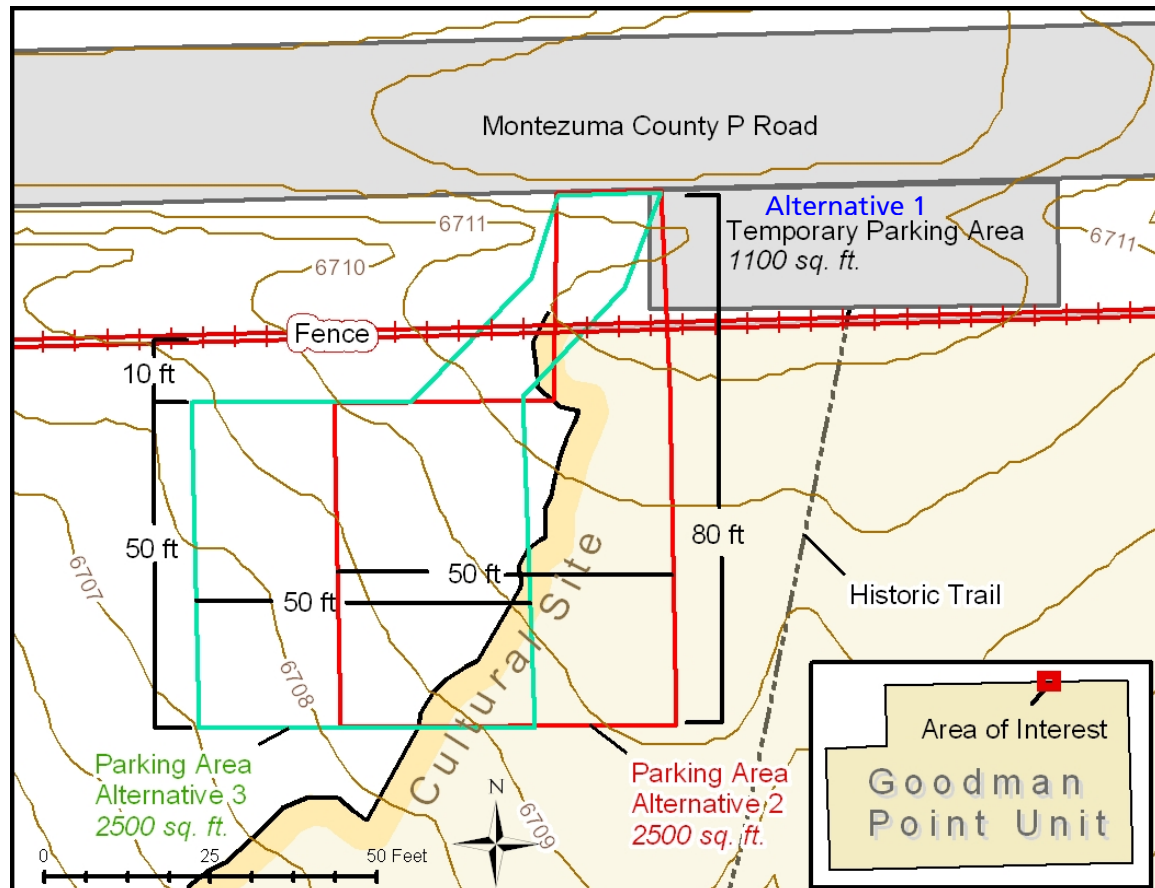


Figure 2. Location of Project and Proposed Alternatives

Alternatives Considered and Dismissed

A number of alternatives were developed based on the results of internal and external scoping. Alternatives are different ways to meet the purpose and objectives, while resolving needs or issues. The following section discusses those alternatives considered, but eliminated from further study. This discussion also includes an explanation of why these alternatives did not warrant additional analysis. These alternatives and issues were eliminated from detailed study because they did not meet the criteria below.

- (a) technical or economic infeasibility.
- (b) inability to meet project objectives or resolve need.
- (c) duplication with other, less environmentally damaging or less

expensive alternatives.

(d) conflict with an up-to-date and valid park plan, statement of purpose and significance, or other policy, such that a major change in the plan or policy would be needed to implement.

(e) too great an environmental impact.

These alternatives were considered, but were eliminated from detailed study:

Construct a parking area on the north side of County Road P. Several locations along the entire north boundary of the Unit were analyzed for potential consideration. This alternative was rejected since these areas were also along the right-of-way and/or on private property. This alternative would also be highly visible from the county road which does not meet the selection criteria of being minimally visible from the road. This alternative would also require visitors, staff and researchers to cross the county road to enter the Unit which would not meet the selection criteria of safety, a project objective. Therefore, this alternative is not a feasible option.

Other possible locations along County Road P- These locations were rejected because of recognized and mapped archeological sites and other prehistoric cultural features, poor visibility by vehicle traffic on County Road P, deep ditch line, drainage features on the landscape, and/or dense vegetation.

Mitigation Measures

The following mitigation measures were developed to minimize the degree and/or severity of adverse effects and are common to action alternatives.

- A vegetative buffer will be left along the monument boundary and the boundary of the parking area to screen the parking area from the road.
- All vegetative material only within proposed parking area will be hand cut flush to the soil surface with no ground disturbance.
- The only ground disturbance outside the parking area will be removing and/or installing metal T-post fencing around the new parking area.
- A new fence will be installed around the perimeter of the lot with a "Y" gate in the southeast corner to permit foot traffic to access the current adjoining trail.
- In the unlikely event cultural resources materials are inadvertently discovered during the project, all construction activities will be halted until the materials can be analyzed and recovered by NPS archeologists. The state historic preservation officer and the Advisory Council on Historic Preservation, will be consulted as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. If needed, formal §106 compliance will be conducted prior to resuming construction. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.

- Parking area will be identified and may be fenced with construction tape or some similar material prior to construction activity. The fencing will define the construction zone and confine activity to the minimum area required for construction.
- The NPS will gain Montezuma County approval for installation of the culvert under entrance access road, if monument maintenance personnel install culvert.
- To reduce the impacts of monument personnel on natural and cultural resources personnel and equipment will stay within the proposed parking lot boundary as much as possible while constructing the parking area.
- Safety signs will be placed at the intersection of the parking lot entrance and county road stating "Trucks Entering Road".
- Construction equipment will be placed as a barrier to the parking lot during non- work periods to prevent entrance to the construction area.
- Revegetation efforts will strive to reconstruct the natural spacing, abundance, and diversity of natural vegetation using native species. All disturbed areas will be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. Weed control methods will be implemented to minimize the introduction of non-native species.
- A stop sign will be installed at the intersection of the parking lot and county road when the parking lot is completed.

Alternative Summaries

Table 1 summarizes the major components of Alternatives 1, 2 and 3 and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative 2 meets each of the objectives identified for this project, while the Alternative 1 and 3 does not address all of the objectives.

Table 1: Alternatives Summary and Project Objectives

Meets Project Objectives?	Alternative 1: No Action	Alternative 2: Action	Alternative 3: Action
	Use current pull-off area.	Construct an approximate 50'X50' parking area parallel to the existing trail to the Goodman Point Pueblo.	Construct the same size parking area as Alternative 2 but would be located approximately 30' west of the existing trail to the Goodman Point Pueblo.
To provide a safe, permanent parking area that meets federal and state standards.	This option would not allow a safe, permanent parking area that meets federal and state standards. Impacts to the safety of visitors and staff would be significant by not providing a safe parking area away from county road traffic. Also there are no level areas along the sides of the road due to the steep ditch created by recent road work.	This location also provides a safe, permanent parking area that meets federal and state standards. This location would provide a safe area to park away from county road traffic.	This location provides a safe, permanent parking area that meets federal and state standards. This location would provide a safe area to park away from county road traffic.
To provide a convenient parking location for visitors and monument staff that facilitates the monument's operations.	This option does not provide a convenient location for visitors and monument staff since Montezuma County has requested that this pull-off area no longer be used. This alternative will not facilitate the monuments operations since it does not provide a safe location for monument visitors, staff and researchers to park. Impacts to the monument's research programs would be significant by not providing a safe parking area for researchers.	This location is a convenient parking location for visitors, researchers and monument staff that facilitate the monument's operations. Impacts to monuments operations such as maintenance and law enforcement would be minor to moderate and overall beneficial. Providing a safe parking area for researchers would be beneficial as well.	This location is a convenient parking location for visitors, researchers, and monument staff that facilitate the monument's operations. Law enforcement operations would be minor. However, maintenance issues in the construction and upkeep of this option would be minor to moderate and adverse. Providing a safe parking area for researchers would be beneficial as well.
To identify a site for the new parking area that minimizes impacts to the monuments resources	This option would have an effect on monument resources such as park operations and visitor use and experience but would not result in impairment to	This site would have minor to moderate impacts to soil and vegetation. There would also be minor impacts to cultural resources. Under this alternative, impacts to soil and	Although there would be negligible to minor impact to cultural resources, vegetation and soil impacts would be minor to major. Under this alternative, impact to park operations

Meets Project Objectives?	Alternative 1: No Action	Alternative 2: Action	Alternative 3: Action
and would not result in impairment to these resources.	these resources.	vegetation will be less than under Alternative 3 but greater than Alternative 1.	will also be greater than under Alternative 2 but the same as Alternative 1.

Table 2 summarizes the anticipated environmental impacts for alternatives 1, 2 and 3. Only those impact topics that have been carried forward for further analysis are included in this table. The *Affected Environment and Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 2: Environmental Impact Summary by Alternative

Impact Topic	Alternative 1: No Action	Alternative 2: Preferred Alternative	Alternative 3: Action Alternative
Archeological Resources	Negligible impacts to archeological resources.	Negligible to minor, adverse, site-specific, long-term impacts to archeological resources. After surface collection and testing within the proposed area it was determined that the amount and type of artifacts that would be impacted by this alternative are not significant.	Negligible to minor, adverse, site-specific, long-term impacts to archeological resources. After surface collection and testing within the proposed area it was determined that the amount and type of artifacts that would be impacted by this alternative are not significant.
Cultural Landscapes	Negligible impacts to cultural resources.	Minor, adverse, site-specific, long-term impacts. Some patterns or features of the cultural landscape may be altered, but the overall integrity of a potential cultural landscape may not be diminished.	Minor, adverse, site-specific, long-term impacts. Some patterns or features of the cultural landscape may be altered, but the overall integrity of a potential cultural landscape may not be diminished.
Soil	Negligible impacts to soil.	Minor to moderate, adverse, site-specific, short and long-term impacts. Under this alternative, the impacts to soils would be significantly less than under Alternative 3. The location of this alternative is on a level surface which would require less fill material and would have minimal erosional issues.	Minor to major, adverse, site-specific, short and long-term impacts. This site location has a greater slope than alternative 2 and with that it has greater potential for soil erosion and erosion control issues. The slope grade with the additional fill material would increase the slope percentage within the parking lot prism causing greater erosional issues and soil loss.

Impact Topic	Alternative 1: No Action	Alternative 2: Preferred Alternative	Alternative 3: Action Alternative
Vegetation	Negligible impacts to vegetation.	Minor, adverse, site-specific, short and long-term impacts. This alternative would have impacts on native vegetation and biological soil crusts, but would not impact the two key tree species in the area's vegetation community. These trees would provide greater species diversity and important habitat for resident and migratory birds and other wildlife.	Minor to moderate, adverse, site-specific, short and long-term impacts. This alternative would have impacts on biological soil crusts and on native vegetation, including some individuals of the two key species in this vegetation community. The removal of both sagebrush and juniper/pinyon pine trees would decrease vegetative diversity and reduce important habitat for resident and migratory birds and other wildlife.
Visitor Use and Experience	Moderate, adverse, site-specific, long-term impacts. By not providing a safe and permanent parking area for monument visitors the NPS is allowing visitor's to park and walk in a hazardous situation along the county road.	Moderate, beneficial, site-specific, long-term impacts. This alternative provides a safe and convenient parking area. Temporary disruptions and impacts may occur during construction. Improved visitor experiences are anticipated after construction.	Minor-moderate, adverse and beneficial impacts. Temporary disruptions and impacts during construction. Removing a significant natural resource such as trees may not be aesthetically pleasing to visitors. Improved visitor experiences are anticipated after construction.
Park Operations	Moderate, adverse, site-specific impacts. By not providing a safe and permanent parking area for monument staff and researchers the NPS is allowing monument employees and researchers to park and walk in a hazardous situation along the county road. This would be an adverse impact to the monuments research program.	A minor, adverse impact to maintenance operations since this alternative has fewer erosional issues, and less material would be needed to construct the parking area. Law enforcement patrols to this location may need to be increased if nuisance issues arise and impacts could be minor. Moderate and beneficial impacts to monument employees and monument research programs for having a safe place to park.	Minor to moderate adverse impacts to maintenance operations resulting from needing additional fill material for leveling the 10% slope of the parking lot and for erosion control. Law enforcement patrols to this location may need to be increased if nuisance issues arise and impact could be minor. Moderate and beneficial impact to monument employees and monument research programs for having a safe place to park.

Identification of the Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in NEPA’s §101:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative 1, no action alternative, barely meets the above six evaluation factors because it only preserves important historic, cultural and natural aspects and supports a diverse environment. Alternative 1 does not fulfill the responsibilities attaining the widest range of beneficial uses of the environment without risk of health or assure for all generations a safe, healthful and productive surrounding, or achieve the balance between population and resource use. Although Alternative 1 minimizes potential impacts to significant monument resources such as cultural and natural resources, it does not achieve a balance between these resources and the safety of monument staff and visitors.

Although, Alternative 3 does preserve cultural resources and would provide a safe, permanent facility to be used by future generations and achieve a balance between population and resource use, this alternative would not create an aesthetically pleasing surrounding since the removal of large key trees and would not be aesthetically pleasing to most visitors. This alternative also would not support a diverse vegetative habitat given that this alternative would remove several large species of trees and therefore remove potential migratory bird and other wildlife habitat.

Alternative 2 is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative 2 would provide a safe place for visitors and staff to park, while minimizing environmental impacts to the extent possible. As a permanent facility, the new parking lot would be used by future generations. This alternative would be more aesthetically and visually

pleasing as large species of vegetation such as juniper and pinyon pine trees would not be removed and the parking lot would have a visual buffer from the county road by utilizing a ten foot wide vegetative barrier. This alternative would also support a more diverse vegetative habitat for migratory birds and other wildlife. Cultural resources on site may be impacted but impacts will be negligible to minor.

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Because it meets the purpose and need for the project, the project objectives, and is the environmentally preferred alternative, alternative 2 is also recommended as the National Park Service preferred alternative. For the remainder of the document, Alternative 2 would be referred to as the preferred alternative.

CHAPTER 3- AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the affected environment (existing condition or baseline information) and potential environmental consequences, or impacts that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include archeological resources, cultural landscapes, soil, vegetation, visitor use and experience and park operations. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of intensity, type, context, and duration. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this EA/AEF.
- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
 - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
 - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
 - *Direct*: An effect that is caused by an action and occurs in the same time and place.
 - *Indirect*: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact would occur. Are the effects site-specific, local, regional, or even broader?
- **Duration** describes the length of time an effect would occur, either short-term or long-term:
 - *Short-term* impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.
 - *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction

Cumulative Effects

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment

which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternative.

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Hovenweep National Monument and, if applicable, the surrounding region. The geographic scope for this analysis includes elements mostly outside the monument's boundaries since the Goodman Point Unit is only 142 acres and the project has the potential to be cumulatively impacted by outside issues. The temporal scope includes projects within a range of approximately ten years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis, listed from past to future:

- **Oil and Gas Exploration:** Oil and gas exploration and development has been ongoing and is widespread on BLM land in southwestern Colorado and southeastern Utah. Oil and gas development has caused increased road use by heavy, sometimes oversized, truck traffic along the County Road P.
- **Exotic Plant Management Plan 2009:** The SEUG Exotic Plant Management Plan is currently in review and proposes to treat and eradicate exotic plants within the four parks, Arches and Canyonlands National Parks and Natural Bridges and Hovenweep National Monuments, with judicious use of mechanical, cultural, chemical and biological control techniques. The resurfacing of the county road as well as constructing the new parking lot could further introduce non-native plant species into the monument.
- **Resurfacing and chip-sealing Montezuma County Road P:** In the early summer of 2008 the County Road P was resurfaced with additional gravel in preparation of chip-sealing the road soon after. A shortage of material has postponed chip-sealing until July of 2009. The resurfacing of the road will have a cumulative impact on increasing traffic flow and speed which will create greater safety risks for visitors using the parking area.
- **Recreation:** Recreation within the monument occurs potentially year-round and includes hiking, sightseeing, and photography. An average of 26, 000 visitors visit Hovenweep a year. The resurfaced road could potentially increase visitor use and the new parking lot would be able to accommodate more visitors to the Goodman Point Unit.
- **Residential Expansion:** Residential development has expanded in the Goodman Point area increasing speeds and the number of vehicles along County Road P creating additional hazards along the road.

Impairment

NPS 2006 *Management Policies* require analysis of potential effects to determine whether or not actions would impair park resources (NPS 2006). The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values.

Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute impairment, but an impact would be more likely to constitute impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

1. necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
2. key to the natural or cultural integrity of the park; or
3. identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Impairment may result from National Park Service activities in managing the monument, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the monument. A determination on impairment is made in the *Conclusion* section for each of the resource topics carried forward in this chapter.

Unacceptable Impacts

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the National Park Service applies a standard that offers greater assurance that impairment would not occur by avoiding unacceptable impacts. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. Park managers must not allow uses that would cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resources and values are acceptable.

Virtually every form of human activity that takes place within a park has some degree of effect on park resources or values, but that does not mean the impact

is unacceptable or that a particular use must be disallowed. Therefore, for the purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would

- be inconsistent with a park's purposes or values, or
- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
- unreasonably interfere with
 - * park programs or activities, or
 - * an appropriate use, or
 - * the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park.
 - * NPS concessionaire or contractor operations or services.

In accordance with NPS 2006 *Management Policies*, park managers must not allow uses that would cause unacceptable impacts to park resources. To determine if unacceptable impact could occur to the resources and values of Hovenweep National Monument, the impacts of proposed actions in this EA/AEF were evaluated based on the above criteria. A determination on unacceptable impacts is made in the *Conclusion* section for each of the resource topics carried forward in this chapter.

Impacts to Cultural Resources and §106 of the National Historic Preservation Act

In this EA/AEF, impacts to cultural resources are described in terms of type, context, duration, and intensity, which is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). In accordance with the Advisory Council on Historic Preservation's regulations implementing §106 of the National Historic Preservation Act (36 CFR §800, *Protection of Historic Properties*), impacts to historic structures were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize or mitigate adverse effects.

Under the Advisory Council's regulations a determination of either adverse effect or no adverse effect must also be made for affected National Register eligible cultural resources. An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion on the National Register (e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). Adverse effects

also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR §800.5, *Assessment of Adverse Effects*). A determination of no adverse effect means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion on the National Register.

CEQ regulations and the National Park Service's *Conservation Planning, Environmental Impact Analysis and Decision-making* (Director's Order-12) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by §106 is similarly reduced. Although adverse effects under §106 may be mitigated, the effect remains adverse.

A §106 summary is included in the impact analysis sections under the preferred alternative. The §106 summary is intended to meet the requirements of §106 and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

Archeological Resources

Affected Environment

The Goodman Point Unit holds a distinguished place in the annals of historic preservation in the United States: it was the first archaeological area in the country set aside for protection by the Federal government when it was withdrawn from homesteading in 1889 (NPS 2008). The Goodman Point Unit was added to Hovenweep National Monument in 1951, and today it is managed by the Southeast Utah Group of the National Park Service.

In 2004, a 100 percent Class III survey was conducted by Crow Canyon Archeological Center of the Goodman Point Unit. All of the one hundred and forty-two acres of Goodman Point Unit were surveyed and forty-two sites were found (Hovezak et al, 2004). Goodman Point Unit is composed of hundreds of archeological sites and features. Goodman Point Pueblo, which is administratively listed on the National Register of Historic Places and lies in the eastern portion of the Unit. The pueblo is one of the largest sites in southwestern Colorado, containing approximately 80 kivas, 350 surface rooms, several towers, and public architecture that includes a great kiva and multiple-walled structure. Goodman Point Pueblo is surrounded by many other sites and features, including the following: smaller Pueblo residential sites; an isolated great kiva; historic and ancient roads and footpaths; and sites dating from the historic period. These remains reflect its position as a regional center for the Mesa Verde Ancestral Puebloans, and it is the one of the best preserved sites in the West.

Goodman Point Pueblo was inhabited sparsely during the Basketmaker II time period (AD 600-750) and then housed a larger population during the Pueblo II

and III time periods (AD 900-1300). Located at the head of a canyon, like many other pueblos in the region, the people of Goodman Point Pueblo utilized a spring and protected their water sources with an enclosing wall (Hovezak et al, 2004).

The archeological site (5MT16787) is located within the Area of Potential Effect. This site has been identified as being capable of contributing data towards answering various research topics including more precise dating, the way in which the site was abandoned, and the possible relationship of the site to Goodman Point Pueblo (Hovezak et al, 2004). The site has been determined eligible for listing on the National Register and is slated for testing as part of a six-year research project between Hovenweep National Monument and Crow Canyon Archeological Center in Cortez, Colorado.

Methodology and Intensity Thresholds

In order for an archeological resource to be eligible for the National Register of Historic Places it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. In addition, archeological resources must possess integrity of location, design, setting, materials, workmanship, feeling, association (National Register Bulletin, Guidelines for Evaluating and Registering Archeological Properties). For purposes of analyzing impacts to archeological resources either listed or eligible to be listed on the National Register, the thresholds of change for intensity of an impact are defined below:

- Negligible:** Impacts to archeological resources either beneficial or adverse are at the lowest levels of detection, barely perceptible and not measurable.
- Minor:** *Adverse:* disturbance of a site(s) results in little, if any, loss of significance or integrity and the National Register eligibility of the site(s) is unaffected.
Beneficial: maintenance/preservation of a site(s).
- Moderate:** *Adverse:* disturbance of a site(s) does not diminish the significance or integrity of the sites to the extent that its National Register eligibility is jeopardized.
Beneficial: stabilization of the site(s).
- Major:** *Adverse:* disturbance of a site(s) diminishes the significance and integrity of the sites to the extent that it is no longer eligible to be listed on the National Register.
Beneficial: stabilization of the site(s).

Duration: Short-term refers to a transitory effect, one that largely disappears over a period of days or months. The duration of long-term effects is essentially permanent.

Impacts of Alternative 1 (No Action)

The no action alternative would have negligible impacts to archeological resources because no construction activities would be conducted within Goodman Point Unit.

Cumulative Effects:

Road and trail construction and maintenance, early monument infrastructure development, and utility construction could all have adversely affected archeological resources. Compliance with NHPA, however, is required for all of these projects to evaluate and mitigate potential impacts. Not constructing the parking lot under this alternative would have negligible additive effects on archeological resources.

Conclusion:

The no action alternative would have negligible impacts to archeological resources because no construction activities would be conducted. The current parking area is located on a private right-of-way and would not have any impact on archeological resources located on NPS land. This alternative would not result in impairment to archeological resources. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Impacts of Alternative 2 (Preferred Alternative)

The preferred alternative would result in negligible to minor adverse impacts to archeological resources. All surface artifacts from site 5MT16787, both historic and prehistoric, were collected from within the APE, and Crow Canyon archeologists determined through testing that no subsurface material of a historic or prehistoric nature is present. The amount and type of artifacts that would have been impacted by the preferred alternative are not significant and the preferred alternative would have negligible to minor, adverse, site-specific, long-term impacts.

Cumulative Effects:

Goodman Point was set aside in 1889 and was protected from the Homestead Act and there was never any farming. However, past land practices (prior to monument establishment), such as grazing, probably disturbed, damaged, or destroyed some archeological resources. Looters may have also disturbed, damaged and removed sensitive resources for selling and collecting. Road and trail construction and maintenance, early monument infrastructure development, and utility construction could all have adversely affected archeological resources. Compliance with NHPA, however, is required for all of these projects to evaluate and mitigate potential impacts.

Trail upgrades or infrastructure development could impact archeological resources. Visitor use could cause loss or damage to archeological resources, particularly from the collection of artifacts from the backcountry. Fire could

cause direct loss of archeological resources and could uncover lithic scatters and some artifacts that would otherwise be unknown.

Constructing the parking lot under this alternative would have negligible additive effects on archeological resources.

Conclusion:

The testing that has been recently conducted to assess the impacts to archeological resources under the preferred alternative determined that no subsurface material of a historic or prehistoric nature is present and all surface artifacts, both historic and prehistoric, were collected from within the area of potential effect. Impacts to archeological resources would be negligible to minor, adverse, site-specific and long-term.

In the unlikely event that additional resources are discovered, construction activities would stop until these resources can be evaluated by a qualified archeologist in consultation with SHPO and §106 compliance completed. This alternative would not result in impairment to archeological resources. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

§106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Section 800.5, *Assessment of Adverse Effects*), the National Park Service concludes that implementation of the preferred alternative would have no adverse effect on the archeological resources of Hovenweep National Monument.

Impacts of Alternative 3

The impacts of Alternative 3 are the same as Alternative 2.

Cumulative Effects:

Cumulative impacts are the same as Alternative 2.

Conclusion:

The archeological testing that was recently conducted to assess the impacts to archeological resources under Alternative 3 determined that no subsurface material of a historic or prehistoric nature is present and all surface artifacts, both historic and prehistoric, were collected from within the APE. Impacts to archeological resources would be negligible to minor, adverse, site-specific and long-term.

In the unlikely event that additional resources are discovered, construction activities would stop until these resources can be evaluated by a qualified archeologist in consultation with SHPO and §106 compliance completed. This alternative would not result in impairment to archeological resources. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Cultural Landscapes

Affected Environment

Cultural landscapes are settings humans have created in the natural world. They reveal the ties between the people and the land. These ties are based on the need to grow food, build settlements, recreate, and find suitable land to bury their dead. They range from prehistoric settlements to cattle ranches, from cemeteries to pilgrimage routes. Cultural landscapes are the expressions of human manipulation and adaptation of the land.

Although there has been no formal cultural landscape inventory conducted in Hovenweep National Monument, it is believed there is potential for an ethnographic landscape within the Goodman Point Unit. Ethnographic landscapes are identified and delineated by members of the cultural groups who are traditionally associated with them, and whose histories and identities are tied to them. This landscape contains a variety of natural and cultural resources that consulted Native American tribes define as heritage resources. Constructing a new parking area within a potential ethnographic landscape would also affect spatial arrangements, vegetation, and other key components considered in a possible cultural landscape. However, after consultation with 26 Native American Tribes and Pueblos, no concerns were raised regarding the proposed project within a potential ethnographic landscape.

Methodology and Intensity Thresholds

In order for a cultural landscape to be listed on the National Register must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history (National Register Bulletin, How to Apply the National Register Criteria for Evaluation). The landscape must also have integrity of those patterns and features-spatial organization and land forms; topography; vegetation; circulation networks; water features; structures/ buildings, site furnishings or objects-necessary to convey its significance (*Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*).

For purposes of analyzing potential impacts to cultural landscapes, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Impacts to cultural landscapes either beneficial or adverse, are at the lowest levels of detection, barely perceptible and not measurable.

Minor: *Adverse:* impact would not affect a character of defining pattern(s) or feature(s) of a National Register of Historic Places eligible or listed cultural landscape.

Beneficial: preservation of character defining patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

Moderate: *Adverse:* impact would alter a character defining pattern(s) or feature(s) of the cultural landscape but would not diminish the integrity of the landscape to the extent that its National Register eligibility is jeopardized.

Beneficial: rehabilitation of a landscape or its pattern and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

Major: *Adverse:* impact would alter a character defining pattern(s) or feature(s) of the cultural landscape to the extent that it is no longer eligible to be listed on the National Register.

Beneficial: rehabilitation of a landscape or its pattern and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

Duration: Short-term refers to a transitory effect, one that largely disappears over a period of days or months. The duration of long-term effects is essentially permanent.

Impacts of Alternative 1 (No Action)

The no action alternative would have negligible impacts to a potential cultural landscape because no construction activities would be conducted within Goodman Point Unit.

Cumulative Effects:

Road and trail maintenance and construction could adversely affect cultural landscapes. Not constructing a new parking lot would have negligible additive effects on cultural landscapes.

Conclusion:

The no action alternative would have negligible impacts to cultural landscapes because no construction activities would be conducted. This alternative would not result in impairment to cultural landscapes. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Impacts of Alternative 2 (Preferred Alternative)

Removal of vegetation within a 2500 square feet area for the parking lot would cause a change in current landscape patterns. However, a 10 foot wide vegetative buffer would remain between the county road and parking area and would provide a screen that could diminish the intensity of adverse impacts of a potential cultural landscape. Vegetation would remain in place around the 2500 square foot parking lot and the public may not see the parking area when driving along County Road P. The addition of gravel for the parking area surface

would be visually perceivable when hiking along the adjacent trail and would have long-term minor adverse impacts. The construction of the parking lot may also have an adverse impact to a potential cultural landscape because of construction equipment, grading, and gravelling activities but this would be short-term and temporary. Overall, impacts to a potential cultural landscape would be minor, adverse, site-specific, short and long-term.

Cumulative Effects:

Goodman Point was set aside in 1889 and was protected from the Homestead Act and there was never any farming. However, past land practices (prior to monument establishment), such as grazing, probably disturbed, damaged, or destroyed some cultural landscapes. Road and trail maintenance and construction could adversely affect cultural landscapes. Compliance with NHPA, however, is required for all of these projects to evaluate and mitigate potential impacts. Fire could cause direct loss of cultural landscapes and could uncover some cultural resource that would otherwise be unknown. The site of the proposed parking area has recently been impacted by visitors and staff using a portable toilet that has been placed just inside the boundary fence near the trailhead to Goodman Point Pueblo which is within the proposed location for the parking lot. Constructing a new parking lot would have negligible additive effects on a potential cultural landscape.

Conclusion:

Removal of vegetation may cause a change in current landscape patterns. Some patterns or features of the cultural landscape may be altered, but the overall integrity of a potential cultural landscape may not be diminished. Overall, impacts to a potential cultural landscape would be minor, adverse, site-specific, short and long-term. This alternative would not result in impairment to a cultural landscape. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

§106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Section 800.5, *Assessment of Adverse Effects*), the National Park Service concludes that implementation of the preferred alternative would have no adverse effect on the potential cultural landscapes of Hovenweep National Monument.

Impacts of Alternative 3

Impacts of Alternative 3 are the same as Alternative 2.

Cumulative Effects:

Cumulative impacts are the same as Alternative 2.

Conclusion:

Removal of vegetation may cause a change in current landscape patterns. Some patterns or features of the cultural landscape may be altered, but the overall integrity of a potential cultural landscape may not be diminished. Overall impacts to a potential cultural landscape would be minor, adverse, site-specific, short and long-term. This alternative would not result in impairment to a cultural landscape. Implementation of this alternative would not result in any

unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Soil

Affected Environment

The Goodman Point Unit contains the widest range of soils. Wetherhill Loam, Gladel-Pulpit Complex, and Cahona-Pulpit Complex soils formed from eolian deposits occupy gently sloping hills and mesas (NCRS 2003). Within the proposed parking lot area the Wetherhill Loam is the primary soil type. This soil is found on 3 to 6 percent slopes and is an eolian material developed from sandstone. This soil has properties that are very deep, well drained, has a moderately slow permeability and a high available water capacity. It is also has a moderate hazard of water and wind erosion (NCRS 2003). Regarding steep slopes and leveling areas, one should manage to prevent excessive erosion.

Biological soil crusts are found within HOVE. These crusts, also known as cryptobiotic or microbiotic crusts are formed by living organisms and their by-products, predominantly composed of cyanobacteria, lichens, and mosses (Belnap et al, 2001). Soil crusts contribute to a number of functions in the environment occurring at the land surface or soil-air interface. These include soil stability and erosion control, atmospheric nitrogen fixation, nutrient contributions to plants, soil-plant-water relations, infiltration, seedling germination, and plant growth. Damage to the crusts from livestock grazing or human activities (e.g., hiking, biking, off-highway vehicle use, road and facility development, oil and gas development and mining), causes decreases in organism diversity, soil nutrients, and organic matter and increases dust movement during windstorms. Full recovery of disrupted biological soil crusts takes decades, though visual recovery can be completed in as little as one to five years, depending on climatic conditions (Belnap et al, 2001).

Biological cryptobiotic soil crusts are well developed and mature within parts of Hovenweep National Monument, particularly where thin sandy soils overlie slickrock and in the nutrient-poor openings between tree canopies and clumps of vascular plants. Within the proposed project area there some cryptobiotic soils, however, they are not very well developed.

Methodology and Intensity Thresholds

Analyses of the potential intensity of impacts to soils were derived from available soils information (NCRS 2003) and from monument staff's past observations of the effects on soils from visitor use and construction activities. The thresholds of change for the intensity of an impact are defined as follows:

Negligible: Any effects to soils would be below or at the lower levels of detection. Any effects to soil crusts would be slight and short-term. Impacts would be site-specific, and no mitigation measures would be necessary.

Minor: The effects to soils would be detectable. Effects to soil crust would be small, as would the area affected. Impacts would be short-term. If mitigation were needed to offset adverse impacts, it would be simple to implement and likely successful.

Moderate: The effect on soil and intermediate soil crust (moss and *Collema* spp. present) would be readily apparent and detectable, likely long-term, and would result in a change to the soil character over a relatively localized area. Mitigation measures would probably be necessary to offset adverse impacts and would likely succeed.

Major: The effect on soil and more mature soil crust (colored lichen present) would be readily apparent and detectable, long-term, and would substantially change the character of the soils over a large localized or regional area. Mitigation measures to offset adverse impacts would be needed, extensive, and their success could not be guaranteed.

Duration: Short-term refers to a period of less than 5 years. The duration of long-term effects is essentially permanent.

Impacts of Alternative 1 (No Action)

The no action alternative would have negligible impacts to soil because no construction activities would be conducted within Goodman Point Unit.

Cumulative Effects:

A number of potential activities affect soils, including visitors traveling off established trails and monument road/trail maintenance. Extensive construction for residential and commercial developments adjacent to the Goodman Point Unit is also resulting in substantial soil disturbance. Surface-disturbing activities such as tilling on nearby agricultural lands could have additive effects on regional soil loss and erosion. Not constructing a new parking lot would have negligible additional negative effects on soil productivity.

Conclusion:

The no action alternative would have negligible impacts to soil because no construction activities would be conducted. This alternative would not result in impairment to soil. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Impacts of Alternative 2 (Preferred Alternative)

Under the preferred alternative, the proposed project would clear approximately 2500 square feet of native vegetation and cover all soil within the parking lot area with wash rock and gravel. This action would destroy biological soil crusts, compact soils and cause a loss of native vegetation and habitat within this site. Storm water runoff, although infrequent, can cause minor to moderate soil erosion in areas devoid of vegetation. Intrusion by personnel and equipment constructing the parking area may cause long-term, direct impacts to the soil within and minimum short-term impacts around the parking lot edge. Effects could include compaction of soil and disturbance to upper soil profiles and these effects to soil would be detectable in some areas and moderate. To reduce the impacts of monument personnel on soils, crews and equipment would stay within the parking lot boundaries as much as possible when spreading the gravel surface. Fill material that has eroded off the parking area has the potential to impact additional soil productivity around the parking area. Overall soil

productivity impacts would be minor to moderate, adverse, site specific and short to long-term.

Cumulative Effects:

A number of potential activities affect soils, including visitors traveling off established trails and monument road/trail maintenance. Extensive construction for residential and commercial developments adjacent to the Goodman Point Unit is also resulting in substantial soil disturbance. Surface-disturbing activities such as tilling on nearby agricultural lands could have additive effects on regional soil loss and erosion. Constructing a new parking lot would have minor additional negative effects on soil productivity.

Conclusion:

Under the preferred alternative, the impacts to soils would be significantly less than under alternative 3 but greater than alternative 1. The location of this alternative is on a level surface which would require less fill material and would have minimal erosional issues. All work would be conducted from within the parking area and outside soil surfaces would be minimally impacted. However, this action would destroy biological soil crusts, compact soils and cause a loss of native vegetation and habitat within the parking area. The impacts to soil productivity would be minor to moderate, adverse, site-specific and short-to long term. This alternative would not result in impairment to soil. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Impacts of Alternative 3 (Action Alternative)

The location of the parking area under alternative 3 would have a 10% slope and would cause greater soil erosion issues. Under this alternative, the proposed project would clear approximately 2500 square feet of native vegetation and cover all soil within the parking lot prism with rip rap, wash rock and then gravel. This action would destroy biological soil crusts, compact soils and would cause a loss of native vegetation and habitat. The impacts to soil productivity would be greater than under Alternative 1 and 2. Storm water runoff, although infrequent, can cause minor to moderate soil erosion in areas devoid of vegetation and with the increase of slope and addition of fill material adverse impacts could be major. Intrusion by personnel and equipment constructing the parking area may cause long-term, direct impacts to the soil within and minimum short-term impacts around the parking lot edge. Effects could include compaction of soil and disturbance to upper soil profiles and these effects to soil would be detectable in some areas and moderate. To reduce the impacts of monument personnel on soils, crews and equipment would stay within the parking lot boundaries as much as possible. Under this alternative, fill material that has eroded off the parking area has greater potential to impact additional soil productivity around the parking area due to slope issues. Overall soil productivity impacts would be minor to major, adverse, site specific and short to long-term.

Cumulative Effects:

Cumulative impacts are the same as Alternative 2.

Conclusion:

This site location has a greater slope than alternative 2 and with that it has greater potential for soil erosion and erosion control issues. The slope grade with the additional fill material would increase the slope percentage within the parking lot prism causing greater erosional issues. More fill material would be required to maintain the level parking area especially after storm runoff events. Fill material that has eroded off the parking area has the potential to impact additional soil productivity around the parking area. The impacts to soil productivity would be minor to major, adverse, site-specific and short-to long term. This alternative would not result in impairment to soil. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Vegetation

Affected Environment

The Goodman Point unit lies a few miles northwest of Cortez, Colorado, and has a higher elevation, receives more moisture, and has slightly cooler temperatures than the other Hovenweep units. The immediate environment is a pinyon-juniper forest, surrounded by modern dry farmland producing pinto beans and winter wheat. Parts of the Goodman Point unit are almost completely overgrown with a vigorous sagebrush cover. The most common plants in the project area are big sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Chrysothamnus nauseosus*), western wheatgrass (*Elymus smithii*), two-needle pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) (NPS 2009a).

Hovenweep may contain a couple of plant species of concern. Cronquist's milkvetch (*Astragalus cronquistii*), Naturita milkvetch (*Astragalus naturitensis*), and cut-leaf gumweed (*Grindelia laciniata*) are reported in the general area but have not been found within the monument yet nor within the proposed project area (NPS 2009a).

There are 27 exotic plant species known to occur within Hovenweep National Monument (NPS 2008). Agricultural lands surround the monument and the exotic plant source is high and constant. Tamarisk has been found in some canyon bottoms in all the units except Cajon. It has been controlled through mechanical cutting and herbicide but the program must remain vigilant because of the constant seed source from surrounding lands. In the summers of 2003 through 2005, Utah State University conducted a three-year project to inventory and map invasive non-native plants for the National Park Service, Northern Colorado Plateau Network (NCPN). This report and updated exotic plant species list are maintained on the NCPN website: <http://science.nature.nps.gov>.

Methodology and Intensity Thresholds

Analyses of the potential intensity of impacts to vegetation were derived from the available scientific data and literature and park staff's past observations of the effects on vegetation from visitor use and construction activities. The thresholds of change for the intensity of an impact are defined as follows:

Negligible: No native vegetation populations would be affected but some individual native plants could be affected as a result of the

alternative (site-specific). The effects would be short-term, and on a small scale.

Minor: The alternative would affect some individual native plants and a relatively minor portion of that species' population (site-specific). Impacts would be short-term. Mitigation to offset adverse impacts could be required and would be effective.

Moderate: The alternative would affect individual native plants and a sizeable segment of the species' population long-term and over a relatively large area (site-specific or local). Mitigation to offset adverse impacts could be extensive, but would likely be successful.

Major: The alternative would have a considerable long-term effect on native plant populations over a relatively large local or regional area. Mitigation measures to offset the adverse impacts would be required, extensive, and success would not be guaranteed.

Duration: Short-term refers to a period of less than 10 years. Long-term refers to a period of longer than 10 years.

Impacts of Alternative 1 (No Action Alternative)

The no action alternative would have negligible impacts to vegetation because no construction activities would be conducted within Goodman Point Unit.

Cumulative Effects:

Urban development adjacent to the Goodman Point Unit is resulting in the loss of native plant communities and the introduction of a number of potentially exotic ornamental plants. Increasing recreation and road traffic in the vicinity of and through the monument would continue to spread exotic species and potentially impact native plant communities. Wildland fire, while not common, also has the ability to impact vegetation. Surface disturbances associated with road and trail maintenance projects could lead to the establishment of exotic plants. Farming and grazing by livestock on lands adjacent to the monument creates adjoining disturbed areas that contribute to the establishment of new exotic plant infestations. However, treatment of exotic plants by some monument neighbors using chemical methods is also preventing the establishment of new exotic plant infestations. Not constructing a new parking lot would have negligible additional effects on vegetation.

Impacts of Alternative 2 (Preferred Alternative)

Under this alternative, construction activities would result in minor impacts to vegetation. The establishment of a new parking area would have short to long term adverse impacts to the vegetation within the 2500 square foot proposed parking area. A large amount of big sagebrush along with rubber rabbitbrush and western wheatgrass would be removed. It is anticipated that this alternative would not require larger vegetation such as juniper and pinyon pine trees to be removed. Additional minor temporary adverse vegetation impacts during the construction of the parking area, and for the access of construction equipment may occur. As a result of the construction of a new parking area, there could be a higher likelihood of the transport of exotic species from vehicles and visitors.

Impacts to vegetation would be minor, adverse, and long-term within the actual parking lot and minor, site-specific and short-term in the surrounding area.

Cumulative Effects:

Urban development adjacent to the Goodman Point Unit is resulting in the loss of native plant communities and the introduction of a number of potentially exotic ornamental plants. Increasing recreation and road traffic in the vicinity of and through the monument would continue to spread exotic species and potentially impact native plant communities. Wildland fire, while not common, also has the ability to impact vegetation. Surface disturbances associated with road and trail maintenance projects could lead to the establishment of exotic plants. Farming and grazing by livestock on lands adjacent to the monument creates adjoining disturbed areas that contribute to the establishment of new exotic plant infestations. However, treatment of exotic plants by some monument neighbors using chemical methods is also preventing the establishment of new exotic plant infestations. Constructing a new parking lot would have minor additional negative effects on vegetation.

Conclusion:

The preferred alternative would have impacts on native vegetation and biological soil crusts, but would not impact the two key tree species in the area's vegetation community. These trees would provide greater species diversity and important habitat for resident and migratory birds and other wildlife. The impacts to vegetation would be minor, adverse, site-specific and short-to long term. This alternative would not result in impairment to vegetation. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Impacts of Alternative 3 (Action Alternative)

Under this alternative, construction activities would result in minor to moderate impacts to vegetation. The establishment of a new parking area would have short to long term adverse impacts to the vegetation within the 2500 square foot proposed parking area since a large amount of big sagebrush along with rubber rabbitbrush and western wheatgrass would be removed. Several juniper and pinyon pine trees would also be removed within the parking area and would have a moderate, adverse, site-specific, long-term impact. However, the exact number and species of trees and shrubs necessary for removal would not be known until the actual impact area is determined during final design. Additional minor temporary adverse vegetation impacts during the construction of the parking area, and for the access of construction equipment may occur. As a result of the construction of a new parking area, there could be a higher likelihood of the transport of exotic species from vehicles and visitors. Impacts to vegetation would be minor to moderate, adverse, and long-term within the actual parking lot and minor to moderate, adverse, site-specific and short-term in the surrounding area.

Cumulative Effects:

Cumulative impacts would be the same as Alternative 2.

Conclusion:

This alternative would have impacts on biological soil crusts and on native vegetation, including some individuals of the two key species in this vegetation community. The removal of both sagebrush and juniper/pinyon pine trees would decrease vegetative diversity and reduce important habitat for resident and migratory birds and other wildlife. This alternative would have a direct moderate, adverse, site-specific, long-term impact to vegetation. This alternative would not result in impairment to vegetation. Implementation of this alternative would not result in any unacceptable impacts and is consistent with §1.4.7.1 of NPS 2006 *Management Policies*.

Visitor Use and Experience

Affected Environment

Hovenweep is open year 'round and has annual visitation of approximately 26,000 people. The busy season is usually from April through October with May typically being the peak month for visitation. The monument averages 80-100 visitors a day and provides opportunities for camping, hiking and interpretive programs. Visitors primarily tour the main ruin site, the Square Tower Unit, which is accessed by a 2 mile self-guiding loop trail. Further exploration of the monuments' six other outlying sites are possible by taking more primitive dirt roads to the sites and then hiking. Overnight backpacking/camping is not permitted at the monument. However, there is a small 30 site campground near the visitor center which is open year 'round on a first-come, first-served basis. Visitors who camp usually stay one or two nights, sometimes using the campground as a base for touring the Four Corners area. Hovenweep is often visited by travelers just before or just after visiting Mesa Verde National Park and provides an engaging contrast to the experiences gained there.

The Goodman Point Unit is the easternmost unit of HOVE and while it is the closest to a major population center, Cortez, it receives the lowest visitation of any Hovenweep site. Although the exact numbers are not tracked, the estimation based on trail registrations is approximately 450 visitors per year. Visitors typically stay just long enough, a half hour or so, to walk the trail throughout the site.

The current area where visitors and monument employees park at the Goodman Point Unit is a current 2-3 car pull-off area located in the public right-of-way between the monument fenceline and County Road P at a point where the road also crests a hill. Recent improvements to County Road P by Montezuma County in preparation for eventual chip-sealing (targeted for summer 2009) include widening of the road and adding more gravel to the roadbed. These improvements have aggravated an already hazardous parking situation by making the current parking area narrower and no longer flush with the road surface. The number of persons entering the unit has also increased due to the six-year field research project being conducted by Crow Canyon Archeological Center. Vehicle traffic on County Road P has increased significantly in recent years due to active oil & gas development and residential expansion on Goodman Point and these pressures are only likely to continue to grow in future years. Oil and gas development has caused the road to be used by heavy,

sometimes oversized, truck traffic and when chip sealing is completed vehicle speeds will, in all probability, increase.

Construction of a new parking area would provide parking for approximately six vehicles and would correct the safety issues which endanger park visitors, employees, researchers, local residents and the general public. By moving the parking area away from the county road and enlarging the parking area, visitors and employees accessing the Unit will be able to park safely away from the road and traffic concerns.

Methodology and Intensity Thresholds

Visitor records and staff observations of visitation patterns combined with assessment of what is available to visitors under current management were used to estimate the effects of the actions on all alternatives. The impact on the ability of the visitor to experience a full range of monument resources was analyzed by examining the resources impacted. The following definitions are used to define intensity levels:

- Negligible:** The effect on availability of desired visitor experiences, or the number of visitors affected, would be slight or nonexistent.
- Minor:** The effect on availability of desired visitor experiences, or the number of visitors affected, would be relatively small. The effect would be limited to relatively few individuals, be localized in area or short in duration, and/or affect recreation opportunities common in the monument or region.
- Moderate:** The effect on availability of desired visitor experiences, or the number of visitors affected, would be intermediate. The effect would involve an intermediate number of visitors, portion of the monument, duration, and/or affect recreation opportunities uncommon in the monument or region. The visitor would likely be able to express an opinion about the changes.
- Major:** The effect on availability of desired visitor experiences, or the number of visitors affected, would be substantial. The effect would involve a substantial number of visitors, portion of the monument, duration, and/or affect recreation opportunities uncommon or unique in the monument or region. The visitor would likely be able to express a strong opinion about the changes.
- Duration:** Short-term effects last only during the construction phase (i.e. building the parking lot). Long term effects refer to lasting longer than the construction phase.

Impacts of Alternative 1 (No Action Alternative)

The no action alternative would have moderate adverse impacts to visitor use and experience. The current parking area is not a long-term fix. Visitors, monument staff and researchers will have to park elsewhere, usually along the county road. Current road work on County Road P has resulted in a creating a steep ditch on either side of the road and visitors and staff may not have ample space to safely park their vehicles along this busy road. County Road P also crests

a hill immediately adjacent to the current pull-off which heightens the safety risks for individuals entering and exiting their vehicle or walking next to the road. The impacts to visitor use and experience would be moderate, adverse, site-specific and long-term.

Cumulative Effects:

Any construction activities have the potential to affect visitor use and experience. The construction of the visitor center likely had an adverse effect on the visitor experience as a result of noise, dust, and unavailability to view some of the primary attractions in the monument. Projects such as road improvements, exotic vegetation management, and fence replacement have had or could have an adverse effect on visitor use and experience because of the inconvenience of construction noise, dust, and possible off-limit areas. Ultimately, however, these actions would have a beneficial effect on visitor use and experience because they were long-term enhancements to the functionality of the monument, improving the visual and natural environments, visitor experience, interpretive opportunities and ease of visitor use. Under this alternative, visitor functions in the project area are not expected to change, and past actions have had beneficial impacts on visitor use and experience. Therefore, cumulatively, visitor use and experience would not appreciably change when considered with other past, present, and reasonably foreseeable future actions.

Conclusion:

The current parking area is not a long-term fix. Once Crow Canyon completes their research projects parking in this area will not be permitted by the owner as well as the county. Visitors, monument staff and researchers will have to park elsewhere, usually along the county road. Vehicle traffic on County Road P has increased significantly in recent years due to active oil & gas development and residential expansion in the Goodman Point area. These pressures are likely to continue growing in future years. Oil and gas development has introduced use by heavy, sometimes oversized, truck traffic and with the projected paving of the road, vehicle speeds will in all probability increase. County Road P also crests a hill immediately adjacent to the current pull off heightening safety risks for individuals entering and exiting the site or walking next to the road. Also the current road work on County Road P has resulted in a creating a steep ditch that may not allow visitors and staff to park their vehicles safely along this busy road.

Impacts of Alternative 2 (Preferred Alternative)

Under the preferred alternative, constructing a new parking area would have a moderate beneficial impact to visitor use and experience. The new parking area would provide a safe, permanent and convenient parking area for visitors, researchers and monument staff and facilitate the monument's operations. This alternative would provide a parking area that is off the county road right-of-way, that is aesthetically pleasing, and that is minimally intrusive. Constructing a new parking area could also have adverse minor impacts to visitor use and experience given that this site may become an "attractive nuisance" for non-resource related use since it is located in a rural residential area. During the construction phase, visitors may also be adversely impacted by the dust, loud machinery and have greater difficulty in accessing the Goodman Point trail but it

would be minor and short-term. Therefore this alternative would have minor to moderate, beneficial and adverse, site-specific, short and long-term impacts on visitor experience and use.

Cumulative Effects:

Cumulative impacts are the same as Alternative 1.

Conclusion:

Under the preferred alternative, the establishment of a new parking area to create a safe, convenient location for parking would have a minor to moderate beneficial effect on visitor use and experience. Construction disturbances (noise, dust, limited parking) would have a minor, temporary adverse effect to visitor use and experience. The visual changes to the area from creating an unnatural gravel surface within the Goodman Point Unit would have a minor adverse effect on visitor experience because the changes would be readily noticeable. However, the long-term overall benefits of providing a new parking area that would be a safe, convenient location for visitors, researchers and monument staff and also meets additional project objectives will outweigh the short-term minor inconveniences of construction disturbances and possible attractive nuisance issues.

Impacts of Alternative 3 (Action Alternative)

The new parking area would provide a safe, permanent and convenient parking area for visitors, researchers and monument staff and facilitate the monument's operations. This alternative would provide a parking area that is off the county road and right-of-way and would be minimally intrusive. However, the removal of trees in this alternative would have adverse minor to moderate long-term impacts to visitor experience. The use of larger quantities of fill material will increase the steepness of the parking lot's embankment slip face leading to future maintenance problems. Constructing a new parking area could also have adverse minor impacts to visitor use and experience given that this site may become an "attractive nuisance" for non-resource related use given that it is located in a rural residential area. During the construction phase, visitors may also be adversely impacted by the dust, loud machinery and have greater difficulty in accessing the Goodman Point trail but it would be minor and short-term. Therefore this alternative would have minor to moderate, beneficial and adverse, site-specific, short and long-term impacts on visitor experience and use.

Cumulative Effects:

Cumulative impacts are the same as Alternative 1 and 2.

Conclusion:

Under this alternative, the establishment of a new parking area to create a safe, convenient location for parking would have a minor to moderate, beneficial, site-specific, effect on visitor use and experience. Construction disturbances (noise, dust, limited areas) would have a minor, temporary adverse effect to visitor use and experience. The visual changes to the area from adding a gravel surface within the Goodman Point Unit would have a minor adverse effect on visitor experience because the changes would be readily noticeable. Nevertheless, the long-term overall benefits of providing a new parking area that would be a safe, convenient location for visitors, researchers and monument

staff and also meets additional project objectives will outweigh the short-term and long-term minor inconveniences of construction disturbances and possible nuisance issues. Removing significant natural resources from the area, such as trees, does not meet one project objective of being “aesthetically pleasing”. However, few visitors, if any, may notice this impact.

Park Operations

Affected Environment

Hovenweep employs one permanent law enforcement park ranger and one seasonal law enforcement park ranger. Patrols of the Goodman Point Unit, since it is one hour (43 miles) away from monument headquarters, typically occur 1-2 times a month April through October and less frequently during the winter months.

Maintenance positions in Hovenweep National Monument consist of one permanent and one seasonal maintenance worker. However, the Southeast Utah Group provides additional maintenance assistance for road and trail projects as well as other large maintenance projects.

Monument research programs are a significant park operation. The Goodman Point Unit village site represents one of the largest Ancestral Puebloan communities and researchers from all over the area are studying this site constantly to gain more insight into the Ancestral Puebloan people who inhabited this area during the Pueblo II and Pueblo III time periods, approximately spanning the years AD 900 to AD 1300.

Currently there are no issues with maintaining the existing parking area at the Goodman Point Unit. Although there is a portable toilet currently present adjacent to the parking area, this service is provided and paid for by the Crow Canyon Archeological Center for the duration of their project at the Goodman Point Unit. Once their project is complete the portable toilet will be removed and it is not anticipated it will be replaced.

Methodology and Intensity Thresholds

Implementation of a project can affect the operations of a park such as the number of employees needed; the type of duties that need to be conducted; when/who would conduct these duties; how activities should be conducted; research projects, and administrative procedures. For the purpose of this analysis, the human health and safety of monument employees is also evaluated. The methodology used to assess potential changes to park operations is defined as follows:

- Negligible:** Monuments operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on monuments operations.
- Minor:** The effect would be detectable, but would be of a magnitude that would not have an appreciable adverse or beneficial effect on monuments operations. If mitigation were needed to offset adverse effects, it would be relatively simple and successful.

- Moderate:** The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful.
- Major:** The effects would be readily apparent and would result in a substantial adverse or beneficial change in monument operations in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not be guaranteed.
- Duration:** Short-term effects last only during the construction phase (i.e. building the parking lot). Long term effects refer to lasting longer than the construction phase.

Impacts of Alternative 1 (No Action Alternative)

The no action alternative would have moderate adverse impacts to park operations. Although, no construction activities would be conducted and no additional maintenance or law enforcement needs are anticipated, the impacts to park operations would involve general staff and researchers conducting monument operations and research. Current road work on County Road P has resulted in a creating a steep ditch on either side of the road and staff and researchers may not have ample space to safely park their vehicles along this busy road. County Road P also crests a hill immediately adjacent to the current pull-off which heightens the safety risks for individuals entering and exiting their vehicle or walking next to the road. The impacts to park operations would be moderate, adverse, site-specific and long-term.

Cumulative Effects:

Any project that occurs in the monument has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction to this chapter would have some degree of effect on employees and park operations. Planning projects such as the development of a fire management plan and planning for improvements to the visitor center typically involve the majority of monument staff to contribute their expertise and assistance. Resource management projects such as exotic vegetation management, cultural resource surveys would primarily involve resources staff. Fence replacement and road maintenance issues would primarily involve the maintenance staff. Visitor contact, interpretation, and safety activities usually involve rangers and interpretive specialists. Under the non action alternative, park operations in the project area are not expected to change. Therefore, cumulatively, park operations would not appreciably change when considered with other past, present, and reasonably foreseeable future actions.

Conclusion:

Vehicle traffic on County road P has increased significantly in recent years due to active oil & gas development and residential expansion in the Goodman Point area. These pressures are likely to continue growing in future years. The no action alternative would have moderate adverse impacts to park operations even

though no construction activities would be conducted and no additional maintenance or law enforcement needs are anticipated. However, by not providing a safe parking area and allowing staff and researchers conducting monument operations to park along a busy road moderate, adverse, site-specific, and long-term impact to park operations would occur.

Impacts of Alternative 2 (Preferred Alternative)

Under the preferred alternative, maintenance crews would likely have a lighter work load than if alternative 2 was selected. The location of this site provides a more level surface requiring less gravel fill material to construct the parking area. This would in turn reduce the amount of work to maintain the parking lot after the construction phase. Erosion issues would be minor. Sign implementation and maintenance would be negligible. Impacts to maintenance operations would be minor, adverse, site-specific and short to long-term.

Constructing a new parking area could become an “attractive nuisance” for non-resource related use since this site is in a rural residential area. Ranger patrols to this location may need to be increased if nuisance issues arise and impacts to law enforcement operations would be minor, adverse, site-specific, and long-term.

The construction of a new parking lot under the preferred alternative would provide a safe location for monument employees and researchers to park and would be moderate, beneficial, site-specific and long-term.

Cumulative Effects:

Any project that occurs in the monument has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction to this chapter would have some degree of effect on employees and park operations. Planning projects such as the development of a fire management plan and planning for improvements to the visitor center typically involve the majority of monument staff to contribute their expertise and assistance. Resource management projects such as exotic vegetation management, cultural resource surveys would primarily involve resources staff. Fence replacement and road maintenance issues would primarily involve the maintenance staff. Visitor contact, interpretation, and safety activities usually involve rangers and interpretive specialists. Under this alternative, there would be a minor effect on park operations associated with constructing a new parking lot; therefore, cumulatively there would be a minor effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

Conclusion:

Under the preferred alternative, maintenance issues would be fewer than under alternative 3. Less gravel fill material would be needed to construct the parking area, thus simplifying maintenance after the construction phase. Frequent law enforcement presence could be needed to patrol the area if non-resource related attractive nuisance issues develop. Nevertheless, the long-term overall benefits of providing a new parking area that would be a safe, convenient location for researchers and monument staff and also meets additional project objectives will outweigh the short-term and long-term minor inconveniences of additional maintenance issues and possible nuisance issues.

Impacts of Alternative 3 (Action Alternative)

Maintenance crews would likely have a greater work load than if alternative 1 was selected. The location of this site is on a greater slope and more gravel fill material would be needed to construct the parking lot. A steeper slip face on the parking lot embankment could accelerate erosion and require more maintenance in future years. Erosion issues would be minor to moderate. Sign implementation and maintenance would be negligible. Impacts to maintenance operations would be minor to moderate, adverse, site-specific and short to long-term..

Constructing a new parking area could become an “attractive nuisance” for non-resource related use since this site is in a rural residential area. Ranger patrols to this location may need to be increased if nuisance issues arise and impacts to law enforcement operations would be minor, adverse, site-specific, and long-term.

The construction of a new parking lot under this alternative would provide a safe location for monument employees and researchers to safely park and would be moderate, beneficial, site-specific and long-term.

Cumulative Effects:

Cumulative impacts are the same as Alternative 2.

Conclusion:

Maintenance issues would be greater under this alternative. More gravel fill material would be needed to construct the parking area potentially leading to an increased need for future maintenance to the parking lot after the construction phase. More frequent law enforcement presence could be needed to patrol the area if non-resource related nuisance issues develop. Nevertheless, the long-term overall benefits of providing a new parking area that would be a safe, convenient location for researchers and monument staff and also meets additional project objectives would outweigh the short-term and long-term minor inconveniences of additional maintenance issues and possible nuisance issues. Overall, these impacts would have minor to moderate, adverse and beneficial, site-specific, short and long-term impacts to the efficiency of park operations.

Summary Statement of Impacts for Each Alternative

Under Alternative 1 (No Action Alternative), the current pull-off area would be used and there would be no construction of a parking area within Goodman Point Unit and therefore there will be negligible impacts to cultural or natural resources. However, this alternative would have moderate adverse impacts to the human environment such as visitor use and experience and some park operations. By not providing a safe location for parking off the county right-of-way, visitors, monument staff and researchers will have to park along the busy road that poses significant safety hazards. Recent road work has created steep ditches along the road shoulders and parking on a level surface is limited. Parking across the road from the trailhead also poses a risk since a nearby blind hill prevents optimal visibility of oncoming vehicles. Although this alternative minimizes potential impacts to significant monument resources such as cultural

and natural resources, it does not achieve a balance between these resources and the safety of monument staff, researchers and visitors and the public.

Under Alternative 2 (Preferred Alternative), the construction of the parking lot in this proposed location would result in negligible to minor adverse impacts to archeological resources and cultural landscapes. The impacts to soils would be significantly less than under Alternative 3. The location of this alternative is on a level surface which would require less fill material and would have minimal erosional issues and impacts to soil would be minor to moderate, adverse, and both short and long term. This alternative would have minor, adverse, site-specific, short and long term impacts on native vegetation but would not impact the two key tree species in the area's vegetation community. These trees would provide greater species diversity and important habitat for resident and migratory birds and other wildlife. Visitor use and experience would face minor, adverse impacts during construction but moderate beneficial long-term impacts would result from having a safe and convenient location for visitors to park. Minor, adverse impacts to park operations may occur. The location of this site provides a more level surface requiring less gravel fill material to construct the parking area. This would in turn reduce the amount of work to maintain the parking lot after the construction phase. Law enforcement patrols to this location may need to be increased if nuisance issues arise and impacts could be minor. Adverse impacts to resources are no greater than moderate; however, impacts that are also moderate can be beneficial especially to visitor use and experience and park operations. When considered in total, the overall impacts to resources are small. None of the effects to resources, singly or in combination, rise to a level that would result in any unacceptable impacts, nor would monument resources be impaired.

Under Alternative 3 (Action Alternative), the construction of the parking lot in the proposed location would result in negligible to minor adverse impacts to archeological resources and cultural landscapes. Minor to major adverse impacts to soil and vegetation resources are expected to occur under this alternative. This site location has a greater slope than Alternative 2 and with that it has greater potential for soil erosion and erosion control issues. The slope grade with the additional fill material would increase the slope percentage within the parking lot prism causing greater erosional issues and soil loss. The removal of both sagebrush and juniper/pinyon pine trees would decrease vegetative diversity and reduce important habitat for resident and migratory birds and other wildlife. Visitor use and experience would face minor adverse impacts during construction and if large resources such as trees are removed, minor to moderate, adverse impacts would occur to visitors who may notice the removal of this significant vegetation. However, moderate beneficial long-term impacts would also result from having a safe and convenient location for visitors to park. A steeper slip face on the parking lot embankment could accelerate erosion and require more maintenance in future years. Minor to moderate adverse impacts to maintenance operations would result from needing additional fill material for leveling the 10% slope of the proposed parking area. Law enforcement patrols to this location may need to be increased if nuisance issues arise and impact would be minor. Adverse impacts to natural resources are minor to major; but impacts that are also moderate can be beneficial. When considered in total, the overall

impacts to resources are small. None of the effects to resources, singly or in combination, rise to a level that would result in any unacceptable impacts, nor would monument resources be impaired

CHAPTER 4- CONSULTATION AND COORDINATION

External Scoping

External (public) scoping was conducted to inform various agencies and the public about the proposal to construct a new parking lot area at Goodman Point Unit in Hovenweep National Monument and to generate input on the preparation of this EA/AEF. This effort was initiated with the distribution of a scoping letter and brochure, which was sent to interested parties and adjacent landowners. In addition, the scoping brochure was sent to local news organizations, and it was posted on the PEPC website. With this press release, the public was given 21 days to comment on the project beginning February 20, 2009.

In addition to the aforementioned public entities, the following agencies and Native American Tribes were sent scoping information or were contacted for information regarding the project:

Federal Agencies

U.S. Department of Interior – Fish and Wildlife Service
U.S. Department of Interior – Bureau of Land Management

State Agencies

Colorado Historical Society (office of the State Historic Preservation Officer)
Colorado Division of Wildlife

Other Interested Parties

Montezuma County Commissioner
Montezuma County Road Department
Crow Canyon Archeological Center
City of Cortez, Colorado
City of Dolores, Colorado

Consulted Native American Tribes and Pueblos

Hopi Tribal Council
Jemez Pueblo
Jucarilla Apache Nation
Laguna Pueblo
Navajo Nation
Pueblo of Acoma
Pueblo of Cochiti
Pueblo of Isleta
Pueblo of Nambe
Pueblo of Picuris
Pueblo of Pojoaque
Pueblo of San Clara
Pueblo of San Ildefonso
Pueblo of Santo Domingo
Pueblo of Taos
Pueblo of Tesuque
Pueblo of Zuni

San Felipe Pueblo
San Juan Pueblo
Sandia Pueblo
Santa Ana Pueblo
Southern Ute Tribe
Ute Indian Tribe
Ute Mountain Tribe
Ysleta Del Sur Pueblo
Zia Pueblo

During the 21-day scoping period, approximately 3 responses were received from the public through letters. Three Native American Tribes responded including the Pueblo of Laguna, Navajo Nation, and the Hopi Tribe. No other federal or state agencies responded during the scoping period. The tribes that responded affirmed their affiliation with the project area and stated that they do not anticipate impacts to Native American sites or resources. They had no objection to the proposed project, and requested to be kept informed of the project's progress, including immediate notification if Native American materials are discovered during construction.

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Hovenweep National Monument and the Southeast Utah Group. Interdisciplinary team members met on June 7, 2008 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. Over the course of the project, team members have conducted individual site visits to view and evaluate the proposed parking area site. The results of the June 2008 meeting and subsequent meetings are documented in this EA/AEF.

Environmental Assessment/Assessment of Effect Review and List of Recipients

The EA/AEF would be released for public review in June 2009. To inform the public of the availability of the EA/AEF, the National Park Service would publish and distribute a letter or press release to various agencies, tribes, and members of the public on the park's mailing list, as well as place an ad in the local newspaper. Copies of the EA/AEF would be provided to interested individuals, upon request. Copies of the document would also be available for review at the monument's visitor center and on the internet at <http://parkplanning.nps.gov/> under Hovenweep National Monument.

The EA/AEF is subject to a 30-day public comment period ending June 27, 2009. During this time the public is encouraged to post comments online at <http://parkplanning.nps.gov/hove> or mail their written comments to the National Park Service address provided at the beginning of this document. Following the close of the comment period, all public comments would be reviewed and analyzed, prior to the release of a decision document. The National Park Service

would issue responses to substantive comments received during the public comment period, and would make appropriate changes to the EA/AEF, as needed.

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