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United States Department of the Interior
NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
655 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO:

H2215 (RMR-PR)

FEB 2 6 1987

Memorandum

To: Superintendent, Big Hole National Battlefield

From: Acting Regional Director, Rocky Mountain Region

Subject: Approval of Resources Management Plan, Cultural Component, Big Hole National Battlefield

We are pleased to approve the subject plan; it will prove invaluable to managers in the preservation of resources at Big Hole National Battlefield.

We appreciate your effort in bringing this document to completion.

Jack W Neckels

Enclosure

cc:
WASO-418

# RESOURCES MANAGEMENT PLAN, CULTURAL COMPONENT

# BIG HOLE NATIONAL BATTLEFIELD

# MONTANA

United States Department of the Interior
National Park Service
Rocky Mountain Region

1987

Recommended by: Alfred W. Schulzen Date 4 March 1987
Superintendent

Concurred by: _____ Date 3/6/87
Associate Regional Director
Planning and Resource Preservation

Approved by: _____ Date 3/6/87
Regional Director
Rocky Mountain Region

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# RESOURCES MANAGEMENT PLAN, CULTURAL COMPONENT

## Big Hole National Battlefield

## I. INTRODUCTION

### I-A. Plan Purpose

The Resources Management Plan, Cultural Component, is an action plan, long range in scope, that identifies, summarizes, and evaluates a park's cultural resources and related needs. As a document that works in concert with the park's plan, the Resources Management Plan, Cultural Component, describes for park management the known cultural resources within the park and addresses specific problems, issues, and influences that have bearing on the management of those resources. In addition to establishing solutions to identified problems, the Resources Management Plan, Cultural Component, also lists specific research needs and management documents required to effectively manage cultural resources.

Developed and agreed upon by the park management and the Rocky Mountain Regional Office, this Resources Management Plan, Cultural Component, proposes interim or final treatment and use of all known cultural resources within the site area. Except in unexpected emergency situations all actions with regard to these resources are to conform to this plan. The plan is intended to be flexible enough to accommodate modifications and additions which are necessitated by changes in pertinent legislation or policy guidelines, or by

changes in our state of knowledge about the resources and threats to their continued integrity. However, all changes to the plan must be formally agreed upon by both the Park Superintendent and the Regional Director. These changes must be reviewed by the Advisory Council on Historic Preservation and the State Historic Preservation Officer. The use of a looseleaf notebook format and pagination by section faciliate the incorporation of changes without requiring total revision of the plan.

## I-B. Prehistory/History

### I-B-1. Statement of Significance

The Battle of the Big Hole was fought August 9-10, 1877, when a group of Nez Perce Indians were caught unaware by an advance party of the 7th U.S. Infantry and civilian volunteers led by Colonel John Gibbon. Less than a month earlier, June 15, 1877, three Nez Perce men, frustrated by their inability to make the whites deal equitably with them, attacked a group of settlers known to have cheated or killed members of their family. This began what became known as the Nez Perce War. In another two months, October 5, 1877, only 148 of the original 800 fleeing Nez Perce would be left to surrender at Bear Paw Mountain, Montana. They would be just thirty miles short of sanctuary in Canada. During these 3 1/2 months, their numbers would be decimated by skirmishes with the whites and the travails of their journey.

Big Hole was the turning point in this war. After the battle, the Nez Perce knew they would never be left alone and they knew they were not powerful enough to stop the military. From this point on, the "flight" would begin in earnest.

Although the site originally commemorated only the whites who died there, it is now a memorial to the people of both races who were caught in the forces of westward expansion over which they had little control.

I-B-2. Chronological

Big Hole National Battlefield encompasses an area of some 655.6 acres. At an altitude of 6,000 feet or more, it has long winters and cool summers. The Big Hole valley never had a year round resident Indian population, instead nomadic groups utilized the valley resources for hunting and for camping when traveling between the eastern plains and the western interior valleys. Although archeologists report numerous sites in the surrounding areas, little archeological fieldwork has been accomplished in the Big Hole Region since Malouf (1950) reported thirteen tipi rings.1 Haines (1966) published a short description of an isolated projectile pot found by the maintenance crew in the monument.2 This triangular unnotched tan chest point is believed to predate the Big Hole Battle. Thus, the general absence of reported archeological sites is believed to reflect the absence of a systematic survey. However, it is doubtful, given the park's topographic setting of steep hillsides, active flood plain, and modern disturbances such as previous cultivation, that any survey will locate significant cultural resources in the monument which predate the 1877 battle.

Early trappers knew the basin and gave it the name of Big Hole because it was a natural depression in the Bitterroot and Pioneer Mountain Ranges. The first known trapper was John Ross who crossed the mountains from Ross' Hole (Sula) over into the Big Hole in 1812. Early Montana pioneers tended to avoid the

valley because of the ring of mountains. Even the discovery of gold in 1862 at Grasshopper Creek and the subsequent boom town of Bannack (now a state park) at the south end of the valley, left the Big Hole relatively untouched.

In the last half of the 1880's, miners crawled over the Bitterroot Mountains on the west of the basin and over the Pioneer Mountains on the east. The miners explored almost every area, but they were not often successful in finding precious metals. On the east side of the Pioneer Mountains, miners found some workable claims, but on the west slope there were only small pockets of ore. Meanwhile, along the east slopes of the Bitterroot Mountains, miners filed occasional claims in the higher elevations. The findings decreased to a few pockets of ore as they went north along the slope. At present, there is no workable claim within several miles of the battlefield. Concurrently, early ranchers began to use the basin as a summer pasture. It took a while to realize that they had to change their usual practices in order to utilize this high grassy valley.

Cattlemen finally realized that if they cut grass and stacked hay they could winter their livestock in the Big Hole--thus the area became known as the land of Ten Thousand Haystacks. In the late 1870s, ranchers began filing claims under the Desert Land Claims Act for ranch lands of 240 acres, providing portions of it could be irrigated. However, the northern end of the Big Hole basin, and particularly the vicinity of the battlefield, remained unclaimed and unsettled in 1877. The battle took place in only a small portion of the Big Hole basin.

The Battle of the Big Hole was actually only one of a series of skirmishes s which became known as the Nez Perce War. Approximately 800 Nez Perce Indians had taken refuge in the Montana Territory in early August, 1877. They were fleeing reduction of their reservation lands and the results of an attack by three of their youths on white settlers. Arriving in the Big Hole Basin on August 7, they believed they had left their military pursuers far behind. They planned to settle in for several days rest and recuperation.

Unknown to the Nez Perce, an advance of the 7th U.S. Infantry under the command of Colonel John Gibbon was on its way. They had left Ft. Missoula on August 4, with 163 men, a Howitzer, and 19 Civilian Volunteers. They arrived at the Big Hole late on August 8, and, after scouting the area, took up positions on Battle Mountain overlooking the Indian encampment. The attack was planned for dawn, but began prematurely when a lone Nez Perce was shot as he checked on his tribe's grazing ponies.

The sleeping Indians were caught unaware. The troops plunged across the Big Hole River into the Indian camp and fired at men, women, and children as they fled their tipis.

The Indians rallied and took up sniper positions along the river and to the south and east. They were able to stop the army's advance and by 8 a.m. Colonel Gibbon was forced to order a retreat to the base of Battle Mountain where his men dug in. In the meantime, several men had been working all morning trying to get the Howitzer into position. They had no sooner achieved this than the Indians attacked them and seized the gun.

All the rest of that day and most of the next, the Indian snipers kept the army at bay giving the Nez Perce time to bury their dead and care for their wounded. With a few snipers left behind to keep the army pinned down, the main body of Nez Perce began moving southward. On the evening of August 10, the snipers joined them and the battle was over.

As the 1880s began, land claims began to spread over the basin. The Army laid claim to four sections of unsurveyed lands as a Military Reserve. In 1883 the Army Quartermaster erected a six-ton Vermont granite monument to commemorate the battle. The specific location of the military reserve was not the most desirable for ranching; but, as the unclaimed land decreased, the claims approached the battle ground. The military stone monument was off in a fringe of trees and, after a few years, the existence of the military reservation was all but forgotten. The military title was ignored when in 1906 President Theodore Roosevelt proclaimed the Big Hole National Forest Reserve. In that same year the National Forest Service was created by Congress and it immediately began administering the proclaimed forest and, with it, the battle site. However, the military reservation sat astride the forest boundary. The stone monument and a third of the battle site was within the new national forest and the rest was outside the forest. Of the present Big Hole National Battlefield, over 61% of the area was inside the National Forest Boundary. The newly created National Forest Service quickly began organizing its responsibilities and, as such, reorganized its forest lands. Thus, in 1908, Big Hole National Forest was enlarged by adding parts of adjacent federal forest reserves and renamed Beaverhead National Forest.

Forest headquarters were set up in Dillon, Montana, under the leadership of Forest Supervisor C. W. Wyman. Supervisor Wyman realized he administered some grounds of significance in the battle site. From the beginning, Wyman proposed that about 115 acres be set aside as a Special Administrative area under forest regulations to be called "Gibbon's Battleground." Not waiting for approval, a cabin and associated horse corral were built creating accommodations for rangers. This not only protected the historic resources; but, supported Wyman's special administrative area. Shortly after, Gibbon's Battleground was approved as a Special Administrative Area.

Local and regional pressures on political office holders created an impetus that led to the establishment of the Big Hole as a National Monument in 1910. When its existence as a military reservation was discovered, Big Hole Battlefield National Monument was assigned to the War Department to administer which caused them some concern. They had already administered battlegrounds, but were not sure how to manage a national monument under the Antiquities Act of 1906. To compound the problem, the little 5-acre National Monument was in the middle of the Gibbon's Battleground Administrative Reserve of the Beaverhead National Forest. The War Department chose to avoid as much responsibility as possible and thus minimize their expenditures. The Forest Service realized that they had a responsibility to provide "recreation" for the public and welcomed it. The ranger station continued to function as a host to visitors and a local administrative center for other forest activities.

It was a complicated arrangement: A 5-acre National Monument surrounded by a 110-acre Administrative Area within a National Forest. Even if the War Department planned to staff the monument, the plot of land was too small.

After several years of negotiating, the War Department transferred $50.00 to the Forest Service in 1930 to build a small museum (16'x16') of logs. In 1933, by Executive Order, Big Hole National Monument, along with all other National Monuments, was transferred to the National Park Service. The problem was the same: Not enough land to protect the resource or to build enough facilities for operations. From the time of the National Monument in 1910, the Forest Service used the Administrative Area facilities on only seasonal occasions. By the time the National Park Service was added to the mixture, most of the Forest Service buildings were gone, leaving only a caretaker's cabin and the log museum. The Park Service faced the same dilemma as did the War Department, including stringent budgets.

Administration was assigned to Yellowstone National Park, and for years the best they could do was an annual visit. In 1939, another Presidential Proclamation enlarged the Monument to a total of 200 acres which included the original 5 acres and the 110 acres of the Administrative Area. Thereafter, Yellowstone sent a seasonal park ranger over to Big Hole to administer the Monument during the summer months.

Several events involved the resources over the years. From 1919 to 1920, the Forest Service hired Tom C. Sherrill, a survivor of the Battle, as a caretaker, in spite of his age. Sherrill had been a Citizen Volunteer during the battle. He was reluctant to write down the data he knew; but, when the Forest Service made a point of it, he did so. He measured locations by compass and paces from the corners of the Soldier Monument. Obviously, his interest was in the Citizen Volunteer data and, only secondarily, the soldiers. To match his data was the work of Lucellus V. McWhorter concerning the surviving Nez Perce Indian

participants. McWhorter brought surviving Nez Perce from the reservation at Colville, Washington, in 1906, 1926, and 1936 to walk the battlefield and reminisce. Particular points of the stories were marked and a map prepared. Nature was also taking its course through the trees of the area. Beginning about 1912, the surrounding forest became infected with bark beetles. The battle area trees, with their bullet scars and notches cut by vandals removing bullets, were particularly vulnerable. In the battle area, the infection was heavy. Thus, by 1935, the Forest Service was applying the only known remedy and cutting down the infected trees. In consultation with Yellowstone National Park, all infected trees in the Monument were topped about ten feet from the ground. The tree canopy was all but removed, except for the youngest ones, and it left a forest of poles. In time the poles also were infected by wood rot and wood ants and went the way of all life. Meanwhile, surviving trees developed to the tree cover which exits today. Today, even those trees are in a critical stage of tree succession patterns, and are very vulnerable to insect damange and have a high potential for fires.

The present paved Montana State Highway was opened in 1962. In 1963, the park was enlarged and changed. By act of Congress the site was renamed Big Hole National Battlefield to reflect the change in administrative authority from that of a National Monument under the Antiquities Act of 1906 to that of a National Battlefield under the National Park Service Organic Act of 1916. The Battlefield was also enlarged to 655.6 acres. Some of this was through the transfer of some lands from the National Forest, but other land was acquired through the purchase of privately owned lands to the east and in the local valley. The purchases were completed in 1963 and 1972. The enlargement included the rest of the battle site, the Nez Perce Indian camp and the

connecting battle zone. These were added to the Siege Area and the Howitzer Capture Site of the old National Monument. About 4% of the land in the southeast corner of the new Battlefield was added for the purpose of development of facilities such as roads, a visitor center, and employee residences. However, there was a strip between the developed area and the battle sites which contained three irrigation ditches which were included in the enlarged area.

The overall intent of the enlargement was to enclose and to protect the aesthetic setting of the functional areas, as much as was minimally required to maintain the natural scene as it was at the time of the Battle in 1877. The present facilities were completed in August 1968, and, with that, the park has been minimally staffed through the year. The newest added public facility was in 1976. It was an interpretive trail through the Nez Perce Indian Camp to complete public access and interpretation of the entire battle site.

## I-C. Theme Representation

The cultural resources of Big Hole National Battlefield have been determined by the Park staff and in accordance with the listing of historical themes as outlined in History and Prehistory in the National Park System and the National Historic Landmarks Program (National Park Service, History Division, Washington, D.C., 1982). These themes are:

1) Military-Indian Conflicts (Battle Sites)
2) Cultural Landscape

### I-C-1. Military-Indian Conflicts

There are four main areas critical to the battle story: The Nez Perce Indian Camp, the Siege Area, the intervening Battle Zone, and the peripheral area of

the Howitzer Capture Site. These four areas or zones are the focal point for which the Park was first established by Presidential Proclamation. They are coequal with the area covered by the Historical Archeology theme representation. The land area constitutes about 20% of the Park; but, a cultural resources survey could enlarge or decrease that estimate. These areas have been defined from close reading and analysis of historic records, but not from archeology.

The grounds of the four battle sites contain historic artifacts, but nothing has been done on a thorough and professional enough scale to provide outlines of the areas and document some key features. On the basis of the nature and type of archeological work already done, ranging from vandalism to occasional work by professionals and trained amateurs, the expectation is that at least 80% of the artifacts will be expended cartridge shells. Much of the present knowledge is from details in the historic records, but little has been accommplished to tie the historic data to specific places on the ground. Mapping of the cartridge shells will define battle lines. To date, a grid has been established on the battle sites, and what data are known is plotted on the grid sheets. The artifact recovery mapping was done by Aubrey Haines in 1964-65, who summarized all previous work and located items. The map has been kept current. There has been no park-wide survey in compliance with Executive Order 11593. This plan contains several proposals for archeological work to provide an inventory and a framework for the protection or recovery of the remaining cultural resources.

I-C-2. Cultural Landscape

The landscape is to be managed to approximate that which existed at the time of the battle in 1877. The landforms are nearly those of 1877, but there have

been some manmade intrusions, principally three irrigation ditches and the right-of-way containing the foundations for a thousand-foot overhead flume. There are also some obvious road prisms, all of which have been acquired with the latest land acquisitions in 1963 and 1972. The major problem, however, is that of natural changes in the vegetative cover. The vegetational cover pattern is as much a cultural resource as a formal garden behind a colonial mansion or a field crop in connection with a Civil War battle site. Plant succession has made changes. For example, pine forest growths and sagebrush have encroached upon the open bald hillside of Battle Mountain and invaded what was once grassland, and the willows of the river bank have become gnarled giants. It is difficult for the visitor and park user to comprehend why the historic participants--the Nez Perce Indians, the soldiers, or the Citizen Volunteers--took the actions they did. For example, in 1877, the line-of-sight from the Howitzer Capture Site was a clear view for several hundred yards to a small copse of trees at the Siege Area — an isolated forested "island"; but now that slope is filled with a broad bank of very mature lodgepole pines. Why did the Nez Perce pasture most of their horses on a hillside which is now dominantly covered with sagebrush when historically it was mostly grasses? How were the soldiers able to slip through the willow growths? Today the willows are very old and full of dead materials; but, when the battle occurred, they were recovering from a ten-year cycle of fire, and the branches were young and supple.

In all of these changes over time, one need not look further than the fact that fire, or its absence in this protected area, has been the ecological missinng link that has produced the changed conditions found today. At the time of the battle, plant life in the park was in a ten-year cycle before lightning caused

fire would destroy the old growth and make room for new. Ample documentation of a the details of this biology has been provided by University of Montana researcher John Pierce. Vegetative studies, including tree-ring dating, fire records, tree burn scars, land survey descriptions, photographic comparisons, and vegetative composition and density studies were utilized in the project. Pierce concluded that in 1877 plant growth on the site had neared the mid-point of its cycle, as fire had swept the area in 1872. Thus has the 100-plus years of fire protection given to the site bestowed a changed biological environment as well. Pierce's work proposed projects for the future management of the battlefield so that the land could be returned, through piece-meal prescribed burnings, to its condition in 1877. Not only would this gambit afford a more authentic battlefield scene, but it would provide long-range protection to the site from a predictable wildfire of great magnitude.

## ENDNOTES

1Carling I. Malouf, "Notes on the Archeology of the Big Hole Region, Montana," Montana State University Anthropology and Sociology Papers, Missoula, No. 4, 1950.

2Aubrey L. Haines. 1966 A Projectile Point from the Big Hole Battlefield, Archeology: Montana 7 (1):5-6.

# II. MANAGEMENT POLICIES

## II-A. Legislation, Regulations, and National Park Service Guidelines

### II-A-1. Pertinent Legislation and Regulations

The cultural resources of Big Hole National Battlefield shall be managed in conformity with the following applicable legislation, implementing regulations, executive orders, policy guidelines, and approved planning/management documents:

a. Antiquities Act (1906)

b. Uniform Rules and Regulations for carrying out the provisions of the Antiquities Act (1906)

c. Historic Sites Act (1935)

d. National Historic Preservation Act (1966; amended 1980)

e. National Environmental Policy Act (1969)

f. Executive Order 11593 (1971)

g. 36 CFR Part 800 "Procedures for the Protection of Historical and Cultural Properties" (1974)

h. Archeological Resources Protection Act (1979)

### II-A-2. National Park Service Documents

a. "Cultural Resource Management and Preservation," Chapter V: NPS Management Policies. 1978.

b. Rocky Mountain Region, Inventory of Archeological Sites Program: Managers' Brief. 1978-1980.

c. NPS-6, Interpretion and Visitor Services Guidelines. March, 1980.

d. NPS-28, Cultural Resources Management Guidelines. 1985.

e. NPS-2, Planning Process Guidelines. September, 1982.

f. NPS-12, NEPA Compliance Guidelines. September, 1982.

II-A-3. Approved Park Planning Documents

a. Master Plan: Big Hole National Battlefield (1964)

b. Big Hole National Battlefield: Historical Research Management Plan (1967)

c. Statement for Management: Big Hole National Battlefield (1986)

d. Land Protection Plan: Big Hole National Battlefield (1984)

e. Outline of Planning Requirements: Big Hole National Battlefield (1984)

f. Annual Statement for Interpretation and Visitor Services: Big Hole National Battlefield (1982; revised 1986)

II-B. Cultural Resources Compliance Statement

II-B-1. Archeological Compliance

As stipulated in NPS-28, and in furtherance of Executive Order 11593, any project that has the potential to impact archeological resources must be preceded by a survey of the project area, conducted by a professional archeologist, and an evaluation of all resources located for the National Register of Historic Places. The Regional Archeologist coordinates this work in response to the line item, lump sum, and other programs coordinated through the Regional Office. The park must advise the Regional Archeologist of all day labor ground disturbing activities so together they can ascertain the need for archeological compliance work and insure its implementation in a timely manner.

II-B-2. Programmatic Mermorandum of Agreement and Assessment of Effect Form

Section 106 compliance is afforded by the Programmatic Memorandum of Agreement (PMOA), negotiated between the National Park Service, the Advisory Council on Historic Preservation (ACHP), and the National Conference of State Historic

Preservation Officers (SHPO). The PMOA provides that when this Resources Management Plan, Cultural Component is approved, implementing actions affecting historic properties and archeological resources, as defined by NPS-28, will not be reviewed by either the ACHP or the Montana SHPO, and will be certified as meeting NPS-28 standards by the Regional Historian, Archeologist, Historical Architect, and Curator, with final approval given by the Regional Director. For these projects, the superintendent must complete the Assessment of Effect form (see Appendix) and submit it to the Branch of Historic Preservation (BHP) at least 30 days before the inception of the project. Substantive changes in the plan will require regional comment, as well as review by the ACHP and Montana SHPO.

A separate Programmatic Memorandum of Agreement also allows the BHP to evaluate and certify "energy management" or "preservation maintenance" projects affecting any historic property or archeological structure in the Rocky Mountain Region. The Superintendent should first seek guidance from the Regional Office as to whether a project will qualify as energy management or preservation managmement (i.e., like kind replacement) and then submit an Assessment of Effect form. This form should be submitted at least 15 days prior to the inception of a project. The SHPO is not usually included in this review process.

II-B-3. Section 106 Compliance Procedures

For actions not covered by this plan, there is an alternative way to achieve Section 106 Compliance. When a Superintendent anticipates a project that will affect an National Register property or archeological site, he/she should immediately notify the BHP, providing it with the following information: 1) a complete description of the project; 2) the impact(s) of the project upon the

resource; 3) appropriate supporting documentation--photographs, drawings, plans. The BHP will review the documentation and either concur or return it to the Superintendent, with an explanation as to why the project cannot be accepted or must be modified to protect the resource. If the project is accepted and the level of effect is determined, it will be submitted in a suitable format to the SHPO for his/her review and concurrence. "No effect" actions require only concurrence by the Montana SHPO. "No adverse effect," actions require concurrence by the Montana SHPO and the ACHP. "Adverse effect" actions require consultation with the Montana SHPO and the ACHP to develop a "Memorandum of Agreement" that sets the appropriate level of mitigation for the adverse affect. At least 120 days should be allowed for the completion of the review process.

II-B-4. National Register of Historic Places

The entire Big Hole National Battlefield, exlusive of the development and private use zones, is on the National Register of Historic Places and was documented on August 4, 1984.

II-B-5. National Environmental Policy Act of 1969

Any Federal action which results in significant changes in the environment including impacts upon the aesthetics, aquatics or terrestrial ecosystems are required to have an Environmental Assessment and, if found to be significant or controversial, to develop an Environmental Impact Statement open to public comment before final decisions are made. Because of the nature of most cultural resources, the National Environmental Policy Act does not apply to cultural resource plans. However, because of the landscape as part of the cultural resources at Big Hole National Battlefield, the Act does apply. The Assessment covers the problem and the nature of the proposed actions, describes alternative actions and the probable adverse environmental impacts, assesses

the short term and the long term effects and any reversible or irreversible commitments of the resources under study. An assessment covers possible mitigating actions and, as a result, may conclude that there are "No Significant Environmental Impacts" (FONSI).

## II-C. Park Historic Structures Statement

### II-C-1. List of Classified Structures (LCS) Survey

The LCS is an inventory of all above-grade historic and prehistoric structures,in which the National Park Service owns or will acquire any legal interest, that merit preservation for their archeological, historical, architectural, or engineering values. The full scope and provisions for the List of Classified structures are discussed in NPS-28.

A survey was conducted in 1975 and there are two entries--the Soldier Monument and the entrenchments in the Seige Area--which are part of the National Register properties.

### II-C-2. Resource Preservation Intent Statement

The Big Hole Battle Monument, also known as The Soldier Monument (HS-2), is six tons of Vermont granite erected in 1883 by the Army to commemorate the soldier and citizen volunteer dead as well as the battle. In its early years vandals chipped corners off the upper section, therefore, in 1901, the War Department erected an iron cage over the repaired monument. The cage was removed by the National Park Service in 1953. Time and environmental conditions have had little or no noticeable effect upon the monument. Hence, there are no funds requested for stabilization or treatment. The Monument foundations are solid and stable, but there are some speculative archeological questions about them. They are not in the "need-to-know" category, however.

The Soldier Entrenchments (HS-1) are a critical problem of park resource management. From the date of the battle, the siege area and the entrenchments have been the focal point of visitors and this naturally resulted in use impact. The Forest Service attempted to keep the entrenchments intact by hiring T. C. Sherrill, a surviving Citizen Volunteer of the battle, as a caretaker from 1919 to 1922, in spite of his age. Because of deterioration and some vandalism, the National Park Service detailed Park Historian Don Rickey from Custer Battlefield to do a metal detector examination and documentation of the entrenchments in July, 1959. However, Rickey completed only three days of work before he became very ill and could not continue. The problem presented by time alone is the gradual fading into obliteration of some of the trench lines. The added problem is that a potential vandal or pot hunter can damage the historic fabric and destroy historical data. The management problem is the protection of the cultural resource data, the maintenance of the entrenchments and the public exhibition of the entrenchments. The first option of treatment is to do nothing, which is essentially what has been done. The layer of pine needle duff offers a slight protection for the existing data, and any maintenance that might be done would possibly, inadvertantly destroy data. The second option would be to carefully measure and map the visible data and map any incidental artifact finds as they appear. Maintenance would then know to what edges and conformation they could go to clean out the entrenchments and make them exhibits for the public. The third option is for full stabilization and treatment. It would require the mapping, as before; but, also, sufficient archeological work to recover any available historic data still in the ground.

Estimates in the LCS program is for $40,000 for stabilization and $25,000 for treatment. Those estimates might be reduced considerably by an on-the-ground examination by staff professionals.

II-C-3. Documentation Statement

II-C-3-a. Cultural Resource Documents

1. The Soldier Monument

a. File, "Soldier Monument Paper," in the park files contain copies from the National Archives, Record Group 94, The Adjutant General's Office, 1780s-1917, Miscellaneous Files #299. It relates to the authorization and design of the monument itself.

b. Senate Resolution of January 8, 1900, 56th Congress, in park Legislative History Binder, by Edmond B. Rodgers.

c. Senate Document 224, 56th Congress, dated March 16, 1900. In the park Legislative History Binder, by Edmond B. Rodgers.

d. Probably other documents related to the monument and the military reserve in the files of the Quartermaster General which have not been searched.

2. The Entrenchments

a. Manuscript report by Don B. Rickey, "Field Research, Big Hole Battlefield National Monument, July 16-22, 1959, 9 pgs.

b. Classified Structure Field Inventory Report, "Entrenchments," June 12, 1976.

II-3-c-b. Cultural Management Documents

1. Interpretive Prospectus for Big Hole National Battlefield (1964)

2. Big Hole National Battlefield/Historical Research Management Plan (1967)

3. Land Protection Document/Big Hole National Battlefield (1985)

4. "Draft, Combined Master Plan and Interpretive Prospectus," Superintendent Big Hole National Battlefield to Assistant Superintendent, Yellowstone National Park, December 31, 1973, 50 pp + 2 Maps. Provisional Regional Office Approval. In Regional Office Files, Rocky Mountain Region.
5. Big Hole National Battlefield, Visitor Center Exhibits, March 1977 Planner, Helen A. Schrieder; Designer, Solis R. Ingram, Branch of Exhibit Planning and Design, Division of Exhibits, Harpers Ferry Center, West Virginia (D 6215-MH-EPD BIHO), 34 pp as modified by Memorandum, April 1, 1977, from Chief, Branch of Exhibit Planning and Design. Copies at Harpers Ferry Center, National Park Service.
6. Statement of Interpretive Operations, Big Hole National Battlefield (1984)

## II-D. Historic Sites Statement

### II-D-1. Overview

### II-D-2. Introduction

Although a natural resouce, Big Hole National Battlefield has to be managed for a historic point in time--as it was in 1877 at the time of the battle. As a colonial mansion has its formal garden or a Civil War battelfield its pasture or corn field, in the same way the vegetative cover of the battlefield is important to understand and visualize the actions of the soldiers, the Nez Perce Indians and the Citizen Volunteers. By their very nature, the basic themes of the park required assistance with facts and information for the visitor to understand what happened and receive the impact of the events over 100 years ago. However, the course of nature has continued and changed the scenery and it is now difficult to imagine the conditions at that time. For

example, why is the Howitzer Capture Site some 20 feet into the trees of the forest? At the time of the battle, it was in an open grassy area along the edge of the trees. Or, why did the soldiers pick this place to stop, which is not a part of the siege area, when it is so integral a part of the forest? At the time, it was an isolated small grove of trees. How did the Nez Perce get their horses to graze on the bald area which is not mostly sagebrush.? At the time it was mostly grasses and little or no sagebrush. How did the soldiers get through the thick willows on the river bottom which are now old bushes, thick with dead branches, which today defy the passage of wildlife? At the time the willows were in about the same locations, but had been burned off some six years before and were therefore young sprouts and pliable.

These issues must be addressed for the effective and efficient operation of the Battlefield. Although natural resource management methods and techniques apply, the goal and intent are different. A natural resource area would be managed for a specific sequence in plant succession; the resource here must be managed to achieve cultural area objectives. The problems to be addressed are important, if not crucial, to the long term operation of the park. There is always the potential for a natural disaster, such as a wildfire, to manage the vegetation for us, but not with the intent of creating an historic atmoshpere as it might have been in 1877.

The Battle of the Big Hole evolved in about four stages in time as the center of action moved across the local landscape. Each stage occurred on a different piece of ground and it also happens that each area is distinctive in topography and vegetative cover. The National Battlefield is in a small tributary valley of the Big Hole basin. The valley traverses from the southwest to the

northeast across the park. In the northwest corner is Battle Mountain which is covered with a lodgepole forest except for a large face of a grass/sagebrush bald which comes to the valley floor. The valley is the headwaters of the North Fork of the Big Hole River which is the result of the joining of Trail Creek which enters the park from the west and Ruby Creek which enters from the south along the Bitterroot Mountain Range. The valley is level, the stream is meandering and the vegetation is divided by the stream with a grassy open area on the east and willow growth on the west to the foot of the mountain. The southeast is a glacial till plateau which overlooks the battle sites below. Ruby Bench is sparsely covered with grasses. This is in the natural resource section of the Resources Management Plan, Cultural Component.

## II-D-2. Status and Description

### II-D-2-a. Areas of Major Importance

1. The Nez Perce Indian Camp

   Located on the east bank of the river it is on an open grassy flat. The locations of tipi sites and other events are well documented from the historic records, although there has been no archeology to make a connection to exact points. The grass has developed over the years because it has not been grazed by cattle or burned since 1972 and has become a thick mat masking the surface.

2. The Siege Area

   Located in a point of pine growth from the top of Battle Mountain to the valley floor. It is now part of a thick forested growth. In the historic time of the battle, it was an isolated copse of trees, not exceeding 2000 lodgepole pines, isolated from the main forest line then several hundred feet further up the hillside. The trees are now mature second growth and

are infected with mistletoe--usually a precursor of bark beetle infections. It made sense at the time of the battle for the retreating soldiers to stop in the isolated grove of trees on a high point of land; but, today, with the changed scene, it does not make logical sense.

3. The Battle Zone

Located between the Nez Perce Camp and the Siege Area on the west bank of the river is a very thick growth of very mature willows. At the time of the battle, willows were located in about the same places, but the branches were much younger and pliable and allowed the soldiers to pass through silently to surprise the camp. Today, passage of anyone or anything, including wildlife, is unimaginable because of the density of the dead willow branches. At the time of the battle the willows had endured a wildfire about six years earlier.

4. The Howitzer Capture Site

This is located about a third of the way up the side of Battle Mountain to the southwest of the siege area. At the time of the battle it was within 50 feet of the fringe of the trees in an open grassy area on a second bald area on the hillside. Today the site is about 20 feet into the trees.

II-D-2-b. Related Areas and Conditions that need to be Addressed as Well:

1. The Bald Area

This was the Nez Perce horse pasture and today is mostly sagebrush covered. At the time of the battle it was mostly grass-covered and had been burned, along with the willows, at least six years earlier.

2. The Forest on Top of Battle Mountain

This forest has aged as well. The climax seems to be a Douglas fir and pine cover, but the research shows that it has always been interrupted in 8 or 37 year cycles by wildfires and thus never reaches the climax growth.

This is part of, or adjacent to, the lands of Beaverhead National Forest. The forest around the battlefield and for some distance away is showing signs of maturity in the lodgepole growth, such as mistletoe and bark beetle infestations of growing dimensions. All seems to point to a rash of forest fires over a period of years in the near future.

II-D-3. Preservation Intent

The management of natural resources for historic purposes is a long range commitment and plan. The management of natural resources for cultural objectives is very extensive. Therefore, the later section, "Cultural Resource Management Problems," subdivides the issue into smaller units. Each described problem is directed to a cultural resource objective, rather than a natural resource need. It is further expected that each of the described problems will be further subdivided into smaller and more manageable projects and, when executed, each of the smaller projects will be evaluated before proceeding onto the next one. IT IS IMPORTANT TO NOTE THAT THESE PROJECTS DEAL WITH A RENEWABLE RESOURCE, that it is not a non-reversible process and that, given time, the vegetation and wildlife will recover. It also means that after a successful effort initially it should require a monitoring program. In the long time frame the effort may have to be repeated at some future date in order to maintain the historic features.

The staff of the Beaverhead National Forest is vitally interested in participating in the planning as well as the implementation of certain management efforts. The National Forest is also a park neighbor which would be significantly impacted with some of the larger undertakings in this planned program.

The detailed options to each of the larger projects are in the later section, "Cultural Resource Management Problems." It is obvious that the major management techniques would involve selective tree thinning and small controlled fires. Some of the added benefits would be the "fireproofing" of the forest by reduction of the wildfire hazard potential, as well as greatly enhancing the wildlife habitat.

II-D-4. Documentation

It is a policy of the National Park Service not to undertake significant alterations of the resources without sufficient scientific or historic research to support the changes proposed, either short-term or long-range programs. The research--botanical, forestry, historical, etc.--should be sufficient to support the management decision and activity to maintain the park resources for the purpose defined by the establishment of the park. Reports and research are summarized below:

A Floristic Study of the Big Hole National Battlefield, by John R. Pierce (1982). This study describes and defines the patterns of vegetation at the time of the battle in 1877. Using several independent methods and techniques the study determines vegetational boundaries and probable composition. Great emphasis is placed on old photographs to verify the conclusions. The trees of the forest were aged and this also determined the fire history for burns in 1841, 1861, and 1871, as well as fires in 1902, 1904, and 1932. The probable forest boundaries of 1877 were determined on the basis of tree ages and, in addition, fallen, rotten logs were carefully mapped as trees that died prior to a insect infestation in 1925. The growth rates of living dominant trees were also plotted. The most detailed examination of the understory vegetation was also used to map a probably forest boundary in 1877. A collection of historic

photographs were re-photographed from the same view for comparison. Also, several aerial views were used in addition to the aforementioned plottings and compared by extensive searches in the historic records, all for the construction of a final map of the probable forest boundaries in 1877. The report and research was just as detailed whether covering the willows on the river bottom or the grass/sagebrush balds and the grassy bench on the southeast. Recomended management includes selective logging or controlled burning to replace the man-made interference with the natural regime of fire in the local ecology.

Grassland and Shrubland Habitat Types of Western Montana, by W.F. Muggler and W.L. Stewart (January, 1980). Muggler and Stewart's report was used extensively by John Pierce in defining habitat types on the Battlefield. Some plant communities fit nicely into the defined habitat types, but the Battlefield also showed some variations on the basic patterns.

Fire and Vegetative Trends in the Northern Rockies: Interpretations from 1871-1982 Photographs, by George E. Gruell (December, 1983). This is a series of before and after photographs taken throughout the forested areas of western Montana and along the Idaho border. Using historic photographs showing vegetational cover and types, re-photographed from the same view, the author illustrates changes over time and the major effect of some major events such logging, mining, grazing, and natural fire.

"Fire History at the Forest-Grassland Ecotone in Southwestern Montana," by Stephen F. Arno and George E. Gruell (May, 1983). The area of study covers from Yellowstone National Park to the Continental Divide west to Butte,

Montana. It studies fire history, including the work of John Pierce on the Battlefield, in addition to some of the authors' own work on the adjacent Beaverhead National Forest, to examine the plant succession patterns and the role of fire in the change of vegetational habitat types.

"Mountain Pine Beetle Dynamics in Lodgepole Pine Forests, Part I: Course of an Infestation," by Walter E. Cole and Gene D. Amman (1980). Reports upon the current problems of the pine bark beetle attacks and the land manager's options with the results. Discusses current control methods as practiced by several land management agencies.

## II-E. Archeological Statement

### II-E-1. Survey Status and Description

The archeological resources of Big Hole National Battlefield and the historical remains of the Battle of 1877 for which the park was created and any prehistoric remains, yet to be identified on the during intensive inventory efforts. No prehistoric sites have yet been identified on the Battlefield, with the exception of an isolated projectile point. However, that likely reflects the absence of prior professional inventory for prehistory and poor ground visibility more than the absence of sites.

The historic archeology of the park is confined mainly to the four Historic Sites described: the Nez Perce Camp Area, the Siege Area in the trees, the Battle Zone Area between the two, and the Howitzer Capture Site up the side of the mountain. Each of these sites is well known on the basis of written historical records rather than from the archeological remains.

Siege Area

The most critical and the most abused historical resource was the Siege Area. Souvenir takers and relic hunters seemed to be distracted from the items in the ground by the bullet scarred trees. They seemed to prefer to hack out the bullets from the trees rather than search the ground. This, of course, did not deter them from digging an occasional barbeque pit for their picnics. Among the first of the systematic relic hunters were Gordon L. Pouliot and Thain White. Together they made their searches here before the park rangers arrived for the summers of 1954, 1957, 1959, and 1961, and worked both within the National Monument and on private lands. They reported on their finds in 1962; but, the professional finds little that is useable in their published work. For years Thain White maintained a private museum, but, before he died, the collection was transferred to a private museum in Spokane.

Professional historical archeology in the Siege Area was done by three people, Don Rickey, Aubrey Haines, and Kermit Edmonds; although, none of this work came close to meeting the survey and excavation needs of Big Hole National Battlefield. Beginning in 1959, as artifacts turned up as surface finds, a stake was placed in the ground to mark the location and the artifact was placed in the park Museum Collection.

In July, 1959, Park Historian Don Rickey was detailed from Custer Battlefield National Monument for a week to do a survey of the park. He spent only three days on the Siege Area surveying the Entrenchments before he became ill and the project was terminated prematurely. In 1964-65, there was some progress in understanding the historical battle archeology. Aubrey Haines and seasonal Ranger Historian Kermit Edmonds began to systematize the finds. Haines set up

a grid of 50 foot squares across the Siege Area. In the process of locating the corners, some artifacts were encountered. On this map all the previously found artifacts were evaluated and marked on the map. Each item was properly identified and cataloged by Edmonds. Using a poor metal detecting instrument, by the standards of that day, Edmonds made some additional searches and finds--small areas which were most vulnerable to relic hunters or just simply highly distrubed grounds by the visitor use impact of that day. With the passage of the Historic Preservation Act of 1966, this long-term project was halted. Since then only small areas, usually not more than a few square yards, have been more thoroughly examined when required for administrative or interpretive needs. In 1982, seasonal Ranger Historian Edmonds resurveyed several square yards east of the monument and between known entrenchments. He used an up-to-date metal detector in this survey. A number of smaller items were found, including a lot of nails probably dating from the period of Forest Service administration.

Construction and development in the Siege Area itself, the surrounding area, and part of the Forest Service Administrative Area, predate National Park Service administration. Their facilities have long since been removed. Most of the structures were adjacent to the Siege Area itself.

The Entrenchments are on the List of Classified Structures (LCS) and described under Historic Structures. Their stabilization and treatment require more complete excavation and recording, as well as detailed mapping.

Eighty percent of the artifacts unearthed to date constitute expended cartridge shells. The remainder are mostly remnants of Euro-American origin and use,

primarily military. On the basis of the archeological record on hand, the entire Siege Area should be considered sterile of artifacts--all previoulsy excavated. The archeology needs of the Siege Area require a thorough search and survey, probably by metal detector, to determine the nature of the cultural resource. Such artifacts which may be excavatd in the process should be cataloged and mapped as before. This need is not intended to be a vacuum cleaner of all the possible artifacts. Metal detecting is the probable method to make a survey rather than the older traditional removal of layers of earth which does not seem useful. Since the remains are so dominately metalic, a metal detector assisted survey would be of greater value. The survey would tie some rather specific historic record data to specific locations on the ground, e.g., firing postions, firing lines, types of weapons used, etc.

The Nez Perce Indian Camp Area

The condition and status of the archeology of the Indian Camp Area is unknown. After the battle it was, of course, explored by curious souvenir hunters. Thereafter, it went into private ownership about 1910 and was used as a pasture. The ground is on the east side of the North Fork of the Big Hole River on a level flood plain. In 1883, the erection of the six-ton monument in the Siege Area required access. A wagon road, used for several years thereafter, crossed the Indian Camp, a bridge on the southern end of the Camp, the edge of the Battle Zone, and went up into the trees of the Siege Area. One of the early private land owners built a very small blacksmith shop along the road in the Indian Camp Area. It was an isolated builidng and did not last long. It was also forgotten and did not come to light until excavated by Aubrey Haines in 1964. That part of the flood plain is fertile soil and easily watered, and, about the brief time of the smithy, the ground apparently was

plowed once or twice. Thereafter, it reverted to pasture land and a network of shallow irrigation ditches crossed the area, including that of the Indian Camp. However, right along the east bank of the river is a thin line of willows, apparently untouched. The land was finally purchased by the government in 1972, even though it had been legislated into the Battlefield as early as 1963.

While still in private ownership, Gordon L. Pouliot and Thane White, crossed into private holdings, and used their metal detector along the river bank and in the edge of willows. They were not fully aware of the extent of the Indian Camp and thus collected only from the southern end of the camp.

Their findings and activities are covered in their poorly written report. From about 1954, it was well known that the park desired to acquire the Indian Camp Area to add to the park, and by 1958-59, it was almost a certainty even though it was not accomplished until 1963. In 1959, with the permission of the land owner, the National Park Service crossed the existing boundary and started a limited survey of what it was they were acquiring. In his survey of July 16-22, 1959, Park Historian Don Rickey of Custer Battlefield National Monument spent part of his days examining the field of the Camp Area. Here he made no attempt at archeological excavations; but, attempted to verify the written historical data on the ground. Qualified historical archeology was not undertaken until Aubrey Haines and Kermit Edmonds in 1964-65.

Haines and Edmonds established a grid system for mapping excavated items, this time the squares were 100 feet on a side. Selected corner markers were emplaced with brass markings. Administratively there was a need to specify where the various companies came charging through the bushes to enter the camp.

Some archeology was done along the edges of the willow fringes. The shell casings, mapped, started to reveal firing lines, a fact supported by the historical record, but now pinpointed to locations on the ground. This search was stopped by the passage of the National Historic Preservation Act of 1966. Later, it became awkward for administrative and interpretive reasons not to be sure of the starting point of the attack and the first shot which began the Battle. Therefore, in 1970-71, Seasonal Ranger Kermit Edmonds did a metal detector search of the fringes of the willows along the northern end of the "known" Nez Perce tipi sites. The mapped cartridge cases clearly show a firing line. It also allayed managment concerns that the meandering river bank could be eroding the historical data. The known tipi sites are derived from historical data--surviving warriors returned with L. V. McWhorter to walk the ground and reminisce. They were able to give specific locations for the tipi sites.

There have been no major developments on the ground for at least 50 years. On the south end of the camp area as delineated by historical records, the meandering river bank is eroding into the historical area. Recent efforts have been made to control the river force along the bank by installing a series of seven "chevrons" constructed of wire, willow, and dirt to break the power of the river flow. This appears to be successful. An interpretive trail, completed in 1976, was constructed through the Camp Area. It required an Assessment and was given a Finding of No Significant Impact because there was no digging, rather a laying of a strip of dirt about six inches deep to make the walking route. The assessment included a Section 106 procedure which was also reviewed and approved by the State Historic Preservation Officer.

A potential archeological feature is mentioned in accounts of surviving Nez Perce. They had a communal earth oven baking camas at the time of the attack. It has not been found. The Nez Perce hurriedly buried their dead by pushing river embankment over the bodies as well as burying some in the remains of the earth oven. No human remains of any kind have been found in the Nez Perce Camp area.

The search for the earth oven in the Nez Perce Camp Area is a management need. It is a possible burial for the Nez Perce but it is just as possible that the burials were relocated by the army late in 1877. The park need for the answer to that question is not necessarily by excavation. We already have a draft proposal from the National Park Service's Lincoln (NB) Archeological Center to do this by remote sensing, which is quite a satisfactory answer. If there are some burials located, it will require consultation with the Nez Perce Tribe for a mutally satisfactory way to deal with the matter.

The search for firing lines on the western edge of the Nez Perce Camp Area is of importance for both management and interpretive needs. The record states that the field orders to the soldiers were to fire three volleys into the camp and charge. The usual way was to form a skirmisher line and fire once, then advance, fire again and advance and fire. We need to pinpoint these firing lines, not necessarily recover all the artifacts, to accurately interpret the battle attack. For management it is in an area which can and does erode with the spring highwater each year. Thus, if the erosion along the draw threatens the firing line area, then some action is needed. To pinpoint the area at present is very speculative.

Archeological needs include a survey to determine the boundaries of the Camp Area resource. It probably should start with a metal detector search, because the historical record states that there was a good deal of weapons firing while the soldiers were in the camp and nothing remains to be seen on the surface. The probable concentration of metal objects, particularly cartridge cases, should not be as heavy as in the Siege Area.

The ideal find, of course, would be the identifiable remains of the individual Nez Perce campsites, but the probability is rare to nonexistent. Researchers should be alert to the possibility, but not spend time in this particular pursuit. Metal detector surveys should be carefully conducted along the river bank and the fringe of willows which probably have not been subject to as much disturbance as on the open flood plain. There appears to be no need for detailed excavation. The intent here is to identify and then to preserve the data which can easily be lost.

Battle Zone

The Battle Zone connects the Nez Perce Indian Camp Area with the Siege Area on the hillside. It is basically the west bank of the North Fork of the Big Hole River. The area constitutes a dense growth of willow trees interspersed with some deep pools of a swampy area. There are also some interspersed grassy glades. As the valley floor approaches the base of Battle Mountain there is an open grassy flat as well. After the military attacked the camp of Nez Perce, they were repulsed and they passed through the Battle Zone and into the Siege Area. During the early years of Forest Service administration, their extended camping area went down the wagon road slope from the Siege Area to a grassy flat where they maintained an additional five campsites. Up the valley end (to

the south) there are several garbage piles that date from the turn of the century with branding irons, solder sealed cans, and other period items on several of the glades in the willows. Thus far the very over-aged willows have a tangle of dead branches which have protected the area from relic hunters. There have been no archeological explorations or known souvenir hunters in the Battle Zone. Therefore, it is difficult to predict what might be found. The historical records indicate that it was used for a brief period of time and that the activity of firing was very limited. Occasionally the organized retreating troops took a position to return fire and then moved on.

The archeology needs would be to make a metal detector survey and determine probable boundaries of the area to be protected. Parts of the Battle Zone have been affected by an inordinately high number of beaver dams and thus the water level has been increased over large areas of land. A strategy to deal with the several recent garbage dumps is needed, probably mitigation and removal.

The Howitzer Capture Site

For many years there was a site identified as the Howitzer Pit. It was incorrectly marked. T. C. Sherrill, a Forest Service caretaker and a surviving participant of the battle as a Citizen Volunteer, made the initial identification. It was a short distance from the Siege Area and only slightly higher up the hillside than the Siege Area. Because it had been fired twice, Sherrill had the preconceived notion that the fired howitzer must have been in a slight depression--a pit. The actual action of the howitzer capture was out of sight from anyone in the Siege Entrenchments, thus conjecture on the part of Sherrill. The historical record notes that at the point when the howitzer was captured there was rifle fire from both sides and the howitzer fired twice.

The probable degree of remains suggests cartridge shells from both sides and remains such as cannonball strapping and a friction firing pin.

When, in 1964-66, Aubrey Haines and Seasonal Ranger Historian Kermit Edmonds started a professional quality historical archeology program, it seemed easy to find the debris around the howitzer site. In fact, the area around the so-called Howitzer Pit was barren of any finds. Obviously that was not the place. They worked their metal detector up the hillside, most of which was also devoid of finds. Finally, at the present Howitzer Pit site, they found expended cartridges of the military type and also exploded cases, such as might be the case when the Nez Perce were short of ammunition. Also located were pieces of cannonball strappings. Today this is the Howitzer Capture Site. It is about one-third of the way up the side of Battle Mountain. Originally it was some distrance away from the forest edge and on an open grassy bald area. Now it is about 20 feet into the forest edge.

Haines established a grid of 50 foot squares and established a map to locate the artifacts. Today, key corners are marked with brass caps. Because there is an Administrative need to develop a low keyed minor interpretive wayside at this point, it was necessary in 1982 for seasonal Ranger Historian Kermit Edmonds to resurvey the original area. The more modern metal detector was able to find a few more artifacts, including scraps of sabot strappings. From historic records it is known that the soldiers were not firing at the Indian Camp because it was too far away and the participants stated that they were firing at a group of Nez Perce horsemen charging up the hill.

The needed archeology should extend the original survey only a square or two beyond what is already done. The data gaps are to determine exactly which direction the howitzer was pointed when it was fired in battle. Pieces from the cannonball shell assembly would be in front of the muzzle while the concentration of soldier-type cartridge shells would be behind the carriage. As present, there is not enough information to make a good guess.

The Horse Pasture Area

A very obvious part of the historic landscape is the very large treeless steppe on the side of the Battle Mountain. Originally the open steppe was covered with grasses hence the grazing area for the 2,000 head of horses by the Nez Perce. Today the area is covered by sagebrush and the saplings of an encroaching forest have been relentlessly moving into the open areas. In the historic events of 1877 the slope pasture had two lrge trees from which a Nez Perce Indian sniper made some surprising shots over a distance to harass the retreating soldiers in the Battle zone below.

The fire history evidence shows that the area hillside and the adjacent willows had fire about every 8 to 10 years prior to the battle. This would have supressed the development of the sagebrush, encouraged the grasses, and pushed back the invading saplings of the forest. The obvious way but not the only way is to reintroduce fire into the ecology of the hillside and the forest margins. The action plans may prefer a mixture of methods and techniques to meet the desired results.

The Horse Pasture Area is very important for the visual impact to the battle scene of 1877. It does have some minor history because of the horse herd, the

snipers, and the struggle for control of the horses. However it has quite insignificant archeological possibilities. The management of the vegetation is very important then to keep back the invasion of the forest trees, restoring the grassy hillside, and maintaining the historic sniper trees. This is the back drop, the setting, of the battle itself.

II-E-2. Documentation

Artifact Grid Maps, Aubrey L. Haines, 1965

1. Siege Area NB-BIHO 8813, 4 sheets, Scale 1"=10', 4-20-65
2. Indian Encampment Area NB-BIHO 8812, Scale 1"=40', 12-16-65
3. Howitzer Capture Site NB-BIHO 8814, Scale 1"=10', 4-21-65

Field Research/Big Hole Battlefield National Monument/July 16-22, 1959, by Don R. Rickey, Jr. First attempt at professional archeology. Only a portion of the entrenchments were surveyed.

"Discovery of a Blacksmith Shop in the Indian Encampment," by Aubrey Haines (1961). Included in a Memorandum to the Regional Director, Rocky Mountain Region Office written on August 12, 1974.

"Relics from the Big Hole Battlefield," by Thain White and Gordon L. Polliot (1962)--Somewhat unsuccessful attempt to establish parameters from random relic collection.

Report on Historical Research Accomplished at Big Hole National Battlefield During 1965, by Aubrey L. Haines. Earliest completed effort at professional, legal, and systematic archeological reconnaisance done under the auspices of

the National Park Service. A grid system was set up which not only allowed for better recording of future artifacts, but allowed previously discovered ones to be identified as to location.

"A Projectile Point from the Big Hole Battlefield," by Aubrey Haines (1966). Appeared in Archaeology in Montana and detailed discovery of a projectile point from Haines' 1965 survey.

"Preconstruction Archeological Survey of Sewage Disposal Site/Big Hole Battlefield National Monument, Montana" by F. A. Calabrese (1974). Memorandum to Regional Director, Rocky Mountain Regional Office written on August 12, 1974.

"Archeological Investigation in the Big Hole National Battlefield: Sewage Disposal System and North Fork Big Hole River Bank Stabilization," by Thomas R. Lincoln (1978). Pre-construction archeological survey.

1982 Archaeology Survey Field Notes, by Kermit M. Edmonds. A re-survey of several square yards east of the Monument using an up-to-date metal detector.

## II-F. Scope of Collections Statement

### II-F-1. Justification

The park museum collection is identified as being those objects determined to be of such relevance to the park story and its significance to this nation's past that they shall receive the care necessary to preserve them in perpetuity. The "museum collection" is restricted to those objects catalogued into the National Park Service museum records system.

The National Park Service permits and encourages the acquisition of museum objects by field collecting, gift, loan, exchange, or purchase in accordance with established procedures when these objects are clearly significant to Service areas.

The successful execution of this policy requires that the day-to-day decisions be well planned on what museum objects to acquire, and which to reject or eliminate. This Statement is a guide to sound growth and a guard against random expansion of the museum collection.

The goal of this collection is that it will not contain any more or any less than is both useful and necessary.

The Park Museum Collection is an informational and educational tool to support the park purpose. Since each park is justified to protect and illustrate specific themes so, too, the the Park Museum Collection is restricted and not all encompassing in scope. In its informational and educational function, the Park Museum Collection is an integral part of the management and operation of the Park establishment. In varying degrees it shares its values with the Park staff, the visiting public, and visiting scholars. Items entered into the Park Museum Collection are of scientific, historic, or cultural value, which also have museum or archival qualities, and are thus needed to support the park management and operations. These objects are managed according to the National Park Service Museum Records system.

II-F-2. Theme Representation

Big Hole National Battlefield is an historic park; but, it is also directly involved in the natural resources, particularly the plant cover and the wildlife. Current holdings of approximately 2,000 items, of which half or more are archeological finds, have been described and catalogued.

II-F-2-a. Archeology

Artifacts removed from the ground of the battlefield by qualified mitigating programs are fundamental to the resources of the park. Once removed they become support data to base line information. Each item will be kept as part of the Park Museum Collection.

II-F-2b. History

Euro-American artifacts to be collected relate to the 7th U.S. Infantry, the 2nd U.S. Cavalry, and civilian settlers of western Montana Territory. Items possessed or used by participants in the battle are of prime importance, but items of the period for which archeological investigations have revealed buckles, buttons, and the like are important to keep in the collections. The military equipage of the frontier army was in transition. Civil War supplies were becoming exhausted and there were many experimental items. Furthermore, the frontier army did not go into the field of action or even fatigue duty in the authorized uniform of the day, rather, they used obsolete items of wear in order to make their clothing allotments go further. A guide to soldier equippage is available in three looseleaf manuscript binders only in the park reference books: 7th U. S. Infantry Regiments, Uniforms, Accoutrements, and Equipment, 1877 by Kermit M. Edmonds. Volume I covers Officer and Enlisted Headgear, Enlisted Campaign and Fatigue Uniforms, Enlisted Dress Uniforms,

Officer Campaign and Fatigue Uniforms, Officer Dress Uniforms, Uniform Accessories and Personal Items, Footwear for Officers and Enlisted Men, Underwear, Insignia, and General Views of Infantry Uniforms and Equipment. Volume II handles Accoutrements, Individual Field Equipment, Weapons and re- Accessories and Appendages, and Ammunition. Vehicles, Horse Equipment, Garrison Equipment, Miscellaneous, and an Appendix covering Uniforms, Equipment and Accoutrements of the 2nd U. S. Cavalry, 1877, are handled in Volume III. Pioneer civilian items of western Montana are not well known, but reference can be made to county and state historical societies which probably provide some guidelines as to what was locally available. If some documented items become available, they will be added to the collection.

II-F-2-c. Ethnology

Authentic Nez Perce Indian items, old or contemporary, are very scarce and very important to Museum Collections. In the Battle of the Big Hole there were several Palouse Indian families as well. Both peoples had several decades of exposure to Euro-American cultural items and had adopted and used many of them. However, nearly all maintained their tribal heritage and traditions and thus were well equipped with items representing their way of life before the arrival of white men. As with the soldier items, many now in the Museum Collection are in the public exhibits. However, as good and/or documented Indian items become available, they will be added to the collection.

II-F-2-d. Herbarium

The park has an herbarium case with about 400 mounted and labeled specimens of vascular plants. This represents support for a scientific study of the park vegetation and represents one example of every kind of plant found within the battlefield. It also includes some tree corings used to "age" the forest on the battlefield and some crosscut samples of trunks to trace fire scars to date

Officer Campaign and Fatigue Uniforms, Officer Dress Uniforms, Uniform Accessories and Personal Items, Footwear for Officers and Enlisted Men, Underwear, Insignia, and General Views of Infantry Uniforms and Equipment. Volume II handles Accoutrements, Individual Field Equipment, Weapons and re- Accessories and Appendages, and Ammunition. Vehicles, Horse Equipment, Garrison Equipment, Miscellaneous, and an Appendix covering Uniforms, Equipment and Accoutrements of the 2nd U. S. Cavalry, 1877, are handled in Volume III. Pioneer civilian items of western Montana are not well known, but reference can be made to county and state historical societies which probably provide some guidelines as to what was locally available. If some documented items become available, they will be added to the collection.

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past fires. This collection is Base Line Data for the Resource Management of the park. There are no anticipated additions.

II-F-2-e. Mammals

The park has no mammalian specimens. It does need a variety of small mammals to be added to the collection. However, these should come to the collection as support for a scientific study and complete inventory of the mammals in the park. The need is for representative examples of each animal so non-biologists will have a reference collection. This would also be an important part of the collection to represent a Base Line Inventory of the park.

II-F-2-f. Birds/Insects/Fish/Amphibians/Reptiles

Complete collections representing each species found in the park would the Base Line Inventory, however, their needs are not very urgent.

II-F-3. Archival Collection

The park archival records come in two separate versions. The first is that of the park management and operations. The second are records relating to the Battle of the Big Hole.

II-F-3-a. Park Records

The day-to-day business and operating records of the park will be managed as directed in the File Management Handbook (March, 1977) and its Records Scheduling and Disposition supplement, and the General Services Administration's General Records Schedules, Regulation 3, Appendix B. Museum, Park Archives, and Library collections are exempt from those disposition directives.

The Park Archives consists of selected documents taken from the regular park files of the past. Primarily intended to document the evolution of the park, such as changes in boundary, park management and development plans of the past.

The Park Historical Archives are not original documents, rather they are machine copies of originals held elsewhere. These are documents related to the Battle of the Big Hole and its participants. The park has copies of the notes of Nez Perce Indian researcher L. V. McWhorter. The long range intent is to learn more about individual Nez Perce Indians who were in the battle. Similarly, the park has some 300 records of the enlisted men and officers of the 7th U. S. Infantry, as well as Citizen Volunteers. These are copies of files in the National Archives. The intent is to be able to say more about individual participants.

There is also an ongoing effort to obtain copies of the military reports directly related to the battle, including contributory events before as well as after.

II-F-3-b. Library Collection

The park library has less than 200 books which focus on the purposes and operations of the park. Most of the books are on history or anthropology relating to the Nez Perce War of 1877 or to people who were involved. Some books deal with maintenance operations (e. g., the water system standards or the sewer system); others have to do with the natural history of the area. The library needs additional books, especially ones concerning the history of the interpretation given the Nez Perce War and particularly the Battle of the Big

Hole. However, most are expensive originals and rare books. Reprints may be obtained in their place. The resource management function will require some more books in forest and range management in order to support the park function.

II-F-3-c. Photo Collection

The park photo collection has black/white negatives, file print cards, and some enlarged prints for reference. The photos are mostly historic pictures, copies of originals, of individuals and scenes before the turn of the century. A few photos are of man-made facilities prior to 1950 or before.

II-F-4. Museum Collection

The Museum Collection will be managed according to the National Park Service Museum Handbook and Ralph H. Lewis' Manual for Museums. All items are cataloged or awaiting cataloging. The park does not have a study collection. The Museum Collection is in closed cabinets in a securely locked room. Such items that are used in interpretive programs are well made replicas, and if the cost warranted, are entered on the list of Accountable Capitalized Property.

II-F-5. Acquisition

There shall be no indiscriminate collecting permitted within the park. All collecting must be done in accordance with established rules and regulations, usually by an approved research plan. Gifts must be unconditional. Institutional loans may be accepted for specific purposes, such as museum

exhibits. If artifacts are found in the park they must be turned into the park and sufficient data given to allow entry on the artifact maps as well. Accepted donations must be of use to the park programs, such as those related to the park themes.

# III. CULTURAL RESOURCES INVENTORY

## III-A. Historic Structures Inventory, LCS Matrix Form

The list of Classified Structures Survey Matrix is a management tool that has been developed and included in this Cultural Resources Management Plan. Its purpose it to indicate to Park Management the current status and intended treatment of any particular historic structure covered under this plan, current DCPs and GMPs. The scope and rationale of historic preservation at Big Hole National Battlefield were discussed in the previous section, and the LCS Survey Matrix summarizes that information on a structure-specific basis.

### III-A-1. Resource

The first item of information found on the matrix is the particular name of the resource and its location, if it is in an easily identified area or district.

### III-A-2. LCS Number

An LCS number is indicated after the name of each structure.

### III-A-3. Management Category

Each cultural resource entered on the List of Classified Structures is in an "A" Category: must be preserved and maintained per NPS-28.

III-A-4. National Register Status: The LCS properties were listed August 8, 1984.

### III-A-5. Management Policy

This category specifies the course of action agreed upon between the park and the region which will guide present and future actions affecting any listed structure. The alternatives include preservation, restoration, adaptive use, removal, and natural deterioration (moldering ruin).

### III-A-6. Treatment

Treatments at Big Hole National Battlefield include:

a. Routine and Cyclic Maintenance

b. Stabilization

III-A-7. Requirements

The agreed upon management policy for a particular historic structure listed on the matrix may necessitate additional measures before it can be implemented.

III-A-8. Decision Assessment

Decisions regarding cultural properties were made based upon approved planning documents, other approved decision making documents, or after evaluation and assessment by an Interdisciplinary Team in the Regional Office and park. This supporting documentation is identified in the matrix as either CMP, DCP, or Interdisciplinary Team (known as IT).

III-A-9. Remarks

The "Remarks" column on the matrix is for noting anything pertinent to the ongoing or ultimate treatment of any historic structure listed.

III-B. Archeological Inventory

III-B-1. Archeological Inventory

The park's archeological resources consist of the individual artifacts which have been found and are inventoried into the park museum collection and the locations recorded on specific maps which cover whole sites. New artifcats are intentoried into the park collection and recorded on the site maps. Isolated artifacts are not included in the listing, but together as recorded on the site maps are part of the park's archeological resources.

There has never been a complete archeological survey of Big Hole National Battlefield completed, there are presently no sites listed on the archeological inventory.

III-B-2. Priority Listing

1. Assessment of Archeological Resources
   a. existing conditions
   b. existing manuscripts and maps
   c. evaluation of same
2. Surface Survey to Determine Extent and Quality of In-the-Ground Remains

III-B-3. Planning Document Analysis

Planning documents do not indicate any new archeological work at Big Hole National Battlefield nor will any future park development presently proposed interfere with any archeological sites. Planning documents indicate a need for further archeological investigation; but, a lack of funding has postponed this indefinitely.

III-B-4. Treatment

All archeological sites within the park are protected by Federal legislation (Antiquities Act of 1906; 1979 Archeological Resource Protection Act; Executive Order 11593) and National Park Service Historic Preservation policies (NPS-28). New archeological sites should be avoided during construction activities of any kind (programmed, day labor), and all future plans should be designed to avoid potential impacts. Thorough evaluation of potential impacts to these sites should be undertaken prior to any rehabilitation, repair, or upgrading. Appropriate mitigation work should be carried out, and the presence of an archeologist during construction may be necessary.

Preservation of these remains is the goal whether it be through avoidance, education of the public, or archeological mitigation if there is no feasible alternative to site disturbance.

III-B-5. Legislative Compliance

The entire park is on the National Register of Historic Places as an historic park. Due to the very nature of the site, a battlefield, it is probable that historic archeological remains. are scattered over the entire park. Their range may be greater than or less than the present park boundaries. Although reconnaisance work has been done, there has been no general archeological survey. Until this is done, it cannot be determined whether other archeological sites of National Register quality are present.

| | | | NATIONAL REGISTER | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| RESOURCE | LCS No. | MGT. CAT. | SIG. | ELIGI-BILITY | NOMINATION STATUS | MANAGEMENT POLICY | TREATMENT | REQUIREMENTS | DECISION ASSESSMENT | REMARKS |
| Entrenchments | 1 | A | National | 1 | 8/4/84 | Preservation | Stabilization Routine and Cyclic Maintenance | HSPG Special Study | Problem Statement IT | |
| Battle Monument | 3 | A | National | 1 | 8/4/84 | Preservation | Routine and Cyclic Maintenance | HSPG | IT | |
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# IV. CULTURAL RESOURCES MANAGEMENT PROBLEMS ASSESSMENT

## IV-A. Introduction

The Resources Management Plan, Cultural Compoment has several problems of a more conventional nature which are directly related to Cultural Resources. However, the Cultural Resources of Big Hole National Battlefield have a significant "Natural Resources Component" which is here referred to as aCultural Landscape; but, in fact deals with Natural Resources Management for Historical rather than Natural goals objectives.

This is the first time that the planning process for a systematic approach to the management of natural resources has been used for its cultural values.

IV-B. Cultural Resources Component

IV-B-1. Problem: Prepare a Cultural Resources Study for the 665 Acres of the Battlefield to Meet Executive Order 11593.

Executive Order 11593 and the National Historic Preservation Act of 1966, amended, requires all Federal land managing agencies to prepare over all land under their control. This has not been done for Big Hole National Battlefield, although the entire Battlefield is listed on the National Register of Historic Places. The survey would also provide baseline data and simplify any needs for Section 106 clearances in the future. The project should also correlate existing notes and documents in park files and update maps and data.

The survey is not intended to be a vacuum cleaner for artifacts and to make the area sterile of artifacts. The survey is to search the surface of the entire 655.6 acres for possible sites of prehistoric as well as historic resources, and to map them. For the major archeological sites such as the Siege Area, the Howitzer Capture Site, the Battle Zone, and the Nez Perce Camp area, the survey is to determine the boundaries by locating the outer fringes by whatever means suggested in the research design and described in an Assessment of Effect, but probably by a metal detector as the most efficient means.

Alternatives

1. No Action. Under this alternative the park would continue to ignore Executive Order 11593. Significant historical and archeological data will remain unknown, and perhaps lost through vandalism, erosion, or other causes. No action would also continue the need for brief visits by NPS

archeologists to make quick examinations of small pieces of ground prior to construction projects.

2. Complete Executive Order 11593 Survey of all land at Big Hole, this alternative would satisfy the pertinent legislation and regulations. Given the current fiscal contraints, it is unlikely that the alternatives would receive the requisite funding.

3. Another alternative, would be to subdivide the park into smaller units and survey them one at a time. In southwest Montana it is easier to get competent, but competitive contract offers for a series of small projects rather than a single large project. This would require at least a 2-3 day onsite visit from the Regional Archeologist in order to determine the manner to subdivide the larger project as well as prioritize them and the contract specifications for each segment. Such a request has already been made of the Regional Office.

Selected Alternative

3. Subdivide the bigger project and spend more time to complete the survey. Total costs may be higher than if project were completed at one time. However, smaller dollar amounts may be available at times when single amount wouldn't be. Regional Archeologist should visit during snow-free time of the year. The result of any such visit should be agreed upon subdivisions and contract specifications for each segment.

Recommended: Alfred W. Schellinger
Superintendent

Approved: Acting
Regional Director

IV-B-2. Problem: Selected Archeology to Locate Three Significant Cultural Features Noted in the Historical Written Documents: 1) Test and Document Soldier Trenches in the Siege Area; 2) Locate "Missing" Firing Line of Camp Attackers; and 3) Locate Large Communal Earth Oven in Center of Nez Perce Camp.

The area of heavy battle activity has not been thoroughly examined archeologically. Such records which exist cover about 100 years of incidental work, most of which came in the 1950s before a research plan was required. However, there are three features which should be located, based on detailed written historical records.

The soldier trenches in the Siege Area are on the List of Classified Structures, but their nature is not well documented. Older Siege Site maps show trenches where none are visible now. In addition, the visible trenches have had some haphazard, undocumented amateurish and professional examinations. The project need is to document the trenches--their location, size, and depth. A metal detector survey should also be done, because vandals or artifact hunters could completely obliterate the historic record in an hour or less. The objective is to inventory the Siege Area for List of Classified Structures purposes, as well as collect the data for the historical record.

There is a great need to complete the interpretive data concerning firing lines of the attacking military force in the Nez Perce Camp Area. From what little archeological data exists, four firing lines can be tentatively identified. According to the written record, however, there should be a fifth "missing" firing line opposite the south end of the village site.

The bulk of the archeological finds are expended cartridges from both sides in the battle. The search for the missing firing line would be with a metal detector, and the excavations would have a minor impact on the environment. A map exists showing each excavated artifact's location. Each artifact is recorded with enough precision to replace it in its original position. This map thus shows the four firing lines for which artifacts exist. Each correlates with the written record. What remains to be discovered is the fifth "missing" firing line.

In the middle of the Nez Perce Camp, the survivors state that they had a large communal earth oven pit, and were cooking camas bulbs in a 3-4 day process. The statement suggests that the group intended to stay in the area, and that they had a sense of safety and were not planning a sudden and immediate departure. Years later, surviving Nez Perce returned on several occasions to indicate sites of the battle, such as tipi locations. These tipi sites were mapped, but no informant indicated the location of the pit oven. The proposed project should make a number of small test pits to locate the earth oven. Other techniques could be used to identify and locate this material. Subsequent to location, we will seek to obtain other information--such as date of construction and size.

Action plans will require subdividing the problem in order to sensibly plan the method and objectives in greater detail. In no case does the park intend to be a vacuum cleaner of the artifacts. However, if a metal detector or some other instrument is used, a "location indication" signal

will require excavation to determine if it is a pop top or an expended cartridge. If excavated it is then logical to add it to the park collections.

Approval of this problem statement is the recognition of the validity of the problem and the scope of the problem. Approval and review also is recognition of the concept of the work required and the results desired, and recognizes that the methodology discussed is in general terms which may later vary as specific action plans are developed. It is also recognized that execution plans will develop subprojects for which the compliance procedures will be followed with an Assessment of Effect form to focus upon the methods, techinques, and precautions.

Alternatives

1. No Action. This alternative involves the risk of loss of important data by vandalism in the Siege Area trenches, each of which is on the List of Classified Structures. In the Nez Perce Camp, the inability to explain the missing firing line limits the accuracy of Battlefield interpretations. And our inability to locate the earth oven pit continues an inaccuracy that should be corrected.

2. The ideal alternative would be to do a total archeological study over the entire area involved in the battle. This is neither a realistic nor practical consideration at this time.

3. Limited archeological work in selected areas. A more realistic alternative is to do limited work in selected areas based upon interpretive management needs and guided by the historical written record. There are three areas which should be studied. The trenches in the Siege Area have

been picked over in past years, and they are on the List of Classified Structures. The need is to map, analyze and document the trenches, mostly to inventory the LCS items, but also to preserve and recover such historical information which remains. Vandals can cause a total loss of the data in less than an hour with a metal detector. In the Nez Perce Indian Camp there are "missing" firing lines that can only be located with a metal detector and the mapping of expended cartridges in the sector. The Indian Camp also had a large earth oven pit which should be located or at least a systematic attempt made without a major project ensuing. The work intended would not be destructive to the environment, and the effects would have minimal impact.

Selected Alternative

The search and documentation of the three features are important to the maintenance, preservation and interpretation of the park resources. The scale of the work is quite small and minor enough that it should not require a Section 106 clearance. It also would be excluded from the NEPA process under departmental guidelines [516 DM 6, Appendix 7.4E(1)]. The work can be made part of the larger parkwide survey or, with approval and resources, to be done by the Midwest Archeological Center or Regional staff.

Recommended: Alfred W. Schuleyer
Superintendent

Approved: Acting
Regional Director

IV-B-3. Problem: Write an Administrative History of Big Hole National Battlefield.

The requested Administrative History of Big Hole National Battlefield is intended to be a management and planning tool for the park staff. A good administrative history explains why the park is what it is and how it got that way. Thus it focuses upon subjects and topics which are of interest to the further management and operations of the park so that planning can be done with some background information. The present lands of the park have been under the control of the General Land Office, the War Department, the Forest Service and some parts under the control of several land owners. The original historical preserve was very large, then reduced greatly before being enlarged again in two stages. It has even been proposed in Congress as a National Park. Some of the topics would include its establishment, including the legislation and politics and local support, motives, and relations through the time of the several federal agencies controlling it. Another subject would be the development, including the land acquisition and titles; the physical facilities of roads and buildings; and the several changes, possibly including aging, of the environment. Included should be the administration of the Battlefield, such as the changing physical interpretive methods and techniques used, and particularly the various management plans through time. The completed manuscript would provide an adequate guide through the park records on topics which will face managers and planners into the years to come. It is anticipated that the work would take about six months for a historian.

Alternatives

1. No Action. At present the park has only the legislative history developed by Edmond B. Rogers, and that does not cover the details and implications. It provides only a hint of what might be important to planning and operation, approximately 10%. The park has nothing on the several dozen land titles nor the changing administrative and public facilities. Some topics are so well hidden in the records that plans could be made and implemented for several years before the significant facts come to light. The present requires a knowledge of the very details of the records and requires a great deal of time to research before doing anything.

2. Another alternative is to be opportunistic and reduce the priority for completion of this work. This alternative would use seasonals or perhaps volunteers to complete sections of the history as people become available to handle the materials involved.

3. To develop a contract would get the administrative history completed by a set deadline, but it would probably slight some details which would be useful to park planning and management.

Selected Alternative

2. The proposed project has a priority which makes it worth doing but it is not critical for the present. Therefore, the opportunistic approach will be used to see what the results might be. If, in the future, it

becomes critical, then the project can always be turned into a contract and any work already completed would help shorten the time to complete the work.

Recommended: Alfred W. Schulyer
Superintendent

Approved:
Regional Director

IV-B-4. Problem: Restoration of the Cultural Landscape to Approximate That Which Existed During the Battle of the Big Hole in 1877.

Major changes have occurred in the distribution and appearance of the vegetational cover of the Big Hole National Battlefield. The major cause of the changed appearance is that settlement and man have interfaced with the natural process of fire in the maintenance of the landscape. Although ignorant of the fact, modern man has given major direction to the evolution and plant succession through constant management of fire---putting it out. Since the united direction of changes in the vegetation quality and locations are a direct result of the elimination of fire from the ecological system, the best way to restore the appropriate vegetation of 1877 is to reintroduce fire. Do it the natural way.

Because the plant communities have been drifting along without fire for so long, the changes have been of a considerable scale. Documented and scientific research has been done to establish a baseline of what presently exists and what it was back at the time of the battle. Beginning with the Siege Area as a focus, it was discovered that the Siege Area itself was a grove of trees on the point of land--the copse of trees of the historic records. There was a gap of about 135 feet from the grove of trees in the Siege Area to the main body of the forest. Similarly, on the west side of the forest area around the Howitzer Capture Site, the trees have moved some 335 feet into the open steep and on the other side of the Siege Area, the forest has moved some 198 feet into the open steppe. The willows on

the northwest side of the river are now quite decadent (full of dead branches and twigs), but generally located where they were at the time of the battle. In a few areas, there is a possibility of spreading of willow into what was once a grassy area.

Today, a visual inspection shows several different land forms, each with more than one habitat type of vegetation. To the northwest of the Battlefield are the steep slopes of Battle Mountain with a pattern of forest, doiminately lodgepole pine, and open hillside, dominately sagebrush covered. The broad river valley in the middle of the Battlefied has a river flow of the North Fork of the Big Hole River from the southwest to the northeast. The river bank to the west and north is mostly willow covered with isolated glades of grasses. On the other side of the river to the east and to the south is an open grassland. The river bed is that of a meandering river in the flood plain with its horseshoe bends and oxbow remnants. In the 100-plus years covered by our reconstruction, the river location has shifted only slightly. To the southwest is the slope up to the plateau of the Ruby Bench which is also grasslands.

It is well known that dirt is a major insulator against heat penetrating the earth. Burning of the vegetative materials does not reach the high temperatures of magnesium or other chemical fires. Thus any possible damage to artifacts in the ground is a function of the volume of the vegetative fuel over a particular spot and the length of time it needs to burn in that single location before heat penetrates more than a few millimeters under the surface of the ground. It is also a major concern in burns for purely natural reasons because high temperature destroys the

seeds which are key to the prompt recovery of the vegetative cover within a few weeks after the spring burns.

Approval of this problem statement is the recognition of the validity of the problem and the scope of the problem. Approval and review also is recognition of the concept of the work required and the results desired, and recognizes that the methodology discusses is in general terns which may later vary as specific action plans are developed. It is also recognized that execution plans will develop subprojects for which the compliance procedures will be followed with an Assessment of Effect form to focus upon the methods, techniques, and precautions.

In this restoration of the vegetation of the historic landscape, fire should be the foremost tool. While fire will be one of the methods to undertake the restoration of the historic scene, some cutting and removal by hand or by equipment will also have to be considered in the plans for the Assessment of Effect. Once the historic scene is restored, fire should be the main maintenance tool.

Alternatives

1. No Action. The plant succession will continue in the progression dictated by the ignorance of the role of fire in landscape and ecological management of natural scene. It will move more and more from the historical facts of the battle. Moreover it increases the vunerability to a naturally or man caused forest fire with the result that the scenic

landscape will be so strangely different from the historic view which will make the battle almost unintelligible without an extensive explanation to reconstruct visually or mentally the scene as it was in 1877. Because it is a natural, hence a renewable, resource a fire will destroy the scene but it will take about 50 years or more to recover to a semblance of the original historic scene.

2. To maintain and restore the historic vegetative scene as a gradual process using the forces of nature to do most of the work, for example, carefully controlled burning of the grasslands, willows and the margins of the forest. Because the natural forces have been frustrated by the actions of man so long, the deviations from the historic scene have gone a far pace. Maintenance and restoration programs that move the first margins back to the locations of 1877 will have to consider carefully controlled and directed removal of trees by logging. The forest has moved into the open area on the west side of the Siege Area some 355 feet, and on the east side 198 feet, closing the gap between the original forest and the grove of trees of the Siege Area of some 135 feet, which obviously represents a number of individual trees in a mature age and condition. Because of the scale of the changes to be achieved, the program will be divided into a number of smaller action plans which will probably be further broken into samller units in order to maintain a control over the results and also allow evaluation before proceeding further.

Selected Alternative

To maintain and restore the historic vegetative scene as a gradual process using the forces of nature to do most of the work. To be accomplished as subdivided projects and further implement as sections in order to allow tight control of the results as well as evaluate the results at each step.

It will be undertaken with full recognition that this is a renewable natural resource, but also that it will require a follow up and a continuing maintenance program to keep the natural process in action in the future years.

An environmental assessment and an assessment of effect will be prepared before any action is taken to implement this alternative.

Recommended: Clifford W. Schulz
Superintendent

Approved:
Acting
Regional Director

IV-B-5. Problem: Develop an Historic Grounds and Maintenance Guide Which Would Define Management Goals and Objectives for the Management of the Cultural Landscape

The park management objective is to approximate the natural scene as it was at the time of the battle in 1877. Sufficient research and data now available can justify proposed management actions. However, there is a need for a handy reference guide to just what the objectives of vegetative management really are. A map and a few pages of condensed text could outline management objectives. Representatives from the regional cultural resources unit, the regional natural resources Unit and from the Big Hole National Battlefield staff should prepare the goals and objectives for the maintenance guide. Because of the mixed disciplines involved in this particular program it will require the combined effort and time of both the cultural and natural resource units to produce a credible and useable maintenance guide.

Responsibility for the execution of the program so developed will begin with the park staff but it should be assisted and supervised by the natural resources unit assisted by the cultural resources unit of the regional office.

While the maintenance guide is to be continual program year after year, the initial development of the program should also be processed through the appropriate reviews of the Assessment of Effect forms.

Alternatives

1. No Action. At present many people who are interested in what the problems in natural resources are, will be unable to comprehend until they have also done the extensive manuscript readings, to derive the same information base.

2. A collection of machine copies of the pertinent paragraphs and lines from the original sources and an explanation, "Trust me," would probably not be accepted by many.

3. To prepare the proposed Historic Grounds and Maintenance Guide, consisting of a map and several pages of text to define what the historic landscape was like, as best as can be reconstructed.

Selected Alternative

3. Under the direction of the Natural Resource Unit, Rocky Mountain Region, in consultation with the Cultural Resource Unit of that office and the park, an Historic Grounds and Maintenance Guide would be developed.

Recommended: Alfred W. Schultz
Superintendent

Approved: ACTING
Regional Director

IV-B-6. Problem: Finish Water Rights Study and Action Plan in Progress

There has been no clear understanding about what water rights were owned by the park and what water rights were owned by private individuals. This required a study of acquired land titles and deeds for reservations and the nature of the park water rights. There were two pressing issues which involved other agencies and private individuals.

In 1974 the Montana Legislature passed a new water code which required the filing of water rights for adjudication by April 30, 1982. The matter has been progressing so that the present state of the work is conducted by the Water Rights Specialist and the Lands Division, Rocky Mountain Region, in conjunction with the Solicitor's Office and the U. S. Attorney.

Also, for several years a group of ranchers laid claim to an irrigation ditch permit issued by the General Land Office. In the park this is represented by an irrigation ditch (abandoned) and a flume across the valley in the middle of the park. The ranchers proposed reconstruction and activation of the ditch. Research shows that the permit is a valid <invalid ? See Al> document. The company that was issued the permit is not and never was registered to do business in the state of Montana. Furthermore, the present claimants to the ditch and permit rights are not blood heirs of the original company owners. Their claim is by right of purchase of affected lands, although attachments to the permit require any transfer of ownership to be documented and a new signature affixed to affirm adherence to the provisions of the permit. Currently, the National Park Service is prepared to meet the challenges of the claimants of the Big Hole Irrigation District claims, but further action is dependent upon the

action of the claimants. The ideal situation would be to go to state court and challenge the existence of the company, or get a legal opinion that the permit company does not have any right to function. The park then could proceed to put its management approach in order and obliterate the remains of the ditch. The flume was removed before the park acquired the land.

The Ruby Ditch Water Company, in charge of the other ditch long in use, is a corporation in good standing. The stock holders are known and generally cooperative. Ideally, the centerline of the ditch should be surveyed and then details negotiated (such as width of ditch top and bottom, anticipated maximum volume through the ditch, and the various rights and obligations by the park and the company for access, repair, etc.).

A third but nameless ditch, also in existence before park acquisition of the land, is the uppermost ditch on the slope below the Visitor Center. This ditch was constructed while the land was in private ownership sometime between 1915 and 1936. The ditch poses the most problems to park management. It is the most used ditch and has many problems, uppermost being a leaking and erosion of the landscape and flooding of the plain below, causing a very obvious change in the vegetation. The claimants to the right of passage of water through would be a major visual intrusion which cannot be mitigated or hidden. The lack of information is a major limitation on management of the resources to meet the mandate.

Alternatives

None. (See below)

Selected Alternative

The recommended action, to undertake the Water Rights Study and Action Plan, was approved several years ago. There is a need to meet legal obligations to other agencies and to gather basic information for park management and planning. The results of the action will have no impact upon the park resources.

Recommended: Alfred W. Schuyler
Superintendent

Approved:
Regional Director

IV-B-7. Problem: Develop a Baseline Wildlife Inventory and Habitat Analysis

The park is a natural setting as well as an historic resource, but has only obvious data on wildlife. Within the confines of the park there are a number of plant communities and landforms, implying that there are several wildlife habitats. The park has some deer, elk, moose, and an occasional bear or mountain lion. Beavers and their dams constitute management problems. An Indian name for the locality was "Place of the Ground Squirrel" (Columbian), but there are also tree squirrels. Weasel, porcupine, skunk and other animals abound. The park is also a birdwatcher's paradise. Currently, there is no complete list of the animals present, nor much information about animal habitats. The park also needs some recommendations on wildlife habitat maintenance or improvement.

The proposed inventory and analysis does not adversely affect park resources because it is only a study with recommendations. It is essential to properly manage the wildlife resources in the park.

The park mandate and objective is to manage the natural environment to approximate the scene at the time of the battle in 1877.

Alternatives

1. No Action. This is negative because the park would be unable to include all wildlife factors in its management plan. Management would continue in ignorance of all the animals present.

2. The only positive alternative is to initiate a wildlife study to inventory the animals present and analyze their various habitats. This program should include recommendations for wildlife habitat maintenance and improvement. The affect upon the park resources is positive because it allows management to consider wildlife factors in its actions and plans.

Selected Alternative

2. To initiate the wildlife inventory and habitat analysis as a baseline study. It is a positive action for better resource management decisions and future actions.

Recommended: Alfred W. Schulzen
Superintendent

Approved: Acting
Regional Director

IV-B-9. Acquisition of Supplies for the Proper Care and Storage of Irreplaceable Museum Objects.

Care and storage of museum artifacts are described and mandated by NPS-6. At the present the park does not approach that level of care and storage. The park level of care and storage required a higher level of quality than is now possible with present park funding.

Alternatives

1. No Action. If the necessary approved types of supplies, materials, and storage facilities are not provided the museum objects now in the park care and storage are in danger of damage and irretrievable loss. The future also will add to the present collections and they will require care and storage as well. However, no action will result in an overflow in the present storage facilities and future increases in holdings will have to be stored in temporary boxes. The lack of proper care will result in eventual loss of the artifacts.

2. Obtain the necessary Supplies and Materials and Storage Facilities to provide the necessary level of protection required by NPS-6 and NPS-28.

Selected Atlernative

Arrange for the purchase of needed supplies, materials, and storage facilities to bring the museum collecting holdings up to the required guidelines.

Recommended: Alfred W. Schultz
Superintendent

Approved: [signature]
Regional Director

IV-B-10 Problem: The Need for Professional Assistance to Examine the Conditions of the Park Held Artifacts.

The park needs the professional viewpoint and skills to examine the ocndition of the park held artifacts. The appraisal of the museum collection should include the condition of artifacts and appraising the status of the pieces for future treatments of disposal. The park staff does not have curatorial expertise to maintain and repair the objects according to the best of current practices.

Alternatives

1. No Action. Result would be a further and possibly accelerated deterioration of artifacts in the park holdings. Not an acceptable practice.

2. Provide the services of a professional curator for apprisal of athe condition and to undertake proper treatment for the objects examined. Probably on a cyclical basis.

Selected Alternative

Provide through contact of by use of NPS personnel an onsite inspection of the museum collection, to arrange for the appropriate care and treatment, and to provide a written status evaluation. Review and comment upon the

Scope of Collections Statement pertinent to this park. To make recommendations for further actions to improve the status of the collections.

Recommended: Alfred W. Schuleyer
Superintendent

Approved: Acting
Regional Director

IV-B-11. Problem: Keeping Museum Records Current and Updating Records to Conform to Current Practices as Directed in the NPS Museum Handbook, Part II

The NPS has installed a computor-generated catalog system as described in the NPS Museum Handbook, Park II. The need is for professional services to bring the park Museum Records up to date and to begin implementation of the new system as directed in the handbook.

Alternatives

1. No Action. If the Museum Records are not up dated their value as referenced for managaement and interpretation as well as the status as a legal record will be reduced to negligeable..

2. To provide the necessary professional services to update the Museum Records to maintain their historical value and integrity.

Selected Alternative

To provide the necessary professional services to update the Museum Records according to the NPS Museum Handbook, Park II.

Recommended: Alfred W. Schuleyer
Superintendent

Approved: Jack Neuleib
Acting Regional Director

IV-B-12 Historical Studies and Research Program at the Park. To Improve the Interpretive Quality and to Support Management Needs.

There is a continuing need for historical studies and research at the park level to improve the information base for interpretation, resource management and park operations in general. The studies are about the resources but do nothing physical to the resources themselves. The studies provide finer detail to answer visitor questions, to enrich the quality of interpretations, but also to provide the background to support resource management decisions. There are at least seven such projects.

1. Problem: Develop an Annodated Bibliography of Books, Articles, and Manuscripts Related to the Battle Participants, and the Nez Perce War.

The information and interpretive details of the battle, the participants, and the war in general are hidden in a variety of books,articles, memoirs, and various other ephemerae. Card catalogs, bibliographies, and dealer catalogs mention only the Nez Perce War, the soldier or the Indian, etc., but never enough to judge if it warrents further examination. There is no hope nor need that the park accumulate all those items in a research library. Through the years various park staff have examined or borrowed some of the references and often dismissed them as unimportant. In time the staff changes and they may reexamine the same items over again. The need is for a critically annotated bibliographic file to be of use to the park staff and researchers.

2. Problem: Identify the Names of the Battle Participants on Both Sides and Learn Something About Them; Before and After, as a Continuing Park Research Project.

Although a major event in the Nez Perce War of 1877, the Battle of the Big Hole was small enough that the public can expect the park to provide the names of a large number of participants on both sides. Every year we have inquiries from visitors who suspect or are certain that their ancestor was in the battle. For approximately half of these individuals we can provide information, but foremost we can neither confirm nor deny presence. Over the years the park has acquired information on participants from various archives, books and articles. This data must be assembled and then analyzed to determine if the person was present. Some are still doubtful pending acquisition of more historical resources. For the Nez Perce, knowledge about relatives and to which band someone might have belong; or, among the soldiers--birth, duration of enlistment, and company assignment--are facts which provide some idea of these people--who they were and how they lived.

3. Problem: Organize and Analyze the Copies of Original Data from the Participant Nez Perce Indians as a Continuing Park Project.

Machine copies of scrap notes from correspondence and interviews with surviving Nez Perce Indians need to be sorted and analyzed to preserve a park resource. It will require someone with a knowledge of Nez Perce names, both Indian and Anglo, to do the work. This should be a low-key park project.

4. Problem: Continue Study on the Model 1841 Mountain Howitzer Used in the Battle and Currently on Exhibit.

The 12-pound Mountain Howitzer, Model 1841, and Limber on exhibit is the original one used in the Battle. There is a need to document the research and collect additional data as it becomes available, concerning the modifications, specifications, and use of the piece. The work will help the interpretation to provide a background and enrich the public presentations.

5. Problem: Continue Park Study of Soldier Uniforms and Accoutrements as Worn in the Field at the Time of the Battle in 1877.

It is relatively easy to determine what the approved uniform style and accourtements were in 1877. However, the full approved uniform was reserved for formal Sunday inspections and the like. When in the field or on the march, most soldiers wore a rag-tag assortment of obsolete clothing styles or civilian items purchased from the post suttler. As a consequence each region of the country and each man in the field dressed quite differently. The need is to determine what might have been worn here in the battle. The project entails determining what was then the uniform standard, but also what were the preceeding styles which might still be available.

6. Problem: Trace the Disposition of the Military Force During the Battle, Using Records, Reports, and Documents to Determine the Manpower Who Participated in the Siege Fighting.

A significant portion of the fighting at Big Hole occurred in the Siege Area, through which an interpretive trail now leads. A concern is that we do not know how many soldiers directly participated in the siege action. A fair determination could be made by tracing the dispositon of the troops.

The exact number of men who came to the battle is known, but after the fighting began some had already been assigned to rear guard duty to the wagon train and mountain howitzer. During the fray some were sent out as messengers, others were killed or deserted. By fining the number who were not available and subtracting the men for the total count, the participants in the siege action can be determined.

7. Problem: Analyze the Leadership of the Seventh Infantry by Developing Biographies of All the Officers in the Regement, in Order to Explain Why Gibbon Chose Certain Companies and Officers to Fight, and Why Certain Companies Performed Better than Others Under Stress

Overall the Seventh Infantry performed better than might be expected of contemporary regements in other battles. Gibbon's decision to add the enlisted men of one company to another not only equalized his units but improved the effectiveness of the augmented company. Also, Gibbon chose particular companies and officers for action. There were thirty-five officers in the whole regement, seventeen of whom participated in the Battle of Big Hole. The rest fulfilled essential supportive roles by tending to other regemental responsibilities. Better insight into the leadership abilities of the Seventh Infantry officers is needed. Biographical studies of each officer would shed light on the leadership of the regement as a whole, and perhaps would explain why Gibbon selected certain officers for battle. Furthermore, an examination might provide insight into how well they coped with the emotional and physical stress of battle, and how this effected the men they commanded.

Alternatives

1. No Action. A no action alternative would be to stop current minimal research activities, losing potential further enrichment of the interpretive program and important additions to the resource information base for management actions.

2. The most complete alternative would be to contract for the necessary research. Results may be spotted linked to the length of time required for any outside researchers to famaliarize themselves with the resources available.

3. The existence of the standing project alerts all to look for clues to add to the records. Activate upon time and funds available basis and considered a continuing project for the park.

Selected Alternative

Project to be activited upon the availability of new data and time and funds available basis. A continuing project.

Recommended: Alfred W. Schulgen
Superintendent

Approved: Jack Neuhardt
Acting
Regional Director

# V. APPENDICES

## V-A. Bibliography

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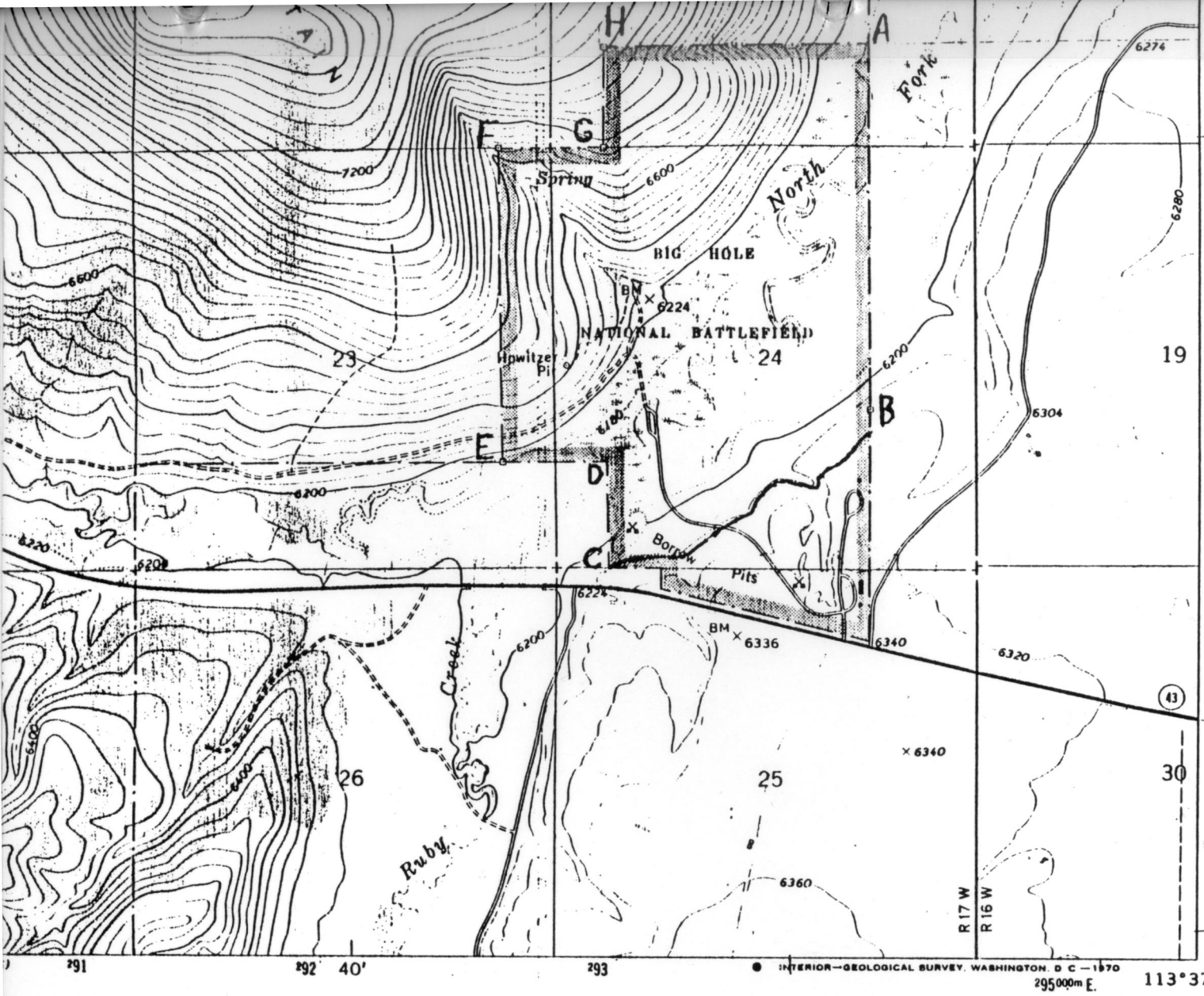
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A) 12/294 220/5059 095
B) 12/294 620/5057 180
C) 12/293 150/5057 110
D) 12/293 150/5057 505
E) 12/292 750/5057 510
F) 12/292 780/5058 720
G) 12/293 180/5058 710
H) 12/293 190/5059 110

1 MILE

000 5000 6000 7000 FEET

1 KILOMETER

O FEET
OOT CONTOURS
LEVEL

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———

Unimproved dirt = = = = = = = = =

State Route




QUADRANGLE LOCATION

ACCURACY STANDARDS

# BIG HOLE BATTLEFIELD, MONT.

N4537.5—W11337.5/7.5

ASSESSMENT OF EFFECT FORM

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES
(Attach continuation sheets as necessary)

This form is required for all actions that have the potential to affect cultural properties.

1. PARK: _____

2. PROJECT TITLE AND NUMBER: _____

3. PREPARED BY: _____ PHONE: _____
(This is to be prepared by the park resource specialist)

4. Nature of Project: Planning ___ Design ___ Construction ____
Preservation Maintenance _____ Energy Retrofit _____

5. Cultural resource(s) affected by proposed action/name and LCS or CSI (archeological site) number(s), if applicable:

6. The proposed action will (check as many as apply):

_____ Destroy historic fabric.
_____ Remove historic fabric.
_____ Replace historic fabric in kind.
_____ Add nonhistoric elements to a historic structure.
_____ Remove nonhistoric elements from a historic structure.
_____ Alter historic terrain, groundcover, or vegetation.
_____ Introduce nonhistoric elements (visible, audible, or atmospheric) into a historic setting or environment.
_____ Reintroduce historic elements in a historic setting or environment.
_____ Remove historic elements from a historic environment.
_____ Remove nonhistoric elements from a historic environment.
_____ Disturb, destroy, impair, or render inaccessible archeological (surface or subsurface) resources.
_____ Possibly disturb presently unidentified archeological resources or historic fabric.
_____ Incur gradual deterioration of historic fabric, terrain, or setting.
_____ Other (Describe briefly):

7. Description of proposed action(s) and effect(s): (Include date and location of project and intensity of effects to each structure or archeological site.) Use additional sheet if necessary.

8. Explain why the action is needed:

9. Documentation (attach): (1) photographs of existing conditions, (2) site plans, (3) preliminary designs or construction documents.

10. Has area been surveyed for historic and archeological remains?

_____ No: Source of Information_____
Is survey scheduled? _____ No _____ Yes: Date _____

_____ Yes:

1) Results of Survey _____
_____
_____

2) Do Base Maps exist? _____ No _____Yes: Where? _____
_____

3) Report(s) Reference(s) _____
_____

Level of Archeological Work: _____ Reconnaissance _____ Sample
_____ Intensive _____ Tested _____ Excavated

_____ N/A.

11. Has area been disturbed in the past? _____ No _____Yes _____ N/A:
Explain nature and intensity of disturbance.

12. ( ) Implementing action included in plan under PMOA._____
_____
(Title, Section)
( ) Other PMOA Action. _____
(Title, Section)
( ) Resource Management Plan (RMP) Number._____

( ) Action not under PMOA.

13. Recommended Determination of Effect.
_____ No Effect _____No Adverse Effect _____Adverse Effect
_____ Preservation Maintenance _____ Energy Retrofit

14. Proposed mitigation and any additional needs:

15. Is the mitigation work scheduled? _____ No _____ Yes:
with REGION _____
with ARCHEOLOGICAL CENTER _____

I certify that the work proposed meets the guidelines contained in NPS-28 and that the proposal incorporates all feasible measures to minimize adverse effects to cultural resources.

_____ _____
Superintendent Date

. . . . . .

Concur: _____ _____
Regional Historian Date

_____ _____
Regional Archeologist Date

_____ _____
Regional Historical Architect Date

_____ _____
Regional Curator Date

106 Necessary:_____No _____Yes: _____
Determined by

Concur: _____ _____
Regional Director Date

Unresolved Dispute: _____
Regional Director

Sustained Proposed Action: _____
Associate Director, Cultural Resources Management

Overrule Proposed Action: _____
Associate Director, Cultural Resources Management

V-D. Planning Team

Alfred L. Schulmeyer, Park Superintendent; the following Rocky Mountain Regional Office Employees: Michael G. Schene, Regional Historian; Mary S. Culpin, Architectural Historian; Ann Johnson, Archeologist; Hank McCutheon, Staff Ecologist, Rocky Mountain Park; and Susan Tenney, Historian; Jim Olson, Rocky Mountain Regional Office; the following employees of Beaverhead National Forest, Wisdom District: Harold Wetzeston, Forestry Technician; Joseph Stehar, District Ranger; Jerry Berry, Wildlife Technician; Stuart Herkenhoff, Assistant District Ranger Stephen J. Pyne, Professor of History, University of Iowa.

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