



National Park Service
U.S. Department of the Interior
Sand Creek Massacre National Historic Site
Eads, Colorado

Interim Site Management Plan/ Environmental Assessment

April 2006



Interim Site Management Plan

Environmental Assessment

Summary

The National Park Service (NPS) proposes to develop an interim site management plan for Sand Creek Massacre National Historic Site to provide some direction for the park unit until a more comprehensive, 20-year General Management Plan is developed and implemented. An interim plan is needed because 1) completion of a General Management Plan is several years away, and 2) park dedication and opening to the public is scheduled for April 2007, which presents near-term needs to accommodate visitor use, National Park Service management, and tribal activities.

One objective of the interim plan is to make it low cost and flexible so that actions could be reversed if the General Management Plan proposes something different. Furthermore, it must be protective of the resources and values for which the park was established. The interim plan considers:

- Public Access to the park unit (currently it is closed); a temporary on-site visitor contact station; toilets; trails; signage; an overlook on state land; and improved roads and parking
- National Park Service Management: a temporary on-site park support services building to hold a few employee offices and doubles as the visitor contact station; re-use of existing buildings such as for storage; acquiring additional lands; utilities
- Tribal Activities: continued use of the site for ceremonies; replacing the existing 1950s stone monument with a new one; a repatriation area/cemetery, and on-site materials storage

This Environmental Assessment evaluates two alternatives; a no action alternative and an action alternative. The no action alternative (Alternative A) is used as a baseline assessment, while the action alternative (Alternative B) addresses the actions that comprise the interim site management plan.

This Environmental Assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet project objectives, 2) evaluates potential issues and impacts to Sand Creek Massacre National Historic Site's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics that have been addressed in this document because the resultant impacts may be greater-than-minor include cultural landscapes; ethnographic resources; visitor use and experience; and park operations. All other resource topics have been dismissed because the project would result in minor or less effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document, and most respondents supported the proposal for an interim site management plan.

Public Comment

If you wish to comment on the Environmental Assessment, you may enter them online at the National Park Service website Planning, Environment, and Public Comment (<http://parkplanning.nps.gov/>) or you may mail comments to: Superintendent; Sand Creek Massacre National Historic Site; P.O. Box 249; Eads, CO 81036. This Environmental Assessment will be on public review until May 17, 2007. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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PURPOSE AND NEED

Introduction

Authorized as a unit of the National Park Service in 2000, Sand Creek Massacre National Historic Site is situated in eastern Colorado near the town of Eads (see Figure 1 in the *Alternatives* chapter). According to the Sand Creek Massacre National Historic Site Establishment Act of 2000, the park unit was established for the following reasons (NPS 2000a):

- To protect and preserve the site, including the topographic features that the Secretary determines are important to the site; artifacts and other physical remains of the Sand Creek Massacre; and the cultural landscape of the site, in a manner that preserves, as closely as practicable, the cultural landscape of the site as it appeared at the time of the Sand Creek Massacre; and
- To interpret the natural and cultural resource values associated with the site and to provide for public understanding and appreciation of, and preserve for future generations, those values; and
- To memorialize, commemorate, and provide information to visitors to the site to enhance cultural understanding about the site; and to assist in minimizing the chances of similar incidents in the future.

The purpose of this Environmental Assessment is to examine the environmental impacts associated with the implementation of an interim site management plan at Sand Creek Massacre National Historic Site. The interim site management plan includes alternatives for visitor access, National Park Service management, and tribal activities. This Environmental Assessment has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR 1508.9), and the National Park Service Director's Order (DO) #12 (*Conservation Planning, Environmental Impact Analysis, and Decision-making*) (NPS 2001).

Purpose

National Park Service policies state that each park unit must have and maintain an up-to-date General Management Plan, which is a broad umbrella document that sets the long-term goals for a park unit (NPS 1998a, NPS 2006a). A General Management Plan defines the desired natural and cultural resource conditions to be achieved and maintained over time and the necessary conditions for visitors to understand, enjoy, and appreciate the park's significant resources. It also identifies the kinds and levels of management activities, visitor use, and development that are appropriate for maintaining the desired conditions, as well as indicators and standards for maintaining the desired conditions. Ideally, a General Management Plan guides park management for approximately 15 to 20 years.

Sand Creek Massacre National Historic Site was recently established as a unit of the National Park Service in 2000, and therefore, it does not yet have a General Management Plan. The National Park Service will begin the process for developing a General Management Plan following park dedication in April 2007; however, the process typically takes three to four years because of the extensive public, and often, agency involvement. When complete, it may still take several years to fund and implement the actions of the General Management Plan.

Therefore, the purpose of this proposal is to develop an interim site management plan that will remain in effect until a more comprehensive, long-term General Management Plan is prepared and implemented. Actions in the interim plan are considered temporary, and the permanent solutions to visitor access, National Park Service management, and tribal activities will be determined in the general management planning process.

Need

Since its establishment, Sand Creek Massacre National Historic Site has been closed to the public and remains closed to visitors today. The Secretary of the Interior intends to formally dedicate the site as a National Park Service unit at the end of April 2007, thereby allowing public access to the park unit for the first time. Official establishment of the park unit is expected to include grand opening events, which presents near-term needs to accommodate visitor use, National Park Service management, and tribal activities. Therefore, an interim site management plan is needed to address immediate solutions for these needs.

Sand Creek Massacre National Historic Site hopes to have a General Management Plan completed within the next few years, which will determine the long term vision and goals for managing the park unit. Until a General Management Plan is completed however, an interim solution is needed. Emphasis is placed on an interim plan that poses temporary solutions, so that if the general management planning process proposes something different, these temporary actions and facilities could be reversed, if needed. In addition, because funding is limited, the interim plan should also pose solutions that are cost-effective and can be implemented in a reasonable timeframe, that is, before the general management planning process is completed.

While the interim plan shall address short-term needs to accommodate visitor, park management, and tribal uses of Sand Creek Massacre National Historic Site, it also needs to consider the resources and values for which the park unit was established. Again, long-term planning through the general management planning process considers park resources and values in more detail, but this interim plan should also facilitate care and concern for these resources so as to not impair them for future generations.

Sand Creek Massacre National Historic Site must be managed with long-term vision for future generations. To develop that vision and the plan to implement it, much discussion with the tribes, the state, and the public will be needed. The interim plan is only a temporary solution to accommodate short-term needs. Based on these thoughts, and the purpose and need for the project, objectives for the interim plan are to 1) Address temporary needs for public access, National Park Service management, and tribal activities; 2) Consider affordable solutions to allow for short-term implementation, and flexible solutions so that actions could be reversed if the General Management Plan proposes something different, and 3) Protect resources and values for which the park unit was established so as to not impair or cause unacceptable impacts to these resources.

Relationship of the Proposal to Previous Planning Efforts

Sand Creek Massacre National Historic Site was recently set aside as a National Park Service unit in 2000; therefore, it does not have the extent of previous planning documents or efforts that are typically associated with more well-established park units. However, the proposal to develop an interim site management plan is consistent with preliminary studies conducted for the site and with internal policies including the *Sand Creek Massacre Project* that first delineated the boundaries of and recommended the site for inclusion in the National Park Service system; the *Sand Creek Massacre National Historic Site Establishment Act*, *Basic Guidance for Interim Planning*, and *National Park Service Management Policies*:

- ***Sand Creek Massacre Project, Volumes 1 & 2*** (NPS 2000b) – This two part study included a *Site Location Study (Volume 1)* and a *Special Resource Study (Volume 2)*. The purpose of the *Site Location Study* was to search for the site of the Sand Creek Massacre and to delineate some sort of boundary. The purpose of the *Special Resource Study* was to provide the United States Congress with an analysis of whether the Sand Creek Massacre site would be a suitable and feasible addition to the National Park System. The preferred alternative in this latter study was the establishment of a Historic Site under the National Park Service system that would 1) provide a full range of visitor services, 2) be managed by the National Park Service, 3) protect and preserve natural and cultural resources.

The interim site management plan would be a first step in meeting some of the objectives of these studies, at least until general management planning could begin. It would provide some visitor services, and would not preclude other visitor services from being established in the future. The Historic Site is and would continue to be managed by National Park Service with staff being increasingly present at the site. The interim plan would also establish areas where visitors are permitted while limiting public access to other areas of the Historic Site in order to preserve natural and cultural resources that are important to the establishment of the site.

- ***Sand Creek Massacre National Historic Site Establishment Act*** (NPS 2000a) – The purpose of this act is to: 1) recognize the importance of the Sand Creek Massacre as a nationally significant element of frontier military and Native American history; and as a symbol of the struggles of Native American tribes to maintain their way of life on ancestral land; 2) authorize, on acquisition of sufficient land, the establishment of the site of the Sand Creek Massacre as a national historic site; and 3) provide opportunities for the tribes and the State to be involved in the formulation of general management plans and educational programs for the National Historic Site.

The proposal to develop an interim site management plan is consistent with the goals of this act, namely to protect resources and values for which the park unit was established, and to provide for partnerships in the development of planning projects.

- ***Basic Guidance for Interim Planning*** (NPS 2006b) – This document, which is in draft format at the time of this writing, is a precursor to some of the basic elements found in a General Management Plan. It provides a backbone or general guidance intended for use during the interim and for general management planning including park purpose and significance, special mandates, interpretation and visitor experiences, and potential fundamental resources and values. Taking the last item, fundamental resources and values, these are the most important systems, processes, features, visitor experiences, stories, scenes, sounds, smells or other resources and values to be communicated to the public about a park.

Fundamental resources and values for Sand Creek National Historic site include, but are not limited to: artifacts and other physical remains; topographic features such as the bluffs; the Big Sandy Creek; viewsheds; the cultural landscape as it appeared at the time of the Sand Creek Massacre; oral histories; cultural and natural resources encompassed within the 2001 *National Register of Historic Places* boundary; witness trees; culturally significant plant and animal species; planned repatriation site; tribal ceremonial areas; intangible spiritual qualities of the landscape (sense of place); remains of individuals still in the ground and those that have been repatriated from museums; spiritual Healing Runs and other commemorative activities; and memorialization.

The interim site management plan incorporates these fundamental resources and values in a manner that preserves or promotes their perpetuity for present and future generations. The interim site management plan recognizes the importance of these fundamental resources and values, and strives to find a balance between development, visitor use, park management, and tribal activities in keeping with these basic areas of importance.

- ***National Park Service Management Policies*** (NPS 2006a) – These policies apply to all aspects of park management, resource protection, visitor use, and partnerships. Some management policies that apply to this proposal state that the National Park Service, "will focus special attention on visitor enjoyment of the parks while recognizing that the National Park Service mission is to conserve unimpaired each park's natural and cultural resources and values for the enjoyment, education, and inspiration of present and future generations....Facilities will be harmonious with park resources, compatible with natural processes, esthetically pleasing, functional, energy- and water-efficient, cost-effective, universally designed, and as welcoming as possible to all segments of the population....Within the constraints of legal authority and its duty to protect park resources, the Service will work with tribal governments to provide access to park resources and places that are essential for the continuation of traditional American Indian cultural or religious practices."

The interim site management plan is intended to meet these policies by providing public access to the currently closed site while protecting the Historic Site's resources and values. In addition, facilities are to be temporary in nature, cost-effective, and reversible if the General Management Plan calls for something different. The National Park Service will also cooperate and coordinate with tribal entities, as well as other agencies and the general public throughout this process of interim site management planning.

Public Scoping

Scoping is a process to determine important issues related to a proposal; to identify the resources that may be affected by a project proposal; and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Sand Creek Massacre National Historic Site conducted internal scoping with appropriate National Park Service employees, tribal representatives, the Colorado State Historic Preservation Officer; and local representatives from Kiowa County. Interdisciplinary team members met September 12-14, 2006 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable future projects that may have cumulative effects; and possible mitigation measures. Over the course of the project, team members have conducted additional meetings and site visits to view and evaluate the proposal for the interim site management plan (NPS 2006c). This Environmental Assessment documents the results of this meeting.

Sand Creek Massacre National Historic Site also conducted external scoping with the public to generate input on the preparation of this Environmental Assessment by gathering more information and opinions on the issues related to the project, environmental impacts, and new alternative ideas. External scoping was initiated with the distribution of a scoping letter to the Historic Site's mailing list and an internet posting. During the scoping period, eight responses were received from individuals and one from Kiowa County. The majority of commentors is in favor of the proposal to develop an interim site management plan, and provided suggestions on what they would like to see in the plan. Many of these suggestions had already been incorporated into the plan, while some of the suggestions had been previously dismissed from further consideration for reasons explain in the *Alternatives* chapter, and still others were out of scope for this plan. More information regarding the results of internal and external scoping can be found in *Comments and Coordination*. The Cheyenne and Arapahoe tribes were consulted about this proposal prior to the public scoping period, and they are in support of the development of an interim site management plan.

Impact Topics Retained for Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; National Park Service *Management Policies* (NPS 2006a); and National Park Service knowledge of resources at Sand Creek Massacre National Historic Site. Impact topics that are carried forward for further analysis in this Environmental Assessment are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (i.e. affected environment) within the project area. This information will be used to analyze impacts against the current conditions of the project area in the *Environmental Consequences* chapter.

Cultural Landscapes

According to the National Park Service's Director's Order #28: *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built (NPS 1998b,c). National Park Service *Management Policies* state the treatment of a cultural landscape will preserve significant physical attributes, biotic

systems, and uses when those uses contribute to historical significance. Treatment decisions will consider both the natural and built characteristics and features of a landscape, the dynamics inherent in natural processes and continued use, and the concerns of traditionally associated peoples. The variety and arrangement of cultural and natural features in a landscape often have sacred or other continuing importance in the ethnic histories and cultural vigor of associated peoples. These features and their past and present-day uses will be identified, and the beliefs, attitudes, practices, traditions, and values of traditionally associated peoples will be considered (NPS 2006a).

Section 106 of the National Historic Preservation Act, as amended in 2004 (16 USC 470 *et seq.*) and the National Park Service's Director's Order #28: *Cultural Resource Management Guideline* (NPS 1998b) require the consideration of impacts on historic properties that are listed in or eligible to be listed in the National Register of Historic Places. The National Register is the nation's inventory of historic places and the national repository of documentation on property types and their significance. The above-mentioned law and policy require federal agencies to coordinate consultation with State Historic Preservation Officers regarding the potential effects to properties listed on or eligible for the National Register of Historic Places. The Sand Creek Massacre site (of which, a portion is in the boundaries of the National Historic Site) is listed in the National Register of Historic Places (Site 5SW28), as described in more detail below.

In order for a historic property to be listed in the National Register of Historic Places, it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. In addition, the historic property must possess integrity of location, design, setting, materials, workmanship, feeling, association (*National Register Bulletin, How to Apply the National Register Criteria for Evaluation*).

Brief History of the Sand Creek Massacre Site

At dawn on November 29, 1864, approximately 700 U.S. volunteer soldiers commanded by Colonel John M. Chivington attacked a village of about 500 Southern Cheyenne and Arapaho Indians along Sand Creek in southeastern Colorado Territory. Using small arms and howitzer fire, the troops drove the people out of their camp. While many managed to escape the initial onslaught, others, particularly noncombatant women, children, and the elderly fled into and up the bottom of the dry streambed. The soldiers followed, shooting at them as they struggled through the sandy earth. At a point several hundred yards above the village, the people frantically excavated pits and trenches along either side of the streambed to protect themselves. Some attempted to fight back with whatever weapons they had managed to retrieve from the camp, and at several places along Sand Creek the soldiers shot the people from opposite banks and presently brought forward the howitzers to blast them from their scant defenses. Over the course of seven hours the troops succeeded in killing at least 150 Cheyenne and Arapaho people composed mostly of the old, the young, and the weak. During the afternoon and following day, the soldiers wandered over the field committing atrocities on the dead before departing the scene on December 1 to resume campaigning.

Since the day it happened, the Sand Creek Massacre has maintained its station as one of the most emotionally charged and controversial events in American history, a tragedy reflective of its time and place. The background of the Sand Creek Massacre lay in a whirlwind of events and issues registered by the ongoing Civil War in the East and West; the overreactions by whites on the frontier to the 1862-63 Dakota uprising in Minnesota and its aftermath; the status of the various bands of Southern Cheyenne and Arapaho Indians vis-a-vis each other as well as other plains tribes; the constant undercurrent of threatened Confederate incursions; and the existing state of politics in Colorado including the self-aggrandizing machinations of individual politicians in that territory. Perhaps most important, the seeds of the Sand Creek Massacre lay in the presence of two historically discordant cultures within a geographical area that both coveted for disparate reasons, a situation designed to insure conflict.

Significance of the Sand Creek Massacre Site

The Sand Creek Massacre site is historically significant for several reasons (NPS 2000b):

- In the lives lost at Sand Creek, both the Cheyenne and Arapaho people experienced familial and societal disruptions that have since spanned the generations of their societies. For both peoples, the site of the massacre comprises sacred ground, consecrated by the blood of lost forbears and venerated today by descendants and friends of those who died as well as of those who survived.
- In addition, the losses in material fixtures, including homes, clothing, furnishings, and even artwork were immense, with immediate and future impacts within the tribal community.
- The Sand Creek Massacre was one of several clearly indisputable human catastrophes that influenced the course of Indian-white relations on the frontier during the last half of the nineteenth century, having produced an atmosphere of pervasive and nervous distrust between the federal government – principally the army, as the instrument of national policy –and the plains tribes that complicated their associations and compounded negotiations on virtually every matter.
- The months following Sand Creek witnessed an eruption of warfare throughout the central plains, with Cheyenne, Lakota, and Arapaho warriors striking the emigration routes along the North Platte, South Platte, Republican, and Arkansas valleys. The conflicts of the 1870s, including the Great Sioux War of 1876-1877, also could trace their origins at least partly to the Sand Creek Massacre and its long-term unsettling effects among the plains tribesmen.
- Thus, in its immediate, direct, and long-range impacts upon the Cheyenne and Arapaho societies and the plains Indian community, as well as in its immediate and subsequent bearing on the progression of federal Indian and military policy respecting the plains tribes, the Sand Creek Massacre comprised an event of outstanding significance as reflected within the broad national patterns of United States history.

Sand Creek Massacre Site in the National Register of Historic Places

A formal cultural landscapes inventory of Sand Creek Massacre site has not been conducted; however, it is listed in the National Register of Historic Places under Criterion A (association with an important event) and Criterion D (data potential) (added 2001, Site # 5SW28). The Sand Creek Massacre site is listed in the National Register of Historic Places, but it has not been designated as a National Historic Landmark. The site appears to meet National Historic Landmark standards for historic significance and integrity, and may be eligible for such designation under two National Historic Landmark criteria. The site appears to be eligible under National Historic Landmark Criterion 1 because it is associated with an event that outstandingly represents broad national patterns of United States history, and from which an understanding and appreciation of those patterns may be gained. It also appears to be eligible under National Historic Landmark Criterion 6 because the site, which has only been the subject of reconnaissance-level archeological investigations, has yielded and is likely to yield information of major scientific importance by shedding significant new information regarding military and American Indian conflicts.

The National Register boundary of the Sand Creek Massacre site is different than the boundary of the National Historic Site. The National Register boundary extends beyond the National Historic Site boundaries to the northwest and southeast to include non-National Park Service lands which are mostly privately owned. Within the boundary of the National Historic Site, the southwestern corner of the park units is not within the National Register boundary of the massacre site as shown in Figure 1 in the *Alternatives* chapter.

Important Features of the Sand Creek Massacre Site

While the Sand Creek Massacre was a running engagement that spanned approximately 5.5 miles in length and 2 miles in width, Sand Creek Massacre National Historic Site encompasses what is believed to be the core area of the historic property. Though debate continues regarding the specific location of internal features, most researchers agree that the core area of the site contains the location of the Indian village; the point(s) from which the Colorado regiments first spotted the encampment; the location of Indian pony herds; the general path of battalion advancements, skirmishing, and other collateral action; the military bivouac area of November 29-30; spots in the stream and along its banks where the Cheyenne dug pits from which to hide and fight; and the points from which battery salvos were launched into the camp and later into the pits.

A *Special Resource Study* was conducted in consultation with tribes to recommend the Sand Creek Massacre site as a unit of the National Park Service. In this study, the primary features, both cultural and natural, of the massacre site were identified, as listed below (NPS 2000b). For the purpose of this analysis, these features are considered contributing elements to the cultural landscape.

- The area where the Indian lodgepole trail crossed Sand Creek. The site of the Sand Creek Massacre was an established Indian encampment area, and was near the point where an Indian lodgepole trail crossed Sand Creek. The U.S. Army, on its journey from Fort Lyon to the massacre site, also used this trail.
- The area from which Colonel Chivington and his U.S. Army troops viewed the village in the distance, and from which they began their initial approach.
- The Sand Creek streambed area where the Army troops dropped their excess equipment and baggage before reaching the Indian village.
- The areas where the Indian pony herds were gathered prior to the attack.
- The village site of the Cheyenne and Arapaho people who were attacked by the U.S. Army during the Sand Creek Massacre.
- The sandpits, where the Indians who survived the initial attack tried to shelter themselves by digging entrenchments in the banks of Sand Creek.
- The Indian flight area, which generally extended north of the sandpits area and which was the site of additional killing. (This area represents only the immediate area of flight. In the days following the massacre, Indian survivors continued traveling northeast to the Cheyenne camps along the Smoky Hill River, which is marked by a monument near present-day St. Francis, Kansas.)
- The natural spring likely used for drinking water by the peoples in the Indian encampment. Although the spring is not directly involved with the events of November 29, 1864, it may be part of the larger cultural landscape associated with the Indian encampment at the site.

Non-Contributing Features of the Sand Creek Massacre Site

The buildings and structures associated with the former Dawson Ranch complex are not considered contributing elements to the Sand Creek Massacre site. The State Historic Preservation officer concurred with this determination on September 6, 2005 (CHS 2005). More information on the Dawson Ranch complex can be found later in this chapter under *Historic Structures*.

The Chivington Canal is not considered a contributing element to the Sand Creek Massacre site; however, it is listed in the National Register of Historic Places, as described more later in this chapter under *Historic Structures*.

The existing 1950s stone monument is a non-contributing feature of the Sand Creek Massacre site. While it may be important historically, it is not an element considered significant to the massacre site itself.

Other structures or features of the park unit that are non-contributing features of the Sand Creek Massacre landscape include utility poles, fencelines, and the existing dirt roads.

Cultural Landscape Survey

A formal cultural landscapes inventory has not been conducted for the Sand Creek Massacre site; however, a cultural landscape specialist with the National Park Service has visited the site for the purpose of providing cultural landscape treatment recommendations as the park unit moves into the general management planning process. These results are documented in a brief trip report (NPS 2004a). One recommendation is to prepare an Ethnographic Landscape Study rather than a Cultural Landscape Inventory in order to focus more on ethnographic resource and issues. Ideally, the Ethnographic Landscape Study would be prepared at the same time as the General Management Plan. The trip report covers other treatment recommendations and management issues, which are not considered in this interim plan, but should be considered during the general management planning process such as removing most of the Dawson Ranch complex; addressing erosion control along the Big Sandy Creek; and determining the likely landscape conditions at the time of the massacre including the creek bed and vegetation.

The proposal to develop an interim site management plan proposes a number of actions that would measurably affect the cultural landscape of the Sand Creek Massacre site. This interim site management plan would temporarily establish protocols for public access, National Park Service management of the site, and tribal activities which could change how the land is used during the interim. Visual resources and characteristics of the cultural landscape may be affected by any new construction. Placement of utilities, construction of facilities, and conducting events has the potential to obscure and/or otherwise alter the characteristics for which the cultural landscape at Sand Creek Massacre National Historic Site is significant. Because implementation of the proposed interim site management plan would have a measurable effect on the cultural landscape, this topic is carried forward for further analysis. The topic of cultural soundscapes is covered under *Soundscape Management* later in this chapter.

Ethnographic Resources

National Park Service *Management Policies* defines ethnographic resources as the cultural and natural features of a park that are of traditional significance to traditionally associated peoples (NPS 2006a). National Park Service Director's Order #28: *Cultural Resource Management*, further defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to these policies, the National Park Service should try to preserve and protect ethnographic resources (NPS 1998b,c). The National Park Service must be respectful of these ethnographic resources and carefully consider the effects that National Park Service actions may have on them.

National Park Service *Management Policies* further explains that an ethnographic resource can be renamed as a traditional cultural property if it is eligible for inclusion in or listed in the National Register of Historic Places. A traditional cultural property may be eligible or listed in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that are 1) rooted in that community's history, and 2) important in maintaining the continuing cultural identity of the community. Traditional cultural properties are afforded further evaluation during federal undertakings per Section 106 of the National Historic Preservation Act. The Sand Creek Massacre site is an ethnographic resource, but it is not a traditional cultural property because it is not listed in the National Register of Historic Places as an ethnographic property.

The Sand Creek Massacre site is particularly sacred to the Cheyenne and Arapaho Tribes because it is along a primary migratory route where they hunted, gathered, held ceremonies, and camped. A portion of the massacre site is within the original reservation designated for the Cheyenne and Arapaho people. Also significant within the Historic Site are places where spiritual experiences have occurred, where ceremonies have been conducted, and where artifacts have been found. Time, elements, and people have changed the site's natural features, but the intangible spiritual qualities of the landscape are as strong, or even stronger, today than on the day of the massacre because of their connection to Cheyenne and Arapaho history and contemporary identities (NPS 2000b).

Only Cheyenne and Arapaho people can ever understand the full significance of the site; however, in order to address the site's importance to the Cheyenne and Arapaho Tribes, the primary ethnographic features of the Sand Creek Massacre site that the tribes have revealed to date are addressed below. A formal ethnographic resources inventory has not yet been conducted, but the following are features within the Sand Creek Massacre site that have been identified by the tribes as being important to their continuing lifeways. The locations of these resources have been omitted for confidentiality purposes.

- **Natural Spring** – This ethnographic resource is a natural spring situated within the current boundaries of Sand Creek National Historic Site. The probable location of this spring has been identified through oral histories and consultations with the tribes, an overflight of the park unit in 1997, and military maps and accounts. Having a natural spring near the Indian encampment/ village would have been an essential component of survival in this area. Big Sandy Creek itself would have yielded some, but relatively little, water, which was probably used for purposes other than drinking. Further, participant testimony at the time of the massacre indicated that the streambed was practically dry; therefore, the spring would have been a steady and reliable fresh source for drinking water. It was undoubtedly the primary reason for the site's traditional use, and it was probably even more crucial given the particular time of year for the encampment in the winter of 1864 (2000b).
- **Encampment (Village) Site** – This is the encampment or village site of the Cheyenne and Arapaho prior to and during the Sand Creek Massacre. Virtually all sources that consider the position of the village mention that it stood on the north (east) side of Sand Creek, within approximately 50 to 100 yards of the creek. Estimates on the linear extent of the principal village, which contained approximately 100 lodges of the various bands, indicate only that it occupied an area of about one-quarter mile to one-half mile or more in length. The width of the camp is not known. Separated by one-half to three-quarters of a mile downstream from the main camp stood a small group of perhaps as many as eight lodges said to belong to the Arapahos. The approximate location of the original village site at Sand Creek National Historic Site has been conjectured from tribal oral histories and consultation along with military maps and accounts (2000b).
- **Big Sandy Creek and the Sandpits** – The Indians who survived the initial attack tried to shelter themselves by digging entrenchments in the banks of Sand Creek. Chivington reported that the pits, or trenches as he called them, “were found at various points extending along the banks of the creek for several miles from the camp.” The distance between the village and the sandpits area is arguable. While most of the accounts agree that the Indians took refuge in the pits along both banks, some specify that the major defensive activity occurred along the west (south) bank. Still other statements support the notion of the Indians entrenching extended along the tops of the bluffs. As for the construction of the sandpits, one soldier participant described them as being “deep enough for men to lie down and conceal themselves, and load their guns in; some of them I should think were deeper than three feet.” The approximate location of the sandpits has been conjectured from the tribal oral histories and consultations, military accounts, and knowledge of the existence of sand banks of varying height in the area (2000b).

Numerous cooperative agreements have been established with the tribes to protect ethnographic resources and to promote continued consultation and partnership. These agreements generally formalize tribal participation in planning for the National Historic Site. These cooperative agreements include:

- Cooperative Agreement between the National Park Service and the Cheyenne and Arapaho Tribes of Oklahoma to be involved in the formulation of general management plans and educational programs for the national historic site.
- Cooperative Agreement between the National Park Service and the Northern Cheyenne Tribe to be involved in the formulation of general management plans and educational programs for the national historic site.
- Cooperative Agreement between the National Park Service and the Northern Arapaho Tribe to be involved in the formulation of general management plans and educational programs for the national historic site.

The ethnographic resources listed above are also part of the cultural landscape at Sand Creek National Historic Site, and protection of this landscape is one of the reasons for establishing the park unit. The proposed interim site management plan would help realize some of the tribal goals for the site and would foster continued tribal coordination. The interim site management plan would result in measurable beneficial effects; therefore, the topic of ethnographic resources is carried forward for further analysis. More information regarding compliance with Executive Order 13007 (Indian Sacred Sites) and Secretarial Order 3175 (Indian Trust Resources) are addressed later in this chapter under the sections *Sacred Sites* and *Indian Trust Resources*, respectively.

Visitor Use and Experience

According to National Park Service *Management Policies*, the enjoyment of park resources and values by present and future generations is part of the fundamental purpose of all park units (NPS 2006a). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park Service *Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to understand, maintain, restore, and protect (NPS 2006a).

Sand Creek Massacre National Historic Site was established as a unit of the National Park Service in 2000. It has never been open to the public; however, on occasion, special interest groups have made arrangements to visit the site, such as school tours and local or state agencies. Tribal groups affiliated with the site, namely the Cheyenne and Arapahoe tribes, have discretionary access to the park unit, as afforded to them in the establishing legislation for the site. The issue of tribal access is explored further under the topics of *Ethnographic Resources*, *Sacred Sites*, and *Indian Trust Resources*.

The *Special Resource Study* conducted for establishing Sand Creek Massacre National Historic Site calculated visitation and expenditure projections for the future opening of the Historic Site to the public. In this study, the Sand Creek Massacre Historic Site is projected to have an annual visitation of 20,000-30,000 people, based on nearby Bent's Old Fort National Historic Site visitation estimates. Bent's Old Fort National Historic Site has averaged about 40,000 visitors per year during the past ten years, but differs in at least two significant respects from the Sand Creek Massacre National Historic Site in ways that probably increase visitation: 1) Bent's Old Fort National Historic Site is located just seven miles off U.S. Highway 50, an east-west transcontinental route that draws considerably more traffic than any of the highways passing through Kiowa County; and 2) nearby La Junta is the principal town of the lower Arkansas Valley with a 1997 population of 8,179 and offers greater visitor amenities than exist in Kiowa County. It is also possible that Bent's Old Fort National Historic Site may attract additional visitors because it features a standing structure rather than the open landscape of the Sand Creek Massacre site. For these reasons, visitors would have to make a greater effort to access the Sand Creek Massacre National Historic Site, which would consequently result in fewer visits than Bent's Old Fort National

Historic Site. Therefore, the study surmises that Sand Creek Massacre National Historic Site can expect about half of the Bent's Old Fort National Historic Site recreation visits (NPS 2000b).

The *Special Resource Study* also projected the average length of visitation at Sand Creek Massacre National Historic Site. According to the study, visitors would spend approximately 1-1.5 hours at a Sand Creek Massacre National Historic Site (NPS 2000b). As a comparison, the average length of a visitor's stay is 2 hours at Bent's Old Fort National Historic Site. This would provide ample time to visit the contact station proposed in this interim plan, and drive or walk to the overlook of the massacre site.

Because Sand Creek Massacre National Historic Site has never been open to the public, in addition to the fact that it is a relatively new park unit, it does not have visitor facilities on-site. There is no visitor center or contact station, nor are there toilet or water facilities. There are two roads leading into the park unit, one to the former Dawson Ranch area and one to overlook with the 1950s stone marker. These roads are unimproved, single-lane, dirt two-tracks. There are no established parking areas or turnabouts, nor is there any signage indicating where a visitor should go. Furthermore, the park unit does not have information kiosks or exhibits, and there is no staff on-site to direct visitors where to go or what to see. The park unit does maintain an internet site with up-to-date information; however, it does not have hard copy informational brochures that can be handed to visitors when they arrive at the site. Historic Site employees currently have office space in the town of Eads. The situation now is that the public is invited to stop by the office in Eads and obtain information about the Historic Site, but the Historic Site itself is not open to the public and tours of the park unit are not given.

Some existing buildings are present at Sand Creek Massacre National Historic Site including a barn, a metal building, and corrals. These buildings were part of the former Dawson Ranch before the site was established as a unit of the National Park Service. Some of these buildings may be safe for re-use, while others are not. Recently, some utilities were installed into the Dawson Ranch area including electrical power lines, telephone lines, and a water supply. Currently, these utilities are routed to the existing metal building in this area of the park unit.

In 1950, the local community erected a stone monument for the Sand Creek Massacre site. It is situated atop a small hill that overlooks the central massacre area. Until now, the park unit has been closed to the public, so access to this monument has been limited. The interim site management plan proposes to remove this monument and erect a new monument, one that has been designed in consultation with the tribes.

The Secretary of the Interior has scheduled the official establishment, or opening of Sand Creek Massacre National Historic Site to the public, to take place in April of 2007. With that grand opening, the park unit will be open for public access. The nature of that public access, including how, when, and where the public can access the Historic Site, is being explored in this interim site management plan. This plan will help determine what type of public access is appropriate and set the temporary stage for visitor use and experience until a more comprehensive General Management Plan can be prepared and implemented. Because the park unit will be open to the public for the first time, this would have a measurable effect on visitor use and experience; therefore, this topic is carried forward for further analysis.

Park Operations

National Park Service *Management Policies* state that park units will pursue a human resources program that is comprehensive, that is based on competency, and that encompasses the entire workforce, including employees, volunteers, contractors, concession employees, interns, and partners (NPS 2006a). The safety and health of employees, contractors, volunteers, and the public are core Service values. In making decisions on matters concerning employee safety and health, National Park Service managers must exercise good judgment and discretion and, above all, keep in mind that the safeguarding of human life must not be compromised. The National Park Service must ensure that all employees are trained and informed on how to do their jobs safely, and that they have the necessary clothing, materials, and equipment to perform their duties with minimal personal risk.

Currently, Sand Creek Massacre National Historic Site has no on-site park support services building facility; therefore its four staff members all work off-site. This means that there is no National Park Service staff permanently present at the Historic Site. Half of the staff members are duty-stationed at Bent's Old Fort National Historic Site, which is roughly one hour away by car, and the remaining staff work out of a leased building in the town of Eads, Colorado, which is about 45-minutes away from the park unit by car.

Staff members regularly visit Sand Creek Massacre National Historic Site to facilitate and monitor research activities; to host tribal entities and the occasional special tour group; and/or to monitor for security purposes. This occurs roughly on a weekly basis, or sometimes more frequently, with one or two staff members visiting the site for a few hours, and then returning to their offices in Eads or at Bent's Old Fort National Historic Site. Staff members spend the majority of their time away from the site, conducting off-site business.

On-site work such as maintenance is minimal, particularly since there are no facilities or structures being used on site. As explained under the topic of *Visitor Use and Experience*, the park unit has two undeveloped roads, and a few buildings associated with the former Dawson Ranch. Some of these may be available for re-use, while some are not safe to be reused. Over the past few years, staff have determined which buildings may be suitable for maintaining; however, no maintenance work or upkeep has been conducted on these buildings. Furthermore, without established facilities in-use at the site such as visitor services, a park support services building, or utilities, little staff time is currently needed for maintenance.

The park unit retains a few volunteers to assist with various tasks, who make important contributions by supplementing the efforts of the National Park Service workforce. Currently, volunteers donate their time and labor on an as-needed basis. More volunteers may be retained once the park unit is officially established in April 2007.

Two cooperative agreements have been established with the local agencies to provide law enforcement and fire suppression services. These agreements would continue under the interim site management plan. These agreements include:

- Contract with the Kiowa County Sheriff's Office to provide law enforcement services for Sand Creek Massacre National Historic Site.
- Cooperative Agreement between and the National Park Service and the Kiowa County Search and Rescue to establish the terms and conditions under which the parties will provide mutual assistance in wildland and structural fire suppression through the sharing of resources.

Because the park unit is currently not open to the public, there has been no need for permanent on-site staff; however, with the grand opening scheduled for April 2007, this need may change, which would have a measurable effect on the staff and how/where they conduct their work. Therefore, the topic of park operations is carried forward for further evaluation.

Impact Topics Dismissed From Further Analysis

Some impact topics have been dismissed from further consideration, as listed below. The rationale for dismissing these specific topics is stated for each resource.

Topography, Geology, and Soils

According to the National Park Service *Management Policies*, the National Park Service will preserve and protect geologic resources as integral components of park natural systems (NPS 2006a). As used here, the term "geologic resources" includes both geologic features and geologic processes. The National Park

Service will assess the impacts of natural processes and human activities on geologic resources; maintain and restore the integrity of existing geologic resources; integrate geologic resource management into management operations and planning; and interpret geologic resources for park visitors. The National Park Service also will actively seek to understand and preserve the soil resources of parks, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil or its contamination of other resources.

The Historic Site lies in eastern Kiowa County within the High Plains section of the Great Plains-Palouse Dry Steppe Province ecoregion. This ecoregion stretches from northeastern Oklahoma north-northwesterly through Montana. The Historic Site has gently rolling topography with elevations of approximately 3,960 feet above sea level along the creek, and elevations of bluffs to the west more than 4,000 feet above sea level and rising slopes to the east at more than 4,050 feet above sea level. The Big Sandy Creek floodplain is terraced, but mostly level to gently sloping and varying from one-quarter to one-half mile in width through the site (NPS 2000b).

Big Sandy Creek drains the eastern side of a broad southeasterly trending valley composed largely of Quaternary eolian sands. These sands from the Holocene and Pleistocene periods overlay complex and discontinuous Pleistocene sands, silts, and gravels from 0 to 70 feet in depth to the Smoky Hill Shale (part of the Niobrara Formation). Dune sands make up the bluffs along and extending back from the western side of the creek, while coarser (and including more silt) valley fill and slopewash materials blanket the terraces and slopes extending eastward. Along Big Sandy Creek, just south of the Dawson South Bend, dune and valley fill deposits average 20 to 50 feet in depth above the chalky Smoky Hill Shale (NPS 2000b).

Along and directly adjacent to the massacre site and Sand Creek, distinct alluvial terraces have developed as secondarily worked deposits of Pliocene and lower Pleistocene materials that originated from the mountains to the west. Numerous climatic extremes of wet, dry, and wind periods over thousands of years have then modified surficial conditions to allow the development of most of the alluvial and eolian soils seen on the site today (NPS 2000b).

Soils along Big Sandy Creek within the floodplain are nearly level and somewhat poorly drained to poorly drained fluvaquents. Highly variable soil textures have developed over years by stream flooding and wind caused erosion and depositions, mixing alluvial and eolian materials. Soils bordering the creek's eastern floodplain are deep and mostly well drained, ranging from calcareous material derived Kim-Harvey-Stoneham loams to the loess derived Wiley loam. The Kim-Harvey-Stoneham loams lie at 1-12 percent slopes and where strongly calcareous, adversely affect some plant growth. Along the western side of the creek and rising in hills and bluffs bordering the floodplain are the Valent and Bijou-Valent loamy sands, both formed from noncalcareous eolian sands and are deep and somewhat excessively to excessively drained soils. The Valent loamy sands at 3-10 percent slopes are deep and excessively drained. Most all of the Kim-Harvey-Stoneham loams, Wiley loams, Valent loamy sand, Sundance loamy sand, Bijou-Valent loamy sands, and the Colby silt loam are highly susceptible to erosion by the wind.

Intensive management is required for preventing wind loss of the soils through maintaining a cover of plants or stubble at all times, maintaining a cloddy surface, and using minimum tillage, terracing, and stripcropping; however this issue is not addressed in this interim site management plan, but would be addressed in comprehensive general management planning. Because of the relatively high surface permeability of most of these soils, surface runoff caused erosion is a low hazard on this site when compared to wind erosion. During the 1970s, numerous unvegetated and open sandy spots, and severely wind-eroded spots were indicated on both sides of Sand Creek in central portions of the massacre site by soil scientists. These spots were observed in the Sundance and the Valent loamy sands west of the creek and the Colby silt loam and Wiley loam east of the creek and were a result of combined factors of climate, erodible/dry soils, and land use (NPS 2000b).

There have been severe dry periods recorded in the last century in the area, most notably during the 1930s and again in the 1950s. Even as recently as the 1980s, there were some dry years that caused concern for erosion of open soil areas in eastern Colorado. The impacts of drought on the agricultural

efforts throughout the county were a combination of the climatic conditions that occurred and the type of agricultural effort that was ongoing. For example, local wind-caused soil erosion in eastern Colorado during the 1950s greatly exceeded that caused by the large dust storms of the 1930s because the amount of land cultivated by powerful mechanized farm implements increased during the 1940s and 1950s (NPS 2000b).

Actions proposed in the interim site management plan would not affect significant geological or topographical features in the park unit, such as the hill with the 1950s stone marker and overlook. While the overlook with the 1950s stone marker is significant for its viewshed onto the massacre site, the actual hill itself is not geologically significant. While visitor access would likely allow people to this hill for viewing purposes, the proposed interim site management plan does not call for grading or otherwise disturbing this hill and overlook. Further, there are no other significant geological or topographical features in the park unit that would be disturbed by actions proposed in the interim site management plan. The proposed construction of a temporary new park support services building would be located in an area of the Monument that does not contain significant topographic or geologic features. Minor modifications of the topography would be required to facilitate a level surface on which to construct any new buildings/facilities or to improve the existing roads. These actions are expected to have a negligible to minor, long-term, adverse effect to the topography of this area.

Any construction activity proposed in the interim site management plan would disturb soils on a temporary basis, lasting until construction and revegetation (as needed) is completed. Construction activities such as road/parking improvements, placement of signage/kiosks/exhibits, clearing of trails, and installation of utilities are expected to occur in 1) the former Dawson Ranch area and the old ranch road leading to it, and 2) the main viewing area along the old ranch road leading to, and including, the overlook with the 1950s stone marker. Both areas have been previously disturbed due to prior ranching activities, and more recently, from park staff, tribal representatives, and the occasional member of the public visiting and/or using the site. The soils in both of these areas are heavily compacted with little to no vegetation. With increased pedestrian and vehicle traffic into the park, fugitive dust may become a concern. Formalizing and possibly surfacing the roads would minimize fugitive dust, but until this happens, vehicles on the dirt roads would likely be the largest source of fugitive dust in the park unit. This interim site management plan recommends revegetation for areas of high pedestrian use that have little to no vegetation cover and are subject to fugitive dust.

Any building construction, utility placement, or sign/kiosk/exhibit erection would also require excavation, which would displace and disturb soils, primarily in the footprint of these new facilities. Soils may also be disturbed and compacted on a temporary basis in the locations used to access the construction sites as well as any materials storage areas. Long-term soil disturbance would occur in areas of repeated use such as the new park support services area and the overlook with the 1950s marker. Removal of any existing structures or buildings would disturb soils. Likewise, tribal activities and ceremonies that require teepee placement or heavy use of a particular area would disturb soils. If a new trail were constructed from the Dawson Ranch area to the overlook, soils would be exposed and compacted.

In summary, the interim site management plan would compact, excavate, displace, and disturb soils in construction areas and in areas of pedestrian or vehicle use. Given that the areas proposed for construction have been previously disturbed and that revegetation would occur to help stabilize soils and reduce fugitive dust, these impacts to soils would be negligible to minor, adverse, and both long-term and temporary. There would be no impacts to significant topographic or geologic features in the project area, because these features do not exist in the park unit. Because these effects to topography, geology, and soils are minor or less in degree, this topic has been dismissed from further analysis in this document.

Vegetation

According to National Park Service *Management Policies*, the National Park Service will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks while providing meaningful and appropriate opportunities to enjoy them. The National Park Service will maintain as parts of the natural ecosystems of parks all plants and animals

native to park ecosystems by 1) preserving and restoring the natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur; 2) restoring native plant and animal populations in parks when they have been extirpated by past human-caused actions; and 3) minimizing human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them (NPS 2006a).

The primary grass found in the area is blue gramma grass and buffalo grass, accompanied by some switchgrass and side-oats gramma. Western wheatgrass is also found in the lower, more moist swales. Where grazing has been excessive and on drier slopes, sand sage has gained a foothold. Trees on the site are eastern cottonwood, found in even-aged groves close to current or historic seasonal stream traces of Big Sandy Creek. In the area surrounding the site, there is little active farming by cultivation. Land placed under cultivation primarily east and north of the site has been regularly in milo, sorghum, and millet, and is normally too dry for wheat. The dry and sandy nature of the land has been found to be most suitable to grazing, although several sections of land in and bordering the Historic Site have been placed into the USDA Conservation Reserve Program. The Conservation Reserve Program is a federal program administered by the Natural Resources Conservation Service and was developed as part of the 1996 Farm Bill to preserve lands that had been tilled and could be preserved for plant or wildlife habitat through planting and protection from grazing or future farming.

According to the National Park Service *Management Policies*, exotic species will not be allowed to displace native species if displacement can be prevented (NPS 2006a). Non-indigenous (non-native) plants are found in Kiowa County and throughout southeastern Colorado, but are not a large problem currently along Big Sandy Creek. Cheat grass and the sand burr or goatshead are probably some of the more common nuisance species on the site, but Canada thistle is troublesome east of the site, and leafy spurge is prevalent in Lincoln County to the northwest. Changes in grazing, climate (precipitation), nearby tillage, and the ongoing spread of certain non-indigenous species, may change the face of the landscape and the plant and animal community supported (NPS 2000b).

The areas proposed for development under the interim site management plan, mainly the Dawson Ranch area, the area of the overlook with the 1950s monument, and the former ranch roads, have all been previously disturbed and contain little to no vegetation. The actions under the proposed interim site management plan would displace, disturb, and/or compact vegetation in the any areas of construction or increased use particularly in the footprint of the new building and along the utility line corridors.

- Public Access – If roadways and parking areas are graded or paved, some vegetation may be destroyed or damaged. Construction of the two proposed trails would require vegetation removal in those areas. Increased foot traffic around visitor contact areas such as the visitor contact station/ park support services building at Dawson Ranch and around exhibits would reduce the amount of vegetation in these areas.
- National Park Service Management – The new temporary modular structure that would serve as a park support services facility and visitor contact station would be situated in the former Dawson Ranch complex, which is a previously disturbed area with little to no existing vegetation; however, construction of this new facility along with staging areas may displace or disturb vegetation. New utilities would be installed, which would displace vegetation. Increased foot traffic in management areas would also disturb vegetation. Visitor access would not be permitted outside of the visitor use areas, which would benefit vegetation by protecting it from human disturbance development.
- Tribal Activities – The construction of a new monument and a cemetery would displace and disturb vegetation in those vicinities. Tribal ceremonies would also disturb vegetation.

Vegetation removal and/or disturbance would be kept to a minimum and no trees would be removed to implement the interim site management plan. Further, disturbed areas would be revegetated and rehabilitated following construction, as appropriate; therefore, removal and/or disturbance of vegetation in the project area is expected to result in negligible to minor adverse impacts to vegetation. Because these

effects are minor or less in degree, the topic of vegetation has been dismissed from further analysis in this document.

Wildlife

According to the National Park Service *Management Policies*, the National Park Service will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks while providing meaningful and appropriate opportunities to enjoy them. The National Park Service will maintain, as parts of the natural ecosystems of parks, all plants and animals native to park ecosystems by 1) preserving and restoring the natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur; 2) restoring native plant and animal populations in parks when they have been extirpated by past human-caused actions; and 3) minimizing human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them (NPS 2006a).

Large wildlife in the area of the site consists of free-ranging mule deer, white-tail deer, and pronghorn. Other mammals include coyote, fox, raccoon, badger and prairie dogs (NPS 2000b). Various reptiles, amphibians, and insects are also found at the Historic Site. Sand Creek Massacre National Historic Site is composed of a diversity of habitats in various conditions within the shortgrass prairie that support the life history requirements of species in various seasons. The site is composed of two main habitats: riparian and upland shortgrass prairie (NPS 2005a).

The Rocky Mountain Bird Observatory conducted a bird inventory in 2005, in which they collected valuable information about the birds present at the Historic Site, resulting in an initial species list for the Historic Site and establishment of a baseline information that can be used to evaluate population trends in the future (NPS 2005a). Compared with some habitat areas in Colorado, the grasslands harbor relatively few bird species. Only in summer, when food, cover, and attractive nesting sites are available, are birds abundant on the site. Agricultural grazing and cropping have reduced historic bird uses regionally, but lightly grazed and Conservation Reserve Program lands provide some excellent grassland habitat to birdlife (NPS 2000b).

The riparian habitat along Big Sandy Creek provides suitable habitat for many probable breeding bird species, the most common being Western Kingbird, Orchard Oriole, Morning Dove, and Western Meadowlarks. Another, less common, probable breeding bird species that was detected in this habitat is the Red-headed Woodpecker, a species of conservation concern, according to the Partners in Flight Landbird Conservation Plan (NPS 2005a). During spring, the riparian area provides necessary stopover habitat for migrating birds allowing them to replenish reserves essential for the flight to their breeding grounds. More on migratory birds can be found under *Special Status Species*.

The upland habitats of the Historic Site host many species that are designated as species of conservation concern or stewardship species as defined in the Partners in Flight North American Landbird Conservation Plan. During the 2005 inventory, the following designated species were detected: Scaled Quail, Northern Harrier, Swainson's Hawk, Mountain Plover, Burrowing Owl, Short-eared Owl, Say's Phoebe, Western Kingbird, Horned Lark, Cassin's Sparrow, Lark Sparrow, Lark Bunting, Grasshopper Sparrow, Dickcissel, and Western Meadowlark (NPS 2005a).

The areas proposed for development under the interim site management plan, mainly the Dawson Ranch area, the area of the overlook with the 1950s monument, and the former ranch roads, have all been previously disturbed and contain little vegetative cover or suitable habitat for wildlife. The actions under the proposed interim site management plan would disturb or displace wildlife in any areas of construction such as in the footprint of the new temporary park support services building facility and along the utility line corridors. Some smaller wildlife such as rodents, reptiles, and amphibians and their habitat would be permanently displaced from construction activities and the installation of structures. Staging areas would temporarily displace wildlife until those areas could be recontoured and revegetated, as appropriate.

Increased human presence at the Historic Site would also discourage the presence of wildlife, particularly larger mammals, on a more long-term basis. Noise from construction and the increased presence and noise from humans (both visitors, on-site NPS management, and tribal activities) would displace wildlife. Construction-related noise would have a temporary, minor, and adverse effect on wildlife, and existing sound conditions would resume following construction activities.

Habitat disturbance or alterations would be kept to a minimum. No trees would be removed to implement the interim site management plan, and large bushes or shrubbery would remain intact to the extent possible. Disturbed areas would be revegetated and rehabilitated following construction, as appropriate; therefore, the proposal would have negligible to minor adverse impacts to wildlife. Because the effects to wildlife and wildlife habitat from implementation of the interim site management plan are less than minor, this topic has been dismissed from further analysis in this document.

Special Status Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service (or designated representative) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. According to the *Natural Resource Reference Manual*, the National Park Service will try to reduce the risk of extinction of plants and animals in parks, and to restore species that have occurred in parks historically but have been lost due to human activities (NPS 1991). In addition, the National Park Service *Management Policies* states that the National Park Service will inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species to the greatest extent possible. The National Park Service will inventory other native species that are of special management concern to parks (such as rare, declining, sensitive, or unique species and their habitats) and will manage them to maintain their natural distribution and abundance.

State- and Federally-Listed Species

Under the Endangered Species Act, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except pest insects and non-native species, are eligible for listing as endangered or threatened. For the purposes of the Endangered Species Act, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

The U.S. Fish and Wildlife Service also maintains a list of “candidate” species. These are species for which there is enough information to warrant proposing them for listing but that have not yet been proposed because of higher listing priorities. While listing actions of higher priority go forward, U.S. Fish and Wildlife Service works with states, tribes, private landowners, private partners, and other federal agencies to carry out conservation actions for these species to prevent further decline and possibly eliminate the need to list them.

Table 1 lists the federally-and state-listed special status species for Kiowa County, in which Sand Creek Massacre National Historic Site is situated. This list was generated in February 2007 according to the information provided on the U.S. Fish and Wildlife Service website and from a telephone conversation with the Colorado Department of Wildlife and their website (FWS 2007a, CDOW 2007a,b). A formal rare species survey was conducted in 2006 and there are no known occurrences of federally-listed special status species (CSU 2006). Furthermore, in 2005, a bird inventory was conducted that did not detect any federally-listed bird species (NPS 2005a). Three state-listed species have been detected at the Historic Site: black-tailed prairie dog, burrowing owl, and mountain plover (NPS 2005a). Recommendations from the rare species inventory conducted in 2006 and from the bird inventory in 2005 should be considered during the general management planning process.

Following the table are descriptions of all of these species and a brief analysis of how the proposed interim site management plan could affect them. The proposal would not affect any federally-listed species or three of the state-listed species because they do not occur at the Historic Site; however, these species are still included in the analysis following the table to provide information for future general management planning. For the remaining three state-listed species that are known to occur at the Historic Site, in general, the proposal is not expected to affect these species or potential habitat for these species because 1) construction would be minimal, temporary, and away from potential habitat, 2) construction would occur in previously disturbed areas with regular human use, and 3) no construction or visitor activities would be permitted outside of the Dawson Ranch area, the overlook area, and near the roadways (see Figure 1 in the *Alternatives* chapter). Therefore, the proposed project would have *no effect* on these species.

For the purposes of this analysis, the U.S. Fish and Wildlife Service and the Colorado Department of Wildlife were contacted with regards to potential effects of the proposed interim site management plan on federal and state-listed species. The National Park Service submitted a letter dated February 15, 2007 to both agencies describing the proposed project and the effects it would have on special status species. In the letter, the National Park Service requested concurrence from these agencies regarding a determination of *no effect* to special status species. Both agencies concurred with this determination in March 2007 (FWS 2007b, CDOW 2007c).

Table 1 – State- and Federally-Listed Species for Sand Creek Massacre National Historic Site

Species	Federal Status	State Status
Black-footed Ferret <i>Mustela nigripes</i>	endangered	endangered
Interior Least Tern <i>Sternula antillarum</i>	endangered	endangered
Bald Eagle <i>Haliaeetus leucocephalus</i>	threatened	threatened
Piping Plover <i>Charadrius melodus</i>	threatened	threatened
Lesser Prairie Chicken <i>Tympanuchus pallidicinctus</i>	candidate	threatened
Arkansas Darter <i>Etheostoma cragini</i>	candidate	threatened
Swift Fox <i>Vulpes velox</i>	N/A	special concern
Black-Tailed Prairie Dog* <i>Cynomys ludovicianus</i>	N/A	special concern
Ferruginous Hawk <i>Buteo regalis</i>	N/A	special concern
Burrowing Owl* <i>Athene cunicularia</i>	N/A	threatened
Mountain Plover* <i>Charadrius montanus</i>	N/A	special concern
Long-billed Curlew <i>Numenius americanus</i>	N/A	special concern

*occurrence detected at Sand Creek Massacre National Historic Site

- Black-footed Ferret (no occurrence at Historic Site)** – These are large weasels, about the size of a mink. The last official record of a black-footed ferret in Colorado was near Buena Vista in 1943. Whether the animals live in Colorado today is doubtful. Experts say the widespread practice of poisoning prairie dogs during colonial-era expansion across the West has been a major factor in the mammal's demise. Widely considered the most endangered mammal in North America, the black-footed ferret is making a comeback in Colorado and other parts of the West after being rescued from the brink of extinction in the mid-1980s. Black-footed ferrets seem never to have been abundant in Colorado. Their habitat included the eastern plains, the mountain parks and the western valleys – grasslands or shrub lands that supported some species of prairie dog, the ferret's primary prey. Black-footed ferrets are considered an endangered species by both federal and state authorities (CDOW 2007a).

Prairie dog towns are considered potential habitat for the black-footed ferret. Colonies or towns of black-tailed prairie dog are common on portions of the Historic Site, but do not exist within the areas proposed for development under the interim site management plan. Most of the areas proposed for development under the interim plan have been previously disturbed and have occasional human presence; therefore, the prairie dogs are not present in these areas. Even though there are black-tailed prairie dogs on portions of the Historic Site, which fosters the potential for black-footed ferret habitat, there are no occurrences of black-footed ferrets within the proposed project area.

- **Interior Least Tern (no occurrence at Historic Site)** – The least tern is the smallest of the North American terns. In Colorado, the least tern has bred in the southeastern portion of the state, generally in the La Junta-Lamar area. The preferred nesting habitat is on sandy or pebbly beaches, well above the water line, around lakes and reservoirs or on sandy soil sandbars in river channels. The least tern is listed as endangered in Colorado and federally (CDOW 2007a).

Park staff have not documented any occurrences of the interior least tern. Big Sandy Creek is the primary body of water in Sand Creek National Historic Site, and it is unlikely that the interior least tern is a resident of these waters, but formal surveys would be needed to determine that. Under the proposed interim site management plan, no construction, development, or visitor use would be permitted outside of the Dawson Ranch area, the overlook area, or near the roadways. If the Historic Site did provide habitat for the interior least tern, this plan would have a beneficial impact by limiting the areas proposed for development. Because there are no occurrences of the interior least tern, no adverse effects are expected.

- **Bald Eagle (no occurrence at Historic Site)** – The bald eagle is found only in North America, and is the continent's second largest bird of prey. Bald eagles are seldom seen far from water; large rivers, lakes, and seacoasts. In Colorado, they are often found near reservoirs, especially where there are abundant fish. Colorado is a very popular wintering area for bald eagles. The San Luis Valley in the southern part of the state is one of their favorite places because of its supply of fish and waterfowl from open water as well as its high population of rodents and rabbits. Two decades ago, bald eagles were extremely rare in Colorado and throughout the Continental United States. In 2001, there were about 51 nesting pairs of bald eagles in the state. The bald eagle is classified as threatened, both federally and under state provisions (CDOW 2007a).

Mature cottonwood trees are present along the Big Sandy Creek, which could attract bald eagles for hunting and nesting. Park staff have not spotted the bald eagles or nests at Sand Creek Massacre National Historic Site. Under the proposed interim site management plan, no development or visitor use activities would be permitted along the Big Sandy Creek, which would benefit potential habitat for the bald eagle. Because there are no occurrences of the bald eagle, no adverse effects are expected.

- **Piping Plover (no occurrence at Historic Site)** – Plovers belong to a group of birds commonly referred to as shorebirds. Most members of this group are normally found inhabiting beaches, lake shores, marshes, and other wetland areas. The piping plover is one of three small plovers that can be found in Colorado. In Colorado, piping plovers occur as migrants, arriving around the first of April. Most have passed through by the end of May. They can be found in the eastern part of the state. The Arkansas and South Platte River drainages are the best areas to find these birds. Nesting habitat in Colorado is on sandy lakeshore beaches, sandbars within riverbeds or even sandy wetland pastures. An important aspect of this habitat is that of sparse vegetation. The piping plover is listed as threatened in Colorado and federally (CDOW 2007a).

Park staff have not documented any occurrences of the piping plover at Sand Creek National Historic Site. Big Sandy Creek is the primary body of water in Sand Creek National Historic Site, and it is unlikely that the piping plover is a resident of these waters, but formal surveys would be needed to determine that. Under the proposed interim site management plan, no construction, development, or visitor use would be permitted outside of the Dawson Ranch area, the overlook area, or near the roadways. If the Historic Site did provide piping plover habitat, this plan would have a beneficial

impact by limiting the areas proposed for development. Because there are no occurrences of the piping plover, no adverse effects are expected.

- **Lesser Prairie Chicken (no occurrence at Historic Site)** – Mostly brown in color with horizontal barring and short, rounded tails, lesser prairie chickens are about the size of a small domestic chicken. These birds prefer sandy grassland areas that have an abundance of midgrasses, sandsage and yucca. Lesser prairie chickens historically occupied the grasslands of Texas, Oklahoma, New Mexico, Kansas, and southeastern Colorado. Populations have declined dramatically throughout their range during the past several decades from a loss of native prairie as a result of agriculture and overgrazing by livestock. Colorado's population currently numbers 1,200 to 1,600 breeding birds, situated for the most part on the Comanche National Grassland near Campo in southeastern Colorado. In addition, several smaller pockets of these birds are found on private ranches south of Holly, east of Eads and south of the Cimarron River in the extreme southeastern corner of the state. The lesser prairie chicken is listed as threatened in Colorado and is a candidate for protection under the federal Endangered Species Act (CDOW 2007a).

There are no known occurrences of the lesser prairie chicken at Sand Creek National Historic Site. Before its establishment in 2000, the area was privately owned and used as ranchland. This would have disturbed potential habitat for the lesser prairie chicken. With no known occurrences, the proposed interim site management plan would not affect the lesser prairie chicken. For future general management planning, there is a chance that the prairie could be restored in order to reintroduce the lesser prairie chicken; however, this action is not covered in this interim plan.

- **Arkansas Darter (no occurrence at Historic Site)** – The Arkansas darter is a three-inch cousin of the walleye and yellow perch. The species is found in Big Sandy Creek, among other drainages in Colorado. The Arkansas darter prefers shallow, clear, sandy streams with spring-fed pools and abundant rooted aquatic vegetation. Darter populations persist in large, deep pools during late summer low-water periods when streams may become intermittent. Darters are vulnerable to the presence of predators such as northern pike. Protection of riparian buffer corridors from overgrazing by livestock; protection of springs, pool refugia and groundwater levels from depletion; removal of introduced fish predators; and elimination of water pollution along occupied streams would greatly enhance the Arkansas darters' habitat, abundance, and distribution. The Arkansas darter is listed as threatened in Colorado and is a candidate for protection under the federal Endangered Species Act (CDOW 2007a).

There are no known occurrences of the Arkansas darter in the portion of Big Sandy Creek that flows through Sand Creek National Historic Site; however, a formal survey would need to be conducted to officially determine its presence within the park unit. Under the proposed interim site management plan, no construction, development, or visitor use would be permitted near the Big Sandy Creek. If the Historic Site did provide Arkansas darter habitat, this plan would have a beneficial impact by limiting the areas proposed for development. For future general management planning, there is a chance that Big Sandy Creek could be restored for the reintroduction of the Arkansas darter; however, this action is not covered in this interim plan.

- **Swift Fox (no occurrence at Historic Site)** –The swift fox, like other foxes, is really a member of the dog family. This prairie dwelling little mammal is completely adapted to grassland living, so the eastern plains are their stronghold in Colorado. One of North America's smallest foxes, a full grown adult weighs only about four pounds. Like many wild creatures swift fox have a very short life span only two to three years. The swift fox is not a federally listed species, but is a state species of special concern (not a statutory category) (CDOW 2007a).

There are no known occurrences of the swift fox at Sand Creek National Historic Site; however, a formal survey would need to be conducted to officially determine its presence within the park unit. With no detection of the swift fox at the Historic Site, the proposed interim site management plan would not impact the species.

- **Black-Tailed Prairie Dog (present at Historic Site)** – The black-tailed prairie dog historically inhabits the eastern third of Colorado. According to one estimate, black-tailed prairie dogs once covered seven million acres in Colorado. The largest areas of active prairie dog colonies are located along the Front Range and in the south-central/ southeastern portions of Colorado. Two of the most influential factors in the decline of black-tailed prairie dog populations have been habitat fragmentation and the widespread occurrence of plague. The black-tailed prairie dog is not a federally listed species, but is a state species of special concern (not a statutory category) (CDOW 2007a).

The black-tailed prairie dog occurs at Sand Creek Massacre National Historic Site, and according to the *Special Resource Study* in 2000, they are common on portions of the former Dawson ranch (NPS 2000b). The interim site management plan would direct all development activities, including construction and visitor activities, away from black-tailed prairie dog colonies; therefore, the project would not impact the species. Management planning for the black-tailed prairie dog would likely occur in the future during general management planning.

- **Ferruginous Hawk (no occurrence at Historic Site)** – The ferruginous hawk is one of the largest North American hawks. It is a year-round resident in Colorado, and is considered a fairly common winter resident on Colorado's eastern plains. The ferruginous hawk is not a federally listed species, but is a state species of special concern (not a statutory category) (CDOW 2007a).

According to the bird inventory and monitoring effort conducted in 2005, no ferruginous hawks were detected at Sand Creek Massacre National Historic Site, but the survey determined that the species could potentially use or may have potentially used the Historic Site during a portion of their life history (NPS 2005a). The interim site management plan would not remove any trees, and no construction, development, or visitor use would be permitted outside of the Dawson Ranch area, the overlook area, or near the roadways; therefore, potential ferruginous hawk habitat is not expected to be impacted.

- **Burrowing Owl (present at Historic Site)** – Burrowing owls are found primarily in eastern Colorado as a summer resident, and a casual winter resident on the eastern plains. They are primarily found in grasslands and mountain parks, usually in or near prairie dog towns. Burrowing owl populations are presently declining in Colorado, and in some areas, they have been nearly or completely extirpated. Loss of habitat is a major factor in the decline of burrowing owls resulting from development, poisoning campaigns against ground squirrels and prairie dogs, and intensive agriculture. The burrowing owl is not a federally listed species, but is a state threatened species (CDOW 2007a).

According to the bird inventory and monitoring effort conducted in 2005, burrowing owls were detected at Sand Creek Massacre National Historic Site (NPS 2005a). The report suggested that management of the Historic Site is conducive to taller grass structure and the maintenance of prairie dogs which provides the mosaic necessary for the presence of the burrowing owls. The interim site management plan would direct all development activities, including construction and visitor activities, away from burrowing owl towns; therefore, the project would not impact the species. Management planning for the burrowing owl would likely occur in the future during general management planning.

- **Mountain Plover (present at Historic Site)** – Colorado is the primary breeding ground for the mountain plover, more than half of the world's population nests in the state. Mountain plovers inhabit prairie grasslands, arid plains and fields. Nesting plovers choose shortgrass prairies grazed by prairie dogs, bison and cattle, and overgrazed tallgrass and fallow fields. Threats include conversion of native prairie grasslands to cultivation, possibly the loss of prairie dog colonies, and predation from expanding swift fox populations. The mountain plover is not a federally listed species, but is a state species of special concern (not a statutory category) (CDOW 2007a).

According to the bird inventory and monitoring effort conducted in 2005, mountain plover were detected at Sand Creek Massacre National Historic Site (NPS 2005a). The report suggested that management of the Historic Site is conducive to taller grass structure and the maintenance of prairie dogs which provides the mosaic necessary for the presence of the mountain plover. The interim site

management plan would direct all development activities, including construction and visitor activities, away from mountain plover habitat; therefore, the project would not impact the species.

- **Long-billed Curlew (no occurrence at Historic Site)** – Long-billed curlews nest on shortgrass prairie, and occasionally in wheat fields or fallow fields. Long-billed curlews were once widespread throughout Colorado’s shortgrass prairie. Conversion of grasslands to agriculture and livestock grazing has reduced their nesting habitat. Long-billed curlews are not a federally listed species, but are listed in Colorado as a species of special concern (CDOW 2007a).

According to the bird inventory and monitoring effort conducted in 2005, no long-billed curlews were detected at Sand Creek Massacre National Historic Site, but the survey determined that the species could potentially use or may have potentially used the Historic Site during a portion of their life history (NPS 2005a). Construction, development, and visitor use would be limited to within previously disturbed areas including the Dawson Ranch area, the overlook area, and near the roadways; therefore, potential long-billed curlew habitat is not expected to be impacted.

Critical Habitat

The Endangered Species Act also requires the designation of “critical habitat” for listed species when it is judged to be prudent and determinable. Critical habitat includes geographic areas that contain the physical or biological features essential to the conservation of the species and that may need special management or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Federal agencies are required to avoid “adverse modification” of designated critical habitat (FWS 2007a).

Critical habitat may include areas not occupied by the species at the time of listing but that are essential to its conservation. An area can be excluded from critical habitat designation if an economic analysis determines that the benefits of excluding it outweigh the benefits of including it, unless failure to designate the area as critical habitat may lead to extinction of the listed species (FWS 2007a). There is no designated critical habitat Sand Creek Massacre National Historic Site for any federally listed species; therefore, further discussion of critical habitat has been dismissed.

Migratory Birds

Further protection under the Migratory Bird Treaty Act makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition, this act serves to protect environmental conditions for migratory birds from pollution or other ecosystem degradations.

According to the *Sand Creek Massacre National Historic Site (Bird) Inventory and Monitoring Final Report*, Sand Creek Massacre National Historic Site is composed of a diversity of habitats in various conditions within the shortgrass prairie that support the life history requirements of species in various seasons. The site is composed of two main habitats: riparian and upland shortgrass prairie. During spring, the riparian area provides necessary stopover habitat for migrating birds allowing them to replenish reserves essential for the flight to their breeding grounds. The report documents several species using the riparian areas at Sand Creek Massacre National Historic Site including the Chestnut-sided Warbler, Indigo Bunting, Swainson’s Thrush, Hermit Thrush, Clay-Colored Sparrow, and Lincoln’s Sparrow, but did not find these species breeding in the area. Stopover locations are limited in the shortgrass prairie and vital to long and short distance migratory bird populations. The value of riparian habitat along Big Sandy Creek is important on a local and regional level for bird migration especially within the shortgrass prairie where stopover habitats are limited and where sound land management decisions can be implemented for the benefit of wildlife (NPS 2005a).

It is unlikely that the immediate project area, where development is proposed under the interim site management plan, would contain suitable habitat for migratory birds because of its previously disturbed condition. Construction-related noise could potentially disturb transient bird species, but these adverse

impacts would be 1) temporary, lasting only as long as construction, and 2) negligible, because suitable habitat for transient birds is found throughout the region. The proposed interim site management plan limits construction to the Dawson Ranch area, the overlook area, and near the roadways, thus protecting this important migratory bird area from any construction activities or visitor use. Therefore, migratory birds are not expected to be affected by the proposed interim plan and this topic is dismissed from further consideration.

In summary, no federally-listed threatened, endangered, or other species of concern are known to occur at Sand Creek National Historic Site. Three state-listed special status species are present at the Historic Site, but would be avoided by all construction activities and visitor use. Further, the interim site management plan calls for a limited construction zone away from the Big Sandy Creek which would maintain habitat for migratory birds and other species that use this area. Therefore, the topic of special status species is dismissed from further analysis.

Water Resources

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (EPA 2002). To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States. Furthermore, National Park Service *Management Policies* state that parks will perpetuate surface waters and groundwaters as integral components of park aquatic and terrestrial ecosystems (NPS 2006a). The following text describes water resources in terms of water quantity, water quality, and water rights.

Water Quantity

Big Sandy Creek is an intermittently flowing stream through Sand Creek Massacre National Historic Site. The creek's watershed stretches more than 120 miles from El Paso County, Colorado, through Limon and Kit Carson before reaching the Historic Site, and continues more than 30 miles more to join the Arkansas River eight miles east of Lamar. While it drains over 3,400 square miles of southeastern Colorado to the Arkansas River, most of the flow through the Historic Site derives from infrequent large rainfall events during the spring and summer. Thus, during normal and dry years, the creek does not substantially flow at the site, and has not been reliably used for potable or irrigation use. Recent observations of the creek and associated plant communities suggests that the only water normally found on the site is in creek-scoured depressions that intercept groundwater, several minor seeps, and one major spring on the east side of the creek floodplain. The spring is in Section 20, with water flowing through Section 30, Township 17 South, Range 45 West. The bed of Big Sandy Creek is lightly defined throughout much of its floodplain both upstream and downstream of the site. During moderate to large flows of the creek, clearly marked edges and bank conditions develop through erosion and debris deposition, and numerous braided channels and shallow flow areas are evident among the cottonwood groves (NPS 2000b).

Because of the creek's ephemeral character, the nearest water flow monitoring has occurred at a gauging station more than 30 miles downstream, close to its discharge into the Arkansas River. And, because of return flow from irrigated fields downstream of the Historic Site, the average and low flows recorded during the summer months are not reflective of the true creek flow. During several winter observations of the creek at the site and the downstream gauging station, the site showed no flow, while at the gauging station, the creek was flowing more than five cubic feet per second. Gauging station records since 1968 show daily mean flows at 12 to 76 cubic feet per second, a maximum daily flow of 276 cubic feet per second, and a daily mean low flow during spring and summer months of less than one cubic foot per second. During several investigations onsite during the summer of 1999, streamflow flooding on Sand Creek caused access difficulties onsite, with flowing and standing portions of water greater than 50 feet in width and more than 4 feet in depth. Indian oral histories, period diaries and interviews, and period U.S. Army soldiers' accounts describe the general creek area of the Historic Site as being similar to the current

condition, with some notable exceptions. Apparently during the time of the Sand Creek Massacre, very few small and/or stunted cottonwoods existed along the creek within the site, compared to the numerous groves of large cottonwoods observed today (NPS 2000b).

Streamflow diversion has occurred for a number of years earlier in the twentieth century for the Chivington irrigation canal. The Chivington Irrigation Company built and operated this short lived and now defunct creek diversion and canal that fed Chivington Reservoir No. 4, also known as Brandon Lake, for agricultural irrigation purposes just prior to World War I. All of the diversion structures and most of the earthen canal system remain in a poor and unworkable condition. The canal construction and operation, compounded with extensive grazing, some crop tilling farming, and erosion have altered flow characteristics and embankments surrounding the largest spring entering the creek at the east end of the Dawson South Bend (NPS 2000b). The interim site management plan does not address how the portion of the canal that runs through the Historic Site would be managed. This issue would be determined through future general management planning for the Historic Site

The intermittent flow and periodic flooding character of Big Sandy Creek appear significant to the maintenance of the general physical stream morphology, plant species habitat, and the visual appearance of the floodplain through the Historic Site. Over a long period of time, intermittent flow and periodic flooding selects for largely dry prairie plant species through the riparian area. More mesic and wetland species, such as rushes and sedges are limited to the wettest of areas in or surrounding surface or shallow groundwater. Cottonwoods are only successful where established during specific scouring and flooding conditions, nurtured by available surface or groundwater, and minimally disturbed by grazing pressures. Wildlife grazing by bison, and fuelwood gathering by Indian tribes may have been primary forces limiting the successful establishment and growth of cottonwoods throughout the nineteenth century (NPS 2000b).

Several springs enter Big Sandy Creek or its floodplain throughout the length of the site. Very small spring traces exist that provide water to areas of vegetation and occasional wildlife grazing along the east floodplain of the creek. There is a large spring, which is sourced from local groundwater and from more than five miles of contributing surface and groundwater flow from the northeast; this water also perennially flows into Big Sandy Creek at the terminus of the Dawson South Bend. The spring historically produced enough water such that two wells with recorded water well "exempt" status tap portions of its source more than two miles upgradient northeast of the Historic Site (NPS 2000b).

Water Quality

Water quality in Big Sandy Creek through the site varies to quite some degree throughout the year and through particular storm events because of the creek's intermittent character. It is generally of good quality although with limitations of use as potable water due to high alkalinity and periodic high suspended sediments. Local residents and Indian oral histories submit that the water quality in the creek or in the persistent pondings of water within the creek bottom was never considered good enough quality as a potable source for humans, although consumption by cattle, ponies, horses or observed wildlife appeared to cause no ill effects. Vegetation types and soil surfaces observed during site evaluations indicated no visible reaction of plants (e.g. increase in alkali tolerant species) to poor water quality or any significant deposits of alkali salts. Few data exist on measured water quality in Big Sandy Creek, partially because of its intermittent character, and the lack of development of its surface water as a potable supply for individuals or communities. Sporadic testing of the creek more than miles downstream at the gauging station yielded specific conductance measurements between 2620 and 4420 micromhos per centimeter at respective discharge flows of 126 to 50 cubic feet per second (October 1997 through September 1998) (NPS 2000b).

The large perennial spring in Section 20 is of apparent excellent quality, and flows from the northeast into the easternmost extent of the Dawson South Bend in Section. As noted above, this spring has some local source, but also exists as a small groundwater drainage trace that flows discontinuously from sources more than five miles distant. The spring and its entire drainage throughout Sections 20 and 30 are heavily used and impacted by grazing uses within those sections. The water quality of the spring may

also be affected by grazing and unknown agricultural use further upstream. Two shallow wells, mentioned in the *Water Quantity* section above, and of unknown quality, tap the groundwater that likely feeds this spring. Several other springs on the east side of the Big Sandy Creek floodplain, also mentioned previously, supply water of unknown quality for at least one stock watering use. Each of these springs may have been used historically by American Indians, even though the source or discharges may have changed some since 1864 (NPS 2000b).

Groundwater quality in the area of the creek has generally been rated as fair to poor. In a 1967 report on the local groundwater resources, 37 of 41 wells had sulfate contents greater than the 250 parts per million limit recommended by the U.S. Public Health Service and all of the wells contained more than the recommended 500 parts per million dissolved solids limit. One local well had an elevated selenium content, 0.11 parts per million, and it was recommended that all wells be carefully checked for elevated levels of that potentially toxic element. It is possible that the shallow spring sources of water along the eastern side of the creek floodplain could be of similar, better, or worse quality than the wells tested (NPS 2000b).

Current land uses on the site are not significantly affecting water quality in the creek. Groundwater locally and beneath the site is considered hard (and high in sulfate and dissolved solids), but is used for domestic and stock purposes. No current threat to surface or groundwater is apparent, particularly since livestock operations have ceased since the land was acquired for the Historic Site. The perennial spring(s) along the east side of the creek floodplain are believed to have been one of the critical reasons for historic encampments made on the site by numerous Indian tribes. While the spring on Sections 20 and 30 appears to tap shallow groundwater draining from the northeast, it apparently sustains its flow even during dry periods through its connection to a large watershed and aquifer. The location of the source, flow discharge, and riparian habitat of the spring has changed somewhat through the construction and operation of the Chivington Canal, some local farming, extensive grazing, and local erosion (NPS 2000b).

Water Rights

Few water rights have been established for the surface water of Big Sandy Creek. The Water Rights Report maintained by the State Engineer's Office shows that seven of the ten water rights held are considerably upstream of the Historic Site, near the headwaters west of Limon, Colorado. These rights are for reservoir storage of precipitation events and minor spring inflows more than 70 miles from the Historic Site, and thus are believed unlikely to be affecting the site to any significant degree. Three additional water rights exist for irrigation wells 18-25 miles downstream on Big Sandy Creek. Within an approximate six-mile radius of the Historic Site, there are nearly 100 wells known as "exempt wells," not subject to water rights augmentation plans, and recorded by the Colorado State Engineer. The great majority of these wells have small yields, suggesting domestic use. The majority of these wells are upstream of the Historic Site. Several are larger irrigation wells yielding 350-1300 gallons per minute, but virtually all of them are in shallow deposits less than 100 feet in depth. These wells cumulatively may be affecting groundwater in the creek floodplain and surface flows in the creek during certain low to moderate flow events. It is not believed that the wells are affecting the large surface flows of Big Sandy Creek throughout the Historic Site (NPS 2000b).

The areas proposed for temporary development (construction) under the interim site management plan are not situated near any surface waters, particularly Big Sandy Creek. These development areas are situated well away from the creek. One of the primary development opportunities under the interim plan is the construction of a temporary modular park support services facility. The size of the footprint for the new modular facility is roughly 1,000 square feet, and placement of this structure would negligibly increase the amount of impervious surface in the area, which may slightly increase the erosion potential of the area. To assist with erosion and water quality, any areas disturbed by actions in the interim site management plan would be revegetated and recontoured, as appropriate, following construction.

The proposed interim site management plan would not affect underground springs. In fact, the interim site management plan proposes that no construction or visitor use occur outside of the Dawson Ranch

area, the overlook area, and near the roadways. The tribes have selected a few different areas within the Historic Site as preferred ceremonial areas, some of which are near or approach Big Sandy Creek. Typical tribal ceremonies may include minor ground disturbance from increased foot traffic and placement of tepees and sweat lodges. Ceremonial activities would not be conducted on the banks or in the waters of Big Sandy Creek. These ceremonies are temporary in nature and would have negligible effects on the water quality or quantity in Big Sandy Creek.

The interim plan calls for a water supply to be established at the Historic Site, likely in the location of the proposed park support services area in the former Dawson Ranch complex. A well may be dug, which would provide potable water to this area. With a new well, groundwater levels in the area may decrease over time, having a minor adverse effect; however, a new well would only be placed on a replenishing source. The project would have a minor beneficial effect because drinking water would be supplied to an area that previously did not have any.

The management of the existing Chivington Canal that runs through the Historic Site would not be changed in the interim site management plan. Future management of the canal would be considered in comprehensive general management planning. Water rights would not be affected.

In summary, the interim site management plan would have negligible to minor adverse effects to water quality and water quantity from construction activities, placement of permanent structures, and increased or continued pedestrian use from the public, tribes, and park staff. The proposed interim site management plan also proposes a limited construction and visitor use area which minimizes water quality impacts by keeping these activities away from the Big Sandy Creek. Because this project is not expected to have greater than minor effects to water resources, this topic has been dismissed from further consideration.

Wetlands

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in *Management Policies* strive to 1) provide leadership and take action to prevent the destruction, loss, or degradation of wetlands; 2) preserve and enhance the natural and beneficial values of wetlands; and 3) avoid direct and indirect support of new construction in wetlands unless there are no practicable alternatives and the proposed action includes all practicable measures to minimize harm to wetlands (2006a). In accordance with Director's Order # 77-1: *Wetland Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a Statement of Findings for wetlands (NPS 2002).

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." (EPA 2002).

A narrow strip of wetlands shown on National Wetlands Inventory mapping borders Big Sandy Creek throughout the length of the Historic Site consisting of two Palustrine wetland types: 1) Palustrine Emergent Intermittently Flooded/Temporary and 2) Palustrine Forested Intermittently Flooded/Temporary. A third type of wetland classification is found along the creek bed where more flow character is maintained: Riverine Intermittent Streambed Intermittently Flooded. Four small pockets or strips of wetland are also indicated on spring areas within Sections 19, 20, and 30, known as Palustrine Emergent Intermittently Flooded. All four wetland classifications were determined by use of the "Classification of Wetlands and Deepwater Habitats of the United States" by Cowardin et al, the system the National Park Service has adopted for wetland determination (NPS 2000b). No field surveys of wetland boundaries or functions were undertaken for this interim plan.

These wetlands would not be affected by the proposed interim site management plan. The proposed interim site management plan limits construction and visitor use activities to the Dawson Ranch area, the overlook area, and near the roadways. No major construction activities would be conducted near the Big Sandy Creek, and visitor access would be restricted. This would have a beneficial effect to wetlands by preserving them in their current conditions. However, tribal ceremonies may be conducted near Big Sandy Creek, including temporary tepee placement and increased foot traffic, but these activities would occur outside of wetland areas. Therefore, no wetland impacts are anticipated, and a Statement of Findings for wetlands will not be prepared. For these reasons, the topic of wetlands has been dismissed from further consideration.

Floodplains

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. Director's Order #77-2: *Floodplain Management* states that park units shall strive to preserve floodplain values and minimize hazardous floodplain conditions (NPS 2003). Specifically, the National Park Service will 1) protect, preserve, and restore the natural resources and functions of floodplains; 2) avoid the long- and short-term environmental effects associated with the occupancy and modification of floodplains; and 3) avoid direct and indirect support of floodplain development and actions that could adversely affect the natural resources and functions of floodplains or increase flood risks (NPS 2006a). Policy also states that certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains (NPS 2003).

No current flood survey or floodplain delineation exists for the Big Sandy Creek drainage at or nearby the site. The nearest gauging station on Big Sandy Creek is more than 30 miles downstream and flow discharge records from that station are too distant to be helpful in describing flooding characteristics of the Historic Site. Anecdotal evidence and observations of the watershed and the site suggests that there are no structures or uses of the land that are threatened by flooding along Big Sandy Creek except for boundary fencing and small portions of vegetation on grazed land. The floodplain bordering Big Sandy Creek is one-quarter to one-half mile and displays terraces that likely describe certain flow frequency events. The flood flows in Big Sandy Creek can carry large quantities of sand/gravel and vegetative floating debris (grasses, branches, and small trees). Evidence of large open bars of sand and gravel were observed after the large flows in the summer of 1999, and many of the cottonwood tree trunks on bars in the floodplain were decorated with masses of floated debris. The County Road W crossing of Sand Creek just downstream of the Dawson South Bend was overtopped during May 1999 for more than 100 feet in length (NPS 2000b).

The potential floodplain around Big Sandy Creek would not be affected by the proposed interim site management plan. The proposed interim site management plan would limit construction and visitor access to the Dawson Ranch area, the overlook area, and near the roadways. This would have a beneficial effect to the floodplain by keeping development out of the Big Sandy Creek area, thus preserving it in its current condition. However, tribal ceremonies may be conducted near or within the floodplain of Big Sandy Creek, including temporary tepee placement and increased foot traffic. Tribal ceremonies are temporary in nature and would have a negligible effect on the condition or function of the floodplain at Big Sandy Creek. Therefore, negligible floodplain impacts are anticipated, and a Statement of Findings for floodplains will not be prepared. For these reasons, the topic of floodplains has been dismissed from further consideration.

Historic Structures

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve historic properties for the enjoyment of present and future generations. Management decisions and activities throughout the National Park Service must reflect awareness of the irreplaceable nature of these resources. The National Park Service will protect, preserve, and foster appreciation of the

cultural resources in its custody and demonstrate its respect for the peoples traditionally associated with those resources through appropriate programs of research, planning, and stewardship in accordance with National Park Service *Management Policies* (NPS 2006a). Historic structures include constructions that shelter any form of human activity or habitation.

The first Euro-American homesteaders were relatively late in legally claiming land in the Sand Creek Massacre area. The Sand Creek Massacre area was first surveyed by the government in 1879-80; the earliest land claims within the study area occurred in the late 1880s, almost 25 years after the massacre. Settlement was apparently difficult, since numerous claims were subsequently abandoned. Several land laws were used to claim land, including the Homestead Act, the Desert Land Law, and the Timber Culture Act. The Union Pacific Railroad received the odd-numbered sections in the area, patented in 1904. Following are descriptions of the historic buildings or structures situated within or near Sand Creek Massacre National Historic Site:

- **Line Camp (Site 5KW125)** - Three years after the Sand Creek Massacre, the Medicine Lodge Treaty of 1867 eliminated the Cheyenne and Arapaho reservation at Sand Creek and the lands were open to settlement. By 1871, the area had become well known as a buffalo hunting area. Also by 1871, Hiram Holly had established the Holly Ranch – which later evolved into the SS Ranch – over much of southeastern Colorado, and the open range cattle lands encompassed the Sand Creek Massacre National Historic Site. By the 1880s, SS Ranch pasture was under fence, and the Sand Creek Massacre site marked the western boundary of the “north pasture.” The fences were taken down by 1885, at which point homesteaders began moving onto the pastures once controlled by the cattle ranches. Among the remnants of the open range cattle industry within the massacre site boundary is the extant foundation of a line shack associated with the SS Ranch north of the former Dawson Ranch, on the south side of Big Sandy Creek (NPS 2000b).

The National Park Service determined that this site is eligible for listing in the National Register of Historic Places under Criterion D (data potential) at the state level of significance. In a letter dated April 17, 2006, the Colorado Historical Society (State Historic Preservation Officer) disagreed with this determination stating that additional information, such as subsurface testing, would be necessary to determine whether or not the property should be eligible for listing in the National Register of Historic Places (CHS 2006a). The line camp is well away from any areas to be developed under the interim site management plan, and visitor access would not be permitted. Therefore, for the interim, this site would be left as it currently exists, with no impacts from development or visitor use.

- **Chivington Canal (Site 5KW122.1)** – Also within the Sand Creek Massacre National Historic Site are the remains of the Chivington Canal. The headgates of the abandoned canal, which were designed to divert water from Sand Creek into Chivington Reservoir No. 4 south of the town of the Brandon, are in the southeast 1/4 of Section 24, Range 46 West, Township 17 South. The canal was one of a number of canals constructed by the Chivington Canal Company, ca. 1910-12; however, the canal was abandoned sometime after 1918, although approximately \$200,000 had been spent on its construction. The canal apparently never carried enough water to be profitable, but has left a mark upon the landscape that is clearly visible in aerial photographs of the area (NPS 2000b).

The National Park Service determined that this site is eligible for listing in the National Register of Historic Places under Criterion D (data potential) at the state level of significance. In a letter dated April 17, 2006, the Colorado Historical Society (State Historic Preservation Officer) agreed with this determination stating that the good condition of the site, coupled with its significance in the development of Eastern Colorado makes it eligible for listing in the National Register of Historic Places (CHS 2006a). The Chivington Canal is situated on the north side of Big Sandy Creek, well away from any potential development areas or visitor use areas. Therefore, the actions proposed in the interim site management plan would not affect the canal.

- **Dawson Ranch (5KW123)** – Throughout the twentieth century, the Sand Creek Massacre site has been used for farming and stockraising. Prior to establishing Sand Creek Massacre National Historic Site, thirteen landowners retained property within the boundary of the Sand Creek Massacre site, and

all of the land was used for agricultural purposes. Today, within the boundary of Sand Creek Massacre National Historic Site, is one historic building complex. This is the former Dawson Ranch property, which dates to the 1950s and is comprised of a barn, a corral, a railway car, a motel cabin, a metal utility building, and an air landing strip (UCD 2005). Dirt roads were also used to access the complex, but are not listed in the documentation for the historic property.

A cultural resource expert conducted a cultural resource survey in 2005 and determined that the Dawson Ranch complex, including the buildings or structures therein, are not significant for listing in the National Register of Historic Places. The complex was officially determined to be not eligible for inclusion in the National Register of Historic Places, and the Colorado State Historic Preservation Officer concurred with this determination in September 2005 (CHS 2005). In 2005, the original residence and an underground storage tank were removed after they were determined not eligible for listing in the National Register of Historic Places, and deemed dilapidated and unsafe.

The interim site management plan proposes that the general area of the Dawson Ranch complex be temporarily developed to provide visitor use and park management facilities. The reasoning given for development in this area of the park unit is because it has previously disturbed and is not significant for listing in the National Register of Historic Places. Therefore, since the Dawson Ranch complex is not eligible for listing in the National Register of Historic Places, the proposed interim site management plan would not have a measurable effect to its significance or integrity.

- **1950s Stone Marker** – In 1950, the local community placed a Sand Creek Massacre monument stone marker on the eastern edge of Section 25, Township 17 South, Range 46 West. The monument is situated atop a small hill. An old ranch road, now closed to the public, leads to the marker. From the monument overlook area, one can view much of the Sand Creek valley, which still conveys a strong sense of its likely appearance at the time of the 1864 massacre. The National Park Service does not consider the stone marker itself historically significant for listing in the National Register of Historic Places, but no formal determination of eligibility has been conducted. This formal determination would be completed during the cultural resources survey, which is schedule to occur in April 2007 before the grand opening dedication of Sand Creek Massacre National Historic Site. If results are different than what is described here, then additional compliance under the National Environmental Policy Act and the National Historic Preservation Act would be conducted.

The interim site management plan calls for removing the 1950s stone marker, and replacing it with another monument designed by the tribes. The 1950s stone marker would be retained in the collections of Sand Creek Massacre National Historic Site, and may be displayed to the public in another area of the park unit. Because the 1950s stone marker is not eligible for listing in the National Register of Historic Places, moving the historic object would not have a measurable effect to its significance or integrity.

- **Town and Railroad** – One town was established within the general Sand Creek Massacre area. Upper Water Valley, also known as New Chicago, was established in the vicinity of the southeast quarter of Section 14, Township 17 South, Range 46 West. The town apparently lasted only one summer, "having died with the frost of 1887." This town is not within the current boundaries of Sand Creek Massacre National Historic Site. During the time when this town was established, the Missouri Pacific Railroad was conducting surveys for a railroad line, including a route through the vicinity of what would become the Upper Water Valley townsite. The town quickly died, however, when the railroad line was established to the south, near what is now the town of Chivington, Colorado. The railroad line does not run through the current boundaries of Sand Creek Massacre National Historic Site (NPS 2000b). Because these sites are not within the current boundaries of Sand Creek Massacre National Historic Site, they have been dismissed from further analysis.

In summary, the interim site management plan would not adversely affect any historic structures eligible for listing in the National Register of Historic Places. For this reason, the topic of historic structures has been dismissed from further analysis.

Archeological Resources

In addition to the National Historic Preservation Act and the National Park Service *Management Policies* (NPS 2006a), the National Park Service's Director's Order #28A: *Archeology* (NPS 2004b), affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park Service reflect a commitment to the conservation of archeological resources as elements of our national heritage.

Some cultural resource surveys have been conducted for previous actions at Sand Creek National Historic Site, some of which overlap the areas proposed for development under the interim site management plan. The following surveys are listed by the actions for which the surveys were taken:

- **Dawson Residence Removal (2005)** – In Spring 2005, a cultural resource inventory of the Dawson Ranch complex was performed (for more information, see above under *Historic Structures*). The complex was determined to be not eligible for inclusion in the National Register of Historic Places (UCD 2005). The National Park Service proposed to remove the residence and an underground storage tank because they were no longer safe. Concurrence from the Colorado Historical Society on the determination of *No Historic Properties Affected* was received on September 6, 2005 (CHS 2005).
- **Cemetery Survey (2005)** – Between October 11-15, 2005, archeologists conducted archeological investigations at the park unit for the purpose of a proposed cemetery that would be used by the Cheyenne and Arapahoe tribes for repatriation purposes. Pedestrian survey and shovel testing occurred in the presence of and in consultation with tribal representatives. The results of both the surface survey and shovel testing were negative, with no indication of the presence of archeological materials (CHS 2006b). This information was submitted to the Colorado Historical Society (State Historic Preservation Officer) in a letter dated April 6, 2006. Concurrence from the Colorado Historical Society on the determination of *No Historic Properties Affected* was received on April 19, 2006.
- **Electrical Power Line Survey (2006)** – Per consultations with the Colorado Historical Society and the Cheyenne and Arapahoe tribes, Sand Creek National Historic Site dug a trench and laid an electrical power line in 2006. The power line was installed near the existing easternmost ranch road. The construction activity was monitored by an archeologist, and no cultural materials were revealed. This information was conveyed to the Colorado Historical Society in a letter January 9, 2007 (NPS 2007). At the time of this writing, the National Park Service is awaiting concurrence from the Colorado Historical Society on a determination of *No Historic Properties Affected*.
- **Site Location Study Survey (1998)** – This survey was conducted Fort Lewis College to establish the location of the Sand Creek Massacre for the purpose of establishing a National Park Service unit. The project was designed to assess both oral tradition and historical and archeological information to determine the massacre site boundary. Fieldwork was conducted in the fall of 1997, in conjunction with tribal consultations. While these investigations were only partially successful, a good deal of land area was inventoried with metal detectors. Ultimately, the area near the Dawson Ranch was determined to be likely location of the Sand Creek Massacre, and was ultimately sought for establishment of the National Historic Site. Historic artifacts related to both military use and Native American occupation were recorded. While not many artifacts were uncovered, this survey suggested that the soils in the area are prone to alteration and movement from wind, and that there may deposited soils covering artifacts and thereby skewing metal detector results (FLC 1998).

While the above surveys overlap some of the areas in the interim site management plan, some areas are still in need of survey; therefore, a comprehensive pedestrian cultural resource survey is scheduled to be conducted by a National Park Service archeologist in April of 2007 prior to the grand opening dedication of Sand Creek Massacre National Historic Area. Tribal representatives are expected to accompany the archeologist during this survey for monitoring purposes. The survey will occur in the areas proposed for development in the interim site management plan that have not been previously surveyed; generally the 15 acres surrounding the overlook with the existing 1950s stone monument and in the 35 acres surrounding the former Dawson Ranch.

Given the results of the survey conducted for the site location study in 1998, this new survey is expected to have similar results. Some isolated artifacts are expected to be encountered, but they may not be indicative of further subsurface materials or features. The archeologist will conduct some shovel testing to determine the presence of buried materials. The majority of archeological materials are anticipated to occur in the central massacre area itself, not in the areas to be developed. Any construction proposed under the interim site management plan would occur away from the massacre area itself. If results are different than what is described here, and any archeological sites are present in an area proposed for development, then additional compliance under the National Environmental Policy Act and the National Historic Preservation Act would be conducted.

Implementation of certain elements of the interim site management plan has the potential to disturb previously undiscovered subsurface materials or features. Any activities, events, or facility construction in the interim plan that requires ground penetration could potentially uncover or disturb archeological resources. To limit potential impacts to these unknown resources, an archeologist or cultural resource expert would monitor all ground penetrating activities. If previously unknown archeological materials are discovered, the cultural resource monitor would immediately halt work in that area and contact the State Historic Preservation Officer. Because there are no archeological sites in the areas proposed for development under the interim site management plan, and because a cultural resource monitor would be secured for any ground penetrating activities, this project is not expected to have measurable impacts on archeological resources; therefore, this topic has been dismissed from further analysis.

Museum Collections

According to Director's Order #24: *Museum Collections Management*, the National Park Service is custodian in perpetuity of irreplaceable and priceless museum collections that include objects, specimens, and archival and manuscript materials (textual, electronic, and audio-visual documents), representing cultural and natural resources in the United States, including but not limited to the disciplines of archeology, biology, ethnology, geology, history, and paleontology. National Park Service museum collections are part of the natural and cultural heritage of the country and are collected, preserved, and interpreted for public benefit (2000c).

National Park Service *Management Policies* requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections (NPS 2006a). As appropriate, the National Park Service will consult with culturally affiliated or traditionally associated peoples before treating or reproducing items in National Park Service collections that are subject to the Native American Graves Protection and Repatriation Act.

The proposed interim site management plan calls for the removal of the 1950s stone marker to be replaced by a new monument. The 1950s stone marker would become part of the Historic Site's museum collections, and may be put on display somewhere at the park unit. The park maintains some collections, but the interim site management plan does not call for any specific management treatment of these collections; therefore, presumably, their current location and condition would not change. Management of museum collections will be further analyzed during general management planning. Cultural resource surveys conducted as part of this plan are not expected to appreciably add to the Historic Site's museum

collections; therefore, negligible impacts are expected to museum collections overall and this topic has been dismissed from further analysis.

Air Quality

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

According to *Natural Resource Reference Manual #77*, air is a resource in all National Park Service units, and many park resources and values are dependent on good air quality. Air pollution can impair visibility, injure vegetation, erode buildings and monuments, acidify water, leach nutrients from soil, and affect visitors' health and enjoyment. In order to prevent or remedy these harmful effects, the National Park Service will carefully manage air resources of National Park Service units (NPS 1991). Further, National Park Service *Management Policies* state that park units will seek to perpetuate the best possible air quality in parks to (1) preserve natural resources and systems; (2) preserve cultural resources; and (3) sustain visitor enjoyment, human health, and scenic vistas (NPS 2006a).

The Historic Site and the entire Kiowa County area have generally excellent air quality and meet the "attainment" status for all required air pollutants monitored in the National Ambient Air Quality Standards. The area is a Class II airshed; a Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter, as specified in the 1963 Clean Air Act (NPS 2000b). Two county roads run near the site, which may temporarily increase vehicle emissions into the park unit; however, these emissions quickly dissipate. Driving on the existing dirt ranch roads within the Historic Site may also increase fugitive dust in the area, but again, this quickly dissipates after use.

The interim site management plan calls for minor development, most of which would occur in the former Dawson Ranch complex which would be the new park support services area for the interim. Installing utilities, erecting structures, placing signs/exhibits/kiosks, and replacing the existing 1950s stone monument involve construction activities such as hauling materials and operating equipment. These construction activities could result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area. Any exhaust, emissions, and fugitive dust generated from construction activities would be temporary and localized, and would likely dissipate rapidly because air stagnation at Sand Creek Massacre National Historic Site is rare. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction activities are being conducted. The Class II air quality designation for Sand Creek Massacre National Historic Site would not be affected by the proposal; therefore, air quality has been dismissed from further consideration.

Soundscape Management

According to *Natural Resource Reference Manual #77*, a soundscape refers to the total acoustic environment of an area (NPS 1991). Both natural and human sounds may be desirable and appropriate in a soundscape, depending on the purposes and values of the park. Soundscapes often vary in their character from day to night and from season to season and can be affected by changes in numbers of visitors who introduce human-caused sound into the environment. The soundscape of a national park, like water, scenery, or wildlife, is a valuable resource that can easily be degraded or destroyed by

inappropriate sounds or sound levels. As a result, soundscapes require careful management if they are to remain unimpaired for future generations. The following discussion is split into natural and cultural soundscapes.

Natural Soundscapes

According to Director's Order #47: *Sound Preservation and Noise Management*, natural sounds are intrinsic elements of the environment that are often associated with parks and park purposes (2000d). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas. *Management Policies* states that the National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks (NPS 2006a)

The current soundscape at Sand Creek Massacre National Historic Site consists mainly of natural sounds, without the interference of too much man-made noise. Natural sounds that can be heard at the park unit include those related to physical processes such as wind in the trees, flowing water in the Big Sand Creek, and rain and thunderstorms. Other natural sounds in the park unit include those related to wildlife such as those sounds made by birds, coyotes, frogs, and crickets. Some unnatural sounds exist at the park unit which are predominately man-made noises from vehicular traffic on the adjacent county road, people in or near the park unit, and aircraft flying overhead. These man-made sounds are not considered part of the natural soundscape.

The natural soundscape is an important characteristic of the park unit, particularly for the solitude and intrinsic spiritual aspects of the park; therefore, any development proposed in the interim plan, particularly construction activities, may adversely affect the natural soundscape. Development activities would have temporary impacts to the soundscape while construction activities are conducted, including human-caused sounds from equipment, vehicular traffic, and people. Any sounds generated during development activities would be temporary, lasting only as long as the activity is producing the sounds, and would have a negligible adverse impact on the natural soundscape. Therefore, the topic of natural soundscape management was dismissed from further consideration.

Cultural Soundscapes

Culturally appropriate sounds are important elements of the national park experience in many parks. The National Park Service will preserve soundscape resources and values of the parks to the greatest extent possible to protect opportunities for appropriate transmission of cultural and historic sounds that are fundamental components of the purposes and values for which the parks were established. The National Park Service will prevent inappropriate or excessive types and levels of sound (noise) from unacceptably impacting the ability of the soundscape to transmit the cultural and historic resource sounds associated with park purposes (NPS 2006a).

The predominant soundscape at Sand Creek Massacre National Historic Site is comprised of mostly natural sounds from wildlife and physical processes, with intermittent man-made noises as described above. Sand Creek Massacre National Historic Site also has an intrinsic cultural soundscape, which exists primarily when tribes conduct ceremonies or other activities at the park unit. Ceremonies may include, music, songs, chanting, speaking, instruments, and dancing, which are considered part of the cultural soundscape for the park unit. Other man-made noises from vehicles, aircraft, or people are not considered part of the cultural soundscape.

The proposed interim site management plan includes the development or construction of facilities, which may adversely affect the cultural soundscape to a minor degree; however, construction produced sounds are temporary in nature and would disappear after construction is completed. Visitors to the newly open

park unit would introduce long-term man-made sounds, but for the interim, until park visitation substantially increases, this is expected to have a negligible to minor impact on the cultural or natural soundscapes. Because the impacts to the cultural soundscape is minor or less, this topic has been dismissed from further analysis.

Lightscape Management

In accordance with National Park Service *Management Policies*, the National Park Service will preserve, to the greatest extent possible, the natural lightscapes of parks, which are natural resources and values that exist in the absence of human-caused light (NPS 2006a). Improper outdoor lighting can impede the view and visitor enjoyment of a natural dark night sky. Recognizing the roles that light and dark periods and darkness play in natural resource processes and the evolution of species, the Service will protect natural darkness and other components of the natural lightscape in parks.

To prevent the loss of dark conditions and of natural night skies, the National Park Service will 1) restrict the use of artificial lighting in parks to those areas where security, basic human safety, and specific cultural resource requirements must be met; 2) use minimal-impact lighting techniques; and 3) shield the use of artificial lighting where necessary to prevent the disruption of the night sky, natural cave processes, physiological processes of living organisms, and similar natural processes.

Sand Creek Massacre National Historic Site has very few or no sources of artificial light. The buildings and structures that currently exist on-site, namely in the former Dawson Ranch complex, do not have exterior artificial lighting. The only source of artificial light that may be generated at the park unit would be from vehicle headlights and possibly tribal ceremonies (fire, flashlights). These are intermittent, non-constant sources of artificial light. For the interim plan, Sand Creek Massacre National Historic Site would strive to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. In all likelihood, the only exterior artificial lighting needed would be around the temporary modular park support services facility in the Dawson Ranch area. The Historic Site would ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky. Because only minimal exterior lighting (possibly none) is proposed for this project, no impacts to the lightscape are expected; therefore, this topic has been dismissed from further consideration.

Socioeconomics

Sand Creek Massacre National Historic Site is situated in Kiowa County, approximately a 45-minute drive from the town of Eads, Colorado. Kiowa County was formed from Bent County in 1889. The creation of the county followed construction of the Pueblo and State Line Railroad through the area in 1887. The railroad encouraged settlement and a number of small communities were formed along the route. The area's peak of development occurred in the 1910s and 1920s, and the county's maximum population was reported in 1930. The area was hit hard by the Depression and Dust Bowl conditions of the 1930s and lost population in subsequent census years. Today, most of the towns in Kiowa County situated near Sand Creek National Historic Site, such as Eads, are small communities.

Following is a discussion of the socioeconomic environment as it related to the proposed interim site management plan. The topics below include land use, employment and housing, visitor and construction workforce expenditures, the need for services, transportation, and local partnerships and agreements. In general, the proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies.

- **Land Use** – The proposed interim site management plan calls for some additional lands to be acquired. If new lands are acquired, they be managed by the National Park Service in perpetuity, and the use of the land would change to be managed in accordance with the legislation created for the establishment of the Historic Site in 2000 (NPS 2000a). Any lands acquired would be subject to the guidance in this interim site management plan. More information regarding land use can be found under *Indian Trust Resources*.

- **Employment and Housing** – The proposed interim site management plan could allow for, but does not propose any additional employees. The number of Historic Site staff would likely remain the same, which is currently four permanent staff. Some volunteers may assist at Sand Creek Massacre National Historic Site during the interim phase, before a General Management Plan is developed. Without obtaining additional staff, there would not be a measurable need for new housing in Kiowa County.
- **Visitor and Construction Workforce Expenditures** – Opening Sand Creek Massacre National Historic Site would provide an addition recreational opportunity to visitors in Kiowa County and may increase visitor expenditures in the nearby town of Eads and in Kiowa County. The *Special Resource Study* conducted for establishing Sand Creek Massacre National Historic Site calculated visitation and expenditure projections for the future opening of the Historic Site to the public. The average daily expenditure of visitors to the Sand Creek Massacre area is estimated at \$120.59 (NPS 2000b). This estimate is based on the expenditure at other National Park System units in Colorado, such as Bent's Old Fort National Historic Site. Today, this number may be slightly elevated due to inflation.

In terms of construction workforces, implementation of the proposed interim site management plan could also provide a negligible beneficial impact to the economies of nearby Eads and in Kiowa County. This expenditure would result from minimal increases in revenues for local businesses generated from construction workforces needing services such as hotels, food, and goods. Any increase in workforce revenue, however, would be temporary and negligible, lasting only as long as the construction activities occur.

- **Need for Services** – Kiowa County has limited services for visitors. The widest range of businesses is located in Eads, which features a motel, restaurants, gasoline stations, a grocery store, a lumber and hardware store, churches, and a newspaper (the *Kiowa County Press*). The Weisbrod Memorial Hospital and Nursing Home in Eads can accommodate 8 patients and 34 residents. Sheridan Lake has one restaurant. A visitors' information center on U.S. 287 was recently completed in Eads, with parking, restrooms, and a visitor information board. The interim site management plan would only install basic visitor services at the Historic Site such as running water and toilets. There would be no on-site housing for overnight stays, food, or goods available at the site during the interim. Visitors would likely be encouraged to visit the local towns for these types of services, which may negligibly increase local revenues. The interim site management plan proposes the installation of utilities to Sand Creek Massacre National Historic Site, which would provide revenues for local and/or state utility providers.
- **Local Partnerships and Agreements** – The National Park Service has agreements with the local community to provide law enforcement services and fire suppression to Sand Creek Massacre National Historic Site. The conditions of these agreements would not change under the interim site management plan. The National Park Service also leases offices in Eads for its permanent employees of Sand Creek Massacre National Historic Site, and these offices currently serve as a temporary headquarters and visitor contact station. The National Park Service is currently looking into where a new headquarters facility should be located, and when that location is found, the lease for the current office space may be relinquished. The National Park Service is currently investigating a cooperative agreement with the county to occupy space in a downtown historic building to serve as a headquarters sometime in the future; however, more information about this endeavor is not available at the time of this writing. The National Park Service would uphold all current agreements and maintain local and state partnerships throughout implementation of the proposed interim site management plan.
- **Transportation** – Increased visitation to Sand Creek Massacre National Historic Site would result in the increased use of local roads, particularly the two-lane paved county roads that run adjacent to the Historic Site, County Road W and County Road 54. This increased traffic may put some minor wear and tear on the roads, and may temporarily slow traffic in the area of the Historic site, but the change from the existing use would likely not be measurable.

The proposed interim site management plan would have negligible impacts to the socioeconomic environment; therefore, this topic has been dismissed from further consideration.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981 (PL 97-98), as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service, and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. In order for farmland to be considered prime or unique, it must be irrigated and currently functioning as farmland.

According to Natural Resources Conservation Service, none of the soils in the project area are classified as prime and unique farmlands (NPS 2000b). The property from which Sand Creek Massacre National Historic Site was established once existed as ranching land; however, it no longer functions in that capacity. Along the east side of Big Sandy Creek, there are soils that have high potential as dry cropland and would also be considered "prime" if they were irrigated; however, no irrigation is planned for this area. The land in remainder of the Historic Site is not currently irrigated and is not farmed, therefore, it is not considered prime or unique farmland. Therefore, the topic of prime and unique farmlands has been dismissed from further consideration.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

Recent tribal trust legislation, sponsored by Senator Wayne Allard and Representative Marilyn Musgrave, was signed by the President on August 2, 2005. This legislation, *Sand Creek Massacre National Historic Site Trust Act of 2005* (P.L. 109-45), authorizes the transfer, in trust, of 1465 acres within the site's authorized boundaries from the Southern Cheyenne and Arapaho Tribes of Oklahoma to the National Park Service (NPS 2005b). On September 9, 2006, Darrell Flyingman, Governor of the Southern Cheyenne and Arapaho Tribes of Oklahoma signed legislation conveying, as trust, 1465 acres of land at Sand Creek from the Southern Cheyenne and Arapaho Tribes to the United States of America. This conveyance, unanimously approved by Tribal Legislators, will enable the establishment of the Sand Creek Massacre National Historic Site.

When Sand Creek National Historic Site opens to the public in April 2007, it will initially include about 2,400 acres, with about 920 acres owned by the National Park Service. The remaining land within the authorized site is in private, state, or tribal ownership. The tribes will incorporate this land into the National Historic Site as Tribal Trust land. This Trust Land within the Sand Creek Massacre National Historic Site means that the Southern Cheyenne and Arapaho Tribes of Oklahoma remain the "beneficial owners" of the land, but the United States is charged with the responsibility of managing the land for the cultural, historical, and traditional benefit of the tribes. Unlike trust lands within tribal reservations, the trust land within Sand Creek Massacre National Historic Site is specifically to be managed according to laws governing national parks, and does not include commercial development.

The tribal trust legislation states that the trust property shall be administered in perpetuity by the Secretary of the Interior as part of the Sand Creek Massacre National Historic Site, only for historical, traditional, cultural, and other uses in accordance with the Sand Creek Massacre National Historic Site Establishment Act of 2000. Further, the National Park Service may construct a facility on the trust

property only after consulting with, soliciting advice from, and obtaining the agreement of, the Tribe, the Northern Cheyenne Tribe, and the Northern Arapaho Tribe. Facilities constructed with Federal funds or funds donated to the United States shall be owned in fee by the United States. For the purposes of the construction, maintenance, or demolition of improvements or facilities, federal funds shall be expended only on improvements or facilities that are owned in fee by the United States (NPS 2005b).

In addition to the coordination required under *Sand Creek Massacre National Historic Site Trust Act of 2005* which established tribal trust lands, the National Park Service has established some cooperative agreements with the Cheyenne and Arapahoe tribes including:

- Memorandum of Understanding between the National Park Service and the Cheyenne and Arapaho Tribes of Oklahoma regarding responsibility and actions necessary to move toward the United States accepting Tribally-owned real property in Trust for the benefit of the Tribes as part of the Sand Creek Massacre National Historic Site.
- Agreement in Principle between the National Park Service and the Cheyenne and Arapaho Tribes of Oklahoma regarding the management of Trust property by the National Park Service at the Sand Creek Massacre National Historic Site.

The proposed interim site management plan is being conducted in consultation with the Cheyenne and Arapahoe tribes. They have been involved throughout the planning for the interim plan, and the National Park Service will continue to coordinate with the tribes throughout implementation of the plan. None of the actions proposed in the interim site management plan would go against the legislation put forth *Sand Creek Massacre National Historic Site Trust Act of 2005*, and lands held in perpetuity for the trust would remain as such. Furthermore, the cooperative agreements with the tribes would be upheld throughout planning and implementing the interim site management plan; therefore, the project would have no effects on Indian trust resources, and this topic has been dismissed from further consideration.

Sacred Sites

The National Park Service acknowledges that American Indian tribes, including Native Alaskans, treat specific places containing certain natural and cultural resources as sacred places having established religious meaning and as locales of private ceremonial activities. Consistent with Executive Order 13007 (Indian Sacred Sites), the Service will, to the extent practicable, accommodate access to and ceremonial use of Indian sacred sites by religious practitioners from recognized American Indian tribes and Alaska Natives, and avoid adversely affecting the physical integrity of such sacred sites (NPS 2006a).

In consultation with the appropriate groups, the National Park Service will develop a record about such places, and identify any treatments preferred by the groups. This information will alert superintendents and planners to the potential presence of sensitive areas and will be kept confidential to the extent permitted by law. The National Park Service will collaborate with affected groups to prepare mutually agreeable strategies for providing access to ordinarily gated or otherwise inaccessible locales, and for enhancing the likelihood of privacy during religious ceremonies. Any strategies that are developed must comply with constitutional and other legal requirements. To the extent feasible and allowable by law, accommodations will also be made for access to and the use of sacred places when interest is expressed by other traditionally associated peoples (especially Native Hawaiians and other Pacific islanders) and by American Indian peoples and others who often have a long-standing connection and identity with a particular park or resource (NPS 2006a).

Sand Creek Massacre National Historic Site is considered a sacred site to Cheyenne and Arapahoe tribes. Per the park enabling legislation, these tribes are permitted access to the Historic Site along with permission to conduct ceremonies and related tribal activities. These uses would continue under the interim site management plan along with consultation and coordination with tribes; therefore, no impacts to sacred sites in terms of ceremonial use or accommodation are expected. Please also see Ethnographic Resources for more information related to features of tribal interest and tribal use.

Environmental Justice

Executive Order 12898 *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because the activities proposed in the interim site management plan would be for use by all people regardless of race or income, and the construction workforces would not be hired based on their race or income, the proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities. Native American use of the site is permitted under the establishing legislation of the park, and would be considered beneficial use of the Historic Site. Therefore, environmental justice has been dismissed from further consideration.

Oil, Gas, and Other Subsurface Minerals

The Historic Site sits along the center of the northeast-southwest trending axis of the Las Animas Arch 38. Gas production is from the Lower Pennsylvanian fluvial (deposited by water) sands of the Morrow Group. There is also hydrocarbon production more distant from the site from Mid Pennsylvanian Cherokee group marine sands. Gas was discovered approximately 20 km southwest of the Historic Site in 1952 in the Morrow Group in the McClave Field. An additional 19 gas wells were developed in the Morrow Group in Kiowa and surrounding counties through the mid 1970s. Oil bearing reservoirs were discovered close to the site along the Las Animas Arch in 1964. Most of the activity near the site has been to the northwest, northeast and east.

Gas produced in the area has an unusually high percentage of Helium gas (as high as 3% compared to most other gas holding less than 1.5%). Helium is being produced and marketed from a refinery northeast of the site in Cheyenne Wells. Most of the drilling near the site has not encountered oil or gas. Some additional drilling for gas may occur near the site, but discoveries to date would not indicate high hydrocarbon potential. There are no known mineral extraction operations in the vicinity of the Historic Site other than several oil/gas wells. Subsurface mineral rights in the Historic Site are currently held by individual landowners. The current and future owners/ lessees of the subsurface mineral rights may develop these rights on the Historic Site (NPS 2000b).

The proposed interim site management plan does not address development or extraction of any oil, gas, or minerals by private owners or lessees. If owner or lessees proposed development during the interim, separate compliance under the National Environmental Policy Act would be required. Therefore, because this proposed plan would not affect potential development of oil, gas, and minerals, this topic is dismissed from further consideration.

ALTERNATIVES CONSIDERED

During September of 2006, an interdisciplinary team of National Park Service employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need*, and a list of alternatives that could potentially meet these objectives. A variety of action alternatives, or components thereof, and the no action alternative were originally identified for this project. Of these, most of the action alternatives were dismissed from further consideration for various reasons, as described later in this chapter. One action alternative and the no action alternative are carried forward for further evaluation in this Environmental Assessment. A summary table comparing alternative components is presented at the end of this chapter, as well as a summary of environmental impacts.

Alternatives Carried Forward

Alternative A – No Action (No Interim Site Management Plan)

Under this alternative, no interim site management plan would be developed for Sand Creek Massacre National Historic Site. Should the No-Action Alternative be selected, the National Park Service would continue to manage the Historic Site similar how it is currently managed.

Any action that would need to occur prior to the development of a more comprehensive General Management Plan, would be analyzed on a case-by-case basis in accordance with applicable laws, regulations, and policies. This would include conducting the appropriate level of compliance under the National Environmental Policy Act, the National Historic Preservation Act, and other applicable laws for these individual actions separately.

This alternative presents a snapshot of current conditions and actions related to: 1) public access (visitor experience and interpretation), 2) National Park Service management, and 3) tribal use. The first paragraph under each of the numbers below presents how this alternative is the same as under Alternative B, while the paragraph that follows presents how this alternative differs from the proposed interim site management plan.

1. **Public Access (Visitor Experience and Interpretation)** – According to the Secretary of the Interior, Sand Creek Massacre National Historic Site will be open to the public beginning in April 2007. A grand opening event would still occur in April 2007. This is the same as under Alternative B.

While the site would technically be open to the public, a full range of visitor opportunities would not be provided. Interpretation would be minimal, and likely consist of brochures or handouts only. Visitation or access to the park unit would be limited, whereby the public would be required to make arrangements ahead of time to visit the Historic Site. Under this alternative, no infrastructure would be installed or constructed such as visitor contact facilities, hiking trails, signs/ kiosks/ exhibits, roadway improvements, formalized parking, or utilities such as sewer. An overlook on state land would not be considered. Services, such as guided tours, would be limited to what the staff could provide on an as-needed basis.

2. **National Park Service Management** – The National Park Service would uphold its current agreements with Kiowa County to provide law enforcement and fire suppression services to Sand Creek Massacre National Historic Site. This is the same as for Alternative B.

The National Park Service would maintain its lease for the building in Eads, and staff offices would remain in this building. No temporary modular park support services building would be constructed on-site for staff or volunteers. Roads or parking areas would not be improved, and utilities would not be installed. Existing buildings, specifically the former Dawson Ranch structures, would not be re-used for management purposes such as storage in the interim. The no action alternative does not

include the possibility of acquiring additional lands or fencing modifications. Because there would not be permanent on-site management, maintenance of the site would be minimal.

3. **Tribal Use** – Tribes would continue to have access to the park unit, as required per the establishing legislation. This includes use of the site by tribes for traditional cultural and historical observance. “Healing runs” would also continue as they presently do. This is the same as under alternative B.

The 1950s stone marker would remain intact, and a new monument would not be established. A cemetery, or repatriation site, would not be designated or constructed. A building would not be established for tribal storage.

Alternative B – Interim Site Management Plan

This alternative consists of developing and implementing an interim site management plan which proposes activities to be conducted and facilities to be constructed until a more comprehensive General Management Plan could be completed. This interim plan would remain in effect until the general management planning process is completed which is expected to be about three to four years, and possibly more.

Actions in the interim site management plan are intended to be temporary in nature and fully reversible. That way, actions or facilities implemented or constructed under the interim site management plan could be reversed if the future General Management Plan calls for something different and to provide maximum opportunities to the future general management planning process. In general, the interim plan would favor resource protection in lieu of visitor experience to ensure significant park resources are preserved for future planning opportunities.

Activities considered under this interim site management plan are those necessary and appropriate to facilitate the functioning of the park unit during the interim period. Facility construction and infrastructure improvements of any kind are meant to be kept to a minimum to support the park staff and public visitation, as needed.

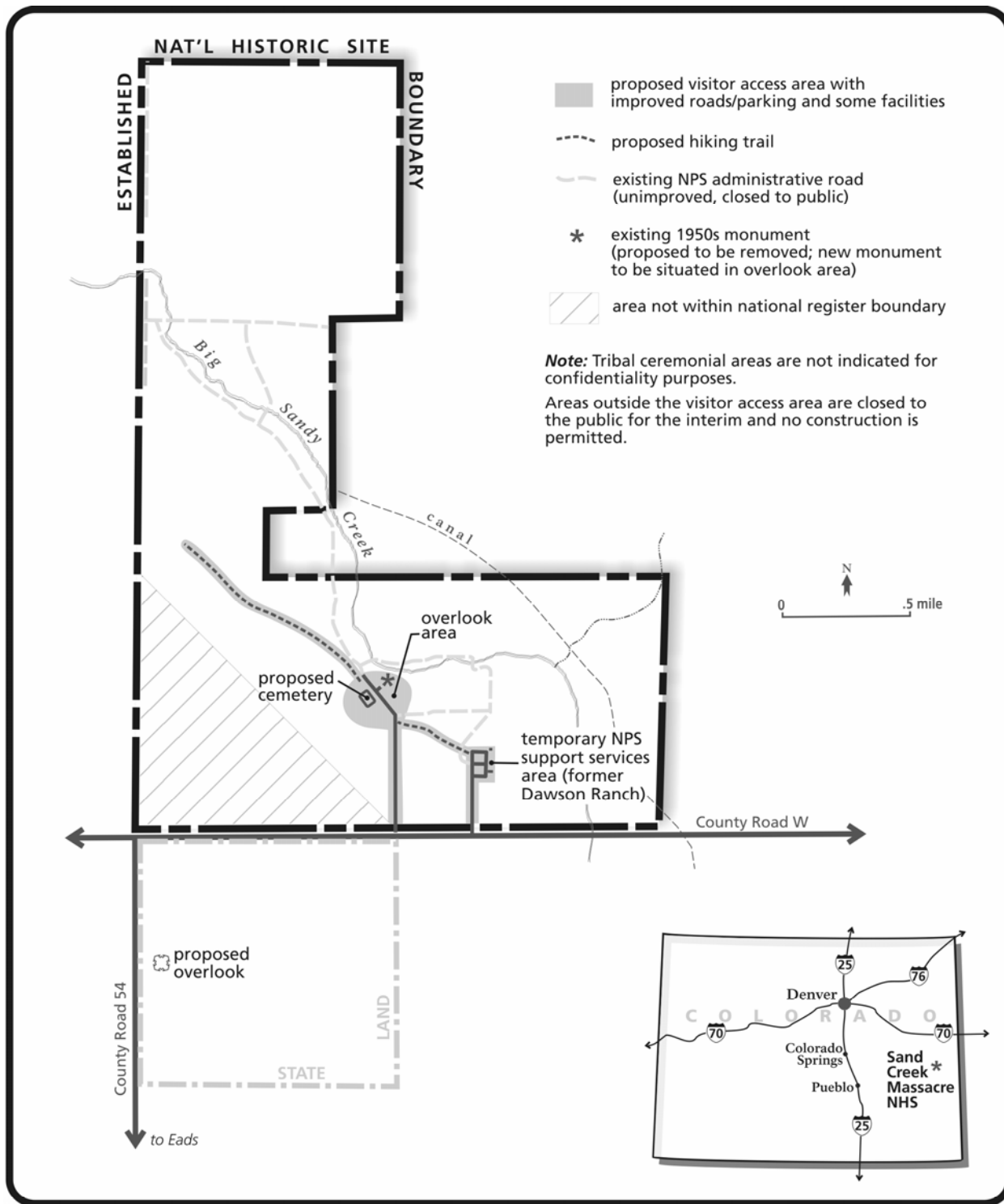
In accordance with National Park Service *Management Policies*, all practicable efforts would be made to make facilities, programs, services, employment, and meaningful work opportunities accessible and usable by all people, including those with disabilities. This policy reflects the commitment to provide access to the widest cross section of the public and ensure compliance with the Architectural Barriers Act of 1968, the Rehabilitation Act of 1973, the Equal Employment Opportunity Act of 1972, and the Americans with Disabilities Act of 1990.

The majority of development-related activities within this plan would occur in three distinct areas: 1) in the former Dawson Ranch area, 2) near the overlook that contains the existing 1950s stone monument, and 3) along the former ranch roads, as shown in Figure 1. Generally, these areas have been previously disturbed by past activities.

As described below, the interim site management plan proposes development and actions related to 1) public access (visitor experience and interpretation), 2) National Park Service management, and 3) tribal use:

1. **Public Access (Visitor Experience and Interpretation)** – According to the Secretary of the Interior, Sand Creek Massacre National Historic Site will be open to the public beginning in April 2007. The interim plan shall address the general concepts for visitor experience and interpretation. It shall also address the opening dedication event; what type of public access shall be permitted in the interim; and the types of visitor facilities needed. Generally, visitor experience-related opportunities should progress from conservatively restrictive to more liberal as time and planning progress because problems may result for park managers if they are required to implement new restrictions on activities/ opportunities previously available.

Figure 1 – Interim Site Management Plan (Alternative B)



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Figure 1, Alternative B
Interim Site Management Plan
Sand Creek Massacre National Historic Site
 Kiowa County, Colorado

- Visitor Experience – Until a full range of visitor experience opportunities is evaluated with public involvement during the general management planning process, visitor experience opportunities for the interim plan are based on some existing guidance, namely the *Special Resource Study* (NPS 2000b). Based on this initial planning effort, visitors under the interim site management plan would have opportunities for:
 - A cross-cultural and spiritual experience;
 - Understanding of the relationships of present-day tribal people, especially Sand Creek descendants, to the massacre site;
 - Interacting with descendants of Sand Creek Indian victims or survivors;
 - Access to tribal oral histories of the Sand Creek Massacre –for appreciation and understanding by non-Indians, and for remembrance by tribal youth;
 - A physical connection with the massacre site’s natural setting;
 - Interpretive and educational programs, both on and off site, which reach all age levels and cultural backgrounds;
 - Solitude and contemplation at the massacre site.
- Interpretation – Similarly, until a broad discussion takes place during public involvement regarding interpretation during the general management planning process and subsequent comprehensive interpretive plan, basic guidance for interpretation under the interim site management plan is based on the *Special Resource Study* (NPS 2000b). Per this planning effort, interpretation and learning about the Sand Creek Massacre National Historic Site under the interim site management plan would focus on four primary stories:
 - Significance of the Sand Creek Massacre event and site;
 - Remembrance of the victims of the Sand Creek Massacre;
 - Present-day living culture of the tribes associated with the Sand Creek Massacre;
 - Historical and cultural context of the Sand Creek Massacre.
- Grand Opening Event – A grand opening celebration is planned for April 28, 2007 which shall include various activities for the public including a dedication ceremony and tours of the site.
- Nature of Public Access – Sand Creek Massacre National Historic Site will be open to the public beginning in April 2007. Public access would be permitted in the area of the existing 1950s stone monument and in the former Dawson Ranch area (new temporary park support services area). The 1950s stone monument is proposed to be removed under this alternative, as explained later under *Tribal Use*. Access to these visitor use areas would be permitted via the existing dirt roads, as indicated in Figure 1. Public access away from these areas, such as off-road or in the “backcountry” would not be permitted.

Immediately following the grand opening celebration in April 2007, public access into the park unit would be limited until on-site facilities and management are established. During this time, the public may access the site by appointment only through phone reservations. Once the site contains the appropriate infrastructure for visitor use and on-site staffing, the park unit would be open during scheduled hours for general public access. The gates at both entrances would remain open during the park unit’s hours of operation, and park staff would lock these gates after these hours of operation. Scheduled hours of operation would be determined adaptively as interim operations begin.

Once the park unit is open during its scheduled hours of operation, the public would be encouraged to enter the park unit via the east access road, and head to the former Dawson Ranch area (new temporary park support services building). Here, they could make contact with the park staff and gather information about their visit. Visitors would then be encouraged to visit the area of the overlook with the existing 1950s stone monument either by foot along the pedestrian trail (see below for more information on this trail) or by vehicle by returning to County Road W and then driving up the western access road. The roads in the park unit are currently one-way, dirt roads, and this public flow structure would require some pullouts as described below under *Roads and Parking*.

During the interim, public access and construction would be limited to the park support services area, the overlook area, the hiking trails, and the access roads (Figure 1). The remainder of the park would be closed to public access and construction activities to help preserve the natural and cultural and natural resources in this area until further study is completed under the General Management Plan.

During the interim, public access would mostly be self-sufficient, meaning that visitors would be unguided for the most part; however, some guided tours may be available depending on appropriate levels of staffing and infrastructure. The availability of guided tours, if any, during the interim would be determined adaptively as interim operations begin. No fees would be collected from visitors to the park unit; however a donation box may be established. Also, there would be no concessions in the interim and visitors would not be permitted to stay in the park unit overnight.

- Temporary Buildings and Structures – A temporary modular facility (park support services building) would be situated in the former Dawson Ranch area (as described below under *National Park Service Management*), which would also serve as an interim visitor contact station. Likely, the modular facility would contain employee offices and have a front desk or small lobby suitable for visitor contact. When the park unit is open during its scheduled hours of operation, a park employee would be available to speak with visitors and provide them information about their visit. A permanent visitor contact station or visitor center would not be constructed under this interim management plan; however, toilets and other utilities such as water supplies, would be installed where necessary to accommodate visitor use. These temporary buildings and structures would be confined to the visitor access areas, as depicted on Figure 1. Further, more permanent installations such as water supplies and septic systems would be confined to the Dawson Ranch Area. Possible toilets in other visitor access areas would be self-contained and easily moved. Trash receptacles would also be placed, where needed. In addition, a flag pole would be erected.
- Trails – Two pedestrian trails are proposed under the interim site management plan. One pedestrian trail would be established leading from the former Dawson Ranch (temporary new park support services area) to the hill where the existing 1950s monument and overlook are situated. Establishment of this trail would include cutting back vegetation, and possibly minor topographical adjustments or earth-moving. Eventually, this trail would be stabilized to accommodate handicapped access. The purpose of this trail would be to connect the park support services area by foot with the massacre site to prevent other social trails from developing. A second trail would be established, approximately $\frac{3}{4}$ mile in length, along the bluff which is roughly the 4,000-foot contour line. The purpose of this trail is to provide additional visitor opportunity to view the massacre site and to access the military overlook. This trail would require mostly vegetation clearing, with little or no ground disturbance. For the interim, this trail would probably not be stabilized for handicapped access. See Figure 1 for the approximate configurations of both of these trails.
- Information, Signs, Kiosks, and Exhibits – Due to the limited staff size and current location of National Park Service administrative office in Eads, Colorado (more than 20 miles from site), providing information to visitors is important, yet challenging. Until National Park Service staff are

present at the site on a more permanent basis, information should be available to visitors prior to their visit. The following were identified as information requirements National Park Service should provide once the park is open to the public:

- Website would be updated regularly to provide information to the public regarding park resources, visitor opportunities, and limitations in a cost-effective manner.
- Brochures would be printed to provide information the public to educate themselves regarding park location; directions to and from proximate highways; natural and cultural resources at the site; cultural understanding of the site and the sacred nature of areas within the park; and restrictions related to park visits.
- Park Entrance Sign: A new park entrance sign would be installed, likely at the east access road where visitors would be encouraged to enter the park unit. The entrance signs would be distinctively designed to reflect the character of the park while meeting National Park Service standards for consistency.
- Wayfinding Signs - Road signs along both internal park roads and nearby roads and highways to direct visitors to the site and back to the proximate highways plus any visitor control signs required for access and use within park boundaries. For instance, signs along roadways would indicate appropriate vehicle speeds and direct visitors to services/ interpretation sites within the park unit.
- Interpretive Signs, Kiosks, and/or Exhibits would be installed so visitors would orient themselves and understand what they are seeing, its natural and cultural significance, and the sacred nature of the site.
- Regulatory Signs would be installed to improve visitor safety, protect resources, and reduce National Park Service operating costs (e.g. No Firearms, No Alcohol, No Fires, No Littering, Boundary Markers).

The exact number or design of signs, kiosks, and exhibits has not yet been determined, but for the interim, they would be appropriate and necessary, while conveying park image and minimally intruding upon the natural and historic setting.

- Overlook – The National Park Service would work with the State of Colorado to lease or purchase a small portion, about 640 acres, of state-owned land (Figure 1). This land is outside the National Register boundary of the massacre site, but is important for its viewshed onto the massacre site. This land would extend the boundary of the park unit, on which the National Park Service would propose to develop a pull-out and overlook with a kiosk or wayside exhibit (Figure 1). This overlook would be located on a high point along the country road that offers a sweeping, distant view of the entire Sand Creek Massacre National Historic Site. Also, if this state land were acquired, the existing electrical line that runs along eastern boundary would be routed underground.
- Roads and Parking – Currently, Sand Creek Massacre National Historic Site has two, unimproved, dirt roads leading into the park unit from County Road W. Both roads are single-lane, two-track dirt roads, and provide the only vehicular access into the park. The easternmost road leads to the former Dawson Ranch site, while the westernmost access leads to the existing 1950s monument and overlook. There are two connector roads between these, and the southernmost one provides a more direct link between the Dawson Ranch and the overlook. Both east and west access roads would be improved with grading, contouring, and possibly surfacing. For the interim, these roads would not appreciably be expanded and would remain single-lane roads, with pullouts and shoulders as necessary to facilitate traffic flow and safety. The two connector roads between the Dawson Ranch area and the overlook area would not be improved under this interim site management plan, as shown in Figure 1. Any improvements to

park roads would be well constructed, sensitive to natural and cultural resources, reflect the highest principles of park design, and enhance the visitor experience. Full general management planning will explore the need for additional road improvements, expansion, reorientation, and/or supplemental means of travel.

With two primary areas of interest in the park unit, the Dawson Ranch area and the overlook with the 1950s monument, parking has occurred rather haphazardly to now with cars pulling off to the sides or end of the roads or, in the case of the Dawson Ranch, in any disturbed area. Under this plan, parking would be formalized in these two areas. Formalizing parking would include contouring and grading designated areas for vehicles to park, and, as appropriate, surfacing. Parking areas would be limited to the smallest size appropriate, and they would be designed to harmoniously accommodate motor vehicles and other appropriate users. Current thought is that each of these parking areas should accommodate approximately 20 vehicles.

- **Utilities** – Sand Creek Massacre National Historic Site currently has some utilities running to the Dawson Ranch area but none in the 1950s stone marker overlook area. Therefore, utilities would be installed or extended in these areas, as deemed necessary and appropriate. Utilities include, but are not limited to telephone service, broadband internet service, fuel, natural gas, disposal of wastewater and solid waste, communication systems, and water supply. New permanent utility installations would be limited to the Dawson Ranch area, while some non-permanent utilities, such as movable toilets, would be situated in the overlook area. An electrical line was run to the Dawson Ranch area of the park unit in 2006, and offshoots of that may be required to run to various facilities. This is the same for water and telephone lines. Utilities, for the most part, would be installed below ground to help preserve natural and cultural resources, which would require ground disturbance. If additional properties are acquired (see below under *Boundary Changes and Fencing*), existing above ground utilities (for example electric lines) would be placed underground.
 - **Electrical power:** Electrical power service lateral exists to the metal building. A transformer and meter would be required. An electrical line was installed near the easternmost ranch road to the Dawson Ranch area in 2006.
 - **Telephone:** A telephone cable exists to the metal building. Routing would be needed to specific buildings. Approximately seven existing telephone poles would be removed.
 - **Water and Sewer:** Although water wells exist on the property, they are not considered suitable to develop for park water supply. Planning for a new water well and treatment system is underway. The Eads water supply well may be considered as a source of water. Although using this water source would require considerable length of supply piping between the city's well and the park, if ranch operators located between the well and the park can use the system to deliver water and eliminate livestock from wetland areas, a grant based on riparian system improvement might be possible to offset the cost of the pipe system. The city water source produces untreated groundwater which would need to be treated at the park prior to use as potable water. In addition, some monitoring wells were installed in 2006 to monitor Big Sandy Creek. Vault or septic disposal would be needed.
 - **Internet:** The park unit would need a broadband internet system.
 - **Propane:** Heating fuel would likely be provided by using gas delivered to a tank in the park (propane). Supply lines would be needed to the various facilities on-site.
 - **Sewer:** A leach field and sewer lines would be needed.

2. **National Park Service Management** – Currently, there are no employees situated on-site because there are no facilities (offices) to accommodate staff. With the park unit officially opening to the public in April 2007, on-site management by park staff is an increasing necessity. The projected staff size

for the interim period is at least four permanent employees (superintendent, chief ranger [non law-enforcement], administrative technician, and interpretive ranger), plus possible seasonals and volunteers. As temporary buildings and structures are placed in the park unit, and employees are moved on-site, there would be an increased need for on-site management including maintenance.

- Temporary Buildings and Structures – In order to maintain a presence at the park unit during the interim for purposes of park visitation, security, and maintenance, the park staff would need a facility of some sort for offices and visitor contact. A new park support services building would be constructed with approximately 1,000 square feet of floor space. The precise size is yet to be determined, but for the interim, a temporary modular building would be erected to provide offices for roughly four employees and a lobby for visitor contact. The temporary modular building would be placed in the disturbed area of the former Dawson Ranch, in a manner that could be reversed. By default, the Dawson Ranch area would become the park support services area during the interim, serving as the central location for park staff and visitor contact. To construct the park support services building, the ground would need to be leveled, and prepared for the installation of foundation systems for the temporary structure. Foundation systems would be removable. Necessary utilities, as described previously, would be installed in the new park support area area.

Currently, office space in downtown Eads is being leased for Historic Site employees. During the interim, the lease for this space would be gradually relinquished, and some staff would eventually be relocated on-site. Some presence may be retained in Eads, the extent of which is yet to be determined. The interim site management plan does not include the construction of accommodations for employee housing; however, it is possible that if the metal building is properly furnished, it could be used to accommodate occasional overnight stays.

- Re-use of Existing Buildings – The former Dawson Ranch area includes some existing buildings and structures, which may be reused for other purposes during the interim. These buildings and structures include a roughly 3,000-square-foot metal building, a barn, and horse corrals. Re-use of these buildings, without major modification to the structures, is included in this interim site management plan. For example, the metal building may be used for maintenance equipment and storage.
 - Boundary Changes and Fencing – Sand Creek Massacre National Historic Site is in the process of trying to acquire additional lands; therefore, the interim plan would accommodate this effort. If additional properties are acquired, the boundary fencing would be modified accordingly with gates as needed for fire access and law enforcement. See also *Overlook* above.
 - Law Enforcement – Currently, Sand Creek Massacre National Historic Site has a contract with the Kiowa County Sheriff's Office to provide law enforcement services for the park unit. This agreement would remain in place during the interim. No law enforcement personnel would be retained for Sand Creek Massacre National Historic Site during the interim.
 - Fire Management – Currently, Sand Creek Massacre National Historic Site has a Cooperative Agreement with the Kiowa County Search and Rescue to establish the terms and conditions under which the parties will provide mutual assistance in wildland and structural fire suppression through the sharing of resources. Fire management activities during the interim would remain in accordance with this agreement, and with the provisions in the Historic Site's Fire Management Plan (NPS 2005c).
 - Maintenance – Maintenance activities would be conducted by Historic Site staff including upkeep of on-site facilities, landscapes, roads, trails, signage, fencing, etc.
3. **Tribal Use** including general access, ceremonies, and storage of materials related to tribal uses would be permitted in accordance with the establishing legislation for Sand Creek Massacre National Historic Site. Tribes for which these activities are permitted include the Northern

Cheyenne, Northern Arapaho, and the Cheyenne and Arapaho Tribes of Oklahoma. Other tribal activities for the interim include the replacement of the 1950s stone monument and a cemetery for repatriation purposes only. Much of the following information for developing this portion of the interim plan was obtained through tribal consultation, especially during the internal scoping meeting in September 2006 (NPS 2006c). In exercising any authority under this section, the National Park Service shall consult with, and solicit advice and recommendations from, descendants and the tribes.

- Access – The park’s establishing legislation requires the National Park Service to allow reasonable rights of access to members of a tribe (the Cheyenne and Arapaho tribes of Oklahoma, the Northern Cheyenne tribe, or the Northern Arapaho tribe) whose ancestor was affected by the Sand Creek Massacre and states any reasonable need of a descendant shall be considered in park planning and operations, especially with respect to commemorative activities in designated areas within the site. Access shall be granted to anywhere within the boundaries of Sand Creek Massacre National Historic Site, and the National Park Service shall not charge any fees for this type of access. The legislation also requires National Park Service to consult with, and solicit advice and recommendations from the state of Colorado, descendants, and the tribes. Tribal representatives at the internal scoping meeting indicated the entire Sand Creek drainage area within the current park boundary should be considered as sacred ground and restricted from access by the general public (NPS 2006c). Construction activities and visitor use would be restricted from this area.
- Replacement of 1950s Monument – The park unit’s authorizing legislation stipulates commemorative needs for tribes whereby any reasonable need of a descendant shall be considered in park planning and operations, especially with respect to commemorative activities in designated areas within the site (NPS 2000a). Under this interim plan, the existing 1950s stone monument would be permanently removed from its current location on the hill. It would be carefully extracted so as to retain its integrity and it would be kept in park collections, or perhaps in an area for visitor interpretation.

A new monument would be developed and installed, likely near the overlook where the existing monument is situated. The exact location and design for the new monument has yet to be determined, but will be done so in consultation with the tribes. The size of the new monument should not exceed a base of 10-feet and a height of 7-feet, and should blend in massing, materials, and color with the surrounding landscape. This proposed monument would help memorialize and commemorate the Sand Creek Massacre of November 29, 1864. Offerings such as medicine bundles and prayer cloths from the tribes would be permitted at the base of the monument. This effort shall occur in consultation with the tribes.

- Cemetery (Repatriation Site) – According to the establishing legislation for the park unit, the National Park Service shall dedicate a portion of the federally acquired land within the site to the establishment and operation of a site at which certain items that are repatriated under the Native American Graves Protection and Repatriation Act (25 U.S.C. 300 et seq.) or any other provision of law may be interred, reinterred, preserved, or otherwise protected. These items are those associated with the Sand Creek Massacre, such as Native American human remains; associated funerary objects; unassociated funerary objects; sacred objects; and objects of cultural patrimony (NPS 2000a).

A cemetery would be established, measuring roughly three acres, in the overlook area, near the hill where the existing 1950s stone marker is situated. This cemetery would be used for reintering the remains of tribal ancestors who were part of the massacre. The tribes have been and are in the process of reaccessioning human remains and sacred objects from museums and other institutions in accordance with the National American Graves Protection and Repatriation Act (NAGPRA). This cemetery is to be used for reintering these remains, but not the remains of newly deceased tribal members. Reintering human remains and objects would require ground disturbance, namely the excavation of pits or holes. The cemetery would be demarcated with fencing, and the tribes have requested that it be interpreted for the public; however, public access

would not be permitted inside the cemetery. The size, massing, materials, and color of the fencing constructed around the cemetery would be designed to blend with the surrounding landscape.

- **Ceremonies** – The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance (NPS 2000a). In granting access, the National Park Service shall temporarily close to the general public one or more specific portions of the Historic Site in order to protect the privacy of tribal members engaging in a traditional, cultural, or historical observance in those portions; and any such closure shall be made in a manner that affects the smallest practicable area for the minimum period necessary for the purposes described above.

The tribes would be permitted access to the park unit for ceremonial purposes on an as-needed basis, in accordance with the establishing legislation of the park. The exact location of these ceremonies, the nature of these ceremonies, and when these ceremonies occur is dependent upon tribal requests. Upon tribal request, and in accordance with the establishing legislation, National Park Service staff would restrict use of or temporarily close certain areas for tribal use. Typically, the tribes prefer that these ceremonies be private and away from the public eye. Some ceremonies may also require the construction or placement of sweat lodges, tepees, and fires, which may involve some ground disturbing activities.

Any collections of park materials by the tribes for ceremonial purposes or otherwise, such as plants or wildlife, is not covered in this interim site management plan and would require separate compliance. With regard to consumptive use of park resources, current National Park Service policy allows superintendents to designate certain fruits, berries, nuts, or unoccupied seashells that may be gathered by hand for personal use or consumption if it will not adversely affect park wildlife, the reproductive potential of a plant species, or otherwise adversely affect park resources. The policies do not authorize the taking, use, or possession of fish, wildlife, or plants for ceremonial or religious purposes except where specifically authorized by federal statute or treaty rights or where hunting, trapping, or fishing are otherwise allowed (NPS 2006a).

- **Materials Storage** – The tribes have expressed a desire to store materials related to ceremonial or visitation purposes on-site at Sand Creek Massacre National Historic Site. Ideally, storage space would be a fully separate structure dedicated to tribal storage and not used for other park functions. To assist with accommodating this request, this interim site management plan would consider re-using an existing building, such as the metal outbuilding in the former Dawson Ranch area (new temporary park support services area), for this purpose. It is possible that the metal building, if furnished, could also be used to accommodate occasional overnight stays. Under this interim plan, a new building for tribal materials storage would not be constructed.
- **“Healing Runs”** – The tribes currently conduct “healing runs” or spiritual runs about twice a year starting at the park unit. These would be permitted to continue under the interim site management plan. These runs are typically for tribal members only, but could involve the public, as permitted by National Park Service and the tribes.

Timing

Implementation of the interim site management plan would occur in phases, as funding and labor become available. Ideally, basic visitor and management facilities would be established shortly after the grand opening of the site in April 2007, followed by the introduction of full-time staff on-site. Other components of this alternative would be implemented hopefully soon thereafter.

Construction Staging

To implement the construction portions of this alternative, previously disturbed areas would be used to the extent possible for construction staging, material stockpiling, portable restrooms, and equipment

storage. Staging would likely be situated away from visitor use areas as much as possible. The staging areas would be revegetated and recontoured to their previous manner following completion of construction activities.

Other Considerations

Implementation of the interim site management plan, including design and construction of facilities, would comply with National Park Service *Management Policies* (NPS 2006a). Any action not analyzed in this interim plan would require additional environmental compliance under the National Environmental Policy Act, the National Historic Preservation Act, among others. Sources of funding have not been identified.

This alternative is based on preliminary designs and the best information available at the time of this writing. Specific distances, areas, building sizes/types, and layouts used to describe the alternative are only estimates and could change during final site design and plan implementation. If changes during final site design are not consistent with the intent and effects of the selected alternative, then additional compliance would be completed, as appropriate.

Alternatives Considered and Dismissed

During the internal scoping meeting in September of 2006, three alternative concepts were initially identified for the interim strategy. One concept was to base all visitor services and National Park Service facilities in Eads to minimize investment and impacts to the Sand Creek Massacre National Historic Site. The second concept was to base visitor services and National Park Service facilities on the perimeter of the site (the southwest corner, which is outside of the National Register boundary), similarly to minimize investment in temporary facilities and impacts to the site. The third concept was to develop visitor contact and some National Park Service facilities at Sand Creek Massacre National Historic Site (not described below). While a preferred alternative was not identified at this scoping meeting, the third alternative concept has since been developed into the preferred alternative for the proposed interim site management plan. The other two concepts were dismissed for the following reasons. In addition, a few more alternatives, or pieces thereof, were analyzed since the internal scoping meeting, and have been subsequently dismissed as described below.

Alternative Concept 1: Eads Based

The concept of this alternative is that Eads would be the base of visitor services and National Park Service staff for the interim, thereby minimizing investment and infrastructure at the Sand Creek Massacre site prior to completion of the General Management Plan. A National Park Service facility would be developed or leased in Eads, Colorado. It would include a visitor contact lobby, some interpretive media, public restrooms, staff offices for full-time employees, workspace for partners and volunteers, and nearby parking.

In this alternative, most contact between the National Park Service and visitors would generally occur in Eads. Public access to the site would be through guided tours, which would occur on a regular but limited schedule and/or by appointment.

Tribal access to the park would be available at any time and coordinated with the park superintendent. Some existing facilities at the Dawson Ranch site could support tribal activities, such as storage of tribal ceremonial materials.

This alternative is similar to the no action alternative (Alternative A) in which the current park offices are situated in Eads and visitor use would be by appointment only. The difference is that this alternative would establish the park offices in Eads that would also be used for visitor contact, and would allow tribal uses of existing buildings in the Dawson Ranch area of the Historic Site. This alternative was dismissed from further consideration because it 1) provides only very limited public access to the Historic Site, and 2) would be more time-consuming for park staff to manage on-site activities and services.

Visitor access to the site would be limited to guided tours by appointment only, which would be dependent upon staff availability. If staff are not available, visitors would not have access to the Historic Site. This may adversely affect the visitor's experience, and could potentially harm the visitor's relationship with the National Park Service and the local community. In addition, limited access would not be in the spirit of the Secretary of the Interior's request to open the Historic Site to the public. With offices in Eads, on-site management of the park unit would prove to be more difficult and time-consuming. Some park management activities are, by their nature, necessary on-site, such as maintenance, resource protection, and tribal access. Currently, to reach the site, staff have to commute about 45-minutes, which is a considerable amount of unproductive time that could be better spent if the staff were already on-site. Therefore, this alternative was dismissed because it does not meet the project objectives to a reasonable degree.

Alternative 2: Perimeter Access

The concept of this alternative would be to base visitor services and National Park Service staff facilities on the perimeter of the site, outside of the National Register boundary of the Sand Creek Massacre site, in the southwest corner of the park unit. This would provide nearby visitor services to the Historic Site while minimizing impacts of infrastructure on the Sand Creek Massacre National Historic Site during the interim.

A temporary structure would be brought to a location adjacent to county roads on the perimeter of the site (either on the state land or the southwest corner of the established boundary). There would be a visitor contact lobby, some interpretive media, public restrooms, staff offices for two employees (an interpreter and a ranger), workspace for volunteers and partners, and parking. To develop this temporary facility on the state site, it would require leasing or some other special arrangement for a small portion of the site prior to a land exchange. Public access to the site would be through guided tours, which would occur during scheduled hours (amount dependent on staff/volunteer levels) and/or by appointment.

Under this alternative, there would still be a presence of some National Park Service staff in Eads. To accommodate remaining staff, a National Park Service office would be located in Eads that would also have a visitor contact lobby, limited interpretation, and staff offices for two employees (the superintendent and administrative assistant).

Tribal access to the park would be available at any time and coordinated with the park superintendent. Some existing facilities at the Dawson Ranch site could support tribal activities, such as storage of tribal ceremonial materials.

While this alternative poses a solution for the issue of having National Park Service management near or at Sand Creek Massacre National Historic Site, it may not be feasible in the interim. Coordination with the state would have to occur, and some sort of agreement or lease would need to be arranged for use of state property. Without a clear indication of when this could happen, this alternative was dismissed from further consideration because it may not be reasonable or feasible for the interim. Furthermore, there are not as many utilities available at this location, which would mean that utilities would likely need to be extended from the Dawson Ranch area, proving also to be a cost-prohibitive alternative.

Other Locations for National Park Service Management Facilities (Headquarters and Support Services Building)

Besides the Dawson Ranch area, which is now the preferred location (see Alternative B), a few other locations were considered for establishing temporary National Park Service management facilities. Alternative concepts 1 and 2 analyzed having management facilities in Eads or on the perimeter of the site, as described above. Another option was to locate an administrative area near the overlook with the 1950s monument; however, this was dismissed for having substantial environmental impacts to the primary resource. In other words, the presence of a headquarters building and a park support services facility near the overlook would have substantial visual impacts to the massacre site. Also, similar to

alternative concept 1, an idea was mentioned to situate the park support services facility in other nearby towns such as Chivington or Brandon; however, these ideas were dismissed because on-site management is more economical and feasible. The issue of where a park headquarters building should be situated is still being explored at the time of this writing.

Other Locations for Visitor Use Facilities (Contact Station or Visitor Center)

Similar to the description of various options for park management facilities above, a few other locations and ideas were considered for establishing temporary visitor use facilities. One idea was to situate a visitor contact station near the overlook with the 1950s monument, but this was dismissed because it would have substantial visual effects on the massacre site, which is the primary park resource. Another idea was to situate the visitor contact station at the Dawson Ranch area, but only provide walking trails to view the massacre area. This was dismissed because it does not meet accessibility requirements. A visitor center idea was also considered in which a stand-alone visitor center would be constructed that would not be combined with the park support services facility, but this was dismissed because it does not meet the project objective to minimize the amount of construction, making the actions in the interim as reversible as possible to not preclude what is determined during general management planning. Lastly, it was thought that visitor use facilities could be combined with a nearby National Park Service unit, those of Bent's Old Fort National Historic Site; however, this was dismissed for not being feasible because it would depend on visitors going to Bent's Old Fort National Historic Site before arriving at Sand Creek Massacre National Historic Site.

Construction of Permanent Facilities versus Temporary Facilities

The preferred alternative suggests that temporary facilities should be constructed wherever possible instead of permanent facilities. Because this plan is for the interim, lasting only until more comprehensive general management planning can be completed, one objective of this project is to have any facilities be temporary in nature in case the General Management Plan calls for something different. That way, actions taken under the interim plan, in theory, could be reversed if needed. Therefore, the construction of permanent facilities during the interim was dismissed for not meeting project objectives.

On-Site Employee Housing

Another alternative considered and ultimately dismissed was the possibility of constructing employee housing at the park unit during the interim. The thought was to situate a temporary travel trailer on a pad to serve as seasonal employee housing. This alternative was ultimately dismissed because it would require additional septic capacity and utilities, thus greater impacts. Overall, the additional environmental impacts were too great for the interim, but this topic would likely be considered in more detail during general management planning.

Transportation Options

A shuttle option was discussed, but ultimately dismissed because visitor use is not expected to be consistent or necessarily heavy during the interim. This shuttle could run either from 1) the town of Eads to Sand Creek Massacre National Historic Site, or 2) perimeter visitor facilities as described under alternative concept 2. A shuttle would require a full-time staff member to operate it during scheduled hours of operation, and this is not feasible given the current budget and staff duties. Plus, a shuttle would require funding to purchase and operate, which is not currently available. While this option would minimize the need for parking improvements at the Historic Site, it is not economically feasible.

Public Access Options

A couple of options were considered regarding the nature of public access in terms of where visitors are permitted within the Historic Site. One option was to allow visitors to access the entire park unit either by foot or by using the existing ranch roads; however, this was dismissed because it could potentially have substantial impacts to the primary resource of the park. Another option was to allow access to the

overlook only by foot (a trail) from the park support services building, but this option was dismissed because it does not meet accessibility requirements. Access into the cottonwood area (the primary massacre area) was also considered, but similar to the first option, may have too great of environmental impacts.

This discussion also questioned when visitors were permitted. One option was to keep the Historic Site closed and inaccessible to the public during the interim; however, this is not feasible considering that the Secretary of the Interior calls for the site to open at the end of April in 2007. Another option was considered to have the park unit open only for half a day, and again, this is not in keeping with the spirit of opening the park to the public. A compromise was made, which was developed into the preferred alternative (see Alternative B), which allows for public access to happen gradually. This means that, until appropriate visitor facilities are available on-site, public access would be limited to appointment only, but this would gradually change as facilities are developed until the park unit can be open during its scheduled hours of operation. It is hoped, by the end of the interim, that the park will be open more regularly during scheduled hours of operation.

Tribal Access and Facility Options

This project never considered limiting tribal access to the park unit because the enabling legislation calls for tribal use of the Historic Site, but it did consider designating a specific tribal ceremonial area. Designating a specific tribal ceremonial area was ultimately dismissed because, during the internal scoping meeting in September 2006, some tribes were not present and the ones that were present did not necessarily agree on one area to use for ceremonial purposes. Therefore, it is not reasonable or feasible to designate one area or zone in which tribal ceremonies can be conducted and this idea was dismissed.

Regarding the existing 1950s stone monument, one idea was to maintain that monument in place and erect a new tribally-preferred monument nearby. That way, two monuments would represent the event that occurred, both with different histories. This idea was ultimately dismissed because the National Park Service can better meet the spirit of the enabling legislation if only the tribally-preferred monument is present. The preferred alternative does, however, call for keeping the 1950s stone monument within the Historic Site and possibly locating it in a place for interpretive purposes.

The tribal representatives who participated in the internal scoping meeting also suggested additional services and facilities that should be provided to support use of the park unit by descendants and tribal members. These facilities include a kitchen, showers, a meeting room, parking for 20 vehicles, and nearby lodging. These facilities tend to be more permanent in nature, and their long-term effects would be better analyzed during the comprehensive general management planning process. Therefore, the interim site management plan does not include construction of these facilities, but does not preclude them from the Historic Site in the future.

Mitigation Measures

The following mitigation measures have been developed to minimize the degree and/or severity of adverse effects, and would be adhered to during implementation of the preferred alternative:

- Any ground-disturbing work would be monitored by a National Park Service cultural resource professional. Tribal monitors would be permitted, upon request from the tribes. Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the park would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.

- Construction activities would be scheduled to minimize construction-related impacts upon visitors and tribes. Areas not under construction would remain accessible to visitors and tribes as much as is safely possible.
- Construction zones including staging areas would be identified and demarcated with construction tape or some similar material to define the work zone and to confine the activity to the minimum area needed for implementing the project. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the zone as defined by the fencing. In addition, the National Park Service would ensure that all workers are informed that damage to resources outside the scope of work is subject to prosecution, fine, restitution costs, and other penalties.
- To minimize the amount of ground disturbance, staging and stockpiling areas would be located in previously disturbed sites, away from visitor use and resource protection areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction. Existing vegetation at the site would not be disturbed to the extent possible.
- The National Park Service would ensure that all workers are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites and historic properties. Workers would also be instructed on procedures to follow in case a previously unknown archeological resource is uncovered during construction. Construction workers and supervisors would be informed about the special sensitivity of the Historic Site's values and regulations.
- Any new construction would meet National Park Service *Management Policies* for construction within a cultural landscape. Contemporary alterations and additions to a cultural landscape would not radically change, obscure, or destroy its significant spatial organization, materials, and features (NPS 2006a). New buildings, structures, landscape features, and utilities would be designed and sited to preserve the landscape's integrity and historic character; and the new construction would be differentiated from, yet compatible with, the landscape's historic character.

Alternatives Summary

Table 2 summarizes the major components of Alternatives A and B, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative B meets each of the objectives identified for this project, while the no action alternative does not meet these objectives.

Table 2 – Summary of Alternatives and Extent to Which Each Alternative Meets Project Objectives

Alternative Elements	Alternative A – No Action	Alternative B – Interim Plan
Public Access	<ul style="list-style-type: none"> • Grand Opening Event in April 2007 • Fairly limited public access, by appointment only (guided tours) • No on-site visitor contact station • No pedestrian trails • No signs, kiosks, exhibits • No overlook on adjacent state land • No road or parking improvements • No utilities installed 	<ul style="list-style-type: none"> • Grand Opening Event in April 2007 • Increasingly more available public access, beginning with appointment only (guided tours) then increasing to scheduled hours of operation (guided or self-guided tours) • Temporary on-site visitor contact station • Two pedestrian trails • Necessary signs, kiosks, exhibits • Possible overlook on adjacent state land • Improved roads and parking • Necessary utilities installed
National Park Service Management	<ul style="list-style-type: none"> • No on-site park support services building. Staff offices remain in Eads. • No re-use of existing on-site buildings • Continuation of acquiring adjacent lands, but no fencing changes • Kiowa County law enforcement and fire protection services, per agreements • Minimal on-site maintenance 	<ul style="list-style-type: none"> • Temporary on-site park support services building for staff offices in the Dawson Ranch area • Re-use of existing on-site buildings as needed • Continuation of acquiring adjacent lands, and fencing adjustments as needed • Kiowa County law enforcement and fire protection services, per agreements • On-site maintenance increases to meet visitor and tribal demands, and number of facilities
Tribal Activities	<ul style="list-style-type: none"> • Continued access to the site • 1950s monument not replaced • No repatriation cemetery • Continuation of ceremonies and healing runs • No designated materials storage 	<ul style="list-style-type: none"> • Continued access to the site • 1950s monument replaced • Repatriation cemetery established • Continuation of ceremonies and healing runs • Materials storage designated
Project Objectives	Meets Project Objectives?	Meets Project Objectives?
Address temporary needs for public access, National Park Service management, and tribal activities	Somewhat. Park would be open to the public on a limited basis. National Park Service management would continue off-site. Tribal activities would continue with minor limitations.	Yes. Park would be open to the public on a less limited basis. National Park Service management would occur on-site. Tribal activities would continue with fewer limitations.
Consider affordable solutions to allow for short-term implementation, and flexible solutions so that actions could be reversed if the General Management Plan proposes something different	Somewhat. This alternative is affordable, but does not provide flexible solutions for public access or park management; however, it is easily reversed if future general management planning suggests something different.	Yes. This alternative is affordable by providing only minimal facilities, improvements, and utilities. It is also flexible in that most actions could be reversed if future general management planning suggests something different.
Protect resources and values for which the park unit was established so as to not impair or cause unacceptable impacts to the resources.	Somewhat. This alternative perpetuates off-site management, which decreases the ability to protect resources.	Yes. This alternative encourages on-site management, which increases the ability to protect resources.

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

Table 3 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No Action	Alternative B – Preferred Alternative
Cultural Landscapes	With no new construction of buildings or structures, there would be no effect to the cultural landscape from the presence of new features. Existing non-contributing features, such as the Dawson Ranch buildings, would remain intact, which would have a minor adverse effect to the cultural landscape.	With the construction of a new park support services building, toilets, signs, and other structures, the cultural landscape would be affected to a minor adverse degree from the presence of new, non-contributing elements in the viewshed. Construction would not alter significant features of the landscape or impact the significance of the site. Existing non-contributing features, such as the Dawson Ranch buildings, would remain intact, which would also have a minor adverse effect to the cultural landscape.
Ethnographic Resources	With no new construction of buildings or structures, there would be no effect to the ethnographic resource. However, not constructing some tribal facilities, such as a repatriation cemetery, would have a minor adverse effect by not facilitating tribal practices. Tribal access to and use of the site would not change.	Construction of buildings and structures would have negligible effects on the ethnographic resource because construction would occur in previously disturbed areas outside the ethnographically significant areas of the park unit. Constructing some tribal facilities, such as a repatriation cemetery, would have a minor to moderate beneficial effect by facilitating tribal practices. Tribal access to and use of the site would not change.
Visitor Use and Experience	Opening the park unit to the public would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Public access is more limited under this alternative, both temporally and geographically. With no new construction of basic amenities such as a visitor contact station, toilets, or water; improvements to existing infrastructure at the site such as the roads; or additional visitor opportunities such as trails, an overlook, or an interpreted tribal cemetery, this alternative would have a minor, adverse effect on visitor use and experience.	Opening the park unit to the public would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Public access is less limited under this alternative, both temporally and geographically, because this alternative provides trails to access previously closed areas of the park plus the park would eventually be open during scheduled hours of operation. With the construction of basic amenities such as a visitor contact station, toilets, or water; improvements to existing infrastructure at the site such as the roads; and additional visitor opportunities such as trails, an overlook, or an interpreted tribal cemetery, this alternative would have a minor to moderate, beneficial effect on visitor use and experience.
Park Operations	Historic Site staff would continue to work off-site at their office location Eads which would adversely increase the workload of park staff to a minor to moderate degree from having to commute back and forth from Eads to the park unit to allow visitor and tribal access and to perform maintenance duties and safety checks. However, with no on-site facilities, no additional maintenance or upkeep of new facilities would be required.	Historic Site staff would work on-site at the new park support services building, which would benefit park operations to a minor to moderate degree from not having to commute back and forth from Eads to the park unit to allow visitor and tribal access and to perform maintenance duties and safety checks. However, with new on-site facilities, the employee workload would increase to a minor degree due to the additional maintenance and upkeep required of the new facilities.

Identification of the Environmentally Preferred Alternative

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

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

Alternative A, the no action alternative, only minimally meets the above six evaluation factors, because, in essence, it does not provide a balance between population and resource use (#2, 3, 5). The no action alternative permits visitor access only by appointment, so it does not provide an opportunity for visitor experience that compliments the resources that are being protected in perpetuity. It also does not preserve the primary resource, namely the massacre site, as well as Alternative B because it does restrict or limit development or visitor use activities to only the Dawson Ranch area, the overlook area, and the roadways (#1, 4). With the staff in Eads, travel to the Historic Site is a 45-minute commute, which consumes fuel and does not conserve depletable resources (#6). Therefore, Alternative A, the no action alternative, does not meet the objectives to preserve the massacre site while providing other opportunities as well as Alternative B.

Alternative B is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative B better meets these objectives than Alternative A primarily because this alternative strikes a balance between resource preservation and visitor use and experience (#2, 3, 5). This alternative would eventually allow for public access during its scheduled hours of operation at the Historic Site, which is less restrictive than Alternative A, thereby providing the widest range of beneficial uses without degradation of the primary resource. This alternative also best meets the criteria for resource protection because it limits development and visitor access to the Dawson Ranch area, the overlook area, and the roadways (#1, 4). Finally, with on-site facilities, staff would not have to commute from Eads, and less fuel would be consumed (#6). Therefore, because Alternative B best provides for visitor use and other opportunities in addition to resource protection, it is the environmentally preferred alternative.

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

ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include cultural landscapes, ethnographic resources, visitor use and experience, and park operations. All remaining impact topics were dismissed from further evaluation as discussed in the *Purpose and Need* chapter. Also contained in the *Purpose and Need* chapter are descriptions of the affected environment (i.e., existing conditions) for the resource topics included in this chapter.

Each impact analysis in this chapter is described based on the three main action items in the alternatives including 1) public access (visitor experience and interpretation), 2) National Park Service management, and 3) tribal use. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

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

Cumulative Effects

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the no action and preferred alternatives.

Cumulative impacts were determined by combining the impacts of either the no action or preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, in order to conduct the cumulative effects analysis, it was necessary to identify other ongoing or reasonably foreseeable future projects at Sand Creek Massacre National Historic Site and, if applicable, the surrounding region. The geographic scope for this analysis includes actions only within the Historic Site's boundaries because no actions or projects are expected to occur on lands bordering the Historic Site. The temporal scope for this analysis is a range of approximately five to seven years in the past and future, and was determined based on roughly 1) how long the Sand Creek Massacre National Historic Site has been a unit of the National Park Service system and 2) how long this plan is expected to be in use before the general management plan is completed. Therefore, the scope for this cumulative analysis includes projects within the boundaries of Sand Creek Massacre National Historic Site for a range of approximately five to seven years. Following are the actions or projects that were identified for the purpose of conducting the cumulative effects analysis:

- **Past Actions** – When Sand Creek Massacre National Historic Site was officially established in 2000, the National Park Service changed the land use from ranching and cattle grazing activities to resource management. Prior to the National Park Service acquiring the land, much of it was used for ranching, and the National Park Service changed this use to allow maintain the site in its current condition and to allow for recovery to begin. Another past action at the Historic Site was the placement of an electrical power line along the easternmost ranching road into the former Dawson Ranch area in 2006. Additional past actions include the tribal use and ceremonial use of the land within the Historic Site; removal of the house in the Dawson Ranch area; and some minor research projects including a bird survey in 2005 and various cultural resource surveys. A Fire Management Plan and an Exotic Plant Management Plan were also completed in 2005.
- **Current Actions** – Some ongoing actions include planning and preparations for the grand opening celebration in April 2007; maintaining partnerships with local entities; and facilitating tribal access to the Historic Site.
- **Future Actions** – Planning projects over the next five to seven years or so include the development of a General Management Plan, a Black-Tailed Prairie Dog Management Plan, a Feral Hog Management Plan, and a Livestock/ Grazing Management Plan, the latter which includes restoration of disturbed sites within the Historic Site. In addition, the National Park Service is planning to acquire additional properties to expand the boundaries of the Historic Site. The Historic Site also plans to continue acquiring natural and cultural resource baseline inventory and monitoring data to aid in the development of various future management plans. The park unit may also try to acquire additional lands to expand the protection of the historic property.

Impairment

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

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

constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of the park; 2) key to the natural or cultural integrity of the park; or 3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

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

Cultural Landscapes

Cultural landscapes are the result of the long interaction between people and the land, the influence of human beliefs and actions over time upon the natural landscape. Shaped through time by historical land-use and management practices, as well as politics and property laws, levels of technology, and economic conditions, cultural landscapes provide a living record of an area's past, a visual chronicle of its history. The dynamic nature of modern human life, however, contributes to the continual reshaping of cultural landscapes; making them a good source of information about specific times and places, but at the same time rendering their long-term preservation a challenge. Sand Creek Massacre National Historic Site encompasses a good portion of the Sand Creek Massacre site (5SW28), which is listed in the National Register of Historic Places (Figure 1).

Under the Advisory Council's regulations, a determination of either *adverse effect* or *no adverse effect* must be made for affected historic properties that are eligible for or listed on the National Register of Historic Places. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the National Register (e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). *Adverse effects* also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time; be farther removed in distance; or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register of Historic Places.

In accordance with the Advisory Council on Historic Preservation's regulations implementing §106 of the NHPA (36 CFR Part 800, Protection of Historic Properties), impacts to historic properties for this project were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

In order for a cultural landscape to be listed in the National Register, it must possess significance (the meaning or value ascribed to the landscape) and have integrity of those features necessary to convey its significance. The character defining features of a cultural landscape include spatial organization and land patterns; topography; vegetation; circulation patterns; water features; and structures/buildings, site furnishings and objects (see *The Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes*, 1996). According to the establishing legislation, important features of the Sand Creek Massacre site (5SW28) include the topographic features; artifacts and other physical remains of the Sand Creek Massacre; and the cultural landscape of the site (NPS 2000a). The enabling legislation goes on to state that the Sand Creek Massacre National Historic Site shall be established in a manner that preserves, as closely as practicable, the cultural landscape of the site as it appeared at the time of the Sand Creek Massacre. Thus, the impact analysis evaluates how the proposal affects the significant features and the viewshed of the cultural landscape. It also evaluates how the presence of non-contributing features affects the significance and integrity of the cultural landscape.

Intensity Level Definitions

As described in the *Purpose and Need* chapter, Sand Creek Massacre National Historic Site is a cultural landscape listed in the National Register of Historic Places for being associated with an important event (Criterion A) and for its data potential (Criterion D). The site may be significant enough to warrant listing as a National Historic Landmark. The methodology used for assessing impacts to the Historic Site as a cultural landscape is based on the current features and condition of the site in comparison to what new elements the alternatives proposed. For purposes of analyzing potential impacts to cultural landscapes, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Impact(s) is at the lowest levels of detection - barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Minor: Adverse Impact – Impact would not affect the character defining features of a National Register of Historic Places eligible or listed cultural landscape. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Beneficial Impact – Preservation of character defining features in accordance with the Secretary of the Interior’s standards, to maintain existing integrity of the cultural landscape. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Moderate: Adverse Impact – Impact would alter a character defining feature(s) of the cultural landscape but would not diminish the integrity of the landscape to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Beneficial Impact – Rehabilitation of a landscape or its features in accordance with the Secretary of the Interior’s standards, to make possible a compatible use of the landscape while preserving its character defining features. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major: Adverse Impact – Impact would alter a character defining feature(s) of the cultural landscape, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial Impact – Restoration in accordance with the Secretary of the Interior’s standards, to accurately depict the features and character of a landscape as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Impairment: A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of Sand Creek Massacre National Historic Site; (2) key to the natural or cultural integrity of the National Historic Site; or (3) identified as a goal in the National Historic Site’s general management plan or other relevant National Park Service planning documents.

Impacts of Alternative A – No Action

1. **Public Access (Visitor Experience and Interpretation)** – Under this portion of the no action alternative, no buildings or structures would be constructed. This would not affect the cultural landscape at Sand Creek Massacre National Historic Site because new or non-contributing features would not be introduced to the landscape. However, this alternative perpetuates the presence of

existing ranch roads, which are non-contributing features in the cultural landscape and this would have a negligible to minor, long-term, adverse effect to the cultural landscape. The site shall be open to the public beginning in April 2007, which would have negligible, adverse, temporary impacts to the landscape from the placement of temporary features, such as tepees, for the grand opening dedication. While some of these actions have an adverse effect on the cultural landscape, they would not affect the significance for which the site was listed in the National Register of Historic Places.

- Visitor Experience and Interpretation – Under the no action alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study*, and this vision would have no effect on the cultural landscape (NPS 2000b). The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
- Grand Opening Event – This event shall occur at the end of April 2007, and would have a negligible effect on the cultural landscape. Visitors would be encouraged to participate in various dedication and tribal ceremonies, the nature of which would be consistent with the significance of the site. Some minor construction activities may occur in preparation for this event such as the placement of tepees by tribes, which could have a negligible, adverse effect to the Sand Creek Massacre site because of the presence of non-contributing features in the viewshed; however, these activities would be temporary, lasting only as long as the grand opening dedication. Any temporary features, such as tepees, would not disturb significant features of the cultural landscape. More impact analysis on tribal ceremonies is included under *Tribal Activities*.
- Nature of Public Access – Under the no action alternative, Sand Creek Massacre National Historic Site shall be open to the public beginning with its grand opening celebration in April 2007. During the interim, public access would remain limited and by appointment only. While public access would occur within the National Register boundary of the massacre site, it would be limited to previously disturbed and non-contributing areas. The cultural landscape of the massacre site would not be affected by this kind of visitation because no features, spatial patterns, biotic systems, or other important elements of the cultural landscape that are significant to the site would be altered in any manner, nor would new, non-contributing features be added to the landscape. Also, with limited visitation under this alternative, namely guided visitation, the Historic Site would be somewhat more protected from the potential degradation of the area which can occur with increased and/or unguided visitor use.
- Temporary Buildings and Structures – No buildings or structures would be constructed under the no action alternative; therefore, this portion of the alternative would have no effect to the cultural landscape because new or non-contributing features would not be introduced to the landscape.
- Trails – No trails would be constructed under the no action alternative; therefore, this would have no effect to the cultural landscape because new or non-contributing features would not be introduced to the landscape.
- Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced; however, these actions would not affect the cultural landscape. No signs, kiosks, or exhibits would be constructed at the Historic Site; therefore, this would have no effect to the cultural landscape because new or non-contributing features would not be introduced to the landscape.
- Overlook – An overlook on adjacent land currently managed by the State of Colorado would not be considered; therefore, this would have no impact on the cultural landscape because new or non-contributing features would not be introduced to the landscape.
- Roads and Parking – The existing ranch roads would be used for leading visitors to the site, which would not directly affect the cultural landscape because no road or parking improvements

would be constructed under the no action alternative. However, the roads would remain intact, which would perpetuate the presence of non-contributing features in the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape.

- Utilities – No utilities would be constructed under the no action alternative; therefore, this would have no effect to the cultural landscape because new or non-contributing features would not be introduced to the landscape.

2. **National Park Service Management** – Under this portion of the no action alternative, no buildings or structures would be constructed. This would not affect the cultural landscape at Sand Creek Massacre National Historic Site because new or non-contributing features would not be introduced to the landscape. However, this alternative perpetuates the existing Dawson Ranch buildings which are non-contributing features in the cultural landscape and this would have a negligible to minor, long-term, adverse effect to the cultural landscape. Also, Historic Site staff would continue to work off-site at their office location Eads, and this would not impact the cultural landscape.

- Temporary Buildings and Structures – Under the no action alternative, no temporary park support services building would be constructed; therefore, this would have no effect on the cultural landscape because new or non-contributing features would not be introduced to the landscape. Similarly, continuing to lease office space in downtown Eads would not affect the cultural landscape.
- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch would not be re-used for management purposes under this alternative, thereby having no direct effect to the cultural landscape. However, these buildings are non-contributing features of the cultural landscape, and this alternative would perpetuate their existence in the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape.
- Boundary Changes and Fencing – This alternative does not include acquiring additional lands or constructing fences; therefore, it would have no impact on the cultural landscape because new or non-contributing features would not be introduced to the landscape.
- Law Enforcement and Fire Management – Maintaining agreements with the Kiowa County Sheriff's Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic Site would not impact the cultural landscape.
- Maintenance – Because there would be no staff on-site and visitor use would be limited, minimal maintenance would be necessary under the no action alternative, and this would not impact the cultural landscape.

3. **Tribal Use** – This portion of the no action alternative includes the use of the Historic Site for tribal ceremonies, which may include actions such as the temporary placement of tepees or other such features. This would result in negligible, adverse, and temporary impacts to the cultural landscape from the introduction of non-contributing features to the landscape, which would be removed following the end of the given ceremony. This alternative also perpetuates the existence of the 1950s stone monument which is a non-contributing feature in the cultural landscape, and this would have a negligible to minor, long-term, adverse effect to the cultural landscape.

- Access – Currently, tribes are permitted under the park unit's authorizing legislation to use the Historic Site, and this would continue under this alternative with no effect to the cultural landscape. This is the same as under Alternative B. The effect of tribal ceremonies is covered below under *Ceremonies*.

- Replacement of 1950s Monument – The existing 1950s stone monument would remain intact, which would perpetuate the existence of a non-contributing feature in the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape. No new monument would be constructed under this alternative, which would have no effect to the cultural landscape because a new or non-contributing element would not be introduced to the landscape.
- Cemetery (Repatriation Site) – No cemetery for repatriation purposes would be constructed, which would not impact the cultural landscape because a new or non-contributing element would not be introduced to the landscape.
- Ceremonies – The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. Some ceremonies may involve some ground disturbing activities such as the construction or placement of sweat lodges, tepees, and fires, which may have a negligible, adverse effect to the cultural landscape. This adverse effect would be the result of placing a non-contributing element into the landscape; however, this effect would be temporary, lasting only as long as the feature is present within the cultural landscape.
- Materials Storage – An existing building would not be designated to accommodate tribal storage, which would not impact the cultural landscape.
- “Healing Runs” – This is the same as for Alternative B. Similar to tribal ceremonies above, healing runs are conducted on occasion by the tribes, which may trample some of the vegetation at the Historic Site, but this would not impact the significant features of the cultural landscape. Healing runs mostly occur outside the primary massacre area along established roads or paths.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have had or would have a beneficial effect to the cultural landscape. Since the Historic Site was established in 2000, protection of the cultural landscape has inherently been improved by removing former ranching and grazing activities from the site. Future planning for wildlife management at the Historic Site would help preserve the cultural landscape by managing species that can damage or harm the significant features of the site. Any cultural resource inventories are expected to provide additional information regarding the significance and features of the cultural landscape. Together, these actions have a minor to moderate, beneficial effect on the cultural landscape as a result of increased protection for the site and additional information about the site. The no action alternative would help maintain the significance and features of the cultural landscape by restricting construction of new buildings or structures, and this would have a negligible to minor beneficial incremental effect to overall cumulative effect. The no action alternative also has a minor adverse effect to the cultural landscape from the continued existence of non-contributing features such as the Dawson Ranch buildings; however, this would not incrementally change the overall beneficial cumulative effects. Therefore, all together, the cumulative effect to the cultural landscape would remain minor to moderate and beneficial for the long-term.

Conclusion: Because the no action alternative does not involve the construction of new buildings or structures, it would have no effect to the cultural landscape because it 1) would not add any additional non-contributing features to the cultural landscape, 2) would not disturb or alter any existing features, or 3) modify the significance or integrity of the site. However, this alternative does perpetuate the continuation or existence of non-contributing features in the cultural landscape such as the existing ranch roads, the 1950s stone marker, and the Dawson Ranch buildings which would have a negligible to minor, adverse, long-term effect on the cultural landscape. In addition, negligible, adverse, temporary impacts are expected from the construction of ceremonial features, such as tepees; however, these impacts would persist only as long as the features are present for ceremonial purposes. Cumulatively, the effect to the cultural landscape would be minor to moderate, long-term, and beneficial from continued preservation and increased understanding of the cultural landscape. Because this alternative would not result in major impacts, there would be no impairment to cultural landscapes.

Impacts of Alternative B (Preferred Alternative) – Interim Site Management Plan

1. **Public Access (Visitor Experience and Interpretation)** – This portion of the alternative includes the construction of buildings and structures which would add non-contributing elements to the cultural landscape and alter the viewshed. This would adversely affect the cultural landscape to a minor degree for the interim; however, the construction of new buildings or structures would not affect the integrity, significance, or important features of the cultural landscape. This alternative also perpetuates the presence of the existing ranch roads which are non-contributing features in the cultural landscape and this would have a negligible to minor, long-term, adverse effect to the cultural landscape.
 - Visitor Experience and Interpretation – The impact to cultural landscapes is the same as under Alternative A. The basic interpretive themes and visitor experience model would remain as they are described in the *Special Resource Study* (NPS 2000b) which gives the park unit a vision from which to structure a more detailed interpretive program and this would have no effect on the cultural landscape. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
 - Grand Opening Event – This event shall occur at the end of April 2007, and would have a negligible effect on the cultural landscape, which is the same as under Alternative A. Visitors would be encouraged to participate in various dedication and tribal ceremonies, the nature of which would be consistent with the significance of the site. Some minor construction activities may occur in preparation for this event such as the placement of tepees by tribes, which could have a negligible, adverse effect to the Sand Creek Massacre site because of the presence of non-contributing features in the viewshed; however, these activities would be temporary, lasting only as long as the grand opening dedication. Any temporary features, such as tepees, would not disturb significant features of the cultural landscape. More impact analysis on tribal ceremonies is included under *Tribal Activities*.
 - Nature of Public Access – Under the preferred alternative, the Historic Site shall be open to the public beginning in April 2007 with the grand opening celebration. At first, public access would remain limited and by appointment only, but would increase gradually as facilities and staff are established on-site. Eventually, the site would be open to the public during scheduled hours of operation, which could have a negligible, adverse, long-term effect to the cultural landscape from increased visitor use and general wear-and-tear of the site. For instance, social trails may develop, which could negatively affect the spatial patterns or significant features of the cultural landscape, although, this expected to be negligible. With more visitors, there is the increased potential of significant features of the landscape being altered or disturbed, which could have a negligible adverse effect to the cultural landscape.
 - Temporary Buildings and Structures – A temporary park support services building would be placed in the Dawson Ranch area of the site, which would also serve as a visitor contact station. Most visitors would make contact with the park staff here, and then proceed to the overlook, either escorted or unescorted. Construction of the new temporary building would add a non-contributing feature to the cultural landscape which would have a minor, adverse, long-term impact on the cultural landscape. Even though this alternative does result in minor effects to the cultural landscape, a new building situated in the Dawson Ranch area has substantially fewer impacts to the cultural landscape than elsewhere in the park unit because this area 1) has been greatly modified/ disturbed by previous ranching activities, 2) the existing cottonwood trees provide a screen from the main massacre area, and 3) is not a contributing feature to the cultural landscape. Furthermore, construction of this building would not directly impact any important features, the integrity, or the significance of the cultural landscape, and the facility would be modular in nature, with the possibility of removal as needed.

This alternative also includes the construction of other visitor use facilities in the cultural landscape such as toilets and trash receptacles in the Dawson Ranch area and near the overlook which would have negligible to minor, adverse, long-term effects to the cultural landscape for the same reasons as explained under the construction of the temporary park support services facility/visitor contact station. It should be noted that care would be taken in the appropriate design and placement of these facilities to avoid greater-than-minor impacts to the cultural landscape from the introduction of non-contributing features or elements. Construction activities, including the presence of construction equipment and workers, would have a negligible, temporary, adverse effect to the landscape, which would be reversed once construction activities are completed.

- Trails – Two trails would be constructed under the preferred alternative, which would have a negligible to minor, adverse, long-term effects to the cultural landscape. Constructing two trails would add non-contributing features to the cultural landscape; however, the trails would be placed outside of the main massacre area so as to avoid impacting any significant features. The trails would also be constructed with minimal ground disturbance or clearing, so as to make them minimally visible. These trails would not impact the viewshed of the cultural landscape.
 - Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which would not affect the cultural landscape. Signs, kiosks, and exhibits would be placed along roadways, in the Dawson Ranch area, and in the overlook area, which would add non-contributing features to the cultural landscape. Similar to the other construction items planned under this alternative, this would have negligible to minor, long-term, adverse effects on the cultural landscape from the introduction of non-contributing features in the landscape and viewshed.
 - Overlook – An overlook on adjacent land currently managed by the State of Colorado would be considered, which would not directly affect the cultural landscape because this piece of property does not contain any of portion of the National Register massacre site. The overlook may be visible from the massacre site itself, but would be situated and designed so as to avoid greater-than-minor effects to the cultural landscape.
 - Roads and Parking – The preferred alternative includes improving roadways and formalizing parking areas, which would impact the cultural landscape to a minor degree. Maintaining or formalizing these non-contributing features, and possibly resurfacing them, would make these features more visible in the cultural landscape, resulting in a negligible to minor adverse effect to the cultural landscape.
 - Utilities – Utilities would be placed, mostly in the Dawson Ranch area, which would not affect the features for which the cultural landscape is significant. Most utilities are expected to be placed underground, which would have a negligible adverse effect to the cultural landscape in the long-term.
2. **National Park Service Management** – This portion of the alternative includes the construction of buildings and structures which would add non-contributing elements to the cultural landscape and alter the viewshed, and thus, would adversely affect the cultural landscape to a minor degree. Construction of new buildings or structures would not affect the integrity, significance, or important features of the cultural landscape. In addition, this alternative perpetuates the presence of the existing Dawson Ranch buildings which are non-contributing features in the cultural landscape and this would have a negligible to minor, long-term, adverse effect to the cultural landscape. Historic Site staff would continue to work off-site at their office location Eads, which would not impact the cultural landscape.
- Temporary Buildings and Structures – Under the preferred alternative, a temporary park support services building would be constructed and this would have a minor, adverse, long-term effect on the cultural landscape, as described in the section above under *Temporary Buildings and*

Structures. Office space in downtown Eads would eventually be relinquished under this alternative which would not affect the cultural landscape.

- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch would be re-used for management purposes under this alternative, which would have a negligible to minor, adverse effect on the cultural landscape. The Dawson Ranch buildings are non-contributing features of the cultural landscape, and this alternative would perpetuate their existence and use in the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape.
 - Boundary Changes and Fencing – This alternative includes acquiring the 640 acres of state land to the southwest of the park unit and the possibility of constructing fences. This land is not inside the National Register boundary, but acquiring it would still benefit the cultural landscape of the massacre site to a minor degree by protecting the viewshed from other forms of development. Fencing could introduce non-contributing elements to the landscape, having a negligible to minor, adverse, long-term effect on the cultural landscape.
 - Law Enforcement and Fire Management – The effect is the same as Alternative A. Maintaining agreements with the Kiowa County Sheriff’s Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic Site would not impact the cultural landscape.
 - Maintenance – Routine maintenance activities would benefit the cultural landscape to a negligible degree through housekeeping and safety inspections.
3. **Tribal Use** – This portion of the preferred alternative includes the use of the Historic Site for tribal ceremonies, which may include actions such as the temporary placement of tepees or other such features, which would result in negligible, adverse, and temporary impacts to the cultural landscape. This alternative would remove the 1950s stone monument which is a non-contributing feature in the cultural landscape and this would have a negligible to minor, long-term, beneficial effect to the cultural landscape. Construction of a new monument and a cemetery would add non-contributing features to the landscape having a negligible to minor, long-term, adverse effect on the cultural landscape.
- Access – Currently, tribes are permitted under the park unit’s authorizing legislation to use the Historic Site, and this would continue under this alternative with no effect to the cultural landscape. This is the same as under Alternative A. The effect of tribal ceremonies is covered below under *Ceremonies*.
 - Replacement of 1950s Monument – The existing 1950s stone monument would be removed which is a non-contributing feature in the cultural landscape, and this would have a negligible to minor, long-term, beneficial effect to the cultural landscape. The 1950s stone monument is an important piece of history and would be retained at the Historic Site, likely in an area for public viewing. A new monument would be constructed in the general overlook area which would add a non-contributing element to the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape and viewshed.
 - Cemetery (Repatriation Site) – A cemetery for repatriation purposes would be constructed in the overlook area, which would add a non-contributing element to the cultural landscape, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape.
 - Ceremonies – These impacts are the same as for Alternative A. The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. Some ceremonies may involve some ground disturbing activities such as the construction or placement of sweat lodges, tepees, and fires, which may have a negligible, adverse effect to the cultural landscape. This adverse effect would be

temporary, lasting only as long as the feature, such as a tepee, is present within the cultural landscape.

- Materials Storage – An existing building in the Dawson Ranch area would be designated to accommodate tribal storage, which would perpetuate the presence of a non-contributing feature, thereby having a negligible to minor, adverse, long-term effect on the cultural landscape.
- “Healing Runs” – This is the same as for Alternative A. Similar to tribal ceremonies above, healing runs are conducted on occasion by the tribes, which may trample some of the vegetation at the Historic Site, but would not impact the significance or features of the cultural landscape. Healing runs mostly occur outside the primary massacre area along established roads or paths.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have had or would have a beneficial effect to the cultural landscape. Since the Historic Site was established in 2000, protection of the cultural landscape has inherently been improved by removing former ranching and grazing activities from the site. Future planning for wildlife management at the Historic Site would help preserve the cultural landscape by managing species that can damage or harm the significant features of the site. Any cultural resource inventories are expected to provide additional information regarding the significance and features of the cultural landscape. Together, these actions have a minor to moderate, beneficial effect on the cultural landscape as a result of increased protection for the site and additional information about the site. The preferred alternative would have negligible to minor adverse effects on the cultural landscape from 1) the introduction of new, non-contributing features such as the park support services building, and 2) the continued existence of non-contributing features such as the Dawson Ranch buildings. This minor adverse effect would not incrementally change the minor to moderate beneficial effects to the cultural landscape from other actions. Therefore, the overall cumulative effect to the cultural landscape would remain minor to moderate and beneficial for the long-term.

Conclusion: The preferred alternative includes the construction of new buildings or structures, which would have negligible to minor, adverse, long-term effects to the cultural landscape because it would introduce non-contributing elements or features to the cultural landscape which would alter the viewshed. Effects from new construction on the cultural landscape would remain minor or less because any new buildings or structures would 1) be situated in previously disturbed areas that do not contribute to the significance of the site, 2) be designed to be conducive to and blend in with the natural and historic setting, 3) not directly impact any significant features of the site. This alternative also perpetuates the continuation or existence of non-contributing features in the cultural landscape such as the existing ranch roads, the 1950s stone marker, and the Dawson Ranch buildings which would have a negligible to minor, adverse, long-term effect on the cultural landscape. In addition, negligible, adverse, temporary impacts are expected from the construction of ceremonial features, such as tepees; however, these impacts would persist only as long as the features are present. While these actions have adverse effects to the cultural landscape, they are not expected to modify the significance or the integrity of the historic cultural landscape. Cumulatively, the effect to the cultural landscape would be minor to moderate, long-term, and beneficial from continued preservation and increased understanding of the cultural landscape. The minor adverse effects of the preferred alternative are not expected to contribute much to the overall cumulative effect. Because this alternative would not result in major impacts, there would be no impairment to cultural landscapes.

In compliance with Section 106 of the National Historic Preservation Act, the National Park Service has consulted the Colorado State Historic Preservation Officer regarding the determination of *no adverse effect* to historic properties from the implementation of an interim site management plan. The results of this consultation are documented in the *Consultation and Coordination* chapter.

Ethnographic Resources

Intensity Level Definitions

Certain important questions about human culture and history can only be answered by gathering information about the cultural content and context of cultural resources. Questions about contemporary peoples or groups, their identity, and heritage have the potential to be addressed through ethnographic resources. As defined in the National Park Service, an ethnographic resource is a site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. Some such specific places of traditional cultural use may be eligible for inclusion in the National Register of Historic Places if they meet national register criteria for traditional cultural properties.

As described in the *Purpose and Need* chapter, the Sand Creek Massacre site is an ethnographic resource, and is particularly sacred to the Cheyenne and Arapaho Tribes. The site is listed in the National Register of Historic Places for being associated with an important event (Criterion A) and for its data potential (Criterion D). The site is not listed in the National Register of Historic Places as an ethnographic resource, and is therefore, not considered a traditional cultural property that is subject to Section 106 of the National Historic Preservation Act. Thus, the following impact thresholds and impact analysis do not refer to the Section 106 determinations of effect. Impacts are evaluated based on how the alternatives affect 1) tribal access to the ethnographic resource, and 2) the tribally significant features of the ethnographic resource. For purposes of analyzing potential impacts to ethnographic resources, the thresholds of change for the intensity of an impact are defined below.

- Negligible:** Impact(s) would be barely perceptible and would neither alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices. There would be no change to a group's body of beliefs and practices.
- Minor:** Adverse Impact – Impact(s) would be slight but noticeable and would neither appreciably alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices.
- Beneficial Impact – Would allow traditional access and/or accommodate a group's traditional practices or beliefs.
- Moderate:** Adverse Impact – Impact(s) would be apparent and would alter resource conditions. Something would interfere with traditional access, site preservation, or the relationship between the resource and the affiliated group's beliefs and practices, even though the group's beliefs and practices would survive.
- Beneficial Impact – Would facilitate a group's beliefs and practices.
- Major:** Adverse Impact – Impact(s) would alter resource conditions. Something would block or greatly affect traditional access, site preservation, or the relationship between the resource and the affiliated group's body of beliefs and practices, to the extent that the survival of a group's beliefs and/or practices would be jeopardized.
- Beneficial Impact – Would actively encourage a group's beliefs or practices.
- Impairment:** A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of Sand Creek Massacre National Historic Site; (2) key to the natural or cultural integrity of the National Historic Site; or (3) identified as a goal in the National Historic Site's general management plan or other relevant National Park Service planning documents.

Impacts of Alternative A – No Action

1. **Public Access (Visitor Experience and Interpretation)** – Because this portion of the alternative does not include the construction of new buildings and structures, it would not affect the ethnographic resource. The relationship between the ethnographic resource and the tribe's beliefs or practices would remain the same, even with the introduction of public access, because, under this alternative, public access to the Historic Site is fairly limited.
 - Visitor Experience and Interpretation – Under the no action alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study*, and this vision would have no effect on the ethnographic resource (NPS 2000b). The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
 - Grand Opening Event – This event shall occur at the end of April 2007, and would not appreciably affect the ethnographic resource. Although a greater number of visitors and their vehicles would be present at the site, this is not expected to alter the condition or significance of the ethnographic resource because visitors would not be permitted outside of the visitor use areas. Some minor construction activities may occur in preparation for this event such as the placement of tepees by tribes, which would facilitate a beneficial use of the ethnographic resource for the tribes and the general public.
 - Nature of Public Access – Under the no action alternative, Sand Creek Massacre National Historic Site shall be open to the public beginning with its grand opening celebration in April 2007. During the interim, public access would remain limited and by appointment only. Geographically, public access would be limited to within designated visitor access areas only, which include the access roads, the park support services area, and the overlook area. Visitors would not be permitted in the main massacre site itself or in areas that tribes use for ceremonial purposes. With limited visitation to the Historic Site (i.e., guided tours), and also limited access within the site (i.e., not within the massacre area), this action is not expected to change the condition of the ethnographic resource, nor would it change the tribe's access to or relationship with the site. Furthermore, the tribes have expressed their support for opening the Historic Site to the public as a means of educating and fostering greater understanding and appreciation for the site.
 - Temporary Buildings and Structures – No buildings or structures would be constructed under the no action alternative; therefore, this portion of the alternative would have no effect to the ethnographic resource. The condition of the resource and tribal access to the site would remain the same.
 - Trails – No trails would be constructed under the no action alternative; therefore, this would not affect the condition of the ethnographic resource or the tribal relationship with the resource.
 - Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced; however, these actions would not affect the ethnographic resource. No signs, kiosks, or exhibits would be constructed at the Historic Site, and this would not affect the condition of the ethnographic resource or the tribal access to the resource.
 - Overlook – An overlook on adjacent land currently managed by the State of Colorado would not be considered; therefore, this would not impact the ethnographic resource.
 - Roads and Parking – The existing ranch roads are beneficial to the tribes because they provide access into the site, thereby facilitating their use of the ethnographic resource. These roads would continue to be used for leading visitors to the site, which would not affect the ethnographic

resource. No road or parking improvements would be constructed under the no action alternative, and this would not affect the condition of the ethnographic resource, or tribal access to the resource.

- Utilities – No utilities would be constructed under the no action alternative; therefore, this would not affect the condition of the ethnographic resource or tribal access to the resource.

2. **National Park Service Management** – This portion of the no action alternative does not include the construction of buildings or structures which would not affect the condition of or the tribal access to the ethnographic resource. Historic Site staff would continue to work off-site at their office location Eads, and this would not impact the ethnographic resource.

- Temporary Buildings and Structures – Under the no action alternative, no temporary park support services building would be constructed, and this would not affect the ethnographic resource. Similarly, continuing to lease office space in downtown Eads would not affect the ethnographic resource or tribal access to the resource.
- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch would not be re-used for management purposes under this alternative, which would not affect the ethnographic resource or tribal access to the resource.
- Boundary Changes and Fencing – This alternative does not include acquiring additional lands or constructing fences; therefore, it would have no impact on the ethnographic resource or tribal access to the resource.
- Law Enforcement and Fire Management – Maintaining agreements with the Kiowa County Sheriff's Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic Site would not impact the ethnographic resource.
- Maintenance – Because there would be no staff on-site and visitor use would be limited, minimal maintenance would be necessary under the no action alternative, and this would not impact the ethnographic resource.

3. **Tribal Use** – This portion of the no action alternative includes continued access to and use of the Historic Site for tribal ceremonies which has no effect on the ethnographic resource because these actions are already occurring in accordance with the enabling legislation. While tribal access is allowed to the site, this alternative would not facilitate some tribal activities such as replacing the 1950s stone monument; providing for a repatriation cemetery; or providing on-site materials storage for the tribes, which would result in a minor, long-term, adverse effect to the ethnographic resource by not facilitating tribal practices.

- Access – Currently, tribes are permitted under the park unit's authorizing legislation to access and use the Historic Site, and this would continue under this alternative with no effect to the ethnographic resource. Furthermore, coordination between the National Park Service and the tribes would continue in accordance with the enabling legislation and the existing cooperative agreements.
- Replacement of 1950s Monument – The existing 1950s stone monument is not a feature of the ethnographic landscape, and the tribes would prefer it to be removed and replaced with a new monument. However, under this alternative, the existing monument would remain intact, and no new monument would be constructed. This would result in a minor, adverse, long-term effect on the ethnographic resource, namely by not facilitating tribal beliefs.

- Cemetery (Repatriation Site) – Currently, there is no cemetery for repatriation purposes, and the tribes would prefer to construct one on-site. This alternative does not include the construction of a cemetery, which would result in a minor, adverse, long-term effect on the ethnographic resource, namely by not facilitating tribal practices.
- Ceremonies – This is the same as for Alternative B. The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance, and the National Park Service grants this access upon request from the tribes. This alternative facilitates the use of the Historic Site for ceremonial purposes, and the National Park Service recognizes that some ceremonies may involve some ground disturbing activities such as the construction or placement of sweat lodges, tepees, and fires. Because the National Park Service currently permits tribal access to the Historic Site for ceremonial purposes, there would be no change to ethnographic resources.
- Materials Storage – The tribes have requested an on-site building for materials storage; however, this alternative does not accommodate this request. Under this alternative, an existing building would not be designated to accommodate tribal storage, which would have a minor, adverse, long-term effect on the ethnographic resource, namely by not facilitating tribal practices.
- “Healing Runs” – This is the same as for Alternative B. Similar to tribal ceremonies above, healing runs are conducted on occasion by the tribes, and these would be permitted to continue under the no action alternative. Because the National Park Service currently permits these runs at the Historic Site for ceremonial purposes, there would be no change to ethnographic resources.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have had or will have a beneficial effect to the ethnographic resource. One of the biggest benefits to the ethnographic resource was from the official establishment of the park unit in 2000, which ended grazing and ranching activities to the site, allowing for the recovery of the resource to begin. Minor development actions, such as supplying electrical power to the site, have had a beneficial effect on ethnographic resource by providing better amenities to the site for tribal use. Future planning projects will engage the tribes to help plan what is best for the resource. All together, these actions have a minor to moderate, beneficial, long-term effect on the ethnographic resource. This effect results from improving the condition of the resource and facilitating tribal access to the site. The no action alternative also facilitates continued tribal access to the site for ceremonial purposes, and while it does not provide for any additional amenities, it would have no incremental effect on the overall effects from other projects. Therefore, the overall cumulative effect to the ethnographic resource, when weighed with the effects of the no action alternative, would be minor to moderate, beneficial, and long-term.

Conclusion: Under the no action alternative, visitor access amenities or National Park Service management facilities would not be constructed, which would not affect the ethnographic resource; however, not constructing some features requested by the tribes, such as a repatriation cemetery or a new monument to replace the existing 1950s monument, would have a minor, adverse, long-term effect on the ethnographic resource by not facilitating tribal practices. Access to and use of the site by tribes would not change under this alternative, which is in accordance with the enabling legislation. Cumulatively, the effect to the ethnographic resource would be minor to moderate, long-term, and beneficial from continued preservation of and tribal access to the resource. Because this alternative would not result in major impacts, there would be no impairment to ethnographic resources.

Impacts of Alternative B (Preferred Alternative) – Interim Site Management Plan

1. **Public Access (Visitor Experience and Interpretation)** – This portion of the alternative includes the construction of new buildings and structures, which would be situated outside the areas of the Historic Site that are primarily used for tribal ceremonies. This would have a minor, adverse, long-term effect to the ethnographic resource because the new buildings and structures would be apparent in the

ethnographic resource; however, they would not alter resource conditions because they would be constructed in previously disturbed areas. The relationship between the ethnographic resource and the tribe's beliefs or practices would remain the same, even with the introduction of public access, because 1) public access would be restricted to visitor access areas only, and 2) the presence of visitors is encouraged by the tribes for increased understanding of the site.

- Visitor Experience and Interpretation – The impact to ethnographic resources is the same as under Alternative A. The basic interpretive themes and visitor experience model would remain as they are described in the *Special Resource Study* (NPS 2000b) which gives the park unit a vision from which to structure a more detailed interpretive program. This planning vision would have no effect on the ethnographic resource. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
- Grand Opening Event – This event shall occur at the end of April 2007, and would not appreciably affect the ethnographic resource, which is the same as under Alternative A. Although a greater number of visitors and their vehicles would be present at the site, this is not expected to alter the condition or significance of the ethnographic resource because 1) visitors would not be permitted access outside of the visitor use areas, and 2) visitor use is encouraged by the tribes to foster greater understanding and appreciation of the site. Some minor construction activities may occur in preparation for this event such as the placement of tepees by tribes, which would facilitate a beneficial use of the ethnographic resource for the tribes and the general public.
- Nature of Public Access – Under the preferred alternative, Sand Creek Massacre National Historic Site shall be open to the public beginning with its grand opening celebration in April 2007. During the interim, public access would remain limited and by appointment only, but would increase gradually as facilities and staff are established on-site. Geographically, public access would be limited to within designated visitor access areas only, which include the access roads, the park support services area, and the overlook area. Visitors would not be permitted in the main massacre site itself or in areas that tribes use for ceremonial purposes. With limited access within the site, this action is not expected to change the condition of the ethnographic resource, nor would it change the tribe's access to or relationship with the site.
- Temporary Buildings and Structures – A temporary park support services building would be placed in the Dawson Ranch area of the site, which would also serve as a visitor contact station. Most visitors would make contact with the park staff here, and then proceed to the overlook, either escorted or unescorted. Construction of the temporary park support services building would introduce a new visible feature in the landscape which would be apparent, and this would have a minor, adverse, long-term effect to the ethnographic resource. However, this action would not alter ethnographic resource conditions and has substantially fewer impacts to the resource than placing a park support services building elsewhere in the park unit because this area 1) has been greatly modified/ disturbed by previous ranching activities, and 2) the existing cottonwood trees provide a screen from the main massacre area. Furthermore, this action would not affect the significance of the ethnographic resource, nor would it alter tribal access to or use of the site.

This alternative also includes the construction of other visitor use facilities in the landscape such as toilets and trash receptacles in the Dawson Ranch area and near the overlook which would have negligible to minor, adverse, long-term effects to the ethnographic resource for the same reasons as explained under the construction of the temporary park support services facility/ visitor contact station. It should be noted that care would be taken in the appropriate design and placement of these facilities to avoid greater-than-minor impacts to ethnographic resources from the introduction of undesirable features or elements. Construction activities, including the presence of construction equipment and workers in areas of tribal access or use (not ceremonial areas), would have a negligible, temporary, adverse effect to the ethnographic resource because tribal access may be negligibly more difficult by having to maneuver around the construction site. This effect would be reversed once construction activities are completed.

- Trails – Two trails would be constructed under the preferred alternative, which would have a negligible to minor, beneficial, long-term effect to the ethnographic resource because of improved access to other portions of the site. Currently, the tribes typically remain in a limited area within the Historic Site, but two new trails would open previously inaccessible areas of the site for the tribes and public alike. While improved access would have a beneficial effect, the trails may have a negligible adverse effect from the presence of new features in the resource; however, this effect would be minimized by placing the trails outside of the main massacre area; avoiding impacts to any significant features of the ethnographic resource; and minimizing ground disturbance or clearing, so as to make them minimally visible.
 - Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which would not affect the ethnographic resource. Signs, kiosks, and exhibits would be placed along roadways, in the Dawson Ranch area, and in the overlook area, which would introduce new features into the resource. Similar to the other construction items planned under this alternative, this would have a minor, adverse, long-term effect to the ethnographic resource because the new signage would be apparent in the ethnographic resource; however, it would not alter the condition of the ethnographic resource because it would be constructed in previously disturbed areas that are not significant for tribal ceremonies.
 - Overlook – An overlook on adjacent land currently managed by the State of Colorado would be considered, which would not directly affect the ethnographic resource because this piece of property is outside of the area considered significant by the tribes. The overlook may be visible from the massacre site itself, but would be situated and designed so as to avoid greater-than-minor effects to the ethnographic landscape.
 - Roads and Parking – The existing ranch roads are beneficial to the tribes because they provide access into the site, thereby facilitating their use of the ethnographic resource. These roads would continue to be used for leading visitors to the site, which would not affect the ethnographic resource. Formalizing and improving these roads and parking areas under the preferred alternative would further facilitate tribal access to the site, thereby having a minor beneficial effect. The roadway improvements may be visible from the massacre site itself, but would be designed so as to avoid greater-than-minor effects to the ethnographic landscape.
 - Utilities – Utilities would be placed, mostly in the Dawson Ranch area, which would provide greater amenities to the area, thereby facilitating tribal use of the site. Installation of utilities would be designed and sited so as to not affect the features for which the ethnographic resource is significant. Most utilities are expected to be placed underground, outside the ceremonial areas used by tribes, which would have a negligible adverse effect to the ethnographic resource in the long-term.
2. **National Park Service Management** – This portion of the alternative includes the construction of new buildings and structures in the Dawson Ranch area, which is not a significant feature of the ethnographic landscape. This would have a minor, adverse, long-term effect to the ethnographic resource, because the new buildings and structures would be apparent in the ethnographic resource; however, they would not alter resource conditions because they would be constructed in the previously disturbed Dawson Ranch area. This portion of the preferred alternative would not alter the relationship between the ethnographic resource and the tribe's beliefs or practices or tribal access to the site.
- Temporary Buildings and Structures – Under the preferred alternative, a temporary park support services building that doubles as a visitor contact station would be constructed and this would have a minor, adverse, long-term effect on the ethnographic resource, as described in the section above under *Temporary Buildings and Structures*. Office space in downtown Eads would be relinquished under this alternative which would not affect the ethnographic resource.

- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch would be re-used for management purposes under this alternative, which would have no effect on the condition or significance of the ethnographic resource, nor would it impact tribal access to the site.
 - Boundary Changes and Fencing – This alternative includes acquiring additional lands and the possibility of constructing fences. Acquiring new lands that contribute to the ethnographic landscape would expand the boundaries of and improve the protection of the resource to a minor to moderate degree. Boundary expansion would provide opportunities for the tribes to access what could be a greater portion of the ethnographic resource. Fencing could introduce new elements to the resource, which would be apparent and have a negligible to minor, adverse, long-term effect on the viewshed of the ethnographic resource.
 - Law Enforcement and Fire Management – The effect is the same as Alternative A. Maintaining agreements with the Kiowa County Sheriff's Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic Site would not impact the ethnographic resource.
 - Maintenance – Routine maintenance activities would benefit the ethnographic resource to a negligible degree through housekeeping and safety inspections.
3. **Tribal Use** – This portion of the preferred alternative includes continued access to and use of the Historic Site for tribal ceremonies which has no effect on the ethnographic resource because these actions are already occurring in accordance with the enabling legislation. Additionally, this alternative would facilitate some tribal activities such as replacing the 1950s stone monument; providing for a repatriation cemetery; and providing on-site materials storage for the tribes, which would result in a minor to moderate, beneficial, long-term, effect to the ethnographic resource by facilitating tribal practices.
- Access – Currently, tribes are permitted under the park unit's authorizing legislation to use the Historic Site, and this would continue under this alternative with no effect to the ethnographic resource. Furthermore, coordination between the National Park Service and the tribes would continue in accordance with the enabling legislation and the existing cooperative agreements.
 - Replacement of 1950s Monument – The existing 1950s stone monument is not a feature of the ethnographic landscape, and the tribes would prefer it to be removed and replaced with a new monument. This alternative facilitates this tribal request by removing the existing monument and constructing a new monument in the overlook area. By facilitating tribal beliefs, this action would result in a minor to moderate, beneficial, long-term effect on the ethnographic resource and tribal use of the resource. The 1950s stone monument is an important piece of history and would be retained at the site, likely in an area for public viewing.
 - Cemetery (Repatriation Site) – The tribes have requested that a cemetery for repatriation purposes would be constructed in the overlook area, and this alternative facilitates that desire. This would have a minor to moderate, beneficial, long-term effect on the ethnographic resource, by facilitating tribal practices and beliefs.
 - Ceremonies – This is the same as for Alternative A. The park unit's authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance, and the National Park Service grants this access upon request from the tribes. This alternative facilitates the use of the Historic Site for ceremonial purposes, and the National Park Service recognizes that some ceremonies may involve some ground disturbing activities such as the construction or placement of sweat lodges, tepees, and fires. Because the National Park Service currently permits tribal access to the Historic Site for ceremonial purposes, there would be no change to ethnographic resources.

- **Materials Storage** – The tribes have requested an on-site building for materials storage, and this alternative accommodates that request. Under this alternative, an existing building in the Dawson Ranch area would be designated to accommodate tribal storage. By facilitating tribal practices, this would have a minor, beneficial, long-term effect on the ethnographic resource.
- **“Healing Runs”** – This is the same as for Alternative A. Similar to tribal ceremonies above, healing runs are conducted on occasion by the tribes, and these would be permitted to continue under the preferred alternative. Because the National Park Service currently permits these runs at the Historic Site for ceremonial purposes, there would be no change to ethnographic resources.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have had or will have a beneficial effect to the ethnographic resource. One of the biggest benefits to the ethnographic resource was from the official establishment of the park unit in 2000, which ended grazing and ranching activities to the site, allowing for the recovery of the resource to begin. Minor development actions, such as supplying electrical power to the site, have had a beneficial effect on ethnographic resource by providing better amenities to the site for tribal use. Future planning projects will engage the tribes to help plan what is best for the resource. All together, these actions have a minor to moderate, beneficial, long-term effect on the ethnographic resource. This effect results from improving the condition of the resource and facilitating tribal access to the site. The preferred alternative further facilitates continued tribal access to the site for ceremonial purposes, and provides for additional amenities such as the repatriation cemetery, which would have an incremental beneficial effect on the overall effects from other projects. Therefore, the overall cumulative effect to the ethnographic resource, when weighed with the added beneficial effects of the no action alternative, would be moderate, beneficial, and long-term.

Conclusion: Construction of visitor access amenities and National Park Service management facilities would primarily have negligible effects on the ethnographic resource because construction would occur in previously disturbed areas outside the ethnographically significant areas of the park unit. In addition, constructing some features requested by the tribes, such as a repatriation cemetery or a new monument to replace the existing 1950s monument, would have a minor to moderate, beneficial, long-term effect on the ethnographic resource by facilitating tribal practices. Access to and use of the site by tribes would not change under this alternative, which is in accordance with the enabling legislation. Cumulatively, the effect to the ethnographic resource would be moderate, long-term, and beneficial from continued preservation of and tribal access to the resource in addition to the construction of tribal amenities such as the cemetery. Because this alternative would not result in major impacts, there would be no impairment to ethnographic resources.

Visitor Use and Experience

Intensity Level Definitions

Sand Creek Massacre National Historic Site was established to protect and preserve the massacre site; to interpret the natural and cultural resource values of the site; and to commemorate the site by enhancing the public understanding of the site. These last two reasons for park establishment relate to visitors, namely the use, experience, understanding, and appreciation that visitors would have when they visit Sand Creek Massacre National Historic Site. These reasons for establishing the National Park Service unit are used for assessing impacts to visitor use and experience. The thresholds for this impact assessment are as follows:

Negligible: Visitors would not be affected or changes in visitor use and/or experience would be below or at the level of detection. Any effects would be short-term. The visitor would not likely be aware of the effects associated with the alternative.

Minor: Changes in visitor use and/or experience would be detectable, although the changes would be slight and likely short-term. The visitor would be aware of the effects

associated with the alternative, but the effects would be slight.

Moderate: Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the alternative, and would likely be able to express an opinion about the changes.

Major: Changes in visitor use and/or experience would be readily apparent and have substantial long-term consequences. The visitor would be aware of the effects associated with the alternative, and would likely express a strong opinion about the changes.

Impacts of Alternative A – No Action

Although the park unit would be open to the public under this alternative, it only minimally meets the reasons for why Sand Creek Massacre National Historic Site was established. The reason for this is because this alternative 1) lacks the necessary and basic visitor facilities that provide a positive visitor experience, 2) offers only limited, by-appointment-only access to the park unit, and 3) lacks improvements to existing infrastructure at the site such as the roads. Interpretive themes are the same for Alternatives A and B, which would provide for greater understanding of the park unit.

1. **Public Access (Visitor Experience and Interpretation)** – Sand Creek Massacre National Historic Site shall be open to the public beginning in April 2007, which would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Access is a bit more limited under this alternative when compared with Alternative B, but the park unit would still be open to the public. Under this portion of the no action alternative, no buildings or structures would be constructed, which would provide no additional visitor amenities at Sand Creek Massacre National Historic Site. This would have a minor, adverse, long-term effect on the visitor use and experience because even basic facilities, such as a contact station and toilets, would not be constructed. Because this alternative has little to no construction, visitors would not be affected by construction activities such as dust and noise.
 - Visitor Experience and Interpretation – Under the no action alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study* (NPS 2000b). This interpretive vision would allow for greater understanding and hopefully appreciation of Creek Massacre National Historic Site, which would have a negligible beneficial effect on visitor use and experience during the interim, and would be the same as for Alternative B. Interpretive themes would be further analyzed and developed during the general management planning process and related comprehensive interpretive planning. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
 - Grand Opening Event – This event shall occur at the end of April 2007, and would have a minor to moderate beneficial effect on visitor use and experience, which would be the same for Alternative B. Until now, the park unit has been closed to the public, and this event marks the official opening of the park unit to the public. Various events, tribal activities, and dedication ceremonies are planned, which would provide visitors with additional opportunities for enjoyment, appreciation, and understanding of the site. The activities planned for the event would be consistent with the significance of the site.
 - Nature of Public Access – Under the no action alternative, Sand Creek Massacre National Historic Site shall be open to the public, for the very first time, beginning with its grand opening celebration in April 2007. This would have a minor to moderate beneficial effect on visitor use and experience because visitors would now be able to access a site that was previously closed to public use, which is the same as under Alternative A. However, during the interim, public access would remain limited and by appointment only and, geographically speaking, public access would be limited to the temporary park support services area, the overlook area, and the visitor access roads to protect natural and cultural resources until general management planning is completed

(Figure 1). These visitor access limitations have a minor adverse effect on visitor use and experience when compared with Alternative B. On the other hand, the visitors that do make appointments to visit the site would be provided with a guided tour of the site, which is something not guaranteed under Alternative B.

- Temporary Buildings and Structures – No buildings or structures would be constructed under the no action alternative including a visitor contact station, toilets, or water for visitors. Compared with Alternative B, this would have a minor, adverse, long-term effect on visitor use and experience because these amenities provide basic necessities and comfort, and without them, the quality of the visitor experience may be decreased.
 - Trails – No trails would be constructed under the no action alternative, which would have a minor, adverse, long-term effect on visitor use and experience when compared with Alternative B. The reason for this is because trails would provide additional opportunities for experiencing the site, and without them, visitors have fewer opportunities.
 - Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which would have a negligible beneficial effect on visitor use and experience, the same as for Alternative B. No signs, kiosks, or exhibits would be constructed at the Historic Site, which would adversely affect visitor use and experience to a minor degree when compared with Alternative B. The reason for this is because signs, kiosks, and exhibits would provide additional information for understanding and navigating the site, and without them, the quality of the visitor experience may be decreased.
 - Overlook – An overlook on adjacent land currently managed by the State of Colorado would not be considered, and while this would be no change from existing conditions, it would provide fewer opportunities than Alternative B, thereby having a negligible adverse effect on visitor use and experience.
 - Roads and Parking – The existing ranch roads would continue to be used for leading visitors to the site, which is beneficial for visitor use and experience, and particularly for meeting accessibility standards. However, this alternative does not include road or parking improvements, which would have a minor, adverse, long-term effect on visitor use and experience when compared with Alternative B. The reason for this is because these improvements would provide for better road conditions, pullouts, and formalized parking areas which add to the overall visitor use and experience of the park unit.
 - Utilities – No utilities would be constructed under the no action alternative, which would result in no water, sewer, or other comforts at the park unit. This would have a minor, adverse, long-term effect on visitor use and experience when compared with Alternative B because these utilities would provide basic amenities for improved visitor use and experience.
2. **National Park Service Management** – This portion of the no action alternative does not include the construction of buildings or structures at Sand Creek Massacre National Historic Site, which means that Historic Site staff would continue to work off-site at their office location Eads. This would have a minor, adverse, long-term effect to visitor use and experience because 1) visitors would have to schedule their visits ahead of time, and 2) the only visitor contact station would be in Eads and not at the park unit. Because this alternative has little to no construction, visitors would not be affected by construction activities such as dust and noise.
- Temporary Buildings and Structures – Under the no action alternative, no temporary park support services building would be constructed, which would mean that visitors would have to arrange their visits ahead of time or make a stop at the National Park Service offices in Eads before going to the park unit. This would inconvenience visitors to a minor degree. The park support services

building would also serve as a visitor contact station, of which the effects are described in more detail above under *Temporary Buildings and Structures*.

- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch area would not be re-used for management purposes under this alternative, which would have no effect on visitor use and experience.
 - Boundary Changes and Fencing – This alternative does not include acquiring additional lands, which would have a minor, adverse, long-term effect to visitor use and experience when compared with Alternative B. The reason for this is because not acquiring additional lands would provide fewer experiences at the park than if additional lands were open for additional visitor opportunities. No fencing would be constructed which would not have affect visitor use or experience.
 - Law Enforcement and Fire Management – The effect is the same as Alternative B. Maintaining agreements with the Kiowa County Sheriff’s Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression would have a negligible beneficial effect on visitor use and experience by maintaining the safety aspects of the park unit.
 - Maintenance – Because there would be no staff on-site and visitor use would be limited, minimal maintenance would be necessary under the no action alternative, which could negligibly and adversely affect visitor use and experience in terms of basic housekeeping and upkeep of the park unit.
3. **Tribal Use** – This portion of the no action alternative includes the use of the Historic Site for tribal ceremonies. Because visitor use of the site is by appointment only, the guide could probably arrange most guided visitor trips to the site around any ceremonies, which benefits the visitor because certain areas of the park would not be closed. This is a negligible benefit when compared with Alternative B. This alternative does not include the construction of additional visitor opportunities such as an interpreted repatriation cemetery, which would have a minor adverse effect on visitor use and experience when compared with Alternative B. This alternative would retain the existing 1950s stone monument and not replace it with a new one, which provides fewer visitor opportunities than Alternative B, and thus, a minor, adverse impact to visitor use and experience.
- Access – Currently, tribes are permitted access to the Historic Site per the park unit’s authorizing legislation, which would not affect visitor use and experience. See also *Ceremonies* below.
 - Replacement of 1950s Monument – The existing 1950s stone monument would remain intact, and no new monument would be constructed under this alternative. While this would not change the current visitor opportunities, it would provide fewer opportunities than compared to Alternative B. By keeping the existing monument, and not building a new one, visitors would not be able to experience a tribally preferred monument. This would have a negligibly adverse effect on visitor use and experience.
 - Cemetery (Repatriation Site) – No cemetery for repatriation purposes would be constructed, which would not change the current visitor opportunities, but it would provide fewer opportunities than compared to Alternative B. Without an interpreted cemetery, visitors would not have the opportunity to experience this part of the tribal practices and beliefs. This would have a minor adverse effect on visitor use and experience.
 - Ceremonies – The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. Because visitors would only be able to visit the park unit by appointment, there would probably be no conflict if certain areas of the park unit needed to be closed for ceremonial purposes. Park staff could

arrange visitor tours around these ceremonies, thus avoiding visitor disappointment if they arrive at the site and a portion of it is closed. This is a negligible benefit when compared with Alternative B.

- **Materials Storage** – An existing building in the Dawson Ranch area would not be designated to accommodate tribal storage, which would have no effect on visitor use and experience.
- **“Healing Runs”** – This is the same as for Alternative B. Healing runs are currently conducted by tribal members only, but the tribes have suggested that they be open to the public in the future. This would provide additional visitor opportunities, having a negligible benefit to visitor use and experience.

Cumulative Impacts: A number of the actions listed in the cumulative scenario have had or will have a beneficial effect on visitor use and experience. Prior to the National Park Service acquiring the land to establish Sand Creek Massacre National Historic Site, this area was privately owned and used for ranching and grazing purposes. With this change in land use, and the opening of the park in 2007, this will provide additional visitor opportunities to the general area. Past and future planning activities, research studies, and surveys indirectly benefit visitor use and experience by providing more information and a greater understanding about the natural and cultural resources and values at the park unit. Further benefit to visitor use and experience would come from acquiring additional lands which would provide even greater visitor opportunities to the area. All together, these have a minor to moderate beneficial effect of visitor use and experience. While the no action alternative does provide for visitor access to the park unit, it does not include the construction of basic visitor amenities or additional visitor opportunities, and therefore, incrementally adds only a minor benefit to the overall cumulative effects. Therefore, the overall cumulative effect for visitor use and experience, when combined with effects of the no action alternative, would remain minor to moderate, beneficial, and long-term.

Conclusion: Beginning in April 2007, Sand Creek Massacre National Historic Site shall be open to the public, which would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Public access is a bit more limited, both temporally and geographically, under this alternative when compared with Alternative B, but the park unit would still be open to the public. The no action alternative does not include the construction of basic amenities such as a visitor contact station, toilets, or water; improvements to existing infrastructure at the site such as the roads; or additional visitor opportunities such as trails, an overlook, or an interpreted tribal cemetery. Without these basic amenities, infrastructure improvements, or additional opportunities, this alternative would have a minor, adverse effect on visitor use and experience. Cumulatively, the effect to visitor use and understanding would be minor to moderate, long-term, and beneficial from preservation of the site, increased public access, acquiring additional lands, and greater understanding of the site.

Impacts of Alternative B (Preferred Alternative) – Interim Site Management Plan

Similar to Alternative A, Sand Creek Massacre National Historic Site would be open to the public under this alternative, but this alternative meets the reasons for why the park unit was established to a greater degree than Alternative A. The reason for this is because the preferred alternative 1) provides the necessary and basic visitor facilities that provide a positive visitor experience, 2) offer increasingly less limited access to the park unit, and 3) provides improvements to existing infrastructure at the site such as the roads. Interpretive themes are the same for Alternatives A and B, which would provide for greater understanding of the park unit.

1. **Public Access (Visitor Experience and Interpretation)** – Sand Creek Massacre National Historic Site shall be open to the public beginning in April 2007, which would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Access is less limited under this alternative when compared with Alternative A, thereby having a greater beneficial effect on visitor use and experience. Under this portion of the no action alternative, some buildings and structures would be constructed, which would provide basic visitor amenities and some additional visitor opportunities at Sand Creek Massacre National Historic Site.

This would have a minor to moderate, beneficial, long-term effect on the visitor use and experience. Because this alternative includes the construction of buildings, there would be some minor, adverse, temporary construction-related disturbances to visitors such as increased dust and noise.

- Visitor Experience and Interpretation – Under the preferred alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study* (NPS 2000b). This interpretive vision would allow for greater understanding and hopefully appreciation of Creek Massacre National Historic Site, which would have a negligible beneficial effect on visitor use and experience during the interim, and would be the same for Alternative A. Interpretive themes would be further analyzed and developed during the general management planning process and related comprehensive interpretive planning. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
- Grand Opening Event – This event shall occur at the end of April 2007, and would have a minor to moderate beneficial effect on visitor use and experience, which would be the same as under Alternative A. Until now, the park unit has been closed to the public, and this event marks the official opening of the park unit to the public. Various events, tribal activities, and dedication ceremonies are planned, which would provide visitors with additional opportunities for enjoyment, appreciation, and understanding of the site. The activities planned for the event would be consistent with the significance of the site.
- Nature of Public Access – Under the preferred alternative, Sand Creek Massacre National Historic Site shall be open to the public, for the very first time, beginning with its grand opening celebration in April 2007. This would have a minor to moderate beneficial effect on visitor use and experience because visitors would now be able to access a site that was previously closed to public use, which is the same as under Alternative A. In terms of public access, at first, this alternative would be the same as Alternative A because access would be by appointment only, that is, until more infrastructure and staff are present on-site. Once the site is a bit more established with amenities and staff, public access would be less limited than Alternative A by eventually opening the park unit during scheduled hours of operation. Increased visitor access would have a minor beneficial effect on visitor use and experience when compared with Alternative A. Geographically speaking, public access would be less limited than Alternative A, because in addition to having access to the temporary park support services area, the overlook area, and the access roads, visitors would have access to new portions of the park unit via hiking trails, which is a minor benefit over Alternative A.
- Temporary Buildings and Structures – A temporary park support services building would be placed in the Dawson Ranch area of the site, which would also serve as a visitor contact station. Most visitors would make contact with the park staff here, and then proceed to the overlook, either escorted or unescorted. Construction of the new temporary building, in addition to toilets and water, would provide basic visitor amenities and improve the visitor experience to a minor to moderate degree during the interim. A new building situated in the Dawson Ranch area has substantially fewer impacts to the overall setting than elsewhere in the park unit because this area 1) has been greatly modified/ disturbed by previous ranching activities, and 2) the existing cottonwood trees provide a screen from the main massacre area. Furthermore, construction of the building in this area is reasonably accessible to visitors via an existing dirt road, which helps minimize associated new construction, such as roads, to the area. This alternative does result in temporary, minor, adverse effects to the visitor experience during construction from increased dust and noise. It should be noted that care would be taken in the appropriate design and placement of these facilities to avoid greater-than-minor impacts the cultural landscape from the introduction of non-contributing features or elements.
- Trails – Two trails would be constructed under the preferred alternative, which would have minor to moderate, beneficial, long-term effects to the visitor use and experience. Constructing two trails would provide for greater visitor opportunities at the park unit, and would allow visitors to experience a part of the park previously not accessible. The trails would be carefully constructed

outside of the main massacre area with minimal ground disturbance or clearing, so as to protect the massacre site and make them minimally visible in the landscape.

- Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which would have a negligible beneficial effect on visitor use and experience, the same as for Alternative A. The difference with this alternative is that signs, kiosks, and exhibits would be constructed at the Historic Site to aid in navigation and understanding of the resource, which would benefit the visitor to a minor to moderate degree during the interim.
 - Overlook – An overlook on adjacent land currently managed by the State of Colorado would be considered under the preferred alternative, which would provide additional visitor opportunities, thereby improving visitor experience to a minor to moderate degree. The overlook may be visible from the massacre site itself, but would be situated and designed so as to avoid greater-than-minor adverse effects to the visible landscape.
 - Roads and Parking – The existing ranch roads would continue to be used for leading visitors to the site, which is beneficial for visitor use and experience, and particularly for meeting accessibility standards. Compared with Alternative A, this alternative provides for roadway and parking improvements which would have a minor to moderate, beneficial, long-term effect on visitor use and experience. The reason for this is because these improvements would provide for better road conditions, pullouts, and formalized parking areas which benefit the overall visitor experience.
 - Utilities – Utilities would be placed, mostly in the Dawson Ranch area, which would help provide basic amenities to the visitor such as toilets and water. This would have a minor to moderate, beneficial, long-term effect on visitor use and experience. Most utilities would be placed underground, thereby reducing the long-term visibility of these features, and preserving the visual landscape for which the visitors are there to experience. Construction of the utilities may have minor adverse impacts on the visitor experience from increased dust and noise, but would be temporary lasting only as long as the construction activities.
2. **National Park Service Management** – This portion of the preferred alternative includes the construction of a temporary park support services building at Sand Creek Massacre National Historic Site, which means that Historic Site staff would be able to work on-site instead of in Eads. This would have a minor to moderate, beneficial, long-term effect to visitor use and experience because visitors 1) would not have to make appointments to visit the site, and 2) would not have to make an extra stop in Eads before coming to the site. Because this alternative includes the construction of a building, there would be some minor, adverse, temporary construction-related disturbances to visitors such as increased dust and noise.
- Temporary Buildings and Structures – Under the preferred alternative, a temporary park support services building would be constructed which would allow visitors to come directly to the park unit without having to arrange their visits ahead of time or make a stop at the National Park Service offices in Eads before going to the park unit. This would benefit the visitor experience to a minor to moderate degree. The park support services building would also serve as a visitor contact station, of which the effects are described in more detail above under *Temporary Buildings and Structures*.
 - Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch would be re-used for management purposes under this alternative. Reusing the existing buildings for storage would not impact how visitors experience the park unit.
 - Boundary Changes and Fencing – This alternative includes acquiring additional lands, which would have a minor to moderate, beneficial, long-term effect to visitor use and experience when

compared with Alternative A. The reason for this is because acquiring additional lands would provide a greater range of visitor opportunities at the park unit. Fencing would not have an appreciable effect on visitor use and experience.

- Law Enforcement and Fire Management – The effect is the same as Alternative A. Maintaining agreements with the Kiowa County Sheriff’s Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression would have a negligible beneficial effect on visitor use and experience by maintaining the safety aspects of the park unit.
 - Maintenance – Routine maintenance activities would benefit the visitor use and experience to a negligible degree through basic housekeeping and upkeep of the park unit.
3. **Tribal Use** – This portion of the no action alternative includes the use of the Historic Site for tribal ceremonies, which may have minor adverse effects on visitor use and experience if certain portions of the park unit were temporarily closed for tribal use. This alternative includes the construction of a repatriation cemetery which would be interpreted for the public, thereby providing additional visitor opportunities, having a minor beneficial effect. This alternative would remove the existing 1950s stone monument and replace it with a new one which has beneficial and adverse effects to visitor use and experience.
- Access – Currently, tribes are permitted access to the Historic Site per the park unit’s authorizing legislation, and most often, this would not affect visitor use and experience. On occasion however, in accordance with the enabling legislation, the National Park Service may temporarily close portions of the park unit to public access to allow for tribal use. For instance, the overlook area may be closed for a few hours during a repatriation ceremony at the new cemetery. This would adversely affect visitors to a minor degree because there would be fewer visitor opportunities available to them, that is, until the temporarily closed area is reopened.
 - Replacement of 1950s Monument – The existing 1950s stone monument would be removed and relocated elsewhere in the Historic Site, and a new monument would be constructed in the overlook area. This would provide greater visitor opportunities when compared to Alternative A. By constructing a new monument, visitors would be able to experience a tribally preferred monument in addition to the 1950s monument, which would have a minor to moderate, beneficial effect on visitor use and experience by providing additional visitor opportunities. The new monument would be constructed for minimal visible intrusion on the landscape.
 - Cemetery (Repatriation Site) – A cemetery for repatriation purposes would be constructed, which would increase the current visitor opportunities to a minor to moderate degree when compared to Alternative B. With an interpreted cemetery, visitors would have the opportunity to experience this part of the tribal practices and beliefs, whereas, under Alternative A, they would not.
 - Ceremonies – The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. As explained previously, this would not impact general visitor use and experience; however, on occasion and in accordance with the enabling legislation, the National Park Service may temporarily close portions of the park unit to public access to allow for tribal use. For instance, the overlook area may be closed for a few hours during a repatriation ceremony at the new cemetery. This would adversely affect visitors to a minor degree because there would be fewer visitor opportunities available to them, that is, until the temporarily closed area is reopened.
 - Materials Storage – An existing building in the Dawson Ranch area would be designated to accommodate tribal storage, which would have no effect on visitor use and experience.

- **“Healing Runs”** – This is the same as for Alternative A. Healing runs are currently conducted by tribal members only, but the tribes have suggested that they be open to the public in the future. This would provide additional visitor opportunities, having a negligible benefit to visitor use and experience.

Cumulative Impacts: A number of the actions listed in the cumulative scenario have had or will have a beneficial effect on visitor use and experience. Prior to the National Park Service acquiring the land to establish Sand Creek Massacre National Historic Site, this area was privately owned and used for ranching and grazing purposes. With this change in land use, and the opening of the park in 2007, this will provide additional visitor opportunities to the general area. Past and future planning activities, research studies, and surveys indirectly benefit visitor use and experience by providing more information and a greater understanding about the natural and cultural resources and values at the park unit. Further benefit to visitor use and experience would come from acquiring additional lands, which would provide even greater visitor opportunities to the area. All together, these have a minor to moderate beneficial effect of visitor use and experience. The preferred alternative provides for visitor access to the park unit, in addition to the construction of basic visitor amenities or additional visitor opportunities, and therefore, incrementally adds a minor to moderate benefit to the overall cumulative effects. Therefore, the overall cumulative effect for visitor use and experience, when combined with effects of the preferred alternative, would be moderate, beneficial, and long-term.

Conclusion: Beginning in April 2007, Sand Creek Massacre National Historic Site shall be open to the public, which would have a minor to moderate beneficial effect to visitor use and experience, because until now, the site has not been open to the public. Public access is less limited, both temporally and geographically, under this alternative when compared with Alternative A because this alternative provides trails to access previously closed areas of the park plus the park would eventually be open during scheduled hours of operation. The preferred alternative also includes the construction of basic amenities such as a visitor contact station, toilets, or water; improvements to existing infrastructure at the site such as the roads; and additional visitor opportunities such as trails, an overlook, or an interpreted tribal cemetery. With these basic amenities, infrastructure improvements, and additional opportunities, this alternative would have a minor to moderate, beneficial effect on visitor use and experience. Cumulatively, the effect to visitor use and understanding would be moderate, long-term, and beneficial from preservation of the site, increased public access and on-site amenities, acquiring additional lands, and greater understanding of the site.

Park Operations

Intensity Level Definitions

Implementation of a project can effect the operations of a park such as the number of employees needed; the type of duties that need to be conducted; when/who would conduct these duties; how activities should be conducted; and administrative procedures. The methodology used to assess potential changes to park operations are defined as follows:

Negligible: Park operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on park operations.

Minor: The effect would be detectable, but would be of a magnitude that would not have an appreciable adverse or beneficial effect on park operations. If mitigation were needed to offset adverse effects, it would be relatively simple and successful.

Moderate: The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful.

Major: The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not be guaranteed.

Impacts of Alternative A – No Action

1. **Public Access (Visitor Experience and Interpretation)** – Under this portion of the no action alternative, visitors would be allowed access to the site by appointment only, which would adversely increase the workload of park staff to a minor to moderate degree. No visitor facilities such as a contact station or trails would be constructed, which would not change the current park operations because no maintenance or upkeep of new facilities would be required. While a detailed cost analysis has not been completed, it is expected that this alternative would cost less than Alternative B because there would be no construction of facilities, but it would involve more staff time because of the public access by appointment only.
 - Visitor Experience and Interpretation – Under the no action alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study* (NPS 2000b), and this vision would have no effect to park operations. This would be the same as for Alternative B. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
 - Grand Opening Event – This event shall occur at the end of April 2007, and would have a minor to moderate, adverse effect on park operations from the increased workload. Planning an event such as this is time-consuming, and requires much thought and preparation. In addition to their normal duties, Historic Site staff must also find time to organize the event, schedule activities, gather materials, send notices, coordinate with people, and then clean up the event after it is finished. This is a temporary effect to park operations, lasting up until and shortly after the event, and would have a minor to moderate effect on staff workload, which is the same as for Alternative A.
 - Nature of Public Access – Under the no action alternative, Sand Creek Massacre National Historic Site shall be open to the public, for the very first time, beginning with its grand opening celebration in April 2007. This would have a minor to moderate adverse effect on park operations due to increased workload. Previously, the Historic Site had been closed to public use, so park staff did not spend much time escorting visitors; however, under this alternative, public access would be granted to the site by appointment only. Compared to Alternative B, this would have a minor to moderate, adverse effect to park operations because visitor use would not be self-sufficient. Instead, park staff would escort visitors to the site and provide a guided tour, which is time-consuming and takes away from their other duties, particularly since they have to commute to the park unit from Eads. This is such an increase in workload that, over time, additional staff would probably be needed to handle the visitor contact; however, this alternative does not provide for additional staff.
 - Temporary Buildings and Structures – No buildings or structures would be constructed under the no action alternative; therefore, park staff would not be required to facilitate construction activities or perform maintenance on new facilities. This would have no effect to park operations.
 - Trails – No trails would be constructed under the no action alternative; therefore, park staff would not be required to facilitate construction activities or perform maintenance on the new trails. This would have no effect to park operations.
 - Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which takes some time from park staff; however,

this no different from the current workload, and thus would have no effect to park operations. No signs, kiosks, or exhibits would be constructed at the Historic Site which would have no effect on park operations because park staff would not be required to facilitate construction activities or maintain new signage.

- Overlook – An overlook on adjacent land currently managed by the State of Colorado would not be considered which would not affect park operations because park staff would not be required to facilitate construction activities or maintain the new facility.
- Roads and Parking – The existing ranch roads would continue to be used for leading visitors to the site, but they would not be improved, which has a minor adverse effect to park operations when compared with Alternative B. While the roads would remain intact, there would be more wear-and-tear from the increased visitor use, which results in more maintenance needed for the roads. It also results in uncomfortable and possibly unsafe working conditions as the roads deteriorate from increased use and weather.
- Utilities – No utilities would be constructed under the no action alternative which would not affect park operations because park staff would not be required to facilitate construction activities or maintain the new utilities.

2. **National Park Service Management** – This portion of the no action alternative does not include the construction of buildings or structures at Sand Creek Massacre National Historic Site, which means that Historic Site staff would continue to work off-site at their office location Eads. This would have a minor to moderate, adverse, long-term effect to park operations because of increased workloads and inconveniences, particularly commuting to the park unit from Eads. While a detailed cost analysis has not been completed, it is expected that this alternative would cost less than Alternative B because there is no construction of facilities, but it also involves more staff time because of the commuting time required from Eads.

- Temporary Buildings and Structures – Under the no action alternative, no temporary park support services building would be constructed, which would mean that park staff would remain in their leased office space in Eads. Although this is what is currently happening now, compared to Alternative B, it is less convenient for park staff than having an on-site park support services building. The reason for this is because park staff would have to commute back and forth between the park unit and their offices in Eads to provide visitor tours and tribal access, and to perform any maintenance or safety checks. Given the expected increase in visitor use at the Historic Site, this would be a considerable change in workload. Compared to Alternative B, this increased workload would be less efficiently managed by staff having to commute from Eads, resulting in an adverse, minor to moderate, long-term effect to park operations. The park support services building would also serve as a visitor contact station, of which the effects are described in more detail above under *Temporary Buildings and Structures*.
- Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch area would not be re-used for management purposes under this alternative, which would have a minor adverse effect on park operations. The current thinking is that some of these buildings would be used for storage or as a maintenance shop, which would improve on-site park operations; however, this is not included in this alternative making park operations less efficient than Alternative B.
- Boundary Changes and Fencing – This alternative does not include acquiring additional lands, which would have no effect on park operations because no new lands would need to be managed or maintained. Also, no fencing would be constructed which would not affect park operations.
- Law Enforcement and Fire Management – Maintaining agreements with the Kiowa County Sheriff's Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic

Site would benefit park operations to a minor to moderate degree. These agreements help reduce the amount of workload for park staff at the site and help prevent the need for additional personnel in these fields. This is the same as for Alternative B.

- Maintenance – Minimal maintenance would be necessary under the no action alternative because no facilities would be constructed and visitor use is somewhat limited; however, regular visits to the site are still necessary, which require additional staff time because of the commute from Eads, thereby adversely affecting park operations to a negligible degree.
3. **Tribal Use** – This portion of the no action alternative includes tribal access to and use of the Historic Site, which would have minor to moderate adverse effects on park operations, when compared with Alternative B. Under this alternative, Historic Site staff would continue to work off-site at their office location Eads, which means that park staff would have to commute to the park unit when the tribes request access. This increases the workload of park staff because of the extra time spent commuting, as opposed to having an on-site facility. On the other hand, this alternative does not include the construction of additional facilities such as a repatriation cemetery or a new monument create, which reduces the need for park staff to be on-site to facilitate construction of or maintain new facilities.
- Access – Currently, tribes are permitted under the park unit’s authorizing legislation to use the Historic Site, which would have a minor to moderate adverse effect on park operations due to increased workload. Similar to public access, tribal access also needs to be pre-arranged, and then park staff must escort tribes to the park unit. When compared with Alternative B, this would take extra time for park staff because of the commute from Eads. See also *Ceremonies* below.
 - Replacement of 1950s Monument – The existing 1950s stone monument would remain intact, and no new monument would be constructed under this alternative. This would have no effect to park operations because park staff would not be required to facilitate construction activities or perform maintenance on a new monument.
 - Cemetery (Repatriation Site) – No cemetery for repatriation purposes would be constructed, which would not impact park operations because park staff would not be required to facilitate construction activities or perform maintenance on a new cemetery.
 - Ceremonies – The park unit’s authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. Similar to visitor access, tribal access to the site would be by appointment only; however, under this alternative, park staff would probably not have to temporarily close areas from the public because public access is fairly limited. Because the park unit is not open during scheduled hours of operation, park staff would have more control over the timing of visitor access to avoid tribal ceremonies. This is a negligible benefit to park operations when compared with Alternative B.
 - Materials Storage – An existing building would not be designated to accommodate tribal storage, which would not impact park operations.
 - “Healing Runs” – This is the same as for Alternative B. Healing runs are currently conducted by tribal members only, and with the Historic Site being accessible to the tribes by appointment only, this requires park staff to commute to the site from Eads to facilitate these runs. Because these runs only occur a few times a year, this would have a negligibly adverse effect on park operations.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have increased or would increase the workload of National Park Service employees. By acquiring additional lands, and formalizing a new park unit, the National Park Service has obtained additional employees to manage the park unit. On-site construction activities such as placement of the electrical line or removal of the house in the

former Dawson Ranch area require the time and effort of park unit staff. In addition, facilitating researchers and planning for future projects increases park staff workload. All together, these actions have had a minor to moderate adverse effect on park operations from the need for additional employees and the increased workload of those employees. The no action alternative has a minor to moderate effect on park operations, because, by retaining the National Park Service office in Eads, park staff must commute back and forth between the park unit to allow visitor and tribal access, and to conduct routine maintenance and safety inspections. As visitor use increases, this incrementally adds to the workload of employees and decreases the efficiency of park operations. Therefore, the overall cumulative effect of this and other past, present, and reasonably foreseeable future actions is moderate, adverse, and long-term.

Conclusion: Under the no action alternative, Historic Site staff would continue to work off-site at their office location Eads because no on-site facilities would be constructed, and this would adversely increase the workload of park staff to a minor to moderate degree. Visitors and tribes would be allowed access to the site by appointment only which would require park staff to commute back and forth from Eads to the park unit to provide this access, thereby taking time away from other duties. This may require additional personnel to handle the public and tribal access issues. On the other hand, no on-site facilities would be constructed, which would not change the current park operations because no maintenance or upkeep of new facilities would be required. Cumulatively, the effect to park operations would be moderate, adverse, and long-term from projects and planning efforts that increase staff workload.

Impacts of Alternative B (Preferred Alternative) – Interim Site Management Plan

1. **Public Access (Visitor Experience and Interpretation)** – Under this portion of the preferred alternative, visitors would eventually be allowed access to the site without an appointment, which would increase the workload of park staff to a minor degree. When compared with Alternative A, the workload would be less because staff would not be commuting from Eads to allow public access. Visitor facilities such as a contact station and trails would be constructed, which increase the workload of park staff because of maintenance or upkeep of these new facilities. While a detailed cost analysis has not been completed, it is expected that this alternative would cost more than Alternative A because it includes the construction of facilities, but it also involves somewhat less staff time because the public can access the site without an appointment.
 - **Visitor Experience and Interpretation** – Under the preferred alternative, the basic interpretive themes and visitor experience model would remain as described in the *Special Resource Study* (NPS 2000b), and this vision would have no effect to park operations. This would be the same as for Alternative A. The potential impact of actual visitor presence at the Historic Site is described below under *Nature of Public Access*.
 - **Grand Opening Event** – This event shall occur at the end of April 2007, and would have a minor to moderate, adverse effect on park operations from the increased workload. Planning an event such as this is time-consuming, and requires much thought and preparation. In addition to their normal duties, Historic Site staff must also find time to organize the event, schedule activities, gather materials, send notices, coordinate with people, and then clean up the event. This is a temporary effect to park operations, lasting up until and shortly after the event, and would have a minor to moderate effect on staff workload, which is the same as for Alternative A.
 - **Nature of Public Access** – Under the preferred alternative, Sand Creek Massacre National Historic Site shall be open to the public, for the very first time, beginning with its grand opening celebration in April 2007. This would have a minor adverse effect on park operations due to increased workload. Previously, the Historic Site had been closed to public use, so park staff did not spend much time managing visitor use. While this would increase the workload of park staff to a minor degree, when compared to Alternative A, the effect to park operations would be less noticeable because visitor use would be more self-sufficient. Visitors would not need to make an appointment to visit the site, and park staff would not have to commute from Eads to grant public

access. With more self-sufficient visitor use, additional staff may not be needed; however, it may be desirable in order to provide for guided tours and increased visitor contact.

- Temporary Buildings and Structures – A temporary modular park support services building would be situated in the Dawson Ranch area of the site, which would also serve as a visitor contact station. Most visitors would make contact with the park staff here, and then proceed to the overlook, either escorted or unescorted. Construction of the new temporary building for visitor contact would benefit the efficiency of park operations to a minor to moderate degree by providing on-site contact with visitors. On the other hand, constructing a new facility would increase the workload of park staff to a minor degree from the need for construction oversight and maintenance of the building. Plus, time would be needed for employees to pack and move their operations from Eads to the park unit. The location of the new building is situated in the former Dawson Ranch area to facilitate easy access to the main visitor use areas, which is accessible to park staff via an existing dirt road. This location for the park support services building would benefit park staff because of the existing trees which provide shade and scenery, while screening it from the cultural landscape.

This alternative also includes the construction of other visitor use facilities such as toilets and trash receptacles in the Dawson Ranch area and near the overlook, which would have minor, adverse, long-term effects to park operations for the same reasons as explained under the construction of the temporary park support services facility/ visitor contact station. It should be noted that care would be taken in the appropriate design and placement of these facilities to improve the access and flow of park operations in conjunction with visitor use. Construction activities including the presence of construction equipment and workers and increased noise and dust would have a negligible, temporary, adverse effect to Historic Site staff which would be reversed once construction activities are completed.

- Trails – Two trails would be constructed under the preferred alternative, which would have a minor, adverse, long-term effects to park operations from increased workload. Park staff would be required to facilitate construction activities and perform maintenance on the new trails.
- Information, Signs, Kiosks, and Exhibits – The website would continue to be updated under this alternative, and brochures would be produced, which takes some time from park staff; however, this no different from the current workload, and thus would have no effect to park operations. Signs, kiosks, and exhibits would be constructed at the Historic Site which would have a minor, adverse, long-term effect to park operations from increased workload. Park staff would be required to facilitate construction activities and perform maintenance on the new signage. On the other hand, the new signage should facilitate visitor use and lessen the need for visitor contact to answer navigation or interpretation questions.
- Overlook – An overlook on adjacent land currently managed by the State of Colorado would be considered which would affect park operations to a minor adverse degree because park staff would be required to facilitate construction activities and maintain the new facility.
- Roads and Parking – The preferred alternative includes improving roadways and formalizing parking areas, which would improve park operations to a minor degree from decreased maintenance needs. Improving the roads also results in more comfortable and possibly safer working conditions for Historic Site employees.
- Utilities – Utilities would be placed, mostly in the Dawson Ranch area, and would affect park operations to a minor adverse degree because Historic Site staff would be required to facilitate construction activities and maintain the new utilities.

2. **National Park Service Management** – This portion of the preferred alternative includes the construction of buildings or structures at Sand Creek Massacre National Historic Site, which means

that Historic Site staff would move from their office location Eads to the park unit. This would have a minor to moderate, beneficial, long-term effect to park operations because of somewhat decreased workloads and conveniences, specifically from not having to commute from Eads. While a detailed cost analysis has not been completed, it is expected that this alternative would cost more than Alternative A because it includes the construction of facilities, but it also involves less staff time because of less commuting time required from Eads.

- Temporary Buildings and Structures – Under the preferred alternative, a temporary park support services building would be constructed, which would mean that park staff would move from their leased office space in Eads to the new facility on-site. This is more convenient for park staff because it eliminates the need for commuting back and forth between the park unit and Eads to provide visitor tours and tribal access, and to perform any maintenance or safety checks. Given the expected increase in visitor use at the site, this would be a considerable advantage to park operations and efficiencies to a minor to moderate degree. The park support services building would also serve as a visitor contact station, of which the effects are described in more detail above under *Temporary Buildings and Structures*.
 - Re-use of Existing Buildings – Existing buildings in the former Dawson Ranch area would be re-used for management purposes under this alternative, which would have a minor beneficial effect on park operations. Some of these buildings would be used for storage or as a maintenance shop, which would improve on-site park operations, and is more efficient operation-wise than Alternative A.
 - Boundary Changes and Fencing – This alternative includes acquiring additional lands, which would have a minor, adverse effect on park operations because new lands would need to be managed and maintained. Similarly, any new fencing would increase staff workload to a negligible degree from having to facilitate construction and performing maintenance on the new fencing.
 - Law Enforcement and Fire Management – Maintaining agreements with the Kiowa County Sheriff's Office to provide law enforcement services and with the Kiowa County Search and Rescue to provide mutual assistance in wildland and structural fire suppression at the Historic Site would benefit park operations to a minor to moderate degree. These agreements help reduce the amount of workload for park staff at the site and help prevent the need for additional personnel in these fields. This is the same as for Alternative B.
 - Maintenance – In comparison to Alternative A, this alternative requires more maintenance because of the construction of new facilities. This would have a negligible to minor adverse effect on park operations from the increased workload needed for construction facilitation and maintenance upkeep.
3. **Tribal Use** – This portion of the no action alternative includes tribal access to and use of the Historic Site, which would have minor adverse effects on park operations, when compared with Alternative A. Under this alternative, Historic Site staff would work on-site, which means that park staff would be present on-site to facilitate tribal access much more easily than if they had to commute from Eads. On the other hand, this alternative includes the construction of additional facilities such as a repatriation cemetery and a new monument which increases the workload park staff due to facilitating construction of and maintaining new facilities.
- Access – Currently, tribes are permitted access to the Historic Site under the park unit's authorizing legislation; however, this alternative makes it easier for park staff to facilitate tribal access because employees are already on-site. When compared with Alternative A, this alternative would have a minor benefit to park operations because it would take less time for park staff to facilitate tribal access from having on-site facilities and not having to commute from Eads. See also *Ceremonies* below.

- Replacement of 1950s Monument – The existing 1950s stone monument would be removed, and a new monument would be constructed under this alternative. This would have a minor adverse effect to park operations because park staff would be required to facilitate construction activities and perform maintenance on the new monument.
- Cemetery (Repatriation Site) – A cemetery for repatriation purposes would be constructed, which would impact park operations to a minor adverse degree because park staff would be required to facilitate construction activities and perform maintenance on the new cemetery.
- Ceremonies – The park unit's authorizing legislation provides for tribal access to Sand Creek Massacre National Historic Site for traditional cultural and historical observance. Similar to visitor access, tribal access to the site would be easier under this alternative because park staff would already be on-site. However, under this alternative, park staff would have to spend time, on occasion, to temporarily close areas from the public. This is a negligible adverse effect when compared with Alternative B.
- Materials Storage – An existing building would be designated to accommodate tribal storage, which would not impact park operations.
- "Healing Runs" – This is the same as for Alternative A. Healing runs are currently conducted by tribal members only, and with the Historic Site being open by appointment only, this requires park staff to commute to the site from Eads to facilitate these runs. Because these runs only occur a few times a year, this would have a negligible adverse effect on park operations.

Cumulative Impacts: Many of the actions listed in the cumulative scenario have increased or would increase the workload of National Park Service employees. By acquiring additional lands, and formalizing a new park unit, the National Park Service has obtained additional employees to manage the park unit. On-site construction activities such as placement of the electrical line or removal of the house in the former Dawson Ranch area require the time and effort of park unit staff. In addition, facilitating researchers and planning for future projects increases park staff workload. All together, these actions have had a minor to moderate adverse effect on park operations from the need for additional employees and the increased workload of those employees. The preferred alternative has a benefit to park operations adverse effect on park operations, because, although the park support services facility would be situated on-site, there would be additional buildings and structures to maintain. This incrementally adds to the workload of employees and decreases the efficiency of park operations. Therefore, the overall cumulative effect of this and other past, present, and reasonably foreseeable future actions is moderate, adverse, and long-term.

Conclusion: Under the preferred alternative, on-site facilities, including a park support services building, would be constructed, which would provide greater efficiencies to park operations to a minor to moderate degree because of less commuting time from Eads. Visitors would eventually be allowed access to the Historic Site during scheduled hours of operation, which also improves the efficiency of park operations over Alternative A because of not having to facilitate individual visitor appointments and guided tours of the park unit. Temporarily, the workload of employees would increase to a minor degree from having to pack and move their offices from Eads to the park unit. Also, with the construction of new buildings and structures, the employee workload would increase in the long-term to a minor degree due to the maintenance and upkeep required on new facilities. Cumulatively, the effect to park operations would be moderate, adverse, and long-term from projects and planning efforts that increase the staff workload.

CONSULTATION AND COORDINATION

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals including representatives from the Arapahoe and Cheyenne tribes; the Colorado State Historic Preservation Officer; National Park Service employees from Sand Creek Massacre National Historic Site, Bent's Old Fort National Historic Site, the Denver Service Center, and the Intermountain Region (Denver and Sante Fe); and local representatives from Kiowa County. Interdisciplinary team members met September 12-14, 2006 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable future projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits to view and evaluate the actions of the interim site management plan. The results of the September 2006 meeting are documented in a summary report entitled *Draft Interim Site Plan* (NPS 2006c), and they are further documented in this Environmental Assessment.

External Scoping

External scoping was initiated with the distribution of a scoping letter to the public, stakeholders, tribes, and agencies of the proposal to develop an interim site management plan, and to generate input on the preparation of this Environmental Assessment. The scoping letter, dated January 31, 2007, was mailed to residents and interested parties in the town of Eads and the nearby area. Scoping information was also posted on the National Park Service Planning, Environment, and Public Comment website (<http://parkplanning.nps.gov/>).

During the scoping period ending February 28, 2007, eight responses were received from individuals, and one from Kiowa County. No tribal responses were received; however, this was expected due to their involvement with the planning of this interim strategy from the beginning. Most of the responses received were in support of the initiative to implement an interim site management plan.

Some alternative ideas that were expressed in the comments are already part of the preferred alternative including maintaining visitor access to the overlook with the stone marker; maintaining a National Park Service presence in Eads; minimizing road construction within the Historic Site; constructing a new park support services building at the former Dawson Ranch site; minimizing the geographic boundaries of visitor access at the Historic Site to protect natural and cultural resources; constructing appropriate directional signage; staffing the Historic Site to reduce trespassing/vandalism and to provide directions/interpretation; constructing new pedestrian trails; maintaining positive relationships with park unit neighbors; allowing tribal ceremonies including the placement of tepees; continuing tribal consultation and involvement throughout implementation; making sure that the interim plan facilitates the next stages of general management planning; and maintaining tribal access to the site.

A few other alternative ideas mentioned in the comments had already been examined and ultimately dismissed from further consideration such as retaining the 1950s monument in place while constructing a tribally-preferred monument nearby; and limiting visitor parking to the Dawson Ranch site, with only walking trails to the overlook. These alternatives are described more under *Alternatives Considered and Dismissed* in the *Alternatives* chapter.

Some of the comments received were out of scope for this proposal such as the quality of private tours that are being offered on private lands near the Historic Site; the publication of non-National Park Service-sponsored informational text and books; looting of Sand Creek Massacre artifacts outside the boundaries of the Historic Site; "trespassing" on public land; county road improvements and how county roads should be used to reach the park unit; and private easements with neighboring properties. One comment suggested that the interim site management plan address additional wildlife watching opportunities. This

proposal does incorporate the construction of additional trails, which may improve wildlife viewing opportunities; however, additional wildlife watching opportunities would be more appropriately evaluated during the next phase of more comprehensive general management planning. Other ideas that are out of scope for this project, but could be considered during general management planning include the reintroduction of the lesser prairie chicken; management of the prairie dog colonies; and listing of the Historic Site on the Colorado Birding Trail.

Agency Coordination

In compliance with Section 106 of the National Historic Preservation Act, a letter dated February 21, 2007 was sent to the Colorado State Historic Preservation Officer requesting concurrence on the determination of *no adverse effect* to historic properties from the implementation of an interim site management plan. The Colorado State Historic Preservation Officer concurred with this determination on March 5, 2007 (CHS 2007).

In compliance with the Endangered Species Act, the National Park Service submitted a letter to U.S. Fish and Wildlife Service requesting concurrence on a determination of *no effect* to federally-listed species. Similarly, in accordance with National Park Service policies, the National Park Service submitted a letter to the Colorado Department of Wildlife requesting concurrence on a determination of *no effect* to state-listed species. Both agencies concurred with these determinations in March 2007 (FWS 2007b, CDOW 2007c).

List of Recipients and Public Review

The Environmental Assessment is expected to be released for public review in April 2007. To inform the public of the availability of the Environmental Assessment, the National Park Service will publish and distribute a letter to those individuals and agencies on the National Historic Site's mailing list. This letter will inform these individuals where they can review a copy of the document, or how they can request a copy of their own. Some copies of the Environmental Assessment will be provided to the tribes and certain agencies. The document will be available for review at the National Historic Site's contact center in Eads and on the internet at the National Park Service Planning, Environment, and Public Comment (PEPC) website (<http://parkplanning.nps.gov/>).

The Environmental Assessment is subject to a 30-day public comment period ending May 17, 2007. During this time, the public is encouraged to submit their written comments to the National Park Service through the PEPC website, or in writing to the address listed at the beginning of the document. Following the close of the comment period, all public comments will be reviewed and analyzed, prior to the release of a decision document. The National Park Service will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the Environmental Assessment, as needed.

List of Preparers

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- Les Siroky, Architect, Intermountain Region Support Office, Denver, Colorado
- Tom Thomas, Cultural Resource Specialist, Denver Service Center, Denver, Colorado

REFERENCES

- COW 2007a Website description of special status species in Colorado obtained from the Colorado Department of Wildlife at <http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/> on February 13, 2007
- COW 2007b Telephone communication between Michael Smith, Wildlife Biologist, Colorado Department of Wildlife, Lamar Office and Cheryl Eckhardt, National Park Service, about state-listed special status species in Kiowa County. Michael provided an over-the-phone list of state-listed special status species to consider, February 14, 2007
- COW 2007c Draft letter from Colorado Department of Wildlife concurring on the determination of *No Effect* to federally-listed special status species for the implementation of this interim site management plan, dated March 26, 2007, awaiting official letter at time of EA publication
- CHS 2005 Letter from the Colorado State Historical Society concurring with the National Park Service determination of non-eligibility for the Dawson Ranch complex (5KW123), signed by Mark Wolfe for Georgianna Contiguglia on September 6, 2005
- CHS 2006a Letter from the Colorado State Historical Society 1) concurring with National Park Service determination of eligibility for Site 5KW122.1, the Chivington Canal, and 2) not concurring with National Park Service determination of eligibility of Site 5KW125, the line camp, from Georgianna Contiguglia, dated April 17, 2006
- CHS 2006b Letter from the Colorado State Historical Society concurring with the National Park Service determination of *No Historic Properties Affected* for the development of a tribal repatriation cemetery, concurrence from Georgianna Contiguglia dated April 19, 2006
- CHS 2007 Letter from the Colorado State Historical Society concurring with the National Park Service determination of *No Adverse Effect* for the implementation of this interim site management plan, signed by Mark Wolfe for Georgianna Contiguglia on March 5, 2007
- CSU 2006 *Rare Species Inventory of Sand Creek Massacre National Historic Site, Interim Report, Year 1, 2006*, Natural Heritage Program, Colorado State University, prepared for the National Park Service by John Sovell, February 2007
- FLC 1998 *Archeological Reconnaissance of Two Possible Sites of the Sand Creek Massacre of 1864* by Douglas Scott, Anne Wainstein Bond, Richard Ellis, and William Lees, submitted to the State Historical Fund, Colorado Historical Society, in partial fulfillment of the final report for State Historical Fund Grant (96-01-162) by the Department of Southwest Studies, Fort Lewis College, Durango, Colorado, April 1998
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- NPS 1991 Natural Resources Reference Manual #77, National Park Service, 1991
- NPS 1998a Director's Order #2: *Park Planning*, National Park Service, May 27, 1998

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- NPS 1998c NPS-28: *Cultural Resource Management Guideline*, National Park Service, June 11, 1998
- NPS 2000a *Sand Creek Massacre National Historic Site Establishment Act of 2000*, Public Law 106–465, 106th Congress, November 7, 2000
- NPS 2000b *Sand Creek Massacre Project, Volume 1: Site Location Study and Sand Creek Massacre Project Volume 2: Special Resource Study and Environmental Assessment*, National Park Service, Intermountain Region, 2000
- NPS 2000c Director's Order #24: *Museum Collections Management*, National Park Service, August 21, 2000
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- NPS 2001 Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making*, National Park Service, January 8, 2001
- NPS 2002 Director's Order #77-1: *Wetland Protection*, National Park Service, October 30, 2002
- NPS 2003 Director's Order #77-2: *Floodplain Management*, National Park Service, September 8, 2003
- NPS 2004a *Trip Report on Sand Creek Cultural Landscapes*, email trip report containing recommendations for the management of the cultural landscape, provided by cultural landscape expert Jill Cowley with the National Park Service, June 16-17, 2004
- NPS 2004b Director's Order #28A: *Archeology*, National Park Service, October 12, 2004
- NPS 2005a *Sand Creek Massacre National Historic Site (Bird) Inventory and Monitoring Final Report*, submitted by David Hanni, Monitoring Division, Director, Rocky Mountain Bird Observatory, submitted to Dusty Perkins, Network Coordinator, Southern Plains Inventory and Monitoring Network, National Park Service, studies conducted spring/summer 2005
- NPS 2005b *Sand Creek Massacre National Historic Site Trust Act of 2005*, Public Law 109-45, 109th Congress, August 2, 2005
- NPS 2005c *Fire Management Plan*, Categorical Exclusion, National Park Service, 2005
- NPS 2006a *National Park Service Management Policies – The Guide to Managing the National Park System*, U.S. Department of the Interior, National Park Service, August 31, 2006
- NPS 2006b *Basic Guidance for Interim Planning (draft)*, National Park Service, June 30, 2006
- NPS 2006c *Draft Interim Site Plan*, documenting the results of the internal scoping meeting conducted September 12-14, 2006, National Park Service, October 20, 2006
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