



National Park Service
U.S. Department of the Interior
Bryce Canyon National Park
Bryce, Utah

Finding of No Significant Impact Rehabilitate Failing Park Sewage System

Background

In compliance with the National Environmental Policy Act, the National Park Service prepared an environmental assessment (EA) to examine various alternatives and environmental impacts associated with the proposal to rehabilitate the failing sewage system within Bryce Canyon National Park, Utah (BRCA). Currently, sections of the sewage system have deteriorated with age. These sections of the system and appurtenant manholes are deteriorating into pieces that regularly clog the system and cause raw sewage to back up, leak out of the system, and spill onto the ground from backed-up manholes. The sewer system has not been replaced since 1958, with the exception of maintenance repairs to small sections of the sewer line and manholes. Also, the current system capacity is inadequate to handle an increased volume from the addition of a maintenance facility to the sewage system and an anticipated additional flow within the pipes once the leaks are repaired.

The proposal to rehabilitate the condition of the existing sewage system is needed in order to handle increased volume, provide a safe, healthy, functional environment, and maintain public health and future service for park visitors and staff. Currently, the existing system does not function in accordance with accepted sewage handling practices. A rehabilitated sewage system will function in accordance with accepted sewage handling practices, increase capacity, and minimize health and safety risks associated with leaking sewage.

Selection of the Preferred Alternative

Three alternatives were evaluated in the EA including alternative A (No Action), alternative B (Open-Cut Trench Method), and alternative C (Pipe Bursting Methodology through Utah Prairie Dog (UPD) Occupied Areas). Alternative C is the National Park Service's preferred alternative because it meets the purpose and need for the project, reduces adverse impacts to a federally listed species, and meets the project objectives to 1) repair broken and deteriorating portions of the park's sewage collection system, 2) replace failed septic tank and leach field systems, and 3) recondition the sewage treatment lagoon cells in order to support fully functioning sewer lines. Although alternative B would efficiently meet the purpose, need, and objectives for the project, alternative C is more protective of the federally listed UPD.

Under alternative C, sewer rehabilitation will consist of two replacement, rehabilitation, and/or restoration pieces: the sanitary sewage collection system and sanitary sewage lagoon treatment system. Construction will occur in three phases based on funding availability. Phase I will address portions of the project with the most immediate need of replacement and include improvement of the sewage lagoon treatment system and replacement of approximately 6,600 linear feet of sewer pipeline. Phases II and III will

include replacement, as funds become available, of approximately 5,500 and 3,800 linear feet of sewer pipeline, respectively.

A summary of actions included in the preferred alternative is listed below.

Sanitary Sewage Collection System

- Replacement of the broken and deteriorating portions of the park's sewage collection system, which includes repairing or replacing most manholes.
- Removal of one failed small independent septic tank and abandonment in place of one leach field located near the High Plateau Institute building.
- Replacement of approximately 15,900 linear feet of sewer pipeline with high density polyethylene (HDPE)-type piped connections to the park's main sewage collection system.

Open-cut trenching techniques will be utilized, except in areas identified as active UPD (*Cynomys parvidens*) towns and areas where known archeological resources are present. There will be a maximum 50-foot temporary right-of-way (ROW) and 2- to 6-foot deep trench associated with the open-cut method. The average trench depth will be approximately 4.5 feet. Existing sewer lines will be removed and new pipe will be replaced within the same trench. The replacement pipe diameter within the open-cut trench locations will vary from 6 to 10 inches.

A trenchless technology referred to as pipe bursting will be used in place of open-cut trenching as the sewer pipeline replacement methodology through active UPD towns and in areas where archeological resources are present. Construction access corridors will be kept to a minimum in these areas. Pipe bursting is a technique that installs a new pipe by pulling or pushing a device referred to as a "bursting head" through the existing pipe. The new replacement pipe is pulled along behind the bursting head as the existing pipe is demolished in place.

Sanitary Sewage Lagoon Treatment System

- Rehabilitation of all four lagoon cells. Cell 2 will be used for primary treatment and will be lined with a HDPE liner for emergency overflow. Cells 3 and 4 will be used for evaporation and will be lined with bentonite clay. Cell 1 will remain in its current state and will be used as an overflow cell.
- Reconditioning of Cell 3, which will include adding a head gate and flume for weed control and adding water for cell integrity during dry years.
- Installation of a small wash station, inline grinder pump on the main sewer pipe feeding the treatment lagoons, and flow meter at the lagoon site.
- Repairing the entire fence surrounding the lagoons (cells 1-4), including the existing 4-foot deep UPD enclosure fence. The fence surrounding the lagoons is partially located on United States Forest Service (USFS) land and will be repaired within both NPS and USFS jurisdictions.
- Installation of a 2,500 linear foot, 1.5-inch polyethylene water supply pipeline from the visitor center to the existing lagoon dump station, to be used primarily by maintenance staff. The water supply pipeline will be installed using horizontal directional drill (HDD) technology at a depth of approximately 4.5 feet. A maximum 30-foot temporary ROW will be utilized for vehicle and equipment access. In the event that the water supply pipeline cannot be installed using

HDD technology because of geologic conditions, the open-cut trenching method will be the secondary construction method utilized at a depth of 4.5 feet with a maximum temporary 50-foot disturbance area. A depth of 4.5 feet is suitable to prevent the water pipeline from freezing during the winter months.

Mitigation Measures

- To minimize the amount of ground disturbance, staging and stockpiling areas will be in previously disturbed sites, away from visitor use areas to the extent possible. All staging and stockpiling areas will be returned to pre-construction conditions following construction.
- To minimize the potential for impacts to park visitors, variations on construction timing may be considered. One option includes implementing daily construction activity curfews such as not operating construction equipment between the hours of 6 p.m. to 7 a.m. in summer (May to September), and 6 p.m. to 8 a.m. in winter (October to April). The NPS will determine this in consultation with the contractor.
- Construction ROW within occupied UPD habitat will be flagged. Staging of construction materials and/or equipment will be placed in designated locations away from the UPD habitat areas, in order to minimize impacts.
- Revegetation and recontouring of disturbed areas will take place following construction and will be designed to minimize the visual intrusion of the structure. Revegetation efforts will follow the park's Vegetation Management Plan, use native species and will strive to reconstruct the natural spacing, abundance, and diversity of native plant species. All disturbed areas will be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed.
- Weed control methods will be implemented to minimize the introduction of noxious weeds. Construction equipment will be washed prior to entering the work site for the first time. Since the lagoon areas contain noxious weed, soil from the lagoon areas will not be stockpiled or transported to other areas of the park.
- Because disturbed soils are susceptible to erosion until revegetation takes place, standard erosion control measures such as silt fences and/or sand bags will be used to minimize any potential soil erosion.
- To minimize soil compaction, use of low-pressure vehicles could be utilized in the meadow area, if necessary.
- Fugitive dust generated by construction will be controlled by spraying water on the construction site, if necessary.
- To reduce noise and emissions, construction equipment will not be permitted to idle for long (> 5 minutes) periods of time.
- To minimize possible petrochemical leaks from construction equipment, the contractor will regularly monitor and check construction equipment to identify and repair any leaks. In addition, spill containment supplies will be kept on site.
- Conservation measures for UPD and other sensitive species, appropriate for this project, will be discussed with and demonstrated to construction workers and supervisors prior to construction implementation.

- In order to keep prairie dogs out of the lagoon area, any fencing surrounding the treatment lagoons removed for construction activities will be replaced as soon as project access to the lagoons is no longer required.
- If construction activities are scheduled within the nesting season for birds protected under the Migratory Bird Treaty Act (MBTA), generally April 1 through July 15, pre-construction surveys will be conducted for nests. No construction activities will be conducted in identified nesting areas until the young have fledged.
- To avoid impacts to known archeological resources, identified archeological resource areas will be flagged as sensitive areas and delineated as 'no construction zones.' In areas where existing pipe traverses archeological resources, alternative installation techniques such as pipe bursting or directional drilling will be used.
- Within known archeological site areas, surface disturbances will be kept to a minimum as practicable. Manhole construction areas will be limited to 10 to 12 feet in diameter.
- Within known archeological site areas, the construction access corridor will be kept to a minimum. The corridor will be protected with construction matting or plywood. Prior to placing construction matting or plywood, a surface collection will be conducted to retrieve artifacts that could be crushed.
- A qualified archeological monitor will be on site during ground disturbing activities within known archeological site areas to identify and record anything that might be uncovered.
- Should construction unearth previously undiscovered cultural resources, work will be stopped in the area of any discovery, and the park will 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 are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.
- The NPS will ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors will also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.

Following are Applicant-Committed Conservation Measures identified in the USFWS Biological Opinion that will be implemented by Bryce Canyon National Park (BRCA) for all construction and maintenance activities.

- For all acres of direct disturbance within UPD habitat that will involve underground impacts (i.e., pipe bursting for sewer pipeline replacement and horizontal directional drilling for waterline installation), BRCA will mitigate at a 2:1 acreage ratio.

- For all acres of direct disturbance within UPD habitat that will involve surface disturbance (i.e., if underground methods fail or if manholes require replacement), BRCA will mitigate at a 5:1 acreage ratio.

Measures to Minimize UPD Mortality

- Construction in UPD habitat will not occur until after June 15, after the UPD pups have emerged from the burrows. Construction in UPD habitat will continue and be completed by August 31 when the pre-hibernation period begins. Pipeline replacement activities in UPD habitat will occur in different phases; however, all work within each affected colony will be completed within one season.
- BRCA will ensure a biological monitor from the Bryce Canyon Resources Management Division will be onsite during all excavation activities. This individual will monitor the numbers and locations of UPD individuals in or immediately adjacent to the project footprint prior to and during construction.
- All project employees will be informed of the occurrence of UPD in the project area and to the threatened status of the species. All project employees will be advised as the definition of “take” and the potential penalties for taking a species listed under the Endangered Species Act. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.”
- Staging of construction material and/or equipment will be placed in designated locations away from the UPD habitat areas, in order to minimize impacts.
- Within 1,000 feet of occupied UPD habitat, all stored or placed pipes within suitable habitat will be immediately capped to prevent prairie dogs from entering.
- Construction and maintenance vehicles will be operated in a manner as to minimize impacts to UPD habitat. Vehicles used to access the project site or equipment used on the project will not be parked within any UPD habitat. All project employees will be instructed to operate vehicles within the area of UPD only when necessary for construction and to remove the vehicles from the area as quickly as possible. Speed will not exceed 10 miles per hour within or adjacent to UPD colonies. Within occupied UPD habitat, all vehicles will be confined to flagged areas and established road corridors.
- To the maximum extent possible, all vehicle maintenance activities will be conducted in maintenance facilities outside of occupied or potential UPD habitat. Precautions will be taken to ensure that contamination of maintenance sites by fuels, motor oils, grease, etc. does not occur and such materials are contained and properly disposed of off-site. Inadvertent spills of petroleum based or other toxic materials will be cleaned up and removed immediately.
- A trash abatement program will be initiated for each phase of the project, and will continue through the duration of the project. All construction refuse (including, but not limited to, fencing materials, twine, buckets, metal or plastic containers, and boxes) will be disposed of properly and not left uncontained on site overnight. Before final inspection, the contractor will remove all materials, refuse and equipment that is not part of the constructed sewer system.

- No project-related personnel will be permitted to discharge firearms or have pets in their possession while on the project site.
- If the open-cut trenching method is necessary during a pipeline break and/or manhole replacement procedure, appropriate dust abatement practices (e.g., using water trucks) will be performed to minimize the amount of dust settling on the surrounding vegetation (i.e., UPD food sources).
- To avoid the spread of non-native invasive plant species, construction equipment will be washed prior to entering the work site for the first time.
- Upon completion of the construction within occupied UPD habitat, the disturbance area will be raked and seeded with an approved seed mix.
- BRCA will continue to perform management activities that sustain a healthy population of UPD, such as the utilization of delta dust treatments to control the outbreak of sylvatic plaque and the completion of a BRCA UPD management and conservation strategy.

Measures to Minimize Impacts to UPD and Their Habitat During Construction within the Lagoon Area

- All ground disturbance work will stay within the sewer lagoon fence until after the emergence of UPD pups (~June 15). Once pups are above ground, work adjacent to the fence (including installation of a wash station and associated plumbing) as well as pipe bursting of the existing sewer line outside of the lagoon area and construction of the water line using horizontal directional drilling can commence. Work outside of the sewer lagoon fence will be completed by August 31 to reduce impacts to UPD prior to hibernation. Work inside the sewer lagoon fence may continue past August 31 if necessary (weather dependent).
- All contracted workers will be required to attend a UPD briefing prior to project initiation and will receive information on the status of the species, project conservation measures, contacts for UPD incident reporting and acceptable actions while working near colonies. All workers in the project area will be required to sign a sheet indicating their attendance at this training.
- Vehicle speed limit is 10 miles per hour along the lagoon access road. Violation of this restriction will result in a warning to the driver (1st violation) and removal from the project (2nd violation). A staff member from Bryce Canyon Resources Management Division will periodically inspect the construction area and access road to monitor compliance to required conservation measures.
- Vehicles will not be allowed to leave the lagoon access road corridor unless a biological monitor is on site. A monitor will be on site during project work within UPD habitat outside of the sewer lagoon fence.
- Designated vehicle parking areas will be delineated by park staff and will be outside of active UPD colonies.
- Vehicles/equipment will not be maintained/repared within the sewer lagoons or the access road in Dave's Hollow. A separate staging area (outside of the meadow) will be established for any necessary vehicle maintenance.

Habitat Improvements within the Park

- In addition to implementing conservation measures following project completion in UPD habitat, BRCA will conduct habitat improvements within two meadow complexes inside the park: Dave's Hollow Meadow and East Creek Meadow. Habitat improvements will be conducted on approximately 8 to 20 acres (depending on final direct disturbance impacts) in these two meadow complexes and will improve forage quality and quantity as well as provide more attractive habitat that could potentially connect a small, isolated UPD colony in East Creek Meadow with larger established colonies to the west.
- All project participants will be informed about the special status of the UPD and what actions are authorized within active UPD colonies, including distance restrictions, burrow avoidance and approved tool use.
- Vegetation treatments (mechanical/herbicide treatments) within 500 feet of active UPD colonies will not occur until pups have emerged from burrows (~June 15) and will be completed by August 31 to reduce interference with pre-hibernation foraging. This will reduce impacts to UPD during especially critical life history periods for the species.
- The use of motorized equipment within 500 feet of active UPD colonies for vegetation treatments (that do not involve ground disturbance) will be conducted during the dormant season when possible. If motorized equipment is necessary during the active season, treatments will occur after the pups emerge and be completed in time to reduce interference with pre-hibernation foraging (June 15 to August 31) and will be limited to two hours per day during the less active period of the day (approximately 10 a.m. to 2 p.m.). Motorized equipment used for vegetation treatments includes such items as string trimmers and chainsaws.
- No motorized vehicles (including ATVs, cars/trucks, tractors, heavy equipment, etc.) will be used overland (off existing roads and trails) within 0.5 mile of occupied UPD habitat.
- Only hand-pulling of weeds is authorized within 50 feet of an active UPD burrow.
- Only Plateau, RoundUp, Milestone, Fusilade, and Habitat (or generic equivalents) will be used between 50 feet and 500 feet of active UPD colonies. These herbicides are rated 'practically nontoxic' according to the U.S. Environmental Protection Agency's toxicity scale. Outside of 500 feet from active UPD colonies, BRCA may use Garlon (or generic equivalent) to treat non-native invasive species. Only one application using Garlon will be conducted per treated site within the same year. If additional herbicides are developed or discovered to be more effective at treating exotic plants, BRCA will contact the USFWS for authorization for those products.
- All application instructions in the herbicide applicator manual will be followed. To prevent drift, herbicide will not be applied during windy conditions or when rainfall is threatening.
- No more than 20% of habitat within 500 feet of active UPD colonies will be treated within one season; follow-up treatments can occur for up to two years after the initial treatment in the same 20% area with reseeding efforts to occur following the last year of treatment. New treatment areas within the same colony will not be selected until rehabilitation is completed on previously treated sites (i.e., previously treated areas were reseeded and no further vegetation removal is expected for at least a

5-year period). This method ensures that no greater than a 20% loss in vegetation will occur in the area surrounding active colonies. A maximum of 40% of habitat will be treated between 500 feet and 0.5 mile from an active UPD colony within one season. First year/initial treatments will not be performed on two colonies in the same season if those colonies have functional connectivity.

- Rehabilitation efforts of UPD habitat will strive to produce vegetation characteristics that optimize colony establishment and success, including the following parameters:
 - 1-20% ground cover of warm season grasses
 - 12-14% ground cover of cool season grasses
 - 1-10% ground cover of forbs
 - 0-8% ground cover of shrubs (<10% canopy cover).
- Reseeding of treated areas within 500 feet of active UPD colonies will use a native seed mix (seed collected from plants from within BRCA or a local genetic strain).

Alternatives Considered

Three alternatives were evaluated in the EA including the no-action alternative and two action alternatives. Under alternative A, No-Action, the sewer system would not be rehabilitated. Under alternative B, Open-Cut Trench Method, open-cut trenching techniques would be utilized for all sewer line replacement. Alternative C, Pipe Bursting Methodology through Utah Prairie Dog Occupied Areas, is the preferred alternative, as described in the previous section.

Environmentally Preferred Alternative

The preferred alternative (alternative C) is also the environmentally preferred alternative. The environmentally preferred alternative is determined by applying the six criteria suggested in §101 of the National Environmental Policy Act. According to these criteria, the environmentally preferred alternative should 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 C is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative C, Pipe Bursting Methodology through Utah Prairie Dog Occupied Areas, will provide for healthful and esthetically pleasing surroundings and also promote a higher standard of living, while minimizing impacts to the UPD to the extent possible.

Why the Preferred Alternative Will Not Have a Significant Effect on the Human Environment

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

Implementation of the preferred (selected) alternative will result in some adverse impacts; however, the overall benefit of the project, particularly to visitor use and experience, outweighs these negative effects.

The adverse effects are summarized as follows. Minor, temporary, adverse impacts to UPD will result from disturbances to UPD burrows associated with construction activities. The environmentally preferred alternative was selected in order to minimize these effects to the extent possible. Construction activities will also disturb area wildlife and vegetation in the project area, short-term, to a negligible to minor degree. During construction, some restroom facilities utilized by both visitors and park staff will be temporarily closed which will adversely affect the visitor experience to a minor degree. In addition, the temporary presence of construction equipment, materials, crews, and visual construction scars will also adversely affect the visitor experience to a minor degree.

The overall benefit of implementing the preferred alternative is that visitor use and experience will be improved long-term to a minor to moderate degree, depending on the visitor's level of perception. Visitor use and experience will be improved with upgrades to the sewer system and repair of the clogged pipes that are leaking sewage from manholes. Returning park guests who previously noticed foul odors or leaking sewage will perceive improvements to the overall quality of the visitor experience.

The degree to which the proposed action affects public health or safety

The preferred alternative will have an overall beneficial effect on public health and safety. The preferred alternative will upgrade the sewage system to function in accordance with accepted sewage handling practices. Implementing the preferred alternative will fix the current unsafe conditions associated with raw sewage backing up and spilling onto the ground, thereby providing a safer, cleaner environment for park visitors and staff.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

The preferred alternative will not impact unique characteristics of the area including park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas because these resources do not exist in the project area. Consultation has occurred with appropriate regulatory agencies, and work will be completed in compliance with all permitting requirements.

The proposed project will transverse wet meadow habitat consisting of wetland vegetation. Implementation of the preferred alternative has the potential to temporarily disturb a total of less than 0.01 acre of wetland. This temporary disturbance will not impact the unique characteristics of these areas. Prior to construction, NPS will obtain a Clean Water Act Section 404 nationwide permit from the Army Corps of Engineers. In Utah, the nationwide permit includes a Clean Water Act Section 401 certification.

Five known archeological features are either in or very close to the area of potential effect for the project. As discussed later in this document, the implementation of the preferred alternative is not expected to impact these archeological deposits.

In addition, sewer line replacement will occur within Bryce Canyon Lodge Historic District and the Old NPS Housing Historic District. Sewer line replacement within the park's historic districts, as discussed later in this document, will not represent a change to the existing land use or structure types such that the overall integrity of the historic districts at the park will be degraded. The eligibility of the historic structures and districts at the park for listing in the NRHP will not be in jeopardy.

The degree to which the effects on the quality of the human environment are likely to be highly controversial

Throughout the environmental process, the proposal to rehabilitate the failing sewage system was not highly controversial, nor are the effects expected to generate future controversy.

The degree to which the possible effects on the quality on the human environment are highly uncertain or involve unique or unknown risks

The effects of rehabilitating the park's sewage system are fairly straightforward and do not pose uncertainties. The environmental process has not identified any effects that may involve highly unique or unknown risks.

The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

The preferred alternative is not expected to set a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

Cumulative effects were analyzed in the EA and no significant cumulative impacts were identified.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

There are known archeological features near and in the Project Area of Potential Effect that meet eligibility criteria for listing in the National Register of Historic Places (NRHP). Five sites are either in or very close to the area of potential effect for the project. Pipe bursting will be used in areas where known archeological resources are present. Ground disturbing activities in archeologically sensitive areas will be monitored by an archeologist and will meet the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. Within known archeological site areas, surface disturbances and construction access corridors will be kept to a minimum. Manhole construction areas will be limited to 10 to 12 feet in diameter. In addition, the construction access corridor will be protected with construction matting or plywood.

Prior to placing construction matting or plywood, a surface collection will be conducted to retrieve artifacts that could be crushed. Therefore, the proposed project is not expected to impact these archeological deposits; however, appropriate steps will be taken to protect any archeological resources that are inadvertently discovered during construction. Because the project will not disturb any known archeological sites, the affect of the project on archeological resources is expected to be negligible.

Sewer line replacement will occur within Bryce Canyon Lodge Historic District and the Old NPS Housing Historic District. Although there will be temporary disruption of the historic scene within the historic districts during construction, following construction the landscapes within the historic districts will be restored. Any temporary impacts due to construction related activities are expected to be temporary and negligible. Construction activities will not directly affect historic structures. Sewer line replacement within the park's historic districts will not represent a change to the existing land use or structure types such that the overall integrity of the historic districts at the park will be degraded. The eligibility of the historic structures and districts at the park for listing in the NRHP will not be in jeopardy.

A request for concurrence of a determination of *no adverse effect* to historic properties was submitted to the State Historic Preservation Office on August 3, 2010. A concurrence letter dated August 19, 2010 from the Utah State Historic Preservation Office confirms the NPS determination of *no adverse effect* on historic properties per §106 of the National Historic Preservation Act.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The UPD is the only federally listed or sensitive species that is known to nest and breed within the proposed construction areas. Under the preferred alternative there will be little to no mortality of any UPDs and no loss of entire colonies. Mortality of individual prairie dogs has the potential to occur if a burrow within the project area is occupied during pipe bursting, excavation, and/or HDD construction activities and a prairie dog is hit by construction equipment within the 30-foot or 50-foot disturbance corridors. In addition, prairie dogs will be less alert to predators if burrows collapse during construction and UPD have to excavate a new burrow or search for an abandoned burrow.

A Biological Assessment (BA) was prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act [16 U.S.C. 1536(c)]. The BA provided the Utah Field Office staff of the U.S. Fish & Wildlife Service (USFWS) with assessments of how the preferred alternative is expected to affect the UPD.

A Biological Opinion (BO) from the USFWS dated May 11, 2010 concluded that the proposed action and the cumulative effects are not likely to jeopardize the continued existence of the UPD. Applicant-Committed Conservation Measures detailed within the USFWS BO will mitigate impacts to the UPD. All Applicant-Committed Conservation Measures are integrated within the Mitigation Measures previously listed within this document.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment

The action will not violate any federal, state, or local laws or environmental protection laws.

Appropriate Use

Sections 1.5 and 8.1.2 of NPS *Management Policies* underscore the fact that not all uses are allowable or appropriate in units of the National Park System. The proposed use was screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the Park Service; and whether the public interest would be served. A properly functioning sanitary sewage collection system is a vital structure in most park units. Proper construction materials and methods should ensure that unacceptable impacts to park resources and values would not occur. The proposed construction related to the rehabilitation of the park sewage system is consistent with the park's general management plan and other related park plans. With this in mind, the NPS finds that the rehabilitation of the park failing sewage system is an acceptable use at BRCA.

Impairment

National Park Service 2006 Management Policies (NPS 2006) requires analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park 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. NPS 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 NPS 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 NPS the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the NPS 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 NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

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

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- The park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the

- ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- Appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
 - The park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
 - Any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment findings are not necessary for visitor use and experience, socioeconomic, public health and safety, environmental justice, land use, and park operations, because impairment findings relate back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects. The following analysis evaluates whether or not the applicable resources carried forward in this document would be impaired by the preferred alternative.

- Threatened and Endangered Species (UPD Only) – Utah Prairie Dogs, which are federally threatened, have colonized areas within the open, grassy meadows of the central and northern portions of BRCA. At the present time there are eight active UPD colonies (in approximately 400 acres) within the park. Three UPD colonies (Dave's Hollow West, Historic Housing, and the Mixing Circle intersection) consisting of approximately 3.4 total acres, are located in areas of proposed sewer line replacement. Using the above criteria, UPD are a resource that is key to the natural integrity of the park. Sewer rehabilitation is an action necessary to restore the integrity of park resources. Because the preferred alternative will result in only site-specific, short-term, and minor adverse impacts during construction there will be no impairment to UPD. A final Biological Opinion that the preferred action and the cumulative effects are not likely to jeopardize the continued existence of the UPD was submitted by USFWS to BRCA on May 11, 2010.
- Wildlife – The diverse habitats within BRCA support a variety of wildlife species. The park is home to four species of amphibians, 11 reptile species, 59 mammal species, and 175 bird species. Wildlife will be temporarily affected by construction crews and their equipment. Using the above criteria, wildlife are a resource that is key to the natural integrity of the park. Sewer rehabilitation is an action necessary to restore the integrity of park resources. Because the

- preferred alternative will result in only site-specific, short-term, and negligible to minor adverse impacts during construction, there will be no impairment to wildlife.
- **Vegetation** – Five major vegetation communities occur at BRCA: pinyon-juniper woodlands, breaks communities, ponderosa pine forests, mountain grasslands, and fir-spruce-aspen forests. Ponderosa pine forest and mountain grassland communities are located within the proposed project area. During construction, there will be a potential introduction of invasive species from contaminated soils, construction equipment, and vehicles driving into the park. Trenches will be cut through mountain grassland communities and some ponderosa pine forest. Using the above criteria, vegetation is a resource that is key to the natural integrity of the park. Sewer rehabilitation is an action necessary to restore the integrity of park resources. Because the preferred alternative will result in only site-specific, short and long-term, and negligible to minor adverse impacts, there will be no impairment to vegetation.

In addition, mitigation measures for these resources will further lessen the degree of impact to and help promote the protection of these resources. Specifically, mitigation measures provided in the USFWS BO and those listed within this EA will lessen impacts to UPD and UPD habitat. Construction in the UPD habitat will not occur until after June 15, after the UPD pups have emerged from the burrows, and will be completed by August 31, when the UPD pre-hibernation period begins. In addition, BRCA will ensure a qualified biologist will be onsite during all excavation activities. If construction activities are scheduled within the nesting season for birds protected under the MBTA, generally April 1 through July 15, pre-construction surveys will be conducted for nests. No construction activities will be conducted in identified nesting areas until the young have fledged. To protect vegetation, weed control methods will be implemented to minimize the introduction of noxious weeds. Construction equipment will be washed prior to entering the work site for the first time. Since the lagoon areas contain noxious weeds, any trucks exiting this area will be washed and soil from the lagoon areas will not be stockpiled or transported to other areas of the park. Revegetation efforts after construction activities will strive to reconstruct the natural spacing, abundance, and diversity of native plant species using seeds native to BRCA.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the preferred alternative.

Public Involvement and Native American Consultation

The EA was made available for public review and comment during a 30-day period ending November 30, 2010. To notify the public of this review period, a letter was mailed to stakeholders, Native American tribes, interested parties, and newspapers. Copies of the document were made available in local repositories; and posted on the NPS PEPC website at <http://parkplanning.nps.gov/>.

According to NPS policy, substantive comments are those that 1) question the accuracy of the information in the EA, 2) question the adequacy of the environmental analysis, 3) present reasonable alternatives that were not presented in the EA or 4) cause changes or revisions in the proposal. Two comments were received during this review period. Neither comment was considered substantive.

NPS received a letter from the Paiute Indian Tribe of Utah dated November 10, 2010 which indicated they had no objections pertaining to the project.

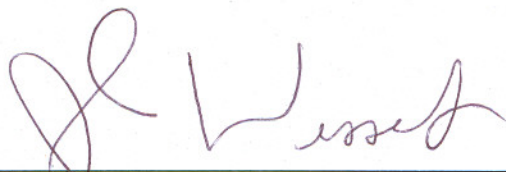
The other comment was from an individual who proposed the use of composting toilets. Park yearly visitation is about 1.5 million people with most of this number focused on the central (or Main Amphitheater) section of the park. The park's sewage system collects wastewater flow from campgrounds, dorms, housing, and other park facilities. Composting toilets would not adequately address the large volume of wastewater that is generated, which includes flows from toilets, showers, and sinks. Therefore, the use of composting toilets was not considered a viable alternative to rehabilitation of the existing sewage system.

Conclusion

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that are localized and range from short- to long-term, and negligible to minor. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, the National Park Service has determined that an EIS is not required for this project and thus will not be prepared.

Approved:



John Wessels
Regional Director, Intermountain Region, National Park Service

12/9/10
Date