

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Madison Area Wastewater Treatment Project Environmental Assessment

Yellowstone National Park
Idaho/Montana/Wyoming

The National Park Service (NPS) proposes to replace most of the existing wastewater treatment plant that serves the Madison Junction area of Yellowstone National Park. The existing plant is one half- mile west of Madison Junction and serves the Madison area campground, the NPS employee housing and maintenance area, and the picnic area. Approximately thirty NPS and Xanterra concessionaire personnel reside in the housing area in summer, with about fifteen staff residing in winter. Both summer and winter resident populations are roughly double what they were ten years ago. The existing plant provides only secondary wastewater treatment while national parks are required to provide tertiary treatment to their wastewater, as mandated by the Environmental Protection Agency/Wyoming State Water Quality Regulations). The treatment is marginal during the summer season and the plant is not capable of running from October to May, despite up to 87,000 visits by winter visitors. The plant has no backup power or overflow tanks to handle the wastewater flow during power outages. The plant's aging equipment has deteriorated and contributes to the risk of a major plant failure at any time.

A new plant would be required to produce effluent meeting Class 1 groundwater standards, and provide standby power or wastewater storage to prevent spills. The objectives of the new wastewater treatment plant are to provide tertiary treatment and protect park resources through improved effluent quality, improved visitor safety and services, decreased risk of wastewater spills, and decreased risk of plant failure.

PREFERRED ALTERNATIVE

The NPS will construct a new wastewater treatment plant on a disturbed area, 100 yards to the northeast of the existing plant, where two percolation ponds and one winter storage pond exist. Much of the existing treatment facility including the aerobic digester, trickling filter, sludge drying beds, and primary clarifier will be removed. A new treatment facility will be constructed at the new site. The winter storage pond will be converted to a third percolation pond. A new sludge storage basin will be built immediately to the west of the percolation ponds and a new operations building, aeration basin and separate sludge drying beds will be constructed immediately to the north of the ponds. The aeration basin, percolation ponds, sludge storage basin, and sludge drying beds will be outside and fenced using bear- proof fencing.

Wastewater collection and pumping will continue in rehabilitated facilities at the existing plant site. A new enclosed sewage lift station will incorporate the existing lab building and buried vaults and will not require bear- proof fencing. The existing influent structure will be fitted with a new sewage grinder. The existing winter bypass line between the influent structure and the lab building, and the force main between the existing lab building and the percolation ponds site will both remain in service. The influent structure will require bear- proof fencing.

Expansion of the existing treatment site will require approximately 2.0 additional acres of land, most of which was disturbed when the existing plant and ponds were constructed. Expansion of the access road will add 0.56 acres to the footprint of the new plant. Those portions of the

existing wastewater treatment plant that will be retained (the existing percolation ponds totaling 1.22 acres and the lift station and existing influent channel totaling 0.36 acres) will add 1.58 acres to the total acreage for the new plant, bringing the total site development proposed under the preferred alternative to 4.1 acres. Temporary impacts to 1.36 acres of soils and vegetation will occur on the south side of the new plant site. Temporary impacts to 0.36 acres of soils and vegetation will occur at the existing plant site.

The majority of the new development will occur between the access road and the west side of the ponds, and between the ponds and the hill on the north. A small portion of the toe of that hill will be excavated and recontoured. The project area is partially screened from the West Entrance Road by lodgepole pine trees that were not burned during the 1988 wildfires. Mature lodgepole pines will be removed during site clearing.

The existing plant was designed to accommodate 38,600 gallons per day. The new plant will be designed to treat 75,000 gallons of wastewater per day. The substantial increase in capacity will accommodate wastewater from the Madison Campground and Madison housing and future flows from proposed campground shower facilities and new housing construction. Most of this housing construction will replace older housing and will not substantially add to existing flows.

The plant will operate as an activated sludge treatment plant during the six- month summer visitor season. The proposed treatment is a modification of extended aeration activated sludge known as "Single Basin Nutrient Removal." Further details of this proposed treatment are described in the EA. In winter, most of the plant will be shut down because wastewater volume drops dramatically. Wastewater will be stored in the sludge storage basin during winter and then treated through the activated sludge plant in the following spring. During the fall shut- down, sludge will be pumped from the storage basin and placed in the drying beds.

Because the new plant site has no electric power, three- phase power will be routed from the existing powerline to the proposed plant site, using existing overhead lines from the Madison campground to the point where the lines depart. The new line will then be routed uphill to the new plant site where it will be trenched underground. An upgrade in power may also be necessary from the Mesa Pit power substation, three miles south of Madison Junction. If needed, the new conduit will be buried with a ditch- witch along the roadside where the existing line is buried and hung on the same poles where it is overhead. At the Gibbon River Bridge, the conduit will be suspended in the insulated pipe currently in use.

Because the new plant site has no water supply, a new 6- inch waterline will be attached at the existing distribution system in the Madison campground, 200 yards south of the West Entrance Road. The direction of the line will follow the overhead powerline across the road, "dog- leg" (curve) to the west, and then north along the eastern edge of the existing percolation ponds. The waterline will be curved on both sides after crossing the West Entrance Road to block the view of the utility corridor. The waterline may be laid at the same time as the new powerline along the same trench. The contractor will have a 30- foot wide construction zone along the new line. Clearing of most trees within the 30- foot corridor along the line will be necessary.

The operations building proposed for the upper area will be concrete masonry unit double wall, split face block, closed- cell insulation, and structural block. It will include a loading dock and garage door for supply delivery, and an office and lab that comply with the Americans With

Disabilities Act. An emergency generator located in or adjacent to the operations building will provide standby power for all plant loads, including the lift station. About 400 gallons of diesel fuel will be stored in a double-walled tank under the generator.

Staging and stockpiling of construction equipment and materials could occur at the existing or new wastewater treatment, at the Mesa Pit, or at the Madison landfill site, as needed. The Mesa Pit and Madison landfill sites will not be within view of the Grand Loop Road, but those at the Madison wastewater site will be partially visible from the road. The contractor may clear all trees less than 8" in diameter at breast height from the two areas labeled "Contractor Staging Area" and "Office/Trailer Parking" as shown on Figure 2 in the EA.

Because there is an estimated soils shortage of 2,800 cubic yards, the project will be coordinated with scheduled park road projects to obtain needed soil. Excavated material unsuitable for earthen basin construction may be disposed of at the Mesa Pit. Topsoil moved from its native location at the Madison wastewater site will be stockpiled at the edge of construction limits and returned within the area after project completion.

Construction of the new plant was expected to begin in 2006; however, due to funding concerns, it may be postponed until 2007, 2008, or later. Construction will occur only between April 1 and November 1 of each year. The existing sewer plant will remain operational during construction. Traffic delays are anticipated for waterline installation under the West Entrance Road and there will be some minor delays for trucks traffic. Construction is expected to occur primarily between 7:00 am and 7:00 pm, although work may be conducted outside these times with contracting officer approval. The contractor will be required to provide traffic control for safety reasons at such times.

No additional houses or offices will be specifically built for this project due to its proximity to the town of West Yellowstone. However, the contractor will be allowed one or two temporary office trailers which will both be stationed in the office/trailer parking area.

MITIGATION MEASURES

The following mitigation measures were analyzed as part of the proposed alternative:

- Construction zones will be identified with construction tape, silt fencing, snow fencing, or similar and appropriate material prior to any construction activity. The fencing will define the construction zone and confine activity to the minimum area required for construction.
- All protection measures will be clearly stated in the construction specifications and workers will be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
- A stormwater pollution prevention plan will be prepared and incorporated into design and specifications, to control sediment on site so that it will not enter nearby streams and creeks. The park will develop this pollution prevention plan with the Wyoming Department of Environmental Quality under the National Pollution Discharge and Elimination System Stormwater Management Program. Silt fencing will be inspected weekly or after every major storm. Accumulated sediments will be removed when the fabric is estimated to be 75% full. Silt removal and disposal into approved areas will avoid introduction of silt into any wetlands or flowing water bodies.

- All trenching operations will follow Occupational Health and Safety Administration regulations and park recommendations. These recommendations will minimize disturbance to soils and vegetation due to construction activities while maintaining a safe working environment. The contractor will be provided a 30- foot wide utility easement for this purpose. Most trees within the corridor will need to be cleared. At the West Entrance Road crossing, dog- legs will be constructed in the waterline to minimize views of the utility corridor.
- Any use of or association with hazardous materials will require contractor compliance with applicable federal, state, and local laws, codes, ordinances, and regulations. In addition, the 1993 *Yellowstone National Park Hazardous Materials Response Plan* will be followed to mitigate potential hazardous material incidents within the park boundary and similar incidents outside the boundary requiring mutual aid.
- Fugitive dust will be minimized by watering of disturbed areas. Water for dust abatement (and for construction) will be pumped from surface waters at the nearby bridge over the Gibbon River or from the Firehole River at the pullout just above the Firehole Canyon Drive exit. Water trucks and equipment used for water pumping will be cleaned according to park standards for preventing the spread of whirling disease and New Zealand mud snails. A maximum of 6,000 gallons of water per day (two typical watering truckloads) will be taken, with an average weekly usage of 3,000 gallons. No chemicals will be used to abate dust.
- As partial mitigation for impacts to soils, vegetation, and grizzly bear habitat, 0.36 acres at the existing wastewater treatment plant will be revegetated.
- Reclamation and revegetation of areas temporarily impacted by the project that will follow established guidelines contained in *Vegetation Management for Construction in Yellowstone National Park* (Appendix A of the EA) will be funded and implemented as part of the preferred alternative.
- The Madison area, particularly the area of the existing wastewater treatment plant, contains exotic weed species and is the center of an ox- eye daisy (*Chrysanthemum leucanthemum*) infestation. Measures to limit the spread of exotic plant species within the project area and from outside the park will be included in the “Summary of Work” specification section of the construction contract. Additional details on exotic weed control and monitoring are found on pages 22- 23 in the EA.

ALTERNATIVES CONSIDERED

The alternatives considered included the No Action alternative and the Preferred Alternative. Three other alternatives that were considered but dismissed from further analysis are discussed in the EA.

Under the No Action alternative, use of the existing wastewater treatment plant would continue without significant modifications. No trees or vegetation would be removed and no additional structures would be built. Increasingly frequent repairs would be expected to maintain the deteriorating lift stations, wastewater treatment equipment, and pumps. General routine maintenance and occasional minor modifications to maintain operations would occur with the

existing plants. Sight, sound, and odor problems would continue as well as the risk of a major plant failure. The park would continue to be out of compliance with federal and state water quality regulations.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The preferred alternative is the environmentally preferred alternative. The preferred alternative best preserves and enhances cultural and natural resources over the long- term by providing improved and more reliable wastewater treatment, which both protects Yellowstone's resources while also maintaining and improving a safe, healthy and aesthetically pleasing visitor experience. Replacing the failing wastewater treatment plant best meets the national environmental policy expressed in NEPA (Sec. 101(b)), to fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR Section 1508.27, significance of the preferred alternative is determined by examining the context and intensity of the action. Measures to avoid and mitigate impacts to park resources during construction activities will be incorporated into the project and are fully described in the EA.

Minor adverse impacts of the preferred alternative include permanent impacts to approximately 2.0 acres of previously disturbed soils at the new treatment plant site. Temporary impacts to soils and vegetation on 1.36 acres will occur on the south side of the new plant site: 1) the staging area (0.20 acres); 2) the office/trailer parking area (0.11 acres); 3) the existing forcemain easement (0.18 acres); and 4) the waterline/powerline easement (0.34 acres north of the road plus 0.53 acres south of the road). Temporary impacts to 0.36 acres of soils and vegetation will occur at the existing plant site. Upon project completion, all of the areas temporarily impacted will be covered with topsoil and allowed to revegetate. The park policy is to conserve topsoil and salvage vegetation for reclamation of disturbed areas. Reclamation and revegetation will follow guidelines established in the *Vegetation Management for Construction in Yellowstone National Park* document. Modifications to this topsoiling and revegetation process may be implemented to deal with the ox- eye daisy infestation.

Several small wetlands are near the new plant site boundaries; however, construction activities will avoid these wetlands. Park staff will monitor construction activities to ensure that the limits of disturbance do not change and inadvertently, directly or indirectly affect the wetlands. Construction will avoid a nearby occurrence of wetland plant species, Yellow sedge (*Carex flava*), a Wyoming Species of Special Concern. The wastewater plant is well above the floodplain and will require no protection from flooding.

Potential effects to wildlife are either negligible or short- term minor due to temporary displacement from construction- related noise, vehicles, and human activity. The federally threatened grizzly bear is known to make dispersed use of the Madison area, depending on the availability of winter- killed ungulates. Minor effects to the grizzly bear during construction activities include the permanent loss of 2.0 acres of disturbed lodgepole pine habitat and displacement. To partially mitigate these impacts, a 0.36- acre disturbed area at the existing wastewater treatment plant will be reclaimed. This area currently contains exotic weeds. The

park will continue to implement its Grizzly Bear Management Program policies and will conduct mandatory “Living in Bear Country” orientation sessions for all contract employees. Limitations on contractor activities will be implemented as necessary to protect grizzly bears. The park will dispose of ungulate carcasses as needed to reduce the risk of human- grizzly bear conflicts. The U.S. Fish and Wildlife Service concurred on November 28, 2005, with the park’s determination of a “may affect, not likely to adversely affect” to the grizzly bear and “no effect” determinations to the Canada lynx, gray wolf, and bald eagle.

Very small amounts of erosion will occur during construction; however, the effects on the West Entrance Road Historic District will be negligible. Construction of the new plant will occur in the non- contributing portion of archeological site 48YE365. If construction activities discover previously unknown archeological resources, all work immediately on or adjacent to the site will stop until the park archeologist identifies and documents the resources, and until the Wyoming State Historic Preservation Office (WYSHPO) and NPS develop an appropriate mitigation strategy. The WYSHPO concurred with the park’s “No adverse affect” to historic properties determination on November 21, 2005. Consultation was conducted with the park’s associated Native American tribes in 2002 and in 2005. No known ethnographic resources have been identified in the project area.

Short- term, minor adverse effects to visitors will occur due to traffic delays, dust, vehicle fumes, noise, and sight of construction- related activities. Long- term, minor, beneficial effects to visitors will occur due to relocation of the plant uphill and away from the West Entrance Road, replacement of “yard” lighting with motion sensitive or switched outdoor lighting, reduction of sound and odor, improved wastewater treatment, and minimization of plant failure. A long- term indirect beneficial impact will occur to the local economy outside the park due to an increase in construction spending and revenues from the continued operation of the campground.

Public health and safety are protected and improved by implementation of the preferred alternative through reduction of the potential for wastewater overflows and plant failure.

There are no prime or unique farmlands, wild and scenic rivers, or ecologically critical areas that will be affected by the preferred alternative.

No highly uncertain or unique or unknown risks will occur through implementation of the preferred alternative.

The implementation of the preferred alternative violates no federal state, or local environmental protection laws.

The action is not related to other actions with individually insignificant but cumulatively significant impacts.

In addition to reviewing the list of significance criteria, Yellowstone National Park has determined that implementation of the preferred alternative will not constitute an impairment of the park’s resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the *Madison Area Wastewater Treatment Project Environmental Assessment*, the public comments received, relevant scientific studies, and the

professional judgment of the decision maker guides by the direction in the 2001 NPS Management Policies.

PUBLIC INVOLVEMENT

The *Madison Area Wastewater Treatment Project Environmental Assessment* was available for public review and comment from November 5, 2005 through December 5, 2005. No substantive comments were received. Responses were received from the Blackfeet Tribal Historic Preservation Office (THPO), the U.S. Fish and Wildlife Service (FWS), and the WYSHPO. The FWS and WYSHPO both concurred with the park's determination of effects. The Blackfeet THPO stated that they had no comment at the time due to an overwhelming workload and shortage of funds. These comments resulted in no changes to the text of the EA. This FONSI will be sent to those who commented on the EA.

CONCLUSION

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible or minor in effect. There are no significant impacts on soils, vegetation and rare plants, wildlife, threatened and endangered species, visual quality (including lightscape management), archeological resources, socioeconomic resources, or visitor use and experience. 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 laws.

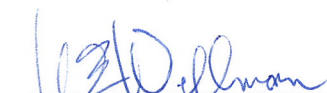
Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:


Suzanne Lewis, Superintendent

2-24-06
Date

Approved:


Mike Snyder
Director, Intermountain Region

3/13/06
Date

ERRATA SHEET
Madison Area Wastewater Treatment Project
Yellowstone National Park

The EA incorrectly stated that the proposed project would provide partial tertiary wastewater treatment. The project will provide full tertiary wastewater treatment in accordance with Environmental Protection Agency/Wyoming State Water Quality regulations (40 Code of Federal Regulations 437; Chapter 16, Wyoming State Water Quality Regulations).

The EA stated that the project would begin in April or May of 2006. Because of potential funding concerns, the project may not begin until 2007, 2008 or later.

The park has a nationally mandated commitment to provide defensible space from wildfires for facilities and structures within the wildland- urban interface (WUI) by reducing the build- up of hazardous fuels. The park has proposed a WUI hazardous fuels reduction project within portions of the wastewater treatment site for implementation in October 2006. A reduction of some of the present screening around the project site may occur to provide for the long- term protection of the wastewater treatment plant through reduction of hazardous fuels.