

**National Park Service
U.S. Department of the Interior
Glacier National Park
Waterton-Glacier International Peace Park
Montana**



St. Mary Microwave Radio Antenna Tower Environmental Assessment Statement of Findings – Floodplains

October 2012



St. Mary Lake with St. Mary Developed Area in Background (TetraTech, Inc. photo)

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Environmental Assessment

Statement of Findings – Floodplains

St. Mary Microwave Radio Antenna Tower

Summary

CenturyLink has requested permission from the National Park Service (NPS) to install a new microwave radio antenna tower. The new microwave radio antenna tower would provide digital subscriber line (DSL) service to the greater St. Mary area and improve the reliability and speed of Internet access. The project is part of a larger statewide Montana Public Service Commission requirement mandating CenturyLink to upgrade communications capabilities at its rural exchanges (including St. Mary) in Montana. The St. Mary area is limited to cellular modem and satellite services and does not include the faster and larger capacity DSL broadband service for resident, visitor, and government Internet use.

The new microwave radio antenna tower would be located next to the existing NPS communication building at the St. Mary developed area in Glacier National Park. It would be an 84-foot tall (including four feet of antenna), three-legged, steel-lattice structure supported on a concrete footing that would replace the adjoining NPS's existing 70-foot tall (including 20 feet of antenna) radio tower. The existing NPS tower would be removed. Radio communication equipment operated by the NPS (radio antennas) and a CenturyLink-operated six-foot diameter microwave dish would be co-located on the proposed tower. Approximately 100 feet of microwave transmission line conduit would be placed underground connecting the tower with the existing CenturyLink communication building.

This Environmental Assessment (EA) evaluates two alternatives: a No Action alternative and an Action alternative. The No Action alternative describes the current condition if no new microwave radio antenna tower upgrade would occur and current communication capabilities would continue. Under the Action alternative, the proposed tower would be constructed with a six-foot diameter microwave dish and one to three NPS antennas attached; the existing NPS radio tower would be removed.

This EA 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 the objectives of the proposal, 2) evaluates the potential issues and impacts to Glacier National Park's resources, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. A Statement of Findings for Floodplains is included with this document in compliance with Executive Order 11988.

Resource topics analyzed in detail include cultural resources including historic structures and cultural landscapes, floodplains, visual resources, and visitor use and experience. All other resource topics were evaluated and dismissed from further analysis because either the Action alternative would result in negligible or minor effects to those resources, or because the resource is not found in the analysis area or is not applicable to the proposal; and therefore, would not be affected by the Action alternative.

Under the NEPA analysis, no major effects are anticipated as a result of the Action alternative. The NPS will request formal concurrence from the Montana State Historic Preservation Office (SHPO) with a finding of “no adverse” to cultural resources. The Statement of Findings for Floodplains determined that the Action alternative would not result in a significant impact on the floodplain of Divide Creek. Public scoping was conducted in accordance with the NEPA, and the majority of the comments received were in support of the proposed Action alternative.

How to Comment

Comments on this EA can be provided directly through Glacier National Park’s planning website at [**http://parkplanning.nps.gov/StMaryTower**](http://parkplanning.nps.gov/StMaryTower) by selecting Glacier National Park » Proposed St. Mary Microwave Radio Antenna Tower.

Comments also can be provided by writing:
Superintendent, Glacier National Park
Attention: *St. Mary Microwave Radio Antenna Tower EA*
P.O. Box 128
West Glacier, Montana 59936

This EA will be on public review for 30 days. 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 in your comment to withhold your personal identifying information from public review, and we will try to accommodate the request, we cannot guarantee that we will be able to do so.

Table of Contents

Purpose and Need	1
Introduction.....	1
Background.....	4
Purpose and Need	4
Relationship to Other Plans and Policies	5
Identification of Impact Topics.....	6
Impact Topics Retained for Further Analysis.....	6
Impact Topics Dismissed from Further Analysis	7
Alternatives.....	18
Alternatives Carried Forward	18
Alternative A: No Action Alternative.....	18
Alternative B: Preferred Alternative	18
Mitigation Measures	21
Alternatives Considered but Eliminated from Detailed Study	23
Alternatives, Suggestions, and Concerns from Public Scoping.....	23
Alternative Summaries.....	24
Environmentally Preferable Alternative	27
Preferred Alternative.....	27
Affected Environment and Environmental Consequences	28
Cumulative Impact Scenario.....	28
Cultural Resources - Historic Structures and Cultural Landscapes	33
Floodplains.....	44
Visual Resources.....	46
Visitor Use and Experience	50
Compliance Requirements	53
Consultation and Coordination	55
Internal and External Scoping.....	55
Agency Consultation.....	55
Native American Consultation.....	55
Environmental Assessment Review and List of Recipients	55
List of Preparers	56
References	57

List of Figures and Tables

Figure 1 CenturyLink Microwave Radio Antenna Tower Site Location Aerial Photograph	2
Figure 2 St. Mary Developed Area Aerial Photograph.....	3
Figure 3 CenturyLink Microwave Radio Antenna Tower Photographic Simulation	19
Figure 4 CenturyLink Microwave Radio Antenna Tower Site Plan.....	20
Figure 5 St. Mary Utility Area Historic Distric (Boundary delineated by dashed line)	36
Figure 6: Photographic Simulation of Proposed Tower in Historic District	38

Figure 7: Photographic Simulation of Proposed Tower in Historic District	39
Figure 8 Photographic Simulation of Proposed Tower in Historic District.....	39
Figure 9 Viewshed Comparison of Existing Tower (70 Feet) and Proposed Tower (84 feet) with Antennas	42
Figure 10 Photographic Simulation of Proposed Tower from Visitor Center	43
Figure 11 Photographic Simulation of Proposed Tower from GTSR.....	43
Table 1 Summary of Alternatives and how each Alternative Meets the Project Objectives	24
Table 2 Environmental Impact Summary by Alternative	26
Table 3 Definitions for Intensity Levels and Duration	31
Table 4 Area within Viewshed on NPS's Existing Tower and Proposed Tower	48

Purpose and Need

The purpose of Glacier National Park is to:

- Preserve and protect natural and cultural resources unimpaired for future generations (1916 Organic Act);
- Provide opportunities to experience, understand, appreciate, and enjoy the park consistent with the preservation of resources in a state of nature (1910 legislation establishing Glacier National Park); and,
- Celebrate the on-going peace, friendship, and goodwill among nations, recognizing the need for cooperation in a world of shared resources (1932 International Peace Park legislation).

The Significance of Glacier National Park is explained relative to its natural and cultural heritage:

- The park's scenery dramatically illustrates an exceptionally long geological history and the many geological processes associated with mountain building and glaciation;
- The park offers relatively accessible spectacular scenery and increasingly rare primitive wilderness experiences;
- The park is at the core of the "Crown of the Continent" ecosystem, one of the most ecologically intact areas remaining in the temperate regions of the world;
- The park's cultural resources chronicle the history of human activities (prehistoric people, American Indians, early explorers, railroad development, and modern use and visitation) that show that people have long placed high value on the area's natural features; and
- Waterton-Glacier is the world's first international peace park.

Introduction

Glacier National Park (the park) is located on the Canadian border in northwestern Montana. The park is in the northern Rocky Mountains and straddles the rugged mountains of the Continental Divide. Together with Canada's Waterton Lakes National Park, it forms the Waterton-Glacier International Peace Park, the world's first international peace park. The parks are listed together as a World Heritage Site and separately as International Biosphere Reserves. Outstanding natural and cultural resources are found in both parks. The park's primary mission is the preservation of natural and cultural resources, ensuring that current and future generations have the opportunity to experience, enjoy, and understand the legacy of Waterton-Glacier International Peace Park.

CenturyLink has requested permission from the National Park Service (NPS) to install a new microwave radio antenna tower (tower). The new tower would provide digital subscriber line (DSL) broadband service to the greater St. Mary area and improve the reliability and speed of Internet access. The project is part of a larger statewide Montana Public Service Commission requirement mandating CenturyLink to upgrade communications capabilities at its rural exchanges (including St. Mary) in Montana. The St. Mary area is limited to cellular modem and satellite services and does not include the faster and larger capacity DSL service for resident, visitor, and government Internet use.

The new tower would be located next to the existing NPS communication building at the St. Mary developed area in Glacier National Park (**Figures 1 and 2**). The original proposal would have resulted in two communication towers in the St. Mary developed area. One tower would have been the new CenturyLink tower and the other the existing NPS tower. After discussions with park management, a modified proposal was submitted that would remove the existing NPS tower and co-locate both the CenturyLink and NPS equipment on a single tower.

This environmental assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on

Environmental Quality (CEQ) (40 CFR, 1580.9), and the National Park Service Director's Order (DO)-12 (Conservation Planning, Environmental Impact Analysis and Decision-Making).

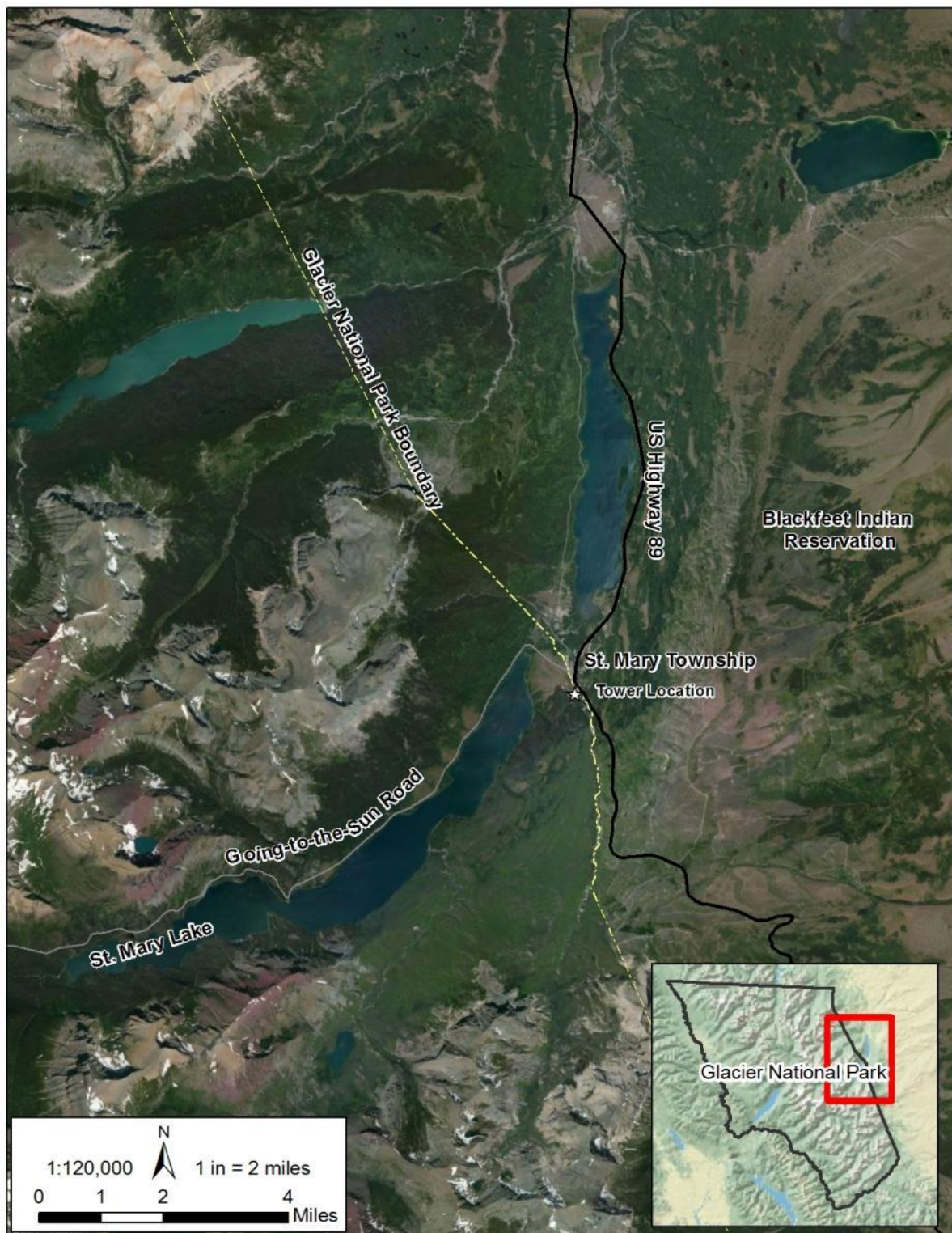


Figure 1: CenturyLink Microwave Radio Antenna Tower Site Location Aerial Photograph

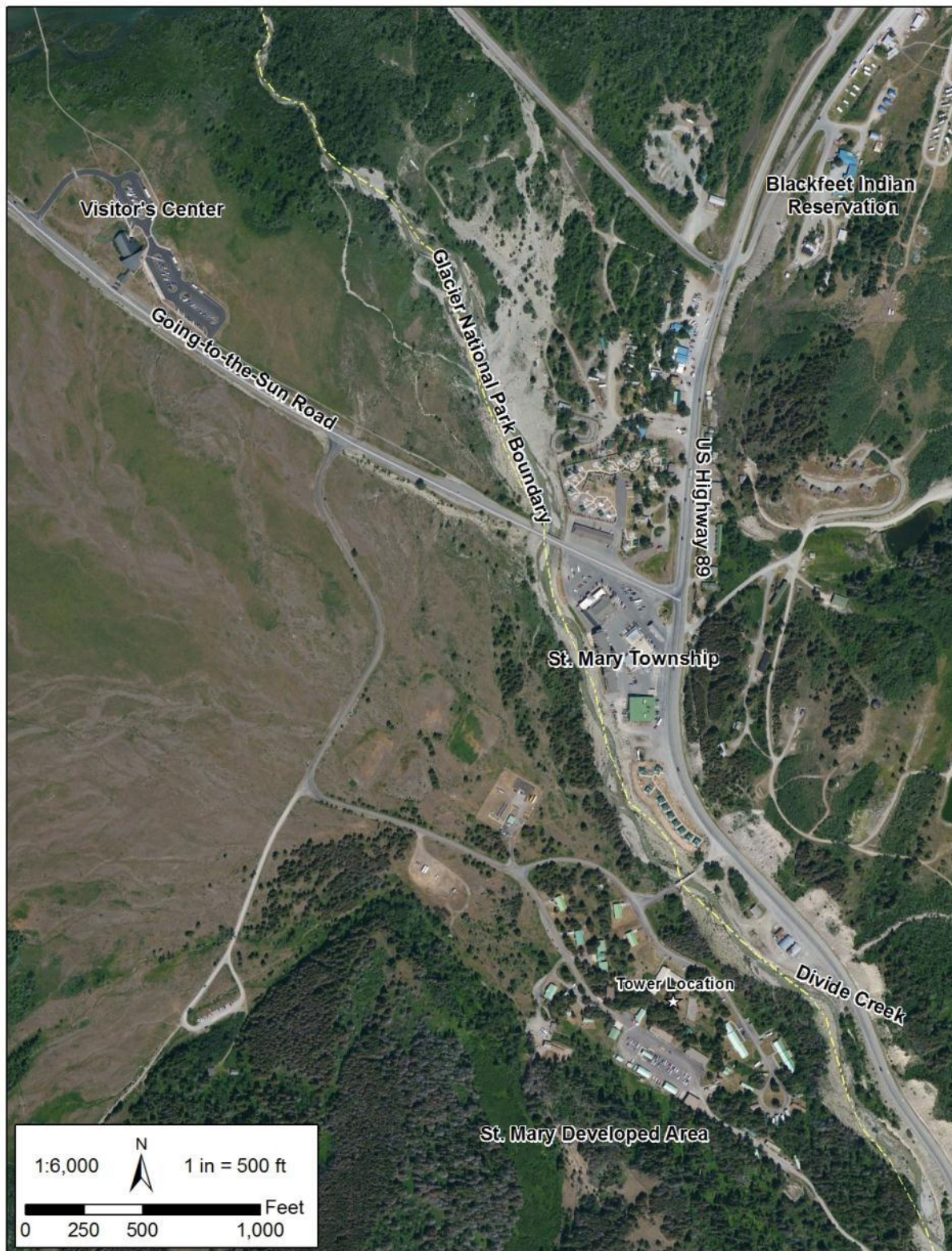


Figure 2: St. Mary Developed Area Aerial Photograph

Background

Existing St. Mary communication facilities, operated by the NPS and CenturyLink, are located inside the park boundary in the St. Mary developed area (project area) on the east side of the park, which also includes a maintenance area, residential park housing, and administrative offices. The St. Mary developed area residential housing is home to park employees year round, but the number of temporary/seasonal residents increases during the summer visitor season. The township of St. Mary is located outside of the park, northeast of the St. Mary developed area, and is a commercial center for visitors entering or leaving the park. The St. Mary Visitor Center, Entrance Station, and the east entry point of the Going-to-the-Sun Road (GTSR) are located approximately one-half to three-quarters mile north of the St. Mary developed area (**Figure 2**).

Communication facilities at the St. Mary developed area currently include an NPS owned 50-foot radio tower with 20-feet of antenna and an equipment shed, and a CenturyLink owned and operated equipment building and associated infrastructure. The CenturyLink facilities are located approximately 120 feet southeast of the NPS infrastructure on land previously leased by CenturyLink from the NPS.

The NPS communication system is used for regular and emergency radio communications in the eastern portion of the park. The CenturyLink communication system is the St. Mary Central Office hub for hard-wired telephone service to the St. Mary developed area and to the adjacent St. Mary's township located outside of the park.

CenturyLink's communication network in the St. Mary area is currently not meeting the demands of local users. As part of an Alternative Form of Regulation (AFOR) agreement between CenturyLink and the Montana Public Service Commission, CenturyLink has agreed to extend DSL service to the East Glacier area (MPSC 2008). In the agreement, CenturyLink would deploy DSL service over three years to 27 Montana communities where DLS service was not available. Two remaining communities to receive DLS service are East Glacier and St. Mary. The expanded service in the East Glacier area would include service to the St. Mary developed area and the St. Mary township.

Completed in 1932, the 50-mile GTSR opened up the park's interior to more visitors, allowing motorized vehicle access to spectacular scenic landscapes. The GTSR is currently undergoing an extensive rehabilitation project and is projected to be completed in 2016. As annual visitation to the park has increased (from approximately 53,000 visitors in 1932 to 2.2 million in 2010), the use of the GTSR has also increased (NPS 2012). An increase in visitor services outside and immediately adjacent to the park in the St. Mary township has occurred, and corresponding increases in NPS-provided services to meet staff and visitor demands are needed.

Purpose and Need

The purpose of the CenturyLink proposal is to bring the telecommunication capacity in the St. Mary area to a modern standard. To achieve this, CenturyLink has applied to obtain a right-of-way permit for the installation of a new tower, buried telecommunication conduit, and continued operation of their St. Mary Central Office hub. The NPS needs to evaluate whether to issue a new or revised right-of-way permit to CenturyLink.

The following objectives would be met by this project: 1) assist CenturyLink in meeting the AFOR agreement with the Montana Public Service Commission, 2) provide DSL Internet service to the surrounding community, and 3) conduct work so NPS radio communications capabilities would not be interrupted.

Relationship to Other Plans and Policies

Management direction for the St. Mary developed area is provided in the 1999 Glacier National Park General Management Plan (GMP) (NPS 1999), which provides overall guidance and direction for the park. The GMP states what development is allowed to occur in the St. Mary developed area and under what conditions. As stated in the GMP, the St. Mary developed area facilities and employee housing were established in the Divide Creek floodplain prior to the implementation of Floodplain Executive Order of 11988. At such time when funding is found to relocate the St. Mary developed area, a determination on which facilities would be relocated to protect life and property would be made.

NPS DO #53: Special Park Uses, effective February 23, 2010, sets forth policies and procedures for administering special park uses on National Park System lands. As prescribed in the NPS DO #53, the NPS under statutory authority (16 U.S.C. 5) evaluates whether to issue a new or revised right-of-way permit.

The NPS's *Management Policies 2006*, Section 8 is summarized in, and supplemented by, DO #53. In accordance with *NPS Management Policies 2006*, the proposal must meet the following policy goals:

- Is consistent with a park's purposes or values;
- Does not impede the attainment of a park's desired conditions for natural and cultural resources as identified through the park's planning process;
- Does not create an unsafe or unhealthy environment for visitors or employees;
- Does not diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values; and,
- Does not unreasonably interfere with:
 - park programs or activities;
 - an appropriate use;
 - the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park; or,
 - NPS concessioner or contractor operations or services.

The proposal is consistent with the park's purposes and values as it would be located in an existing visitor service zone that includes developed areas where new or replacement development could occur. This EA evaluates the proposal's potential to impede the attainment of a park's desired conditions for natural and cultural resources. Resource impacts would be minimized due to the developed nature of the site.

In addition and in support of the EA, a floodplain Statement of Findings (SOF) required by Executive Order 11988 – Floodplain Management has been prepared and attached to this EA.

The preparation of this EA meets requirements in the Telecommunications Act of 1996 (<http://www.fcc.gov/telecom.html>) and Federal Communication Commission rules including 47 CFR, Part 1, Subpart 1, §1.1307(a)(4) and §1.1311 (<http://wireless.fcc.gov/siting/environmentalassessment.html>) for the siting of telecommunication facilities. The proposal results from a December 2008 order where the Montana Public Service Commission (MPSC) approved a settlement agreement between CenturyLink (formerly Qwest) and the MPSC advocacy staff. Implementation of the proposal would satisfy the 2008 MPSC order.

Identification of Impact Topics

The NPS takes a “hard look” at all potential impacts by considering the direct, indirect, and cumulative effects of the proposed project on the environment, along with connected and cumulative actions. In the environmental consequences section of this EA, impacts are described in terms of context and duration. The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term or long-term. The intensity and type of impact is described as negligible, minor, moderate or major, and as beneficial or adverse. The NPS equates “major” effects as “significant” effects. The identification of “major” effects would trigger the need for an environmental impact statement (EIS). Where the intensity of an impact could be described quantitatively, numerical data is presented; however, most impact analyses are qualitative and use best professional judgment in making the assessment.

The NPS defines “measurable” impacts as moderate or greater effects. It equates “no measurable effects” as minor or less effects. “No measurable effect” is used by the NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from further evaluation in an EA or EIS. The use of “no measurable effects” in this EA pertains to whether the NPS dismisses an impact topic from further detailed evaluation in the EA. The reason the NPS uses “no measurable effects” to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail in accordance with CEQ regulations at 1500.1(b).

Impact Topics Retained for Further Analysis

Impact topics for this project were identified on the basis of federal laws, regulations, and orders; NPS *Management Policies of 2006*; input from the Montana State Historic Preservation Office (SHPO); and NPS knowledge of natural and cultural resources within the St. Mary area. Impact topics that are carried forward for further analysis in this EA include:

- Cultural Resources
 - Historic Structures
 - Cultural Landscapes
- Floodplains
- Visual Resources
- Visitor Use and Experience

Impact Topics Dismissed from Further Analysis

This section provides a limited evaluation and explanation as to why the following impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation if:

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

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in or adjoining the project area or the issue is applicable to the proposal, then a limited analysis of direct, indirect, and cumulative effects is presented.

Soils

The NPS preserves the soil resources of parks and protects those resources by preventing unnatural erosion, physical removal, or contamination (NPS 2006). The project area is located in a developed area with previous surface disturbance and buried utilities, and is subject to grounds maintenance. Soils would be temporarily disturbed in previously disturbed areas for installation of the new tower, for burial of the associated microwave transmission conduit, and for removal of the NPS radio tower. Excavated soils would be replaced and revegetated after the proposed project activity is complete. Some minor soil compaction could occur. Impacts to soils would be minor with no measurable effects following the re-establishment of vegetation at the disturbed locations. Therefore, this topic is dismissed from further analysis.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agriculture uses. There are no prime and unique farmlands located within the park (NPS 1999).

Vegetation

The NPS strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). The project area is located in a previously disturbed and developed area vegetated by a maintained grass lawn consistent with an area containing residential, administrative and maintenance buildings. Vegetation would be temporarily disturbed for installation of the new tower, burial of microwave transmission conduit, and removal of the NPS radio tower. Excavated vegetation would be restored after the proposed project is complete. Impacts to vegetation would be temporary with no measurable effect to vegetative diversity and abundance; this topic is therefore not carried forward for further analysis.

Recommended Wilderness

Ninety-five percent of the park is recommended wilderness. Recommended wilderness in the park is defined as lands that are essentially undeveloped or are natural in character and located at least 200 feet from the centerline of paved roads, 50 feet from unpaved roads, and 300 feet from developed areas. NPS policy requires the management of proposed or recommended wilderness as designated wilderness until the land is either formally designated or rejected (NPS 2003). The new tower would be located in the St. Mary developed area, which is outside of recommended wilderness. Therefore, this topic was dismissed for further analysis.

Wildlife

The NPS is charged with maintaining native wildlife as an integral component of natural ecosystems. Various species of wildlife may use habitat in or adjacent to the project area for foraging, resting, nesting, or traveling. The vegetation in and surrounding the project area provides wildlife habitat for a variety of species. The project area contains elements of riparian, meadow, and mature forest habitat types (NPS 2003).

Construction activities would be within previously disturbed areas with nearly continuous occupation by humans. Increased human activities during construction of the new tower and buried microwave transmission conduit and removal of the existing NPS radio tower would disturb individual animals that may be using the project area.

Overall, it was determined that there would be no effects to wildlife populations. Disturbances caused by proposed project activities would be temporary and impacts to individuals would be negligible. Therefore, wildlife species are not analyzed further in this EA.

Federally Threatened, Endangered, and Candidate Species and State Species of Concern

The NPS analyzes impacts to federally listed species in accordance with NEPA and the Endangered Species Act (ESA). Section 7 of the ESA requires all federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the *Management Policies 2006* and *DO #77: Natural Resources Management Guidelines* require the NPS to examine the impacts of projects on federal candidate species as well as state listed threatened, endangered, candidate, rare, declining, and sensitive species (NPS 2006).

There are eight species federally listed for Glacier National Park (USFWS 2012). Of these, seven are listed for Glacier County, Montana as last updated in February 2012 (USFWS 2012a):

- Grizzly Bear (*Ursus arctos horribilis*) - Threatened
- Canada Lynx (*Lynx Canadensis*) - Threatened
- Bull Trout (*Salvelinus confluentus*) - Threatened

- Meltwater Lednian Stonefly (*Lednia tumana*) - Candidate
- Sprague's Pipit (*Anthus spragueii*) - Candidate
- Wolverine (*Gulo gulo luscus*) - Candidate
- Whitebark Pine (*Pinus albicaulis*) - Candidate

Federally Threatened, Endangered, and Candidate Species

Grizzly Bear

The Grizzly bear was federally listed as threatened in 1975. The Grizzly Bear Recovery Plan was completed by the USFWS on January 1982 and was revised in 1993. The park is part of the Northern Continental Divide Ecosystem recovery area for the grizzly bear. Habitat in Glacier National Park is divided into different grizzly bear management category situations in accordance with the Grizzly Bear Recovery Plan, including management situation 1 (MS1) and management situation 3 (MS3). Most of the park is designated as MS1 habitat. MS1 areas are those that contain grizzly population centers and/or habitat that are needed for the survival and recovery of the species. MS3 areas are those that contain no suitable habitat for grizzlies and their presence is possible, but infrequent. Developed, front-country areas are managed as MS3 habitat. The project area is within grizzly bear habitat mapped as MS3 under the Grizzly Bear Recovery Plan. Grizzly use of MS3 areas is discouraged, and NPS management encourages measures that minimize the potential for human-bear conflicts within these areas (USFWS 1993).

Actions that adversely affect grizzly bears include construction or recreational activity near key habitats such as foraging, day bed, and denning areas, or movement corridors, or any development that modifies their habitat. The project area does not contain key habitat for grizzly bears, nor would the project negatively affect primary grizzly bear food production sources or important foraging areas. Construction activities scheduled to take place in the summer for approximately three weeks may cause individual bears to avoid the area during the day, but construction would not occur at night so occasional nighttime foraging would not be affected. However, the St. Mary developed area includes permanent housing and experiences year-round human activity, therefore bears are actively discouraged from the area. Any additional displacement of bears from the St. Mary developed area due to construction activities would be considered beneficial, as it would help reduce the likelihood of human-bear conflicts (NPS 2003). The project would have no effect on grizzly bears; therefore, this species is not analyzed further.

Canada Lynx

The Canada lynx was listed as a threatened species under the ESA on February 24, 2000, and is also a state species of concern. On February 24, 2009, Critical Habitat was designated as the boreal forests of northwestern Montana and the area around the Greater Yellowstone Ecosystem (State of Montana 2012). Canada lynx habitat is found at higher elevations in Glacier National Park, but the project is located at a relatively low elevation that is not associated with Canada lynx habitat. Lynx may occasionally enter the project area while traveling between habitat patches, but would not be expected to linger in the area (NPS 2003). Due to the high amount of human activity in the project area, lynx would rarely if ever use it for foraging. For these reasons and the approximate three week duration of

construction activities, the project is not expected to affect this species; and therefore this species is not analyzed further.

Bull Trout

The bull trout was listed as threatened in 1999 in the contiguous United States (MFWP 2005). It is also listed as a state species of concern. The St. Mary River, St. Mary Lake, and Divide Creek are Designated Critical Habitat for the bull trout. The project site is approximately 450 feet east of Divide Creek. The segment of Divide Creek between the St. Mary River and a natural barrier approximately 4.5 miles upstream provides bull trout spawning and rearing habitat (USFWS 2010). It is evident that a small spawning stock sporadically moves into upper Divide Creek, but with variable success (Mogen and Kaeding 2005).

Sedimentation as a result of construction activities would be controlled through implementation of Best Management Practices. Sediment would be prevented from reaching Divide Creek. Thus, impacts to bull trout are not anticipated. For this reason the activities of the project are not expected to have a measureable effect on bull trout, and this species is not analyzed further.

Meltwater Lednian Stonefly

The meltwater lednian stonefly was listed by the USFWS as a candidate species in 2011, and is also a state species of concern (State of Montana 2012). It is currently at risk of becoming extinct due to the melting of the glaciers in the park. This stonefly depends on the glaciers to feed its alpine snow melt stream habitat. In general, this species is affected by changes to the aquatic habitat such as alteration of flow patterns, streambed substrate, and thermal characteristics (State of Montana 2012). There are no known records of this species in or near the project area, nor does suitable habitat exist in the project area. The meltwater lednian stonefly is not analyzed further since it would not occur in the project area and activities in the project area would not affect nearby streams.

Sprague's Pipit

The Sprague's pipit was listed by the USFWS as a candidate species in 2010 and is also a state species of concern. The Sprague's pipit is endemic to grasslands. It prefers native, medium-to-intermediate height prairie. Glacier County is located on the western edge of the breeding resident range for this species (State of Montana 2012). The project area does not include suitable grassland habitat. Due to lack of habitat and the project area being on the edge of the species breeding resident range, the species is unlikely to occur in the project area. Therefore, Sprague's pipit is not analyzed further.

Wolverine

The wolverine was designated as a candidate species by the USFWS, and is also a state species of concern. The wolverine does not receive protection under the ESA, but its status is reviewed annually. Results of the 2010 status review of this species indicated that climate warming is the primary threat to the wolverine (USFWS 2010a).

Wolverines occur within a wide variety of habitats, primarily boreal forests, tundra, and western mountains throughout Alaska and Canada. In the lower 48 states, they are distributed in the northern Cascades in Washington and the northern Rocky Mountains in Idaho, Montana, and Wyoming. Wolverines are generally solitary and wide-ranging. The mean annual home range of male wolverines in Montana is 162 square miles and 150 square miles for females (State of Montana 2012). Since this species is very rare, avoids human dominated areas, and has such a large home range, the approximate three week construction activity time frame at the project site would likely have no measurable effect on the species; therefore this species is not analyzed further.

Whitebark Pine

The whitebark pine was designated as a candidate species by the USFWS. It is also a state species of concern. The whitebark pine is a five-needled conifer classified as a stone pine, which includes five species worldwide. This pine is typically found in cold, windy, high elevation or high latitude sites in western North America (USFWS 2011a). The whitebark pine is not located within the project area; therefore this species is not considered further.

State Listed Species of Concern

Montana species of concern are native animals or plants in the state that are considered to be “at risk” due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. The Montana Natural Heritage Program (MNHP) tracks animal and plant species of concern with the potential to occur in particular locations by county in a database (<http://mtnhp.org>). State species of concern listed with the potential to occur in Township 34 and Township 35, Range 14 West, which contains the project area, includes three mammals, six birds, one amphibian, and six fish (MNHP 2011). Of the sixteen animal species listed the Canada lynx, wolverine, and bull trout are also federally listed and were discussed above. The MNHP plant species of concern list for the map area lists seven plant species (MNHP 2011a).

An official request for species of concern occurrences within one mile of the project area and known nesting birds was submitted to the MNHP. Mr. Martin Miller, a Data Assistant with the MNHP, provided the requested information via email on March 8, 2012. The MNHP database contains 11 species of concern documented within the general area of the project. They are the great blue heron (*Ardea herodias*), harlequin duck (*Histrionicus histrionicus*), bald eagle (*Haliaeetus leucocephalus*), spoonhead sculpin (*Cottus ricei*), westslope cutthroat trout (*Oncorhynchus clarkii lewisi*), bull trout, lake trout (*Salvelinus confluentus*), grizzly bear, fisher (*Martes pennanti*), wolverine, and Canada lynx (MNHP 2012).

The hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctuagans*), and eastern red bat (*Lasiurus borealis*) are additional species that have been documented in or near the project area that are not accounted for in the MNHP’s database (Bate 2012). The hoary and eastern red bats are species of concern and the silver-haired bat is a potential species of concern according to the Montana Field Guide (State of Montana 2012) (<http://fieldguide.mt.gov>).

Mammals

The fisher is a medium-sized mammal that occurs primarily in dense coniferous or mixed forests and avoids open areas. A dense understory of young conifers, shrubs, and herbaceous cover is important for the fisher in summer. Fishers are generally solitary except during the breeding season, which occurs from late February to April, or March to May. They are a permanent resident to northwestern Montana (State of Montana 2012). Since the project area is located in a developed open area, and fishers typically avoid open areas, it is unlikely that fishers would use the project area. The approximate three week construction activity timeframe at the project site would likely have no measurable effect on the species viability; therefore, this species is not analyzed further.

The eastern red bat, hoary bat, and silver-haired bat have been documented in the park (Bate 2012). The eastern red bat migrates through eastern Montana, particularly along wooded and riparian areas. The summer breeding range of the eastern red bat is in eastern Montana and is not located within Glacier County (State of Montana 2012); however, the eastern red bat has been documented near the project area.

Hoary bats are migratory and are only a summer breeding resident in Montana. Records of this species in Montana are from early June through September, but normal arrival and departure dates are uncertain. This species occupies forested areas during the summer (State of Montana 2012).

The silver-haired bat prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. Although this species is widely distributed, there is little information on their migratory patterns (NatureServe 2012). The silver-haired bat is known as a summer breeding resident in Montana (State of Montana 2012). In 2011, hoary and silver-haired bats were trapped within 100 meters of the project site (Bate 2012).

The proposed tower and associated microwave receiver dish would not generate ultrasonic sound emissions (Martinez 2012); therefore, the project would not interfere with bat echolocation. Since construction activities at the project site would last approximately three weeks, and the tower and microwave receiver dish would not generate ultrasonic sound emissions, there would be no measurable effect on species. Therefore, these bat species are not analyzed further.

Birds

Bald eagle nesting season in the park extends from early March through late September. This species forages year round near the project area and the closest known nest to the project area is at least 3/4 mile to the northwest near the outlet of St. Mary Lake (MNHP 2012). The closest human activity centers to this nest are the St. Mary Visitor Center, township of St. Mary, and the GTSR. Construction activities would take place during the summer, which is during the nesting season, but would be of short duration (approximately three weeks). Bald eagles may occasionally fly over the project area, but most foraging activity is likely to be focused along St. Mary Lake, at least 3/4 mile away. The proposed

tower does not have any moving parts and there is no risk of electrocution since all energized components are low voltage and shielded. Therefore, effects on bald eagle are anticipated to be negligible and the species is not considered further.

Golden eagles (*Aquila chrysaetos*) nest on cliffs and in large trees and hunt over prairie and open woodlands. They are a year-round resident to the park (State of Montana 2012). Golden eagles may fly over the project area, but no nests have been documented in the project area or within a half-mile of the project area. Impacts to this species would not be measurable since there are no nests and since foraging habitat would not be impacted. There would be no long-term impacts to the golden eagle from the proposed tower since it does not have any moving parts and there is no risk of electrocution because all energized components are low voltage and shielded. Therefore, no measurable effect on this species is anticipated and this species is not considered further.

Other bird species considered include the great blue heron, harlequin duck, veery (*Catharus fuscescens*), and common loon (*Gavia immer*). Great blue herons are year-round residents of the park. Most Montana nesting colonies prefer cottonwoods along major rivers and lakes (State of Montana 2012). According to the MNHP, there are great blue heron nest sites near the inlet of Lower St. Mary Lake, which is approximately one mile from the project area (MNHP 2012).

Harlequin ducks inhabit clear mountain streams in Montana. They are a summer resident in the park (State of Montana 2012). They nest on rocky islands or banks along fast-moving rivers and mountain streams. They require relatively undisturbed, low-gradient, meandering mountain streams with dense shrubby riparian areas and woody debris for nesting and brood rearing. Occasionally they nest along mountain lakes and lake outlets (NatureServe 2012).

Veery are often associated with willow thickets and cottonwoods along streams and lakes in valleys and lower mountain canyons in Montana. They are a summer resident to the park (State of Montana 2012).

Common loons will generally not nest on lakes less than about 13 acres in size or over 5,000 feet in elevation in Montana. They are a summer resident to the park (State of Montana 2012). There are no known nesting populations within or near the project area, but loons are known to forage on St. Mary Lake (Bate 2012).

Impacts to these other bird species would not be measurable since there are no nests within or near the project area and foraging habitat would not be impacted by the proposed project. For these reasons, these other bird species are not analyzed further.

Amphibians

In Montana, the western toad (*Bufo boreas*) is known to occur in a variety of aquatic habitats. At low elevations, it is found in beaver ponds, reservoirs, streams, marshes, lake shores, potholes, wet meadows, and marshes. At high elevations, the western toad is found in ponds, fens, and tarns at or near treeline. They have been known to occur in urban settings, sometimes congregating under streetlights at night to feed on insects. Normally

they remain fairly close to ponds, lakes, reservoirs, and slow-moving rivers and streams during the day, but may range widely at night (State of Montana 2012). According to the MNHP, this species has not been documented within or near the project area (MNHP 2012). This species may use nearby wetlands and floodplain pools and may occur within the project area during the night. However, the project is not anticipated to have a measurable effect on this species due to the type of activity and use of Best Management Practices to prevent sedimentation; therefore, this species is not analyzed further.

Fish

The Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*) does not occur in or near the project area; it is native to the Yellowstone river drainage of southwest and south central Montana (State of Montana 2012).

Trout-perch (*Percopsis omiscomaycus*) are native to Montana's northern drainages. This species has been documented in drainages within Township 35 North, Range 14 West, which is not near the project area drainages (State of Montana 2012).

The impacts of the proposed project on the spoonhead sculpin, westslope cutthroat trout, and lake trout fish species of concern that are known to occur in the St. Mary drainages would be negligible because the implementation of Best Management Practices would prevent sedimentation of nearby waterways; therefore, these species are not analyzed further.

Plants

The St. Mary developed area was surveyed during the fall of 2002 and no state plant species of concern were found (NPS 2003). The project area is located in a previously disturbed area that receives lawn care maintenance in the summer; therefore no effects to state listed plant species are anticipated.

Air Quality and Natural Soundscapes

The Clean Air Act (CAA) provides for special protection of air quality and air resources in all NPS units. Section 118 of the CAA requires parks to meet all federal, state, and local air pollution standards. The park is classified as a mandatory Class I area under the CAA, where emissions of particulate matter and sulfur dioxide are to be restricted. The CAA gives the federal land manager the responsibility for protecting air quality and related values in Class I lands from adverse air pollution impacts. Air quality is considered good in the park. There are no metropolitan areas within 125 miles of the park, and no regional smog typical of highly populated areas with a high amount of vehicle traffic.

Construction activities would include temporary construction equipment engine exhaust emissions from vehicles and generators within the St. Mary developed area. Construction activities would produce engine and general construction-related noise for approximately a three week period. Engine and equipment maintenance related noise, vehicle exhaust, and vehicle traffic are common in and adjoining the project area. There would be little changes in the types of activities that occur daily in the project area.

The temporary increase in emissions, exhaust, and noise levels in the area would have a negligible, short-term, localized adverse impact on air quality and soundscapes. Following construction, there would be no effect on the air quality or natural soundscapes associated with the tower. The proposed project would not permanently alter air quality or the air quality classification of the park. Therefore, air quality and natural soundscapes were dismissed from further analysis.

Night Skies

In accordance with *NPS Management Policies 2006*, the NPS strives to preserve natural night skies and will “minimize light that emanates from park facilities, and also seek the cooperation of park visitors, neighbors, and local government agencies to prevent or minimize the intrusion of artificial light into the night scene of the ecosystems of parks.” Glacier National Park considers the impacts to night skies in all projects within developed areas. When lights and light fixtures require replacing, the park is striving to replace them with night sky-friendly fixtures and energy efficient bulbs. No permanent area lighting, aviation warning lighting, or lampposts of any kind would be installed as part of this project, and there would be no night time construction activities with the potential to impact night skies. Night skies are therefore dismissed from further analysis.

Human Health and Safety

The *NPS Management Policies 2006* states that the safety and health of all people are core NPS values. Public health is addressed in DO #83: *Public Health and Vector-borne and Zoonotic Disease* and employee health is addressed in DO #50 B: *Occupational Health and Safety Program*. These policies call for risk recognition and early prevention for a safe work and recreational environment, and the NPS is committed to eliminating and reducing health and safety risks when they are identified. The proposed project would not create an unsafe or unhealthy environment for visitors. But a higher tower could provide increased radio communications coverage with a corresponding benefit to emergency response capabilities, thereby benefitting human health and safety. The NPS’s existing tower is considered adequate for health and safety concerns, however, and any beneficial impacts from the proposed tower would be minor. This topic is therefore dismissed from further analysis.

Park Operations

A number of park operations are ongoing at the St. Mary developed area, especially during the summer when visitor use is high. These include personnel housing, vehicle and equipment maintenance, administrative services, and law enforcement/emergency response services. The proposed project would not inhibit their normal operation. A small portion of the St. Mary developed area would not be accessible during the approximate three-week construction period; however, none of this area is actively used for park operations. The higher tower would provide improved coverage for NPS radio communications, resulting in fewer broken transmissions and a reduced reliance on repeating traffic, and would therefore benefit park operations that depend on radio systems. Improved Internet service would benefit administrative operations that utilize the Internet. Adverse impacts to park operations would be negligible; beneficial impacts, while long-term, would only be site-specific and minor given the adequate functionality of existing communications. Therefore, park operations are not analyzed further.

Water Resources – Wetlands and Water Quality

NPS policies require protection of water quality in accordance with the Clean Water Act (CWA). The CWA's purpose is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the U.S. and issuing permits for actions consistent with the CWA. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions which affect waters of the U.S. Sedimentation as a result of construction activities would be prevented through implementation of Best Management Practices. Sediment would not leave the fenced project disturbance boundary. Based on GIS wetlands files and previous site visits, there are no wetlands in the project area, and riparian areas would not be impacted by the proposed project as no construction would occur within them. Therefore, there would be no effects on water quality and wetland resources and these topics are dismissed from further analyses.

Socioeconomic Resources

Local businesses in the St. Mary township potentially would see a minor increase in revenue from construction workers building the tower over a three week period. There would be no change in the park entrance fees or gross revenues due to the proposed project. Visitor numbers would not change, and the park concession operations and local businesses would benefit through more efficient access to the Internet. Therefore, effects to socioeconomics would be minor and this topic is dismissed from further analysis.

Archeological Resources

Surveys were conducted for archeological resources in the St. Mary developed area by Mark R. Guthrie of the Midwest Archeological Center in 1978. Surveys of adjacent and nearby lands were conducted by Steve Domingues in 1989 and Dr. Brian Reeves in 1993, 1994, and 1995 (Reeves and Shortt 1995, 1996, 1997). No archeological sites have been identified in the area that could be affected by the proposed project. The proposed project would therefore not be expected to impact archeological resources. Ground disturbing activities would be monitored by an archeologist. If archeological resources were identified during construction, consultation with the Montana SHPO and Tribal Historic Preservation Offices would occur in accordance with federal legislation and regulations and NPS policy. Archeological resources are therefore dismissed from further analysis.

Ethnographic Resources

Ethnographic resources are defined by the NPS as "the cultural and natural features of a park that are of traditional significance to traditionally associated peoples" (NPS 2006). Glacier National Park completed an ethnographic overview of the park in 2001. The report, *Our Mountains are Our Pillows*, was prepared by Dr. Brian Reeves and Sandy Peacock (Reeves and Peacock 2001). The report focuses on Blackfeet and Kootenai ethnohistory and ethnology. Blackfeet actively participated in the study. Kootenai information came largely from published and unpublished sources. Additional efforts to identify ethnographic resources in the park included contracts within the Blackfeet Tribal Business Council and the Confederated Salish and Kootenai Tribes of the Flathead Reservation. No ethnographic resources have been identified in the area affected by the project (NPS 2003). Therefore, the proposed project activities are not expected to impact

ethnographic resources. Neither the Blackfeet Tribe nor the Confederated Salish and Kootenai Tribes raised concerns about the proposed project during scoping. Ethnographic resources have been dismissed from further study. The park recognizes that the tribes hold a body of knowledge that may result in the identification of ethnographic resources in the area in the future.

Museum Collections

According to the NPS *Management Policies 2006* and DO #24: *Museum Collections*, the NPS requires consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript materials). NPS policy defines museum collections management including policy, guidance, standards, and requirements for preservation, protection, documentation, access, and use. The proposed project would not result in the collection of any artifacts that would become part of the park's museum collection, and the project area is not occurring in the vicinity of any existing collections. Museum collections would therefore not be affected by the proposed project, and this topic is dismissed from further analysis.

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. The proposed project would benefit everyone equally, and therefore disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Environmental Guidance (EPA 1998) would not occur. Therefore, environmental justice was dismissed from further analysis.

Climate Change

The Intergovernmental Panel on Climate Change (IPCC) predicts "impacts of climate change will vary regionally but, aggregated and discounted to the present, they are very likely to impose net annual costs which will increase over time as global temperatures increase" (IPCC 2007). Since the proposed project is of a small scale and short-term, it would not change visitor use patterns and is therefore not likely to result in increased or reduced greenhouse gas emissions. Therefore, it is not expected to measurably impact the global climate. Climate change has therefore been dismissed from further analysis.

Wild and Scenic Rivers

The proposed project is not adjacent to or within a Wild and Scenic River Corridor. Therefore, Wild and Scenic Rivers were dismissed from further analysis.

Alternatives

An interdisciplinary team of park staff originally identified four action alternatives and a no action alternative. Public scoping did not identify any additional alternatives. After further consideration, only one action alternative and the No Action alternative were retained for further evaluation. The other alternatives are discussed under *Alternatives, Suggestions, and Issues Considered and Dismissed*.

Alternatives Carried Forward

Alternative A: No Action Alternative

The No Action alternative describes the conditions that would continue to exist at the St. Mary area if no plan was implemented. The No Action alternative provides a baseline for evaluating the changes and related environmental impacts that would occur under Alternative B.

Under the No Action alternative, a new special use lease would not be issued to CenturyLink. A tower would not be built and associated upgrades to the current communication capacities for the St. Mary area would not occur. The Montana Public Service Commission's goal to expand broadband Internet capabilities to rural exchanges would not be fully met.

Alternative B: Preferred Alternative

Under Alternative B, a new or revised right-of-way permit in accordance with NPS DO #53: *Special Park Uses* (special use lease) would be issued to CenturyLink to build and operate a new tower. The existing NPS 70-foot radio tower (including antennas) would be removed. NPS radio equipment would be co-located on the new tower with a CenturyLink microwave dish receiver. The microwave signal feed wiring between the tower and the existing CenturyLink communication building would be buried in underground conduit.

The new tower and associated infrastructure would provide DSL service to the greater St. Mary area and improve the reliability and speed of Internet access to local and visitor users. The new tower would be designed to provide a direct line of sight to the CenturyLink Divide Mountain transfer station and would also accommodate NPS equipment for 360-degree radio coverage. The project would support the larger statewide Montana Public Service Commission requirement mandating CenturyLink to upgrade communications capabilities at its rural exchanges (including St. Mary) in Montana.

The new tower would be located next to the existing NPS communication building at the St. Mary developed area in the park (**Figure 3**). The tower would be an approximately 80-foot tall, three-legged, steel lattice structure supported on an approximately 16-foot by 16-foot concrete footing. The tower would support a 6-foot diameter microwave dish placed at 67 feet above ground. Up to three NPS radio whip-type antennas, approximately 4 feet in length, would be placed on the top of the tower. **Figure 4** presents the tower site plan.

Microwave transmission cable would be run down the tower leg then underground to the CenturyLink communication building. The cables would be placed in two 6-inch diameter conduits for the underground portion of their run. A trench for placement of the conduits and cable would be excavated using a backhoe. The trench would be an approximately 100-feet long, 4-feet deep, 2-feet wide excavation. Existing vegetation, suitable topsoil, and subsoil would be stockpiled adjacent to the excavation for reuse and replacement during backfilling of the trench. Existing electrical power infrastructure for the CenturyLink and NPS facilities is adequate for the new equipment requirements. No tower top lighting would be required by the Federal Aviation Administration rules and none is proposed.



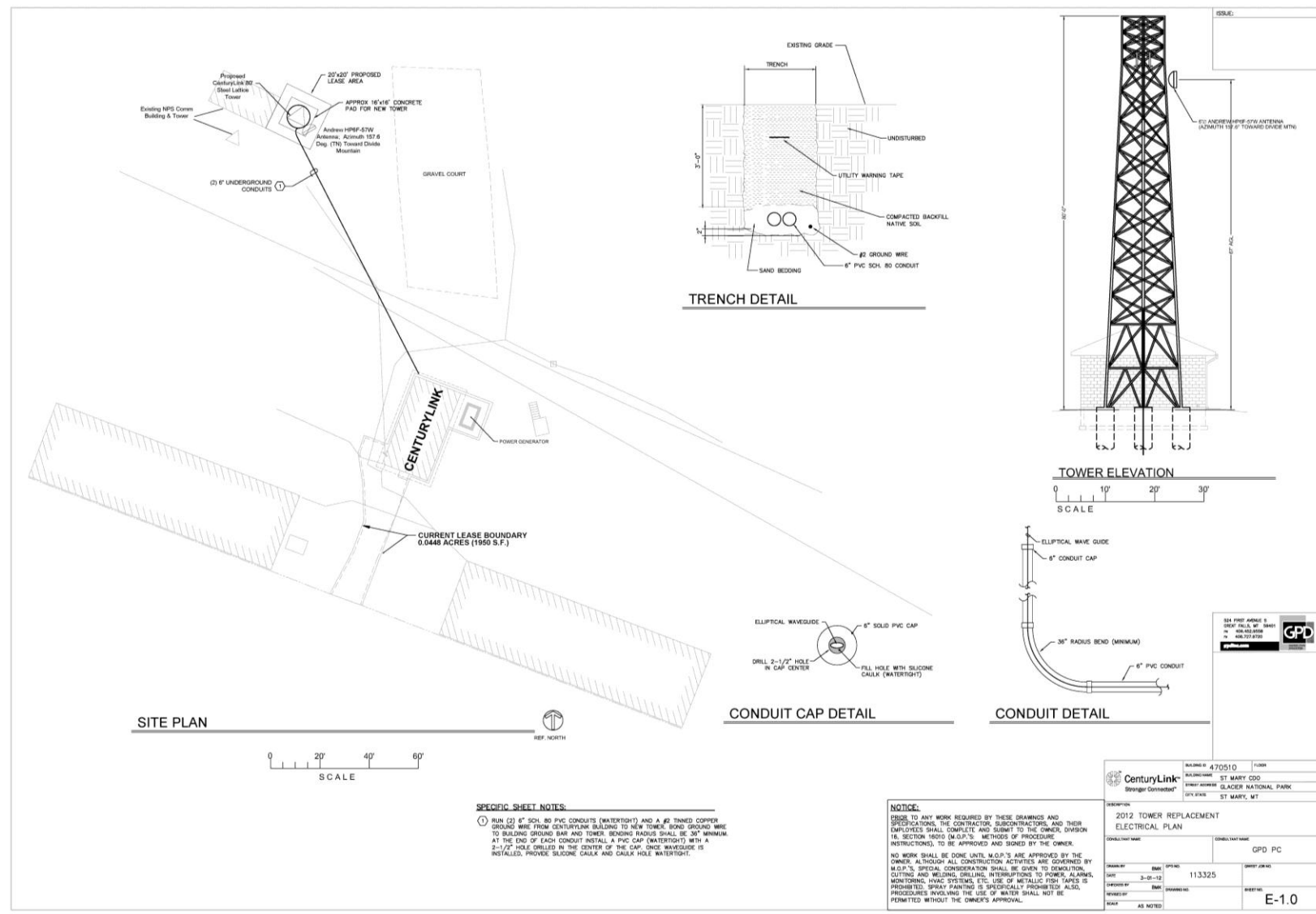
Existing Tower



After Implementation of Proposed Action

Figure 3: CenturyLink Microwave Radio Antenna Tower Photographic Simulation

Figure 4: CenturyLink Microwave Radio Antenna Tower Site Plan



Site reclamation would consist of backfilling the transmission conduit trench with native subsoil and compacting the subsoil. Separately stockpiled topsoil would be placed on the subsoil to near ground surface. Native vegetation removed during the initial excavation activities would be placed on the topsoil. If areas devoid of vegetation remain they would be seeded using an NPS approved seed mix.

The NPS transmitter/receiver equipment co-located on the tower would run down the tower and into the immediately adjacent NPS communication building. Following the installation and verification of the NPS's new radio system operability, the NPS's existing radio tower and footings would be removed.

Construction would occur in Fall of 2012 or Summer of 2013. Including site restoration, construction of the tower would take approximately three weeks with intermittent periods of activity before or after this period.

All tools, equipment, barricades, signs, surplus materials, and rubbish would be removed from NPS property upon project completion. Any road and off-road surfaces damaged due to work on the project would be repaired to original condition as much as is feasible. All demolition debris would be removed from the project site, including all visible concrete and metal pieces, and disposed in an approved location outside the park.

In the future, as technological advances in microwave transmission or other broadband transmission technologies occur the replacement of the tower and associated equipment would be evaluated to determine if a less visible form of technology can be utilized at the site.

Mitigation Measures

Mitigation measures are presented as part of the Preferred alternative. The following mitigation measures were developed to minimize the degree and/or severity of adverse effects and would be implemented:

General Measures

- The NPS project manager would be responsible for ensuring that the project remains within the construction limits and parameters established in the compliance documents and that mitigation measures are properly implemented.
- Construction zones outside of the existing project site would be identified and fenced with construction tape or similar material prior to any construction activity. The fencing would define the construction limits and confine activity to the minimum area required for construction.
- All protection measures would be clearly stated in the construction specifications/special construction requirements, and workers would be instructed to avoid conducting activities beyond the construction limits as defined by the construction fencing or similar material, such as erosion control fencing.
- Contractors would be required to properly maintain construction equipment (i.e., mufflers) to minimize noise from use of the equipment.

Wildlife, Federally Listed Threatened and Endangered Species, and State Species of Concern

- Workers would be trained on appropriate behavior in the presence of wildlife and on proper storage of food, garbage, and other attractants.

Vegetation

- The park's Best Management Practices would be implemented to minimize the extent of impacts.
 - Disturbance to vegetation would be avoided as much as possible and contained to as small a footprint as possible while meeting project objectives.
- Any vegetation removed during the project would be stored in a shaded, protected site and watered as necessary. Once the new tower and microwave transmission conduit are installed and the existing NPS radio tower is removed, the vegetation would be replaced and the edges of the disturbance would be seeded with viable native seed specified by the NPS.
- If non-native invasive plants establish in the area, an integrated weed management process would be implemented.

Soils

- The park's Best Management Practices would be implemented to minimize the extent of impacts.
 - Disturbance to the ground would be avoided as much as possible and contained to as small a footprint as possible while meeting project objectives.
- Soils removed for the project would be set aside and replaced when the work is complete. Salvaged soils would be protected from trampling, and topsoil would be stored separately from sub-excavated materials. Once the new tower and conduit are installed and the existing NPS tower is removed, the holes would be backfilled with the salvaged soil. Sub-excavated materials would be replaced first, topsoil would be replaced last, and the holes would be overfilled slightly to ensure that soils do not settle and form a depression.
- Erosion control measures that provide for soil stability and prevent movement of soils into waterways would be implemented.

Archeological Resources

- Ground disturbing activities would be monitored by an archeologist.

Visual Resources

- The tower structure and microwave dish would utilize diffuse or non-polished light reflecting materials on exterior surfaces.

Health and Safety

- Visitors and NPS staff (other than project participants) would not be allowed to access the construction site. The tower area and transmission conduit trench area would be temporarily fenced and signed as a restricted area. Emergency vehicles would be allowed on site if needed.

Alternatives Considered but Eliminated from Detailed Study

This section discusses three previously identified action alternatives that were considered but dismissed.

Install the new tower and leave the existing NPS radio tower. This alternative was considered and dismissed because it would add more infrastructure to the Divide Creek floodplain. The NPS goals are better met with one tower.

Install the new tower outside of the park. This alternative was considered and dismissed due to CenturyLink not having the ability to purchase land outside the park and relocate their building while remaining in compliance with the Montana Public Service Commission's timeline requirements for upgrading communications capabilities at its rural exchanges.

Install "hard wire" transmission conduit from the Divide Creek relay tower. This alternative was considered and dismissed by CenturyLink due to the increased cost to install the wire and due to non-compliance with the Montana Public Service Commission's timeline requirements for upgrading communications capabilities at its rural exchanges.

Alternatives, Suggestions, and Concerns from Public Scoping

Forty-two comment letters or emails were received during the scoping period. Of these, 11 contained substantive comments that were in opposition to or questioned aspects of the project. Several of the specific issues raised in the comment letters or emails are addressed in the Alternatives Considered but Eliminated from Detailed Study, or in the Affected Environment and Environmental Consequences sections of this EA. Responses to the remaining comments are presented below:

Comment: How many people will benefit from the improved Internet access?

Response: The number of people that would benefit from the new Internet service is dependent on personal need and market forces and is not accurately known at this time. The new Internet service would be available to NPS administrative personnel, residents, and likely visitors in the greater St. Mary area. The Montana Public Service Commission requirement specifically targets small markets that might not otherwise receive modern Internet service.

Comment: The park should compare lease rates other lessors pay in a wide area.

Response: As directed by the NPS DO #53: *Special Park Uses*, "The NPS will charge fees and recover costs for special use permits unless prohibited by law or Executive order.... Charges should reflect the fair market value of the use requested. The fair market value of a special park use is the value of the lands or facilities used, plus the NPS costs incurred in managing or supporting the use." The NPS would determine the lease terms for the right-of-way based on existing NPS procedures.

Comment: Cellular telephone service should not be provided or expanded in the park.

Response: Cellular telephone service is not being proposed as part of the project.

Comment: Internet service should not be provided or expanded in the park.

Response: The use of developed NPS-administered land for the provision of telecommunication services is consistent with park planning goals and objectives and with NPS DO #53: *Special Park Uses*.

Comment: Consider painting the supporting frame brown or attaching branch-like features to “soften” the hard, angled design of the three legged structure.

Response: Using natural colored paint and branch-like features to mitigate visual impacts was considered but dismissed. As described in the visual impact analysis section, the majority of the lower portion of the tower would be obscured by trees. More importantly, paint does not adhere well to galvanized steel and paint chips would likely be released into the environment over time. Paint would also require frequent maintenance, such as sand blasting and repainting, which would cause the release of more paint chips and adversely affect the natural soundscape. Branch-like structures are typically placed on mono-pole type towers. Frequent high wind speeds in the St. Mary area would make branch-like structures vulnerable and would put additional stress on the tower structure, increasing the potential for failure.

Alternative Summaries

Table 1 summarizes the major components of alternatives A (No Action) and B (Preferred) and compares the ability of these alternatives to meet the project objectives (as identified in the Purpose and Need). As shown, the No Action alternative achieves one of the NPS’s objectives while the Preferred alternative achieves all of the NPS’s objectives.

Table 1: Summary of Alternatives and how each Alternative Meets the Project Objectives

Alternative Elements	Alternative A – No Action	Alternative B – Preferred
Special use lease	A new special use lease would likely be negotiated for the existing CenturyLink facilities at the St. Mary developed area.	A new special use lease would be negotiated for the existing and new CenturyLink facilities at the St. Mary developed area.
Installation of tower	The new tower would not be installed and DSL Internet service would not be provided to the surrounding community.	An 80-foot tall tower would be constructed adjacent to the existing NPS communication building. A CenturyLink microwave dish and NPS radio antennas would be co-located on the tower. DSL Internet service would be provided by CenturyLink to the surrounding community in compliance with Montana Public Service Commission requirements.

Removal of existing NPS radio antenna tower	The existing NPS tower would remain at the site providing radio communication for park activities.	The existing 70-foot tall NPS tower and antennas would be removed from the St. Mary developed area. Radio capabilities would be transferred to the new, taller tower.
Project Objectives	Meets Project Objectives?	Meets Project Objectives?
Assist CenturyLink in meeting the AFOR agreement with the Montana Public Service Commission	No. The Montana Public Service Commission AFOR agreement terms with CenturyLink would not be met.	Yes. The tower installation would support the state-wide initiative to upgrade communication facilities in small rural exchanges.
Provide DSL Internet service to the surrounding community	No. DSL Internet service would not be provided to the surrounding community.	Yes. The new tower would make DSL service available to the surrounding community.
Conduct work so NPS radio communications capabilities would not be interrupted.	Yes. Existing communication systems would not be affected.	Yes. NPS radio communications would not be interrupted due to mitigation measures that are in place. The project would also benefit radio communications. The NPS would have access to DSL Internet capabilities and would have an improved structure on which to place its radio antenna equipment.

Table 2 summarizes the anticipated environmental impacts for alternatives A (No Action) and B (Preferred). Only those impact topics that have been carried forward for further analysis are included. The *Affected Environment and Environmental Consequences* section provides a more detailed explanation of these impacts.

Table 2: Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No Action	Alternative B – Preferred
Historic Structures	No effect.	Impacts to the Utility Area Historic District, the St. Mary Visitor Center, and the Going-to-the-Sun Road would be moderate, long-term, and site-specific. Under Section 106, a finding of no adverse effect on historic structures has been determined.
Cultural Landscapes	No effect.	Impacts to the GTSR cultural landscape would be moderate, long-term, and site-specific. Under Section 106, a finding of no adverse effect on cultural landscapes has been determined.
Floodplains	A localized, minor, long-term adverse effects on the Divide Creek floodplain would continue from ongoing human uses in the floodplain.	The proposed project would produce localized, minor, long-term adverse effects on the floodplain of Divide Creek by continuing human uses in the floodplain until funding is found to relocate the St. Mary developed facilities.
Visual Resources	A minor, long-term adverse effect from the existing tower would remain.	A moderate, long-term adverse effect resulting from the new tower would be created. The new tower would be more visible than the existing tower due to its increased height. The shielding of the lower approximate 65 feet of the tower would hide the towers presence, particularly at close distances. The placement of the tower in a low topographical area would eliminate skyline impacts as viewed from within the park boundaries. The calculated maximum increase in the area where the tower would be visible in park lands relative to the existing tower is 14 percent.
Visitor Use and Experience	No effect.	Minor, long-term adverse impacts would occur to visitor experience related to visual impacts from the tower. Minor, long-term beneficial impacts would occur for visitors, residents, and NPS personnel requiring access to modern DSL Internet services.

Environmentally Preferable Alternative

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative “that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.”

Alternative A (No Action) is the environmentally preferable alternative because there would be no activities that would disturb elements of the biological and physical environment.

Alternative B is not the environmentally preferable alternative because it would cause increased visual impacts and temporarily disturb vegetation and soil in the St. Mary developed area. Ongoing impacts to the proper function of the Divide Creek floodplain and historic structures in the St. Mary developed area would continue unchanged under Alternative B.

Preferred Alternative

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. While Alternative B is not the environmentally preferable alternative, it would best accomplish the purpose and need of the proposal and would not significantly impact affected natural resources. Department of the Interior (DOI) regulations do not require that the environmentally preferable alternative be selected as the NPS Preferred alternative (DOI 43 CFR Part 46, Implementation of the National Environmental Policy Act of 1969, Chap. 46.420). Therefore, Alternative B is the NPS Preferred alternative.

Affected Environment and Environmental Consequences

This section describes the affected environment (existing setting or baseline conditions) and analyzes the potential environmental consequences (impacts or effects) that would occur as a result of implementing the proposed project. Direct, indirect, and cumulative effects 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 in **Table 3** and 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.
- **Spatial Context** describes the area or location in which the impact would occur. Effects may be 1) *site-specific* – at the location of the action, 2) *local* – on a drainage or district-wide level, 3) *widespread* – throughout the park, or 4) *regional* – outside of the park.
- **Duration** describes the length of time an effect would occur, either short-term or long-term. The definitions for these periods depend upon the impact topic and are described in **Table 3**.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this EA and are also provided in **Table 3**.

Effects to historic properties listed in or eligible for listing in the NRHP also have been described in accordance with Section 106 of the NHPA of 1966, as amended, and its implementing regulations, 36 *CFR* 800.

Cumulative Impact Scenario

The CEQ regulations which implement NEPA 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 the alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future projects in the vicinity of the St. Mary developed area and, if applicable, the surrounding area. The past, present, and reasonably foreseeable actions that have occurred and could occur in the vicinity of the project area are:

Past Actions

- *Divide Creek dredging.* In response to flooding, the Divide Creek stream channel was dredged in 1937 and 1938, in the 1950s, and in 1964, 1975, 1987, 1991, 1995, 1997, and 2006. A dike built of channel materials has been constructed upstream of the St. Mary developed area at a "nick point" to prevent the creek from re-occupying an old channel (Smillie and Ellerbroek 1991).
- *St. Mary Fire Cache and Radio Equipment Building.* In 2004, a fire cache was constructed in the St. Mary developed area, and a radio equipment building was constructed in 2006.
- *New sewer system at St. Mary Campground and Visitor Center.* Sewer vaults were installed at St. Mary Campground and the St. Mary Visitor Center in 2006 to comply with regulations from the Montana Department of Environmental Quality.
- *St. Mary hazard fuels reduction.* To reduce hazard fuels and create defensible space around structures, fuels in the immediate St. Mary developed area have been thinned and/or burned periodically. In 2011, hazard fuels were reduced at the 1913 Ranger Station.
- *St. Mary Visitor Center/transit improvements.* A GTSR transit system terminal was established at the St. Mary Visitor Center in 2007. The project included remodeling and/or changing the interior of the visitor center and restrooms, and expanding the parking lot.
- *St. Mary Campground comfort station rehabilitation and shower addition.* In 2010, the comfort station at Loop A in the St. Mary campground was rehabilitated to accessibility standards. An accessible shower facility was added to the comfort station.
- *Stream channel alteration.* Performed in Divide Creek channel adjacent to the park by private landowner in the past.

On-Going Actions

- *Hazard fuels reduction.* The east side fuel reduction project is beginning and would last three or four years. The project would involve maintenance of defensible space in the St. Mary developed area. The park's hazard tree crew removes hazard fuels in the St. Mary developed area compound on an incidental basis each year.
- *Rehabilitation of U.S. Highway 89.* Miscellaneous work between Kiowa Junction and Hudson Bay Divide (MDOT 2012).
- *Oil and gas development east of the park.* The Blackfeet Tribe is currently conducting oil and gas exploration on the Reservation. A number of wells are planned or have been drilled ranging from three to ten miles from the park's eastern boundary.

- *St. Mary sewage treatment plant maintenance.* Improvements to the St. Mary sewage treatment facility are required by the Montana Department of Environmental Quality in order to bring the system up to standards. Upgrades have included an addition to the treatment pond, installation of a holding tank, replaced pumps, and water quality monitoring equipment, among others. Upgrades to the system are expected to continue.

Reasonably Foreseeable Future Projects

- *Relocation of park employee housing, administrative, and maintenance facilities in St. Mary.* Employee housing, administrative, and maintenance facilities for the St. Mary area are currently located within the Divide Creek flood hazard zone. The park GMP determined that park infrastructure would eventually be relocated from that area. As a first step, the NPS is planning an EA for a proposal to remove the existing trailers in St. Mary and construct additional housing elsewhere. The EA process will begin in 2012.
- *Going-to-the-Sun Road Rehabilitation.* Rehabilitation of the GTSR is anticipated through the fall of 2016, depending on weather and available funding. The segment between Siyeh Bend and Rising Sun is anticipated to begin in 2013 and continue until the fall of 2014 or the spring of 2015. The Rising Sun to St. Mary segment is expected to begin in 2014.
- *Telephone pole behind the St. Mary Dormitory.* The existing telephone pole behind the St. Mary Dormitory is no longer needed and would be removed.

Table 3: Definitions for Intensity Levels and Duration

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Cultural Resources – Historic Structures and Cultural Landscapes	Treatment is at the lowest levels of detection – barely perceptible and not measurable. For purposes of Section 106, the finding of effect would be no adverse effect.	Treatment would affect the character defining features of an NRHP eligible or listed property, but is in accordance with the Secretary of the Interior's Standards. For purposes of Section 106, the finding of effect would be no adverse effect or adverse effect	Treatment would alter a character defining feature(s), diminishing the integrity of the resource to the extent that it is no longer eligible for listing in the NRHP. For purposes of Section 106, the finding of effect would be adverse effect.	Treatment would alter a character defining feature(s) of a National Historic Landmark, diminishing the integrity of the resource to the extent that its designation is threatened. For purposes of Section 106, the finding of effect would be adverse effect.	Short-term: Effects extend only through the period of construction Long-term: Effects extend beyond the period of construction
Floodplains	Floodplains would not be affected, or changes would be either non-detectable or if detected, would have effects that would be slight and non-measurable. The change would have barely perceptible consequences to riparian habitat function.	Changes in floodplains would be measurable, although the changes would be small and the effects would be localized. The action would affect a few individual plants or wildlife species within an existing riparian area.	Changes in floodplains would be measurable, long-term and on a localized scale. Plant and wildlife species within the existing riparian area would experience a measurable effect, but all species would remain indefinitely viable.	Changes in floodplains would be readily measurable and have substantial consequences to floodplain dynamics and would be noticed on a localized scale within the watershed.	Short-term – After implementation, recovery would last less than one year. Long-term – After implementation, recovery would last more than one year.

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Visual Resources	Effects would not result in any perceptible effects to existing viewsheds.	Effects would result in slightly detectable changes to a viewshed or in a small area or would introduce a compatible human-made feature to an existing developed area.	Effects would be readily apparent and would change the character of visual resources in an area.	Effects would be highly noticeable or would change the character of visual resources by adding human-made features into a mostly undeveloped area or by removing most human-made features from a developed area.	Short-term: Would be temporary and removable. Long-term: Would be permanent or continual.
Visitor Use and Experience	Visitors would not be affected, or changes in visitor use and /or experience would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative.	Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.	Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the effects associated with the alternative.	Changes in visitor use and/or experience would be readily apparent and have important consequences. The visitor would be aware of the effects associated with the alternative.	Short-term: Occurs only during project implementation. Long-term: Occurs after project implementation or is permanent.

Cultural Resources - Historic Structures and Cultural Landscapes

Affected Environment

Glacier National Park is home to a wide array of significant cultural resources. The NHPA defines five cultural resource property types: districts, sites, buildings, structures, and objects. Resources within these property types include archeological resources, cultural landscapes, structures, ethnographic resources, and museum objects.

While the park is perhaps best known for its tremendous natural setting and renowned ecological resources, the park is also home to many significant cultural resources. As of 2010, 324 archeological sites, 367 historic buildings and structures, and one cultural landscape have been documented within the park. Most of the buildings and structures are listed in the NRHP. Six buildings and the one cultural landscape, the GTSR, are also designated National Historic Landmarks. In addition, the park has prepared an ethnographic overview documenting the importance of many landscapes and features to the Blackfeet, Salish, and Kootenai tribes (Reeves and Peacock 2001).

The NHPA of 1966, as amended, and its implementing federal regulations (36 CFR 800), require federal agencies, such as NPS, to identify potentially significant cultural resources within the area of potential effect (APE) of an agency's proposed undertaking and to consider the effects of the undertaking on cultural resources before taking any actions. The APE includes the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of a cultural resource. Cultural resources are defined as buildings, structures, objects, sites, or districts that display significant associations to American history, architecture, archeology, engineering, or culture. Cultural resources may be historic or prehistoric, and may be intact resources or archaeological sites. If a proposed federal project would adversely affect an eligible property, measures must be developed and implemented to minimize or mitigate those effects.

The NHPA and its implementing regulations, require that the NPS consult with Montana SHPO, Tribal Historic Preservation Offices, interested Native American Tribes, and other interested parties to identify cultural resources within the APE, assess the undertaking's effects, and seek ways to avoid, minimize, or mitigate any adverse effects on cultural resources. The NPS has initiated consultation with, or notification of Montana SHPO, the Blackfeet Tribal Business Council, the Blackfeet Tribal Historic Preservation Office, the Confederated Salish, and the Kootenai Tribal Council, and the Confederated Salish and Kootenai Tribes Historic Preservation Department.

For the purpose of describing specific features of the cultural resource affected environment for historical structures and cultural landscapes and anticipated impacts to those cultural resources from alternatives A and B, discussion of historic structures and cultural landscapes are broken out separately below.

Historic Structures

The St. Mary Utility Area Historic District (within the St. Mary developed area) is located in the APE for this project. Other nearby National Register-listed properties, including the St. Mary Visitor Center and GTSR are physically removed but would be visually impacted by the proposed project.

Going-to-the-Sun Road

The historic significance of the GTSR has been well recognized by the federal government and others. The GTSR was listed in the NRHP in 1983; it was designated a National Historic Civil Engineering Landmark in 1985; it was documented by the Historic American Engineering Record in 1990; and, it was designated a National Historic Landmark by the Secretary of the Interior in 1997. The latter distinction is the most noteworthy and restrictive, and affords the GTSR and its component features the highest possible level of federal protection. The GTSR is considered significant for its history, its landscape design, and its engineering. As an early example of a major national park roadway, the GTSR represents a pioneering federal attempt to design and construct an automobile road that both harmonized with its environment and showcased its natural surroundings (NPS 2007).

These design philosophies, as embodied in the GTSR, became a model for future parkway projects to follow. The engineering and landscape architecture techniques used in the GTSR further reflected this design philosophy, featuring well-crafted stonework and gently curving walls that blended perfectly with the spectacular natural setting. Both the National Register and National Historic Landmark nominations include the length of the road from the foot of Lake McDonald to the park's boundary at St. Mary. Important individual structures that are part of the road (primarily bridges and tunnels) are listed as contributing to the GTSR's significance. The two closest contributing structures are Divide Creek Bridge and St. Mary River Bridge (NPS 2007).

St. Mary Utility Area Historic District (Developed Area)

The St. Mary Utility Area Historic District is listed in the NRHP. The district was among a number of properties listed as part of the 1995 Glacier National Park Multiple Properties Submission (NPS 1995). The district is historically significant for its association with changes in park administration after completion of GTSR and increased visitation, and by commensurate needs to augment housing and maintenance infrastructure on the east side of the park. The district also is significant for its representation of Civilian Conservation Corp utilitarian architecture and rustic design. Most buildings in the district were constructed using Emergency Conservation Work funds and Civilian Conservation Corp labor. **Figure 5** presents a map of the district taken from the NRHP registration form.

St. Mary Visitor Center and Entrance Station

The St. Mary Visitor Center, Entrance Station, and Checking Stations were listed on the NRHP in 2008. Designed and constructed between 1964 and 1968, the St. Mary Visitor Center, Entrance Station, and Checking Stations meet National Register Criterion A as property types associated with the NPS Mission 66 and Parkscape planning and design programs. The St. Mary Visitor Center, Entrance Station, and Checking Stations are exceptional representations of the

Mission 66 programs that were a significant change in NPS planning, management, and architecture. Architecturally, the visitor center most fully expressed the Mission 66 program as a new property type that combined multiple functions. The facility is located near the eastern terminus of the GTSR corridor.

Cultural Landscapes

As defined by the NPS, a cultural landscape is “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein associated with a historic event, activity, or person, or that exhibits other cultural or aesthetic values (NPS 2003a).”

Going-to-the-Sun Road

The GTSR is a designated National Historic Landmark. Two of the criteria establishing the road’s significance are associated with cultural landscape characteristics: its association with the American Park movement and its exceptionally valuable example of American landscape architecture (Begley 1996).

The GTSR Cultural Landscape Report (RTI 2002) documented the following key cultural landscape characteristics of the St. Mary Lake section of the road:

Roadway Qualities and Features

- Standard (22-foot) roadway width, with straightaways and few broad curves
- Some gentle grades, but largely level overall
- Bridges across St. Mary River and Divide Creek are the only major structures
- Most of the segment was rehabilitated in 1991-1993

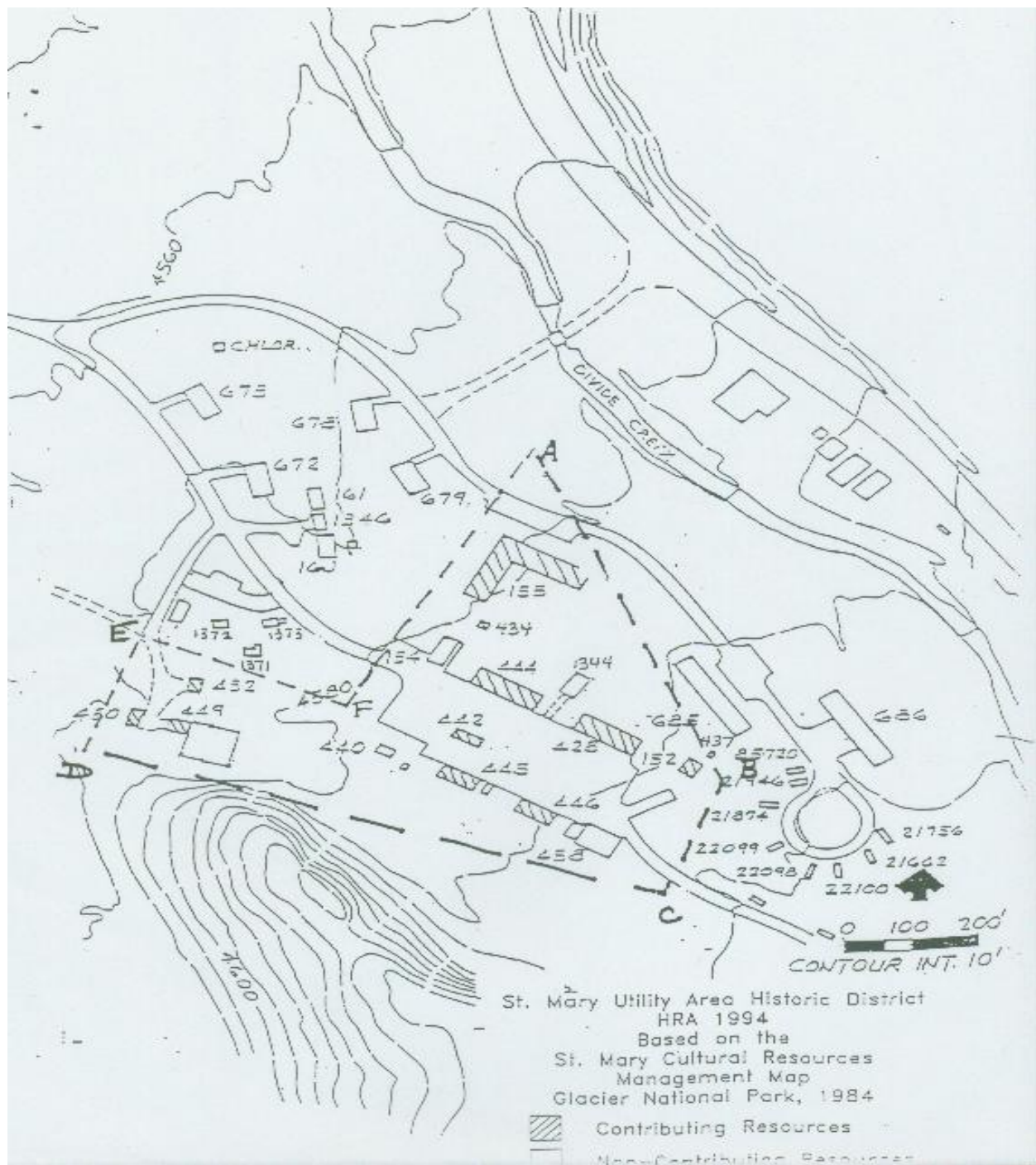


Figure 5: St. Mary Utility Area Historic Distric (Boundary delineated by dashed line)

Cultural Resource Qualities and Features

- Segment largely reflects design and construction activities from the early 1930's
- The stone bridge across the St. Mary River is a key historic feature along the GTSR; the Divide Creek Bridge is also historic

- The St. Mary Visitor Center is representative of NPS Mission 66 architecture
- Segment is part of the Sun Road NRHP and National Historic Landmark nominations

Visual/Experiential Qualities and Features

- The segment features medium and long-range views of St. Mary Lake and the mountains beyond
- Shorter views emphasize the hilly grasslands surrounding the GTSR

Impacts to historic properties and the cultural landscape were assessed based on the effects of the alternative on the Historic District.

Intensity Level Definitions

Negligible: Treatment 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: Treatment would affect the character defining features of an NRHP eligible or listed property, but is in accordance with the Secretary of the Interior’s Standards. For purposes of Section 106, the finding of effect would be no adverse effect or adverse effect.

Moderate: Treatment would alter a character defining feature(s), diminishing the integrity of the resource to the extent that it is no longer eligible for listing in the NRHP. For purposes of Section 106, the finding of effect would be adverse effect.

Major: Treatment would alter a character defining feature(s) of a National Historic Landmark, diminishing the integrity of the resource to the extent that its designation is threatened. For purposes of Section 106, the determination of effect would be adverse effect.

Short-term: Effects extended only through the period of construction.

Long-term: Effects extended beyond the period of construction.

Impacts of Alternative A – No Action

Under alternative A, there would be no change in current operations and no impact to cultural resources in the St. Mary Utility Area Historic District, the National Historic Landmark GTSR, or the St. Mary Visitor Center. There would be no site specific, widespread, or regional impacts, no short-term or long-term impacts, and no negligible, minor, moderate, or major impacts, either positive or negative in nature.

Section 106 Summary

The NPS has determined that Alternative A, no action, is not an undertaking as defined in 36 CFR 800, and the alternative does not have the potential to cause effects on historic properties. Therefore, the NPS has no further obligation under Section 106.

Cumulative Impacts of Alternative A

Because there would be no action, there would be no cumulative impacts from Alternative A combined with previous, ongoing, or reasonably foreseeable actions.

Conclusion

There would be no change to current conditions, and therefore no new impacts to cultural resources under the No Action alternative. Consequently, there would be no impairment of cultural resources as a result of the implementation of this alternative.

Impacts of Alternative B - Preferred

Under Alternative B, the proposed project would affect historic structures and the GTSR cultural landscape. The effect to the St. Mary Utility Area Historic District would be visual. The tower would replace an existing tower of similar materials and design, although the new tower would extend higher and have a microwave dish on it. The appearance of the lower portion of the tower would be similar to the existing tower. The upper portion of the tower would be visible in the immediate area of the tower, but would be obscured from view by the large conifers surrounding the tower in a large portion of the Utility Area Historic District. **Figures 6, 7, and 8** present photographic-simulated views of the proposed tower from various vantage points in the historic district.



Figure 6: Photographic Simulation of Proposed Tower in Historic District



Figure 7: Photographic Simulation of Proposed Tower in Historic District



Figure 8: Photographic Simulation of Proposed Tower in Historic District

Given the presence of shielding vegetation for a large area in the St. Mary Utility Area District, the new tower would have a minor and long-term adverse impact on visual qualities within the Utility Area Historic District. However, the impacts do not substantively diminish elements associated with the District that led to its listing on the National Historic Register and, therefore, Alternative B would have no adverse effect on historic structures under Section 106 criteria.

The impact on the St. Mary Visitor Center and GTSR cultural landscape and associated views within the GTSR Corridor would include increased visibility of the tower. The new tower would be viewable on approximately one additional mile of the GTSR near the lower portion of St. Mary Lake. An elevation based graphical depiction of the visibility of the proposed tower versus the existing tower is presented in **Figure 9**. Vegetation would shield from view the lower 50 to 65 feet of the tower as viewed from the GTSR and St. Mary Visitor Center. The tower would not break the background landscape skyline as viewed from the GTSR or the St. Mary Visitor Center. **Figures 10 and 11** present photo-simulated views of the tower from visitor center and GTSR vantage points, respectively. Based on this, installation of the new tower would have a minor and long-term, adverse effect on the St. Mary Visitor Center and the GTSR cultural landscape. However, the impacts do not substantively diminish elements associated with the St. Mary Visitor Center that led to its listing in the National Historic Register or with the GTSR that lead to its designation as a National Historic Landmark. Therefore, Alternative B would have no adverse effect on historic structures and cultural landscapes under Section 106 criteria.

Section 106 Summary

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR part 800.5, *Assessment of Adverse Effects*), the NPS finds that Alternative B would have "no adverse effect" on the St. Mary Utility Area Historic District, the St. Mary Visitor Center, and the Going-to-the-Sun Road. Consultation with the Montana SHPO during project planning has resulted in tentative agreement with the NPS finding based upon the tower's location within a utilitarian area and because it does not appear to impact the park's scenic landscapes. The NPS will request formal concurrence from the Montana SHPO in a letter transmitting this EA.

Cumulative Impacts of Alternative B – Preferred Action

Of the projects identified for consideration of cumulative impacts, several have had or would have detectable impacts on cultural resources in combination with other past, present and future foreseeable actions. Overall, cumulative impacts would range in intensity from minor to moderate depending on how they are implemented and in duration from short- to long-term. The following discussion of other past, present and future foreseeable actions presents their anticipated impact.

The GTSR Rehabilitation Plan/Final EIS identified the preferred rehabilitation alternative as having negligible to moderate short-term adverse and long-term beneficial impacts to cultural resources (NPS 2003a). While subtle modifications to the GTSR would occur, the rehabilitation would extend the duration of cultural landscape in context to the GTSR in the St. Mary area and provide beneficial effects offsetting adverse impacts from other actions.

As determined in the GMP (NPS 1999) and GMP Record of Decision (Appendix), the future relocation of the St. Mary developed area (containing the St. Mary Utility Area Historic District),

if buildings were removed, would have a local, long-term major negative impact on cultural resources. The relocation would likely impact the Historic District's listing in the NRHP. The tower would have a cumulatively negligible additive effect when combined with this potential future action. The new sewer system at St. Mary Campground and St. Mary Visitor Center represents a minor short-term additive cumulative effect. Construction of the St. Mary fire cache, radio equipment building, and the hazard fuels reduction project in and near the St. Mary developed area (within the APE for this project) were each found to have no adverse effect on the historic district.

Also considered under cumulative impacts is the emergency dredging of Divide Creek and armoring of a "nick point." The emergency dredging would take place within the disturbed creek channel, and the only non-channel disturbance would be associated with the movement of dredge-related machinery and equipment along the disturbed banks of the channel within the dredge zone. Armoring of the "nick point" would also occur almost entirely within the creek channel, with some minor ground disturbance outside of the channel in the immediate bank area. These activities have low potential for impacting archaeological resources.

Fuel reduction programs around the St. Mary area would have a moderate, long-term adverse and beneficial impact when considered cumulative to the other actions. The removal of fuels would thin out trees and make man-made features more apparent; however, the decrease in the potential for wildfire would benefit the existing historic structures and cultural landscape of the St. Mary area.

Oil and gas development on the adjoining Blackfeet Indian Reservation would not add to cumulative impacts for the GTSR corridor immediately surrounding the St. Mary Visitor Center or Historic District. However, a minor, short-term adverse cumulative impact would occur to the cultural landscape of the GTSR at higher elevations where projects in the St. Mary area including the tower, and oil drill rigs would potentially be visible from within the park looking east outside of the park.

Conclusion

Alternative B would have site specific, moderate, long-term, adverse impacts to historic structures and the cultural landscape. This translates to a determination of "no adverse effect" as defined by Section 106 of the NHPA. Alternative B would produce no major adverse impacts on cultural resources whose conservation is: (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other NPS planning documents. Consequently, there would be no impairment of cultural resources as a result of the implementation of this alternative. As determined in the GMP (NPS 1999) and GMP Record of Decision (Appendix), future relocation of the St. Mary developed area, if buildings were removed, would have a local, long-term major negative impact on cultural resources.

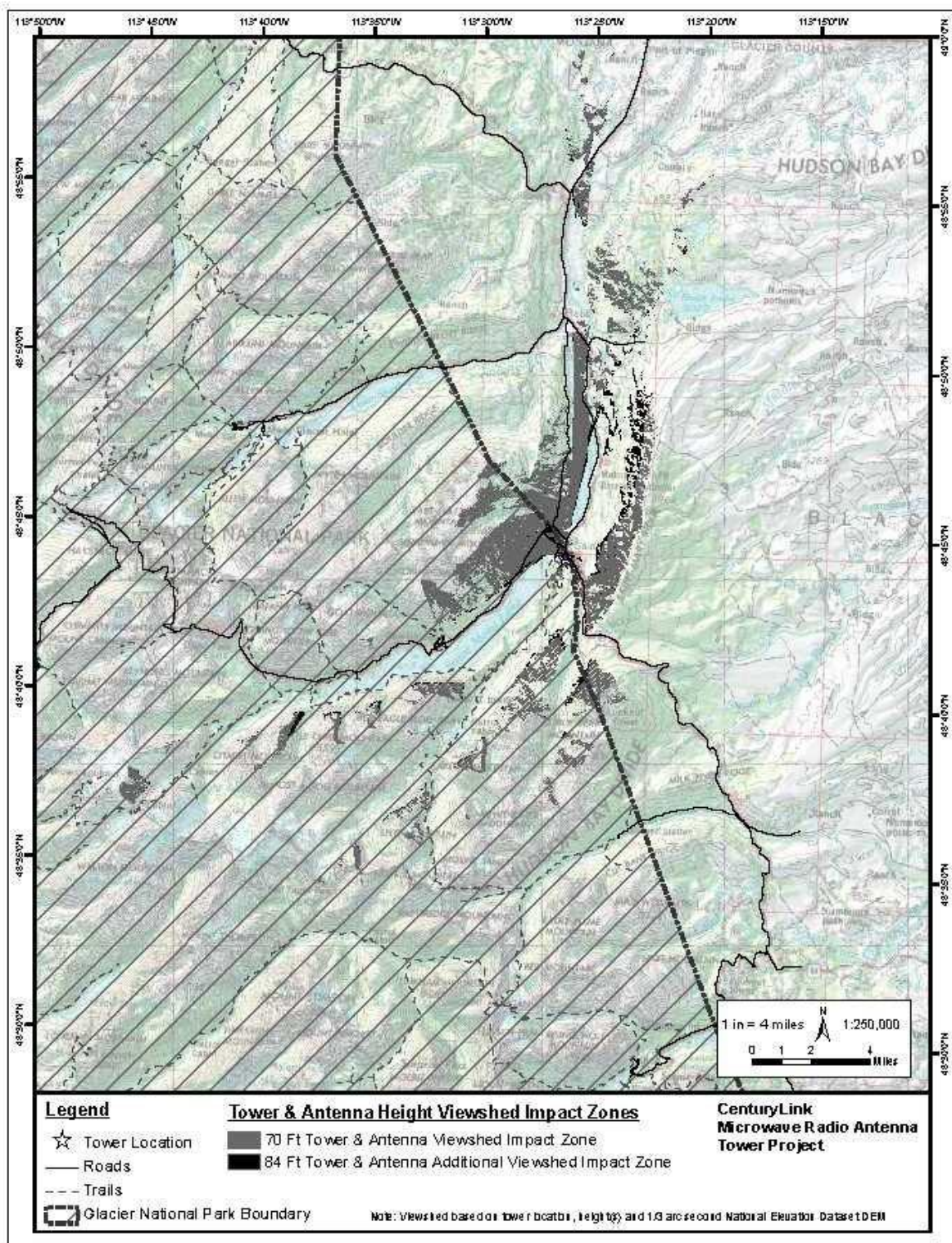


Figure 9: Viewshed Comparison of Existing Tower (70 Feet) and Proposed Tower (84 feet) with Antennas



Figure 10: Photographic Simulation of Proposed Tower from Visitor Center



Figure 11: Photographic Simulation of Proposed Tower from GTSR

Floodplains

Affected Environment

Glacier National Park sits at the apex of three major drainages. Surface water from the east side of the park, north of Divide Mountain, is in the Hudson Bay basin. Surface water south of Divide Mountain is in the Missouri River basin. Surface water west of the Continental Divide is in the Columbia River basin. Divide Creek drains a watershed of approximately 13 square miles and forms a portion of the eastern boundary of the park. The Blackfeet Indian Reservation and the town of St. Mary, Montana are located adjacent to the park, east of the stream. Park facilities are located on an alluvial fan formed by the stream as it exits the steep mountain front.

Divide Creek floods frequently, usually through a combination of melting snowpack and precipitation in the spring. In the vicinity of the project area, the creek is actively depositing glacially-derived sand, gravel, pebbles, and cobbles transported from higher elevations of the watershed. The sources of this material are the overly-steep moraines upstream of the fan which, by the downslope movement of rock (mass wasting), are able to supply virtually unlimited amounts of material. The steep slope of the channel and narrow flow area above the fan create high stream velocities and associated stream powers that enable the stream to carry large amounts of sediment. The stream in the area of the fan is less steep and unconfined by canyon walls. As the stream flows across the alluvial fan, velocity is reduced and much of the sediment load is deposited. In the vicinity of the St. Mary developed area, the Divide Creek streambed is at nearly the same elevation as its adjoining floodplain and, as a result, any deposition of material onto the bed encourages the stream to change course and find a lower portion of the floodplain. For this reason, the stream channel is very unstable and historically has shifted over a large area extending from near the town of St. Mary to a location near the historic St. Mary Ranger Station. A review of topographic maps suggests that the Divide Creek fan extends well into the St. Mary Valley and may be responsible for splitting a large prehistoric lake into the two lakes present today, Upper and Lower St. Mary Lakes.

Additional evidence of the unstable nature of Divide Creek is abundant. The hillsides surrounding Divide Creek are comprised of unconsolidated and unsorted glacial till. Erosional and mass wasting features are visible from the highway leading into St. Mary. These sites undergo erosion on a daily basis; however, during intense rainfall these processes are accelerated. Recent aggradation, or a build up of sediments, is evident at the highway bridge where space between two of the three bridge support columns anchored in the streambed are nearly full of material.

Divide Creek is known to have flooded in 1937, 1938, the 1950's, 1964, 1975, 1987, 1991, 1995, and 1997. A study by Smillie and Ellerborek (1991) reported, "The entire extent of the alluvial fan in the area of development should be considered within the base floodplain".

Northern Montana had the most severe floods of record in June 1964 (Boner and Stermitz 1967). Divide Creek was inundated, but the buildings at the NPS St. Mary developed area were not underwater. The Divide Creek alluvial fan has an approximate floodplain area of 300-500 acres.

The St. Mary developed area occupies about 20 acres of the floodplain. The proposed project would occupy approximately 400 square feet or 0.04 percent of the floodplain.

In this EA, potential impacts to floodplains were qualitatively assessed based on impacts to the size and frequency of floods and the loss of floodplain functions, such as absorbing floodwater (infiltration) for use by vegetation or delayed delivery back to the creek, filtration of floodwater through sediment and soils, and the dissipation of floodwater and energy (flood attenuation). Floodplain impacts are further detailed in the SOF for floodplains.

Intensity Level Definitions

Negligible: Floodplains and floodplain values would not be affected, or changes would be either non-detectable or if detected, would have effects that would be slight and non-measurable. The change would have barely perceptible consequences to riparian habitat function.

Minor: Changes in floodplains and floodplain values would be measurable, although the changes would be small and the effects would be localized. The action would affect a few individual plants or wildlife species within an existing riparian area.

Moderate: Changes in floodplains and floodplain values would be measurable, long-term and on a localized scale. Plant and wildlife species within the existing riparian area would experience a measurable effect, but all species would remain indefinitely viable.

Major: Changes in floodplains and floodplain values would be readily measurable and have substantial consequences to floodplain dynamics and would be noticed on a localized scale within the watershed.

Short-term: After implementation, recovery would last less than one year.

Long-term: After implementation, recovery would last more than one year.

Impact Analysis of Alternative A – No Action

Under the No Action alternative, current management would continue. This would include the continuation of current operations and maintenance of existing facilities. There would be no replacement of the existing NPS radio tower with a new tower and therefore, no effects on the Divide Creek floodplain.

Cumulative Impacts of Alternative A

Because there would be no action, there would be no cumulative impacts from Alternative A combined with previous, ongoing, or reasonably foreseeable actions.

Conclusion

There would be no change to current conditions, and therefore no new impacts to floodplains under the No Action alternative.

Impact Analysis of Alternative B - Preferred

The project would result in a negligible modification of floodplain acreage (approximately 256 square feet). The project would not alter Divide Creek's ability to occupy the floodplain or attenuate or divert its potential flows. The project would be resistant to minor low energy flooding. The new tower would be constructed in a way that would make it possible to move with sufficient notice, however, not within an emergency timeframe. The new tower would be located within the existing development. No other practicable locations are known at this time, and the project would not appreciably increase the hazard to people from flooding. The new tower would be designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR Part 60). As such, impacts from the alternative B would be negligible and long-term to the function of the Divide Creek floodplain.

Cumulative Impacts of Alternative B

Until that time when the NPS vacates St. Mary developed area and surrounding infrastructure, the impact of the replacement of the NPS existing radio tower with a new tower combined with the need to continue protection of the St. Mary developed area would have a moderate cumulative effect on the function of the Divide Creek floodplain.

Conclusion

Under Alternative B, the replacement of the tower and its impact on floodplain function would produce negligible, long-term effects on the floodplain of Divide Creek. Alternative B would contribute a negligible adverse increment to the moderate intensity cumulative impact resulting from the continued need to protect the St. Mary developed area from floodwaters.

Visual Resources

Affected Environment

The St. Mary developed area is near the St. Mary township and the east entrance to the park, which provides views and vistas of extraordinary scenic quality. The eastern entrance coincides with the eastern terminus of the GTSR corridor. Upon entering the park from the east entrance a visitor would view Divide Creek, the Divide Creek Bridge, the wooden park boundary fence, and the GTSR corridor. The GTSR follows a straight, northwest course into the park. The Divide Creek channel runs perpendicular to the roadway. The foreground topography is relatively flat, regular, and uncomplicated. Vegetation consists predominantly of low grasses and shrubs and an occasional tree. The Divide Creek channel and banks are sparsely vegetated and composed of gray cobbles and stones in the vicinity of the bridge. From the point of view of the GTSR, the bridge has multi-colored stone blocks along the sides that form low walls over Divide Creek. The bridge, creek, and roadway tend to dominate the foreground view by establishing strong contrasts of color, line, and form with the surrounding vegetation.

Middleground views for a visitor entering the park include the St. Mary developed area to the south, U.S. Highway 89, and privately owned lodging and business structures outside of the park. To the west and in the distance, Upper St. Mary Lake and the lower slopes of the Rocky Mountains are present. Middleground topography is variable, as it extends from Divide Creek's flat alluvial fan into the steep, rolling slopes of the Rocky Mountain foothills. High color

contrasts between the developed, grassy, flat alluvial fan and the steepening slopes with pristine vegetation and exposed rock contribute to high scenic quality.

Background views from the perspective of the project area include the rugged, snow-capped peaks, crags, cliffs, and glacier-carved basins of the Rocky Mountains that form the interior of the park. The topography is highly variable and diverse, ranging from vertical cliffs of naked rock through steeply sloped mountain peaks to broad, relatively horizontal, snowy ridges. The forms, colors, and textures of the background views are complex, bold, and sharp. The contrasts are strong, and scenic quality is very high.

Traveling east on the GTSR toward the St. Mary Entrance Station the view is composed of St. Mary Lake backed by the Divide Creek alluvial fan. Buildings in the St. Mary township, U.S. Highway 89, the St. Mary Sewage Treatment Plant, and the St. Mary developed area (mostly obscured by coniferous trees) lie on the far east side of the alluvial fan. The setting is backdropped by the steeply rising St. Mary Ridge located on the Blackfeet Indian Reservation east of U.S. Highway 89. The viewshed looking east from the east end of Upper St. Mary Lake lacks the outstanding scenic qualities that the westward view affords.

Intensity Level Definitions

Negligible: Effects would not result in any perceptible changes to existing view sheds.

Minor: Effects would result in slightly detectable changes to a view shed or in a small area or would introduce a compatible human-made feature to an existing developed area.

Moderate: Effects would be readily apparent and would change the character of visual resources in the area.

Major: Effects would be highly noticeable or would change the character of visual resources by adding human-made features into a mostly undeveloped area or by removing most human-made features from a developed area.

Short-term: Changes would be temporary and removable.

Long-term: Changes would be continual or permanent.

Impact Analysis of Alternative A – No Action

There would be no action under Alternative A; therefore, there would be no new impacts to visual resources that would affect visual resources. A minor, long-term adverse effect would remain from the presence of the existing NPS tower.

Cumulative Impacts of Alternative A

Because there would be no action, there would be no cumulative impacts from Alternative A combined with previous, ongoing, or reasonably foreseeable actions.

Conclusion

There would be no change to current conditions, and therefore no new impacts to visual resources under the No Action alternative.

Impact Analysis of Alternative B – Preferred

Alternative B would have long-term, moderate, adverse impacts on visual resources as a result of replacing an existing, visible, man-made feature with a taller and more visible feature in a previously developed area. There would be a short-term presence of equipment used to construct the tower, soil would be exposed along the trenches required for foundations, and there would be human activity in the construction zone. These construction related impacts to the viewshed would be primarily limited to the area immediately surrounding the tower in the St. Mary administration and maintenance area. Following the tower and transmission conduit installation the site would be reclaimed and the ground surface would look similar to its preconstruction appearance.

The NPS's existing tower height is 50 feet with 20-foot radio antennas on top of the tower. The proposed tower would be 80 feet in height with 4-foot radio antennas attached to the top of the tower. There would be the additional presence of a six-foot diameter microwave dish affixed to the tower at approximately 65 feet above ground surface. The microwave dish would be located at or just below the approximate top of the conifer forest canopy. Looking south from the St. Mary Visitor Center and township and traveling east on the GTSR, the tower top would be visible approximately 15 feet above the top of the forest canopy. The 4-foot radio antennas fixed to the top of the tower would extend above the tower. The radio antennas are narrow and difficult to see at a distance, and would be less visibly obtrusive than the tower structure. The visible portion of the tower and radio antennas would be backdropped by the St. Mary Ridge and the elevated terrain on the west side of Divide Creek throughout the St. Mary area (**Figures 10 and 11**). No break in the skyline would occur from the tower until it was approached at a close distance. Approximately 65 feet of the lower portion of the proposed tower would be obscured from view outside of the St. Mary developed area by conifer trees and buildings that surround the tower.

To determine the additional area that the proposed tower would be visible relative to the existing NPS tower, a topography-based computer-generated visual impact area analysis was performed in **Figure 9**. **Table 4** presents an acreage comparison calculated from the visual impact area analysis of where the existing NPS tower and the proposed tower are visible. The existing tower and radio antennas are potentially visible from approximately 18,097 acres, of which 8,612 acres lie within the park. Under the the preferred alternative, the new tower and radio antennas would be visible from an additional 2,300 acres, of which 490 acres lie within the park. This reflects an approximate 12.7 percent increase in the total area potentially impacted by the proposed tower and a 5.6 percent increase in visible area within the park boundary.

Table 4: Area within Viewshed on NPS's Existing Tower and Proposed Tower

Tower/Antenna Height (feet)	Tower Height Definition	Acres Tower/Antenna Visible	Percent Increase in Visible Impact Area With New Tower
Total Impacted Viewshed			
70	NPS existing tower with antenna whips	18,097	0
84	Proposed tower height with antenna whips	20,397	12.7

Tower/Antenna Height (feet)	Tower Height Definition	Acres Tower/Antenna Visible	Percent Increase in Visible Impact Area With New Tower
Glacier National Park Impacted Viewshed			
70	NPS existing tower with antenna whips	8,612	0
84	Proposed tower height with antenna whips	9,102	5.6

Impacts within Glacier National Park

Visitor use is concentrated along roadways, campgrounds, visitor centers, and system trails. Impacts to the visitor experience are most significant when assessed from these locations. The proposed tower would be visible along an additional one mile section of the GTSR relative to the NPS's existing tower. The proposed tower would also be visible from a quarter mile section of the Red Eagle Trail along Divide Creek. The NPS's existing tower can only be seen from a short section of the Beaver Pond Trail near the Visitor's Center. As with the existing tower, the proposed tower under Alternative B would be visible from St. Mary's Campground and the Visitor Center. It would not be visible from any of the backcountry campgrounds.

Impacts outside of Glacier National Park

Relative to the existing tower, Alternative B would result in a minor increase in the visibility of a tower in and north of the town of St. Mary. Areas of the Blackfeet Reservation that do not currently have a tower in its viewshed would have a visible tower if the new tower is built under Alternative B.

Cumulative Impacts of Alternative B

Past, present, and future foreseeable actions would cumulatively introduce compatible, man-made features to the existing St. Mary developed area and would represent a moderate long-term effect. These impacts would represent a short-term duration impact that would cumulatively add to the longer term visual impacts associated with infrastructure improvements in the St. Mary township, St. Mary Visitor Center, and St. Mary developed area affecting the visual aesthetic by introducing a break in form and human development at the east entrance of the park.

Fuel reduction programs around the St. Mary area would have a moderate, long-term adverse and beneficial impact when considered cumulative to the other actions. The removal of fuels would thin out trees and make man-made features more apparent; however, the decrease in the potential for wildfire would benefit the existing visual qualities of the forested area in the St. Mary area.

Oil and gas development on the adjoining Blackfeet Indian Reservation would not add to cumulative impacts for the lower elevation St. Mary area. However, a minor, short-term, adverse cumulative impact would occur to the St. Mary viewshed at higher elevations where projects in the St. Mary area and oil drill rigs to the east outside of the park would potentially be visible from within the park looking east.

Conclusion

Alternative B would have long-term, moderate, adverse impacts on visual resources as a result of replacing a man-made feature with a similar but taller feature in a previously developed area. The impacts would occur primarily in the immediate St. Mary Visitor Center and township areas, but the visual impacts would be peripheral to the direct view of the park's mountainous features from those locations. There would be a short-term presence of equipment used to construct the tower, exposed soil and trenches required for foundations, and the movement of people in the construction zone. The proposed project would increase the area where the proposed tower is visible by 12.7 percent overall and by 5.6 percent within the park boundary relative to the existing tower's visible area. The majority of the lower portion of the proposed tower would be obscured from view outside of the St. Mary developed area by conifer trees that would surround the tower. Cumulative impacts from past, present, and future foreseeable actions would represent an adverse moderate intensity and long-term impact.

Visitor Use and Experience

Affected Environment

In addition to its world-class natural and cultural resources, Glacier National Park provides high-quality social resources for the enjoyment of its visitors. The visitor resources provided are consistent with the preservation of the park's natural resources, the celebration of international goodwill, and the recognition of the need for cooperation in a world of shared resources (NPS 1999). One of the park's management goals is to ensure that visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of the park facilities, services and educational opportunities (NPS 1999). Visitor activities contributing to the overall social experience include sightseeing, hiking, camping, picnicking, visiting the park's museums and visitor centers, and driving the GTSR.

This section provides background information on visitation levels and trends as they apply to visitor experience. The park's visitor-related information relies primarily on data provided to the NPS by the GTSR Socioeconomic Study (WIS 2001) and the GTSR Transportation and Visitor Use Study (WIS 2001a).

In recent years, the park's annual visitation has ranged from 1.7 to 1.8 million. While visitation to the park is subject to substantial variation, projections of total annual visitation to the park indicate relatively minor changes over the next 20 years. Current estimates anticipate approximately 1.9 million annual visitors to the park by 2020 (NPS 2003a). Visitation to the park is based on seasonality. July and August are the busiest times of the year, with nearly 60 percent of the total visitation occurring in these summer months. Twenty-eight percent of visitors arrive in June and September. Close to one-half of all of the park visitors spend less than two days in the park.

The St. Mary Visitor Center, located on the park's east side, serves as an entrance to the park and as a gateway to the GTSR. The GTSR is one of the park's most popular attractions and is an essential component of the visitor experience. Many visitors (approximately 42 percent) choose to enter the park via the GTSR from one direction and exit from the other, moving either from east to west or vice versa. Approximately 41 percent of the visitors stop at the St. Mary Visitor Center for approximately 15 to 30 minutes (NPS 2003a).

Various elements contribute to visitor experience in the park, including the recreational activities, where people go within the park, and the duration of their trips. Visitors to the park engage in a variety of recreational activities during their trip. The most popular activity in the park is sightseeing (97 percent of visitors). Wildlife viewing, photography, and day hiking are also popular activities in the park. Seventy two percent of visitors to the park tour the visitor centers and museums. The existing tower and associated communication facilities at the St. Mary developed area provide hardwire telephone communication service to residents and visitors in the greater St. Mary area.

Intensity Level Definitions

- Negligible:* Visitors would not be affected, or the changes in visitor use and/or experience would be below or at the level of detection. 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. 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. The visitor would be aware of the effects associated with the alternative.
- Major:* Changes in visitor use and/or experience would be readily apparent and have important consequences. The visitor would be aware of the effects associated with the alternative.
- Short-term:* Changes occur only during project implementation.
- Long-term:* Changes occurs after project implementation or are permanent.

Impact Analysis of Alternative A – No Action

There would be no action under Alternative A; however, with an increase in visitors in the St. Mary area, the absence of the service provided by the replacement tower would represent a minor to moderate adverse impact to visitor experience.

Cumulative Impacts of Alternative A

Because there would be no action, there would be negligible cumulative impacts from Alternative A combined with previous, ongoing, or reasonably foreseeable actions.

Conclusion

There would be no change to current conditions, and therefore a minor to moderate adverse impact to visitor use and experience under the No Action alternative would occur.

Impact Analysis of Alternative B - Preferred

Alternative B would have long-term, minor, adverse impacts to visitor use and experience due to visual impacts from the proposed tower. There would be a long-term minor to moderate beneficial impact to a segment of visitors who access the Internet through local businesses in the neighboring communities. There would be faster Internet service, improving communication

services offered to visitors as well as businesses, local residents, and NPS staff. During the construction additional vehicle traffic would occur; however, the impact from this is expected to be negligible in intensity and short term in duration.

Cumulative Impacts of Alternative B

The cumulative effect of increased activity in the St. Mary area associated with construction of the proposed tower, GTSR rehabilitation, U.S. Highway 89 maintenance work, and oil and gas development east of St. Mary Ridge would represent an adverse impact with a minor to moderate intensity. The additive effect that the tower would represent in the overall adverse cumulative impact is negligible to minor and would be offset in the future by the visitor benefits of improved road infrastructure and DSL connectivity. Thus, the cumulative impacts of all past, present, and future foreseeable actions on visitor use and experience within the St. Mary area would be adversely negligible to minor in intensity in the short term, but beneficial and minor to moderate in intensity in the long term.

Conclusion

Impacts to visitor use and experience from the proposed project would be beneficial and minor to moderate in intensity in the long term in the St. Mary area. Cumulative impacts from the proposed tower and past, present, and future foreseeable actions would be adversely negligible to minor in intensity in the short term, but beneficial and minor to moderate in intensity in the long term.

Compliance Requirements

The NPS would comply with all applicable federal and state regulations when implementing the Preferred alternative. The major compliance regulations are listed in the following subsections.

National Environmental Policy Act and Regulations of the Council on Environmental Quality –NEPA applies to major federal actions that may significantly affect the quality of the human environment. Such federal actions generally include construction activities that involve the use of federal lands or facilities, federal funding, or federal authorizations or permits. This EA meets the requirements of NEPA and CEQ regulations in analyzing the potential effects and impacts associated with activities on federally administered, NPS lands. If no significant impacts are identified in this analysis, then a Finding of No Significant Impact will be prepared. If significant effects or impacts are identified, then a Notice of Intent will be filed for preparation of an EIS.

Endangered Species Act of 1973, as amended (16 U.S.C. 1531 seq.) – Section 7 of the ESA is intended to ensure that any action authorized, permitted, funded, or carried out by a federal agency does not jeopardize the continued existence of any federally listed endangered or threatened plant or animal species. If a federal action may affect threatened or endangered species, then consultation with the USFWS is required. The NPS has determined that the Preferred alternative would result in no impacts to grizzly bears, Canada lynx, and bull trout, which would equate to a “**no effect**” determination for these species under Section 7.

National Park Service Floodplain Management Guidelines, Director’s Order #77-2, September 2003 – This guideline sets forth policies for use by the NPS in implementing Executive Order 11988, “Floodplain Management”. It is NPS policy to recognize and manage for the preservation of floodplain values, to minimize potentially hazardous conditions associated with flooding, and to adhere to all federally mandated laws and regulations related to the management of activities in flood-prone areas. Specifically it is the policy of the NPS to:

1. Manage for the preservation of floodplain values;
2. Minimize potentially hazardous conditions associated with flooding; and
3. Comply with the NPS Organic Act and all other federal laws and Executive orders related to the management of activities in flood-prone areas, including Executive Order 11988 (Floodplain Management), NEPA, and applicable provisions of the CWA, and the Rivers and Harbors Appropriation Act of 1899.

When it is not practical to locate or relocate development or inappropriate human activities to a site outside and not affecting the floodplain, the NPS will prepare and approve a SOF, in accordance with procedures described in Procedural Manual 77-2: Floodplain Management. An SOF as required by NPS floodplain management guidelines has been prepared.

Montana Floodplain and Floodway Management Act – The Montana Department of Natural Resources or local floodplain administrator regulates construction activities in the 100-year floodplain. The NPS would apply for, or would require the proponent to apply for, a Floodplain Development Permit prior to beginning construction.

Executive Order 11990, Protection of Wetlands – The purpose of Executive Order 11990 is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” There are no wetlands present in the areas where the work would be conducted. Therefore, an SOF for wetlands will not be completed.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et seq.) – Section 106 of the NHPA of 1966, as amended, requires federal agencies to identify cultural resources within the area of potential effect for undertaking and to consider the effects of any federal action on cultural resources eligible for or listed in the NRHP, prior to initiating such actions. During scoping, Glacier National Park notified the Montana SHPO, the Confederated Salish and Kootenai Tribes, and the Blackfeet Tribal Business Council of the project in keeping with 36 CFR 800. For Section 106 purposes, the NPS is proposing that implementation of Alternative B would result in a finding of “no adverse effect”. The NPS will request formal concurrence from the Montana SHPO in a letter transmitting this EA.

Consultation and Coordination

Internal and External Scoping

Scoping is an early and open process to determine which environmental issues and alternatives should be addressed in an EA. The NPS conducted both internal scoping with park staff and external scoping with the public and interested and affected groups and agencies. The scoping process helped identify potential issues, alternatives, the possible effects of cumulative actions, and what resources would be affected.

Public scoping began on December 27, 2011 and the comment period closed on February 3, 2012. A press release was distributed to local media outlets on December 27, 2011. A scoping brochure was mailed to individuals and organizations on the park's EA mailing list, including members of Congress, and various federal, state, and local agencies. The announcement was also posted on the NPS Planning, Environment, and Public Comment website.

Forty-two responders submitted comments on the project during the scoping period. All 42 comments were from individuals and businesses. Thirty-one comments were in support of the proposed project.

The remaining 11 commenters were either against the project or had specific resource concerns regarding the proposal. Most were concerned about the additional visual impacts to the park. One commenter was concerned about the impacts to fish and wildlife. Several suggested a new alternative: locating the new tower outside of the park. These ideas, concerns, and suggested alternatives are addressed under the *Purpose and Need*, *Alternatives and Suggestions Considered and Dismissed*, and *Affected Environment and Environmental Consequences* sections.

Agency Consultation

In accordance with 36 CFR 800.8(c), the park also notified the Montana SHPO and the Advisory Council on Historic Preservation of the intention to prepare an EA for the proposed project. In accordance with Section 7 of the ESA, the park performed informal consultation with the USFWS on December 27, 2011. The NPS has determined that the Preferred alternative would result in no impacts to grizzly bears, Canada lynx, and bull trout, which would equate to a “no effect” determination for these species under Section 7.

Native American Consultation

The NPS also notified the Confederated Salish and Kootenai Tribes (CSKT) and the Blackfoot Tribe during the scoping period, in accordance with 36 CFR800. Neither the Blackfoot Tribe nor the Confederated Salish and Kootenai Tribes raised concerns about the proposed project during scoping for this project. In a later meeting, the CSKT requested that ground disturbing activities be monitored by an archeologist.

Environmental Assessment Review and List of Recipients

This EA has been placed on a 30-day public review. A press release was used to inform the interested public of its availability. The document will be available for review on the park's planning website at <http://parkplanning.nps.gov/StMaryTower>. Copies of the EA will be provided to other interested individuals upon request.

During the 30-day public review period, the public is encouraged to submit their written comments to the NPS, as described in the instructions at the beginning of this 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 NPS will issue responses to substantive comments received during the public comment period.

List of Preparers

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Jill Reid – Wildlife Resources; Cultural Resources; Visitor Use and Experience; EA Preparation. Tetra Tech, Inc.

Chris Hayes – Floodplain Statement of Findings. Tetra Tech, Inc.

Naomi Kisen – Visual Resources; GIS Spatial Analysis. Tetra Tech, Inc.

Jen Fullmer – Technical Editing. Tetra Tech, Inc.

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources: protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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National Park Service
U.S. Department of the Interior
Glacier National Park
Waterton-Glacier International Peace Park
Montana



STATEMENT OF FINDINGS FOR FLOODPLAINS
St. Mary Microwave Radio Antenna Tower Project
St. Mary Developed Area

Glacier National Park, Montana

Introduction

Executive Order (EO) 11988 (*Floodplain Management*) directs the National Park Service (NPS) and other federal agencies to evaluate the likely impacts of actions in floodplains. The objective of EO 11988 is to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. In addition, it is NPS policy, as described in Section 4.6.4 of the *NPS Management Policies 2006*, to manage floodplains for the preservation of floodplain values, to minimize potentially hazardous conditions associated with flooding, and to comply with the NPS Organic Act and all other federal laws and EO's relating to management of floodplains. NPS Director's Order (DO) #77-2 (*Floodplain Management and Procedural Manual*) provides NPS policies and procedures for complying with EO 11988. This Statement of Findings (SOF) has been prepared in accordance with the guidelines found in DO #77-2 and serves to document the rationale for the proposed project and the anticipated effect the project will have on floodplain value and functions.

Proposed Action

Glacier National Park (the park) has prepared and made available an Environmental Assessment (EA) for the proposed project. The proposed project involves installation of a new tower and removal of the existing NPS radio tower to bring the St. Mary developed area communication capabilities to a modern standard. This project is being proposed with the intent of meeting the following objectives:

- Support Montana state-wide initiative to upgrade communication facilities in small rural exchanges.
- Conduct work in such a way that impacts to the park resources are minimized.
- Conduct work so the park radio communication capabilities would not be interrupted.

The existing communication facilities at the St. Mary developed area include a 50- foot radio tower and associated equipment shed that is operated by the NPS and, located 120 feet southeast of the NPS infrastructure, a CenturyLink owned and operated equipment building and associated infrastructure. CenturyLink currently maintains the communication equipment building at the site under an NPS special use permit. The NPS communication system is used for regular and emergency radio communications in the eastern portion of the park. The CenturyLink communication system is the St. Mary Central Office hub for hard-wired telephone service to the St. Mary developed area and to the adjacent St. Mary township located outside of the park.

Century Link's communication network in the St. Mary area is currently not meeting the demands of NPS and non-NPS users. As a part of an Alternative Form of Regulation (AFOR) agreement between CenturyLink and the Montana Public Service Commission, CenturyLink has agreed to extend the digital subscriber line (DSL) broadband Internet service to the east side of Glacier National Park (MPSC 2008). The expanded service would include service to the St. Mary developed area and the St. Mary township.

The new tower would be located next to the existing NPS communication building at the St. Mary developed area in the park. It would be an approximately 80-foot tall, three-legged steel lattice structure supported on a concrete footing. Radio communication equipment operated by the NPS and a CenturyLink operated microwave dish would be co-located on the tower. The NPS's existing 50-foot radio tower and 20-foot antennas would be removed. The new tower

would be designed to provide a direct line of sight to the CenturyLink Divide Mountain transfer station and to accommodate NPS equipment for 360 degree radio coverage.

Site Description

The existing St. Mary communication facilities, operated by the NPS and CenturyLink, are located in the St. Mary developed area on the east side of the park and include a maintenance area, residential park housing, and administrative offices. The St. Mary developed area residential housing caters to year-round residents, but experiences an increase in temporary residents during the summer visitor season. The township of St. Mary is located outside of the park to the north of the developed area and is a commercial center for visitors entering or leaving the park. The St. Mary Visitor Center, Entrance Station, and east entrance to the Going-to-the-Sun Road (GTSR) are located approximately one mile northwest of the St. Mary developed area.

The St. Mary developed area is located in the 100-year Divide Creek floodplain, which is on the Divide Creek alluvial fan, and is classified as a Class I Action pursuant to DO #77-2. The active channel of Divide Creek is approximately 450 feet away from the proposed new tower location at its closest. There are 36 park employee housing units, one administrative building, and a maintenance facility that includes 24 buildings. Most of the buildings were built before EO 11988. These facilities are subject to dangerous floods that risk life and safety. Since 1991, Divide Creek has flooded multiple times, placing lives and government facilities at risk.

Floodplains and Flooding

Divide Creek is one of the most active and dynamic creeks managed by the NPS. Divide Creek originates at a cluster of small alpine lakes in the park and flows about nine miles before entering the St. Mary River between the St. Mary lakes immediately north of the project area. Divide Creek drains a watershed of approximately 13 square miles and forms a portion of the eastern boundary of the park. The Blackfeet Indian Reservation and the town of St. Mary, Montana, are located adjacent to the park, east of Divide Creek.

The steep slope of the channel and narrow flow area above the Divide Creek alluvial fan creates high stream velocities and associated stream power that enable the stream to carry large amounts of glacial material. The stream in the area of the fan is less steep and unconfined by canyon walls. As the stream flows across the alluvial fan, velocity is reduced and much of the sediment load is deposited (Smillie and Ellerbroek 1991).

Unstable glacial moraines upstream of the alluvial fan provide a virtually unlimited supply of glacial material (sediment, gravel, pebbles, and cobbles) that is actively deposited along Divide Creek. This deposition effectively raises the stream channel elevation and restricts water flow at the Divide Creek Bridge, causing frequent spring flooding. Deposition amounting from two to three feet at the Divide Creek Bridge has been observed within a period of a few years and possibly even during a single flood event (Smillie and Ellerbroek 1991). Prior to development, Divide Creek flowed unimpeded across the alluvial fan but has been artificially confined at its current location, resulting in rapid deposition in a localized area rather than being dispersed across the entire alluvial fan.

The U.S. Army Corp of Engineers (USACE) conducted a floodplain analysis in the early 1980s to identify the Divide Creek floodplain boundaries for various flood events (i.e., 50-year event, 100-year event). The USACE reported the extent of the floodplains based on the assumption that

Divide Creek was a stable channel. The determined floodplain extent did not include some areas that are currently and regularly flooded. The USACE analysis was challenged in a 1991 report titled "Flood Hazard Evaluation for Divide and Wild Creeks" (Smillie and Ellerbroek 1991).

The 1991 report indicated due to the unstable nature of the Divide Creek alluvial fan, that a precise identification of the 100-year floodplain is not possible. Therefore, the entire alluvial fan, including the project area, should be considered within the 100-year floodplain. Furthermore, field observations from January 2006 presented in the *St. Mary Visitor Center/Transit Improvements Environmental Assessment/Statement of Findings* indicate that the entire Divide Creek alluvial fan should be considered as the 100-year floodplain.

Justification For Use of the Floodplain

The decision in Glacier National Park's General Management Plan (GMP) (NPS 1999) for the St. Mary developed area is to "relocate employee housing, administration and maintenance facilities that are now in the Divide Creek flood hazard zone to a safe location(s) in or outside the park." Funding has become available now to move some trailers out of the St. Mary developed area, however, funding to relocate all of the infrastructure has not been funded. In the meantime, the park operations must continue, many of which are related to public health and safety.

The NPS has developed the following criteria to guide decisions on proposed new developments in the St. Mary developed area until such time as a new location for the St. Mary developed area can be determined and the NPS is able to relocate out of the floodplain.

- The project is the minimum action to provide for health and safety needs or for necessary function, services, and facilities until such time as St. Mary development is relocated.
- The project design would incorporate measures to minimize capital investment and overall project cost (e.g. portable structures). It would be designed to be compatible with the historic district, consider sustainable design guidelines, and consider "flood proofing."
- Any new structures would be located as close as possible to the existing development.
- It is impracticable to locate the project outside the floodplain.
- The project would not appreciably increase the hazard to people from flooding.
- Project location and design would avoid, minimize, or reduce adverse impacts on natural resources and adverse effects on cultural resources.

Proposed Project

The project proposes to build a new tower that will provide DSL communication capabilities under a Montana Public Service Commission agreement with CenturyLink. Although, there is a minor additional negative effect on the floodplain, this project is the most preferable alternative to meet the agreement requirements. Until the park operations are moved out of the floodplain, current NPS operations would continue.

Alternative Locations

As described in the environmental assessment, no other suitable locations were identified. CenturyLink was unable to acquire another location that allowed them to meet the Montana Public Service Commission order to provide DSL service to the St. Mary area in a specific time frame.

Site-Specific Flood Risk

Recurrence Interval of Flooding

Significant flooding has occurred within the project area at least six times since the GTSR was completed in 1933. Emergency circumstances during flood events have required in-stream dredging and cutting of the roadway, as was done in July 1995. Significant floods carrying large glacial material (cobbles and boulders) could potentially damage or destroy the proposed tower. An accurate flood frequency analysis for Divide Creek would require stream-gaging data. Unfortunately, there is no continual record of stream flow data available for Divide Creek and only short records for other nearby streams with similar characteristics.

Hydraulics of Flooding

The USGS estimated that the 100-year flood events for Divide Creek and Wild Creek produce stream flows of 1,980 cubic feet per second (cfs) and 980 cfs, respectively. Using updated regression equations, the 100-year flood event for Divide Creek is estimated to be 2,500 cfs with a standard error of 43 percent (Smillie and Ellerbroek 1991). An independent regression analysis reported in the 1991 Flood Hazard Evaluation (Smillie and Ellerbroek 1991) calculated the 100-year flood flow to be 3,500 cfs with a standard error of 200 percent.

During an August 1990 site visit, the channel flow capacity through the Divide Creek Bridge was estimated to be 1,000 cfs. At this time, the channel had not been dredged for two years and the space between two of the three bridge column supports anchored in the streambed were nearly full of material. An estimate of the flow capacity through the Divide Creek Bridge after it has been recently dredged to the original vertical opening of six feet is not available but can be assumed to be significantly greater than 1,000 cfs. The channel capacity estimate based on a survey upstream from the bridge, near the stream-side restaurant, was 2,000 cfs (Smillie and Ellerbroek 1991).

Based on a conservative 100-year flow of 3,500 cfs and the estimated channel capacity of 1,000 cfs as measured in August 1990, when the Divide Creek Bridge had not been dredged for two years, the channel is likely to pass a 100-year flow immediately after it has been dredged. As glacial material deposits near the bridge during a 100-year flow event, the channel will rapidly lose capacity to continue to pass the high flows and may result in flooding during prolonged high flows.

A metal floodwall has been constructed along Divide Creek upstream from the bridge to provide the NPS maintenance, residences, and administrative area protection from flooding. The flow required to reach the base of the floodwall is estimated to be 6,000 cfs, assuming the channel dimensions observed in August 1990. An additional three feet of deposition in the channel would reduce the flow required to reach the base of the floodwall to only 1,500 cfs (Smillie and Ellerbroek 1991). The potential for the stream to circumvent the floodwall during a flood flow event causing flooding throughout the local developed area has been identified as a major concern (Smillie and Ellerbroek 1991).

Warning and Evacuation

The Red Eagle fire of 2006 resulted in burned soils and removal of vegetation, together increasing the risk of flooding in the area. Subsequent recommendations included immediate

dredging of Divide Creek, reinforcement of the area known as the “nick point” (the area upstream where Divide Creek changes direction) and installation of a flood warning system on Divide Creek. The flood warning system was installed in the fall of 2006 with sensors placed on Divide Mountain and at two locations further downstream. The dredging and reinforcement of the “nick point” occurred during the winter of 2007.

The Divide Creek Emergency Action Plan outlines specific steps in the event of the potential or actual flooding of Divide Creek. This with the exception of a catastrophic flood event (such as damming of Divide Creek, described below), reduces much of the threat to life safety but certainly not all of it. The threat to both government and non-government property is not reduced, nor is it appreciably increased.

Geomorphic Considerations

An earthen dike is located upstream from the Divide Creek Bridge to prevent the channel from reclaiming an adjacent historical abandoned channel. This abandoned channel runs through the developed area and would cause flooding if it were reclaimed by Divide Creek. A flow of approximately 3,000 cfs is required to reach the base of the dike. Due to the unconsolidated nature of the dike construction material, the dike could be expected to fail at flows much less than 3,000 cfs. Therefore, the combination of aggradation and high flows makes the dike a likely candidate for catastrophic failure. This type of failure would cause rapid flooding of the developed area with little or no warning and could result in loss of life and property (Smillie and Ellerbroek 1991).

Mitigation

The new tower would provide increased communication capabilities, which would improve health and safety. The project would incorporate measures to minimize capital investment and project cost. It would be designed to be compatible with the historic district, consider sustainable design guidelines, and would be resistant to minor low energy flooding. The new tower would be constructed in a way that would make it possible to move with sufficient notice, however, not within an emergency timeframe. The new tower would be located within the existing development. No other practicable locations are known at this time, and the project would not appreciably increase the hazard to people from flooding. The project location and design would avoid, minimize, or reduce adverse impacts on natural resources and adverse effects on cultural resources. The new tower would be designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR Part 60). The long-term goal is to move the park’s operations out of the St. Mary developed area. Until that time the tower would be considered a permanent structure.

Summary

Divide Creek is recognized as one of the most active and dynamic creeks within the continental U.S. that is administered by the NPS. Due to this and the virtually unlimited supply of glacial material available for transport by the creek, structures within the Divide Creek floodplain will always be at risk of flood damage unless appropriate channel maintenance and protective structures are implemented and properly maintained. The risk of flooding within the Divide Creek floodplain can be minimized but not eliminated.

This proposal would not result in a significant impact on the floodplain of Divide Creek. It is not placing any structure in the floodplain that would significantly impede flood flows. The 1999 GMP did result in a decision to remove the St. Mary developed area and associated operation from the floodplain. Until such time as funding is acquired to select an alternate location and make the move, essential services and the park functions must continue to operate within the St. Mary area.

The proposed improvements to the communication capabilities have been evaluated against criteria intended to minimize the investment of new development in the area. While the NPS's existing tower is considered adequate for health and safety concerns, the higher proposed tower could provide improved communication distances with a corresponding increase in emergency response capabilities.

In accordance with EO 11988 (*Floodplain Management*), as stated in the GMP (NPS 1999), it is anticipated that all structures except for the visitor center and entrance station will be moved out of the flood hazard zone of Divide Creek to a site in or outside the park to allow Divide Creek to follow its natural channel to St. Mary Lake.

References

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- [NPS 2006]. National Park Service Management Policies. U.S. Department of the Interior, National Park Service, Washington D.C. 2006.
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