Lake Chelan National Recreation Area

National Park Service
U.S. Department of the Interior

Environmental Assessment

Issue Permit for Installation of Public Telecommunications Equipment

June 2007

Public Availability

Comments on this Environmental Assessment must be postmarked (surface mail) or sent (e-mail or fax) *no later than July 11, 2007*.

If you wish to comment, you may submit your comments by any of the following methods:

By mail or hand delivery to: Superintendent
North Cascades National Park Service Complex
810 State Route 20
Sedro-Woolley, WA 98284

By fax to: (360) 856-1934

Via the internet (Planning Environment and Public Comment website; PEPC):
http://parkplanning.nps.gov/noca/

Using PEPC: At the PEPC web site, you should select the specific project for which you wish to comment, in this case "Issue Permit for Installation of Public Telecommunications Equipment". You will find the full text document, an on-line comment form and instructions for submitting on-line comments under the Documents and Links tab. Please use the on-line comment form to submit your ideas, questions or comments.

Please submit Internet comments as an ASCII file avoiding the use of special characters and any form of encryption. Please also include your name and return address in your Internet message. If you do not receive a confirmation from the system that we have received your Internet message, contact Roy Zipp at (360) 854-7313 or roy_zipp@nps.gov

Freedom of Information
Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rule-making record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations, or businesses, and from individuals identifying themselves as representatives of officials of organizations or businesses, available for public inspection in their entirety.

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Chapter I. Purpose of and Need for Action

Purpose of the Proposed Action

The purpose of this proposed action is to issue a Special Use Permit to Westgate Communications, LLC (a public telecommunications carrier doing business as WeavTel) to install and maintain public telecommunications equipment on NPS-owned lands and facilities in Lake Chelan National Recreation Area.

Need for the Action

This action is needed to respond to a revised request from WeavTel according to the Universal Service provisions of the Telecommunications Act of 1996 and associated regulatory and policy guidance from the federal executive branch. A further description of the regulations and policies that require the NPS to consider this request is provided in the section entitled "Laws, Regulations and Policies and Administrative Procedures Relevant to this Decision".

Decision to be made

In accordance with NPS regulations and policies regarding implementation of the National Environmental Policy Act (NEPA), the NPS will decide whether or not to issue a Special Use Permit to WeavTel for installation and operation of a portion of the proposed telecommunications infrastructure on federal land in Lake Chelan National Recreation Area.

The Superintendent, North Cascades National Park Service Complex, will be the recommending official. The Regional Director, NPS Pacific West Region, will be the deciding official. This decision would supersede the NPS' previous decision to issue a permit to WeavTel as described in the Finding of No Significant Impact approved on October 19, 2005.

Disclaimer: If a Special Use Permit is approved, it would only authorize installation of telecommunications equipment on National Park Service land. The Special Use Permit would not affect the regulatory processes of Chelan County, the Washington Utilities and Transportation Commission, or other federal agencies with regulatory jurisdiction over public telecommunications service or equipment (e.g. the Federal Communications Commission).

Background

History of Telecommunications in Stehekin

Various forms of telecommunications have been used in the Stehekin Valley for many years. Prior to 1962, the U.S. Forest Service built and operated a party line connected to the City of Chelan via a wire line along the western side of Lake Chelan. The system was primarily intended to relay fire information. Stehekin residents could connect to the party line and use it

within and outside the valley. The quality of communication was poor and the system was eventually abandoned.

The NPS in the mid-1970's installed a radio phone to provide telecommunications for NPS-related business. The radio phone was not available for use by private residents, although communications could be monitored readily. The NPS in 1987 began the process of upgrading the radio phone system to a more secure microwave phone system (Reynolds, 1987). The upgrade was eventually completed in 1993, although a satellite-based system was selected. That system is still in use today.

The current satellite-based system is used to conduct NPS business and to provide the Stehekin community with emergency telecommunications services down-lake. Shortly after the phone system was installed in 1993, the NPS at the request of 19 Stehekin residents installed a coinless, public telephone system near the Landing to meet the personal needs of visitors and residents (Paleck, 1993). The phone remains in service today. Use of the public phone requires a prepaid or credit phone card, although free calls can be made to the local 360 area code that serves the greater Sedro-Woolley, WA calling area.

Other telecommunication systems currently in use include a privately owned and operated radio-phone system, which provides an insecure connection to down-lake telephones via a radio repeater system. This system is used by a few local businesses for communication within the valley.

The NPS and several Stehekin Valley residents have low earth orbit satellite phones available for business and emergency purposes (Fitzpatrick, pers. comm.) Satellite, internet-based systems have also recently proliferated in the valley. These systems currently provide high-speed internet access to approximately 38 households, and there are two additional systems planned for installation in summer, 2007. Some of these systems also provide regular phone service to clients using Voice-over Internet Protocol (VoIP), a technology that allows phone calls using a high-speed, broadband internet connection instead of a regular (or analog) phone line (Wilderness Technologies, V. Ward. pers. comm., 2007). Several businesses also use similar systems for high-speed internet service, to process credit card payments and/or to provide wireless local area networks (also known as "Wi-Fi®") to their patrons.

In March 2007, WeavTel established a dial tone in Stehekin Valley using a satellite-based system located entirely on private land. More than three, but less than 10 customers are currently using this service (Tacoma News Tribune, 2007).

Overview and History of the WeavTel Proposal

In June 2001, the Washington Utilities and Transportation Commission issued a request to the telecommunications industry to provide telephone service to the private community of Stehekin (WUTC Docket No. UT-013060). This action was in response to requests from various members of the community who petitioned the WUTC for assistance in receiving public phone service. WeavTel was the only company that responded to the WUTC request.

WeavTel's original proposal for phone service requested, among other things, use and occupation of private lands and National Park Service lands within Lake Chelan National Recreation Area. In October 2001, WeavTel contacted the National Park Service to begin the process of securing a permit to install telecommunications equipment on federal land as part of their effort to establish a public phone system (Weaver, 2001).

The National Park Service began formal public scoping on the WeavTel proposal in February 2002. This process included public meetings in Stehekin and Chelan; written comments were also solicited. In April 2002, the National Park Service provided WeavTel with a summary of public scoping comments received, and stated its intent to begin preparation of an Environmental Assessment (EA) upon receipt of written authorization to proceed (Paleck, 2002). WeavTel eventually responded in November 2003 and asked the NPS to proceed with the EA process.

From January 2004 through September 2004, the NPS and WeavTel engaged in a series of written exchanges and at least one meeting to clarify the details of the proposed action because WeavTel's proposal had substantially changed from its original design (Jarvis, 2005). For example, the design for the fiber optic "backbone" of the system had changed from overhead placement of fiber optic cable on the Chelan P.U.D. power line poles (Weaver, 2001), to trenching and burying fiber optic cable down the Stehekin Valley Road and Company Creek road corridors (Weaver, 2004).

In November 2004 the NPS began preparation of an EA with the goal of reaching a decision by April 2005 on whether or not to authorize installation of telecommunications equipment on NPS land. The EA was released on May 31, 2005. Various factors delayed the decision-making process, including personnel turnover, recovery from severe flood damages, unresolved issues involving private property easements and uncertainty over whether there was a compelling management need on the part of the NPS to issue a permit (Jarvis, 2005).

The NPS initially decided in July 2005 to deny WeavTel's request because alternative forms of telecommunications were readily available in the Stehekin Valley, and the proposed phone service would not significantly enhance emergency response capabilities (Paleck, 2005). Shortly thereafter, WeavTel responded with a formal request for reconsideration. The National Park Service, with assistance from the Office of the Regional Solicitor, conducted a thorough review of that request and this review included a detailed analysis of regulatory and policy guidance.

In accordance with the conclusions of the EA, the public comments received, and the materials provided by WeavTel in their formal request for reconsideration of the permit denial, the NPS determined the proposal did not constitute a major federal action that would significantly affect the quality of the human environment. A Finding of No Significant Impact (FONSI) was approved on October 19, 2005. As stated in the FONSI, the NPS would only issue WeavTel a Special Use Permit for use of federal land. However, to secure a Special Use Permit and implement the complete proposal, WeavTel would need to (a) acquire easements from private landowners whose property crosses the lower Stehekin Valley Road and Company Creek Road—or demonstrate that easements were not required; and (b) secure all necessary permits and approvals from Chelan County. WeavTel subsequently filed suit against the NPS, alleging it

lacked the authority to impose the aforementioned permit conditions. The WeavTel lawsuit against the NPS remains active.

WeavTel has substantially revised its previous proposal to trench and bury fiber optic cable down portions of the lower Stehekin Valley Road so as to avoid crossing five parcels of private property (Zipp, 2006). WeavTel also no longer proposes to install a 25-foot tower with wireless receiver on NPS property adjacent to the Stehekin Valley Road in the vicinity of mile post 8 (WeavTel, R. Weaver, pers. comm., 2007). These substantial modifications, fully described in Chapter II, Alternative B, prompted preparation of this new EA.

Issues

Issue statements in NEPA documents prepared by the NPS are used to describe the relationship between the proposed action and an environmental resource or human value likely to be affected. Issues are usually problems that either the "No Action" alternative has caused, or that any of the "action" alternatives might cause. Issues may be questions, concerns, or problems, including beneficial ones. Issues do not predict the degree or intensity of harm (or benefit) the action might cause. Rather, they simply alert the reader as to what the environmental problems might be if action is taken.

Issues to be Studied in Detail

The following issue statements were derived from National Park Service staff, and comments received during public scoping (please refer to "Consultation and Coordination" section for a description of the public scoping process). Representative public comments from letters received during public scoping are also provided to further clarify the issue. These issue statements are intended to help focus the environmental impact analysis and identify the specific impacts topics to be analyzed in the Environmental Consequences section of this EA.

- *Public telecommunications may adversely affect the "social fabric" of the unique community of Stehekin.* Representative Public Comment: "We are not in favor [of expanding] a telephone (communication) system anywhere in the Stehekin Valley. In our opinion it would detract from the "as America was" idea and would present another intrusion into our blissful isolation." This issue will be addressed as a Socioeconomic impact topic.

- *This action will be beneficial to those residents of Stehekin who desire public telecommunications services.* Representative Public Comment: "Many people in the Valley currently have the benefit of computers and e-mail. Communications are what most of us desire. Discreet wireless technology and common sense dictate that this service be made available to those who want it." This issue will be addressed as a Socioeconomic impact topic.

- *The EA must address the impacts to various biological and physical resources, social values and aesthetics.* Representative Public Comment: "Analysis of cumulative effects should include potential impacts from additional power needs, facility footprints, and necessary road access. Also, impacts to habitat connectivity, quality of wildlife habitat, impacts to threatened and endangered species, other park wildlife, birds, night skies, soils, archeological

sites, wilderness qualities, and park policies, such as the natural regulation of fire, must be considered. The EA should also disclose possible effects to wildlife from operation of the WeavTel towers and directional antennae, such as bats and hibernating species." The indirect and cumulative impacts to biological and physical resources will be addressed in the following impact topics: Soils, Water Resources, Vegetation and Wildlife (including federally listed species). Indirect and cumulative impacts to social values and aesthetics will be addressed in the Socioeconomic and Recreation/Visitor Use impact sections.

- *The impacts of construction and installation of the phone system should include an analysis of potential impacts to water quality and the Stehekin River watershed since it will involve digging and ground disturbance*. This issue will be addressed in the Water Resources impact section.

- *Installation of towers may impact the scenic viewshed.* Representative Public Comment: "…presumably this project will require installation of towers, which are likely to be a dramatic intrusion into the visual experience of residents and visitors to Stehekin. They will be eyesores out of keeping with this spectacularly beautiful, federally protected valley." This issue will be addressed in the Recreation/Visitor Use impact section.

- *Portions of the phone system infrastructure will be installed near the Stehekin River therefore the threat of flood damage and the potential need for frequent repairs should be analyzed.* This issue will be addressed in the Water Resources impact section.

- *Various forms of telecommunications services are readily available to Stehekin residents so a public telecommunications is not warranted*. Representative Public Comment: "The key area that needs to be addressed is not whether or not the NPS should stop the phone system but whether or not the proposed plan is necessary given that other technology is available that does not necessitate the use or disturbance of public property. I think you will find that if any resident requires a phone in Stehekin it can be readily installed on their own property using a 1.2 meter dish and without the use of any public property. This technology requires no infrastructure, ground disturbance, use of eminent domain or public assistance program." The issue of private availability of telecommunications will be considered in the Socioeconomic impact section.

Issues Considered but Dismissed

The following issues identified during public scoping are beyond what the National Park Service deems relevant to the impact analysis:

- *The presence of the telecommunications provider (WeavTel) would be detrimental to the community because the company's actions to date indicate they may not be good neighbors.* Representative Public Comment: "WeavTel has not proven to be a good neighbor in the Stehekin Valley and its presence would be detrimental to the community." This issue was considered but dismissed because it is beyond the scope of this decision. The Washington Utilities and Transportation Commission (WUTC), not the National Park Service, has regulatory jurisdiction over public telecommunications in the State of Washington. The WUTC has already approved WeavTel as Eligible Telecommunications Carrier, or "ETC",

for the Stehekin Exchange. For more information, please refer to the section entitled "Laws, Regulations, Policies and Administrative Procedures Applicable to this Decision."

- *The proposed action may have a substantial impact on the Stehekin community therefore an EIS should be prepared.* The NPS recognizes, based on comments received during public scoping, that many Stehekin residents and landowners are opposed to a public telecommunications system in the valley. However, the results of the previous Environmental Analysis did not identify major environmental impacts that would warrant preparation of an EIS. This revised proposal involves less disturbance to the biological and physical environment, therefore preparation of an EIS is not justified at this point in the decision making process.

- *Potential environmental impacts from Radio Frequency energy.* Several commenters expressed concern with the known and unknown risks from the wireless communications associated with this proposal. Radio frequency energy (in this case microwave energy), is a type of electromagnetic energy that would be used to provide telecommunications services for the wireless portion of the proposed service. The Federal Communications Commission (FCC) has regulatory jurisdiction over RF energy emissions, and it authorizes or licenses most RF telecommunications services, facilities, and devices used by the public, industry and state and local governmental organizations. This issue was considered but dismissed because (1) WeavTel would be required to demonstrate compliance with all FCC guidelines as a condition of their Special Use Permit; and (2) technical specification data provided by WeavTel for their proposed equipment indicate RF exposures of approximately $3mW/cm^2$ at 5cm from antennas; this is less than the current FCC guideline of $<10mW/cm^2$ for whole body radiation. Note: the units "mW" denote milliwatts. The RF energy emitted declines rapidly and exponentially as the distance from the antenna increases. To put these figures in context, the United States Health, Education and Welfare Standards for RF energy emissions from microwave ovens is "Less than 1 mW/cm2 at 5 cm at time of manufacture or 5 mW/cm2 at 5 cm over lifetime of product".

Laws, Regulations and Policies and Administrative Procedures Guiding this Decision

Introduction

The following section highlights most, but not all, of the legal, regulatory, policy and administrative procedures relevant to this decision. These regulatory and policy constraints require the NPS to consider formally proposals from telecommunications providers to install telecommunications equipment on NPS-managed lands.

Telecommunications Act of 1996

The primary purposes of the Telecommunications Act of 1996 are to:

- Promote the availability of quality services at just, reasonable, and affordable rates;
- Increase access to advanced telecommunications services throughout the Nation; and

- Advance the availability to all consumers, including low income, rural, insular, and high cost areas at rates that are reasonably comparable to those charged in urban areas.

The administrative provisions of the Act (Public Law No. 104-104, 110 Stat. 56, § 704(c)) are intended (in part) to make federal property available for FCC licensed telecommunications facilities on a fair, reasonable and non-discriminatory basis. These provisions require Federal property be made available for telecommunications facilities unless doing so creates an:

- Unavoidable direct conflict with the department or agency mission; or
- Unavoidable direct conflict with the current or planned use of the property, rights-of-way, or easements in question.

Memorandum of the President, Facilitating Access to Federal Property for Siting of Mobile Services Antenna

Reference: 60 F.R. 42023, 40 U.S.C § 581, note, 1995.

President Clinton issued this 1995 memorandum to encourage the efficient and timely expansion of new telecommunications technology. The memorandum requires all Federal agencies to accommodate commercially-owned antennas on federal property provided they met the following criteria:

- Comply with relevant laws and regulations;
- Are consistent with environmental and aesthetic concerns;
- Preserve historic structures; and
- Protect natural and cultural resources and values

Guidelines for complying with these measures are provided in a General Services Administration Bulletin (FMR 2007-B2)

General Services Administration Bulletin (FMR 2007-B2)

This General Services Administration (GSA) Bulletin dated March 7, 2007 provides all Federal agencies with the general guidelines and processes for implementing President Clinton's memorandum of August 10, 1995 and §704 (c) of the Telecommunications Act of 1996.

This GSA Bulletin requires property be made available for facilities unless doing so creates an:

- Unavoidable direct conflict with the department or agency mission; or
- Unavoidable direct conflict with the current or planned use of the property, rights-of-way, or easements in question.

In order to determine conflicts, GSA provides the following factors to examine:

- Environmental & historic preservation
- Public health & safety
- Aesthetics
- Effects on historic districts, sites, & buildings
- Protection of natural and cultural resources (e.g. National Park Service units)

Other considerations:

- Fees for occupation of Federal property must be based on fair market value
- Terms of the Special Use Permit should assure timely removal of equipment and structures by the Provider upon termination of service
- Obtaining rights of access to federal properties is the sole responsibility of telecommunications service provider
- Executive agencies retain the discretion to reject inappropriate siting requests and to assure adequate protection of public property

National Park Service Management Policies for Telecommunication Sites

Management Policies 2006 (NPS, 2007) provide agency-specific guidance for permitting of telecommunication sites on National Park Service lands based on the general provisions GSA Bulletin FMR 2007-B2.

As stated in Section 8.6.4.3, the policies require National Park Service property to be made available for facilities unless doing so creates an:

- Unavoidable direct conflict with the department or agency mission; or
- Unavoidable direct conflict with the current or planned use of the property, rights-of- way, or easements in question.

The policy also requires the National Park Service to handle the telecommunications application process as follows:

- Meet with telecommunication companies and maintain open lines of communication throughout the application process
- Conduct expeditious environmental impact analyses in accordance with the National Environmental Policy Act and National Historic Preservation Act
- Consider the potential benefits to law enforcement & public safety services
- Require use of best technology available
- Consider co-location of equipment and measures such as camouflaging facilities

These policies require the National Park Service to avoid or minimize potential impacts by making sure facilities & supporting infrastructure are located where:

- They would have least impact on park resources & values
- They are not located in historic, scenic or sensitive areas integral to the Park Mission

National Park Service Director's Order #53: Special Park Uses

Section 10.3, Telecommunication Antenna Sites, states that the NPS will comply with the Telecommunications Act of 1996 and any other policies, requirements, or instructions that are applicable to the Service. In complying, superintendents will:

- Encourage preliminary meetings with telecommunication industry companies who wish to discuss pending or proposed applications for sites in the park to explain park concerns and understand industry timeframes.

- Encourage meetings with the applicants during the post application decision process as necessary, but especially if the manager is considering denying the application. Such meetings should take place prior to written notification of denial.
- Consider the safety of the visiting public when reviewing telecommunication site applications, including the potential benefit of having telephone access to emergency law enforcement and public safety services.
- Ensure that, when an application is submitted, the park replies in writing within 10 business days with an initial response on the application, and that response will be 'yes' (probably a known categorical exclusion requiring very minor additional information to be submitted), 'no' (with reasons in writing), or 'maybe' (with additional information to be submitted).
- Ensure that, to the extent possible, the timeline and detailed steps enumerated in Reference Manual 53 are followed and the permit is issued or denied.
- Ensure that compliance actions and reviews will be conducted expeditiously and consistent with all applicable statutes.

General Management Plan for Lake Chelan National Recreation Area

The General Management Plan (GMP) for Lake Chelan NRA (NPS, 1995) provides policies, objectives and guidelines for management of visitor use, natural and cultural resources and development within Lake Chelan NRA. The Land Use and Development section of the GMP provides the following guidance relevant to this decision (note: the GMP is a comprehensive document and other sections indirectly apply):

- Unnecessary power lines would be removed, and all other lines would be buried where feasible, especially in areas with high visitor use.
- Make sure that land uses on public and private lands are compatible with the purposes of Lake Chelan NRA, emphasizing those uses that protect natural and cultural resources and natural processes, and provide for safe visitor facilities and services.
- Actively support local government in its regulation of nonfederal land within the Stehekin Valley, which places primary reliance on adopted Chelan County Zoning Ordinances, subdivision, and other applicable ordinances. Support regulations that ensure that the public health and safety of Stehekin Valley residents and visitors are maintained and enhanced.

Easement Authority for the Company Creek Road

The National Park Service has the legal authority to spend federal funds to maintain the Company Creek Road (110 Stat. 1321). The NPS, however, holds no easement interest for access and road maintenance purposes across approximately 20 private parcels of private land along the Company Creek Road. WeavTel would be required to secure legal easements to cross these parcels, or demonstrate other legal authority to cross these parcels, in order to fulfill partially the terms of the Special Use Permit.

Washington State Hydraulic Code

Hydraulic Project Approval from the Department of Fish and Wildlife per 75.20 RCW is required for any project that will use, divert, obstruct, or change the natural flow or bed of any fresh or salt water of the state. This includes all construction or other work waterward and over the ordinary high water line, including dry channels, and may include projects landward of the ordinary high water line (e.g., activities outside the ordinary high water line that will directly impact fish life and habitat, falling trees into streams or lakes, etc.). WeavTel proposes to attach

fiber optic cable to the underside of several bridges in the Project Area, and to trench and bury fiber optic cable up to the bridge abutments. According to the aforementioned regulations, this proposal would require a Hydraulic Project Approval.

Chelan County Department of Community Development

Chelan County Department of Community Development is the local regulatory agency responsible for ensuring compliance with land use regulations on private land within Lake Chelan National Recreation Area. WeavTel secured an Administrative Use Permit (AUP2005-014) from Chelan County on November 13, 2006 to construct and operate a "wire center and control facility" and to operate a "Utility, low impact" on a 1.67 acre parcel of private land (county parcel # 33-17-36-220-060). The conditions of the Administrative Use Permit include, but are not limited to:

- Antennas, towers and satellite dishes shall not be allowed.
- The garage shall not be used in any manner related to the low impact utility and only those portions of the single family residence depicted within the site plan of record may be used as low impact utility.
- The proposed single family residence containing the low impact utility shall not exceed 4000 square feet.

Chelan County previously approved via Settlement Agreement a localized zone change (ZC2006-038) to remove portions of the subject property above 1108.24 feet mean sea level from the Frequently Flooded Areas (Chelan County, 2006). This approval precluded, among other things, the need for WeavTel to secure a Shorelines Permit for development on this parcel in accordance with the Shorelines Management Act for operating within the FEMA mapped floodplain of the Stehekin River (Paleck, 2006).

This current proposal includes development (primarily installation of fiber optic cable) on other parcels of private land in Stehekin. Some of this private land lies within the jurisdiction of the Chelan County Shoreline Master Program due to its close proximity to the Stehekin River. Any work on other private land within the shoreline environment of the Stehekin River will require a Shorelines Permit (John Guenther, Chelan County Dept. of Community Development, pers. comm. 2007).

Washington Utilities and Transportation Commission

The Washington Utilities and Transportation Commission (WUTC) is the agency with regulatory jurisdiction over public telephone service in the state of Washington, including the Stehekin exchange. The WUTC determined in January 2002 that WeavTel was an Eligible Telecommunications Carrier (ETC) for the Stehekin exchange (WUTC Docket No. UT-013105).

An ETC must meet the provisions of the Telecommunications Act to qualify for federal and state Universal Service funds. The Universal Service Funds are not supported through annual federal appropriations but are privately funded by all telecommunications companies who provide interstate telecommunication services. Without this funding, customers in rural and underserved areas such as Stehekin would not have access to public telephone because installation and operation costs would greatly exceed revenues generated by the small customer base.

WeavTel and the WUTC entered into a Settlement Agreement on January 30, 2007 (WUTC Dockets UT-060762; 060920; 060921). This Agreement, finalized on March 22, 2007 by order of an Administrative Law Judge, effectively established WeavTel as a public telecommunications service provider in Stehekin, and ended for the near term the WUTC's regulatory involvement in the WeavTel matter (WUTC pers. comm., Bob Shirley, 2007).

National Historic Preservation Act

The National Historic Preservation Act (NHPA) is one of the federal environmental statutes relevant to this decision. Under the NHPA, federal agencies are required to consider the effects of federal undertakings on historic sites. This process includes consultation with NPS staff, and the Washington State Historic Preservation Officer (SHPO) to determine whether the proposed facility may create an adverse effect on an eligible or listed historic property. Other regulations that define the process have been promulgated by the Advisory Council on Historic Preservation and may be found at 36 C.F.R. Part 800, Subpart B.

Chapter II. Management Alternatives

Alternative A. No Action

The NPS would not issue a Special Use Permit to WeavTel to build and operate their proposed telecommunications infrastructure using NPS facilities and lands within the Lake Chelan National Recreation Area (NRA). It is assumed that homeowners, businesses, and visitors would continue to use various commercial services that are currently available (e.g. satellite-based internet). It is also assumed that the existing public telephone service WeavTel is currently providing on private lands within Lake Chelan NRA would remain in operation.

Alternative B. Issue Permit for Installation of Telecommunications Equipment Lake Chelan National Recreation Area

The NPS would issue WeavTel a Special Use Permit to install and maintain telecommunications equipment in the Lower Stehekin River Valley, Lake Chelan National Recreation Area (Appendix I, Figure 1). The current proposal would help to enable public telecommunications services for residents and businesses in the Stehekin Valley. All construction and maintenance of the proposed infrastructure on federal land would be conducted or contracted by WeavTel.

WeavTel proposes to construct its telecommunications system in two phases. The first phase would provide telecommunications service from the Stehekin Landing to Harlequin Bridge (Appendix I, Figures 2 and 3). The second phase would provide telecommunications service to customers on the Company Creek Road and the Stehekin Valley Road north of Harlequin Bridge (Appendix I, Figure 4). Construction of Phase II would not commence until completion of Phase I and resolution of rights-of-way either through negotiation and purchase or eminent domain proceedings (Riseborough, 2006). Note: The National Park Service would not facilitate or engage in any eminent domain action. Such proceedings would be exclusively between WeavTel and the State of Washington.

The following section describes the specifications, construction details and proposed locations of the telecommunications infrastructure as provided by correspondence from WeavTel and confirmed via a “walk through” conducted between WeavTel and NPS staff on November 20, 2006. Please refer to the Glossary for a definition of technical terms.

Phase I. Phone system infrastructure from Stehekin Landing to Harlequin Bridge

Vicinity of Landing

An antenna (3-meter diameter satellite dish) and Earth Station (Appendix I, Figure 2), would be installed on an approximately 13 square foot cement pad within the fenced area of the wastewater treatment plant facility at the Stehekin Landing. This antenna would serve as the data downlink for the system. The Earth Station electronics would be housed within the generator shed for the sewage treatment plant facility, provided there is space and the equipment does not

interfere with maintenance activities. Otherwise, WeavTel would construct a small, stand alone shed within the fenced area adjacent to the sewage treatment plant.

An underground, 30-inch square by 18-inch deep concrete enclosure would also be installed. The enclosure would access the conduit for the buried fiber optic cable leading from the Earth Station to various locations as follows (Appendix I, Figure 2):

- From the Earth Station to the Stehekin Valley Road and then northward along the road for about 1000 feet to serve residents and businesses in the vicinity of the Landing. Conduit would be installed with wheeled trencher.
- From the Earth Station approximately 450 feet to the old NPS Ranger Station/Post Office. The old NPS Ranger Station/Post Office Post Office would also house a Digital Loop Carrier (DLC). Conduit would be installed with wheeled trencher.
- From the Post Office approximately 850 feet to the vicinity of the general store. The trench for this section of conduit would be hand dug.

A 3-foot diameter antenna would be installed on the existing NPS tower behind the Golden West Visitor Center (Appendix I, Figure 2). This antenna would provide wireless telecommunications service to customers living "down lake" (i.e. south of the Landing area along the lakeshore).

A 24-inch wide mesh antenna would be mounted on old NPS Ranger Station/Post Office and on the NPS-owned A-frame residence near Silver Bay. These two antennas would provide a wireless (microwave) link from the Landing to the vicinity of Silver Bay so as to avoid trenching and burying fiber optic cable along the Stehekin Valley Road right-of-way. A DLC would also be installed either inside the A-frame or adjacent to the structure.

Vicinity of Silver Bay to Harlequin Bridge

Fiber optic cable would be buried along the road from the NPS A-frame to the junction of the Stehekin Valley Road. From this junction, fiber optic cable would be trenched and buried along the Stehekin Valley Road all the way to Harlequin Bridge. The cable would be attached to the underneath the bridges over Boulder Creek and Rainbow Creek. Fiber optic cable would also be trenched and buried down various spur roads as depicted in Appendix I, Figure 3. This portion of the fiber optic backbone would also include installation of a DLC in the vicinity of the NPS "Castle" residence, just down valley of Boulder Creek.

Miscellaneous system components would include: two 30-inches square by 18-inch deep concrete enclosures (hand access holes) and several 18-inch tall service pedestals leading from the fiber optic backbone to individual residences. The service pedestals would be installed on private land (if authorized) or within the Chelan PUD transmission line corridor. The number of pedestals would depend upon the number of customers who obtain public phone service.

WeavTel Wire Center and Control Facility

WeavTel has secured an Administrative Use Permit (AUP2005-014) from Chelan County to construct and operate a "Wire Center and Control Facility" on a 1.67 acre parcel of private land (Appendix I, Figure 2). The company intends to construct a single family residence (66'x41' modular home), a Wire Center and Control Facility contained within the single-family residence, a garage (28'x28'), well house, 4.8-meter diameter send and receive antenna, earth station

(13x13-foot by 4.8 meters tall), support structure (containing backup generator and PUD meter box) and fuel tanks (Guenther, 2006). The purpose of this facility is to assist with operation and maintenance of the telecommunications system.

Phase II. Phone system infrastructure from Harlequin Bridge to the end of the Company Creek Road

Fiber optic cable would be attached underneath Harlequin Bridge then trenched and buried approximately 1.8 miles along the Company Creek Road toward the road end. Fiber optic cable would also be trenched and buried along various spur roads in this area to serve private residences and businesses.

The infrastructure would also include service pedestals and copper wire lines leading from the fiber optic backbone to individual residences. Service pedestals would be installed on private land (if authorized by the landowner) or within the Chelan PUD transmission line corridor.

An antenna mounted to a 25-foot tall monopole tower on a 2 square foot cement foundation would be constructed on NPS land (NPS Tract # 07-178) on the west side of the Company Creek Road near the end of the road. This antenna would provide wireless telecommunications service to customers outside the wire line service area.

Construction, Maintenance, Operational Details and Mitigation Measures

- Fiber optic cable would be trenched and buried using a gas-powered wheeled trencher, except for the vicinity of the Landing area where it would be hand dug. Erosion control measures (e.g. silt fencing) would be used to prevent sediment from entering surface water during construction activities. Asphalt would be repaired with cold mix.
- Above ground structures and facilities would be sited or screened so as to minimize impacts to the viewshed. Equipment would be collocated with NPS facilities where feasible; antennas would be camouflaged; and any above-ground structures housing equipment (e.g. Digital Loop Carrier facilities) would be constructed according to the compatibility standards of the GMP (e.g. wood-sided, non-reflective roofs).
- Portions of the Project Area lie within the 100-year floodplain and high flood influence areas. Telecommunications equipment in these areas would have automatic shutdown circuits and related safety features.
- Stehekin currently suffers periodic shortages of electrical power due to high seasonal demand for electricity and limits on generational capacity due to the aging hydroelectric generation facility. To minimize demand for electricity, WeavTel facilities would be heated with LP gas as opposed to inefficient electrical induction-type heaters. The security plan would use a listening approach (two-way intercom) as opposed to lighting.
- Construction equipment would be thoroughly cleaned prior to minimize the risk of importing invasive weeds.
- Construction activity within 1000 feet of an occupied residence would be limited to the hours of 6:00 a.m. to 8 p.m., Monday to Friday; and 7:00 a.m. to 8 p.m. on weekends.
- Any activities requiring traffic delays would be limited to 15 minutes or less. WeavTel would also provide traffic control as needed.

- All construction and maintenance activities within historic structures or districts would comply with the National Environmental Historic Act. This would include Section 106 clearance and approval by the Washington State Historic Preservation Officer.

Alternatives Considered but Rejected

One letter of comment recommended limiting the public phone system to satellite phones only. This alternative was considered but rejected as a stand-alone alternative because the use of satellite phones would be beyond the scope of the WeavTel proposal, and outside the jurisdiction of the Washington Utilities and Transportation Commission. Satellite phones, however, are currently one commercially available option for telecommunications services in Stehekin. Their use is described in the No Action alternative, and included in the environmental impact analysis.

Environmentally Preferred Alternative

Alternative A would result in the least impact to the biological and physical environment of Lake Chelan NRA; therefore it is considered the Environmentally Preferred Alternative.

Chapter III. Affected Environment

Project Area

The project area is entirely within the boundaries of Lake Chelan National Recreation Area, one of three units of the National Park Service managed collectively as North Cascades National Park Service Complex (Appendix I, Figure 1). The topography within the Project Area includes floodplain, valley bottom and adjacent flat to sloping upland areas within the Stehekin Valley. Elevations range from approximately 1,120 feet at the Landing area to approximately 1,280 feet near the end of Company Creek Road.

The Project Area includes NPS-owned lands and facilities adjacent to the locations where fiber optic cable would be trenched and buried, certain NPS-owned structures proposed to house or support antennas and equipment, and NPS-owned parcels of land proposed for installation of support structures including digital loop carriers, service pedestals, a 25-foot tower near the end of the Company Creek Road and miscellaneous system components.

The Project Area also encompasses certain private lands in Stehekin community including (a) the private lands of customers who choose to receive phone service; (b) approximately 20 tracts of private land underlying the Company Creek Road, where the NPS only has an easement for general administration of the area and for road maintenance purposes; and (c) the 1.67-acre of private land owned by WeavTel for the Wire Center and Control Facility (county parcel # 33-17-36-220-060).

Biological and Physical Environment

The physical and biological environment that would be affected includes the area of immediate physical disturbance where the telecommunications infrastructure would be installed. The biological environment extends beyond this area to include adjacent resources and habitats for vegetation and wildlife. The following section describes the current conditions of these resources, and establishes a baseline for the impact analysis in Chapter IV.

Soils

The soils in the Project Area largely consist of course sands, gravel, rock and sediments deposited over the millennia by glaciers, flooding and debris flows. Within the 100-year floodplain, the soils are sensitive to rapid erosion because they are coarse grained and non-cohesive. Much of the soil in the project area has been previously disturbed for development on public and private land. In many of these areas, there little if any topsoil, the soil is compacted, and in some locations may have been brought in as fill. There are no rare soils (NPS, 1993).

Water Resources

The project area traverses several unnamed and named streams and creeks including Purple Creek, Little Boulder Creek, Boulder Creek, Rainbow Creek, Company Creek, Battalion Creek and the Stehekin River. A portion of the project area lies within the 100-year floodplain of the

Stehekin River and the alluvial fans of Boulder Creek, Rainbow Creek and Company Creek. Specific areas vulnerable to flooding include the area from the head of Lake Chelan to the Stehekin Pastry Company (bakery), along Company Creek Road from Harlequin Bridge to the NPS maintenance facility and access road, and Company Creek Road from the Battalion Creek crossing to the end of the road.

Vegetation

The native vegetation in the Project Area includes upland and riparian plant communities. The uplands are comprised of an overstory of mature Douglas-fir (*Pseudotsuga menziesii*) and in some areas ponderosa pine (*Pinus ponderosa*). The understory is generally open and sparse. Common shrub species include snowberry (*Symphoricarpos albus*), oceanspray (*Holodiscus discolor*) and ceanothus (*Ceanothus sanquineus*), thimbleberry (*Rubus parviflora*), Oregon boxwood (*Pachistima myrsinites*), Oregon grape (*Mahonia aquifolium*) and kinnikinnick (*Arctostaphylos uva-ursi*). There are also a variety of grasses. Portions of the project that lie within the floodplain contain an overstory of big leaf maple (*Acer macrophyllum*), western red cedar (*Thuja plicata*) and black cottonwood (*Populus trichocarpa*).

Most of the vegetation in the Project Area has been previously cleared or thinned by logging, road and residential construction, and construction of various facilities (NPS, 1995). Some of these areas contain little tree cover and support small populations of nonnative, invasive plants such as diffuse knapweed (*Centaurea diffusa*), spotted knapweed (*Centaurea maculosa*), bull thistle (*Cirsium vulgare*), rush skeletonweed (*Chondrilla juncea*), and common mullein (*Verbascum thapus*).

No rare plants have been documented in the Project Area, and their presence is unlikely given past development and habitat modifications.

Fish and Wildlife, Including Rare/Listed Species

A wide variety of native fish and wildlife live within the greater Stehekin Valley, including 40 species of mammals, 96 species of birds, 2 species of lizards, 5 species of snakes, 5 species of amphibians, and at least one species of fish (Kuntze and Glesne, 1993). The diversity of species that may be affected by the proposed action, however, would be more limited than these numbers suggest because the area of potential effect largely encompasses lands that have been substantially modified by development of roads, residential areas and other forms of human activity.

Affected wildlife would be limited to some of the more common wildlife species as opposed to uncommon or sensitive species that are intolerant of human disturbance or lack sufficient habitat within the Project Area. This same line of reasoning applies to the various Federally listed or Washington State listed Threatened (T), Endangered (E), Candidate (C) and other sensitive species for which there is suitable habitat in the Stehekin Valley (Table I).

Table 1. Washington State and Federal endangered (E), threatened (T), candidate (C) and other sensitive species for which there is suitable habitat in the Stehekin Valley. Species unlikely to be present in the Project Area are noted with an asterisk*. These species are not tolerant of human activity (e.g. residential development, motorized vehicle use) or they lack sufficient habitat.

Species		**Status**	
Common Name	**Scientific Name**	**Federal**	**State**
Gray Wolf*	*Canus lupus*	E	E
Grizzly Bear*	*Ursus arctos*	T	E
Canada Lynx*	*Lynx canadensis*	T	T
Pacific Fisher*	*Martes pennanti pacifica*	C	E
California Wolverine*	*Gulo gulo luteus*		C
Western Gray Squirrel	*Sciurus griseus griseus*		T
Townsend's Big-eared Bat	*Corynorhinus townsendii*		C
Bald Eagle	*Haliaeetus leucocephalus*	T	T
Northern Spotted Owl	*Strix occidentalis caurina*	T	E
Northern Goshawk	*Accipiter gentilis*		C
Golden Eagle	*Aquila chrysaetos*		C
Merlin	*Falco columbarius*		C
Flammulated Owl*	*Otus flammeolus*		C
Vaux's Swift*	*Chaetura vauxi*		C
Lewis' Woodpecker*	*Melanerpes lewis*		C
Black-backed Woodpecker*	*Picoides albolarvatus*		C
Pileated Woodpecker	*Dryocopus pileatus*		C
Bull Trout*	*Salvelinus confluentus*	T	
Western Toad	*Bufo boreas*		C
Columbia Spotted Frog*	*Rana luteiventris*	C	C

Cultural Resources

The Area of Potential Effect to cultural resources within the Project Area includes NPS-owned structures and districts which have been identified as significant for their association with early settlement or their representation of a distinct style or method of early construction. These include: the Buckner Homestead Historic District, Golden West Lodge Historic District, Stehekin Ranger Station residence, and Miller cabin. These historic cultural resources are all listed on the National Register of Historic Places.

No prehistoric archeological sites have been identified on public lands within the project area, and their presence is unlikely given the previous disturbance to the area (Mierendorf, pers. comm.)

Recreation and Visitor Use

Recreation and visitor use within the vicinity of the Project Area includes hiking, biking, horseback riding, and various sightseeing and interpretive opportunities. Many visitors are drawn to unique cultural amenities such as the historic homesteads, structures, and districts. Many visitors are also fascinated by the remote and isolated Stehekin community, and see it as

an integral part of the valley environment. Some of these visitors are often seeking a rustic, less developed experience, removed from the pressures of modern life.

Socioeconomic Profile

The project area encompasses many parcels of private land in the unincorporated community of Stehekin, one of the most remote communities in the contiguous United States. It is only accessible by boat, float plane, or trail. The community includes approximately 100 year-round residents occupying 37 households. The population increases 300%-400% during the summer with numerous summer residents occupying cabins throughout the valley. Most residents have chosen Stehekin as their home for its natural beauty, sense of community and isolation.

Tourism is the primary engine of economic activity in the Stehekin valley. Tourist services are available year-round, although peak visitation occurs during the months of May through October. Local industries include lodging, transportation, and other recreation-based businesses. Businesses use the postal service, public phone and satellite-based phone and internet to solicit customers and conduct business transactions.

Stehekin's image is that of a place removed from the pressures of modern America. This "frontier" lifestyle of a self-sufficient, self-reliant people evokes controversy about how it should be protected. Some believe that the pioneer lifestyle of those who settled in Stehekin around the turn of the 20th century still persists, and should be shielded from the unwanted intrusions of modern technology, especially technology that is publicly subsidized. Modern technology, however, has progressively been used in Stehekin since its settlement for business and personal convenience.

Modern conveniences, such as electricity, satellite internet, satellite TV, satellite telephone and an NPS-provided public telephone are readily available. Approximately 38 satellite-based telecommunications systems are now in use in the valley, and at least two more systems may be installed within the year (Ward, pers. comm. 2007). Many of these satellite systems have proliferated in just the last few years.

The current costs of satellite-based telecommunications services vary widely. A survey of prices for satellite based telecommunications services in Stehekin (citations in Reference section) indicates that basic satellite phone service costs approximately $50 per month (not including the purchase or rental price of the phone) and a minimum of $1 per minute. This estimate is probably lower than the prevailing cost, as one resident of the Valley states his monthly cost for a satellite phone is approximately $120/month, and several hundred dollars for equipment (Tacoma News Tribune, 2007). Satellite internet service also starts at approximately $50 per month for basic residential service (not including the purchase price for equipment). Satellite-based systems with Voice-over Internet Protocol (VoIP) capability cost approximately $130/month, not including the cost of equipment and installation (Ward, pers. comm.). These costs are very general, and specific prices vary substantially among providers. Moreover, the rapid evolution of new technology and intense market competition is leading to increasingly lower costs (Marketresearch.com, 2007).

Chapter IV. Environmental Consequences

Introduction

This chapter describes the direct, indirect and cumulative environmental impacts, or consequences, of the management alternatives under consideration in this EA. The scope of the analysis, and the impact topics selected for analysis, are based upon the ecosystem functions, natural and cultural resources and human values described in Chapter III, Affected Environment.

Definitions and Methods for Evaluating Impacts

This EA describes impacts the nature, duration and intensity of impacts according to the following definitions and criteria:

Nature of Impact

Adverse Impact: Moves the system away from the desired condition .
Beneficial Impact: Moves the system toward the desired condition

Duration of Impact

Short-term: During construction or up to one year.
Long-term: Longer than one year.

Intensity of Impact

Negligible: Imperceptible, not measurable, or undetectable.

Minor: Slightly perceptible or measurable and limited in extent. Without further actions, impacts would reverse and the resource would return to the previous condition.

Moderate: Readily apparent and measurable but limited in extent. Without further actions, impacts would eventually reverse and the resource would return to the previous condition. Individuals of a species would be harmed or killed, with slightly measurable impacts to the population or surrounding community.

Major: Substantial and measurable, highly noticeable, and affecting a large area. Changes would not reverse without active management. Entire communities of species would be measurably affected.

This EA uses the following terminology to describe potential effects to federally listed species of wildlife:

No effect: when a proposed action would not affect a listed species or designated critical habitat.

May affect / not likely to adversely affect: effects on federally listed species are discountable (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated) or are completely beneficial.

May affect / likely to adversely affect: when an adverse impact to a federally listed species may occur as a direct or indirect result of proposed actions and the effect is not discountable or beneficial.

Is likely to jeopardize a species and/or adversely modify critical habitat: the appropriate conclusion when the NPS or the U.S. Fish and Wildlife Service identifies situations in which the proposal would jeopardize the continued existence of a proposed species or adversely modify critical habitat to a species within or outside the North Cascades Complex boundaries.

Cumulative Impacts

The analysis also includes a discussion of cumulative impacts for each proposal. Cumulative effects are the "additive" impacts from past, present or reasonably foreseeable management actions.

Impairment

The legislation that established the National Park Service in 1916, also known as the Organic Act, directed the service to manage its lands so as to leave them "*unimpaired for the enjoyment of future generations* (italics added)." NPS Policies 2006 define impairment as "…an impact that, in the professional judgment of a responsible NPS manager, would harm the integrity of park resources or values and violate Organic Act's mandate that park resources and values remain unimpaired. Whether an impact constitutes impairment depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts." (NPS, 2007). NPS policies require an impairment analysis in environmental documentation, so an impairment discussion for each impact topic is included in this EA.

Impacts of Alternative A. No Action

Biological and Physical Environment

This alternative would have no biological or physical impact on the environment. Therefore, there would be no direct, indirect, or cumulative impacts to soils, water and air resources, vegetation, fish and wildlife (including listed species) or cultural resources.

Recreation and Visitor Use

Various forms of telecommunications would remain readily available to visitors while in Stehekin. Direct impacts to recreation and visitor use would depend upon individual values and expectations. For the visitor seeking an experience distanced from modern technology, the beneficial impact would probably be negligible given the relatively obvious presence of various forms of modern amenities in the Valley, including privately owned telecommunications services. Conversely, for visitors who would prefer widespread access to phone service, the impact would be adverse but probably minor in the short term given the current availability of

other telecommunications services already in the Valley. The duration of this impact, however, is difficult to predict given the increasing availability of private telecommunications in the Valley.

Radios, satellite phones, the NPS public phone, and verbal communication between residents would continue to coordinate access to Emergency Medical Services to residents and visitors. Based upon information provided by the Chelan County Sheriff to the Washington Utilities and Transportation Commission (Harum, 2005), and the professional opinion of NPS staff, the availability and quality of medical and emergency services would essentially remain unchanged. This finding is based upon the belief that in nearly all instances, the limiting factor for emergency medical services is the geographic isolation of Stehekin, as opposed to the limited availability of telecommunications services.

Socioeconomic Impacts

Financial Impacts

The typical cost of satellite phone service is approximately $1,440/year (not including equipment costs, etc.). The typical cost of satellite internet-based, VoIP phone service is about $1,200/year (not including equipment costs, installation fees, etc.). The WeavTel service, in contrast, would cost approximately $300/year for residential service and approximately $360/year for businesses. Therefore, for those who wish to have public phone service, the No Action alternative could have an adverse financial impact of $900-$1,140/year. This analysis, however, is complicated by the availability of commercial telecommunications services, and the declining costs of satellite-based systems. Moreover, WeavTel has already established some limited telecommunications services in the Valley using wireless technology (as opposed to trenching and burying fiber optic cable); this service does not involve occupation of NPS land. At this time, the cost and feasibility of installing a valley-wide, public, wireless phone system based entirely on private land is not known. Determining those costs would require an engineering/feasibility study and detailed accounting of equipment costs.

Impacts to the Stehekin Community

The previous Environmental Assessment for this proposal concluded that the No Action Alternative (essentially the same alternative under consideration in this EA) would help to "preserve the tradition of visiting neighbors to relay messages and information rather than phoning." It concluded that no public phone service would have a "minor, beneficial impact" on the community. This conclusion has not changed. However, public comments indicate an additional source of opposition that would appear to be more deeply philosophical: public telecommunications could change the social fabric and character of the community and erode the independent, self-sufficient lifestyle that many residents deeply value. There is no objective way of evaluating this concern because absent public phone service, commercial, VoIP technology would presumably continue to proliferate in the Stehekin Valley.

Cumulative Impacts

Cumulative effects result from the "additive" impact of this alternative combined with other past, present and foreseeable future projects. There would be no measurable cumulative impacts on the previously discussed resources as a result of this alternative.

Conclusions

There would be no impacts to biological or physical resources. There would minor, long-term adverse impacts to some visitors and community members who desire public phone service in Stehekin because they may not be able to obtain public phone service. Some residents and businesses would also be adversely affected financially by the higher cost of obtaining commercial services such as satellite phones or VoIP phone service. The magnitude of impact would vary among individuals.

It is assumed that various modern amenities would continue to proliferate in the Valley without public phone service. There would be a negligible benefit to those seeking an experience distanced from modern technology because other modern amenities would remain readily available and visually apparent. For similar reasons, this alternative would have little material affect on preserving the unique character of Stehekin as an isolated and remote community.

Impairment

This impact analysis identifies a series of adverse impacts ranging from negligible to minor intensity. These impacts would not cause impairment of park resources.

Impacts of Alternative B. Issue Permit for Installation and Operation of a Telecommunication Infrastructure in Lake Chelan National Recreation Area

Soils

Fiber optic cable would be trenched and buried throughout the project area, and this action would temporarily disturb the soil resource. Most construction would occur in soils disturbed by previous development, such as along road shoulders and adjacent to structures and facilities. Trenching and burying cable would disturb a 2-foot wide swath of soils, and the total length of trenching would be 35,340’ or 6.69 mi. In addition, several of the proposed structures require small cement pads, and these pads would add about 500 square feet of additional soil impacts. Taken together, the total surface area of soil disturbance from trenching would be about 71,000 square feet or approximately 1.6 acres. This would cause adverse, minor and long-term impacts to soil resources.

Water and Air Resources

The fiber optic “backbone” of the phone system would cross several named and unnamed creeks underneath existing bridges. Installation of conduit underneath bridges could cause short-term but negligible adverse impacts to water resources if equipment were inadvertently dropped into running waters. Trenching and burying cable up to the bridge abutments could also cause localized inputs of sediment into surface waters. WeavTel would need to secure a Hydraulic Project Approval (i.e. permit) from the Washington Department of Fish and Wildlife for work over water and trenching adjacent to bridge abutments. Silt fencing would be used to prevent sediment from entering surface waters. WDFW may also require other measures on a site-specific basis. These measures would mitigate to a negligible level the potential the potential adverse impact to surface waters during construction and future maintenance of the system.

WeavTel proposes to construct a 25-foot monopole tower/antenna on the west side of the Company Creek Road near the end of the road on NPS land. In the vicinity of this location, the Stehekin River has flooded several parcels of private land and caused extensive damage to structures and facilities, including the road itself. The location of the proposed antenna, however, has not flooded because the land is slightly higher in elevation. Under current circumstances, there appears to be no risk of flood damage to the proposed location.

During construction and future maintenance of the system, emissions and dust from the use of gas or diesel powered construction equipment (e.g. wheeled trencher) would have a short-term and negligible adverse impact on air quality. Emissions from the back-up power system at the call Wire Center and Control Facility would cause a short-term and negligible adverse impact to air quality during power outages.

Vegetation

Approximately 1.6 acres of land would be disturbed during construction. This land would be adjacent to roads and facilities where vegetation is sparse or has been has been previously disturbed by road construction and past development. No large trees would be cut, but trenching would damage or kill some plants, grasses, shrubs and perhaps some trees by cutting their roots. To mitigate root damage, trenching would be done by hand in the vicinity of Landing, and the trench would be carefully aligned to avoid trees when possible. These adverse impacts would be minor and would vary from short-term (for grasses, forbs and shrubs) to long term (for trees). Over time, however, vegetation would largely recover.

Soil disturbance and loss of vegetation could encourage growth of invasive, exotic plants already present in the Valley. Construction machinery could also import invasive exotic plants, but this risk would be mitigated by cleaning construction machinery before barging the equipment into Stehekin.

This alternative would not affect any known rare, sensitive or listed plant species because the project area lacks sufficient habitat.

Fish and Wildlife

Given the modest scale and pace of construction, it is unlikely that any wildlife would be harmed or killed. Instead, disturbance from construction could temporarily displace some wildlife species in the immediate vicinity of the Project Area. This displacement could temporarily affect nesting or roosting wildlife (e.g. bats, birds). The impact of displacement to terrestrial wildlife not listed as state of federally threatened or endangered would be adverse, short term and negligible. There would be no impacts to fish or fish habitat because mitigation measures would prevent disturbance to fish and fish habitat.

The telecommunications infrastructure proposed for Phase II would include a 25-foot free-standing, unlighted tower near the near of the Company Creek road (Appendix I, Figure 4). Several commenters expressed concern about potential impacts to wildlife, especially migrating birds, given the large body of evidence linking bird mortality to telecommunications antennas. For example, birds can fly into guy wires, the tower itself, or get disoriented by bright lights

often affixed to the top of a tower for aviation safety (Manville, Albert M. II, 1999). There is no evidence, however, to suggest that this antenna would cause bird mortality given its low height (approximately that of a telephone pole), lack of lights and freestanding construction. In addition, the NPS maintains a 40-foot tower behind the Golden West Visitor Center, and there has been no evidence of bird mortality or other wildlife impacts associated with that tower.

State and Federally Listed Species

The following Biological Assessment evaluates potential effects to state and federally listed species:

Gray Wolf and **Grizzly Bear** have not been reported in the Stehekin Valley below High Bridge in the past 15 years although suitable habitat exists. There have been confirmed sightings of each species within 15 miles of the project site in the past 20 years. These sightings, however, were most likely animals migrating through the area. Although there is suitable habitat in the area, noise, disturbance, and human presence in the Stehekin Valley would make the project area less desirable than the surrounding wilderness landscape. *Determination:* This action may affect, but is not likely to adversely affect gray wolves or grizzly bears.

Canada lynx feed primarily on snowshoe hares and populations of the species overlap significantly. A vertebrate inventory conducted in 1990 and 1991 documented snowshoe hare presence in the Stehekin Valley. There have been at least 4 unconfirmed sightings of lynx in the lower valley (below High Bridge) between 1975 and 2001. However, the habitat affected by the project is not considered typical of that normally used by lynx. Lynx habitat is usually higher in elevation (above 4500) in lodgepole pine, subalpine fir, and or Engelmann spruce forests. Based on vegetation and elevation, the lower Stehekin Valley is not considered optimal lynx habitat (NPS, 1995). *Determination:* This action may affect, but is not likely to adversely affect lynx.

Pacific Fisher have not been documented in recent wildlife surveys of the Lower Stehekin Valley, although historically the highest number of recorded sightings in Washington has been in the North Cascades. Fishers are generally associated with dense old-growth coniferous and mixed coniferous-deciduous forests. Under natural forest conditions, the lower Stehekin Valley would be good fisher habitat, especially along the riparian corridors. But given the altered habitat and other human disturbance in the lower valley, the presence of fisher in the project area is unlikely. *Determination:* This action may affect, but is not likely to adversely affect Pacific fisher.

California Wolverine occur in low densities, mostly in subalpine and alpine habitat zones. However, they can occur in silver fir and other lower elevation forests. In recent years, several wolverines have been captured and GPS-collared in North Cascades. Last winter, these wolverines traveled extensively throughout the south unit of North Cascades National Park, portions of Lake Chelan NRA and the adjacent Lake Chelan/Sawtooth Wilderness Area (Christophersen, pers. comm.). Given the altered habitat and other human disturbance in the lower valley, the presence of wolverine in the project area is unlikely. *Determination:* This action may affect, but is not likely to adversely affect California wolverine.

Western Gray Squirrel (*Sciurus griseus*) is associated with the grand fir/Douglas-fir habitat zone in the Stehekin Valley. They feed on fungi, and the seeds of pine, fir, bigleaf maple, and vine maple. Current population status in the Stehekin Valley is unknown, but squirrels are regularly observed in the Project Area. They are also occasionally killed by vehicle traffic along the Stehekin Valley Road. *Determination:* This action may affect, but is not likely to adversely affect Western Gray Squirrels.

Townsend's Big-eared Bat (*Corynorhinus townsendii*) Townsend's big-eared bats hibernate in caves and use caves, lava tubes, and abandoned buildings for breeding and roosting sites. Nursery colonies are extremely sensitive to human activity, and sites are readily abandoned if disturbed. A park wide baseline inventory of bats conducted in 1998-2001 did not document this species in the Stehekin River watershed (Kuntz and Glesne 1993). *Determination:* This action would have no effect on Townsend's Big-eared Bat.

Bald Eagle (*Haliaeetus leucocephalus*) In 2001, 2002, and 2003 a pair nested near Weaver Point at the head of Lake Chelan. Four eaglets were fledged over the 3 year period (2 fledged in 2003). The nest site is project site. Bald Eagles are occasionally seen perched in large trees at the head of Lake Chelan during the fall and winter. Eagles are occasionally seen in the upper Stehekin Valley and there is habitat along the Stehekin River corridor. *Determination:* this action may affect, but is not likely to adversely affect bald eagles.

Northern Spotted Owl (*Strix occidentalis caurina*) Kuntz and Christophersen (1996) identified 3 nesting pairs and 2 apparently unpaired owls between Bridge Creek and Flick Creek near the southern boundary of the Lake Chelan NRA. The nearest nesting pair was documented 2 miles from the project area. The forest and riparian areas of the project area may be foraging habitat for spotted owls, but their presence is unlikely given the chronic human disturbance in the area. *Determination:* this action may affect, but is not likely to adversely affect Northern Spotted Owls.

Northern Goshawk (*Accipter gentilis*) Kuntz and Glesne (1993) documented the occurrence of this species in upland mesic conifer and deciduous riparian forests within the Stehekin Valley. Goshawk nests were noted on the east side of Lake Chelan, and recently fledged goshawks were seen above High Bridge. *Determination:* this action may affect, but is not likely to adversely affect Northern Goshawk.

Golden Eagle *(Aquila chrysaetos*) No golden eagles have ever been documented to nest in the vicinity of the Project Area. The habitat is the vicinity of the Project Area is poorly suited for golden eagles. *Determination:* this action may affect, but is not likely to adversely affect Golden Eagles.

Merlin (*Falco columbarius columbarius*) Merlins have been documented on at least three occasions in the Stehekin Valley (June 1986, May 1993, September 1995). These records probably represent birds migrating through the valley. *Determination:* this action may affect, but is not likely to adversely affect Merlin.

Flammulated Owl (*Otus flammeolus*). Uncommon and local in eastern Washington, flammulated owls occur in mature forests consisting chiefly of ponderosa pine and Douglas-fir (Smith et al. 1997). Breeding habitat has been described as consisting of well-spaced Douglas-firs of varying ages, generally containing thick clumps of young trees with some ponderosa pine. Stand understory is very open and contains grasses and isolated shrubs. Suitable habitat has been mapped within the Stehekin River drainage (including Flat Creek and Bridge Creek as core habitat). Flammulated owls remain undocumented in the area (Kuntz and Glesne 1993). *Determination:* this action may affect, but is not likely to adversely affect Flammulated Owls

Vaux's Swift (*Chaetura vauxi*). Park studies (Kuntz and Glesne 1993, Wildlife Observation Database) have documented this species as regularly occurring in the Stehekin Valley from May through September. *Determination:* this action may affect, but is not likely to adversely affect Vaux's Swift.

Lewis' Woodpecker (*Melanerpes lewis*). Lewis' woodpecker is common in open forests and woody riparian corridors of eastern Washington in the ponderosa pine zone (Smith et al. 1997). While it has been documented nesting in both living and dead deciduous and coniferous trees, it shows a preference for ponderosa pine and black cottonwood. Smith et al. (1997) identified core habitat in Washington as including the Stehekin Valley. This woodpecker was observed in 1971 at the head of the Stehekin River. *Determination:* this action may affect, but is not likely to adversely affect Lewis' Woodpecker.

Black-backed Woodpecker (*Picoides arcticus*). Black-backed woodpeckers are uncommon residents in moderate to high elevation, open-canopy east-side coniferous forests and are locally uncommon in burns at lower elevations (Smith et al. 1997). Black-backed woodpeckers have been observed three times during the summer in the general vicinity of the Project Area. *Determination:* this action may affect, but is not likely to adversely affect Black-backed woodpeckers.

Pileated Woodpecker (*Dryocopus pileatus*) Pileated woodpeckers need habitat with large snags used for nesting and roosting. It is estimated that approximately 3 to 4 pairs are resident within the Stehekin Valley (Kuntz and Glesne 1993). *Determination:* this action may affect, but is not likely to adversely affect Pileated Woodpeckers.

Bull Trout (*Salvelinus confluentus*) Historically, bull trout inhabited the Stehekin River and Lake Chelan. However, extensive surveys and monitoring have not shown bull trout to be present in the Stehekin River system for several decades. Bull trout may be extirpated from the Stehekin River and Lake Chelan, but their habitat remains. This proposed action would have no effect on bull trout or their habitat. *Determination:* this action would have no effect on Bull Trout.

Western Toad (*Bufo boreas*) Western toads are found from sea level to 7,400 feet. Breeding sites and aquatic habitat include lakes, springs, ponds, wetlands, stock ponds and slow-moving parts of streams. Terrestrial habitats are forests, grasslands and along streams, and they may wander great distances through dry forests or shrubby thickets. Outside of the breeding season, western toads are nocturnal, spending the day buried in the soil, concealed under woody debris,

or in the burrows of other animals. The western toad has been documented in the Stehekin Valley (Kuntz and Glesne 1993). *Determination:* this action may affect, but is not likely to adversely affect Western Toads.

Columbia Spotted Frog (*Rana luteiventris*) Columbia spotted frog is nearly always found in or near a perennial water body (required for breeding) such as a spring, pond, lake or stream backwater. It is most often associated with nonwoody wetland plant communities (sedges, rushes and grasses). Breeding occurs in February or March at lower elevations of eastern and western Washington but does not occur until late May or early June at higher elevations. Kuntz and Glesne (1993) documented this species in the Stehekin Valley. *Determination:* this action may affect, but is not likely to adversely affect Columbia spotted frogs.

Historic Cultural Resources

Fiber optic cable would be trenched and buried within the Buckner Homestead Historic District and the Golden West Lodge Historic District. This action would have no effect on known historic cultural resources in these districts.

A 3-foot diameter antenna would be collocated within the existing NPS communications equipment behind the Golden West Visitor Center. Currently, this site has a 40-foot tower and 8-foot diameter satellite dish (Gempko, pers. comm.). This action would add an additional modern feature to the viewshed of the visitor center, but its given unobtrusive size and collocation with existing telecommunications, it would have no adverse effect on the Golden West Lodge Historic District.

A 24-inch mesh antenna would be affixed to the Old Ranger Station, and this structure may be eligible for the National Register given its association with the Golden West Historic District. This antenna would have no adverse affect.

There are no known archeological sites in the Project Area, but there is some potential for an unanticipated discovery during construction. If this happened, work would cease immediately pending further consultation with the National Park Service and the Washington State Historic Preservation Office.

Recreation and Visitor Use

Disturbance from construction noise and temporary traffic delays would cause short-term, negligible to minor adverse impacts to residents and visitors. These impacts would be partially mitigated by limiting traffic delays to 15 minutes, and limiting construction to the hours of 6:00 a.m. to 8 p.m., Monday to Friday; and 7:00 a.m. to 8 p.m. on weekends.

Various forms of telecommunications would remain readily available to visitors while in Stehekin. This proposed service, however, would provide an additional telecommunications option to visitors, although it is uncertain as to how many private lodging facilities would elect to offer the proposed phone service. Direct impacts to recreation and visitor use would depend upon individual values and expectations. For the visitor seeking an experience distanced from modern technology, the impact would be adverse but probably minor given the widespread visual presence and availability of other telecommunications services already in the Valley.

Conversely, for visitors who would prefer access to a public phone service, the added availability of this phone service would be beneficial but probably minor given the existing telecommunications services already in the Valley and the limited potential for proliferation of public phone service. The duration of this beneficial impact, however, is difficult to predict given the continued advances in the availability of new technologies and their continued declining cost.

Public phone service could indirectly enhance the safety of residents and visitors by offering an additional telecommunications alternative to those already available to residents and visitors. For example, under certain time-critical circumstances, the added availability of public telephone service could in theory enable more rapid and timely emergency response capabilities. However, based upon information provided by the Chelan County Sheriff to the Washington Utilities and Transportation Commission (Harum, 2005), and the professional opinion of NPS staff, the availability and quality of medical and emergency services would probably remain unchanged. This conclusion is based upon the fact that in nearly all instances, the limiting factor for emergency medical services is the distance and isolation of Stehekin as opposed to the limited availability of telecommunications services. Therefore, the indirect impact on the health and safety of residents and visitors would probably be negligible.

Socioeconomic Impacts

Financial Impacts

Several residents and businesses have indicated to the NPS that they would like to have public telecommunications service. The typical cost of satellite phone service is approximately $1,440/year (not including equipment costs, etc.). The typical cost of satellite internet based, VoIP phone service is about $1,200/year (not including equipment costs, installation fees, etc.). The WeavTel service, in contrast, would cost approximately $300/year for residential service and approximately $360/year for businesses. Therefore, for those who wish to have phone service this alternative could result in a beneficial impact (cost savings) of $900-$1,140/year for those who secure the service and no longer need to rely on private, commercial alternatives. This analysis is based on current market prices. The telecommunications market is constantly evolving, and the costs of satellite-based technologies and services are continuing to decline. Over time, the gap between the cost of private, commercial systems and the proposed public system could narrow substantially.

Impacts to the Stehekin Community

This alternative has the potential to impact the character and social fabric of Stehekin in the eyes of some commenters. The intensity and duration of this impact, however, would vary according to individual values and expectations. The impact on the community would also substantially depend upon the degree to which residents and businesses continue to subscribe to other readily available telecommunications opportunities. The current proliferation of these commercial technologies in the Valley suggests that one way or another, telecommunications, including phone service, will become increasingly available in Stehekin, even to those residents who elect not to subscribe to this service. When viewed in this context, it is likely that this alternative would have a negligible to minor adverse impact on the social fabric of the community.

Cumulative Impacts

Other past, present or reasonably foreseeable projects affecting the project area include flood recovery efforts such as road repairs, and a proposed paving of the Lower Stehekin Valley Road. This proposal would have a negligible to minor, adverse cumulative impact to the biological and physical environment in the Lower Stehekin Valley because the impacts would be barely detectable given the previously disturbed conditions in the Project Area.

As similarly described in Alternative A, over the years, the availability of modern amenities, including telecommunications, has gradually increased in Stehekin. This gradual infusion of modern technology has subtly altered the visual character of the Stehekin Valley. For example, the current viewshed includes electrical poles and above ground lines, and various forms of modern structures and utilities. Most recently, antennas (primarily satellite dishes) have proliferated in the Project Area: approximately 38 systems have been installed, and at least two more systems may come on line this summer (Ward, pers. comm.). The Stehekin Post Office will also be installing a satellite dish to enable electronic commerce and networking (this trend indicates a strong demand for internet service, which WeavTel would not be directly offering). Given this trend, it seems reasonable to assume that modern technology, including other forms of private telecommunications services, will continue to permeate the vicinity of the Project Area irrespective of this proposed service. Similar to alternative A, this trend would further contribute to the gradual but cumulative shift from historic to modern in the visual character of the Project Area.

Conclusions

This alternative would cause adverse, minor and long-term impacts to soil resources and vegetation. There would be adverse, short-term and negligible impacts to water resources, air quality, and wildlife. Impacts to rare and listed species of wildlife would range from No Effect to Not Likely to Adversely Affect; there would be no harm to listed species. Public phone service would have a beneficial financial impact of up to $900-$1,140/year for those residents and businesses who secure the public service in place of commercial alternatives. Adverse impacts to the social fabric of the community would be negligible to minor and adverse, and would largely depend upon individual values and the degree to which commercial telecommunications technologies continue to proliferate in the Valley. The cumulative impact to the biological and physical environment would be adverse, and negligible to minor in intensity.

Impairment

This impact analysis identifies a series of beneficial and adverse impacts ranging from negligible to minor intensity, and incrementally greater than the No Action Alternative. These impacts would not cause impairment of park resources.

Consultation and Coordination

History of the Planning and Public Scoping Process

On February 19, 2007, the NPS released a Public Scoping Newsletter describing this revised proposal to approximately 143 agencies, organizations and individuals. The Public Scoping Period lasted from February 20, 2007 to March 20, 2007. The Chelan Mirror on March 14, 2007 publicized the details of the Public Scoping Newsletter. Nineteen comments were submitted. Seventeen commenters opposed the proposal and two commenters supported it. One letter of comment recommended an additional alternative that limited telecommunications service to satellite phones only.

Agency Consultation

The National Park Service consulted with staff from the Washington Utilities and Transportation Commission and Chelan County officials when preparing this EA. During the public comment period, the NPS will informally consult with the U.S. Fish and Wildlife Service in order to seek concurrence on the impact determinations for listed species. The NPS will also consult with the Washington State Historic Preservation Office regarding potential effects to historic properties as required under Section 106 of the National Historic Preservation Act.

List of Preparers and Contributors

Roy M. Zipp, Environmental Protection Specialist, prepared this EA. Contributors included: Lise Grace, Cartographic Technician; Jack Oelfke, Chief of Natural and Cultural Resources; Cathi Jones, Skagit District Natural Resources Specialist; Robert Mierendorf, Archeologist; Bill Fitzpatrick, Stehekin District Ranger; and Vicki Gempko, Stehekin District Natural Resources Specialist.

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Glossary

Digital Loop Carrier Facility (DLC): A small structure containing AC power, electronics and fiber optic cable placed along the fiber optic "backbone" of a system. A DLC links the main fiber optic backbone of the system and assists with providing lateral telecommunications service to customers. Unless housed within an existing facility (e.g. the old Ranger Station/Post Office), a typical DLC site would consist of an approximately 6x9-foot enclosure mounted on a concrete pad.

Earth Station: A structure that houses satellite telecommunications equipment.

Service Pedestal: An above ground box-like structure (4"x4"x24" tall) that houses a junction between the fiber optic cable and copper wire line leading to individual residences and businesses.

Voice-over Internet Protocol (VoIP): An electronic method (protocol) for routing of voice conversations (phone calls) over the internet.

Appendix I. Maps

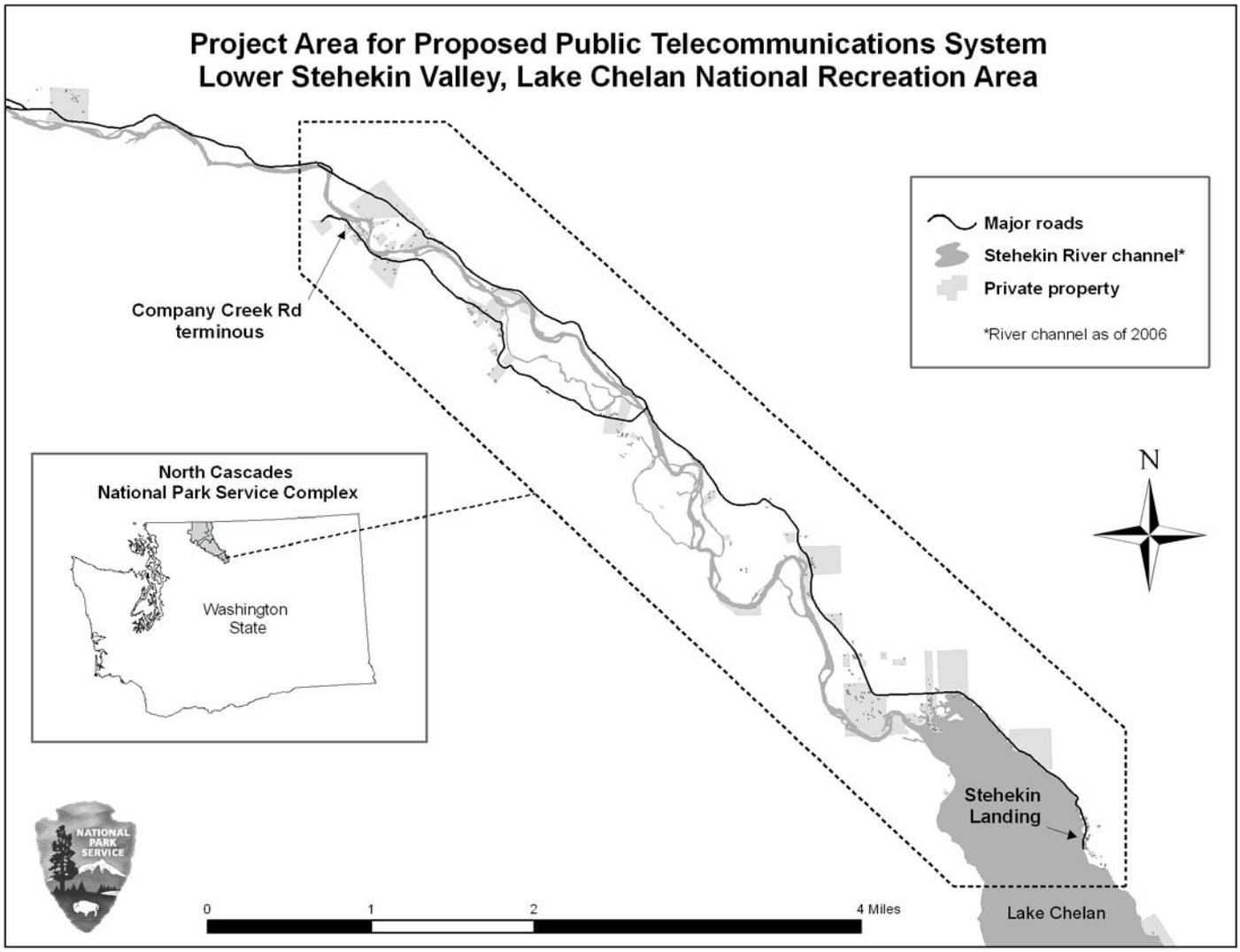

Figure 1. Project Area Map.

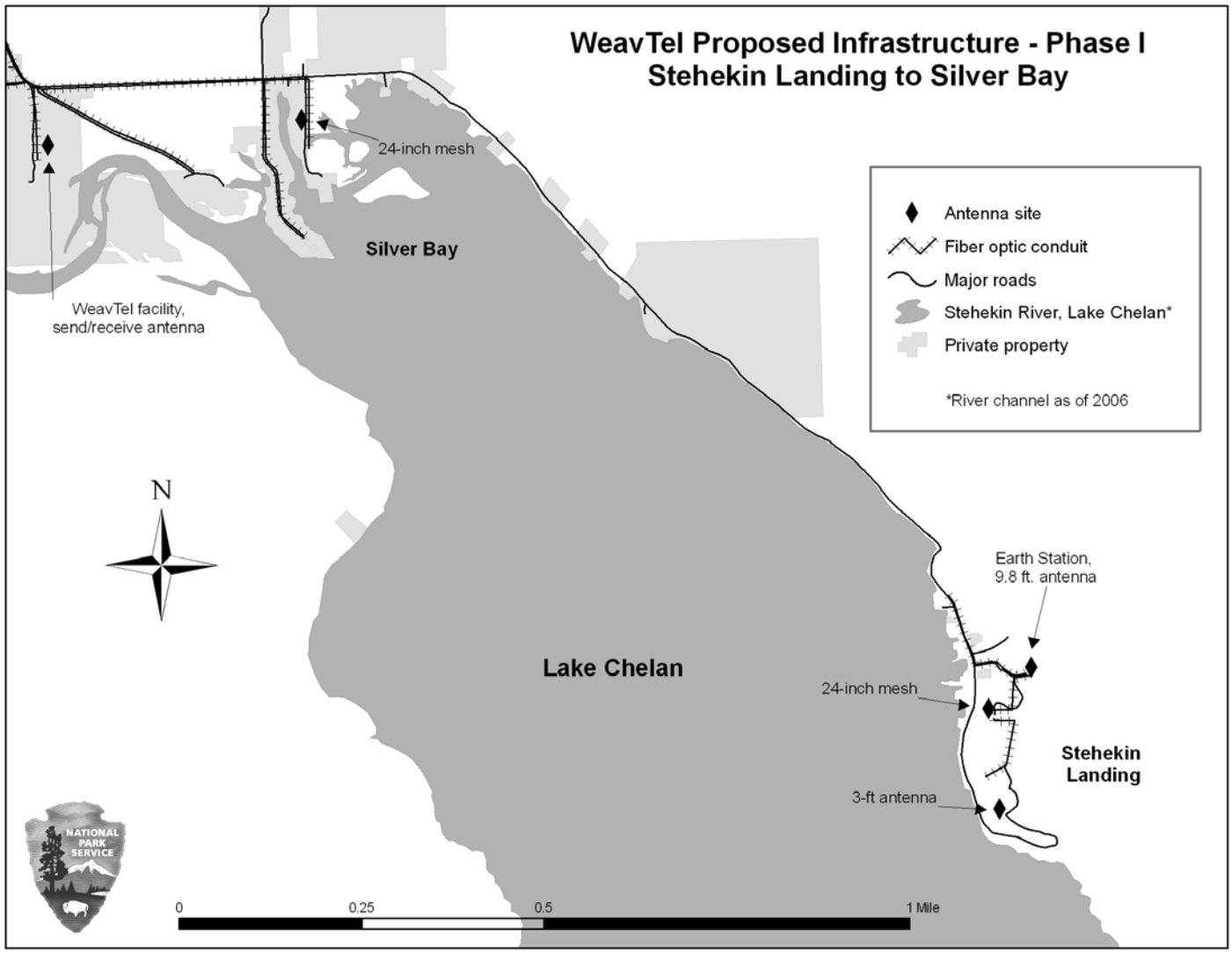

Figure 2. Detail of Service Area from the Stehekin Ferry Landing to Silver Bay.

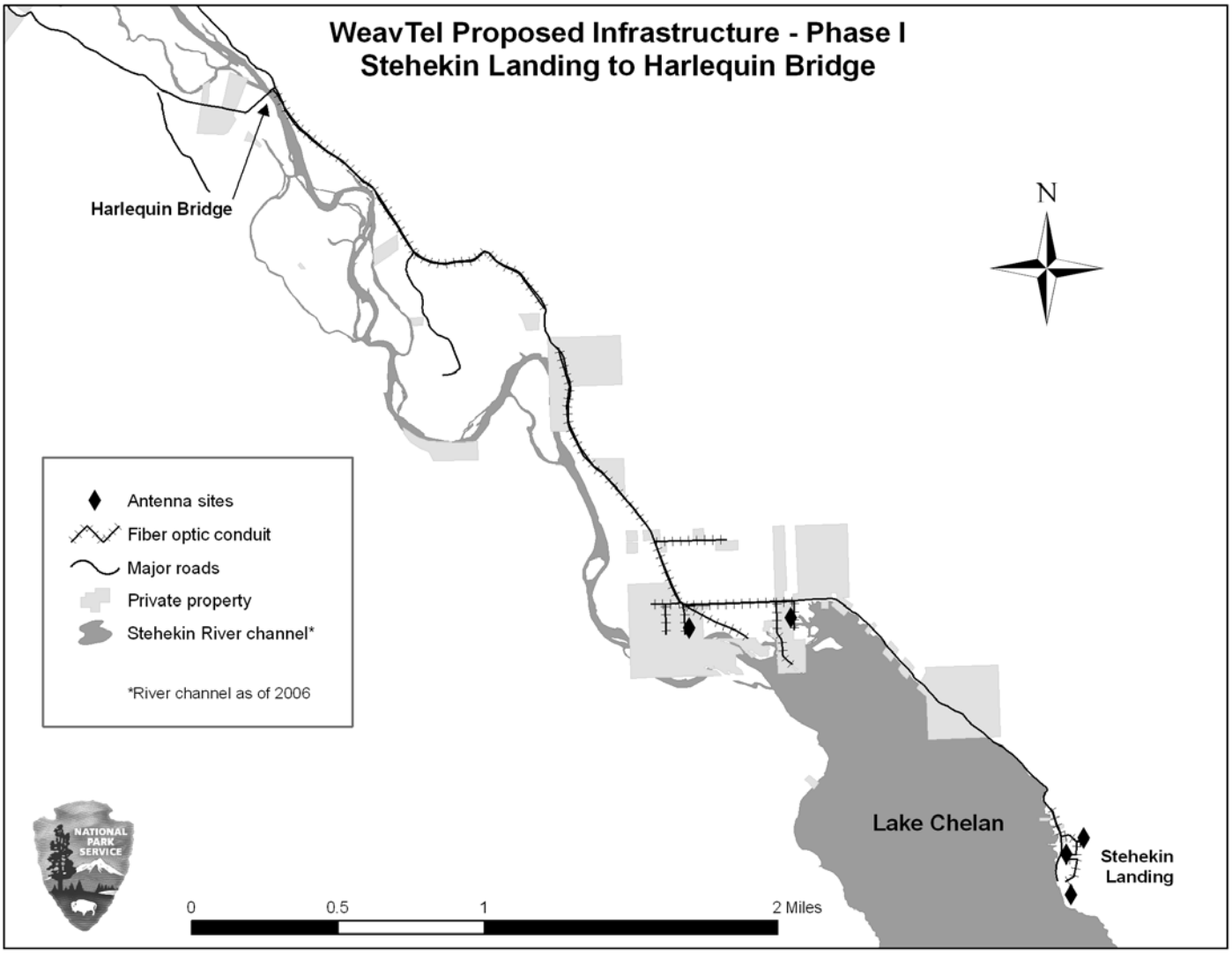

Figure 3. Map of Phase I Service Area from Stehekin Landing to Harlequin Bridge.

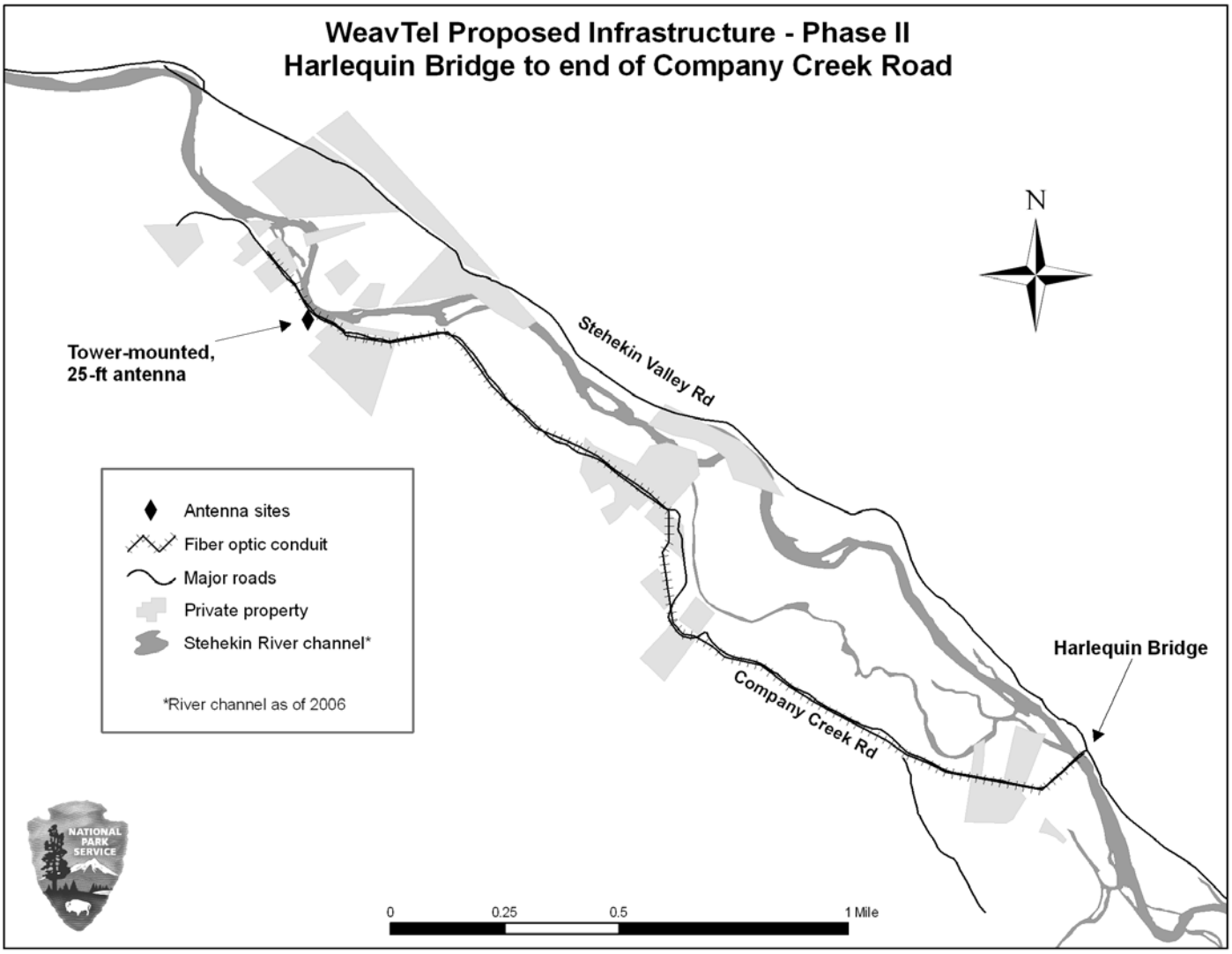

Figure 4. Map of Phase II Service Area from Harlequin Bridge to end of Company Creek Road