

**U.S. Department of the Interior
National Park Service
Theodore Roosevelt National Park**



Communication Tower Replacement and Co-location in Theodore Roosevelt National Park

**Environmental Assessment
January 2016**

Environmental Assessment: Abstract

Communication Tower Replacement and Co-location in Theodore Roosevelt National Park

Summary

This environmental assessment (EA) was prepared to evaluate the potential impacts on the physical and human environment that could result from the proposed action and alternatives to that action. The proposed action is the issuance of a right-of-way permit by the National Park Service (NPS), Theodore Roosevelt National Park (TRNP) to Cellco Partnership and its controlled affiliates doing business as (dba) Verizon Wireless (Verizon Wireless) to replace an existing NPS 220-foot tall, guyed radio tower with aviation safety lighting (currently supporting NPS and United States Forest Service [USFS] radio repeaters) with a 190-foot, guyed telecommunications tower without aviation safety lighting (to support NPS, USFS and Verizon Wireless communications equipment), and to install a pre-fabricated equipment shed adjacent to the tower next to an existing equipment shed within TRNP.

Public Comment

If you wish to comment on the EA, you may mail comments to the name and address below or submit them electronically via the project website at <http://www.nps.gov/thro>. This EA will be on public review for 30 days. Please note that names and addresses of people who comment become part of the public record. **If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment.** The entirety of any submission from an organization, business, or individual identifying himself/herself as a representative or official of an organization or business will be made available for public inspection.

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TABLE OF CONTENTS

ABSTRACT	i
<i>Summary</i>	<i>i</i>
<i>Public Comment</i>	<i>i</i>
TABLE OF CONTENTS	ii
ACRONYMS AND ABBREVIATIONS	iv
CHAPTER 1: PURPOSE OF AND NEED FOR ACTION	1
1.1 BACKGROUND	1
1.1.1 <i>Summary of the Proposed Action</i>	1
1.1.2 <i>Summary of Compliance with Applicable Laws and Regulations</i>	1
1.3 RELATIONSHIP TO OTHER ENVIRONMENTAL AND PLANNING DOCUMENTS	3
1.4 SCOPE OF THIS ENVIRONMENTAL ANALYSIS	4
1.4.1 <i>Scoping Process</i>	4
1.4.2 <i>Impact Topics</i>	5
1.4.3 <i>Issues Not Considered in Detail with Rationale</i>	5
1.4.4 <i>Issues Involving Resources Not Applicable to the Proposed Action or No Action Alternative</i>	4
1.5 DECISION TO BE MADE	2
CHAPTER 2: THE PROPOSED ACTION AND ALTERNATIVES	3
2.1 ALTERNATIVES CONSIDERED	3
2.1.1 <i>The No Action Alternative</i>	3
2.1.2 <i>The Proposed Action</i>	3
2.1.3 <i>Comparison of Alternatives</i>	3
2.2 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER ANALYSIS	4
CHAPTER 3: THE AFFECTED ENVIRONMENT	5
3.1 AIR QUALITY	5
3.2 MIGRATORY BIRDS	5
3.3 CULTURAL RESOURCES	5
3.4 TRANSPORTATION AND ROADS	7
CHAPTER 4: ENVIRONMENTAL CONSEQUENCES	8
4.1 AIR QUALITY	9
4.2 MIGRATORY BIRDS	10
4.3 CULTURAL RESOURCES	11
4.4 TRANSPORTATION AND ROADS	12
CHAPTER 5: CONSULTATION AND COORDINATION	14
5.1 AGENCIES, TRIBES, ORGANIZATIONS, AND PERSONS CONTACTED	14
5.2 LIST OF PREPARERS	14
REFERENCES	15

APPENDICES

Appendix A	Tower and Site Specifications
Appendix B	Photographic Log

TABLES

TABLE 1-1: ISSUES AND IMPACT TOPICS RELATED TO EACH ISSUE

TABLE 2-1: COMPARISON OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

TABLE 3-1: RESULTS OF HISTORICAL RECORD SEARCH

FIGURES

FIGURE 1: SITE VICINITY MAP

ACRONYMS AND ABBREVIATIONS

CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dba	Doing Business As
DM	Departmental Manual
DO	Director's Order
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
NAAQS	National Ambient Air Quality Standards
ND	North Dakota
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Park Service
NRCS	Natural Resource Conservation Service
PEPC	Planning, Environment, and Public Comment
SHPO	State Historic Preservation Officer
Tetra Tech	Tetra Tech, Inc.
THPO	Tribal Historic Preservation Officer
TRNP	Theodore Roosevelt National Park
U.S.	United States
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
Verizon Wireless	Cellco Partnership and its controlled affiliates doing business as Verizon Wireless

CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

This document is an environmental assessment (EA) for the U.S. Department of the Interior (DOI) National Park Service (NPS). It assesses potential environmental, social, and economic impacts on the natural and human-made environments that would result from implementing the proposed action and no action alternatives.

This chapter presents the background on and information about the proposed action; the purpose and need of the proposed action; relationships of this EA to other environmental and planning documents; the scope of the environmental analyses; and the decision to be made by the NPS.

1.1 BACKGROUND

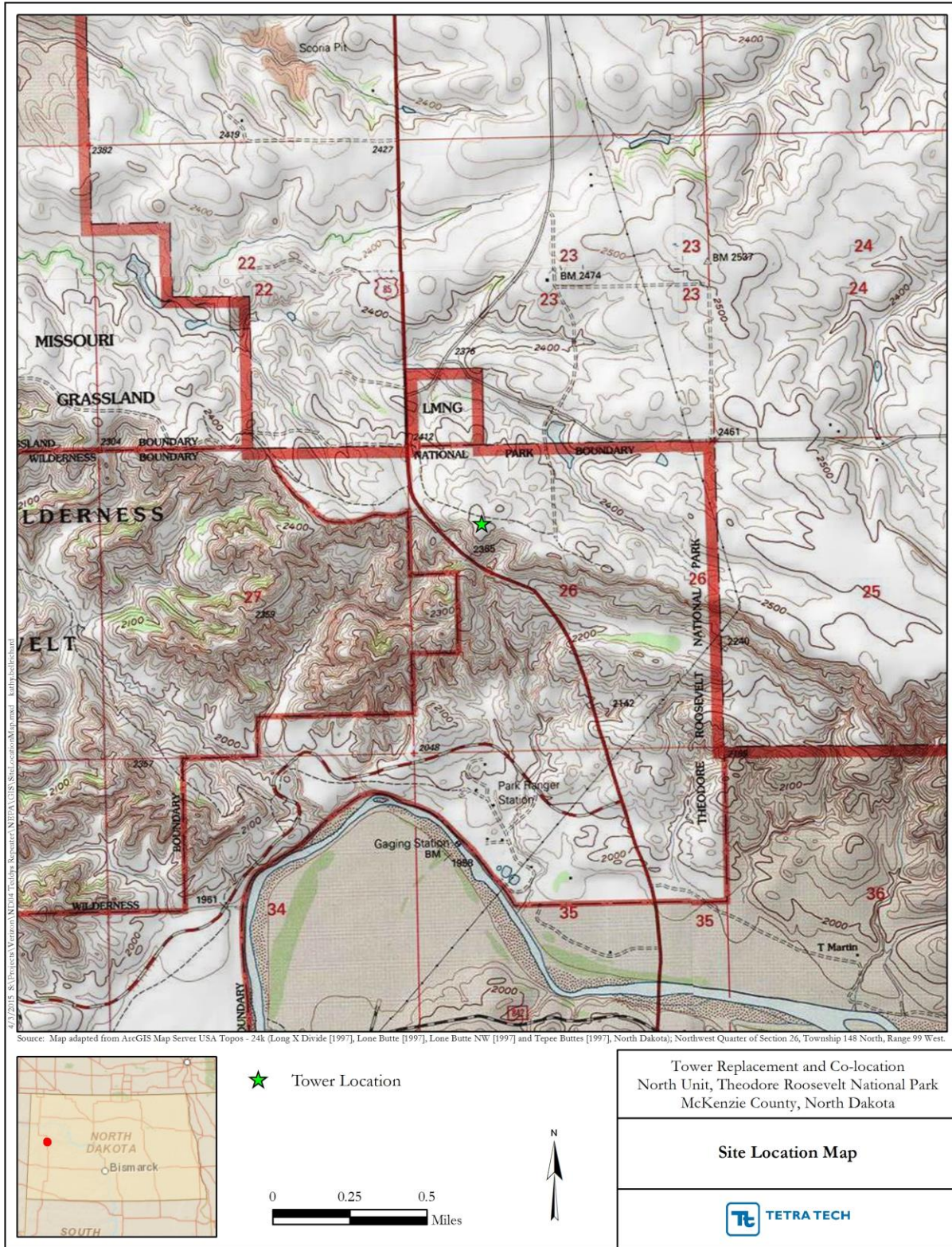
The proposed action and compliance with applicable laws and regulations are summarized below. The proposed action is described in more detail in Section 2.0.

1.1.1 Summary of the Proposed Action

The proposed action is to issue permits allowing: (1) replacement of an existing 220-foot tall, guyed radio tower with a 190-foot tall (199-foot overall height with 9-foot lightning rod appurtenance), guyed communications tower, (2) installation of a pre-fabricated equipment shed adjacent to the tower and an existing equipment shed, and (3) an access and utility easement along the existing tower access road. The existing radio tower currently supports NPS and U.S. Department of Agriculture (USDA) Forest Service (USFS) (Dakota Prairie Grasslands-Medora District) communications equipment; the proposed tower replacement would support both NPS and USFS communications equipment and Celco Partnership and its controlled affiliates doing business as Verizon Wireless (Verizon Wireless) cellular telephone equipment. The proposed action is located in Section 26 T148N, R99W in the Theodore Roosevelt National Park (TRNP) North Unit, in the Little Missouri Badlands, McKenzie County, west-central North Dakota (see Figure 1). Verizon Wireless and its contractors would be responsible for management and cost of all proposed construction work. This analysis will help the NPS TRNP decide whether to prepare an environmental impact statement (EIS) and whether to issue to Verizon Wireless a right-of-way permit.

1.1.2 Summary of Compliance with Applicable Laws and Regulations

Because a private company would undertake the proposed action on federal land and would require a permit from the agency that manages the federal land, Verizon Wireless must comply with the requirements set forth under the National Environmental Policy Act (NEPA) of 1969, in accordance with the regulations of the Council on Environmental Quality (CEQ) for implementation of NEPA (Title 40 Code of Federal Regulations [CFR] parts 1500 through 1508). Verizon Wireless also must comply with applicable NPS regulations and guidelines for implementing NEPA, including the DOI Departmental Manual (DM) Part 516; NPS Director's Order 12 (DO-12) and the DO-12 Handbook.



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1.2 PURPOSE AND NEED

The purpose of the proposed action—issuance of a right-of-way permit—is to ensure installation of the proposed telecommunications system in a manner that will not conflict with the goals and purpose of the TRNP, which are discussed in the management plan (see Section 1.3), and generally are to protect and conserve the natural, scenic, and historic resources of the region from unnecessary disturbances. The need for the proposed action is to reduce measureable adverse impacts to park wilderness, scenery resources, and the night sky by installing a shorter tower without a flashing light or any other lighting while maintaining critical communication support to park operations.

1.3 RELATIONSHIP TO OTHER ENVIRONMENTAL AND PLANNING DOCUMENTS

The NPS applies several environmental and planning documents to encourage management decisions that would maintain sound environmental and natural resource practices on federal lands. The proposed action and no action alternative are both consistent with the management direction set forth in the environmental and planning documents. This EA was prepared in accordance with the following existing environmental and planning documents and hereby incorporates them by reference:

NPS TRNP General Management Plan

TRNP is dedicated to the preservation and public enjoyment of important historic, prehistoric, cultural, scenic, and natural resources (NPS 1987). TRNP is managed to protect and interpret the Little Missouri River Badlands ecosystem and the cultural resources resulting from human habitation of the area. The park was established as a memorial to honor Theodore Roosevelt, who significantly contributed to the conservation movement and development of the western U.S. Specifically, TRNP was established to:

- Memorialize and preserve the life, times, and philosophy of Theodore Roosevelt in the North Dakota Badlands
- Conserve unimpaired the scenery and the natural and cultural resources, and facilitate scientific interests in TRNP
- Provide for the benefit, use, and enjoyment of the people
- Manage the Theodore Roosevelt wilderness as part of the National Wilderness Preservation System.

The NPS TRNP General Management Plan provides the necessary strategies to guide management, use, and development of TRNP. The plan addresses resource management in the park, with particular attention to flood protection, bison management, historic building preservation, and visitor use needs. Several strategies presented in the plan include expanding trails, upgrading sanitation facilities, developing facilities for horse users and the handicapped, and increasing visitor contact and interpretive opportunities (NPS 1987).

NPS TRNP Resource Management Plan

The TRNP Resource Management Plan describes the natural and cultural resources within TRNP, as well as management activities for safeguarding those resources. A wide variety of research initiatives, baseline surveys, and manipulative and protective techniques are integrated into a comprehensive resource management program. The Resource Management Plan describes these efforts and the park's

strategic long-range management goals for its resources. This vision provides the context for setting priorities and implementing both ongoing programs and short-term projects. The Resource Management Plan can also be used to measure and track progress toward long-term goals and adjust resource management actions to keep pace with developing technologies and techniques (NPS 1994).

NPS TRNP Wilderness Stewardship Strategy

The TRNP Wilderness Stewardship Strategy (NPS 2012) provides strategies to guide wilderness management decisions. The Wilderness Stewardship Strategy addresses both wilderness and backcountry areas within TRNP. Wilderness stewardship is management aimed at preserving an area's naturalness and solitude including protecting existing resources and restoring resources that have been destroyed or degraded. Wilderness stewardship should only do what is necessary to meet wilderness objectives and use only the minimum tools, regulation, or force required to achieve those objectives. The Wilderness Stewardship Strategy defines minimum requirements for the management and protection of wilderness and these standards, in turn, determine the minimum tool that can be used for a given action

1.4 SCOPE OF THIS ENVIRONMENTAL ANALYSIS

The project area analyzed in this EA is the tract of land currently supporting the existing TRNP radio tower facility and associated access road. The scope of the analysis set forth in this EA is limited to the proposed additions to the existing TRNP radio tower facility. Where applicable and possible, and to facilitate as complete an impact analysis as possible, information about areas outside the boundaries of federally managed land has been included. This EA will remain valid until the NPS determines that a new action, new unforeseen significant issues, or new alternatives with different environmental consequences must be analyzed. At that time, this analysis and document would be revised pursuant to the NEPA.

1.4.1 Scoping Process

Scoping is an early outreach effort to inform the public of a potential project and determine the breadth of environmental issues and alternatives to be addressed in an EA or other environmental planning document. A news release to inform the public and agencies regarding this project was issued by TRNP on December 15th, 2014. This information was also posted on the TRNP website and on the NPS Planning, Environment, and Public Comment (PEPC) website. The news release distribution list includes a total of 48 newspaper, magazine, radio, television, chambers of commerce, friends groups, and other park stakeholders based primarily in North Dakota and eastern Montana. The scoping effort was subsequently publicized by many of these contacts through newspapers, radio, and television media but the park did not receive any follow up responses or project concerns from any of the initial contacts. In addition to the news release, project scoping letters were sent directly to the North Dakota (ND) State Historic Preservation Officer (SHPO), six Tribal Historic Preservation Officers (THPO), the U.S. Fish and Wildlife Service (USFWS), and the USFS, Dakota Prairie Grasslands. The public comment period was open from December 15th, 2014 to January 9th, 2015.

A total of one agency and three public comments were received via letter and through the PEPC website during the three week scoping period. The agency (ND SHPO) response and one written comment from an individual were supportive in nature and did not raise any concerns regarding the proposal. The remaining two commenters identified concerns, primarily regarding the potential impact to wilderness areas of TRNP's North Unit from a perceived improvement in cellular coverage. It should be noted that during the scoping effort, the height of the parks existing tower was reported as 200 feet. However, follow up investigations have revealed the correct height of the existing tower to be 220 feet. This

discrepancy, while unfortunate, was a technical error and did not negate or otherwise impact the project purpose and need.

1.4.2 Impact Topics

Issues are questions or statements about the relationship between the proposed action and the natural or cultural environment. Examining issues requires describing the relationship between a proposed action and the environment. Issues do not specify the context, potential impacts, or intensity of potential impacts; issues simply state that a relationship exists between the proposed action and specific environmental, cultural, and social resources, and are used to determine impact topics examined in the EA. Table 1 presents the issues identified during the scoping process and the impact topics related to each issue and examined in the EA.

**TABLE 1-1
ISSUES AND IMPACT TOPICS RELATED TO EACH ISSUE**

Issue	Impact Topics Related to Each Issue
Potential impacts resulting from erosion and soil compaction	Air Quality Soil Resources Transportation and Roads
Potential impacts on air quality and noise	Air Quality Soundscapes
Potential impacts on the long-term integrity of cultural, historic, and archeological resources	Cultural Resources
Potential impacts on wilderness	Scenery Resources
Potential impacts on viewsheds	Scenery Resources Night Sky Resources

1.4.3 Issues Not Considered in Detail with Rationale

Issues not considered in detail have been identified by the agencies or the public but not used in the environmental analysis because it was determined that any impacts to these resources resulting from the proposed action would be positive or insignificant. These resources are:

- Hazardous materials and waste;
- Night sky resources;
- Recreation;
- Soil resources;
- Scenery resources;
- Soundscapes, and
- Vegetation.

The rationale for not considering these resources in this document is as follows.

Hazardous Materials and Waste

A Phase I Environmental Site Assessment (ESA) and Limited Phase II ESA were conducted for Verizon Wireless (Tetra Tech, Inc. [Tetra Tech] 2014a, Tetra Tech 2014b). The results of the assessments found that lead-based paint is present on the existing NPS tower, but elevated level of lead are not present in the surrounding soil. No other potential hazardous materials or wastes were identified. Tetra Tech has prepared a Material Abatement Oversight Scope of Work (Tetra Tech 2014d) for Verizon Wireless to

manage lead-based paint during removal of the existing tower in order to prevent the unnecessary release of lead into the environment, and as a health and safety precaution. Based on the results of the Phase I and Phase II ESAs, hazardous materials and waste were dismissed as impact topics in this document.

Night Sky Resources

TRNP is relatively small unit within the highly developed Bakken shale-oil play; therefore, avoiding light pollution from neighboring residences and towns is difficult. Lighted cellular towers and flaring at oil and gas wells provide an additional source of light pollution (NPS 2012). Light that is undesirable in a natural or cultural landscape is often called "light pollution." As starry skies have become more rare, some visitors to TRNP seek to experience starry skies and dark nights (NPS 2014). The proposed action would only result in positive impacts to night sky resources from the elimination of lights on the existing NPS tower. As the only potential impacts to night sky resources from the proposed action would be positive, this impact topic was dismissed in this document.

Recreation

There are numerous recreational opportunities available to visitors at TRNP such as camping, backcountry camping, hiking, interpretive programs, and viewing wildlife and scenery; however the principal activity of visitors to the park is sightseeing by motor vehicle. The proposed action would not impact the recreational opportunities at TRNP. Impacts to recreation resulting from increased cellular coverage within TRNP are unknown and speculative, and could be positive (Increase in number of visitors, improved navigation ability for visitors, improved access to interpretive tools for visitors, etc.) or negative (increased noise complaints from visitor use of cellular phones, increase in visitor distraction from cellular phones, etc.), but are not expected to be significant. Therefore, the topic of recreation was dismissed as in impact topic in this document.

Scenery Resources

Visitors come to TRNP primarily to see the beauty of the North Dakota badlands and prairie scenery, and to observe and photograph wildlife. In the 1994 Resource Management Plan, the park identified 28 scenic views that are part of the park experience and worthy of protection, but that extend beyond the park boundaries. Lands adjacent to the park are about equally divided between public and private ownership. The USFS administers the public lands in the adjacent Little Missouri National Grasslands - Custer National Forest. Historically, the land has been used for livestock grazing, recreation, and mineral development in the badlands, and grain farming on the upland plains; however, oil production has recently become the dominant industry with numerous wells being established immediately adjacent to the park (NPS 1994).

Approximately 42 percent of TRNP has been designated as wilderness under Public Law 95-625 (92 Stat. 3490), including 19,410 acres in the north unit and 10,510 acres in the south unit. The public purpose of wilderness in national parks includes scenic use; as well as the preservation of wilderness character and wilderness resources in an unimpaired condition; and for the purposes of recreational, scientific, education, conservation, and historical use. The existing NPS radio tower is not located within a wilderness area. Designated wilderness within TRNP North Unit is located approximately 0.3 mile west of the existing NPS radio tower. The existing NPS radio tower is visible from some places within the wilderness area.

The proposed action would only result in positive impacts to scenery resources from the reduction in tower height and elimination of lights on the tower. As the only potential impacts to scenery resources from the proposed action would be positive, this impact topic was dismissed in this document.

Soil Resources

The project area primarily consists of Chama-Sen-Cabba silt loams with 3- to 6-percent slopes. The soils are generally 15 to 34 inches deep overlying bedrock. They are well drained with water table depth exceeding 6 feet and are not hydric. These soils are designated as farmland of statewide importance (USDA NRCS 2014). Minimal soils disturbance and erosion is anticipated as a result of construction and ongoing maintenance activities associated with the proposed action. These effects would be limited to the small project area and would be mitigated by implementation of best management practices during construction. Therefore, the topic of soil resources was dismissed as an impact topic in this document.

Soundscapes

Within TRNP natural sounds dominate much of the project area, although noise levels in and around the park have increased in recent years due to a variety of factors including: increases in park visitation and associated recreation activities (hiking, horseback riding, sightseeing, groups of visitors talking, and picnicking, etc.), oil and gas development, vehicular traffic on Highway 85/200, and noises associated with administrative uses (e.g., construction activities, road and trail maintenance activities, aircraft overflights).

Under the proposed action and no action alternatives, Verizon Wireless cellular coverage within TRNP would be improved. The specific impacts of increased cellular coverage to the soundscape within the TRNP North Unit are unknown and speculative, but could include increased noise from visitor use of cellular devices. Nearly half of the North Unit currently has had limited cellular coverage with no sound-related complaints (related to cellular devices) being received by park staff. Verizon Wireless antennas installed on a replacement NPS tower in the TRNP South Unit in 2006 have not resulted in an increase in cellular device related noise complaints from visitors. Impacts in the North Unit from (localized) improved cellular coverage are therefore expected to be similarly insignificant. Therefore, soundscapes were dismissed as an impact topic in this document.

Vegetation

Impacts to vegetation resources could include disturbance to existing terrestrial vegetation communities in the project area. Important factors to consider regarding potential impacts to vegetation include the quality of natural vegetation, the amount of site clearing necessary for implementation of the proposed action, the role of the project area in terms of unique habitat, and importance in connectivity of the ecological landscape. Minimal disturbance to vegetation is anticipated as a result of the proposed action. Some vegetation would be temporarily or permanently removed along the existing access road and from the proposed location of the tower and equipment shed. These impacts would be minor and not significant to the vegetation communities as a whole because of the small size of the site, the localized activities, and the type and quality of the vegetation in the project area, which is not unique. The amount of vegetation removed would be minimized to maintain as much natural vegetation on the site as possible. Disturbance of vegetation at the site could result in the spread of noxious and invasive weeds locally. Verizon Wireless would control weeds in the immediate vicinity of their equipment shed as a part of ongoing site maintenance. As no significant impacts to vegetation are anticipated as a result of the proposed action or no action alternative, the topic of vegetation was dismissed as an impact topic in this document.

1.4.4 Issues Involving Resources Not Applicable to the Proposed Action or No Action Alternative

Several issues involving resources that would possibly require analysis according to statute and regulation were found not applicable to the proposed action or no action alternative. These resources are:

- Ecological setting;
- Prime and unique farmlands;
- Socioeconomic and environmental justice resources;
- Threatened, endangered and sensitive species;
- Wildlife and fisheries; and
- Water resources.

The rationale for not considering these resources in this document is as follows.

Ecological Setting

Due to the nature of the proposed action and no action alternative, which would include activities directly or indirectly affecting a relatively limited area, no impact to the ecological setting of the project area is expected. Therefore, the topic of ecological setting was dismissed as an impact topic in this document.

Prime and Unique Farmlands

In August 1980, the CEQ directed that federal agencies must assess the effects of their actions on farmland soils classified by the USDA Natural Resources Conservation Service (NRCS) as prime farmland, unique farmland or farmland of statewide or local importance in accordance with the Farmland Protection Policy Act (FPPA) (CEQ 1980). Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to NRCS, the majority of the soils in the project area are classified as farmland of statewide importance. The objective of the FPPA is to minimize the conversion of farmland to nonagricultural uses. The proposed action would not result in a change in land use at the site. Therefore, the topic of prime and unique farmlands was dismissed as an impact topic in this document.

Socioeconomic and Environmental Justice Resources

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. There are no minority or low-income populations or communities as defined in the Council on Environmental Quality’s (CEQ) Environmental Justice Guidance (CEQ 1997) within the project area. Therefore, environmental justice was dismissed as an impact topic in this document.

Threatened, Endangered and Sensitive Species

The USFWS is the principal federal partner responsible for administering the Endangered Species Act (ESA) and works to protect endangered and threatened species, and conserve candidate and species-at-risk so that listing under the ESA is not necessary. Comments received from the USFWS during project scoping did not identify any threatened, endangered, or sensitive species that may be affected by the proposed action. Therefore, threatened, endangered and sensitive species were dismissed as an impact topic in this document.

Wildlife and Fisheries

There are numerous species of terrestrial and aquatic vertebrate wildlife recorded within the region (NPS 1994). Large mammals have been recorded in the region with some in or near the project area, and a variety of smaller mammals commonly use the project area. Little information is available on the distribution and abundance of the seven identified amphibians and the twelve reptile species within the region. Most species occurring in the region, and potentially in the project area, are widely distributed. There are no aquatic species located within the project area or in the nearby vicinity that would be impacted by the proposed action or no action alternative. Based on the nature of the proposed action, no significant impacts to wildlife or fisheries are anticipated due to the small size of the site, localized activities, distance to aquatic resources, and little to no loss of habitat. Therefore, wildlife and fisheries are dismissed as an impact topics in this document.

Water Resources

The nearest mapped streams to the project area are Squaw Creek located approximately 0.35 miles northeast of the project area and the Little Missouri River located approximately one mile south of the project area. No streams cross the project area. There are no USFWS mapped wetlands located within the project area and only a few small wetlands mapped in the surrounding area (USFWS 2014a). The nearest mapped wetland is a man-made reservoir within Squaw Creek located approximately 0.44 miles northeast of the project area. Evidence of wetlands was not observed near the existing road corridor or tower facility during the site reconnaissance of March 2014 or June 2014. No direct or indirect impacts are anticipated to water resources resulting from the project due to the distance of the resources and nature of the project. Therefore, the topic of water resources was dismissed as an impact topic in this document.

1.5 DECISION TO BE MADE

This EA is a disclosure document that supports the NPS decision-making process related to the proposed action. Specifically, the NPS must decide whether to issue a right-of-way permit to Verizon Wireless. If the permit is issued, Verizon Wireless would implement the proposed action and would replace an existing radio tower with a shorter communications tower, and install a pre-fabricated equipment shelter adjacent to the tower. If the NPS decides not to issue a right-of-way permit, the proposed wireless telecommunication facility upgrades and construction would not be completed. In addition to the considerations related to the requirements of NEPA and applicable regulations, the NPS must consider the natural resource management goals outlined in the documents presented in Section 1.3.

The NPS also must decide if the proposed action warrants preparation of an EIS because of the potential for the proposed action to have significant environmental, social, or economic impacts on any resources examined in this EA. The findings of the EA will be documented in either a Finding of No Significant Impact (FONSI) or a Notice of Intent (NOI) to prepare an EIS.

CHAPTER 2: THE PROPOSED ACTION AND ALTERNATIVES

This chapter presents the alternatives considered and analyzed in detail, and alternatives considered but rejected for detailed analysis in this EA.

2.1 ALTERNATIVES CONSIDERED

Two alternatives are considered and analyzed in this EA—the no action alternative and the proposed action. Both alternatives are described below.

2.1.1 The No Action Alternative

Under the no action alternative, the NPS would not issue to Verizon Wireless a right-of-way permit to replace the existing radio tower and install a pre-fabricated equipment shed on NPS lands. The NPS would continue to use and maintain the existing site and tower to support the NPS radio repeater and co-located USFS equipment until such time it would require replacement. The NPS would continue to undertake current maintenance activities for the existing site and road in accordance with current management plans. Lastly, Verizon Wireless would seek a new location on privately owned land nearby for the construction of a new tower to support antennas that promote more continuous cellular coverage along Highway 85/200 and would generally expand cellular coverage in the region.

2.1.2 The Proposed Action

The proposed action is the issuance of a right-of-way permit by the NPS to Verizon Wireless to replace an existing radio tower with a communications tower, and to install a pre-fabricated equipment shed adjacent to the tower in TRNP. The replacement tower would be the same design as the existing guyed tower, and would provide a location and support for co-located Verizon Wireless cellular antennas and equipment, and NPS and USFS radio antennas. The replacement tower would be thirty feet shorter than the existing NPS tower (190 feet rather than 220 feet). Unlike the existing NPS tower, no lighting would be installed on the proposed tower because it would not meet the minimum specifications requiring lighting under Federal Aviation Administration (FAA) regulations for aviation safety (14 CFR Part 77.13). The pre-fabricated equipment shed would encompass an area 11.5 feet by 29.5 feet. NPS would undertake operation and maintenance activities for the tower after construction, and Verizon Wireless would operate and maintain their co-located antennas and equipment. Verizon Wireless would access the tower via a 20-foot wide access and utility easement along an existing NPS access road from the Highway 85/200 right-of-way.

The proposed replacement tower would complement existing Verizon Wireless antennas along Highway 85/200. The existing antenna sites to the north and south of the proposed replacement tower along Highway 85/200 provide very weak or no coverage to the segment of the highway that transects the Little Missouri River valley due to the local topography. The proposed replacement tower would support antennas that promote more continuous cellular coverage along Highway 85/200 and would generally expand cellular coverage in the region.

2.1.3 Comparison of Alternatives

The no action alternative provides a baseline against which to compare the proposed action. Table 2-1 compares the alternatives and presents a summary of the environmental consequences of each; the environmental consequences of these alternatives are further discussed in Chapter 4.

2.2 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER ANALYSIS

Verizon Wireless considered one other alternative to the proposed action, which was to construct a new 150-foot monopole tower on private land just outside of TRNP approximately 0.8 mile east-southeast of the existing NPS radio tower location. It was determined during the early planning stage of the project that the co-location of services (NPS, USFS and Verizon Wireless) by replacing the existing tower, rather than building a new one in a different location, would be preferable. The alternative location was not developed any further and consideration for this alternative was abandoned. Therefore, this, or any other potential alternative that would consider an alternate location, is not ripe for analysis at this time; however, under the no action alternative, Verizon Wireless would resume pursuit of this alternative, or other potential alternative locations on private land near TRNP.

**TABLE 2-1
COMPARISON OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES**

Resource	Alternative 1: No Action	Alternative 2: Proposed Action
Air Quality	Negligible long-term impacts	Negligible to minor, short-term impacts; and negligible long-term impacts
Migratory Birds	Minor long-term negative impacts	Minor, long-term, positive impacts
Cultural Resources	Negligible long-term impacts	Negligible, short- and long-term impacts
Transportation and Roads	Negligible long-term impacts	Negligible, site-specific and local, short and long-term impacts

CHAPTER 3: THE AFFECTED ENVIRONMENT

This chapter presents information about the natural and human-made environments potentially affected by the no action and proposed action alternatives.

3.1 AIR QUALITY

The Clean Air Act (CAA) of 1977 (as amended) established six principal pollutants that act as indicators of air quality in the United States: ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. The National Ambient Air Quality Standards (NAAQS) were established for each of these criteria pollutants. The NAAQS are the concentrations of these principal pollutants above which adverse effects to human health may occur. Geographic areas where air pollution levels consistently stay below the NAAQS are designated “attainment” areas. Geographic areas where air pollution levels persistently exceed the NAAQS are designated “nonattainment” areas. A geographic area at one time designated as a nonattainment area but now in attainment (with a maintenance plan approved by the Environmental Protection Agency [EPA]) is designated a “maintenance” area.

Air quality in and around TRNP is generally excellent and the area is in attainment of the NAAQS. Under the CAA, the park is designated a federal Class I Airshed, which requires the highest level of air quality protection under the Act. Class I areas include national parks over 6,000 acres that were in existence in 1977 at the time the Clean Air Act was passed. That act established a national goal of preventing any future, and remedying any existing, human-made visibility impairment in Class I areas. Historically, wildfires, blowing dust, and burning coal seams have had minor, transient impacts on air quality in the region. In recent decades, energy development, including oil, gas, coal, and coal fired electricity generation in North Dakota and surrounding states, has impacted air quality in the area.

3.2 MIGRATORY BIRDS

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS. The USFWS Birds of Conservation Concern report (USFWS 2008) identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended. A query of the USFWS Information, Planning, and Conservation System (IPAC) (USFWS 2014b) for the project area, identified 21 migratory birds of concern that may be impacted by the proposed action or no action alternative.

3.3 CULTURAL RESOURCES

Cultural resources can include archaeological resources, prehistoric or historic structures, cultural landscapes, and ethnographic resources. No impacts to prehistoric or historic structures, cultural landscapes, or ethnographic resources are anticipated as a result of the proposed action or no action alternative. Therefore, these aspects of cultural resources have been dismissed as impact topics in this document. Archaeological resources are the only cultural resource potentially impacted by the proposed action and no action alternative discussed in this document.

On June 23, 2014, Tetra Tech conducted a file search of the State Historical Society of North Dakota’s site and manuscript files for the project area and a one-mile radius surrounding the area. The search revealed that two previous investigations had been conducted within the project area, and an additional 18 investigations had been conducted within a one mile radius. Studies within the project area were for a transportation project along Highway 85/200 and for a prescribed burn by NPS. The majority of

investigations within one mile of the project area were for various projects within TRNP. Other investigations conducted within one mile of the project area were for communication lines, pipeline projects, and transportations improvements. No previously documented archaeological sites, site leads, or architectural properties were identified within the project area; however, six archaeological sites and three archaeological site leads were identified within a one mile radius (Table 3-1).

**TABLE 3-1
RESULTS OF HISTORICAL RECORD SEARCH**

Site Number (SITS #)	Site Type and Description
32MZ122	Native American (unknown cultural/temporal affiliation) artifact scattered
32MZ123	Native American (Late Prehistoric) artifact scatter
32MZ906	Euro-American artifact scatter and foundation
32MZ909	Euro-American artifact scatter and depression
32MZ1560	Euro-American Trail/Road (Highway 85)
32MZ1561	Western Area Power Administration Transmission Line
32MZx186	Faunal Remains (possible bison jump site)
32MZx466	Native American (Besant) Isolated Find
32MZx635	Native American (unknown cultural/temporal affiliation) Isolated Find

Source: Tetra Tech, Inc., August 2014.

The project area was clearly defined and a systematic surface survey was conducted by walking five meter interval transects to determine the presence or absence of isolated finds, artifact scatters, or features on the surface. If ground surface visibility was less than 25 percent and there was an increased potential for buried cultural resources based on the landform or topography, systematic shovel tests were placed at 15-meter intervals. If cultural materials were encountered in shovel tests, then radial shovel tests were excavated at five meter and ten meter intervals in the surrounding areas (Tetra Tech 2014c).

The proposed access and utility easement along the existing NPS access road had 75 to 100 percent surface visibility within the tracks, while the tower and proposed equipment shed were located in native prairie with 0 to 15 percent surface visibility. Soils in the project area consisted of shallow silt loam overlaying bedrock (Tetra Tech 2014c).

Two site leads were documented during the survey. Site Lead 32MZx1416 consisted of a single flake manufactured from Knife River Flint observed on the surface during the pedestrian survey within the proposed access and utility easement. Shovel testing at the findspot and four shovel tests in adjacent areas within the proposed access and utility easement failed to identify any additional archaeological materials. Site Lead 32MZx1417 consisted of a single flake manufactured from Knife River Flint observed during shovel testing in the vicinity of the proposed replacement tower. A total of six radial shovel tests were placed around the isolated find in addition to the 25 shovel tests placed in adjacent areas within the survey area. The shovel tests failed to identify any additional archaeological material. Based on the absence of additional materials at Site Leads 32MZx1416 and 32MZx1417, these site leads were recommended as not eligible for inclusion in the National Register, and a finding of *No Historic Properties Affected* was recommended for the project area as surveyed and mapped (Tetra Tech 2014c). The SHPO agreed with this assessment (State Historical Society of North Dakota 2014).

3.4 TRANSPORTATION AND ROADS

The existing tower access road is an unimproved, two-track road receiving minimal maintenance by NPS. The road is not open to the public and is used very infrequently by NPS and USFS personnel to access the existing tower.

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

This chapter of the EA forms the scientific and analytic basis for comparisons of alternatives as required by 40 CFR 1502.14. This discussion of impacts is organized in parallel with Chapter 3 (The Affected Environment) and is organized by impact topic.

The no action alternative and the proposed action are discussed within each resource area. To the extent possible, the direct, indirect, short-term, long-term, beneficial, and adverse impacts of each alternative are described for each resource area. Cumulative impacts are discussed in the context of the definition given in 40 CFR 1508.7.

Intensity, Duration, and Timing of Impact — Evaluation of alternatives takes into account the intensity, duration, and timing of impacts on the resources in the project area and region. Intensity of impacts is generally defined as being negligible, minor, moderate, or major (with negligible meaning no change, minor being barely detectable, moderate being clearly detectable, and major being a substantial alteration of current conditions). Duration and timing of impacts are evaluated based on the short-term or long-term nature of alternative-associated changes on existing conditions. More exact interpretations and definitions of intensity, duration, and timing of impact are presented for each resource area examined in the following sections. However, since the full engineering design of the proposed tower and facility has not been completed, analysis is largely qualitative. Professional judgment is used to reach reasonable conclusions as to the intensity and duration of potential impacts.

Cumulative Impacts — The CEQ regulations, which implement NEPA, require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as, “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR 1508.7).

Cumulative impacts are considered for both the no action and proposed action alternatives. Cumulative impacts were determined by combining the impacts of action alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or foreseeable future projects within TRNP and, if necessary, the surrounding region. Other actions and plans that were considered during the analysis of cumulative impacts include, but are not limited to: the environmental and planning documents presented in Section 1.3; work on the North Unit tour road and visitor center; new North Unit visitor center plans; modifications to U.S. Highway 85; and regional development associated with oil and gas production on the Bakken.

Impairment Analyses — NPS regulations and guidance require an analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, as established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the NPS the management discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the NPS the management discretion to allow certain impacts within a park system unit, that discretion is limited by the statutory requirement that the agency must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values.

An impact on any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

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

Impairment may result from NPS activities in managing the park; visitor activities; or activities undertaken by concessionaires, contractors, and others operating in the park.

4.1 AIR QUALITY

Impact analysis focuses on the effects of the no action alternative and proposed action on the air quality, including assessment for attainment with the NAAQS, air quality designations of the region, and visibility impairment based on personal observations and photographs.

No Action Alternative

Analysis — The no action alternative would leave the project area unchanged in terms of attainment with the NAAQS, air quality designations of the region, and visibility impairment.

Cumulative Impacts — It is assumed under the no action alternative that Verizon Wireless would seek to build a new tower on private land near TRNP. It is reasonable to assume that construction and operation of this facility would result in short- and long-term emissions similar to the proposed action (see below). Potential emissions resulting from Verizon Wireless' construction of a new tower near TRNP would not add significantly to the existing and other foreseeable future emissions sources in the region including: ongoing oil and gas development; vehicle use; TRNP construction and maintenance activities; etc.

Conclusion — The no action alternative would have a negligible impact on the air quality of the project area.

Impairment — The no action alternative would not impair the air quality of the project area.

Proposed Action

Analysis — The proposed construction would cause direct site-specific, short-term, negligible to minor impacts on air quality in the areas immediately adjacent to the proposed site. During construction, exhaust and dust dispersed by construction vehicles would impact the air quality temporarily in the immediate areas of the proposed site. Those impacts would affect the site only during construction.

Operation and maintenance of the site by Verizon Wireless would cause site-specific, negligible long-term impacts. The Verizon Wireless equipment shed would include a diesel back-up generator. Occasional use of the generator (less than one hour per week) would result in minimal emissions. Verizon Wireless employees would conduct normal maintenance of the tower equipment on a regular schedule (usually monthly) and occasionally respond to emergency or alarm calls to the site (estimated to

be about six times per year) with a single vehicle, resulting in negligible impacts on air quality from exhaust and dust dispersion.

Air quality would not be permanently degraded, and the temporary and permanent impacts would not affect the status of the region as an attainment area under the NAAQS. Visibility would not be impacted. Therefore, the impacts on air quality would not be significant.

Cumulative Impacts — Emissions resulting from the proposed action would not add significantly to the existing and foreseeable future emissions sources in the region including: ongoing oil and gas development; vehicle use; TRNP construction and maintenance activities; etc.

Conclusion — The proposed action would have negligible to minor, site-specific, short-term impacts; and negligible long-term impacts on the air quality of the project area.

Impairment — The proposed action would not impair the air quality of the project area.

4.2 MIGRATORY BIRDS

Impact analysis focusses on the compliance of the no action alternative and proposed action with the USFWS guidance on the siting, construction, operation and decommissioning of communications tower to reduce impacts on migratory birds (USFWS 2000).

No Action Alternative

Analysis — The no action alternative would cause minor, negative impacts to migratory birds from the continued presence of a tower (the existing NPS radio tower in the project area), and the addition of a new Verizon Wireless communications tower on private property near TRNP. The no action alternative fails to comply with several of the USFWS guidelines including: construction of a new tower (rather than co-locating multiple carriers on a single tower), tower height greater than 200 feet (existing NPS radio tower), and use of solid/pulsating red aviation safety lights on the existing NPS radio tower (rather than no lights or red/white strobe lights).

Cumulative Impacts — It is assumed under the no action alternative that Verizon Wireless would seek to build a new tower on private land near TRNP. Therefore, the no action alternative would likely result in the addition of a new communications tower in the region, thereby increasing the cumulative number of towers in the region by one. The USFWS has indicated that construction of new towers creates a potentially significant impact on migratory birds (USFWS 2000).

Conclusion — The no action alternative would have minor long-term impacts on migratory birds because of the continued presence of the existing NPS radio tower that does not comply with some of the USFWS guidelines, and the cumulative increase in the number of towers in the region by one.

Impairment — The no action alternative would not impair migratory birds in the project area.

Proposed Action

Analysis — The proposed action would cause minor positive impacts to migratory birds from replacing the existing NPS radio tower with a new tower that more closely meets the guidelines set forth by USFWS including: co-locating multiple carriers on a single structure, reducing tower height under 200 feet, and eliminating the need for FAA obstruction lighting.

Cumulative Impacts — The proposed action would result in the cumulative number of towers in the region remaining the same. Although the replacement tower would more closely follow the USFWS guidelines, the proposed action will not significant change the existing or reasonably foreseeable future cumulative impacts to migratory birds.

Conclusion — The proposed action would have minor, positive, long-term impacts on migratory birds in the region.

Impairment — The proposed action would not impair migratory birds in the project area.

4.3 CULTURAL RESOURCES

In this EA, impacts on cultural resources (archeological resources) are described in terms of type, context, duration, and intensity, which is consistent with the CEQ regulations. These impact analyses are intended, however, to comply with the requirements of both the NEPA and Section 106 of the National Historic Preservation Act (NHPA).

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

Under the advisory council's regulations, a determination of either *adverse effect* or *no adverse effect* must also be made for affected, National Register-eligible cultural resources. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion on the National Register (for example, diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance, or be cumulative (36 CFR Part 800.5, "Assessment of Adverse Effects"). A determination of *no adverse effect* means an effect is not expected or, if expected, would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion on the National Register.

CEQ regulations and DO #12 also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact (for example, reducing the intensity of an impact from major to moderate or minor). Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation only under the National Environmental Policy Act. It does not suggest that the level of effect as defined by Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

No Action Alternative

Analysis — The no action alternative would leave the project area unchanged in term of cultural resources.

Cumulative Impacts — It is assumed under the no action alternative that Verizon Wireless would seek to build a new tower on private land near TRNP. Potential impacts to cultural resources resulting from construction and operation of this facility are unknown, but it is reasonable to assume that they would be

negligible. The no action alternative will not significant change the existing or reasonably foreseeable future cumulative impacts to cultural resources in the project area.

Conclusion — The no action alternative would have negligible long-term impacts on the cultural resources of the project area.

Impairment — The no action alternative would not impair the cultural resources known in, or that may occur in, the project area.

Proposed Action

Analysis — The proposed action would have negligible impact on the two archaeological site leads identified in the project area. These site leads are located within the existing access road and the location of Verizon Wireless' proposed equipment shed. Construction activities in the vicinity of Verizon Wireless' proposed equipment shed, and increased traffic on the existing tower access road during construction and post-construction maintenance may result in disturbance of these site leads. The proposed action would not cause any direct or indirect impacts on previously recorded cultural resources outside of the project area. The results of recent archaeological surveys conclude that the site leads identified within the project area are not eligible for listing on the National Register and that no historic properties would be affected by the proposed action. The SHPO concurred with this assessment (State Historical Society of North Dakota 2014).

Cumulative Impacts — The proposed action will not significant change the existing or reasonably foreseeable future cumulative impacts to cultural resources in the project area.

Conclusion — The proposed action would have negligible, short- and long-term impacts on the cultural resources of the project area.

Impairment — The proposed action would not impair the cultural resources known in, or that may occur in, the project area.

4.4 TRANSPORTATION AND ROADS

Impact analysis focuses on the effects of the no action alternative and proposed action on transportation and roads, including traffic levels and road quality.

No Action Alternative

Analysis — The no action alternative would leave the project area unchanged in terms of the transportation systems and roads in the project area. There is currently a two-track dirt access road for the existing tower that receives minimum maintenance by NPS and is used infrequently. Condition and use of this road would continue as it is currently.

Cumulative Impacts — No present, ongoing, or reasonably foreseeable future actions are planned for the project area that would impact transportation and roads.

Conclusion — The no action alternative would have negligible long-term impacts on the transportation and roads of the project area.

Impairment — The no action alternative would not impair the transportation and roads of the project area.

Proposed Action

Analysis — Construction traffic would cause short-term, minor impacts to local traffic patterns. Ongoing facility maintenance activities by Verizon Wireless staff would have negligible long-term impacts on traffic patterns, as Verizon Wireless employees would conduct normal maintenance of the tower equipment on a regular schedule (usually monthly) and occasionally respond to emergency or alarm calls to the site (estimated to be about six times per year).

No changes to the condition of the existing two-track dirt road that provides access to the tower site are proposed. The use of heavy equipment during construction and the minimal increase in traffic during construction and for ongoing maintenance would cause negligible, short- and long-term impacts to the quality of the existing road. Verizon Wireless would implement best management practices to minimize these impacts. After construction is completed, Verizon Wireless would repair any damage to the road by grading and adding gravel as needed. NPS would conduct minimum ongoing maintenance after construction as it does currently.

Cumulative Impacts — No present, ongoing, or reasonably foreseeable future actions are planned for the project area that would impact transportation and roads.

Conclusion — The proposed action would have negligible, site-specific and local, short and long-term impacts on traffic patterns and road quality resulting from construction traffic and heavy equipment, and ongoing site maintenance traffic.

Impairment — The no action alternative would not impair the transportation and roads of the project area.

CHAPTER 5: CONSULTATION AND COORDINATION

This chapter presents the agencies, tribes, organizations, and persons contacted during external project scoping and development of this EA, and lists the professionals who prepared this document.

5.1 AGENCIES, TRIBES, ORGANIZATIONS, AND PERSONS CONTACTED

- Claudia J. Berg., State Historic Preservation Officer (North Dakota) and Director, State Historical Society of North Dakota
- Dennis Neitzke, Grasslands Supervisor, USDA Dakota Prairie Grasslands
- Jeffrey Towner, Field Supervisor, U.S. Fish and Wildlife Service, North Dakota Field Office
- Elgin Crows Breast, Tribal Historic Preservation Officer, Mandan, Hidasta, and Arikara Nation
- John Murray, Tribal Historic Preservation Officer, The Blackfeet Nation
- Dale Old Horn, Tribal Historic Preservation Officer, Crow Tribe
- Alvin Windy Boy, Tribal Historic Preservation Officer, Chippewa Cree Tribe
- Waste'Win Young, Tribal Historic Preservation Officer, Standing Rock Sioux Tribe
- Darrell Youpee, Tribal Historic Preservation Officer, Fort Peck Assiniboine and Sioux Tribes

5.2 LIST OF PREPARERS

Representatives of the NPS, Verizon Wireless, Tetra Tech, Inc., and Design1, Inc. all contributed to the development of this EA. Contributors are listed below by organization.

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APPENDIX A: TOWER AND SITE SPECIFICATIONS

APPENDIX B: PHOTOGRAPHIC LOG