

CHAPTER 3: THE AFFECTED ENVIRONMENT

This chapter presents information about the natural and human-made environments potentially affected by the no action and proposed alternatives. Physical, biological, heritage and cultural, and social resources are presented, including:

- Physical resources: ecological and watershed settings, soil and water resources, and air quality (including noise)
- Biological resources: vegetation; wildlife and fisheries; and threatened, endangered, and sensitive species
- Heritage and cultural resources
- Social resources: wilderness, scenery resources, transportation and roads, and recreation.

3.1 PHYSICAL RESOURCES

The following describes the ecological setting, watershed setting, soil resources, water resources, and air quality of the project and cumulative effect (CE) areas. The project area is comprised of the road corridor and existing, fenced tower site; is located primarily along a ridgeline between two drainages (subwatersheds); and was determined by sight lines. The CE area encompasses lands below the road and which may provide flow paths to streams. Figure 2 presents the CE area.

3.1.1 Ecological Setting

TRNP and the DPG are within the Northwestern Great Plains Section (331F) of the National Hierarchical Framework of Ecological Units (FS 1994). The Northwestern Great Plains Section description includes the following:

- Gently sloping to rolling, moderately dissected shale plains and eroded escarpments characterize the landscape (see Appendix C).
- Sedimentary non-marine rocks of Paleocene and Lower Tertiary origin occur.
- Soils range from shallow to deep and generally have loamy to clayey textures.
- Natural prairie vegetation includes western wheat grass (*Agropyron smithii*), green needle grass (*Stipa viridula*), blue grama (*Bouteloua gracilis*), needle-and-thread (*Stipa comata*), and buffalo current (*Ribes odoratum*). Bluebunch wheat grass (*Agropyron spicatum*), little bluestem (*Andropogon scoparius*), and sideoats grama (*Bouteloua curtipendula*) occur on shallow soils.
- Streams include dendritic first order channels that are tributary to long second and third order streams that flow briefly following storms or seasonally.
- Climate of western North Dakota is typically semi-arid and continental, characterized by long, cold winters and short, warm summers.

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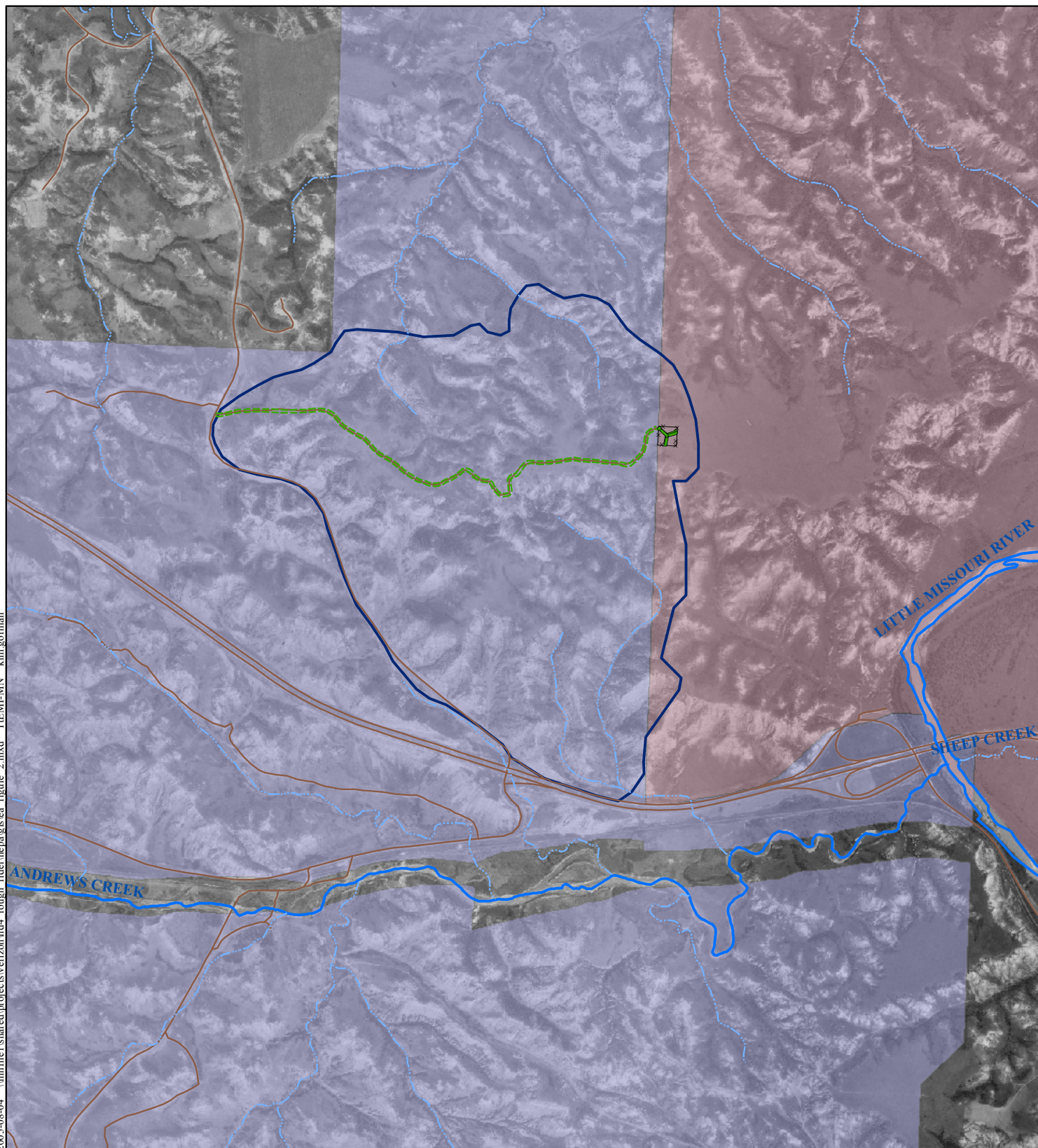
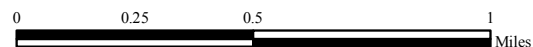


FIGURE 2 - CUMULATIVE EFFECTS AREA BOUNDARY

**ENVIRONMENTAL ASSESSMENT
REPLACEMENT OF A COMMUNICATIONS TOWER IN THEODORE ROOSEVELT NATIONAL PARK
AND U.S. FOREST SERVICE ACCESS ROAD IMPROVEMENT**

- | | | | |
|--|--|--|----------------------------|
| | Proposed 180' Guyed Tower | | Intermittent Stream |
| | Proposed Improved Road | | Perennial Stream/River |
| | Existing Fenced Compound | | National Forest Land |
| | Cumulative Effects Boundary for Physical Resources | | National Park Service Land |
| | | | Travel Route |



Prepared by Tetra Tech EM Inc.
Created using ArcMap 9.0
GCS North_American 1927 Albers



Table 3-1 provides climate data for Medora, North Dakota, and Table 3-2 presents climate data for Mott, North Dakota. The climate data for Mott is presented because it was used in the erosion model, as it was the best available data in the model for the closest location to the project area. Precipitation and temperatures for Mott and Medora are within 4 and 7 percent of each other, respectively. These differences are small enough to not affect the relative accuracy of the erosion predictions. Additional information regarding the ecological setting is available in the Watershed Report in the Project File (Tetra Tech 2005b).

**TABLE 3-1
CLIMATE DATA FOR
MEDORA, NORTH DAKOTA**

Month	Average High Temperature (Degrees Fahrenheit)	Average Low Temperature (Degrees Fahrenheit)	Mean Precipitation (inches)
January	27.0	1.7	0.39
February	34.0	9.4	0.36
March	43.5	17.6	0.62
April	58.3	29.1	1.43
May	70.8	40.5	2.27
June	79.5	49.8	3.36
July	87.1	54.5	2.05
August	86.7	52.4	1.42
September	74.6	41.1	1.40
October	62.4	30.3	0.86
November	42.9	17.5	0.48
December	31.5	6.6	0.45
Annual			15.09

Reference: NPS. Undated. Monthly Climate Data for Medora, North Dakota, since 1949. Theodore Roosevelt National Park.

3.1.2 Watershed Setting

The project area is located within the Lower Knutson Creek and the Lower Andrews Creek sub-watersheds of the Little Missouri River. A Maintenance Level 2, two-track road (NFSR #730A-2), leading to the existing tower site, is located on the ridge dividing the two sub-watersheds. Therefore, portions of both watersheds are included in the project area, and the physical CE area extends down drainages within both watersheds. Almost 90 percent of NFSR #730A-2 is within the Lower Knutson Creek watershed, while the remaining portion is in the Lower Andrews Creek watershed. The CE boundary is presented in Figure 2 and characterized in Table 2 of the Watershed Report in the Project File (Tetra Tech 2005b). The NPS or the FS manage all lands within the CE area. The CE area has approximately 1 mile of roads and mapped streams per square mile (depicted on U.S. Geological Survey [USGS] 1:24,000 topographic quadrangle maps). Additional un-mapped streams occur in the CE area. Rangeland is the dominant land use within the CE area (NPS 1998).

TABLE 3-2
CLIMATE DATA FOR
MOTT, NORTH DAKOTA

Month	Mean Maximum Temperature (Degrees Fahrenheit)	Mean Minimum Temperature (Degrees Fahrenheit)	Mean Precipitation (inches)	Number of wet days
January	24.1	1.3	0.34	3.8
February	30.6	8.2	0.34	3.8
March	39.6	16.7	0.67	4.8
April	55.2	28.9	1.63	7.1
May	67.5	40.6	2.56	8.5
June	76.4	50.2	3.5	10
July	83.8	55.1	1.99	7.7
August	83	53	1.71	6.8
September	71.7	41.7	1.33	5.8
October	59.9	30.6	0.78	3.9
November	41.3	17.3	0.46	3.5
December	29.3	6.9	0.34	3.8
Annual			15.66	69.5

Reference: FS. Undated. Climate data for Mott RR, ND. On-line at: <http://forest.moscowsl.wsu.edu/cgi-bin/fswepp/rc/copypar.pl>. Accessed May 2005.

3.1.3 Soil Resources

The soil map units of the CE area are described and displayed in the Watershed Report in the Project File (Tetra Tech 2005b). The soils are silt loams or loams with 0- to 8-percent rock fragments. Generally, water table depth exceeds 6 feet (USDA – National Soil Information System [NASIS] 1995). The soils are well drained with moderate permeability. The primary soil component in the project area is Badland, generally characterized as having a soil surface texture of unweathered bedrock (Tetra Tech 2004). According to the Billings County soil survey for Section 27, the project area consists of Littlemo-Chanta Complex (Littlemo silt and Chanta loam) with 0- to 3-percent slopes (USDA North Dakota Natural Resource Conservation Service 1944).

3.1.4 Water Resources

Streams and lakes in North Dakota are classified according to Chapter 33-16-02.1 Standards of Quality for Waters of the State (ND Department of Health [ND DoH] 1999). The Little Missouri River is classified as a Class II stream and eligible for designation as a Wild and Scenic River. Lower Knutson Creek and Lower Andrews Creek are not specifically designated in the state standard and therefore have received a Class III stream designation. The standard for Class III streams is:

“...waters shall be suitable for industrial and agricultural uses, i.e., cooling, washing, irrigation, and stock watering. These streams all have low average flows, and generally, prolonged periods of no flow and are of marginal or seasonal value for immersion recreation and fish aquatic biota. The quality of the water must be maintained to protect recreation, fish, and aquatic biota.” (ND DoH 1999).

The nearest mapped stream is approximately 840 feet northwest of NFSR #730A-2, and no mapped streams cross the project area. Within the CE area, the smallest streams flow after storm events, while larger streams flow seasonally. No streams located within the CE area flow throughout the year.

Several small U.S. Fish and Wildlife Service (USFWS) mapped wetlands are located within the CE area (USFWS 2005). They are located greater than 840 feet from the existing road corridor and tower facility, and therefore wetlands would not be expected to be directly, indirectly, or cumulatively impacted by the proposed action. Evidence of wetlands was not observed near the existing road corridor or tower facility during the site reconnaissance of May 2005.

3.1.5 Air Quality and Noise

The Clean Air Act (CAA) of 1977 (as amended) established six principle 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 principle pollutants above which adverse effects on 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 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.

Although noise levels in and around the park have increased in recent years (due to a variety of reasons, including increases in development and industrial operations), the ambient noise levels within the project area are low, based on observations of NPS and FS personnel. Natural sounds are dominant in the project area, with other noise occasionally occurring at infrequent or low levels, or at some distance from the project area (the nearest residences are located approximately 1 mile from the proposed site).

3.2 BIOLOGICAL RESOURCES

The following describes the vegetation; wildlife and fisheries; and threatened, endangered, and sensitive species of the project and CE areas. For the purposes of assessing biological resources, the project area as previously defined was expanded to include a 250-foot corridor of the existing road (125 feet off the centerline); a biological survey was conducted within the expanded project area.

3.2.1 Vegetation

Two geographic areas are located on the Little Missouri National Grassland. They are the Badlands Geographic Area and Rolling Prairie Geographic Area. The diverse landscapes of the Badlands and Rolling Prairie Geographic Areas support a variety of vegetation types. Vegetation corresponds with the abrupt changes in edaphic and hydric conditions. Site characteristics that include soil texture, soil

chemistry, slope, exposure, and degree of erosion dictate plant habitats (Earthworks Archaeology & Environmental Investigative Services [Earthworks] 2005).

The general area is predominately native grasslands with wooded draws in low drainages and on protected slopes of drainages and hills. The tower site occurs on a nearly level, somewhat convex, upland plateau. The site is fenced and appears to be mowed regularly. The needle-and-thread/ threadleaf sedge (*Carex filifolia*) habitat type is predominant. No shrubs or trees occur on the site. A patch of smooth brome (*Bromus inermis*) occurs on the west fence line, and approximately 50 leafy spurge (*Euphorbia esula*) plants occur in a 20-square-foot area in the southwest corner of the fenced area. Areas outside of the fence line are grazed and similar to vegetation along the route (Earthworks 2005).

The proposed disturbance area follows NFSR #730A-2 to an existing cellular tower pad site. NFSR #730A-2 is an older, Maintenance Level 2, two-track road that winds through the hills. Introduced grasses and weed species are common over the length of the route. The east end of the route is a level plateau area that is grazed rather low. According to the biological assessment/evaluation conducted for the project area, the needle-and-thread/threadleaf sedge habitat type is dominant. The amount of needle-and-thread has been reduced by grazing pressure. Patches of leafy spurge occur, especially associated with silver sagebrush. The north side of NFSR #730A-2 has a large area of downy brome (*Bromus tectorum*). Much of the route occurs along the shoulder or summits of hills. As a result, the route dissects the uphill ends of green ash (*Fraxinus pennsylvanica*) draws that occur perpendicular to the route. Smooth brome and leafy spurge are common in the upper slopes of the wooded areas. Weedy species are common along barren portions of the two-track road, including sweetclover (*Melilotus* spp.), field bindweed (*Convolvulus arvensis*), crested wheatgrass (*Agropyron cristatum*), and downy brome. Clay habitat occurs along the route with inclusions of the big sagebrush (*Artemisia tridentata*) habitat type. Hill slopes adjacent to NFSR #730A-2 often are dominated by the little bluestem (*Andropogon scoparius*) habitat type, which is heavily grazed. A large scoria pit occurs on the north side of the route and smaller one on the south side. At the west end, a green ash draw parallels the route. Smooth brome and bluegrass (*Poa* spp) are dominant in the understory with scattered plants of leafy spurge. Introduced grasses are more common along NFSR #730A-2 as it nears West River Road. A complete list of plant species occurring in the proposed project area is included in the biological assessment/evaluation in the Project File (Earthworks 2005).

3.2.2 Wildlife and Fisheries

There are 281 species of terrestrial and 32 species of aquatic vertebrate wildlife recorded within the region (NPS 1994). Bison (*Bison bison*), California bighorn (*Ovis Canadensis californiana*), pronghorn (*Antilocapra americana*), and elk (*Cervus elephus*) have been recorded in and around the project area, and in the region. A variety of smaller mammals, including the northern pocket gopher (*Thomomys talpoides*), voles (various species), and mice (various species) commonly use the project area, as do porcupine (*Erethizon dorsatum*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoideus virginianus*), feral horses (*Equus caballus*), and coyote (*Canis latrans*) (NPS 1994). However, the fenced portion of the project area (containing the existing tower and equipment shed) usually excludes larger species of terrestrial wildlife from that portion of the project area.

There are 186 observed avian species, with an additional 22 suspected. Sixty-eight species are known to breed in the region and 39 other are considered probable. Common birds include the northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), sharp-tailed grouse (*Tympanuchus phasianellus*), black-billed magpie (*Pica pica*), western meadowlark (*Sturnella neglecta*), several species of sparrow, and many other common avian species (NPS 1994).

Little information is available on the distribution and abundance of the seven identified amphibians and the 12 reptile species within the region. Most species occurring in the region, and potentially in the project area, are widely distributed. Reptile species known to be present include the following: western plains garter snake (*Thamnophis radix*), plains hognosed snake (*Heterodon nasicus*), yellow-bellied racer (*Coluber constrictor*), bullsnake (*Pituophis catenifer*), prairie rattlesnake (*Crotalus viridis*), and short-horned lizard (*Phrynosoma douglassi*). Resident amphibians include the Great Plains toad (*Bufo cognatus*) and the Rocky Mountain toad (*Bufo woodhousii*) (NPS 1994).

Twenty-five fish species are identified in the Little Missouri River. The European carp (*Cyprinus carpio*) is a nonnative species common in the river and is considered undesirable by the North Dakota Game and Fish Department. The silvery minnow (*Hybognathus nuchalis*) and the plains minnow (*Hybognathus placitus*) represent approximately 80 percent of the fish number in the river as a whole (NPS 1994).

3.2.3 Threatened, Endangered, and Sensitive Species

A list of threatened and endangered species that could occur in the Little Missouri National Grassland was obtained from the USFWS, and a list of sensitive species and raptor species of concern was obtained from the FS (October 28, 2004) and the Natural Heritage Program (Earthworks 2005). The biological assessment/evaluation contains the list and description of threatened, endangered, and sensitive species (see the Project File; Earthworks 2005). The USFWS and the North Dakota Game and Fish Department (NDGF) were consulted for known and potential occurrences of species of concern in the project areas. Current information from raptor nests was obtained from the field survey (conducted May 20-21, 2005) and historical information (Earthworks 2005).

Based on the research and field survey, no federally-listed threatened or endangered (or proposed) plant species occur in this area, although sensitive plant species do occur. Threatened, endangered, and sensitive wildlife species could potentially occur in the area due to migration; there is no critical habitat to threatened, endangered, or sensitive species in the project area, nor do any species breed in the project area. Table 3-3 presents species of concern in the region that potentially occur in the project area (including sensitive plant species occurring in the project area; watch plant species that could occur in the project area in the future; and wildlife species that could potentially migrate into the project area).

3.3 HERITAGE AND CULTURAL RESOURCES

On February 3, 2005, Metcalf Archaeological Consultants, Inc., conducted a file search of the State Historical Society of North Dakota's site and manuscript files for the project area and a 1-mile radius surrounding the area. The search revealed that 14 previous inventories had been conducted near the project area. These included inventories completed for oil and gas development, communication towers, a recreational bicycle path, and road expansion, none of which crossed the current proposed construction corridor. The previous inventories revealed three prehistoric isolates, three prehistoric sites, and six historic sites, as shown in Table 3-4.

The project area was clearly defined and was surveyed using zig-zag pedestrian transects spaced 10-15 meters apart. The proposed cellular tower location had sparse short grass prairie vegetation providing 50-percent ground surface visibility, with patches of eroded areas providing nearly 80-percent visibility. The sloping areas had sage, yucca, cactus, and other forbs, with little grass cover. The soils in the area consisted of sandy silty loam with numerous gravels overlaying a clay base. The access road was also in short grass prairie, although very sparse in most areas, providing 50- to 80-percent ground surface visibility. Numerous cutbanks, erosional scarps, rodent burrow back dirt piles, and road cuts existed throughout the access road corridor, providing excellent subsurface visibility. Exposed scoria beds, shale, and sandstone outcrops also characterized the entire area with little soil deposition in these areas. No

nearby water source was observed, although the Little Missouri River is approximately 1.5 miles to the east (Metcalf Archaeological Consultants, Inc. 2005).

TABLE 3-3
SPECIES OF CONCERN IN THE REGION AND POTENTIALLY OCCURRING IN THE PROJECT AREA

Endangered Wildlife Species	
Whooping crane (<i>Grus americana</i>)	Black-footed ferret (<i>Mustela nigripes</i>)
Threatened Wildlife Species	
Bald eagle (<i>Haliaeetus leucocephalus</i>)	
Sensitive Bird Species	
Baird's sparrow (<i>Ammodramus bairdii</i>)	Loggerhead shrike (<i>Lanius ludovicianus</i>)
Burrowing owl (<i>Athene cunicularia</i>)	Long-billed curlew (<i>Numenius americanus</i>)
Sprague's pipit (<i>Anthus spragueii</i>)	Peregrine falcon (<i>Falco peregrinus</i>)
Greater sage grouse (<i>Centrocercus urophasianus</i>)	
Sensitive Mammal Species	
Black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	CA Bighorn sheep (<i>Ovis Canadensis californiana</i>)
Sensitive Insect Species	
Dakota skipper (<i>Hesperia dacotae</i>)	Ottoe skipper (<i>Hesperia ottoe</i>)
Tawny crescent butterfly (<i>Phyciodes batessi</i>)	Regal fritillary butterfly (<i>Speyeria idalia</i>)
Sensitive Fish Species	
Northern redbelly dace (<i>Phoxinus eos</i>)	Sturgeon chub (<i>Macrhybopsis gelida</i>)
Raptor Species of Concern	
Ferruginous hawk (<i>Buteo regalis</i>)	Golden eagle (<i>Aquila chrysaetos</i>)
Prairie falcon (<i>Falco mexicanus</i>)	Merlin (<i>Falco columbarius</i>)
Sensitive Plant Species	
Slimleaf goosefoot (<i>Chenopodium subglabrum</i>)	Scoria lily or Dwarf Mentzelia (<i>Mentzelia pumila</i>)
Blue lip's (<i>Collinsia parviflora</i>)	Alyssum-leaved phlox (<i>Phlox alyssifolia</i>)
Torrey's cryptantha (<i>Cryptantha torreyana</i>)	Lance-leaf (Rydberg's) cottonwood (<i>Populus x acuminata</i>)
Nodding wild buckwheat (<i>Eriogonum cernuum</i>)	Alkali sacaton (<i>Sporobolus airoides</i>)
Dakota buckwheat (<i>Eriogonum visheri</i>)	Hooker's townsendia (<i>Townsendia hookeri</i>)
Sand lily (<i>Leucocrinum montanum</i>)	
Watch Plant Species	
Spike bentgrass (<i>Agrostis exarata</i>)	Sedge mousetail (<i>Myosurus aristatus</i>)
Indian milkvetch (<i>Astragalus aboriginum</i>)	Cutleaf evening primrose (<i>Oenothera lacinata</i>)
Drummond's milkvetch (<i>Astragalus drummondii</i>)	Yellow broomrape (<i>Orobanche multiflora</i>)
Bent-flowered milkvetch (<i>Astragalus vexilliflexius</i>)	White locoweed (<i>Oxytropis sericea</i>)
Smooth spike primrose (<i>Boisduvalia glabella</i>)	Water-thread pondweed (<i>Potamogeton diversifolius</i>)
Mountain brome (<i>Bromus carinatus</i>)	Diverse leaf cinquefoil (<i>Potentilla diversifolius</i>)
Silvertop sedge (<i>Carex foenea</i>)	Three-toothed cinquefoil (<i>Potentilla tridentate</i>)
Canadian single-spike sedge (<i>Carex scirpiformis</i>)	Heartleaf buttercup (<i>Ranunculus cardiophyllus</i>)
Matted purple virgin's bower (<i>Clematis tenuiloba</i>)	Persistent yellow cress (<i>Rorippa calycina</i>)
Spreading fleabane (<i>Erigeron divergens</i>)	Green briar (<i>Smilax ecirrhata</i>)
Tap-rooted fleabane (<i>Erigeron radicans</i>)	Prairie fameflower (<i>Talinum parviflorum</i>)
Yellow bell (<i>Fritillaria pudica</i>)	

Reference: Earthworks 2005.

TABLE 3-4
RESULTS OF HISTORICAL RECORD SEARCH AND PREVIOUS INVENTORIES

Site Number (SITS #)	Site Type and Description	Recorder, Date	Survey Code Number (MS #)
No Sites			3421, 8139
32BIx61	Prehistoric – Chipped Stone	Morrison, 2001	3439, 3749, 8139
32BIx193	Prehistoric – Chipped Stone	No Name, 1984	
No Sites			3749
32BI584	Historic – Sandstone Boulder with Historic Incised Script	Dowdy, 1987 Wermers, 2002	2552, 3749, 4302, 4705, 5578, 5579, 7677
32BI622	Historic – Well Built in 1960s by the National Park Service	Blikre, 1988	
32BI630	Historic – Dugout Depression	Blikre, 1988	
32BI674	Prehistoric – Cultural Material Scatter	Foster, 1988	
32BI721	Historic – Sheet Metal Fronts to Dugouts	Blikre, 1988	
32BI722	Historic – CCC Sandstone Mining Area	Blikre, 1988	
32BI723	Prehistoric – Cultural Material Scatter	Blikre, 1988	
32BI724	Historic – Possible CCC Camp	Blikre, 1988	
32BI729	Prehistoric – Cultural Material Scatter	Blikre, 1988	
23BIx62	Prehistoric – Chipped Stone	Morrison, 2001	3267, 3749, 8139
No Sites			3267, 3421, 3914, 7580, 7962, 8139

Source: Metcalf Archaeological Consultants, Inc., May 2005.

Notes:

CCC Civilian Conservation Corps

SITS # Site Number

MS # Survey Code Number

One isolated find, 32BIx81, consisting of two chalcedony flakes, was located during the survey. The flakes were found within two meters of the existing two-track road, in an exposed gravel lense. No other cultural material was located, and the flakes are likely from minor prehistoric material testing. The lack of deposition in the area and the excellent surface visibility suggest that finding other cultural materials in this area is very unlikely. Therefore, a finding of *No Historic Properties Affected* was recommended for the project area as surveyed and mapped (Metcalf Archaeological Consultants, Inc. 2005). The FS Principal Investigator/Archeologist and State Historic Preservation Officer (SHPO) both agreed with this assessment (FS 2005a, State Historical Society of North Dakota 2005).

3.4 SOCIAL RESOURCES

The following describes the wilderness, scenery resources, transportation and roads, and recreation resources of the project and CE areas.

3.4.1 Wilderness

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. These wilderness areas are managed as undeveloped backcountry and as part of the National Wilderness Preservation System. The undeveloped areas provide excellent opportunities for hiking, horseback riding, exploring, and for

experiencing the environment much the way Theodore Roosevelt experienced it during his lifetime. TRNP manages these areas by providing regular protection patrolling, maintenance of foot and horseback trails, and monitoring of day and overnight visitation. The current tower and facility can be seen from the wilderness area boundary just north of the project area (see the photograph simulations presented in Appendix D).

3.4.2 Scenery Resources

Visitors come to TRNP primarily to see the beauty of the North Dakota badlands and prairie scenery, and to observe the 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 which extend beyond the park boundaries. Fifteen of these view points are located in the South Unit, 12 are in the North Unit, and one is located at the Elkhorn Unit. Lands bordering the south unit of the park are about equally divided between private and public ownership. The FS administers many of the surrounding public lands. Historically, this land has been used for livestock grazing, recreation, and mineral development in the badlands, and grain farming on the upland plains. Oil and gas development first occurred on the DPG in 1950 but saw its most dramatic growth during the later 1970s and early 1980s oil boom. There are 38 active oil and gas wells located within a mile of the south unit of the park. Two thirds of these wells are located on private property and the remainder on federal or state lands. Recent demand for oil and gas has resulted in some increase in drilling near the park.

Noise, odor pollution, and vista intrusion have multiplied in the last decades and directly affect and distract from the park's aesthetic values. These environmental impacts are caused by various structures and conditions such as batteries of large tanks, new high standard roads, high profile powerlines, hydrogen sulfide gas, flaring wells, smoke, dust, pump engines, and cellular telecommunication towers.

The proposed site currently supports a communications tower and adjacent equipment shed (see Appendix D). The current tower can be seen from the town of Medora and from the wilderness area north of the site.

The FS uses evaluations of Scenic Integrity to guide planning and management of scenic resources. Scenic Integrity refers to the state of naturalness or, conversely, the state of disturbance created by human activities or alternation. Integrity is stated in degrees of deviation from the existing landscape character in a national grassland or forest (FS 2001a). The Scenic Integrity Objective for the project area is High (Appears Unaltered), which refers to landscapes where the valued landscape character appears intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident (FS 2001a). NFSR #730A-2 currently meets the Scenic Integrity Objective of High for the project area.

3.4.3 Transportation and Roads

NFSRs are maintained to varying standards depending on the level of use and management objectives. Most of the roads are Maintenance Level 2, followed by Levels 3 and 4. Maintenance levels are described below (FS 2005b).

Road Maintenance Level Definitions

Maintenance Level 1: Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period is one year or longer. Basic custodial maintenance is performed.

- Maintenance Level 2:* Assigned to roads open for use by high-clearance vehicles. Passenger car traffic is not a consideration.
- Maintenance Level 3:* Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.
- Maintenance Level 4:* Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds.
- Maintenance Level 5:* Assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-laned and paved or aggregate-surfaced with dust abatement.

The existing road is a Maintenance Level 2, two-track road, portions of which are accessible by four-wheel drive vehicles. Portions of the road near the tower site are not currently passable. No data exist on the current level of use of the road; however, the FS estimates that current use level is extremely low.

3.4.4 Recreation

Between 2002 and 2004, TRNP has recorded an annual average of 485,389 visitors to all areas of the park, including the Medora Entrance, Painted Canyon, North Unit, walk-in, and non-recreational (NPS 2005). The principle activity of visitors to the park is sightseeing by motor vehicle (NPS 1987). Many opportunities exist for dispersed recreation activities such as camping, backcountry camping, hiking, interpretive programs, and viewing wildlife and scenery. Many vistas are maintained, such as the Painted Canyon facilities, which offer visitors scenic views of unique ecosystems and scenery. Hunting is not permitted in the park, although limited fishing is permitted. Hunting and fishing are popular recreation activities in the region, however, on lands outside of park boundaries.

Recreation use on National Forest System lands in or near the project area is primarily of a dispersed nature. The Buffalo Gap trail, located approximately 1.5 miles west of the project area, is heavily used by mountain bikers, horse users, and to a lesser degree, hikers. Big game hunters use the project area in late summer and fall. The area is occasionally used for picnics or other social gatherings.