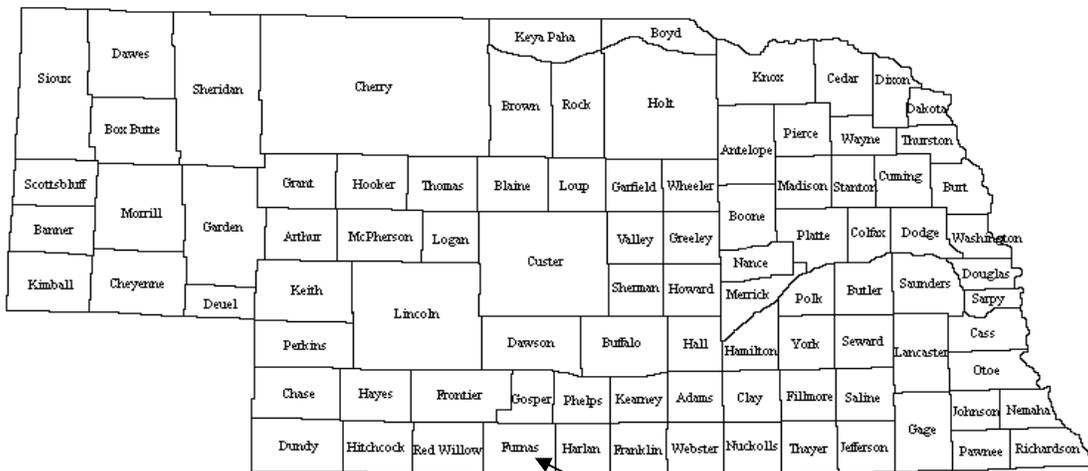


# Environmental Assessment

For

## Furnas County, Nebraska

### Public Safety Communications



January 2008



**ENVIRONMENTAL ASSESMENT  
for  
COMMUNICATIONS FACILITY  
FURNAS COUNTY, NEBRASKA**

FURNAS COUNTY OFFICE OF EMERGENCY MANAGEMENT  
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and

DEPARTMENT OF HOMELAND SECURITY (DHS)/  
OFFICE OF GRANTS & TRAINING (G&T)  
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## **SECTION ONE: BACKGROUND**

### ***1.1 INTRODUCTION***

Funding for this project was awarded to the Nebraska Emergency Management Agency (NEMA) under the Department of Homeland Security's (DHS) Homeland Security Grant Program – State Homeland Security Grant Program (SHSGP). The project was authorized by the Furnas County Office of Emergency Management, who received funding in the amount of \$182,500 from the 2006 SHSGP for communications.

In accordance with the National Environmental Policy Act of 1969, the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500 through 1508), and DHS' Office of Grants and Training (G&T) policy for NEPA compliance (MD 5100.1), G&T must fully understand and consider the environmental consequences of actions proposed for federal funding. This Environmental Assessment (EA) was prepared in accordance with G&T's responsibilities under NEPA.

### ***1.2 PURPOSE AND NEED***

It is Furnas County EM's objective to have interoperable communications not only within Furnas County. This project would also allow us to communicate with neighboring jurisdictions and also allow us to better access the State of Nebraska's mutual aid plan. The Communications Tower Furnas County know has at this location is not heavy enough to hold the weight of more antennas. Therefore, the new heavier built communications tower would allow Furnas County to add the necessary equipment to allow us to become interoperable. Therefore, the specific need addressed in this proposal is that of providing sufficient communication interoperability throughout Furnas County and neighboring jurisdictions.

## **SECTION TWO: ALTERNATIVES ANALYSIS**

The following alternatives were considered to address the need for radio coverage in Furnas County: the No Action alternative; Lease land and construct new tower four miles north of Beaver City, NE (dismissed); (Proposed Action); Construction of new 300 ft communications tower to replace a light weight 180 ft. tower to enhance interoperability for Furnas County.

### ***2.1 ALTERNATIVES CONSIDERED AND DISMISSED***

Building a new tower, 4 miles north of Beaver City. After doing coverage maps it was decided this location would not improve radio coverage area. Also considered in this project was the fact that land would have to be purchased or leased by Furnas County at an added cost. Therefore this alternative was

dropped from consideration.

## **2.2 ALTERNATIVE 1 – NO ACTION ALTERNATIVE**

Under the No Action alternative, Furnas County public safety radio communications system would not be able to place the equipment needed to become interoperable on the existing tower. The current tower is not structurally sound enough to support the weight of added equipment. Consequently, it would be hard for Furnas County to be able to obtain interoperable communications.

## **2.3 ALTERNATIVE 2 - CONSTRUCTION OF TELECOMMUNICATION FACILITY AT FURNAS COUNTY SITE (PROPOSED ACTION)**

The proposed project site is located in Furnas County, on county owned property. The site is located in the northeast corner of Beaver City located in Furnas County Nebraska. The property is owned by Furnas County. An aerial photo of the current site was obtained from the Furnas Co Farm Service Agency and located in attachment 1. Furnas County EM has analyzed the proposed construction of telecommunication infrastructure at the Furnas County site, including a 300-foot tower with 3 guy wires, antennas, cabling, fencing, an equipment shelter, a backup generator, and associated electronic equipment, to provide needed radio coverage to its existing public safety radio communications system. Furnas County EM determined that the proposed Furnas County tower project would successfully address interoperable communication issues.

# **SECTION THREE: AFFECTED ENVIRONMENT AND IMPACTS**

## **3.1 PHYSICAL ENVIRONMENT**

The following table summarizes the potential impacts of the Proposed Action Alternative, and identifies conditions or mitigation measures to minimize those impacts, where appropriate. Following the summary table, each environmental area is treated in greater detail.

<b>Affected Environment</b>	<b>Impacts</b>	<b>Mitigation</b>
Soils	Construction activities may cause some disturbance, but effects to soils would be minor and temporary.	Storm water BMP during construction
Seismicity		NBBC Standards Required.

Water Resources & Water Quality	No surface water, no effects to ground water.	
Floodplain Management	Action is not located in a floodplain.	
Air Quality	Construction equipment may temporarily affect air quality; however, no long-term impacts are anticipated.	Measures to limit emission of fugitive dust, including watering down of construction areas.
Wetlands	Action is not located in or near wetlands.	
Threatened and Endangered Species	No adverse effects anticipated.	
Migratory Birds	Potential adverse impacts.	Using white / red strobe lights, less likely to attract birds
Zoning and Land Use	No adverse effects anticipated.	
Noise	Construction activities may temporarily increase noise levels; however, no long-term effects are anticipated.	
Environmental Justice	No adverse effects anticipated.	
Cultural Resources	No adverse effects anticipated.	If historic or archaeological materials are discovered during construction, all ground disturbing activities shall cease and FEMA/NeHSHPO will be notified.

### 3.1.1 Geology, Seismicity and Soils

Executive Order 12699 (Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction) applies as this is a federally assisted project. The proposed equipment shelter as designed by Thermo Bond Buildings meets or exceeds seismic code requirements for the project location.

The project site is located at elevation 2240' NGVD. According to the United States Department of Agriculture, Soil Conservation Service (SCS) Soil Survey of Furnas County, Nebraska, issued in 1975, the predominant soil type is HoB, Holdrege silt loam, 1 to 3 percent slope at the proposed tower site. A copy of the SCS map and soil classification descriptions can be found in the attachment 2.

The Farmland Protection Policy Act (FPPA) (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.), which states that federal agencies must "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses," was considered in this EA. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber and oilseed crops (USDA, 1989). Prime

farmland is either used for food or fiber crops or is available for those crops; it is not urban, built-up land, or water areas. The proposed project site is not used as farm ground.

No Action Alternative - Under the No Action alternative, no impacts to seismicity, geology, or soils would occur.

Proposed Action Alternative - Under the Proposed Action, no impacts to seismicity or geology are anticipated. Construction activities could cause short-term impacts to soils. Appropriate Best Management Practices (BMPs) would be used during the construction phase.

### **3.1.2 Water Resources and Water Quality**

Water resources at the site were investigated as part of the Environmental Assessment. The project site lies above the Ogallala Aquifer, according to the USGS map of the topography of Furnas County (USGS Cataloging Unit: N4030-W10100/7.5). The nearest monitored water body is Beaver Creek, which flows east approximately 1 mile southeast of the proposed project site.

No Action Alternative - Under the No Action alternative, no impacts to surface or ground water resources would occur.

Proposed Action Alternative - Under the Proposed Action, potential impacts to surface or ground water resources would be minimal, due to the type of activity and the small size of the project area (less than 5 acres). A National Pollution Discharge Elimination System (NPDES) permit is not necessary for this project.

### **3.1.3 Floodplain Management (Executive Order 11988)**

Executive Order (EO) 11988 (Floodplain Management) requires federal agencies to take action to minimize occupancy and modification of the floodplain. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives.

Flood Insurance Rate Maps (FIRMs) are used to identify the regulatory 100-year Floodplain for the National Flood Insurance Program. Consistent with EO 11988, FIRMs were examined during the preparation of this EA. This project is not within the 100-year floodplain as indicated on FIRM panel #0250 for Furnas County, Nebraska.

### **3.1.4 Air Quality**

The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Act established two types of national air quality standards: primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly, and secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation and buildings. The current criteria pollutants are: Carbon

Monoxide (CO), Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), Lead (Pb), Particulate Matter (PM<sub>10</sub>), and Sulfur Dioxide (SO<sub>2</sub>).

No Action Alternative – Under the No Action alternative, there would be no impacts to air quality because no construction would occur.

Proposed Action Alternative - Under the Proposed Action, there could be short-term minor impacts to air quality during the construction phase due to heavy equipment use. Measures would be taken to limit emission of fugitive dust, including watering down of construction areas. No long-term impacts to air quality are anticipated.

## **3.2 BIOLOGICAL ENVIRONMENT**

### **3.2.1 Terrestrial and Aquatic Environment**

The proposed project site is currently wasteland. The property has not been farmed, and areas immediately adjacent to the proposed tower site are farmed. Therefore, the area is considered to have limited value for wildlife species

A formal request was submitted to the United States Fish and Wildlife to determine if the proposed project will impact any state Wilderness Areas or Wildlife Preserves.

No Action Alternative - Under the No Action alternative, no impacts to terrestrial or aquatic environments would occur.

Proposed Action Alternative - Under the Proposed Action, to use white strobe light in the day time hours and red strobe lights at night per FAA regulations.

### **3.2.2 Wetlands (Executive Order 11990)**

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). Additionally, Executive Order 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

No Action Alternative - Under the No Action alternative, no impacts to wetlands would occur.

Proposed Action Alternative - Under the Proposed Action, no impacts to wetlands are anticipated, because the proposed project site is not located in or near a wetland.

### **3.2.3 Threatened and Endangered Species**

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the project area was evaluated for the potential occurrences of federally listed threatened and endangered species. The ESA requires any federal agency that funds, authorizes, or carries out an action to ensure that their action is not likely to jeopardize the continued existence of any endangered or threatened species

(including plant species) or result in the destruction or adverse modification of designated critical habitats (FEMA 1996).

A formal request was submitted to the United States Fish and Wildlife to determine if the proposed project will impact any state-listed threatened or endangered species.

No Action Alternative - Under the No Action alternative, no impacts to threatened or endangered species would occur.

Proposed Action Alternative - Under the Proposed Action, no impacts to threatened or endangered species are anticipated.

### **3.2.4 Migratory Birds**

Under the Migratory Bird Treaty Act, taking, killing or possessing migratory birds is unlawful. Migratory birds are a federal trust resource that the USFWS is authorized to protect, and the Service has put forth recommendations for communication tower design and height to mitigate collision-related mortality.

No Action Alternative - Under the No Action alternative, no impacts to migratory birds would occur.

Proposed Action Alternative - Under the Proposed Action, tower design and location would mitigate collision-related bird mortality. The tower would have the white/red strobe light combination according to the FAA regulations. Sensitive bird habitats are not present in the project area and the tower would not be located in a flyway area.

## **3.3 SOCIOECONOMICS**

### **3.3.1 Zoning and Land Use**

The project is located in the zoning jurisdiction of Beaver City, Nebraska however, it is considered an “essential service” and have received approval from zoning.

### **3.3.2 Noise**

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals.

No Action Alternative - Under the No Action alternative, no impacts to noise

would occur.

Proposed Action Alternative - Under the Proposed Action, temporary short-term increases in noise levels are anticipated due to construction activities and the use of heavy equipment. The proposed project does not readily create noise, except for exterior HVAC equipment cooling units for the shelter and occasional backup power generator activation, which is located over ½ mile from any residence or public areas. There do not appear to be any noise sensitive land uses within the area of potential effect.

### **3.3.3 Environmental Justice (Executive Order 12898)**

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

No Action Alternative – Under the No Action Alternative, there would be no disproportionately high and adverse effects on minority or low-income populations. All populations could potentially be adversely affected by a loss of radio coverage during an emergency.

Proposed Action – Under the Proposed Action, no disproportionately high and adverse impacts on minority or low-income populations are anticipated. The radio coverage upgrade would benefit all populations by improving communication related to public safety.

## **3.4 CULTURAL RESOURCES**

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800. Requirements include identification of significant historic properties that may be impacted by the Proposed Action. Historic properties are defined as archaeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP).

As defined in 36 CFR Part 800.16(d), the Area of Potential Effect (APE), “is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.”

### **3.4.1 Historic and Archaeological Resources**

The proposed project site is owned by Furnas County and is considered wasteland. Because of the disturbed nature of the project site, no archeological field work was required. The Nebraska State Historical Society (NeSHS), in a letter dated January 7, 2008, determined that construction of a telecommunications facility does not contain recorded historic resources.

Proposed Action Alternative - Under the Proposed Action, no impacts to cultural

resources are anticipated. If historic or archaeological materials are discovered during construction, all ground disturbing activities shall cease and FEMA/NSHS will be notified.

### **3.4.2 Indian Coordination and Religious Sites**

Section 106 of the NHPA requires consultation with Federally-recognized Indian tribes who may have potential cultural interests in the project area, and acknowledges that tribes may have interests in geographic locations other than their seat of government. A letter was written to four different Indian Tribes ( Omaha Tribe of Nebraska, Ponca Tribe of Nebraska, Santee Sioux Nation and Winnebago Tribal Council ) .

No Action Alternative - Under the No Action Alternative, no impacts to Indian religious or archaeological sites would occur.

Proposed Action Alternative - Under the Proposed Action, no impacts to Indian religious or archaeological sites are anticipated.

## **SECTION FOUR: CUMULATIVE IMPACTS**

Cumulative impacts are those effects on the environment that result from the incremental effect of an action when added to past, present and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

There are no known on-going or planned projects in the vicinity of the proposed project site. Therefore, no cumulative impacts are anticipated.

## **SECTION FIVE: PUBLIC PARTICIPATION**

The Furnas County Board of Commissioners, Furnas County Emergency Manager and the Furnas County Sheriff Office have had discussions at the regular commissioners meetings concerning the building of the tower, which were all advertised meetings with the agenda available at the clerks office.

## **SECTION SIX: MITIGATION MEASURES AND PERMITS**

In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site, including any that might be required by the FAA.

Furnas County applied for building the communications tower with the FAA. At this time approval is pending.

As previously mentioned, under the Proposed Action, the tower will be built in

accordance to all FAA regulations and conditions.

## **SECTION SEVEN: CONSULTATIONS AND REFERENCES**

The following agencies and organizations were contacted and asked to comment on the proposed project.

- Beaver City, NE Planning and Zoning
- Nebraska State Historical Society
- U.S. Fish and Wildlife Service
- Federal Aviation Administration
- Natural Resource Conservation Service at Beaver City, Nebraska
- Omaha Tribe of Nebraska
- Ponca Tribe of Nebraska
- Santee Sioux Nation
- Winnebago Tribal Council

## **SECTION EIGHT: CONCLUSION**

No impacts to geology, floodplains, wetlands, socioeconomic resources, environmental justice, or cultural resources are anticipated under the Proposed Action. During the construction period, there are potential short-term and minor impacts to soils, surface water, air quality, and noise. All short-term impacts require conditions to minimize and mitigate impacts to the proposed project site and surrounding areas. The proposed 300-foot telecommunications tower could have potential adverse impacts on migratory birds. However, the tower's location outside of sensitive habitats and flyways would mitigate collision-related bird mortality.

The new system set up on the 300 foot communications tower would be a great asset to the residents of Furnas County in the event of an emergency. Fire fighters, rescue squad and the sheriff's department would be able to communicate with each other in almost every point of the county.

This tower is also part of the Southwest Nebraska Region's Plan for interoperability in connecting all of the surrounding counties communications for mutual aid.

There will be room on the tower for the State of Nebraska to place their equipment as part of the state plan. The neighboring Counties will also possibly be able to utilize the tower as well to improve their communications.

## **SECTION NINE: LIST OF PREPARERS AND ATTACHMENTS**

This EA was prepared by Roger Powell, Furnas County Emergency Manager

Additional documents are attached in PDF file format for the Furnas Co Tower Project. Those attachments are listed as follows:

1. Furnas Co Statement of Work
2. Furnas Co NEPA Checklist
3. Furnas Co Tower Aerial Map
4. Furnas Co Site Photos
5. Federal Aviation Administration Study & Determination
6. Furnas Co SHPO Request Letter
7. Furnas Co SHPO Approval Letter
8. Furnas Co Risk Assessment
9. U.S. Fish and Wildlife Request Letter
10. U.S. Fish and Wildlife Approval Letter
11. NE Game & Parks Request Letter
12. NE Game & Parks Approval Letter
13. Omaha Tribe Request Letter
14. Ponca Tribe Request Letter
15. Ponca Tribe Approval Letter
16. Santee Sioux Nation Request Letter
17. Santee Sioux Nation Approval Letter
18. Winnebago Tribe Request Letter
19. Furnas Co Email - Non Response from Tribes