



INVENTORY OF EXCLUSION AND AVOIDANCE AREAS

**Targa Keene to Charlson Station Project – 7.35 Miles
McKenzie County, North Dakota**

Apex Project No. 7010815N031

June 2015

Prepared for:

Wood Group Mustang, Inc.
16001 Park Ten Place
Houston, Texas 77084

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	Energy Conversion and Transmission Facility Siting Act.....	1
3.0	Transmission facility corridor and route criteria.....	1
3.1	Exclusion Areas.....	2
3.1.1	Areas of National Significance	2
3.1.2	Areas of State Significance	2
3.1.3	Areas of Local Significance	3
3.1.4	Areas Critical to Threatened and Endangered Species	3
3.1.5	Areas Critical to Unique and Rare State Species.....	4
3.1.6	Areas within 1,200 feet of Intercontinental Ballistic Missile (ICBM) Launch or Launch Control Facility.....	4
3.1.7	Areas within 30 feet on either side of a direct line between ICBM launch or launch control facilities to avoid microwave interference	4
3.2	Avoidance Areas	5
3.2.1	Areas of National Significance	5
3.2.2	Areas of State Significance	5
3.2.3	Other Historical Resources	6
3.2.4	Geologically Unstable Areas	6
3.2.5	Residences, Schools, and Businesses	6
3.2.6	Reservoirs and Municipal Water Supplies.....	7
3.2.7	Rural Water Districts	7
3.2.8	Irrigated Land	7
3.2.9	Other Recreational Areas.....	7
3.3	Summary of Exclusion and Avoidance Criteria	8
4.0	REFERENCES.....	9

APPENDIX A: Figures
Figure 1 – Project Location

**Inventory of Exclusion and Avoidance Areas
Targa Keene to Charlson Station Project – 7.35 Miles
McKenzie County, North Dakota**

Apex Project No. 7010815N031

1.0 INTRODUCTION

Tesoro High Plains Pipeline Company, LLC is proposing to construct and operate approximately 7.35 miles of transmission pipeline, north to south, in McKenzie County, North Dakota. The southern terminus of the proposed Project is located at an existing station approximately 0.30 mile east of the intersection of 34th Avenue NW (Highway 12) and 107th Avenue NW (County Road 1806). The alignment generally travels north for approximately 7.35 miles to its northern terminus in an undeveloped agricultural field located approximately 0.95 mile southwest of the intersection of 42th Street NW and 107th Avenue NW. The proposed Project includes the installation of a gathering pipeline within an assumed 50-foot-wide permanent easement. It is assumed a 50-foot wide temporary workspace easement will be utilized during construction (Figure 1).

2.0 ENERGY CONVERSION AND TRANSMISSION FACILITY SITING ACT

North Dakota Century Code (N.D.C.C.) Chapter 49-22: North Dakota Energy Conversion and Transmission Facility Siting Act (Act) states, “it is necessary to ensure that the location, construction, and operation of energy conversion facilities and transmission facilities will produce minimal adverse effects on the environment and upon the welfare of the citizens of this state by providing that no energy conversion facility or transmission facility shall be located, constructed, and operated within this state without a certificate of site compatibility or a route permit.” When developing and evaluating potential corridors and routes, the applicant is required to consider the criteria identified in North Dakota Administrative Code (N.D.A.C.) §69-06-08, which include exclusion areas, avoidance areas, selection areas, and policy criteria.

The purpose of this report is to evaluate the exclusion and avoidance criteria in N.D.A.C. §69-06-08-02(1) and §69-06-08-02(2), respectively, for the proposed Project, by identifying and discussing the exclusion and avoidance areas as they relate to the proposed Project. This report does not include an evaluation of selection or policy criteria in §69-06-08-02(3) and §69-06-08-02(4), respectively.

3.0 TRANSMISSION FACILITY CORRIDOR AND ROUTE CRITERIA

Pursuant to N.D.A.C. §69-06-08-02, the following criteria must be used in the preparation of the inventory of exclusion and avoidance areas. The criteria identify those environmentally and socially important areas that may be impacted by the proposed Project and provide clear guidance as to areas where no facilities can be sited and which areas to avoid.

The following sections identify and discuss the exclusion and avoidance criteria as they relate to the proposed Project.

3.1 Exclusion Areas

Pursuant to N.D.A.C. §69-06-08-02(1), some geographic areas must be excluded from consideration in siting a transmission facility corridor.

3.1.1 Areas of National Significance

Among these geographic areas are designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, and wilderness areas.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, much of the proposed Project alignment has been utilized primarily for agricultural purposes since at least 1995. Review of the North Dakota Hub Explorer (NDSG 2014); National Park Service (NPS) data, including NPS digital maps (NPS 2014a); National Register of Historic Places spreadsheet of listed properties (NPS 2014b); North Dakota Game and Fish Department maps (NDGFD 2014a); National Historic Landmarks Survey Listing of National Historic Landmarks by State for North Dakota (NPS 2014c); cultural resource survey report (Metcalf 2015); National Registry of Natural Landmarks (NPS 2009); the list of wilderness areas in North Dakota on Wilderness.net (Wilderness Institute 2014); and aerial imagery indicates that no designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, or wilderness areas are located in the proposed Project area.

Potential Impacts

No impacts to designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, or wilderness areas would occur as a result of the proposed Project.

3.1.2 Areas of State Significance

Among these geographic areas are designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, and nature preserves.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project alignment has been utilized primarily for agricultural purposes since at least 1995. Review of the North Dakota Hub Explorer (NDSG 2014), the North Dakota Parks and Recreation Department digital maps (NDPRD 2014), North Dakota Game and Fish Department maps (NDGFD 2014a), cultural resource survey report (Metcalf 2015), and State Historical Society of North Dakota digital map (SHSND 2014) indicates that no designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves are located in the proposed Project area. However, approximately two miles south of North Dakota Highway 23, approximately 0.50 linear feet of the proposed Project alignment appears to intersect a 192.65-acre tract designated as a North Dakota Game and Fish Department Working Lands Program (WLP) Private Land Open to Sportsmen (PLOTS). Also, west of the PLOTS tract, a tract of land located approximately 0.60 mile west of the proposed Project alignment is designated as a Surface Trust Land.

Potential Impacts

No impacts to designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves would occur as a result of the proposed Project. However, approximately 0.50 linear feet of the proposed Project alignment appears to intersect a 192.65-acre PLOTS tract.

3.1.3 Areas of Local Significance

Among these geographic areas are county parks and recreational areas, municipal parks, and parks owned or administered by other governmental subdivisions.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project alignment has been utilized for agricultural purposes since at least 1995. Review of the McKenzie County website, including digital maps (McKenzie County 2009) and aerial imagery indicates that no county parks and recreational areas, municipal parks, or parks owned or administered by other governmental subdivisions are located in the proposed Project area.

Potential Impacts

No impacts to county parks and recreational areas, municipal parks, or parks owned or administered by other governmental subdivisions would be impacted by the proposed Project.

3.1.4 Areas Critical to Threatened and Endangered Species

Among these geographic areas are areas critical to the life stages of threatened or endangered animal or plant species.

Existing Conditions

A Federally-listed Threatened and Endangered Species Habitat Assessment for the proposed Project was conducted in November 2014 (Apex 2015). According to the online USFWS Information, Planning and Conservation (IPaC) System, a Project-specific species list identified 10 federally protected, proposed, or candidate species in McKenzie County to be included in an effects analysis for the proposed Project: interior least tern (*Sterna antillarum*), whooping crane (*Grus americana*), Sprague's pipit (*Anthus spragueii*), red knot (*Calidris canutus rufa*), piping plover (*Charadrius melodus*), northern long-eared bat (*Myotis septentrionalis*), black-footed ferret (*Mustela nigripes*), gray wolf (*Canis lupus*), pallid sturgeon (*Scaphirhynchus albus*), and Dakota skipper (*Hesperia dacotae*) (USFWS 2015). Critical habitat for the Dakota skipper has been designated in McKenzie County; however, based on review of the critical habitat maps in the listing package, the proposed Project does not appear to intersect critical habitat for the Dakota skipper (USFWS 2014). Due to the current and historic agricultural practices, no habitat for any federally-listed threatened/endangered, proposed, or candidate species was identified within the proposed Project alignment during the habitat evaluation.

Potential Impacts

The likelihood of encountering federally-listed threatened/endangered species within the proposed Project is unlikely; therefore, no impacts to these species would likely occur as a result of the proposed Project.

3.1.5 *Areas Critical to Unique and Rare State Species*

Among these geographic areas are areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project alignment has been utilized for agricultural purposes since at least 1995. Review of information regarding rare and unique plant and animal species in North Dakota (Bry 1986, USFWS 2004, NDGFD 2014b) indicates that the proposed Project area is unlikely to contain habitat for animal or plant species that are unique or rare to the state. Also, due to the current and historic agricultural practices, it is unlikely that rare and unique plant and animal species in North Dakota would be located within the proposed Project alignment.

Potential Impacts

The likelihood of encountering animal or plant species that are unique or rare to the state within the proposed Project is unlikely; therefore, it is unlikely that such species would be irreversibly damaged by the proposed Project.

3.1.6 *Areas within 1,200 feet of Intercontinental Ballistic Missile (ICBM) Launch or Launch Control Facility*

Existing Conditions

Review of aerial imagery indicates that the proposed Project is not within 1,200 feet of the geographic center of an ICBM launch or launch control facility.

Potential Impacts

No impacts would occur to an ICBM launch or launch control facility as a result of the proposed Project and no impacts from an ICBM launch or launch control facility would impact the proposed Project.

3.1.7 *Areas within 30 feet on either side of a direct line between ICBM launch or launch control facilities to avoid microwave interference*

Existing Conditions

Review of aerial imagery indicates that the proposed Project is not within 30 feet on either side of a direct line between ICBM launch or launch control facilities.

Potential Impacts

No ICBM launch or launch control facilities microwave interference would occur as a result of the proposed Project.

3.2 Avoidance Areas

Pursuant to §69-06-08-02(2), some areas may not be considered in the routing of a transmission facility unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. Economic considerations alone will not justify approval of these areas.

3.2.1 Areas of National Significance

Among these geographic areas are designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project alignment has been utilized for agricultural purposes since at least 1995. Approximately 1.86 miles of the southern extent of the proposed Project alignment is located approximately 1,700 to 2,400 feet west of the Little Missouri National Grassland. Review of the North Dakota Hub Explorer (NDSG 2014); National Park Service (NPS) data, including NPS digital maps (NPS 2014a); National Register of Historic Places spreadsheet of listed properties (NPS 2014b); cultural resource survey report (Metcalf 2015); North Dakota Game and Fish Department maps (NDGFD 2014a); Wild and Scenic Rivers information (NWSRS 2014); aerial imagery; and topographic map indicates that no designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; or grasslands are located in the proposed Project area.

Potential Impacts

No impacts to designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; or grasslands would occur as a result of the proposed Project.

3.2.2 Areas of State Significance

Among these geographic areas are designated or registered state wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project site has been utilized for agricultural purposes since at least 1995. Review of the North Dakota Hub Explorer (NDSG 2014), North Dakota Game and Fish Department maps (NDGFD 2014a), State Historical Society of North Dakota digital map (SHSND 2014), and aerial imagery indicates that no designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, or nature preserves are located in the proposed Project area.

Potential Impacts

No impacts to designated or registered national state wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands would occur as a result of the proposed Project.

3.2.3 Other Historical Resources

Among these geographic areas are historical resources which are not specifically designated as exclusion or avoidance areas.

Existing Conditions

Review of the cultural resource survey report (Metcalf 2015) indicates that no historical resources which are not specifically designated as exclusion or avoidance areas are located within the proposed Project boundary.

Potential Impacts

No impacts to historical resources which are not specifically designated as exclusion or avoidance areas would occur as a result of the proposed Project.

3.2.4 Geologically Unstable Areas

Among these geographic areas are areas which are geologically unstable.

Existing Conditions

The northern extent of the proposed Project area is in the Glacial Sediment-Glacial Sediment Draped Over Pre-existing Topography (Qcdn) geologic unit, which is characterized by thin glacial sediment draped over and only slightly modifying the non-glacial topography existing before the last glacial advance (Clayton 1980). It consists of unbedded, unsorted mixture of clay, silt, sand, and pebbles, and a few cobbles and boulders, and is as thick as 100 feet (Clayton 1980). Beginning approximately three miles south of the northern terminus of the proposed Project alignment continuing to the southern terminus of the proposed Project alignment, the proposed Project area is in the Sentinel Butte Formation (Ts), which is characterized by gray-brown silt, clay, sandstone, and lignite (Clayton 1980). This formation consists of river, lake, and swamp sediment and is as thick as 600 feet (Clayton 1980). No known fault zones or areas of subsidence occur within the proposed Project (USGS 1979). The proposed Project is in a low earthquake probability area and a low landslide probability area (NDSG 2014 and Clayton 1980).

Potential Impacts

The proposed Project area is not in a geologically unstable area.

3.2.5 Residences, Schools, and Businesses

These geographic areas include areas which are within five hundred feet of a residence, school, or place of business.

Existing Conditions

Review of the North Dakota Hub Explorer (NDSG 2014) and aerial imagery indicates that no residences, schools, or places of business are within five hundred feet of the proposed Project alignment.

Potential Impacts

No impacts to residences, schools, or businesses would occur as a result of the proposed Project.

3.2.6 Reservoirs and Municipal Water Supplies

Existing Conditions

Review of aerial imagery and the North Dakota Hub Explorer (NDSG 2014) indicates that no reservoirs or municipal water supplies are located within the proposed Project.

Potential Impacts

No impacts to reservoirs or municipal water supplies would occur as a result of the proposed Project.

3.2.7 Rural Water Districts

These geographic areas include water sources for organized rural water districts.

Existing Conditions

Review of the North Dakota Hub Explorer (NDSG 2014) indicates that no water sources for organized rural water districts are located within the proposed Project.

Potential Impacts

No impacts to water sources for organized rural water districts would occur as a result of the proposed Project.

3.2.8 Irrigated Land

Existing Conditions

Review of aerial imagery indicates that the proposed Project does not appear to be located on irrigated lands.

Potential Impacts

No impacts to irrigated land would occur as a result of the proposed Project.

3.2.9 Other Recreational Areas

These geographic areas include areas of recreational significance which are not designated as exclusion areas.

Existing Conditions

The proposed Project is located on disturbed agricultural and range land, with areas of what appears to be oil and gas development areas scattered throughout and intersecting roadways. Based on a review of historical aerial imagery, the proposed Project alignment has been primarily utilized for agricultural purposes since at least 1995.

Potential Impacts

No impacts to areas of recreational significance which are not designated as exclusion areas would occur as a result of the proposed Project.

3.3 Summary of Exclusion and Avoidance Criteria

Table 1 provides a summary of the inventory of exclusion and avoidance areas for the proposed Project.

Table 1: Summary of Exclusion and Avoidance Criteria

	Criteria	Proposed Project Area
Exclusion Areas	Designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, and wilderness areas	No identified occurrences within the proposed Project alignment.
	Designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, and nature preserves	No identified occurrences within the proposed Project alignment. However, the proposed Project alignment appears to intersect a North Dakota Game and Fish Department PLOTS tract.
	County parks and recreational areas, municipal parks, and parks owned or administered by other governmental subdivisions	No identified occurrences within the proposed Project alignment.
	Areas critical to the life stages of threatened or endangered animal or plant species	No identified occurrences within the proposed Project alignment.
	Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged	No identified occurrences within the proposed Project alignment.
	Areas within 1,200 feet of Intercontinental Ballistic Missile (ICBM) Launch or Launch Control Facility	No identified occurrences within the proposed Project alignment.
	Areas within 30 feet on either side of a direct line between ICBM launch or launch control facilities to avoid microwave interference	No identified occurrences within the proposed Project alignment.
Avoidance Areas	Designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands	No identified occurrences within the proposed Project alignment.
	Designated or registered state wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands	No identified occurrences within the proposed Project alignment.
	Historical resources which are not specifically designated as exclusion or avoidance areas	No identified occurrences within the proposed Project alignment.
	Geologically Unstable Areas	No identified occurrences within the proposed Project alignment.
	Within five hundred feet of a residence, school, or place of business	The proposed Project alignment would not be located within 500 feet of a residence, school, or place of business.
	Reservoirs and municipal water supplies	No identified occurrences within the proposed Project alignment.
	Water sources for organized rural water districts	No identified occurrences within the proposed Project alignment.
	Irrigated Land	No identified occurrences within the proposed Project alignment.
	Areas of recreational significance which are not designated as exclusion areas	No identified occurrences within the proposed Project alignment.

4.0 REFERENCES

- (Apex) Apex TITAN, Inc. 2015. Federally-listed Threatened and Endangered Species Habitat Assessment, Targa Keene to Charlson Station Project – 7.35 Miles, McKenzie County, North Dakota. June 2015.
- Bry, Ed, ed. 1986. The rare ones. North Dakota Outdoors 49(2):2-33. Jamestown, ND: Northern Prairie Wildlife Research Center Online.
<http://www.npwrc.usgs.gov/resource/wildlife/rareone/rareone.htm> (Version 16JUL97).
- Clayton, Lee. 1980. Geologic Map of North Dakota: U. S. Geological Survey, Scale 1:500K.
- McKenzie County. 2009. McKenzie County map. March 9, 2012. Available online at: http://county.mckenziecounty.net/usrfiles/homepage/Mckenzie_CountyMap2012.pdf. Accessed on: November 11, 2014.
- (Metcalf) Metcalf Archaeological Consultants, Inc. 2015. Apex TITAN, Inc.'s Targa Keene to Charlson Station Pipeline: A Class III Cultural Resource Inventory in McKenzie County, North Dakota. June 2015.
- (NDGFD) North Dakota Game and Fish Department. 2014a. NDGF PLOTS Guide. Available online at:
<http://ndgf.maps.arcgis.com/home/webmap/viewer.html?webmap=90250e0ee4ba4c96aa5f25e3b3fe35b1>. Accessed on November 11, 2014.
- (NDGFD) North Dakota Game and Fish Department. 2014b. North Dakota Species of Conservation Priority – 2014 List Update by Steve Dyke. Available online at: http://gf.nd.gov/gnf/publications/magazine/june_2014.pdf. Accessed on November 11, 2014.
- (NDPRD) North Dakota Parks and Recreation Department. 2014. State Parks. Available online at: <http://www.parkrec.nd.gov/parks/parks.html>. Accessed on November 11, 2014.
- (NDSG) North Dakota State Government. 2014. North Dakota GIS Hub Explorer. Available online at: <http://www.nd.gov/gis/apps/HubExplorer>. Access on November 12, 2014.
- (NPS) National Parks Service. 2009. National Registry of Natural Landmarks-June 2009. Available online at: <http://www.nature.nps.gov/nnl/docs/NNLRegistry.pdf>. Accessed on November 11, 2014.
- (NPS) National Parks Service. 2014a. Find A Park, Search By State, North Dakota. Available online at: <http://www.nps.gov/state/nd/index.htm?program=parks>. Accessed on November 11, 2014.
- (NPS) National Parks Service. 2014b. National Register of Historic Places. Simplified data, spreadsheet of all the listed properties. Available online at: <http://nrhp.focus.nps.gov/natreg/docs/Download.html>. Accessed on November 11, 2014.
- (NPS) National Parks Service. 2014c. National Historic Landmarks Survey. Available online at: <http://www.nps.gov/nhl/find/statelists/nd/ND.pdf>. Accessed on November 11, 2014.

- (NWSRS) National Wild and Scenic Rivers System. 2014. Explore Designated Rivers, North Dakota. Available online at: <http://www.rivers.gov/north-dakota.php>. Accessed on November 11, 2014.
- (SHSND) State Historical Society of North Dakota. 2014. Historic Sites. Available online at: <http://www.history.nd.gov/historicsites>. Accessed on November 11, 2014.
- (USFWS) U. S. Fish and Wildlife Service. 2004. North Dakota's Endangered and Threatened Species and Species of Concern. April, 2004. Available online at: <http://www.fws.gov/northdakotafieldoffice/images/state1.jpg>. Accessed November 11, 2014.
- (USFWS) U. S. Fish and Wildlife Service. 2014. Endangered and Threatened Wildlife and Plants; Listing and Designation of Critical Habitat for the Dakota Skipper and the Poweshiek Skipperling. 79 FR 56704 56730.
- (USFWS) U. S. Fish and Wildlife Service. 2015. Project Specific List, Targa Antelope Lateral. Consultation Project Code: IQQYC-VLDHN-DC7FV-AJLC6-GGQWFU. June 11, 2015.
- (USGS) U. S. Geological Survey. 1979. Unstable Ground in Western North Dakota. USGS Circular: 798. Available online at: <http://pubs.usgs.gov/circ/1979/0798/report.pdf>. Accessed on November 12, 2014.
- Wilderness Institute. 2014. Wilderness.net, Maps, Data, and Images, Maps, Static Map, North Dakota. Available online at: <http://www.wilderness.net/NWPS/stateViewStatic?state=nd&map=nd>. Accessed on November 11, 2014.

APPENDIX A
FIGURES

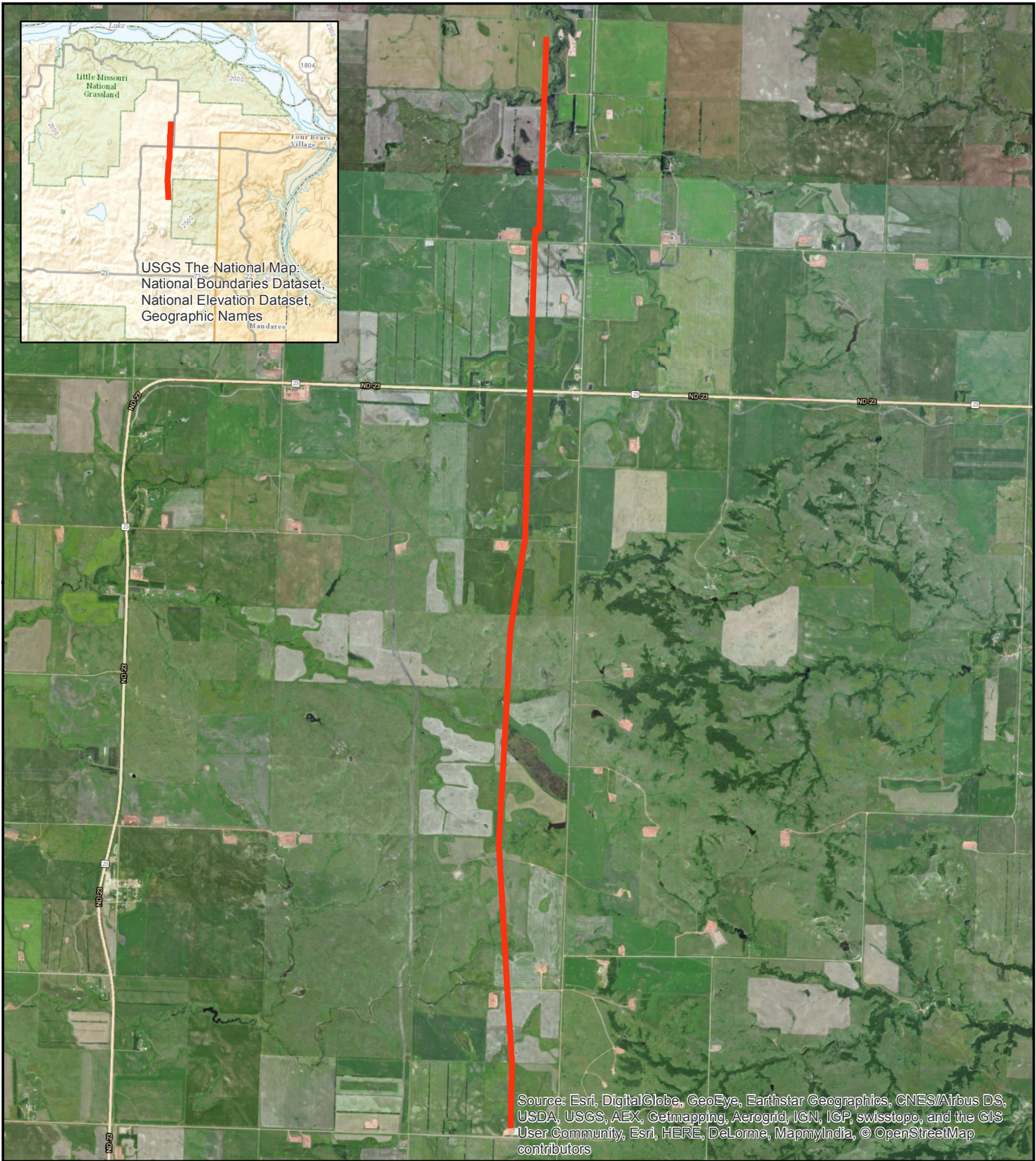



Figure 1: Project Location
Inventory of Exclusion and Avoidance Areas
Keene to Charlon
June 2015
Apex No. 7010815N031

Legend
 Keene to Charlon

