

Appendix D

Natural Resource Report

**Natural Resources and Wetland
Determination Report for
Arrow Four Bears CDP Connect,
McKenzie County, North Dakota**

Prepared for

Arrow Pipeline, LLC

Prepared by

SWCA Environmental Consultants

26 May 2011

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McKenzie County, North Dakota**

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1.0 INTRODUCTION

1.1 BACKGROUND

Arrow Field Services, LLC (Arrow) is proposing to construct an approximately 1.45-mile-long crude oil pipeline named the Four Bears CDP Connect (Project) in McKenzie County, North Dakota (survey area). The proposed pipeline will be constructed within a 120-foot temporary construction right-of-way (ROW) and a permanent 50-foot-wide ROW will be maintained after construction is complete.

The North Dakota Public Service Commission (ND PSC) has claimed jurisdiction over the survey area and is requiring a certificate of corridor compatibility and route permit be obtained prior to the commencement of construction activities. SWCA Environmental Consultants (SWCA) was contracted by Arrow to complete natural and cultural resource field surveys to identify exclusion and avoidance areas as specified in North Dakota Administrative Code (NDAC) 69-06-08-02.

SWCA conducted a field survey of a 200-foot-wide corridor on April 25, 2011, to determine the potential presence and extent of waters of the U.S., commonly referred to as a wetland determination, within the proposed survey area. Concurrently with the wetland determination, SWCA also conducted a cursory threatened and endangered species survey and habitat assessment; a tree, sapling, and shrub enumeration survey; and a noxious weed survey.

This report outlines the methodology used by SWCA's ecologists to complete each of the aforementioned surveys. Additionally, this report presents the results of the completed field surveys and regulatory recommendations to ensure compliance with the ND PSC and the U.S. Army Corps of Engineers (USACE) Nationwide Permit 12.

1.2 REGULATORY BACKGROUND

1.2.1 Clean Water Act, Section 404

Section 404 of the Clean Water Act prohibits the discharge of fill material into waters of the U.S., also known as jurisdictional waters, without a permit from the USACE.

1.2.2 USACE Nationwide Permit 12

The USACE Nationwide Permit 12 authorizes the construction of utility lines and associated facilities in waters of the U.S., provided the activity does not result in the permanent loss of greater than 0.5 acre of waters of the U.S., including wetlands.

Nationwide Permit 12 also authorizes the construction of access roads for utility lines, provided that the access road:

- does not result in the permanent loss of greater than 0.5 acre of waters of the U.S.;
- is constructed to the minimum width necessary;
- is constructed so that the length of the road minimizes any adverse effects to waters of the U.S.;

- is as near as possible to pre-construction contours and elevations; and
- is properly bridged or culverted when constructed above pre-construction contours.

If the access roads are used exclusively for construction purposes, they must be temporary and removed upon project completion.

Nationwide Permit 12 requires that the permittee submit a pre-construction notification prior to commencing construction if any of the following criteria are met.

- The activity involves mechanized land clearing in a forested wetland.
- A Section 10 permit is required to cross a navigable waterbody (Rivers and Harbors Act).
- The utility line exceeds 500 feet in length through any single crossing of a water of the U.S.
- The utility line is placed within a jurisdictional area (i.e., water of the U.S.) and it runs parallel to a stream bed that is within that jurisdictional area.
- Discharges result in the permanent loss of greater than 0.1 acre of waters of the U.S.
- Permanent access roads are constructed above grade in waters of the U.S. for a distance of more than 500 feet.
- Permanent access roads are constructed in waters of the U.S. with impervious materials.

Please refer to Appendix D for a copy of the USACE Nationwide Permit 12 conditions.

1.2.3 USACE Regional Conditions

The USACE has published several regional conditions for projects operating under Nationwide Permits in North Dakota. The regional conditions apply to wetlands classified as “fens,” waters adjacent to natural springs, the Missouri River, historic properties, and fish spawning areas. Please refer to Appendix D for a copy of the USACE Nationwide Permit Regional Conditions for the state of North Dakota.

2.0 METHODS

2.1 SURVEY AREA

The proposed survey area trends east to west entirely within McKenzie County, North Dakota, beginning in the NW¹/₄ NW¹/₄ of Section 20, Township (T) 150 North (N), Range (R) 95 West (W), of the 5th Prime Meridian. Moving east to west, the survey area then traverses through the NE¹/₄ of Section 19, T150N, R95W, the NW¹/₄ of Section 19, T150N, R95W, finally ending at a point in the NE¹/₄ NE¹/₄ of Section 24, T150N, R96W. The study area is located in the Great Plains (Level I), West-Central Semi-Arid Prairies (Level II), Northwestern Glaciated Plains (Level III), and the Missouri Coteau Slope (Level IV) ecoregions. The Missouri Coteau Slope is characterized by an average precipitation amount of 15 to 18 inches and mean July temperatures ranging from 59 degrees Fahrenheit (°F) to 86°F (U.S. Geological Survey [USGS] 2006).

2.2 WETLANDS

SWCA ecologists conducted wetland determinations, within the survey area, based on the principles and guidelines provided in the 1987 Corps of Engineers Wetlands Delineation Manual (Manual) (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetlands Determination Manual: Great Plains Region* (Supplement) (USACE 2008). According to the Manual, an area is a wetland if three mandatory wetland indicators are present in a given area, with special exceptions. These criteria include the presence of hydrophytic vegetation, wetland hydrology, and hydric soils. All wetlands and waterbodies geographically referenced within the survey area during field survey are depicted on the Site Layout Maps in Appendix A.

2.2.1 Vegetation

SWCA taxonomically identified all plant species within each recorded wetland area. All species were recorded according to their respective vegetative stratum. A tree is defined by the Supplement to be a woody-stemmed plant with a trunk diameter at breast height (DBH) of equal to or greater than 3 inches, regardless of height. The sapling and shrub stratum is defined by the Supplement to be composed of woody-stemmed plants with a trunk DBH of less than 3 inches, regardless of height. The herbaceous stratum includes all non-woody-stemmed plants regardless of height. Finally, the woody vine stratum includes all woody-stemmed vines, regardless of diameter.

SWCA ecologists noted each plant species' respective U.S. Fish and Wildlife Service (USFWS) indicator status (i.e., upland [UPL], facultative upland [FACU], facultative [FAC], facultative wetland [FACW], and obligate [OBL]).

SWCA also noted all populations of North Dakota state or county listed noxious weeds identified within the survey area.

2.2.2 Hydrology

A wetland was determined to contain wetland hydrology if at least one primary indicator or at least two secondary indicators of wetland hydrology were present, as defined by the Manual. Common hydrologic indicators include the presence of surface water, high water table, soil saturation, water marks on trees or other objects, sediment deposits, water-stained leaves, and oxidized rhizospheres on living roots.

2.2.3 Soil

Soil data derived from on-site excavated soil pits, including the matrix value, hue, chroma, and color name, are summarized below in Section 3.3. Additionally, redoximorphic features (i.e., reduced/oxidized iron or manganese) deposits and soil texture were looked for at each location and noted where found. A Munsell soil color chart was used to determine the color of moist soil samples.

Soil profiles were excavated by SWCA during the wetland determination. Hydric soils were assumed to be present within each area that exhibited greater than 50% hydrophytic vegetation, a positive indication of wetland hydrology. Additionally, the assumption of the presence of hydric soil was predicated on the geomorphic position of each wetland area.

2.3 WATERBODIES

Waterbodies (i.e., creeks, streams, rivers) were identified by the presence of an ordinary high water mark (OHWM). Common identifiable indicators of an OHWM include a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential limits of the USACE jurisdiction. Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round and the water table is located above the stream bed. Groundwater is the primary water source for stream flow while precipitation runoff is supplemental. Ecologists classified streams that showed significant flow during the field survey or were named or designated as solid blue lines on the USGS topographic maps as perennial.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

2.4 WILDLIFE INCLUDING THREATENED AND ENDANGERED SPECIES

Information regarding the presence of threatened or endangered species, which may occur within the survey area, was obtained from the U.S. Fish and Wildlife Service (USFWS) list of threatened and endangered species by North Dakota county (USFWS 2010a). This document does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded.

SWCA conducted a cursory pedestrian survey concurrently with the wetland determination for all listed species that could be potentially impacted by construction activities. Additionally, SWCA characterized suitable threatened and endangered species habitat encountered during the field survey.

SWCA ecologists noted all wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

2.5 TREE, SAPLING, AND SHRUB COUNT

SWCA ecologists determined the total number of trees, saplings, and shrubs present within the surveyed 200-foot ROW by actual count. The boundary of all forested upland, shrubland, and shelterbelt habitat was geographically referenced. In forested upland and shrubland habitat, SWCA counted the number of all woody stemmed vegetation individuals regardless of DBH. Ecologists taxonomically identified all recorded individuals to the species level within each habitat type.

2.6 MAPPING

The boundaries of each wetland, waterbody, and woody vegetation habitat were geographically recorded using a Trimble GeoXT GPS unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13N as the projected coordinate system and North American Datum 1983 as the datum. ArcGIS v9.3 (Redlands, California) was used to analyze collected features, calculate areas, and generate the maps provided in Appendix A. Please note that all data collected using the GPS unit, and displayed on the attached maps, are for review purposes only and do not represent a professional civil survey.

3.0 RESULTS

3.1 VEGETATION

SWCA ecologists identified four general types of vegetative communities within the survey area. These vegetative communities were classified as herbaceous upland, shrubland, cropland, and palustrine emergent (PEM) wetland. PEM wetlands are characterized by the presence of herbaceous hydrophytic or submergent aquatic macrophytes.

Vegetation communities met the hydrophytic vegetation criterion for wetlands if greater than 50 percent of dominant species had an indicator status of FAC, FACW, or OBL. The upland communities failed to meet at least one of the two assessed wetland criteria. Refer to Appendix B for photographs that depict representative vegetation at wetlands surveyed. Examples of common dominant species identified within each vegetative community are listed below.

SWCA ecologists did not observe any occurrences of North Dakota state or county listed noxious weeds within the surveyed area.

3.1.1 Herbaceous Upland

Herbaceous upland communities occurring throughout the survey area consisted of non-wetland areas dominated by non-woody vegetation such as grasses and forbs. Common species found within these communities include needle and thread (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*), and Kentucky bluegrass (*Poa pratensis*).

3.1.2 Shrubland

Shrubland communities occurring throughout the survey area consisted of upland areas dominated by woody-stemmed vegetation including redosier dogwood (*Cornus sericea*), fireberry hawthorn (*Crataegus chrysocarpa*), chokecherry (*Prunus virginiana*), and silver buffaloberry (*Shepherdia argentea*).

3.1.3 Cropland

Cropland vegetation included cultivated wheat (*Triticum* sp.).

3.1.4 PEM Wetland

PEM wetlands found within the survey area consisted of herbaceous, non-woody vegetation although some woody vegetation was present but not dominant. Common hydrophytic species found within these communities include reed canarygrass (*Phalaris arundinacea*), giant reedgrass (*Phragmites australis*), sow thistle (*Sonchus asper*), and cocklebur (*Xanthium strumarium*).

3.2 HYDROLOGY

Wetland communities observed during the determination effort displayed at least one primary or two secondary indicators of wetland hydrology, as defined by the Manual. Upland communities either failed to display hydrologic indicators or failed to meet the hydrophytic vegetation requirement, as defined by the Manual.

According to National Weather Service (NWS) preliminary climatological data for Williston, North Dakota, 3.97 inches of precipitation was recorded from March 1 through April 30, 2011 (Table 1). This value represents a +2.18-inch departure from normal indicating that hydrologic conditions were abnormal when the survey was conducted.

Table 1. Monthly Recorded Rainfall at NWS Williston, North Dakota.

Month	Recorded Precipitation (inches)	Normal Precipitation (inches)	Difference (inches)
March 2011	0.98	0.74	+0.24
April 2011	2.99	1.05	+1.94
Total	3.97	1.79	2.18

Source: National Oceanic and Atmospheric Administration 2011

3.3 SOILS

SWCA assumed all wetland areas where dominant (i.e., > 50% absolute cover) hydrophytic vegetation and wetland hydrology were observed also exhibited hydric soil characteristics. Table 2 summarizes the soil types present within the survey area. Please refer to Appendix C for Natural Resources Conservation Service (NRCS) soil series descriptions.

Table 2. NRCS Derived Soil Series Present within the ROW.

Map Unit	Soil Series	Acres	% of Location
14	Korchea loam, channeled, 0 to 2 percent slopes	0.47	4.36
30	Lawther silty clay, 0 to 2 percent slopes	1.15	10.68
33	Belfield-Grail silty clay loams, 0 to 2 percent slopes	0.87	8.08
96	Pits, gravel, and sand	0.66	6.13
33B	Belfield-Savage silty clay loams, 2 to 6 percent slopes	1.22	11.33
42B	Williams-Zahl loams, 3 to 6 percent slopes	0.63	5.85
44E	Zahl-Williams loams, 15 to 25 percent slopes	0.29	2.69
53C	Chama-Cabba-Sen silt loams, 6 to 9 percent slopes	0.24	2.23
88D	Brandenburg-Searing-Dogtooth complex, 6 to 15 percent slopes	2.3	21.36
88F	Brandenburg-Cabba-Dogtooth complex	0.52	4.83
90E	Manning-Schaller-Wabek complex, 6 to 25 percent slopes	2.36	21.91
91F	Wabek-Zahl complex, 9 to 35 percent slopes	0.06	0.55

3.4 WETLANDS

SWCA recorded two PEM wetlands within the survey area, totaling approximately 0.128 acre (Table 3). However, only approximately 0.00453 acre of PEM wetland is anticipated to be temporarily impacted by the proposed 35-foot construction ROW centered on the proposed centerline.

Table 3. PEM Wetland Acreage within the Survey Area.

Wetland ID	Total Wetland Area (acres)	Temporarily Impacted Wetland Area within 100-foot ROW (acres)	Crossing Distance (feet)	USACE Jurisdictional Status¹
WET 1	0.068	0.00007	3.8	Jurisdictional
WET 2	0.060	0.00446	26.7	Jurisdictional
Total	0.128	0.00453	30.5	

¹ The USACE has final authority to determine the jurisdictional status of wetlands and other “waters of the U.S.”

3.5 WATERBODIES

SWCA identified one intermittent stream (Dry Creek) within the survey area (Table 4). Dry Creek (Hydrologic Unit Code [HUC] 101101012002) is located within the Bear Den Creek sub-watershed (HUC 1011010120) and the Lake Sakakawea watershed (HUC 10110101). WET 1 and WET 2 are located within an ephemeral tributary of Dry Creek. At the time of survey, terrestrial vegetation from the last growing season was matted, indicating deep snow pack and subsequently high water velocities.

Dry Creek was swollen during the survey as a result of spring snow melt. The OHWM width was estimated to be approximately 8 feet wide while surface water width was recorded as approximately 11 feet.

Table 4. Waterbody ID, Name, Classification, Acreage, Crossing Method and Length, and Jurisdictional Status.

Waterbody ID	Waterbody Name	Classification	Determined Area (acres)	Crossing Length (feet)	USACE Jurisdictional Status¹
WB1	Dry Creek	Intermittent Stream	N/A	5.9	Jurisdictional

¹ The USACE has the final authority on the jurisdictional status of a waterbody.

3.6 WILDLIFE

SWCA conducted a cursory threatened and endangered species survey concurrently with the wetland determination. Ecologists did not observe any primary (i.e., actual sighting) or secondary (tracks, scat, fur, feathers) indication of the presence of threatened or endangered species. However, the survey area does contain suitable foraging and stopover habitat for the whooping crane (*Grus americana*) and foraging habitat for the gray wolf (*Canis lupus*).

3.6.1 Endangered Species Act

3.6.1.1 Black-footed Ferret (*Mustela nigripes*)

Federal Status: Endangered

Affects Determination: No Effect

Black-footed ferrets are nocturnal, solitary carnivores of the weasel family that have been largely extirpated from the wild primarily due to range-wide decimation of the prairie dog (*Cynomys* sp.) ecosystem (Kotliar et al. 1999). They have been listed by the USFWS as endangered since 1967, and have been the object of extensive re-introduction programs (USFWS 2010b). Ferrets inhabit extensive prairie dog complexes of the Great Plains, typically composed of several smaller colonies in proximity to one another that provide a sustainable prey base. The *Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act* (USFWS 1989) states that ferrets require black-tailed prairie dog (*Cynomys ludovicianus*) towns or complexes greater than 80 acres in size, and towns of this dimension may be important for ferret recovery efforts (USFWS 1988a). Prairie dog towns of this size were not observed during the field survey. In addition, this species has not been observed in the wild for more than 20 years. Therefore, the proposed project would have **no effect** on this species.

3.6.1.2 Gray Wolf

Federal Status: Endangered

Affects Determination: No Effect

The gray wolf, listed as endangered in the United States in 1978, was believed extirpated from North Dakota in the 1920s and 1930s with only sporadic reports from the 1930s to present (Licht and Huffman 1996). The presence of wolves in most of North Dakota consists of occasional dispersing animals from Minnesota and Manitoba (Licht and Fritts 1994; Licht and Huffman 1996). Most documented gray wolf sightings that have occurred within western North Dakota are believed to be young males seeking to establish territory (Hagen et al. 2005). The Turtle Mountain region of north-central North Dakota provides marginal habitat that may be able to support a very small population of wolves. The closest known pack of wolves is the Minnesota population located approximately 28 kilometers (km) from the northeast corner of North Dakota.

The gray wolf uses a variety of habitats that support a large prey base, including mountain and low-elevation forests, grasslands, and desert scrub (USFWS 2010c). Due to a lack of forested habitat and distance from the Minnesota and Manitoba populations, as well as the troubled relationship between humans and wolves and their vulnerability to being shot in open habitats (Licht and Huffman 1996), the re-establishment of gray wolf populations in North Dakota is unlikely. Additionally, habitat fragmentation may further act as a barrier against wolf recolonization in western North Dakota. Therefore, the proposed project would have **no effect** on the gray wolf.

3.6.1.3 Whooping Crane

Federal Status: Endangered

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The whooping crane was listed as endangered in 1970 in the United States by the USFWS and in 1978 in Canada. Historically, population declines were caused by shooting and destruction of nesting habitat in the prairies from agricultural development. Current threats to the species include habitat destruction, especially suitable wetland habitats that support breeding and nesting, as well as feeding and roosting during their fall and spring migration (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007).

The July 2010 total wild population was estimated at 383 (USFWS 2010d). There is only one self-sustaining wild population, the Aransas-Wood Buffalo National Park population, which nests in Wood Buffalo National Park and adjacent areas in Canada, where approximately 83% of the wild nesting sites occur (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007; USFWS 2010d). Williams County, including the survey area, is within the primary migratory flyway of whooping cranes.

Whooping cranes probe the soil subsurface with their bills for foods on the soil or vegetation substrate (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007). Whooping cranes are omnivores and foods typically include agricultural grains, as well as insects, frogs, rodents, small birds, minnows, berries, and plant tubers. The largest amount of time during migration is spent feeding in harvested grain fields (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007). Studies indicate that whooping cranes use a variety of habitats during migration, in addition to cultivated croplands, and generally roost in small palustrine (marshy) wetlands within 1 km of suitable feeding areas (Howe 1987, 1989). Whooping cranes have been recorded in riverine habitats during their migration, with eight sightings along the Missouri River in North Dakota (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007:18). In these cases, they roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance (Armbruster 1990).

Suitable whooping crane foraging habitat (i.e., cultivated cropland) was observed within the survey area. Therefore, the proposed project **may affect, but is not likely to adversely affect** the endangered whooping crane.

3.6.1.4 Piping Plover (*Charadrius melodus*)

Federal Status: Threatened

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The piping plover is a small shorebird which breeds only in three geographic regions of North America: the Atlantic Coast, the Northern Great Plains, and the Great Lakes. Piping plover populations were federally listed as threatened and endangered in 1985, with the Northern Great Plains and Atlantic Coast populations listed as threatened, and the Great Lakes population listed as endangered (USFWS 1985a).

Plovers in the Great Plains make their nests on open, sparsely vegetated sand or gravel beaches adjacent to alkali wetlands, and on beaches, sand bars, and dredged material islands of major river systems (USFWS 2002, 2010e). The shorelines of lakes of the Missouri River

constitute significant nesting areas for the bird. Piping plovers nest on the ground, making shallow scrapes in the sand, which they line with small pebbles or rocks (USFWS 1988b). Anthropogenic alterations of the landscape along rivers and lakes where piping plover nest have increased the number and type of predators, subsequently decreasing nest success and chick survival (USFWS 2002, 2010e). The birds fly south by mid to late August to areas along the Texas coast and Mexico (USFWS 2002). The Northern Great Plains population has continued to decline despite federal listing, with population estimates of 1,500 breeding pairs in 1985 reduced to fewer than 1,100 in 1990. Low survival of adult birds has been identified as a factor (Root et al. 1992). Current conservation strategies include identification and preservation of known nesting sites, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 1988b, 2010e).

No suitable shoreline habitat for breeding and nesting plovers occurs within the survey area, and Lake Sakakawea is a minimum of 18 river miles away from the proposed project area. It is unlikely that migrating plovers would visit the survey area during their migration. Therefore, the proposed project **may affect, but is not likely to adversely affect** piping plovers.

3.6.1.5 Designated Critical Habitat of Piping Plover

Affect Determination: No Effect

The USFWS has designated critical habitat for the Great Lakes and Northern Great Plains populations of piping plover (USFWS 2002). Designated critical habitat for the piping plover includes 183,422 acres and 1,207.5 river miles of habitat along the shoreline of Lake Sakakawea in McKenzie County, North Dakota (USFWS 2002).

Since the proposed project will not modify, alter, disturb, or affect the shoreline of Lake Sakakawea or any of its tributary streams in any way, **no effect** to designated critical habitat of the piping plover is anticipated.

3.6.1.6 Interior Least Tern (*Sterna antillarum*)

Federal Status: Endangered

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The interior population of the least tern is listed as endangered by the USFWS (1985b). This bird is the smallest member of the gull and tern family, measuring approximately 9 inches in length. Terns remain near flowing water, where they feed by hovering over and diving into standing or flowing water to catch small fish (USFWS 2010f).

The interior population of least terns breeds in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande river systems, where they nest in small colonies. From late April to August, terns nest in a shallow hole scraped in an open sandy area, gravel patch, or exposed flat and bare sandbars along rivers, sand and gravel pits, or lake and reservoir shorelines. The adults continue to care for chicks after they hatch. Least terns in North Dakota will often be found sharing sandbars with the piping plover, a threatened species (USFWS 2010f).

Census data indicate over 8,000 least terns in the interior population. In North Dakota, the least tern is found mainly on the Missouri River from Garrison Dam south to Lake Oahe, and

on the Missouri and Yellowstone rivers upstream of Lake Sakakawea (USFWS 1990a, 2010f). Approximately 100 pairs breed in North Dakota (USFWS 2010f). Details of their migration are not known, but their winter range is reported to include the Gulf of Mexico and Caribbean Islands (USFWS 1990a, 2010f).

Loss of suitable breeding and nesting habitat for terns has resulted from dam construction and river channelization on major rivers throughout the Mississippi, Missouri, and Rio Grande river systems. River and reservoir changes have led to reduced sandbar formation and other shoreline habitats for breeding, resulting in population declines. In addition, other human shoreline disturbances affect the species (USFWS 1990a). Critical habitat has not been designated for the species (USFWS 2010f).

Current conservation strategies include identification and avoidance of known nesting areas, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 2010f).

A suitable shoreline habitat for breeding and nesting terns does not occur in the survey area, and Lake Sakakawea is a minimum of 18 river miles away from the survey area. It is unlikely that terns would visit the upland or wetland habitats present in the survey area. Therefore, the proposed project **may affect, but is not likely to adversely affect** endangered least terns.

3.6.1.7 Pallid Sturgeon (*Scaphirhynchus albus*)

Federal Status: Endangered

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The pallid sturgeon was listed as Endangered in 1990 in the United States by the USFWS (1990b). The primary factor leading to the decline of this species is the alteration of habitat through river channelization, creation of impoundments, and alteration of flow regimes (USFWS 1990b). These alterations within the Missouri River have blocked movements to spawning, feeding, and rearing areas; destroyed spawning habitat; altered flow conditions which can delay spawning cues; and reduced food sources by lowering productivity (USFWS 2007a). The fundamental elements of pallid sturgeon habitat are defined as the bottom of swift waters of large, turbid, free-flowing rivers with braided channels, dynamic flow patterns, flooding of terrestrial habitats, and extensive microhabitat diversity (USFWS 1990b).

The pallid sturgeon population which may be found approximately 18 river miles from the survey area occurs from the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea and the lower Yellowstone River up the confluence of the Tongue River, Montana (USFWS 2007a). This population consists of approximately 136 wild adult pallid sturgeon (USFWS 2007a). Hatchery reared sturgeon have also been stocked since 1998. The pallid sturgeon has been found to utilize the 25 km of riverine habitat that would be inundated by Lake Sakakawea at full pool (Bramblett 1996 per USFWS 2007a). Larval pallid sturgeons have also been found to drift into Lake Sakakawea. While the majority of pallid sturgeons are found in the headwaters of Lake Sakakawea, North Dakota Game and Fish have caught and released pallid sturgeon in nets set in 80 to 90 feet of water between the New Town and Van Hook area. Based on this information, pallid sturgeon could be found throughout Lake

Sakakawea (personal communication, email from Steve Krentz, Pallid Sturgeon Project Lead, U.S. Fish and Wildlife Service, to Mike Cook, Aquatic Ecologist, SWCA Environmental Consultants, September 3, 2010).

Suitable habitat for pallid sturgeon does not occur in the survey area, and Lake Sakakawea is a minimum of 18 river miles away from the proposed survey area. Potential pollution occurring as a result of construction activities and pipeline operations are concerns for downstream populations of endangered pallid sturgeon. Activities associated with the construction, reclamation, and operations of the proposed project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon. Therefore, the proposed project **may affect, but is not likely to adversely affect** pallid sturgeon.

3.6.1.8 Dakota Skipper (*Hesperia dacotae*)

Federal Status: Candidate

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The Dakota skipper is a small butterfly with a 1-inch wingspan and is found primarily in undisturbed native tall grass and upland dry mixed grass prairie areas with a high diversity of wildflowers and grasses (Committee on the Status of Endangered Wildlife in Canada 2003). The Dakota skipper appears to require a range of precipitation-evaporation ratios between 60 and 105 and a soil pH between 7.2 and 7.9 (McCabe 1981). Larvae feed on grasses, favoring little bluestem. Adults commonly feed on nectar of flowering native forbs such as harebell (*Campanula chrysocarpa*), wood lily (*Lilium philadelphicum*), and purple coneflower. The species is threatened by conversion of native prairie to cultivated agriculture or shrublands, over-grazing, invasive species, gravel mining, and inbreeding (USFWS 2005). Dakota skippers are not known to occur within the survey area; however, suitable habitat does occur. The proposed project **may affect, but is not likely to adversely affect** this species. The use of best management practices and conservation guidelines (USFWS 2007b) during construction and operation and immediate reclamation of short-term disturbance should decrease direct, indirect, and cumulative impacts to this species.

3.6.1.9 Sprague's Pipit (*Anthus spragueii*)

Federal Status: Candidate

Affect Determination: May Affect, Is Not Likely to Adversely Affect

The Sprague's pipit is a small passerine bird that is native to the North American grasslands. It is a ground nester that breeds and winters on open grasslands and feeds mostly on insects and spiders and some seeds. The Sprague's pipit is closely tied with native prairie habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota, and South Dakota as well as south-central Canada (USFWS 2010g). Wintering occurs in the southern states of Arizona, Texas, Oklahoma, Arkansas, Mississippi, Louisiana, and New Mexico. Within the survey area, suitable habitat does occur. The proposed project **may affect, but is not likely to adversely affect** this species.

3.6.2 Migratory Bird Treaty Act / Bald and Golden Eagle Protection Act

3.6.2.1 Bald Eagle (*Haliaeetus leucocephalus*)

Federal Status: Delisted in 2007; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

Effects of Project: No adverse effects anticipated

Suitable nesting or foraging habitat for bald eagles includes old growth trees relatively close (usually less than 1.24 miles [Hagen et al. 2005]) to perennial waterbodies. The survey area does not contain old growth trees and is approximately 7.89 straight-line miles from Lake Sakakawea. Therefore, no adverse effects are anticipated. However, the possibility of transient, flying bald eagle individuals traversing the survey area does exist.

3.6.2.2 Golden Eagle (*Aquila chrysaetos*)

Federal Status: Unlisted; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

Effects of Project: No adverse effects anticipated

No golden eagles were observed during the field surveys; however, golden eagles may occur within or near the survey area. The golden eagle prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found in proximity to badland cliffs which provide suitable nesting habitat. However, no primary or secondary indication of golden eagle presence, including nests, was observed within or near the survey area during the field survey. Therefore, the proposed project is unlikely to cause any adverse effects to golden eagles.

3.6.3 Wildlife Observed

SWCA ecologists did not observe any primary or secondary indicators of common wildlife presence.

3.7 TREE, SAPLING, AND SHRUB COUNT

During SWCA's field survey, approximately 15 naturally occurring forested upland and shrubland areas were geographically referenced within the survey area. Table 5 indicates the number of trees estimated to be impacted by the project as currently proposed. The ND PSC requires a 2:1 post- to pre-construction mitigation for all trees impacted during the construction of the proposed pipeline. Therefore, SWCA estimates approximately 300 2-year-old sapling individuals will need to be replanted in order to fulfill the 2:1 mitigation requirement.

Table 5. Tree, Sapling, and Shrub Count.

Woody Vegetation	Species Recorded	Number of Individuals within 200-foot Survey ROW	Number of Individuals per Delineated Acre within the 200-foot Survey ROW	Acreage Impacted within the 35-foot Construction ROW	Estimated Number of Individuals Impacted by Construction	2:1 Mitigation Requirement
WV1	<i>Crataegus chrysocarpa</i>	50	3,333	0	0	0
WV2	<i>Prunus virginiana</i>	12	800	0.0054	4	8
WV3	<i>Prunus virginiana</i>	16	696	0.0167	12	24
WV4	<i>Prunus virginiana</i>	8	2,667	0	0	0
WV5	<i>Prunus virginiana</i>	14	778	0	0	0
WV6	<i>Prunus virginiana</i> <i>Crataegus chrysocarpa</i>	30	316	0.0302	10	20
WV7	<i>Prunus virginiana</i> <i>Crataegus chrysocarpa</i>	23	522	0.0052	3	6
WV8	<i>Prunus virginiana</i> <i>Crataegus chrysocarpa</i> <i>Cornus sericea</i>	12	750	0	0	0
WV9	<i>Prunus virginiana</i> <i>Crataegus chrysocarpa</i>	49	875	0	0	0
WV10	<i>Shepherdia argentea</i>	18	1,800	0.0010	2	4
WV11	<i>Shepherdia argentea</i>	34	540	0.0345	19	38
WV12	<i>Shepherdia argentea</i>	45	1,324	0.0110	15	30
WV13	<i>Shepherdia argentea</i>	12	1,091	0.0050	5	10
WV14	<i>Shepherdia argentea</i>	28	1,077	0	0	0
WV15	<i>Shepherdia argentea</i>	23	1,278	0.0083	11	22
				TOTAL	81	162

4.0 CONCLUSIONS AND RECCOMENDATIONS

1. SWCA ecologists recorded approximately 0.128 acre of wetlands within the survey area.
2. In total, 0.00453 acre of PEM wetland *may* be temporarily impacted by construction activities.
3. SWCA estimates approximately 81 shrubs may be impacted during construction. Therefore, approximately 162 2-year-old saplings may need to be replanted to fulfill the 2:1 mitigation requirement.
4. According to the recommendations of the North Dakota Forest Service, tree species selection for replacement should be accomplished through collaboration with a reputable area nursery. This will allow for species to be selected based on various factors including species hardiness and area soil type (personal communication, telephone conversation between Tom Claeys, Forestry and Fire Management Team Leader, North Dakota Forest Service, and Michael Cook, Ecologist, SWCA, December 7, 2009).
5. According to the recommendations of the North Dakota Forest Service, non-native species are permitted and to an extent recommended for planting as they may be more resistant to known tree pathogens in the area (personal communication, telephone conversation between Tom Claeys, Forestry and Fire Management Team Leader, North Dakota Forest Service, and Michael Cook, Ecologist, SWCA, December 7, 2009).
6. No threatened or endangered species were observed during the field survey. The known species which occur in McKenzie County are not likely to be detrimentally impacted by construction activities.

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APPENDIX A
Vicinity Maps and Site Layout Maps



Legend

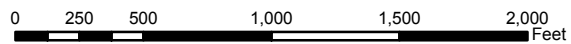
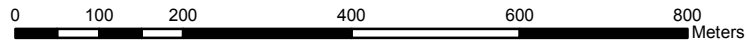
- | | | |
|---|------------------|----------------|
| Four Bears CDP Connect Pipeline | Stream | Existing Road |
| Alternate Four Bears CDP Connect Pipeline | Wetland | Township/Range |
| Surveyed Area | Large Shrub | Section Line |
| Survey Exclusion | Woody Vegetation | |

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Scale: 1:9,000
Base Map: National Agricultural
Imagery Program (NAIP), 2010.
McKenzie County, North Dakota

UTM Zone 13N, NAD83, Meters
May 06, 2011



APPENDIX B
Photographic Log



Photograph 1. Facing north toward WET 1.



Photograph 2. Facing south from WET 1.



Photograph 3. WV5 facing south.



Photograph 4. WV6 facing north.



Photograph 5. Representative photograph of upland herbaceous plant community with upland shrubland in foreground.



Photograph 6. WV 9 facing north.



Photograph 7. WV 15 facing east. Note Dry Creek in the foreground.



Photograph 8. Dry Creek facing south (downstream). Note the matted terrestrial vegetation.



Photograph 9. Dry Creek facing east (across).

APPENDIX C
USDA-NRCS Soil Map Unit Descriptions

BELFIELD

The Belfield series consists of deep and very deep, well- or moderately well-drained slowly permeable soils formed in alkaline, calcareous residuum, or alluvium on uplands, flats, terraces, and in swales. Slope ranges from 0 to 9 percent. Mean annual air temperature is 43 degrees Fahrenheit (°F), and mean annual precipitation is 15 inches. Most areas are cropped to small grains. Some are used for hay or pasture. Native vegetation is mid and short prairie grasses such as western wheatgrass, blue grama, and green needlegrass.

BRANDENBURG

The Brandenburg series are very deep, excessively drained soils. They are 10 to 20 inches over shattered porcelanite bedrock. They formed in residuum from porcelanite and have moderate over very rapid permeability. Slopes range from 2 to 70 percent. Mean annual precipitation is about 15 inches, and mean annual air temperature is about 43°F. This soil type is used mainly for range. Native vegetation is threadleaf and needleleaf sedges, short and mid prairie grasses, creeping cedar, and other shrubs.

CABBA

The Cabba series consists of shallow, well-drained, moderately permeable soils found on hills, escarpments, and sedimentary plains. The soil slopes broadly range between 2 and 70 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 16 inches and mean annual air temperature is approximately 43°F. The most common vegetation species found on this soil type are little bluestem, green needlegrass, and other various herbs, forbs, and shrub species (NRCS 2009).

CHAMA

The Chama series consists of well-drained soils formed in materials weathered from soft siltstone, mudstone, and shale on uplands. These soils are moderately deep to soft siltstone, mudstone, or shale and are moderately or moderately slowly permeable. Slope ranges from 0 to 45 percent. Mean annual air temperature is 42°F, and mean annual precipitation is 15 inches. Soils are cropped to small grains, which are mostly wheat; a significant acreage is in rangeland. The native vegetation is principally western wheatgrass, needleandthread, and blue grama.

DOGTOOTH

The Dogtooth series consists of moderately deep, well-drained, very slowly permeable soils formed in residuum weathered from saline-alkali, calcareous, soft shale, siltstone, or mudstone. These soils are on uplands and have slopes of 0 to 25 percent. Mean annual temperature is about 42°F, and mean annual precipitation is about 15 inches. Most areas with this soil type are planted with grass and used for range and pasture. Native vegetation is short- and mid-prairie grasses such as western wheatgrass, blue grama, inland saltgrass, sedges, and also some legumes, prickly pear cactus, and clubmoss. A few areas are cultivated and used mostly for small grains.

GRAIL

The Grail series consists of deep and very deep, well- or moderately well-drained, moderately slow or slowly permeable soils that formed in alluvium. These soils are on terraces, fans, swales, and foot slopes on uplands and have slopes ranging from 0 to 15 percent. Mean annual air temperature is 42°F, and mean annual precipitation is 15 inches. Most areas are used for cultivated crops such as wheat, oats, and barley. Native vegetation includes mixed grasses such as western wheatgrass, big bluestem, green needlegrass, and needleandthread.

KORCHEA

The Korchea series consists of very deep, well-drained soils found on floodplains and low stream terraces. Permeability is moderate with slopes ranging from approximately 0 to 6 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 15 inches and mean annual air temperature is approximately 42°F. This soil type is used most often for cultivation of small grains, hay, and corn. Alternatively, this soil is used for rangeland foraging. Native vegetation species common to this soil type include needleandthread, green needlegrass, and western wheatgrass (NRCS 2009).

LAWTHER

The Lawther series consists of very deep, well-drained, slowly permeable soils that formed in calcareous clayey sediments. These soils are on uplands, fans, and terraces. Slope ranges from 0 to 9 percent. Mean annual air temperature is 42°F, and mean annual precipitation is 16 inches. Most areas are cropped to wheat and other small grains. Some is in native grass. Native vegetation includes western wheatgrass, green needlegrass, blue grama, and forbs.

MANNING

The Manning series consists of very deep, somewhat excessively drained soils on terraces of streams and outwash channels. They are 24 to 40 inches deep to sand and gravel. Permeability is moderately rapid in the upper part and very rapid in the substratum. These soils formed in loamy fluvial sediments overlying sand and gravel. Slope ranges from 0 to 15 percent. Mean annual air temperature is 42°F and mean annual precipitation is 16 inches. Soils are cropped to small grains, corn, and tame grass for hay and pasture. Native vegetation is needleandthread, prairie sandreed, prairie junegrass, sun sedge, threadleaf sedge, and a wide variety of forbs.

SAVAGE

The Savage series consists of very deep, well-drained soils that formed in silty alluvium, loess, or in glaciofluvial or glaciolacustrine material. These soils are on alluvial fans, stream terraces, drainageways, sedimentary plains, and till plains. Slopes are 0 to 25 percent. Mean annual precipitation is about 16 inches, and the mean annual air temperature is about 42°F. Savage soils are used mainly for dryland crops. Some areas are used for irrigated crops and as rangeland. Potential native vegetation is mainly bluebunch wheatgrass, western wheatgrass, green needlegrass, and perennial forbs.

SCHALLER

The Schaller series consists of very deep, excessively drained, rapid or very rapidly permeable soils formed in sandy and gravelly glaciofluvial deposits. These soils are on outwash terraces, terrace escarpments, and eskers. Slope ranges from 0 to 45 percent. The mean annual air temperature is 42°F, and mean annual precipitation is 16 inches. These soils are used mainly for native grass range. Native vegetation is needleandthread, prairie sandreed, blue grama, sand dropseed, sedges, and forbs.

SEARING

The Searing series consists of very deep, well-drained, moderately permeable soils that formed in material weathered from porcelanite over shattered porcelanite. These soils are on uplands and have slopes ranging from 0 to 15 percent. Mean annual air temperature is 42°F, and mean annual precipitation is 15 inches. This soil type is used for small grains, some row crops, hay, and range. Native vegetation is medium and short prairie grasses, such as western wheatgrass, green needlegrass, blue grama, and some forbs.

WABEK

The Wabek series consists of very deep, excessively drained, rapidly and very rapidly permeable soils formed in sand and gravel glaciofluvial deposits. These soils are on outwash plains, beach ridges, terraces, and terrace escarpments and have slopes of 0 to 45 percent. Mean annual air temperature is 42°F, and mean annual precipitation is 16 inches. This series is used mainly for range and pasture. Native vegetation is blue grama, upland sedges, western wheatgrass, needleandthread, and forbs (NRCS 2009).

WILLIAMS

The Williams series consists of very deep, slowly permeable, well-drained soils found on glacial till plains and moraines with slopes at approximately 0 to 35 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 42°F. This soil type is largely used for cultivation. Native vegetation species common to this soil type include western wheatgrass, needleandthread, blue grama, and green needlegrass (NRCS 2009).

ZAHL

The Zahl series consists of very deep, slowly permeable, well-drained soils found on glacial till plains, moraines, and valley side slopes at approximately 1 to 60 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 40°F. This soil type is largely used for rangeland foraging. Native vegetation species common to this soil type include western wheatgrass, little bluestem, and needleandthread (NRCS 2009).

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APPENDIX D
USACE Nationwide Permit 12 Conditions

Elimination System Program (Section 402 of the Clean Water Act). The construction of intake structures is not authorized by this NWP, unless they are directly associated with an authorized outfall structure.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 27.) (Sections 10 and 404)

8. Oil and Gas Structures on the Outer Continental Shelf. Structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf within areas leased for such purposes by the Department of the Interior, Minerals Management Service. Such structures shall not be placed within the limits of any designated shipping safety fairway or traffic separation scheme, except temporary anchors that comply with the fairway regulations in 33 CFR 322.5(l). The district engineer will review such proposals to ensure compliance with the provisions of the fairway regulations in 33 CFR 322.5(l). Any Corps review under this NWP will be limited to the effects on navigation and national security in accordance with 33 CFR 322.5(f). Such structures will not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, nor will such structures be permitted in EPA or Corps designated dredged material disposal areas.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 27.) (Section 10)

9. Structures in Fleeting and Anchorage Areas. Structures, buoys, floats and other devices placed within anchorage or fleeting areas to facilitate moorage of vessels where the U.S. Coast Guard has established such areas for that purpose. (Section 10)

10. Mooring Buoys. Non-commercial, single-boat, mooring buoys. (Section 10)

11. Temporary Recreational Structures. Temporary buoys, markers, small floating docks, and similar structures placed for recreational use during specific events such as water skiing competitions and boat races or seasonal use, provided that such structures are removed within 30 days after use has been discontinued. At Corps of Engineers reservoirs, the reservoir manager must approve each buoy or marker individually. (Section 10)

12. Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A “utility line” is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term “utility line” does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a

manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding

overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 27.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

13. Bank Stabilization. Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless this criterion is waived in writing by the district engineer;
- (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless this criterion is waived in writing by the district engineer;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless this criterion is waived in writing by the district engineer;
- (e) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,
- (g) The activity is not a stream channelization activity.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general condition 27.) (Sections 10 and 404)

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters

**2007 NATIONWIDE PERMITS
REGIONAL CONDITIONS
STATE OF NORTH DAKOTA
OMAHA DISTRICT – CORPS OF ENGINEERS**

The U.S. Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

1. Wetlands Classified as Fens

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38 and 45, are revoked for use in fens in North Dakota. For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials. The substrate is carbon-accumulating, ranging from muck to peat to carbonates. These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8.4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes; after: Brinson 1993).

2. Waters Adjacent to Natural Springs

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

4. Historic Properties

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

5. Spawning Condition

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July.

Additional Information

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at:
<https://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm>