United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E.
Aberdeen, South Dakota 57401

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IN REPLY REFER TO:
DESCRM
MC-208

OCT 28 2010

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for one proposed exploratory oil/gas well pad with up to 6 oil wells by XTO Energy, for the Darcie 34X-14 well on the Fort Berthold Reservation, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (1506.6(b)). Please post the attached notice of availability at the Agency and Tribal buildings for 30 days.

If you have any questions, please call Marilyn Bercier, Regional Environmental Scientist, Division of Environment, Safety and Cultural Resources Management, at (605) 226-7656.

Attachment

cc: Marcus Levings, Chairman, Three Affiliated Tribes (with attachment)
Perry "No Tears" Brady, Tribal Historic Preservation Officer (with attachment)
Derek Enderud, Bureau of Land Management (with attachment)
Jonathon Shelman, Corps of Engineers (with attachment)
Jeff Hunt, One Stop Shop, Fort Berthold Agency

Finding of No Significant Impact

Darcie 34X-14 Exploratory Well

Fort Berthold Indian Reservation, Dunn County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) received a proposal for one oil/gas well pad with up to six oil wells on it, an access road, and related infrastructure on the Fort Berthold Indian Reservation to be located in the SW¼SE¼ of Section 14, T148N, R92W within Dunn County, North Dakota. Associated federal actions by BIA include determinations of effect regarding cultural resources, approvals of leases, rights-of-way and easements, and a positive recommendation to the Bureau of Land Management regarding the Application for Permit to Drill.

Potential of the proposed actions to impact the human environment was analyzed in the attached Environmental Assessment (EA), as required by the *National Environmental Policy Act*. Based on the recently completed EA, I have determined the proposed project will not significantly affect the quality of the human environment. No Environmental Impact Statement is required for any portion of the proposed activities.

This determination is based on the following factors:

1. Agency and public involvement was solicited and environmental issues related to the proposal were identified.
2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the Proposed Action and the No Action Alternative.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).
4. The proposed actions are designed to avoid adverse effects to historic, archeological, cultural and traditional properties, sites and practices. The Tribal Historic Preservation Officer has concurred with BIA's determination that no historic properties will be affected.
5. Environmental justice was fully considered.
6. Cumulative effects to the environment are either mitigated or minimal.
7. No regulatory requirements have been waived or require compensatory mitigation measures.
8. The proposed projects will improve the socio-economic condition of the affected Indian community.

Regional Director

10/28/10
Date

FINAL
Environmental Assessment

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

XTO Energy, Inc.

Darcie 34X-14 Exploratory Well

Fort Berthold Indian Reservation

October 2010

For information contact:
Bureau of Indian Affairs, Great Plains Regional Office
Division of Environment, Safety and Cultural Resources Management
115 4th Avenue SE
Aberdeen, South Dakota 57401
(605) 226-7656

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Acronyms and Abbreviations

AAQM	Ambient Air Quality Monitoring
AIRFA	American Indian Religious Freedom Act
APD	Application for Permit to Drill
APE	Area of Potential Effect
BIA	U.S. Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	Best management practices
°C	Celsius degrees
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
E	East (Easting)
EA	Environmental Assessment
e.g.	For example
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
°F	Fahrenheit degrees
FBIR	Fort Berthold Indian Reservation
FEL	From East (section) Line
FNL	From North (section) Line
FONSI	Finding of No Significant Impact
FSL	From South (section) Line
FWL	From West (section) Line
GAL/MIN	Gallons per minute
GPS	Global Positioning System
H_2S	Hydrogen Sulfide
HPRCC	High Plains Regional Climate Center
HUC	Hydrologic Unit Code
in	Inches
i.e.	that is or such as
MHA Nation	Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nation
MTNHP	Montana Natural Heritage Program
N	North (Northing)
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
ND	North Dakota
NDDA	North Dakota Department of Agriculture
NDDH	North Dakota Department of Health
NDGFD	North Dakota Game and Fish Department
NDIC	North Dakota Industrial Commission
NDPR	North Dakota Parks and Recreation
NE	Northeast
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRO	Natural Resource Options, Inc.
NTL	Notice to Lessees
NWR	National Wildlife Refuge

Acronyms and Abbreviations

O_3	Ozone
Pb	Lead
PBS&J	Post, Buckley, Schuh, and Jernigan
PM	Particulate Matter
PPB	Parts Per Billion
PPM	Parts Per Million
R	Range
Reservation	Fort Berthold Indian Reservation
ROW	Right-of-way
S	South
SAAQS	State Ambient Air Quality Standards
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Office
SMU	Soil Map Unit
SO_2	Sulfur Dioxide
SYN	Synonym
T	Township
TCP	Traditional and Cultural Property
TE	Threatened and Endangered Species
THPO	Tribal Historic Preservation Officer
$\mu g/m^3$	Micrograms per cubic meter
µmhos/cm	Microsiemens per centimeter
US	United States
USA	United States of America
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator coordinate system
VOC	Volatile Organic Compound
W	West
XTO	XTO Energy, Inc.

1.0 Purpose and Need for the Proposed Action

XTO Energy, Inc. (XTO) is proposing to initiate the exploration phase of oil development. The exploration phase would begin by locating exploratory wells (up to 6) on a single well pad on the Fort Berthold Indian Reservation (FBIR, Reservation) on the proposed project site (Figures 1a and 1b). The proposed well pad location is on land held in trust by the United States in Dunn County, North Dakota. The U.S. Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected tribal lands and individual allotments. The proposed project would include a new access road.

The proposed project is intended to explore the commercial potential on the Reservation of the Bakken oil pool (hereafter simply referred to as the "Bakken"), as defined by the North Dakota Industrial Commission, Oil & Gas Division. Because leasing and development of mineral resources offer substantial benefits to both the Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nation (MHA Nation) and to individual tribal members, economic development of available resources is consistent with BIA's general mission. The proposed activities are consistent with efforts to improve self-governance and economic stability pursuant to *the Indian Reorganization Act (Wheeler-Howard Act* of 1934, as amended). Oil and gas exploration and development activities are conducted under the authority of the *Indian Mineral Leasing Act* of 1938 (25 United States Code [USC] 396a, *et seq.*), the *Indian Mineral Development* Act of 1982 (25 USC 2101, *et seq.*), the *Federal Onshore Oil and Gas Royalty Management Act* of 1982 (30 USC 1701, *et seq.*), and the *Energy Policy Act* of 2005 (Public Law 109-58, 119 Statute 594). An agreement was signed on January 13, 2010 between the State of North Dakota and the Three Affiliated Tribes with the intent to increase the production of oil and gas on the FBIR; initially signed in 2008, the present agreement is intended to continue indefinitely. BIA actions in connection with the proposed project are largely administrative and include 1) approval of leases, easements and rights-of-way; 2) determinations regarding cultural resource effects; and 3) a recommendation to the Bureau of Land Management (BLM) regarding approval of the Application for Permit to Drill (APD).

These proposed federal actions require compliance with the *National Environmental Policy Act* of 1969 (NEPA) (42 USC 4321, *et seq.*) and regulations of the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500–1508); *Section 7* of the *Endangered Species Act* (ESA) of 1973, as amended; and the BLM operating regulations, *Onshore Oil and Gas Orders* (43 CFR 3164.1). Additionally, the proposed project would be subject to agency review in accordance with Executive Order 13212 – *Actions to Expedite Energy-Related Projects.*

Analysis of the proposed project's potential to affect the human environment is expected to both substantiate and explain federal decision-making.

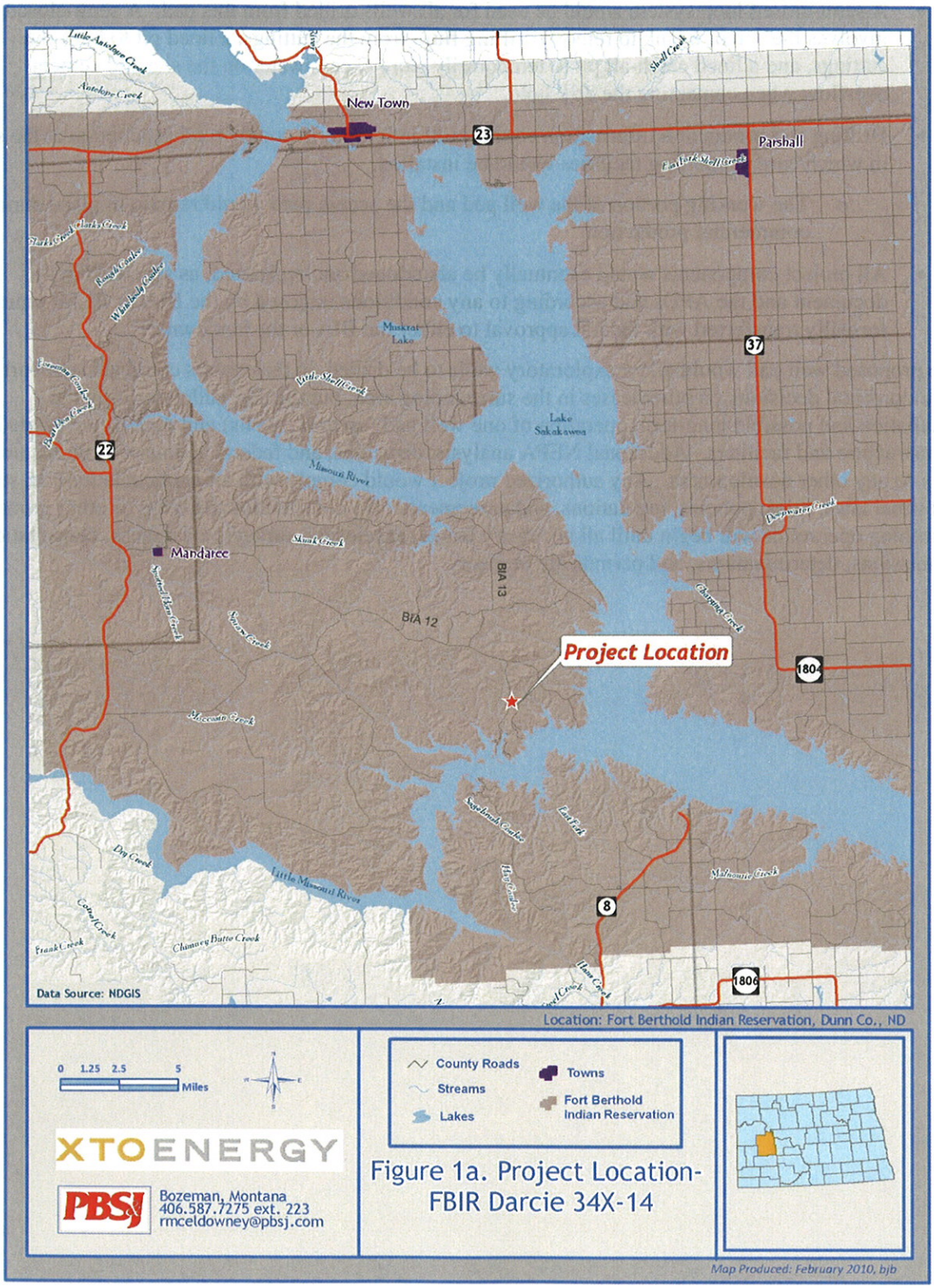
The APD submitted to the BLM by XTO is included with this document (Appendix A); they describe developmental, operational, and reclamation procedures and practices that contribute to the technical basis of this Environmental Assessment (EA). The procedures and practices described in the application are critical elements in both the project proposal and the BIA's decision regarding environmental impacts. This EA will result in either a Finding of No Significant Impact (FONSI) or a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS). The format and content of this EA complies with the guidance as per coordination with the BIA Great Plains Regional Office, Aberdeen, South Dakota.

There are several components to the proposed action.

- Construction of a new access road would be needed.
- A well pad would be constructed to accommodate drilling operations.

- A semi-closed loop system would be used for all wells drilled from this pad. A semi-closed loop involves the use of a tank to remove drilling fluid from the cuttings, a lined pit to bury the cuttings, and a lined catch-all pit to temporarily store excess water on the site and cement overflow when cementing the drill hole.
- Drilling and production information could result in long-term commercial production at the sites, in which case supporting facilities would be installed.
    - The working portion of the well pad and the access road would remain in place during commercial production.
- All project components would eventually be abandoned and reclaimed, as specified in this document and the APDs and according to any conditions imposed by the BIA or BLM, unless formally transferred with federal approval to either the BIA or the landowner.

The proposed well pad would allow exploratory wells to be drilled, in that results could also support developmental decisions on other leases in the surrounding area, but this EA addresses only the installation and possible long-term operation of one well pad (up to six wells) and directly associated infrastructure and facilities. Additional NEPA analysis, decisions, and federal actions will be required prior to any other development. Any authorized project would comply with all applicable federal, state, and tribal laws, rules, policies, regulations, and agreements. No construction, drilling, or other ground-disturbing operations will begin until all necessary leases, easements, surveys, clearances, consultations, permissions, determinations, and permits are in place.


New Town
Parshall
Mandaree
Lake Sakakawea
Muskrat Lake
Missouri River
Little Missouri River
BIA 12
BIA 13
Project Location
23
37
22
180
8
Data Source: NDGIS
Location: Fort Berthold Indian Reservation, Dunn Co., ND
0 1.25 2.5 5 Miles
County Roads
Streams
Lakes
Towns
Fort Berthold Indian Reservation
XTOENERGY
PBSJ
Bozeman, Montana
406.587.7275 ext. 223
rmceldowney@pbsj.com
Figure 1a. Project Location-
FBIR Darcie 34X-14
Map Produced: February 2010, bjb

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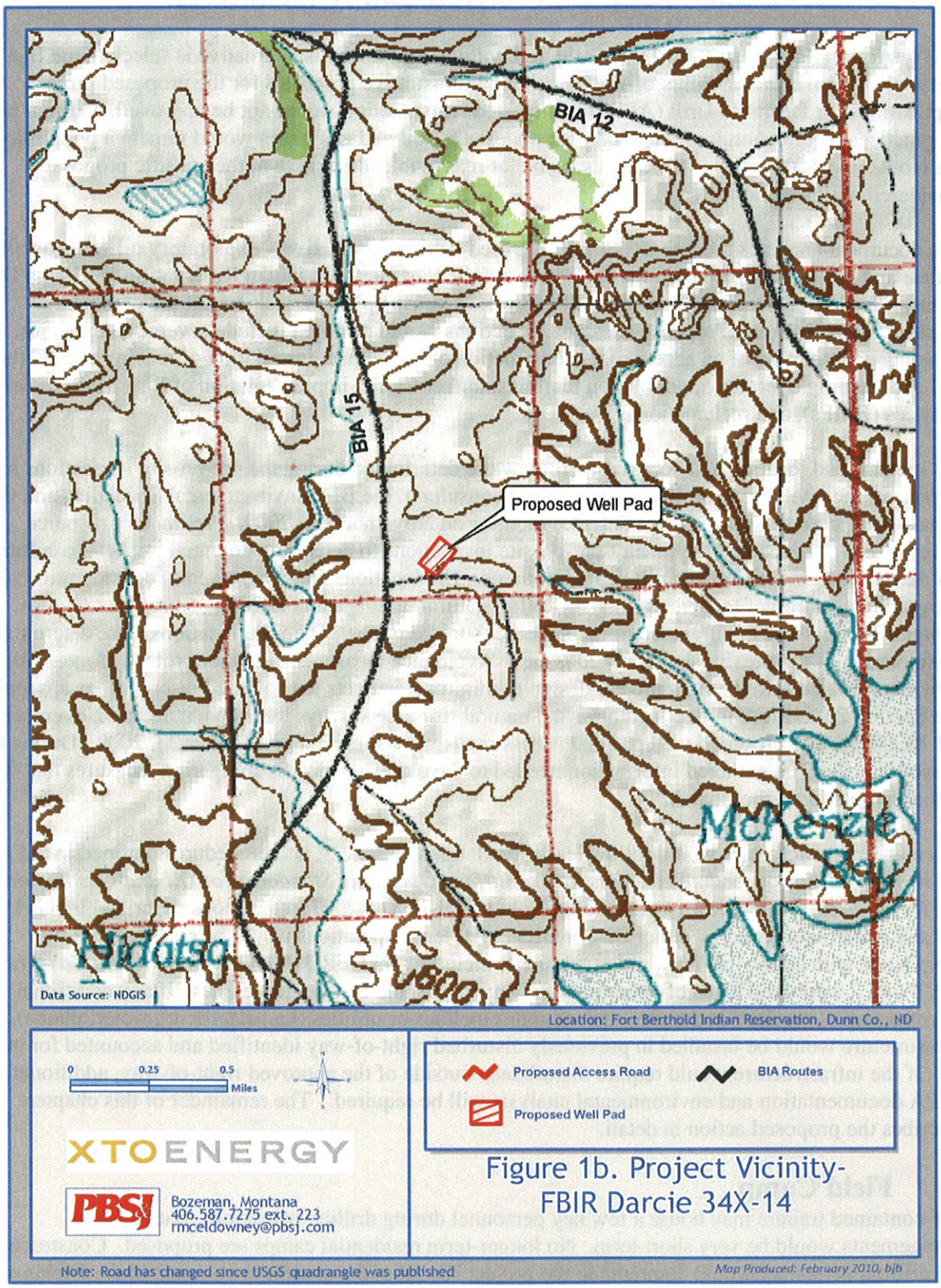

BIA 12
BIA 15
Proposed Well Pad
McKenzie Bay
Hidatsa
Data Source: NDGIS
Location: Fort Berthold Indian Reservation, Dunn Co., ND
0
0.25
0.5
Miles
Proposed Access Road
BIA Routes
Proposed Well Pad
XTOENERGY
PBSJ
Bozeman, Montana
406.587.7275 ext. 223
rmceldowney@pbsj.com
Figure 1b. Project Vicinity-
FBIR Darcie 34X-14
Note: Road has changed since USGS quadrangle was published
Map Produced: February 2010, bjb

2.0 Proposed Action and Alternatives

The **No Action Alternative** must be considered within an EA. If this alternative is selected, the BIA would not approve leases, rights-of-way or other administrative proposals for the proposed project. Applications for Permit to Drill (APD) for the listed well location would not be approved. Current land use practices would continue. Development under other oil and gas leases would remain a possibility. The No Action Alternative is the only available or reasonable alternative to the specific proposal considered in this document.

This document analyzes the impacts of the Proposed Action Alternative – exploratory oil wells on allotted surface and mineral estate within the boundaries of the Fort Berthold Indian Reservation (FBIR) in Dunn County, North Dakota. The proposed well pad would house up to six wells to test the commercial potential of the Bakken. Proposed site-specific actions would or might include several components, including construction of an access road, construction of a well pad, installation of fencing around the well pad, drilling operations, production facilities, tanker traffic, implementation of Best Management Practices (BMPs), and reclamation.

The specific pad location and access road route were determined during the pre-on-site inspections by the proponent, the civil surveyor, the environmental consultant, the BIA Environmental Specialist, and the Tribal Historic Preservation Office (THPO) monitor on November 17, 2009. Preliminary resource surveys were conducted at the time of pre-on-site inspections to determine potential impacts to cultural and natural (i.e., biological and physical) resources. The locations were inspected in consideration of topography, location of topsoil/subsoil stockpiles, natural drainage and erosion control, flora, fauna, habitat, historical and cultural resources, and other surface issues. The final locations were determined in consideration of the previously identified issues. Avoidance measures and other protective measures were incorporated into the final project design to minimize impacts to evaluated resources, as appropriate (see Section 2.9). More in-depth cultural and natural resource surveys were conducted on November 17 and 18, 2009. The proposed well pad and access roads were surveyed on October 23, 2009. During the inspections, the BIA gathered information needed to develop site-specific mitigation measures that would be incorporated into the final APD.

All construction activities would follow lease stipulations, practices, and procedures outlined in the APD and in guidelines and standards from the book, *Surface Operating Standards for Oil and Gas Exploration and Development* (also known as the Gold Book; USDI-USDA 2007), conditions described in this EA, and any conditions added by either BIA or BLM. All lease operations would be conducted in full compliance with applicable laws and regulations, including 43 CFR 3100, *Onshore Oil and Gas Orders 1, 2, 6 and 7*, approved plans of operations and any applicable Notices to Lessees. If any additional infrastructure is required at the site, such as spur pipelines or utilities (i.e., electricity, water, phone), the infrastructure would be installed in previously disturbed right-of-way identified and accounted for in this EA. If the infrastructure would require disturbance outside of the approved right-of-way, additional NEPA documentation and environmental analysis will be required. The remainder of this chapter describes the proposed action in detail.

2.1 Field Camp

Self-contained trailers may house a few key personnel during drilling operations, but any such arrangements would be very short-term. No longer-term residential camps are proposed. Construction and drilling personnel would commute to the project site from the nearest town, most likely Dickinson and/or New Town, ND. Human waste would be collected in standard portable chemical toilets or service trailers located on-site, then transported off-site to a state-approved wastewater treatment facility. Other solid waste would be collected in enclosed containers and disposed of at a state-approved facility.

2.2 Access Road

Up to 160 feet of new access road would be constructed between the proposed well pad site and an unnamed road off of BIA 15. The existing conditions of the proposed access road are shown in Figure 2.2. Signed agreements to allow road construction in affected surface allotments would be part of a right-of-way (ROW) agreement that would be procured after approval of the FONSI and APDs. A maximum disturbed ROW width of 66 feet (33 feet either side of centerline) would result in 0.24 acre of surface disturbance.

Construction would follow road design standards outlined in the Gold Book (see USDI-USDA 2007). A minimum of six inches of topsoil would be stripped from the access road corridor, with the stockpiled topsoil redistributed on the outslope areas of borrow ditches following road construction. These borrow ditch areas would be reseeded as soon as is practicable with a native seed mixture determined by the BIA. If commercial production is established from a proposed location, the access road would be graveled with a minimum of four inches of gravel and the roadway would remain in place for the life of the well. Details of road construction are addressed in the Multi-Point Surface Use and Operations Plan in the APD (Appendix A).

Figure 2.2: View is northeast along the proposed Darcie 34X-14 access road.

2.3 Well Pad

The proposed well pad would consist mainly of an area leveled for the drilling rig and related equipment. A semi-closed loop system would be used for drilling procedures. The well pad area would be cleared of vegetation, stripped of topsoil, and graded to specifications in the APD (Appendix A). Topsoil would be stockpiled and stabilized until disturbed areas were reclaimed and re-vegetated. Excavated subsoils

would be used in pad construction, with the finished well pad graded to ensure positive water drainage away from the drill site. Erosion control would be maintained through prompt revegetation and by constructing all necessary surface water drainage control, including berms, diversion ditches, and waterbars. Existing conditions of the proposed well pad site are shown in Figure 2.3.

The level area of well pad required for drilling and completion operations (including pits for drilled cuttings) would be approximately 350 feet x 550 feet (4.4 acres). Cut and fill slopes on the edge of the pad and soil stockpiles would result in an additional impact of approximately 1.1 acres of surface disturbance, resulting in a total disturbance at the pad of approximately 5.5 acres. Details of pad construction and reclamation are diagrammed in the APD (Appendix A).

Figure 2.3: Existing conditions of the proposed Darcie 34X-14 well pad; view is northwest toward the center of the well pad.

2.4 Drilling

After securing leases for mineral estates, XTO submitted APDs to BLM on October 13, 2010, proposing to drill from allotted surfaces in the listed locations. The BLM North Dakota Field Office forwarded copies of the APD to BIA's Fort Berthold Agency in New Town, North Dakota, for review and concurrence. BLM will not approve an APD until BIA completes its NEPA process and recommends APD approval. No drilling will begin until a permit has been obtained from the BLM.

Initial drilling would be vertical to an approximate depth ranging from 9,500 to 10,500 feet at the kickoff point where the drill bit will begin to be angled for horizontal drilling. Drilling would become roughly horizontal at an approximate depth of 10,000 to 11,500 feet below the land surface, followed by lateral

reaches in the Bakken. Completed wellbores would range in length from 20,000 to 25,000 feet. The minimum setback from section borders would be maintained or achieved through directional drilling.

Rig transport and on-site assembly would take about five to 12 days for the initial well. Drilling operations would require approximately 15 to 40 days to reach the target depth, using a rotary drilling rig rated for drilling operations to a vertical depth of approximately 14,000 to 20,000 feet. A typical drill rig is shown in Figure 2.4. For the first 1,500 to 2,500 feet drilled, a freshwater based mud system with non-hazardous additives such as bentonite would be used to minimize contaminant concerns. Approximately 10,000 to 90,000 gallons of water would be obtained from a commercial source for this drilling stage. This water would be collected and reused as much as possible.

Figure 2.4: A typical drilling rig and well pad. Source: BIA.

Oil-based drilling fluids can reduce the potential for hole sloughing while drilling through water-sensitive formations (shales). After setting and cementing the near-surface casing, an oil-based mud system (approximately 80 percent diesel fuel and 20 percent salt water) would be used to drill the vertical and curve portions of the hole (9,000 to 10,000 feet long). About 10,000 to 18,000 gallons of salt water and 40,000 to 72,000 gallons of diesel fuel would be used to complete drilling to final vertical depth. These fluids would be captured and reused at other wells as much as possible. The horizontal portion of the hole would be drilled using a salt- water based mud. Roughly 50,000 to 90,000 gallons of saltwater would be needed for the horizontal portion of the hole. This water is also reused as much as possible and obtained from a commercial source. Miscellaneous drilling fluids would be contained in steel tanks placed on plastic/vinyl liners and within secondary containment berms. Drilling fluids would be recycled back into the steel tanks for reuse.

Upon completion of drilling operations at each well, oil-based fluids would be collected again to the extent possible to be recycled and used elsewhere. Drilling fluids would be removed and disposed of in accordance with North Dakota Industrial Commission (NDIC) rules and regulations.

As part of the semi-closed loop system used at the site, the drill cuttings would be run through a centrifuge to remove fluids prior to being placed into a pit used to dispose of the semi-dry cuttings. This pit would be lined with an impervious (plastic/vinyl) liner to prevent any contamination of the underlying soil. Liners would be installed with sufficient bedding (either straw or dirt) to cover any rocks, would overlap the pit walls, extend under the mud tanks, and would be held in place with a trench covered with dirt. In addition, a catch-all pit will be needed to temporarily store excess water on the site and cement overflow that may occur when cementing in the surface casing. This pit would be located away from the cuttings pit, would be lined with an impervious liner, installed with sufficient bedding to cover any rocks, and secured in place with a trench and covered with dirt. Both the cutting pit and catch-all pit will have nets placed over them to prevent birds from entering them. Material contained in the catch-all pit will be removed prior to departure from the site. Pits would also be fenced on all four sides to protect personnel as well as wildlife and livestock from accidentally falling into the pit. In addition, the entire well pad would be fenced. Fencing would be installed in accordance with guidelines from the Gold Book (USDI-USDA 2007) and maintained until the pits are backfilled or the site is abandoned.

XTO intends to use a material (i.e., Class C fly ash or cement) that would render cuttings into an inert, solid mass. Controlled mixing of cuttings with a non-toxic reagent causes an irreversible reaction that quickly results in a solid granular material. Any oily residues that may be present are dispersed throughout the material and locked in place, preventing coalescence and release to the environment at significant rates in the future. The alkaline nature of the stabilized material also chemically stabilizes various metals that may be present, primarily by transforming them into less soluble compounds. Treated material would then be buried in place, overlain by at least four feet of overburden as required by NDIC regulations.

2.5 Casing and Cementing

Surface casing would be set at an approximate depth of 1,500 to 2,500 feet and cemented back to the surface, isolating all near -surface freshwater aquifers in the project area. Additional casing would be used after drilling into the target formation at a total measured depth ranging between 10,000 to 13,000 feet. Portions of the well from the target formation through the kickoff point up into the vertical section of the wellbore are planned to be cemented to isolate various formation as well as enhance wellbore integrity. The lateral portion of the hole would be lined with a liner, part of which contains pre-drilled holes.

2.6 Completion and Evaluation

After a well has been drilled and cased, a completion (work-over) unit would be moved onto the site. For wells of the depth proposed, about thirty days are usually needed to clean out the well bore, pressure test the casing, perforate and fracture the horizontal portion of the hole, and run production tubing for commercial production. If the target formation is to be fractured to stimulate production, the typical procedure is to pump down the hole a mixture of sand and a transport medium (e.g., water, nitrogen) under extreme pressure. The resulting fractures are propped open with sand, increasing the capture zone of the well and maximizing efficient drainage of the field. After fracturing, the well is typically flowed back to the surface to recover fracture fluids and remove excess sand. Fluids used in the completion procedure would be captured either in tanks for disposal in strict accordance with NDIC rules and regulations.

2.7 Commercial Production

If drilling, testing, and production support commercial production from the proposed location, additional equipment would be installed, including a pumping unit at the well head, a vertical heater/treater, tanks (usually four 400 barrel steel tanks), and a flare/production pit. An impervious dike would be constructed from compacted subsoil, surrounding production tanks and the heater/treater and sized to hold 100 percent of the capacity of the largest tank plus one full day's production. Load out lines would be located inside the diked area, with a heavy screen-covered drip barrel installed under the outlet. A metal access staircase would protect the dike and support flexible hoses used by tanker trucks. More detail is included in the APD (Appendix A). The BIA would choose a color for all permanent aboveground production facilities from standard environmental colors recommended by BLM or the Rocky Mountain Five-State Interagency Committee. Belowground electric power lines and utilities would be installed from the main lines to the well pad within the disturbed ROW.

Oil would be collected in tanks and periodically trucked to an existing oil terminal for sales. Any produced water would be captured in tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both product and water would depend upon volumes and rates of production. The duration of production operations cannot be reliably predicted, but some oil wells have pumped for over one hundred years.

Large volumes of gas are not expected from these locations. Small volumes of gas would be flared in accordance with Notice to Lessees (NTL) 4A and NDIC regulations, which prohibit flaring for more than the initial year of operation (NDIC 38-08-06.4). Any proposal for gathering and marketing gas from this well will require additional analysis under NEPA and consideration of impacts by the BIA.

Drilling and testing results would also help determine if additional exploration activities are warranted in the overall area. Should future oil/gas exploration activities be proposed by XTO on the FBIR, that proposal and associated federal actions would require additional NEPA analysis and BIA consideration prior to implementation.

2.8 Reclamation

A semi-closed loop system would be used for drilling activities. The cuttings stored in the lined pit would be treated, solidified, backfilled, and buried as soon as possible after well completion. Other interim reclamation measures to be accomplished within the first year include reduction of the cut and fill slopes, redistribution of stockpiled topsoil, and reseeding of disturbed areas. Figures 2.8a and 2.8b shows how a well pad and access road could be reclaimed. If commercial production equipment is installed, the pad would be reduced in size, with the rest of the original pad reclaimed. Reclamation would include leveling, re-contouring, treating, backfilling, and reseeding. Erosion control measures would be installed. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA. The working part of the well pad and the running surface of the access road would be surfaced with scoria or crushed rock from a previously approved location and erosion control measures would be installed as necessary. The outslope portions of road would be covered with stockpiled topsoil and reseeded with a seed mixture determined by the BIA, reducing the residual access-related disturbance to about 28 feet wide and about 0.10 acre in size.

Figure 2.8a: Construction of the well pad and access road are minimized to the size necessary to perform drilling and complete operations in a safe manner. Source: USDI-USDA 2007.

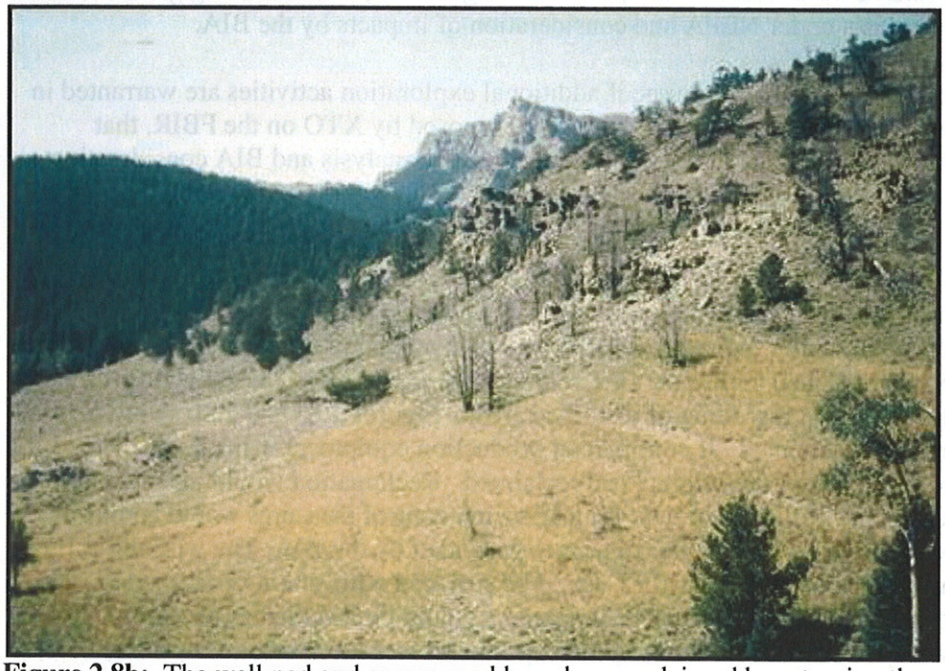


Figure 2.8b: The well pad and access road have been reclaimed by returning the land to its original contours, re-spreading the topsoil, and revegetating the site. Source: USDI-USDA 2007.

If there is no commercial production from the proposed six wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. All facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set. The access road and work areas would be scarified, re-contoured and reseeded. An exception to these reclamation measures might

occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees.

2.9 Preferred Alternative

The preferred alternative is to complete all of the administrative actions and approvals necessary to authorize or facilitate the proposed oil developments previously described. The Darcie 34X-14 well pad would initiate exploration activities with the drilling of one well. Depending on the success of the initial well and subsequent wells, up to six wells may be drilled on the single well pad. The first well would be named Darcie 34X-14, the additional five wells would be named in succession FBIR Darcie 34X-14B, 34X-14C, 34X-14D, 34X-14E, and 34X-14F. The intent would be to drill the additional wells over a period of several years.

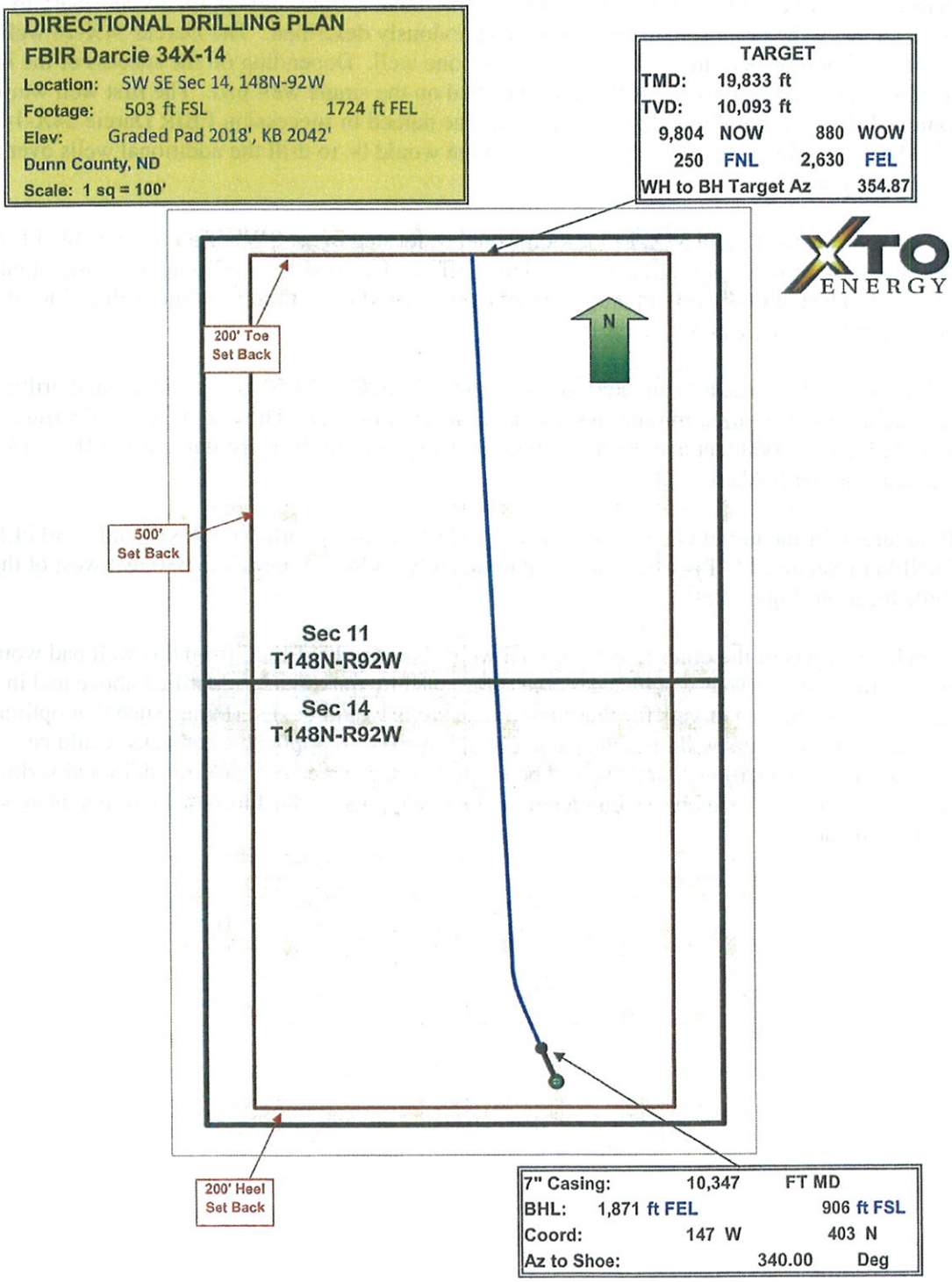
The proposed wells on the Darcie 34X-14 location would be located in the SW¼SE¼ Section 14, T148N, R92W. Access from an unnamed well-established road off of BIA Road 15 would require construction of approximately 160 feet of new road. Photographs of the proposed road alignment and well pad location and are shown in Figures 2.2 and 2.3.

Initial drilling would be vertical to an approximate depth of 9,500 to 10,500 feet. Directional drilling will maintain or achieve the required minimum setbacks from section lines. The completed drill strings will total about 20,000 to 25,000 feet at a depth of about 10,000 to 11,500 feet, including a 10,000 to 15,000 feet lateral reach in the Bakken.

The drilling target for the initial Darcie 34X-14 well is 250 feet from north line (FNL) and 2630 FEL in the NW¼NE¼ of Section 11, T148N, R92W, approximately 9804 feet north and 880 feet west of the surface hole location (Figure 2.9).

The bottom hole targets of the other five additional wells that may be drilled from this well pad would be different from the first well, but would access the same spacing unit already identified above and in Figure 2.9. The bottom hole targets for these additional wells would be determined such that optimum reservoir development occurs within each spacing unit, however all applicable setbacks would be respected. Because the additional wells would be located on the same well pad, no additional surface disturbance would occur; the analysis conducted in this EA applies to the additional five potential wells on the same well pad.

Figure 2.9. *Spacing unit (1,280 acres) and bottom hole location for FBIR Darcie 34X-14.*



3.0 The Affected Environment and Potential Impacts

The Fort Berthold Indian Reservation is the home of the Three Affiliated Tribes of the Mandan, Hidatsa and Arikara Nation (MHA Nation). Located in west-central North Dakota, the reservation encompasses more than a million acres, of which almost half are held in trust by the United States for either the MHA Nation or individual allottees. The remainder of the land is owned in fee simple title, sometimes by the MHA Nation or tribal members, but usually by non-Indians. The reservation occupies portions of six counties, including Dunn, McKenzie, McLean, Mercer, Mountrail and Ward. In 1953, much of the land was inundated and the rest divided into three sections by Lake Sakakawea (an impoundment of the Missouri River upstream of the Garrison Dam near Riverdale, North Dakota).

The proposed well pad, associated wells, and access road would be situated geologically within the Williston basin, where the shallow structure consists of sandstones, silts and shales dating to the Tertiary Period (65 million to 2 million years ago), including the Sentinel Butte Formation. The underlying Bakken is a well-known source of hydrocarbons; its middle member is targeted by the proposed projects. Earlier oil/gas exploration activity within the reservation, and near the project area in particular, were limited and commercially unproductive.

Much of the Reservation's land surface is included in the Northern Great Plains Level III ecoregion (Bryce et al. 1996). This unglaciated area extends south and west of the Missouri River and varies from undulating plains to the highly dissected, erosional landscape of the Little Missouri Badlands. Within this ecoregion mean annual precipitation ranges between 13 and 17 inches and mean temperatures fluctuate between -3° and 21° F in January and between 60° and 91° F in July, with 80 to 140 frost-free days each year (Bryce et al. 1996). Lands within the proposed spacing unit occurs at an elevation of approximately 2,019 feet above mean sea level and is primarily grass- and shrub-lands dissected by woody riparian areas currently used to graze livestock. The proposed site for the well pad is situated approximately 1 air-mile from the northeast shore of the Little Missouri River Arm of Lake Sakakawea.

The broad definition of the human environment under NEPA leads to the consideration of the following elements: air quality, public health and safety, water resources, wetland/riparian habitat, threatened and endangered species, wildlife and fisheries, soils, vegetation and invasive species, cultural resources, socio-economic conditions, and environmental justice. Potential impacts to these elements are analyzed for both the No Action and Proposed Action Alternatives. Impacts may be beneficial or harmful, direct or indirect, and short- or long-term. The EA also analyses the potential for cumulative impacts and ultimately makes a determination as to the significance of any impacts. In the absence of significant negative consequences, it should be noted that a significant *benefit* from the project does *not* in itself require preparation of an Environmental Impact Statement.

3.1 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed, drilled, installed, or operated. Existing conditions would not be impacted for the following critical elements: air quality, public health and safety, water resources, wetland and riparian habitat, threatened and endangered species, wildlife and fisheries, soils, vegetation and invasive species, and cultural resources. There would be no project-related ground disturbance, use of hazardous materials, or trucking of product to collection areas. Surface disturbance, deposition of potentially harmful biologic material, trucking and other traffic would not change from current levels. Economic benefits to both tribe and many tribal members would remain at the currently depressed levels if exploration and commercial development of available resources were abandoned. Loss of employment and royalty income could affect tribal and individual economies and planning on a large scale.

3.2 Air Quality

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for air quality resources in the project area."

The North Dakota Department of Health (NDDH) operates a network of ambient air quality monitoring stations. The closest stations that bracket the project area and monitor a full suite of air quality constituents are Dunn Center to the south, TRNP-NU to the northwest, Lostwood NWR to the north, and Beulah North to the southeast (NDDH 2009). Wind directions are predominantly from the northwest or southeast at Dunn Center and TRNP-NU, from the south-southwest or northwest at Lostwood, and from northwest, southwest, or southeast at Beulah North (NDDH 2009). The Dunn Center monitoring station is the closest to the Darcie project, and is located roughly 23 miles south-southwest of the project area.

Criteria pollutants tracked under the National Ambient Air Quality Standards (NAAQS) of the *Clean Air Act* and the State Ambient Air Quality Standards of North Dakota (SAAQS) include sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), inhalable particulate matter (PM_{10}), and continuous fine inhalable particulate matter (PM_{fine}). Lead (Pb) and carbon monoxide (CO) are not monitored by any nearby monitoring stations. The SAAQS are generally equivalent to, or more stringent than, the NAAQS for most pollutants. The existing air quality at the four monitoring stations did not exceed SAAQS air quality standards in 2008 (Table 3.2). In fact, in 2008 North Dakota was one of thirteen states that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight hour ozone standards established by the U.S. Environmental Protection Agency (EPA) (NDDH 2009).

Table 3.2: ***Comparison of North Dakota state ambient air quality standards at four monitoring stations.***[1]

Pollutant (unit[2])	Averaging Period	SAAQS Standard	Monitoring Station			
			Dunn Center	TRNP-NU	Lostwood NWR	Beulah North
SO_2 (ppb)	1-Hour	273	20.9	19.2	72.7	66
	24-Hour	99	4.0	5.0	13.0	9
	Annual Arithmetic Mean	23	0.4	0.5	1.1	1.6
NO_2 (ppb)	Annual Arithmetic Mean	53	1.8	1.1	1.5	2.7
O_3 (ppb)	One exceedance per year (1-Hour)	120	69	68	64	68
PM_{fine} ($\mu g/m^3$)	24-Hour	35 (NAAQS)	35.7	22.2	24.5	35.7
	Annual Mean	15 (NAAQS)	3.7	3.3	3.6	3.8
PM_{10} ($\mu g/m^3$)	24-Hour	150	94	108	32	58
	Annual Mean	50	14.2	10.2	9.8	15.7
CO (ppm)	1-Hour	9	--	--	--	--
	8-Hour	35	--	--	--	--
Pb ($\mu g/m^3$)	3-Month	1.5	--	--	--	--

[1] Source: NDDH (2009).
[2] ppb = Parts per billion; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

The *Clean Air Act* mandates prevention of significant deterioration in designated attainment areas. Class I areas are of special national significance and include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres and designated prior to 1977. Both visibility impairment and increases in pollutant concentrations are capped. There is a Class I airshed at Theodore Roosevelt National Park, which covers approximately 110 square miles of land in three units within the Little Missouri National Grassland between Medora and

Watford City. This Class I airshed is located approximately 42 miles west of the project site. The project area can be considered a Class II attainment airshed, which affords it a lower level of protection from significant deterioration.

The EPA has Title V permitting responsibilities on the Reservation. Construction would generate temporary and nearly undetectable gaseous emissions of PM_{10} and SO_2. Construction would generate levels of NO_x, CO, and volatile organic compounds (VOCs) that range from nearly undetectable to significant depending upon how much is vented or combusted. Impacts to air quality in the "near field" are not anticipated. No detectable or long-term impacts on air quality or visibility are expected within the airsheds of the reservation, park, or state. The Title V permitting process is on-going. XTO would take the necessary steps to reduce and/or control air emissions and would obtain all necessary permits required by the State or Federal Agencies.

3.3 Public Health and Safety

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for public health and safety resources in the project area.

Health and safety concerns include naturally-occurring toxic gases, hazardous materials used or generated during installation or production, and traffic hazards from heavy drill rigs and tankers. Hydrogen sulfide (H_2S) is a naturally occurring gas that at low concentrations has a 'rotten egg odor'. For this reason, it is often referred to as 'sour gas'. It is extremely toxic in concentrations above 500 parts per million (ppm); it has not been found in measurable quantities in the Bakken. Before reaching the Bakken, drilling would penetrate the Mission Canyon Formation, which is known to contain varying concentrations of hydrogen sulfide (H_2S). Release of H_2S at dangerous concentrations is considered very unlikely, but H_2S Contingency Plans submitted to the BLM establish precautions and emergency response plans for both the drilling crew and the general public. These plans comply fully with relevant portions of *Onshore Oil and Gas Order 6*. Precautions include automated sampling and alarm systems operating continuously at multiple locations on the well pad. No direct impacts from H_2S are anticipated.

Interpretation of 2009 aerial photography revealed no residences within 1 mile of the proposed well location and 34 residences within a two-mile radius (Figure 3.3). There are a total of 162 residences within a 1- to 5-mile radius of the project site. Since the prevailing wind directions are from the west, southwest, or southeast according to 2008 data from the Ambient Air Quality Monitoring (AAQM) site in Dunn Center (NDDH 2009), most of the residences are upwind or not directly downwind of the proposed well pad.

The EPA specifies chemical reporting requirements under Title III of the *Superfund Amendments and Reauthorization Act* (SARA) of 1986, as amended. No materials used or generated by this project for the production, use, storage, transport, or disposal are on either the SARA list or on EPA's list of extremely hazardous substances in 40 CFR 355. Project design and operational precautions mitigate against impacts from toxic gases, flaring, hazardous materials and traffic. All operations, including flaring, would conform to instructions from BIA fire management staff. Impacts are considered minimal, unlikely, and insignificant. No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

At the well site and access road any adverse impacts from traffic would be temporary and then intermittent. Noise, fugitive dust, and traffic hazards would be present for about 60 days during construction, drilling and well completion, and would then diminish sharply during commercial operations. Initially, approximately 50 trips to and from the site over several days would be expected to transport the drill rig and associated equipment to the site. A similar number of trips would also be

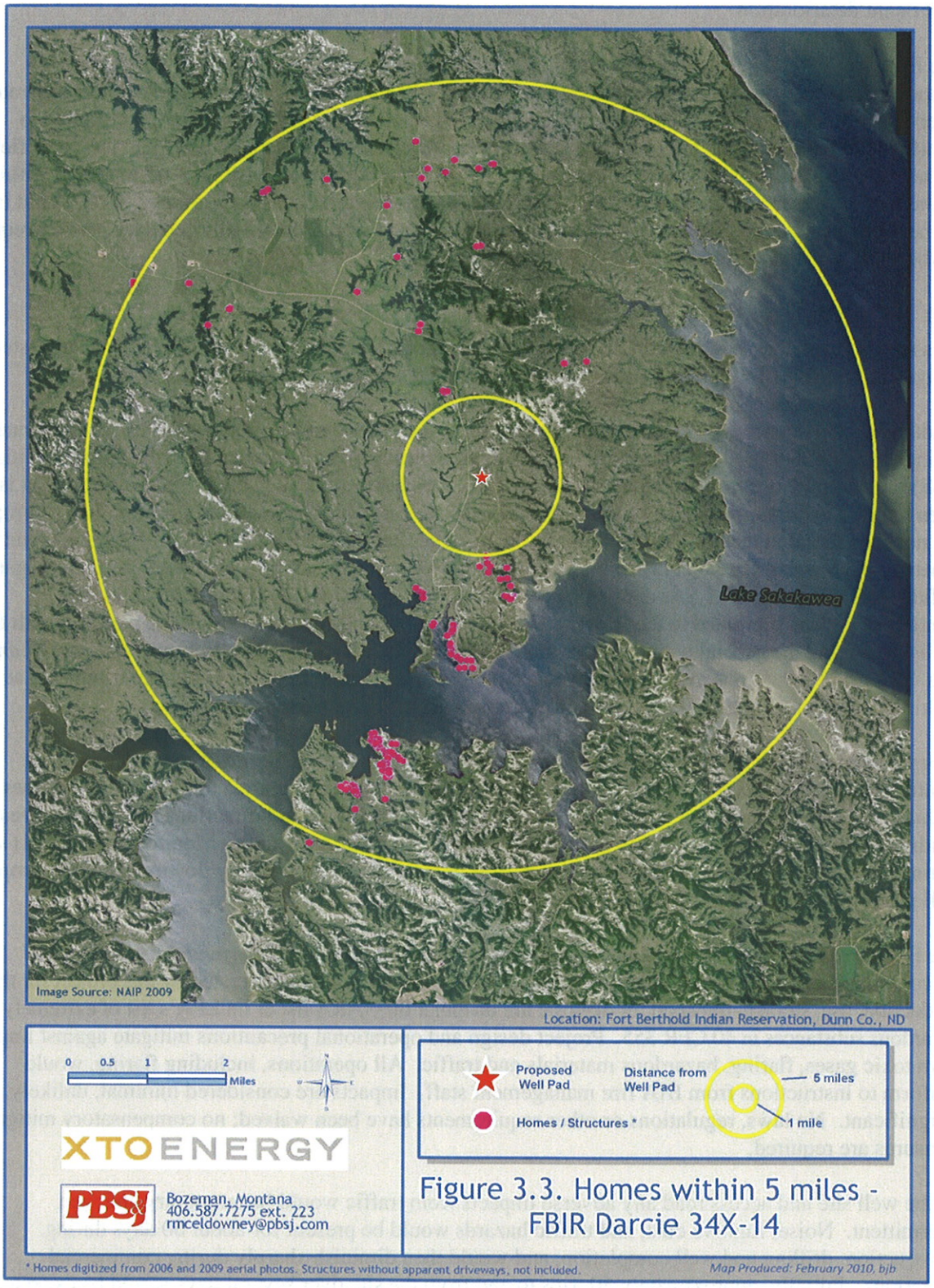


Figure 3.3. Homes within 5 miles - FBIR Darcie 34X-14

needed to remove the drill rig and other temporary facilities once the drill rig is removed from the site. Additionally, relatively more activity could be expected at the site during each successive drilling operation (up to 5 additional wells) at the well pad than during on-going production. Actual potential production is unknown at this time, but other wells in the area have initially produced 500 to 1,000 barrels of oil per day, as well as roughly 200 barrels of water per day. Assuming that an oil tanker can typically haul 140 barrels of oil per load and a water tanker 110 barrels of water per load, production service may initially require three to seven oil tankers and two to three water tankers per day. Over time, as production decreases this may decline to two to three oil tankers and one water tanker per day. Dust would be suppressed as necessary or as required by the BIA to reduce impacts, both during construction and production. Contingent upon consent of the landowner, XTO Energy is proposing to install a fence around the perimeter of the well pad.

3.4 Water Resources

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for water resources in the project area.

3.4.1 Existing Conditions

Water resources in the Darcie 34X-14 project area are comprised of surface water and groundwater resources. Precipitation is the ultimate source for all water in the project area.

3.4.1.1 Precipitation

Based on 57 years of data at the closest active weather station (Keene 3 S, ND) to the project area, the average annual precipitation in the area is 15.6 inches (HPRCC 2009a). Precipitation in May, June and July typically accounts for roughly 50 percent of the annual precipitation, with the month of June averaging the most precipitation (3.3 in). Annual snowfall averages 34.6 inches, with the majority of snow falling between November and March. December and January typically have the most snowfall, averaging 6.2 and 7.2 inches, respectively (HPRCC 2009a). During the 2009 growing season (May through September), evapo-transpiration typically ranged between 0.1 inches/day and 0.4 inches/day (HPRCC 2009b).

3.4.1.2. General Surface Water Considerations

The project area is located within the Lower Little Missouri River sub-basin (Hydrologic Unit Code [HUC] #10110205) (NDSWC 2009) where it joins with Lake Sakakawea. The Lower Little Missouri River sub-basin has a drainage area of approximately 1,800 square miles (USGS 2010). Lake Sakakawea was created by the damming of the Missouri River with the Garrison Dam in 1956. Measuring over 368,000 acres and 178 miles long it is the third largest man-made reservoir in the United States after Lake Mead and Lake Powell (NDLSSP 2008). The proposed exploratory well discussed in this document also occur within the Waterchief Bay watershed, within the Bear Creek sub-watershed (NDSWC 2009). All streams in this sub-watershed drain to the former Little Missouri River. Because this portion of the Little Missouri River is currently inundated by Lake Sakakawea, this area is now called the Little Missouri Arm of Lake Sakakawea. The Bear Creek sub-watershed occurs on either side (northeast and southwest) of the Little Missouri Arm of Lake Sakakawea. The Darcie 34X-14 project area occurs on the northwest side of the Bear Creek sub-watershed (Figure 3.4a).

Within the northwest side of the Bear Creek sub-watershed there are several intermittent and perennial streams, all of which are unnamed by the U.S. Geological Survey (USGS), though they may have local names. The well pad generally drains westward approximately 2,165 feet to an intermittent stream on the west side of BIA 15 (Figure 3.4a). The total distance from the project area to Lake Sakakawea is roughly 2.51 stream miles, or 1.36 air miles.

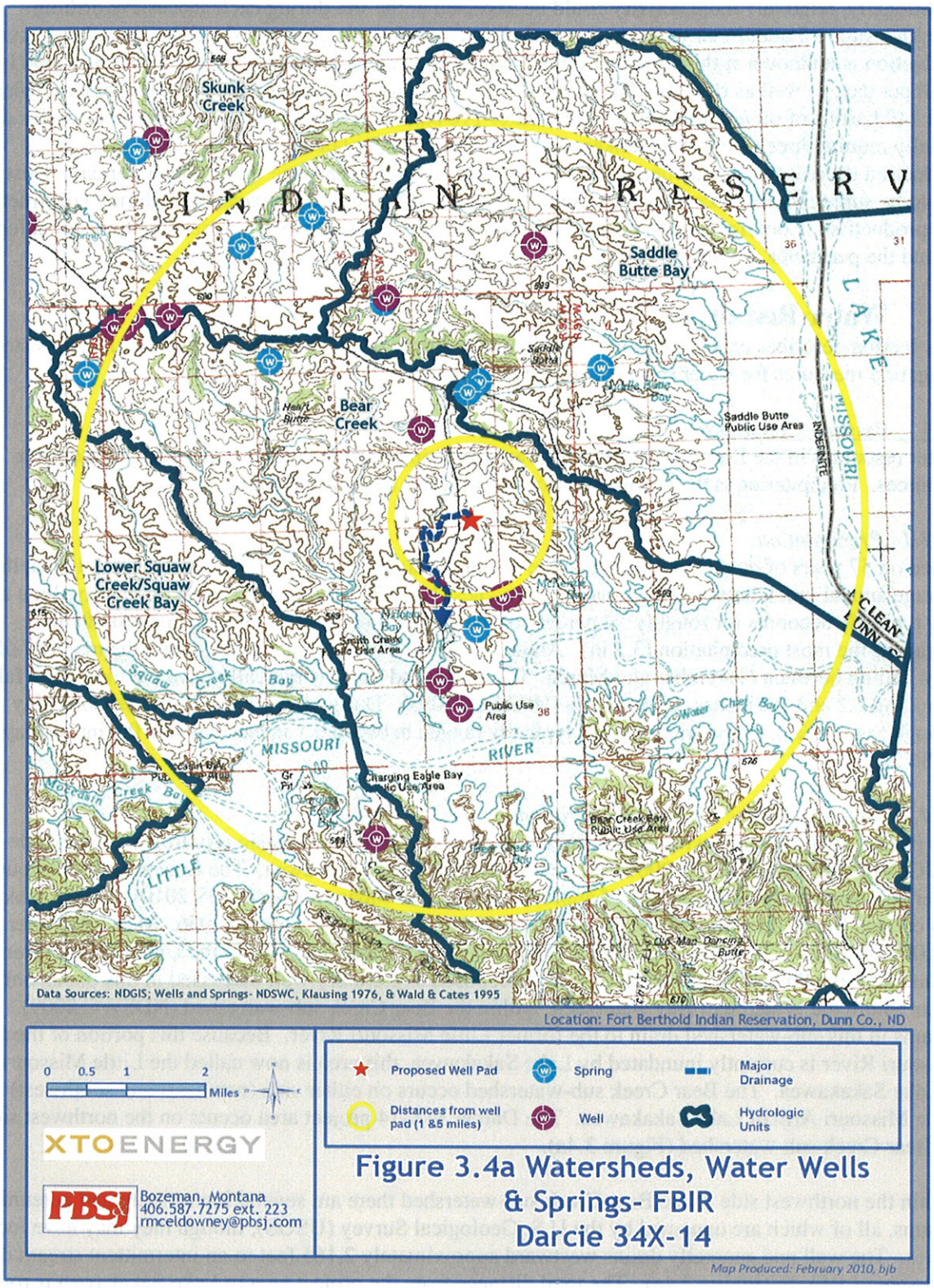


Figure 3.4a Watersheds, Water Wells & Springs- FBIR Darcie 34X-14

Table 3.4a: ***Summary information for documented springs located within a 5-mile radius of the proposed Darcie 34X-14 project area.***[1]

Well Identification	Date of Sample	Lithology	Flow Rate (gal/min)	Specific Conductance (µmhos/cm)	Temperature (C°)	Distance from Well Pad Center (mile)
148-091-07BAA	8/3/1972	--	3	1,800	8	2.61
148-092-03ABA	8/3/1972	--	6	1,350	9.5	3.07
148-092-04CBD	8/8/1950	Coal	36	447	8	3.32
148-092-11AAC	8/3/1972	Coal	8	461	10	1.86
148-092-11ACA	8/8/1950	Coal	2.9	550	9.5	1.73
148-092-26ACA	8/1/1972	Coal	2	655	10.5	1.27
149-092-25CDC	8/2/1972	--	8	700	--	4.44
149-092-35BDA	11/08/1950; 8/2/1972	Coal	80	825; 725	10	4.61

[1] Source: Klausing 1976; Wald and Cates 1995.

The closest perennial waterbody down gradient of the proposed well pad is Lake Sakakawea, though emergent wetlands may occur in the intermittent drainage west of the well pad. Vegetated swales dominated by snowberry (*Symphoricarpos* spp.) and mesic grasses occur in the project area, but none of these swales show evidence of channelized flow (i.e., a defined bed and bank or an ordinary high water mark). Due to the lack of rills or observable micro-channels anywhere in the project area, it appears that the majority of the precipitation falling on the site infiltrates into the soil. If runoff does occur, it is likely to be as sheet-flow.

There are no documented springs located within one mile of the proposed well pad and a total of eight documented springs located within a five mile radius of the proposed well pad (Table 3.4a, Figure 3.4a) (Klausing 1976, Wald and Cates 1995, NDSWC 2009). At the time of their sampling, all of these springs were considered perennial and are derived from the Paleocene Sentinel Butte Formation (Klausing 1976, Wald and Cates 1995). The water temperatures of these springs have historically ranged from 46 to 51 degrees Fahrenheit (Klausing 1976). The closest documented spring (148-092-26ACA) to the project area occurs roughly 6,700 feet south of the proposed well pad.

3.4.1.3 Existing On-site Drainage

The proposed well site drains westward into an unnamed intermittent drainage, which then drains southward into the Little Missouri Arm of Lake Sakakawea. If overland flow does occur, water from the proposed access road and the southern third of the proposed well pad would currently drain into a northwest oriented vegetated swale and drain to the northwest. The middle third of the well pad would drain to the west into a vegetated swale, and the northern third of the well pad would drain to the northwest into a southwest oriented vegetated swale (Figure 3.4b).

3.4.1.4 General Groundwater Considerations

Aquifers in Dunn County occur in five main pre-glacial formations, including the Upper Cretaceous Fox Hills and Hell Creek formations and the Tertiary Cannonball-Ludlow, Tongue River and Sentinel Butte formations (Table 3.4b). Aquifers in the Fox Hills and Hell Creek formations occur at the deepest depths, while aquifers in the Tongue River and Sentinel Butte formations occur at shallower depths. Glacial drift aquifers also occur in Dunn County and overlay the Sentinel Butte aquifer. While smaller glacial drift aquifers may occur in the project vicinity, the closest large, mapped aquifer in the area is the Goodman Creek Aquifer located approximately 8.82 miles south of the project area (Klausing 1979). Another aquifer is located roughly 13.72 miles west-northwest of the proposed well pad.

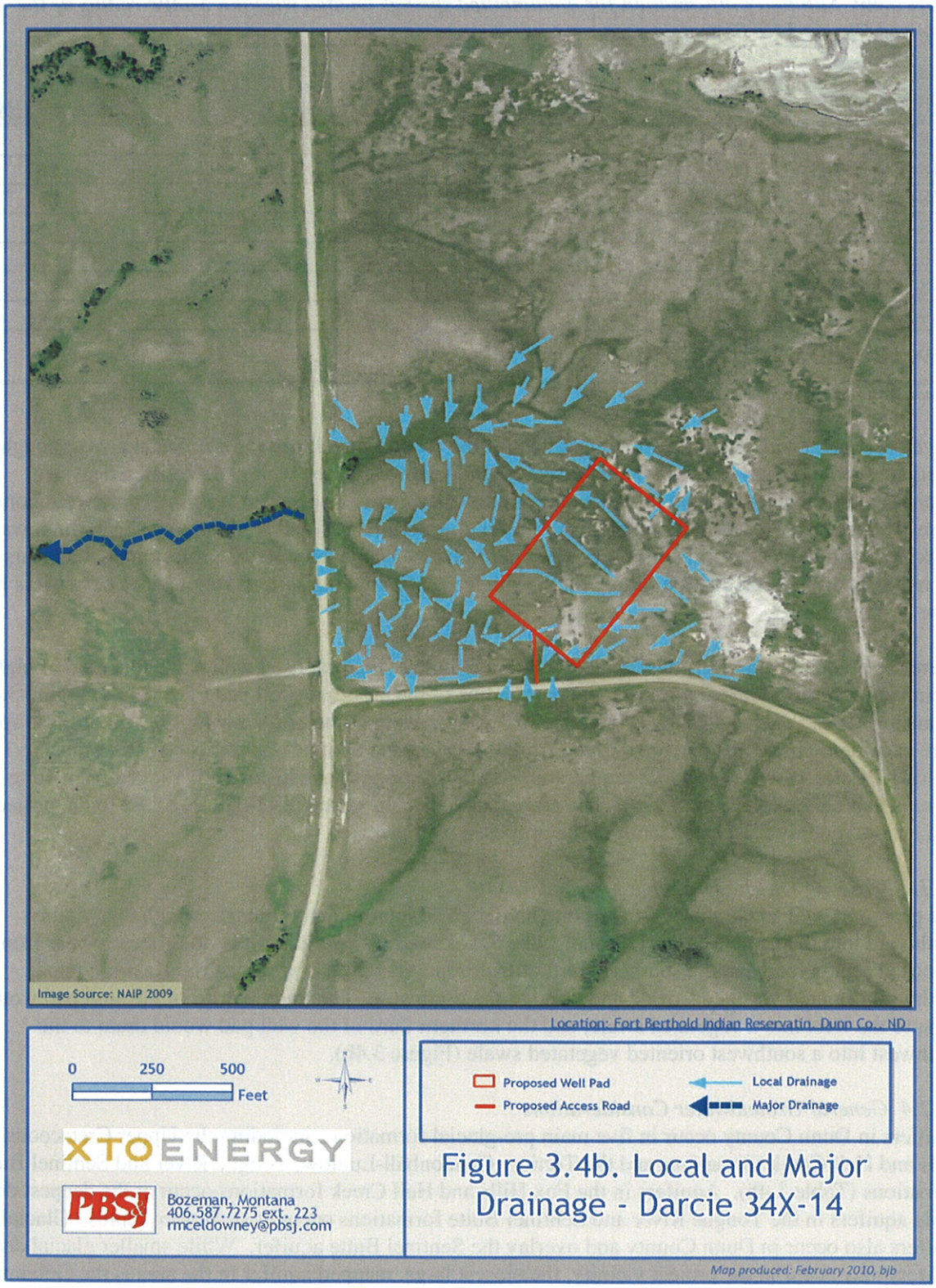


Figure 3.4b. Local and Major Drainage - Darcie 34X-14

Table 3.4b: ***Characteristics of pre-glacial aquifers occurring in Dunn County, North Dakota.***[1]

Formation Name	**Lithology**	**Maximum Thickness** (feet)	**Depth to Top of Formation** (feet)	**Water Yield** (gal/min)
Sentinel Butte	Clay, claystone, shale, sandstone, siltstone, and lignite.	670	0 - 700	5 – 100 (sandstone) 1 – 200 (lignite)
Tongue River	Clay, claystone, shale, sandstone, siltstone, and lignite.	490	230 - 750	<100
Undifferentiated Cannonball-Ludlow	Cannonball: marine sandstone, clay, shale, and siltstone. Ludlow: continental siltstone, sandstone, shale, clay, and lignite.	660	570 – 1,130	<50
Hell Creek	Siltstone, sandstone, shale, claystone, and lignite.	300	1,150 – 1,730	5 - 100
Fox Hills	Sandstone, shale, and siltstone.	300	1,330 – 1,960	<200 - 400

[1] Source: Klausing (1979).

Table 3.4c: ***Information on locations of known wells that occur within a 5-mile Radius of the proposed Darcie 34X-14 project area.***[1]

Well Identification	**Distance (miles)**	**Distance (feet)**
147-092-03CDC	4.10	21,668
148-092-03ABA	3.11	16,433
148-092-06AAD	4.68	24,686
148-092-06BAD	5.06	26,734
148-092-11CCB	1.41	7,446
148-092-23CCA	0.92	4,854
148-092-24CCCA	0.95	4,992
148-092-24CCCB	0.94	4,985
148-092-26CCD	1.97	10,415
148-092-35BDA	2.28	12,057
149-091-33BCC	3.67	19,370

[1] Sources: Klausing (1976); Wald and Cates (1995).

There are 11 documented, water-producing wells within a 5-mile radius of the proposed well pad (Figure 3.4a, Table 3.4c). The closest documented wells (148-092-23CCA, 148-092-24CCCB, and 148-092-24CCCA) are all located approximately 4,900 feet southwest, southeast, and southeast, respectively, of the proposed well pad.

3.4.2 Water Resources Impacts

Construction and reclamation techniques included in the APD would minimize potential for impacts to both groundwater and surface water. The proposed project site has been sited to avoid direct/indirect impacts to surface water and to minimize the disruption of area drainages. Potential impacts to surface waters are unlikely because of the distance that would be traversed before a contaminant could enter the

tributary system, the lack of defined channels, and because onsite containment measures and spill prevention/clean-up protocols would be used. For similar reasons, impacts to the water quality of Lake Sakakawea are extremely unlikely. Roadway engineering and erosion control measures would mitigate the migration of sediment downhill or downstream. No measurable increase in runoff or impacts to surface waters is expected.

The water quality of local aquifers would be protected by cementing the casing across aquifer zones. The cuttings and catch-all pits, it would be lined with an impermeable barrier. For these reasons the dewatering or contamination of local springs or groundwater resources would be unlikely. No significant impacts to surface water or groundwater are expected as a result of the proposed actions.

3.4.3 Water Resources Mitigation

The well bore of each well would be drilled with water to a point below the base of the Fox Hills formation prior to setting casing to prevent contamination of the formation. Surface casing would be cemented in place to a depth of about 1,500 to 2,500 feet, isolating aquifers in the Fox Hills Formation and extending a minimum of 50 feet into the underlying Greenhorn formation. Intermediate casing would extend from the surface and be cemented between about 4,000 and 13,000 feet in depth to isolate potentially productive water and hydrocarbon bearing zones. A semi-closed loop system would be used for all drilling activities. Any produced water would be captured in tanks on site and periodically trucked to an approved disposal site. The frequency of trucking of either oil or water would depend upon production rates. The BIA and BLM would monitor all operations and record keeping at their discretion. Evidence of groundwater contamination related to the project would result in a stop work order until all appropriate measures were identified and implemented. No applicable laws or regulations would be waived; no compensatory mitigation measures are required to protect surface water or groundwater.

3.5 Wetland and Riparian Habitats

This section describes existing conditions, the potential impacts from the Proposed Action, and suggested mitigation measures for wetland and riparian resources in the project area.

National Wetland Inventory maps, maintained by the U.S. Fish and Wildlife Service (USFWS), did not identify any jurisdictional wetlands within the proposed project area (USFWS 2009a). Physical inventories on November 18, 2009 confirmed that there are no wetland habitats within the immediate vicinity of the proposed Darcie 34X-14 well pad and access road project boundaries. No riparian habitats occur within the project site. The closet riparian area may be within a drainage 1,800 feet west of the site; there is no surface connection to this potential riparian area. No riparian or wetland habitats would be negatively impacted by the proposed Darcie 34X-14 well pad and access road.

3.6 Threatened and Endangered

This section describes existing conditions, the potential impacts from the Proposed Action, and suggested mitigation measures for threatened and endangered species in the project area.

3.6.1 Existing Conditions

Threatened and endangered (TE) plant and animal species are designated by the USFWS under the guidance of the *Endangered Species Act*. Based on the USFWS (2009b) list of *Threatened, Endangered, Proposed, and Candidate Species for North Dakota Counties*, range/habitat descriptions found in technical literature, North Dakota Natural Heritage Program database searches for Dunn County, and an interview with the Fort Berthold Fish & Game Director, the following seven species were considered with respect to this project (Table 3.6).

Table 3.6: ***List of Candidate, Threatened, Endangered Species for Dunn County, North Dakota.***

Common Name	Scientific Name	Designation	Critical Habitat
Black-footed ferret	*Mustela nigripes*	Endangered	No
Gray wolf	*Canis lupus*	Threatened	No
Interior Least Tern	*Sterna antillarum*	Endangered	No
Piping Plover	*Charadrius melodus*	Threatened	Yes, designated 2002 for the Northern Great Plains population
Whooping Crane	*Grus Americana*	Endangered	No
Pallid Sturgeon	*Scaphirhynchus albus*	Endangered	No
Dakota skipper	*Hesperia dacotae*	Candidate	No
Sprague's Pipit	*Anthus spragueii*	Candidate	No

The North Dakota Natural Heritage Program biological conservation database had no known historical or current occurrences of plant or animal species of concern within the project area (NDPR 2009; NDPR 2010). Based on this information, available reports, conversations with local biologists, and the absence of critical, essential, or designated habitat, the likelihood of listed species to occur in the project area range from unknown to unlikely to none.

Black-footed ferret (*Mustela nigripes*)

Black-footed ferrets primarily feed on prairie dogs (*Cynomys* spp.) and use prairie dog burrows for shelter (MTNHP 2008). Inventories within the project site conducted on November 18, 2009 identified no prairie dog colonies. Black-footed ferrets have not been documented on the FBIR (Poitra 2010; NDPR 2009; NDPR 2010). Impacts to black-footed ferrets are not be expected, given the lack of occurrence, food source, and habitat.

Gray wolf (*Canis lupus*)

The project area does not contain preferred gray wolf habitat or a suitable prey base to sustain a permanent pack. Reported occurrences of gray wolves on the FBIR are infrequent; about 1-2 sightings occur each year near the Little Missouri River, which is west of the FBIR (Poitra 2010). No established packs have been documented or are suspected to occur on the FBIR (Poitra 2010; NDPR 2009; NDPR 2010). It is highly unlikely that wolves would colonize the project area, given its poor wolf habitat, unreliable food supplies, and the long distance from known populations in Minnesota, Canada, Montana, and Wyoming. No impacts to gray wolves are expected.

Interior Least Tern (*Sterna antillarum*)

The Interior Least Tern is known to nest along midstream sandbars of the Missouri and Yellowstone Rivers (USFWS 2009d). Lake Sakakawea is not a major nesting area for Least Tern; however, tern nesting generally occurs in Douglas Creek Bay, Elbowwoods Bay, Deepwater Bay, Van Hook Arm, Hofflund Bay, and Tobacco Garden Bay (USACE 2007). The closest and most recent known historic Least Tern nest site was in 1995 on Independence Point, 8.5 air-miles northeast of the project area (USACE 2007, USACE 2010). There is no suitable nesting or foraging habitat located within the project area (Poitra 2010). No impacts to Interior Least Tern are expected.

Piping Plover (*Charadrius melodus*)

Piping Plover nest on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands (USFWS 2009d). Piping Plover critical habitat for the Northern Great Plains population was designated by the USFWS (67 FR 57638) in September 2002 (USACE 2007). Designated areas of critical habitat include prairie alkali wetlands and adjacent shoreline, river channels, sandbars, islands, reservoirs, and inland lakes; and sparsely vegetated shorelines, peninsulas, and islands associated with reservoirs and inland lakes. Piping Plover critical habitat

supports all life history requirements including courtship, nesting, foraging, sheltering, brood-rearing, and dispersal habitat. The closest reach of Piping Plover critical habitat is Lake Sakakawea, approximately 1.0 air-mile south of the project area. Major nesting areas within Lake Sakakawea include Douglas Creek Bay, Arikara Bay, Deepwater Bay, Van Hook Arm, Van Hook islands, Hofflund Bay, Little Egypt, Red Mike Bay, Renner Bay, and the northeast part of Mallard Island through DeTrobriand Bay (USACE 2007). Minor plover nesting areas include Elbowwoods Bay, Beacon Island, White Earth Bay, Tobacco Garden Bay, Beacon Point, Antelope Creek, Independence Point, and Beaver Creek Bay. The project area is 5.5 air-miles southwest of the closest historic Piping Plover nest location (located in 2001) in Ruona Bay along the west shore of Lake Sakakawea (USACE 2009). There is no suitable nesting or foraging habitat located within the immediate vicinity of the project area (Poitra 2010). No impacts to Piping Plover are expected.

Whooping Crane

Whooping Cranes breed in Alberta and Northwest Territories, Canada, and overwinter on the Texas coast (USFWS 2009d). They annually migrate through North Dakota during the spring and fall, making numerous stops to feed and roost before resuming migration. The project site is located within the 75 percent confirmed sightings band of the North Dakota Whooping Crane migration corridor (USFWS 2009e). From the 1960's to 2008 several Whooping Crane sightings within Dunn County have been confirmed 20 to 30 air-miles south to southwest of the proposed project site (USFWS 2009e), however no occurrences of Whooping Cranes have been documented in the vicinity of the project area (Poitra 2008; NDPR 2009; NDPR 2010). A lack of sightings in an area does not indicate lack of occurrence, but is more likely the result of lack of observers in less populated areas (USFWS 2009e). The closest documented sighting occurred in 1981 in McClean County, across Lake Sakakawea and approximately 9.4 air-miles northeast of the proposed project site (USFWS 2009e). Within the project area, there are no croplands, emergent wetlands, or shallow, seasonally or semi-permanently flooded palustrine wetlands. The lack of food sources and roosting/foraging habitat and close proximity to BIA 15 makes stopovers by migrating cranes unlikely. Impacts to Whooping Cranes are not expected.

Pallid Sturgeon (*Scaphirhynchus albus*)

The project area is at least 1.3 air-miles from the Missouri River (Lake Sakakawea) and pallid sturgeon habitat. Fishery habitat in the vicinity of the project area is absent. Direct and indirect project-related activities are not expected to negatively impact water quality or quantity within the river. No impacts to pallid sturgeon are expected.

Dakota Skipper (*Hesperia dacotae*)

The Dakota skipper is a small butterfly that once occurred throughout the north-central USA and south-central Canada (USFWS 2009c). Known occurrences of Dakota skippers now reside in western Minnesota, northeastern South Dakota, north-central North Dakota, and southeastern North Dakota. The Dakota skipper lives in high quality native prairies that contain a high diversity of wildflowers and grasses (USFWS 2009c). Exotic grasses and shrubs do not provide habitat for this insect (USFWS 2009c). Adult Dakota skippers live for three weeks in June and obtain nectar, which is critical to their reproduction, from woody lilies (*Lilium* spp.), harebells (*Campanula* spp.), smooth camas (*Camassia* spp.), coneflowers (*Echninacea* spp.), and blanketflowers (*Gaillardia* spp.). Larval Dakota skippers feed on grasses in the fall and over-winter in shelters at or just below ground level at the bases of native bunchgrasses. It is possible that some portions of the project site may provide potential habitat; however, no Dakota skipper caterpillars were observed during the fall site visit. Impacts to the Dakota skipper are unknown.

Sprague's Pipit *(Anthus spragueii)*

The Sprague's Pipit prefers native, medium to intermediate height prairie. The Sprague's Pipit is significantly more abundant in native prairie than in exotic vegetation (Dechant et al. 2001a). Other habitat features required by the pipit include low visual obstruction, moderate litter cover, and little or no woody vegetation (Dechant et al. 2001a). Dechant et al. (2001a) note that most studies of this species were conducted in large grassland areas, suggesting that the pipit may require relatively large grassland areas. This pipit is also known to utilize and breed in alkaline meadows and around the edges of alkaline lakes (MTNHP 2010). The Sprague's Pipit feeds on insects and seeds (Ehrlich et al. 1988). The proposed Darcie well pad and access road occur in an old hayfield with a prevalence of smooth brome (*Bromus inermis*), and exotic species. Based on the Sprague's Pipit's preference for native prairie, and the abundance of native prairie in the project vicinity outside of the proposed impact area, it is unlikely that the proposed project will impact this species.

3.6.2 Threatened and Endangered Species Impacts

Physical inventories were conducted on November 18, 2009; no occurrence of candidate and listed TE plants or animals and denning, roosting, or nesting sites are known to be present or were observed during the site visits. Therefore, no direct impacts to the six listed and one candidate for listing TE species would be expected. The project may disturb potential habitat for the Dakota skipper, though potential habitat has not been mapped by the USFWS.

Based on the above information and the proposed mitigation measures below, a **no effect** determination is rendered for the black-footed ferret, gray wolf, Interior Least Tern, Piping Plover, Whooping Crane, and Pallid Sturgeon. Similarly, no impacts are expected to the candidate species, Sprague's Pipit. Because potentially suitable habitat for the candidate species, Dakota skipper, might exist within the proposed project area, this project is expected to have no more than minor impacts on this species. However, these potential impacts to the Dakota skipper are unknown at this time. Candidate species receive no legal protection under the Endangered Species Act - that is, there are no legal prohibitions under the federal Endangered Species Act against taking candidate species. Nonetheless, the USFWS promotes conservation actions for candidate species that may eliminate the need to list the species as threatened or endangered.

3.6.3 Threatened and Endangered Species Mitigation

Impacts to potential habitat for the Dakota skipper can be minimized by reducing the area of ground disturbance, spot-treating (as opposed to broadcast spraying) noxious weeds with herbicides, and controlling exotic grasses and woody plants (USFWS 2009c and 2009d). The proposed project would minimize disturbance to potential habitat by placing multiple wells at a single well pad location, using the existing road network as much as possible, and to treat noxious weeds as needed.

To further reduce the potential for negative impacts to a threatened or endangered species and its habitat the follow mitigation is proposed for the Darcie 34X-14 well pad and access road:

- Any sighting of a protected species within one-mile of the project area would be immediately reported to the USFWS, NDGFD, the Tribe, and the BIA.
- Biological monitors would be available between February 1st and July 15th to survey the project site for threatened or endangered species, and for avian nesting activity.
- To maintain some habitat integrity, disturbed ground would be reclaimed using native plants from approved plant lists as identified by the Tribe and BIA. As required by the NDIC, reclamation costs are guaranteed through the issuance of a bond.

3.7 General Wildlife and Fisheries

This section describes existing conditions, the potential impacts from the Proposed Action, and suggested mitigation measures for wildlife and fishery resources in the project area.

3.7.1 Wildlife Habitat

Wildlife habitat in the project area consists of grasslands and one small shrubby thicket comprised of buffaloberry and snowberry (Figure 3.7a). Project area grasslands comprise approximately 10.14 acres (99 percent) and shrubby thicket on the outer edge of the 10.14-acre project circle comprises 0.05 acre (1 percent) of the project area (Table 3.7a).

Figure 3.7a: Representative habitat type found in the project area: primarily grassland and includes one small patch of shrubby thicket occurred along the outer edge of the project area (not shown).

Within the project area wildlife species primarily use the grasslands, and likely to a much lesser extent, the small shrubby thicket because grasslands dominate the site. The grassland community is comprised primarily of mesic grasses, forbs, and scattered, single-stemmed shrubs (see *Section 3.9 Vegetation and Invasive Species*) (Figure 3.7b). Dominant plant species that comprise the project area's grassland include: smooth brome (*Bromus inermis*), blue grama (*Bouteloua gracilis*); crested wheatgrass (*Agropyron cristatum*), prairie junegrass (*Calamagrostis montanensis*), Sandberg bluegrass (*Poa secunda*), alfalfa (*Medicago sativa*), and tall tumblemustard (*Sisymbrium altissimum*). Shrub species observed throughout the grasslands include rose (*Rosa arkansana*), prickly pear (*Opuntia polyacantha*), broom snakeweed (*Gutierrezia sarothrae*), and fringed sagewort (*Artemisia frigida*).

Table 3.7a. ***Summary of wildlife habitat types and projected impacts for the proposed Darcie 34X-14 project area.***

Habitat Type	Project Area* (acre)	Permanent Impact (acre)	Temporary Impact (acre)	Total Impact (acre)
Grassland	10.09	4.62	1.1	5.72
Snowberry patch	0.05	0	0	0
Total	**10.14**	**4.62**	**1.1**	**5.72**

*Project area is defined as 100 feet on both sides of the new access road (200 feet total width) and n approximate a 10-acre circle around the proposed well pad.

Grasslands in the project area provide forage for livestock and for a variety of native wildlife, including big game, mid-sized mammals, rodents, reptiles, resident and migratory bird species, and game birds. The small silver buffaloberry (*Shepherdia argentea*)/ snowberry (*Symphoricarpos* spp.) shrubby thicket was observed along the southeast edge of the project site; smooth brome was the primary understory vegetation (Figure 3.7b). Various small shrubby thicket communities occur 260 to 450 feet east and

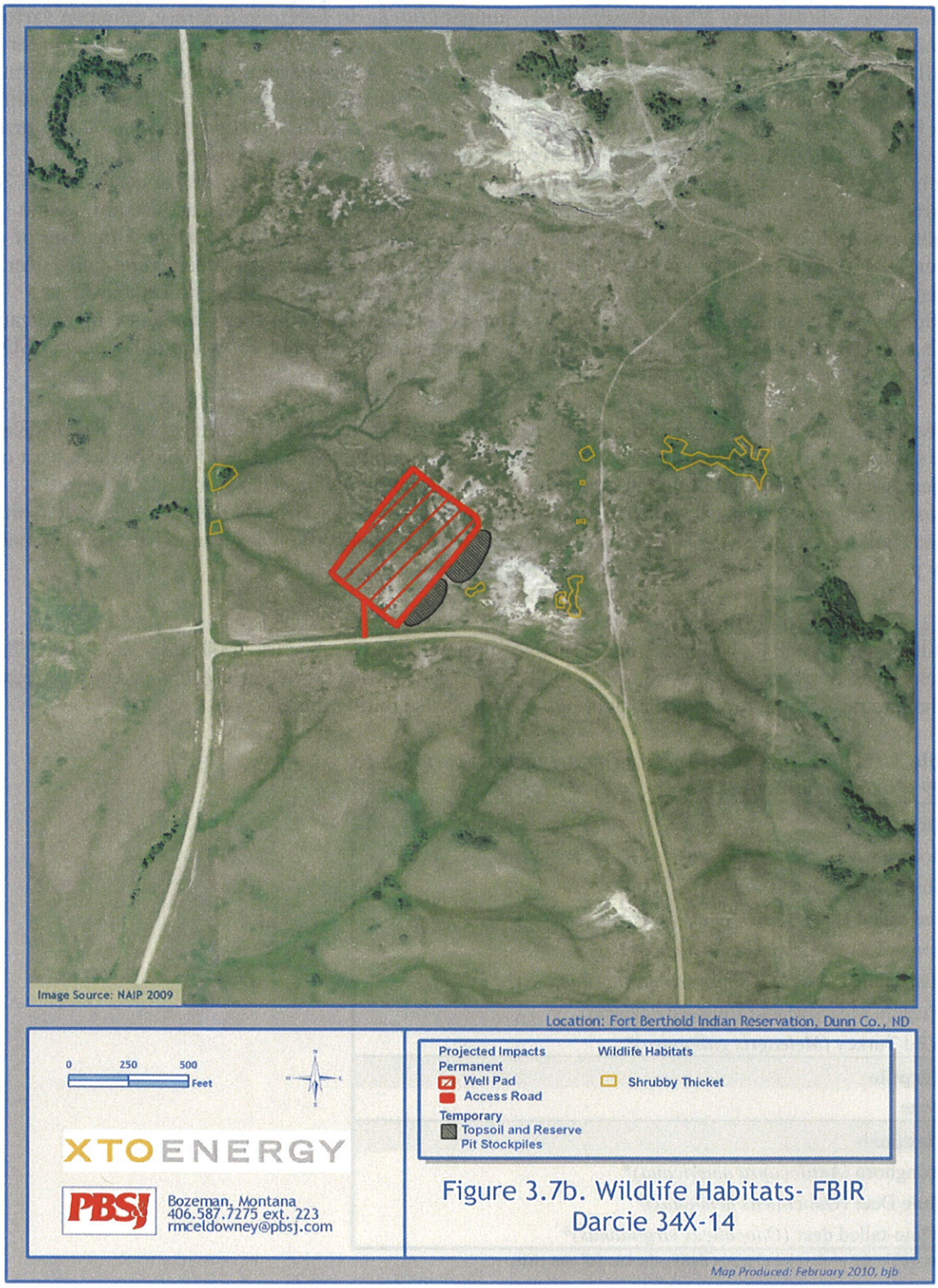


Image Source: NAIP 2009
Location: Fort Berthold Indian Reservation, Dunn Co., ND
0 250 500 Feet
Projected Impacts
Permanent
Well Pad
Access Road
Temporary
Topsoil and Reserve Pit Stockpiles
Wildlife Habitats
Shrubby Thicket
XTO ENERGY
PBSJ
Bozeman, Montana
406.587.7275 ext. 223
rmceldowney@pbsj.com
Figure 3.7b. Wildlife Habitats- FBIR
Darcie 34X-14
Map Produced: February 2010, bjb

northeast of the project area. The thickets closest to and east of the project site are comprised of silver buffaloberry, chokecherry (*Prunus virginiana*), juniper (*Juniperus horizontalis),* rose, common yarrow (*Achillea millifolium*) and smooth brome. Snowberry shrubs provide important cover and forage for small mammals (e.g. rabbits, deer mice, voles), Sharp-tailed Grouse (*Tympanuchus phasianellus*), and Wild Turkey (*Meleagris gallopavo*) (USDA-FEIS 2009a). These shrubs provide fair browse for mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), and pronghorn (*Antilocapra americana*) (USDA-FEIS 2009a). Snowberry is also used by songbirds for nesting, foraging and perching (e.g. Clay-colored Sparrow) (Dechant et al. 2002) and by hummingbirds for nectar (NPIN 2009). Shrubby thickets comprised of buffaloberry, chokecherry, juniper and hawthorn are used by a wide variety of wildlife for thermal and escape/hiding cover, foraging, nesting, and perching. In terms of cover, silver buffaloberry is considered to provide good to fair cover for mule deer, white-tailed deer, pronghorn, upland game birds, and passerine birds (USDA-FEIS 2009b). In North Dakota silver buffaloberry is considered to have fair to good nutritional value for mule deer, pronghorn, upland game birds, and small non-game birds; it is considered of poor nutritional value for white-tailed deer (USDA-FEIS 2009b).

Three small and shrubby thicket communities occur 400 to 750 feet from the project site. The McKenzie Bay shrubby swale to the northeast and small thicket communities in the BIA 15 borrow ditch west of the project area are comprised of young green ash (*Fraxinus pennsylvanica*), hawthorn (*Crataegus rotundifolia*), snowberry, chokecherry, and smooth brome (Figure 3.7b). Up to four swales with shrub vegetation occur at least 1,400 feet from the project site (not mapped). These shrub habitats are small but may provide limited wildlife habitat in areas adjacent to the project area.

3.7.2 Wildlife and Fish Species

Wildlife species and their sign were searched for during the November 18, 2009 site visit (Table 3.7b). Tracks, scat, burrows, and skeletons were considered signs of that particular species' presence. Because of the late fall season, few wildlife sightings were recorded during the site visit.

Table 3.7b. ***Wildlife species observed during the November 18, 2009 visit at the proposed Darcie 34X-14 project area.***

Birds
Horned Lark (*Eremophila alpestris*)
Bluebird species (*Sialia* spp.)
Red-tailed Hawk (*Buteo jamaicensis*)
Rough-legged Hawk (*Buteo lagopus*)
Sharp-tailed Grouse (*Tympanuchus phasianellus*)*
Western Meadowlark (*Sturnella neglecta*)
Wild Turkey (*Meleagris gallopavo*)*
Herptile
None
Mammals
Pronghorn (*Antilocapra americana*)*
Mule Deer (*Odocoileus hemionus*)*
White-tailed deer (*Odocoileus virginianus*)*

*Seen within the project area but not during the late fall site visit.

In addition to the bird species observed, the project area is expected to provide breeding and foraging habitats for many neotropical migrants, foraging habitat for migrant and resident raptors such as Golden

Eagle (*Aquila chrysaetos*), Northern Harrier (*Circus cyaneus*), Red-Tailed Hawk (*Buteo jamaicensis*), Rough-legged Hawk (*Buteo lagopus*), and Swainson's Hawk (*Buteo swainsoni*).

Bald and Golden Eagles use a variety of habitat types and may occasionally occur in the vicinity of the Darcie 34X-14 site. There are numerous records of Golden Eagle nests on the Fort Berthold Reservation (USFWS 2009d; Poitra 2010). At the time this writing, no nests are known to occur within a half-mile radius of the proposed project site (Poitra 2010, NDPR 2009). The North Dakota Game and Fish Department has not recorded any occupied, unoccupied, or 'status unknown' Bald Eagle nests in the project vicinity or in the western half of Lake Sakakawea (Johnson 2010). As with other states, the overall number of Bald Eagles has increased substantially in North Dakota since it was listed under the Endangered Species Act in 1978 (Johnson 2010). The Bald Eagle was considered fully recovered and removed from the federal threatened and endangered species list in June 2007.

Though only a few mammal species have been observed in the project area, the area is expected to be used, at least occasionally, by bobcat (*Lynx rufus*), coyote (*Canis latrans*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), long-tailed weasel (*Mustela frenata*), meadow vole (*Microtus pennsylvanicus*), prairie vole (*Microtus ochrogaster*), and deer mouse (*Peromyscus maniculatus*).

Based on known distributions and preferred habitat types, there are 19 animal species identified by the North Dakota Game and Fish Department (NDGF) as species of conservation priority (SoCP) that could potentially occur in the project area (Table 3.7c). None of these species were observed during the fall site visit, however Sharp-tailed Grouse have been observed within the project vicinity.

No fisheries occur in the project area. The closest fish habitat is the Lake Sakakawea general shoreline, which is at least 1.3 air-miles south of the project area. Game fish species common to Lake Sakakawea and likely the Little Missouri River Arm include northern pike (*Esox lucius*), rainbow trout (*Oncorhynchus mykiss*), sauger (*Stizostedion canadense*), walleye (*Stizostedion vitreum*), and yellow perch (*Perca flavescens*). Runoff from the project area does not enter any potential intermittent drainages and will not affect Lake Sakakawea or the Little Missouri River Arm. The closest perennial waterbody that could potentially support a fish population is a pond located 1.0 mile northwest northwest of the

Table 3.7c: ***Species of conservation priority that potentially could occur in the proposed Darcie 34X-14 project area.***

Common Name	Scientific Name	Conservation Priority[1]
BIRDS		
Baird's Sparrow	*Ammodramus bairdii*	I
Dickcissel	*Spiza americana*	I
Ferruginous Hawk	*Buteo regalis*	I
Grasshopper Sparrow	*Ammodramus savannarum*	I
Lark Bunting	*Calamospiza melanocorys*	I
Long-billed Curlew	*Numenius americanus*	I
Swainson's Hawk	*Buteo swainsoni*	I
Upland Sandpiper	*Bartramia longicauda*	I
Bobolink	*Dolichonyx oryzivorus*	II
Burrowing Owl	*Athene cunicularia*	II
Golden Eagle	*Aquila chrysaetos*	II
Loggerhead Shrike	*Lanius ludovicianus*	II
Northern Harrier	*Circus cyaneus*	II
Prairie Falcon	*Falco mexicanus*	II

Common Name	Scientific Name	Conservation Priority[1]
Sharp-tailed Grouse	*Tympanuchus phasianellus*	II
Short-eared Owl	*Asio flammeus*	II
HERPTILES		
Plains spadefoot	*Spea bombifrons*	I
Western hognose snake	*Heterodon nasicus*	I
MAMMAL		
Swift fox	*Vulpes velox*	II

[1] Source: Hagen et al. (2005)
Level I= species that are in decline and presently receive little or no monetary support or conservation efforts.
Level II= species that have a moderate level of conservation priority *or* have a high level of conservation priority with substantial funding that is available to them from other wildlife programs.
Level III = species that have a moderate level of conservation priority and are believed to be peripheral or non-breeding in North Dakota.

project area. It is unknown if fish occur in this pond; if present, they are likely stocked because potential stream connections to Lake Sakakawea are not likely to support fish migration.

3.7.3 Wildlife and Fish Projected Impacts

An estimated 4.85 acres of grassland habitat would be permanently impacted due to construction of the access road and well pad at the Darcie 34X-14 site (Table 3.7a). An additional 0.9 acres of grassland would be temporarily impacted from the stockpiling of topsoil and soil from the cuttings pit (Table 3.7a). Construction of the project would result in direct wildlife mortality to those species with limited mobility and/or those that could conceivably be occupying their burrows or nests at the time of construction (e.g., mice, voles, young birds/eggs, and pocket gophers). More mobile species, such as adult deer, coyotes, and most adult birds, would be able to avoid direct mortality by moving into adjacent habitat. Generally, these direct impacts to wildlife habitat and wildlife populations in the project area are considered minor due to the abundance of similar habitats in the vicinity.

During the early nesting season, eagles can be sensitive to human disturbance, which could potentially result in nest abandonment; there are no trees or rock outcroppings within the project site and it is unlikely that there are any eagle nests within view of the project area. Other migratory birds are protected under the Migratory Bird Treaty Act (MBTA) and are also susceptible to nest abandonment during nesting.

According to the USFWS (2009d) wildlife mortality at oil facilities in North Dakota is most often associated with drilling reserve pits, flare pits, and/or drip buckets and barrels. For this reason a closed–loop system is recommended by the USFWS (2009d). If the cuttings or catch-all pit contain free fluids, they would be cleaned up immediately to prevent accidental wildlife mortality in the immediate project area.

Habitat fragmentation could cause direct or indirect impacts. Impacts that result from habitat fragmentation that are commonly associated with oil and gas projects are generally the result of the separation of previously contiguous blocks of habitat into one or more disconnected pieces. Habitat fragmentation could occur by physically changing the landscape as a result of road construction and/or through an increase in the level of activity which could prevent or hinder wildlife movement. Either form of habitat fragmentation could result in impediments to wildlife dispersal and corresponding genetic exchange among populations.

The existing county road, agricultural practices, and light residential development all contribute to habitat fragmentation in the project vicinity. However, no substantial impediment to wildlife movement is apparent. The Darcie 24X-14 well site and access road would contribute to temporary habitat

fragmentation during the drilling process. If the well sites are developed into commercially viable wells the project could add to more permanent habitat fragmentation in the project area primarily by increasing the level of activity in the area.

Other forms (i.e., increased noise or odor) of indirect impacts may affect local distributions of wildlife in the vicinity of the proposed well pads and access roads. These types of impacts may affect the local distribution of particular animal species by displacing them into adjacent habitats; however, they are not expected to negatively affect local populations.

3.7.4 Wildlife Mitigation

Potential impacts to wildlife species and their habitats have been avoided and minimized through consultation with the BIA to locate the proposed well pad and access road outside of any riparian area, in using a relatively diffuse drilling density (up to 1,280 acres per drill site), using existing roads where possible, and by using directional drilling. Directional drilling has allowed the consolidation of well pads and access roads, thereby reducing habitat fragmentation in the area. Reclamation of habitat over the life of the project would further reduce long-term impacts to wildlife and their habitat. Additional mitigation measures are listed below.

- XTO intends to follow, to the greatest extent practicable, recommendations and guidance provided by the USFWS to minimize adverse impacts to migratory birds (USFWS 2009d).
- If initial site construction occurs within the nesting season, the project site would be surveyed by a qualified biologist to determine if and where active nests occur in relation to proposed construction activities. If active nests are found, construction would be suspended or buffers established to ensure no adverse impacts occur until nesting has been completed.
- The USFWS recommends that a buffer of at least one-half mile be placed around any known Bald or Golden Eagle nest (USFWS 2009d). If a Bald or Golden Eagle nest is observed within a half-mile of the proposed project, the USFWS would be notified. A biological monitor would be available to monitor such activity.
- A semi-closed loop system will be used for all drilling activities.
- The cuttings pit and catch-all pit would be covered with a net to prevent birds from entering them.
- Utility lines will be installed below ground.
- The entire well pad would be fenced to prevent livestock and wildlife access to the site.
- Pits would be fenced on all four sides in order to protect wildlife, livestock, and personnel from falling into the pit if the entire site has not been protected within a fence.
- As recommended by the USFWS, drip buckets and barrels located under valves and spigots would be covered with wire mesh to prevent wildlife from entering and becoming entrapped.

3.8 Soils

This section describes existing conditions, the potential impacts from Proposed Action, and suggested mitigation measures for soil resources in the project area.

The proposed development is situated on the Missouri Plateau near the center of the Williston Basin. The Sentinel Butte Formation consisting of poorly lithified sandstone, siltstone and mudstone is found at the surface to depths of several hundred feet. The landscape is characterized by sedimentary uplands and pediments with nearly level to gentle slopes yielding to moderately steep to steep slopes at pediment breaks. Pedogenic processes reveal a preponderance of silty to clayey soils developed in residuum and alluvium from soft calcareous shale and siltstone. Small areas of sandy soils, consistent with parent materials of the pediment, are likely the result of post-glacial wind-born deposits. Erosional processes by water reveal a well defined dendritic drainage pattern in adjacent pediment breaks and badlands.

3.8.1 Soil Mapping

Six sites were sampled during an on-site soil inventory conducted during November 17-18, 2009. Reference soil maps and soil data tables for the project area were obtained prior to conducting field work (Natural Resources Conservation Service [NRCS] 2009). Detailed soil pedon descriptions consistent with changes in landscape position and ecological sites were taken along the proposed access road and at the well pad location (Figure 3.8; Table 3.8b and Appendix D). Representative NRCS soil survey map units (SMUs) listed in Table 3.8a and described later in this section, are those that best fit the on-site inventory and do not necessarily match SMUs for this area found in the Dunn County soil survey.

Table 3.8a: ***Soils observed at the proposed Darcie34X14 project site.***

Soil Series Component	Textural Family and Taxonomic Class	Representative NRCS Soil Map Unit (assigned)	Percent Slope (observed)	Presence in Access Road	Presence in Well Pad
Belfield silty clay loam	Fine-smectitic, frigid, Glossic Natrustolls	62B Rhoades silt loam, 0 to 6 percent slopes; Belfield is an inclusion in this unit	1	No	Yes
Morton silt loam	Fine silty, mixed, superactive, frigid Typic Argiustolls	62B Rhoades silt loam 0 to 6 percent slopes; Morton is an inclusion in this unit	3	No	Yes
Rhoades silt loam	Fine-smectitic, frigid, Leptic Vertic Natrustolls	62B Rhoades silt loam, 0 to 6 percent slopes.	3	No	Yes
Parshall fine sandy loam	Coarse-loamy, mixed, superactive, frigid Typic Haplustolls	81B Vebar-Parshall fine sandy loams, 0 to 6 percent slopes.	1-2	Yes	Perimeter*

*This SMU was observed within the southwest 10-acre field perimeter of the well pad.

Soil map units are summarized below:

- **Soil Map Unit 62B:** Rhoades silt loam 0 to 6 percent slopes, is located on sedimentary uplands and pediments with component soils developed in clayey alluvium from calcareous shale and siltstone. Slopes are 0 to 6 percent. Rhoades silt loam (75 percent) is found on alluvial fans and outwash plains, is moderately well to well drained, very slowly permeable and has a very low available water capacity. Maximum sodium adsorption ratio is 25.0. Topsoil depth ranges from 1 to 5 inches and depth to water-restrictive layer is about 3 inches. Morton silt loam (3 percent) is found on convex pediments, is well drained and has a moderate available water capacity. Topsoil depth ranges from 3 to 12 inches. Depth to mixed, soft sedimentary beds is 30 to 40 inches. Belfield silty clay loam (7 percent) is found on nearly level flats, is moderately well drained, very slowly permeable and has a very low available water capacity. Maximum sodium adsorption ratio is 25.0. Topsoil depth ranges from 2 to 6 inches and depth to water-restrictive layer is about 6 inches. Other minor soils (not observed) include Savage soils (6 percent), Regent soils (3 percent), Harriet, occasionally flooded soils (3 percent) and slickspots (3 percent). The ecological site for Rhoades silt loam is Thin Claypan-R054XY033ND and was observed at sample site locations 1 and 3. The ecological site for Morton silt loam is Loamy-R054XY031ND and was observed at sample site location 2. The ecological site for Belfield silty clay loam is Thin Claypan and was observed at sample site location 5 (Figure 3.8).

- **Soil Map Unit 81B:** Vebar-Parshall fine sandy loams, 0 to 6 percent slopes is located on uplands and hills with component soils developed in coarse-loamy wind deposits and alluvium derived from soft sandstone bedrock. Slopes are 0 to 6 percent. Vebar fine sandy loam (45 percent - not observed) is found on slope shoulders and backslopes, is well drained and has a low available water capacity.

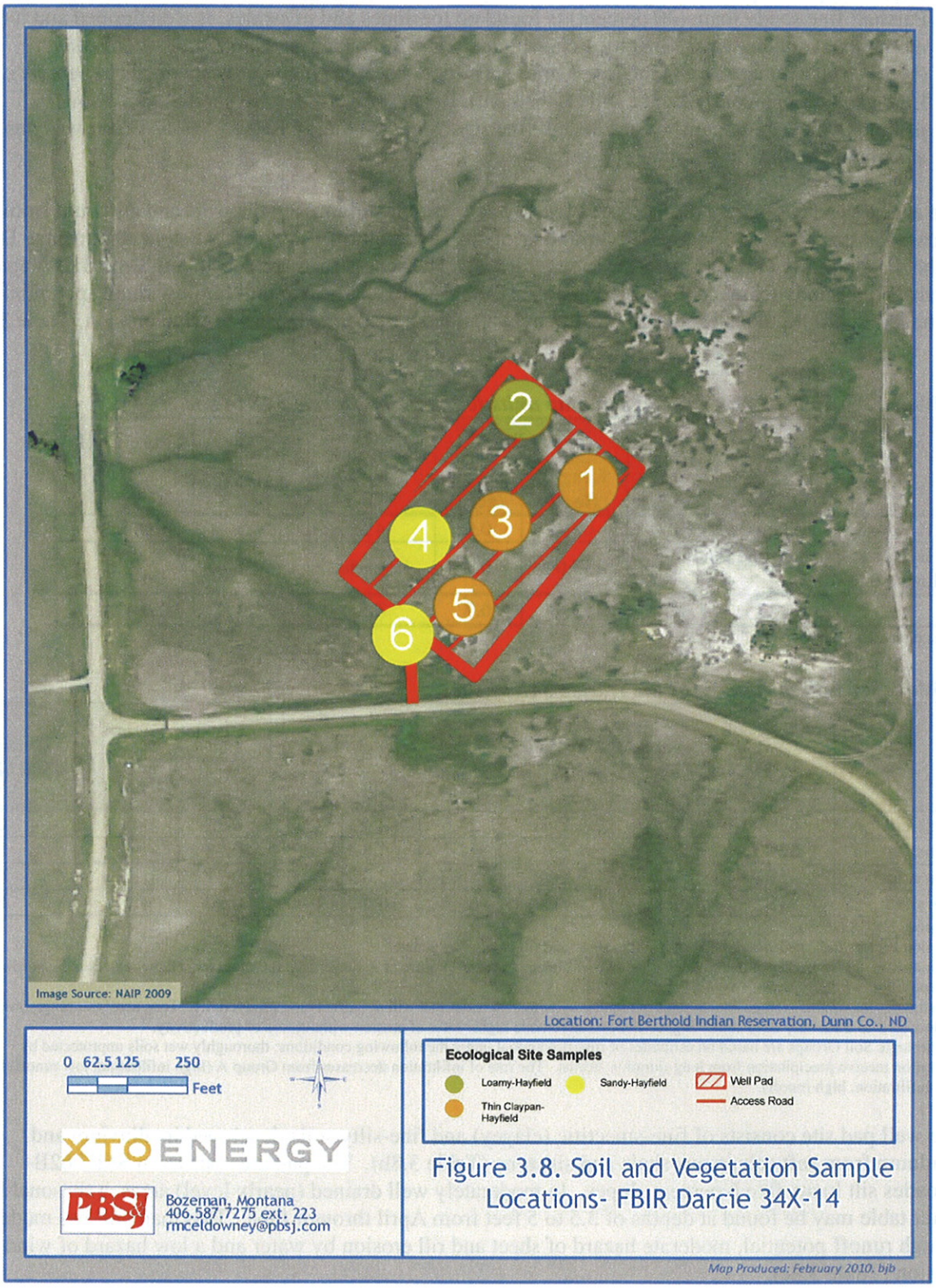


Figure 3.8. Soil and Vegetation Sample Locations- FBIR Darcie 34X-14

Topsoil depth ranges from 4 to 10 inches. Depth to restrictive layer (soft bedrock) is 30 to 40 inches. Parshall fine sandy loam (40 percent) is found on toeslopes and in swales, is well drained and has a moderate available water capacity. Topsoil depth is 6 to 22 inches. Depth to restrictive layer (bedrock) is greater than 60 inches. Minor soils (not observed) include Flasher soils (4 percent), Lihen soils (3 percent), Armor soils (3 percent), Beisigl soils (3 percent) and Shambo soils (2 percent). The ecological site for Parshall fine sandy loam is Sandy-R054XY026ND and was observed at sample site locations 4 and 6 (Figure 3.8).

The access road easement area consists of sandy soils developed in wind deposits and alluvium from soft calcareous sandstone overlying a discontinuity of silty material from adjacent siltstone pediments. Depth to the discontinuity varies from a few to several feet. The access road area occurs in SMU 81B-Vebar-Parshall fine sandy loams, 0 to 6 percent slopes (Table 3.8b). This map unit has low runoff potential, low to moderate hazard of sheet and rill erosion by water and a moderate hazard of wind erosion (Table 3.8c).

Table 3.8b: ***Approximate area of soil map units found at the Darcie 34X14 site.***

Soil Map Unit (SMU)	Access Road[1]		Well Pad Acreage	Total Acreage	Percent of Total Acreage
	Length (feet)	Area (acre)			
62B Rhoades silt loam 0 to 6%	0.0	0.0	4.5	4.5	87.0
81B Vebar-Parshall fine sandy loams 0 to 6%	153.0	0.7	Perimeter	0.7	13.0
Total	**153.0**	**0.7**	**4.5**	**5.2**	**100.0**

[1] Based on a 200-foot ROW width.

Table 3.8c: ***Soil attributes for the Darcie 34X14 site.***[1]

Soil Series	Soil Map Unit(s)	In Access Road	In Well Pad	Surface Layer Composition			Erosion Factor[2]		Hydrologic Soil Group[5]
				% sand	% silt	% clay	Kf[3]	T[4]	
Belfield	62B	No	Yes	24.6	52.4	23.0	0.32	5	C
Morton	62B	No	Yes	11.2	66.8	22.0	0.28	3	B
Rhoades	62B	No	Yes	26.0	52.0	22.0	0.32	2	D
Parshall	81B	Yes	Yes	69.6	16.4	14.0	0.20	5	B

[1] Source: NRCS (2009).
[2] Erosion Factors indicate susceptibility of a soil to sheet and rill erosion by water.
[3] Kf indicates the erodibility of material less than two millimeters in size. Values of K range from 0.02 to 0.69. Higher values indicate greater susceptibility.
[4] T estimates maximum average annual rates of erosion by wind and water that will not affect crop productivity. Tons/acre/year range from 1 for shallow soils to 5 for very deep soils. Higher T soils can tolerate higher rates of erosion without loss of productivity.
[5] Hydrologic Soil Groups are based on estimates of runoff potential under the following conditions: thoroughly wet soils unprotected by vegetation receive precipitation from long-duration storms. The rate of infiltration decreases from Group A (high infiltration, low runoff) to D (low infiltration, high runoff).

The well pad site consists of fine-smectitic (clayey) and fine-silty soils developed in alluvium and residuum from soft calcareous shale and siltstone (Table 3.8b). The pad area occurs in SMU 62B-Rhoades silt loam, 0 to 6 percent slopes. In moderately well drained (nearly level) areas, a seasonal high water table may be found at depths of 3.5 to 5 feet from April through June. This map unit has moderate to high runoff potential, moderate hazard of sheet and rill erosion by water and a low hazard of wind erosion (Table 3.8c).

Sampled soils were moderately deep to very deep (40 to >60). Depth of topsoil varies considerably from 1 to 6 inches on smectitic (clayey) soils, 3 to 12 inches on fine-silty soils and 6 to 22 inches on sandy

soils. Rhoades and Belfield soils (SMU 62B) exhibit a wet consistence property that dries into large, hard clods when disturbed. The Morton soil (SMU 62B) has a moderate potential for frost action. Rhoades and Belfield soils (SMU 62B) have subsoil layers of swelling clays (natric horizons) which restrict permeability and increase surface runoff. These subsoils have high sodium adsorption ratios (up to 25.0) with soil reaction (pH) ranging from 7.9 to 9.0. Random electrical conductivity (EC) tests reveal medium to high soluble salt content (5 to 15 mmhos/cm). Subsoil chemistry poses considerable risk to vegetation from sodium and salt toxicity. Parshall soils (SMU 81B) have a high subsoil calcium carbonate equivalent (up to 20 percent calcium carbonate by volume) with soil reaction (pH) ranging from 7.8 to 8.8. These materials may adversely affect successful re-vegetation if left at the surface. Subsoil material in soil map units 62B and 81B pose a moderate to high risk of corrosion to untreated steel.

Soils are described and classified to about 60 inches or a limiting layer. Subsoil and substratum characteristics (>60 inches) may yield materials alien to the soil series described where an abrupt change (discontinuity) is encountered. Due to the nature of the landscape, the Darcie 34X14 access road easement and well pad site may yield materials having substratum materials other than those described for the soil series. Reference engineering material (particle size) properties for project area subsoils are provided in Table 3.8d.

Table 3.8d: ***Unified Classification of Subsoil Materials for the Darcie 34X14 site***

Soil Series	Depth Range (inches)	Unified Classification Symbol
Belfield	43 to 60	CH, CL
Morton	15 to 33	CL
Rhoades	46 to 60	CH,CL
Parshall	48 to 60	CL,CL-ML,ML,SC,SC-SM,SM

[1] See Figure D1 in Appendix D for definitions of the unified classification symbol.

3.8.2 Soil Impacts

Once the soil layer is disturbed, many soil functions are nearly impossible to regain. The greatest concerns with regard to soils are the loss of topsoil and the possibility of soil erosion during construction. Approximately 4.6 acres would be permanently impacted by the well pad and approximately 0.24 acre of soil would be permanently impacted by the proposed new access road. Temporary disturbance of the project area as a result of stock piles total 0.9 acres. The total permanent and temporary disturbance to soils is estimated at 5.75 acres.

3.8.3 Soil Mitigation

Approximately six to twelve inches of topsoil would be stripped from areas of new construction and stockpiled for use during reclamation. Toxic subsoil layers would be stockpiled in separate areas. Topsoil from the proposed development area may benefit from organic amendments in order to reduce clod formation prior to re-vegetation. Donor topsoil from off-site areas may improve re-vegetation success.

Areas stripped of vegetation during initial construction would be reseeded once construction is completed. Implementation of proven best management practices for stabilization and reclamation would reduce soil erosion to negligible levels. Best Management Practices (BMPs) applicable to the proposed Darcie 34X-14 project include, but are not limited to:

- Limit ground disturbance to the area that is necessary for the project.
- Minimize the area from which topsoil would be removed.
- Reduce the time that topsoil is stockpiled in order to retain viable soil nutrients.
- Minimize the time that barren areas are exposed to reduce soil erosion and colonization by weeds.

- Employ dust control measures as needed.
- Apply soil stabilizers or soil binders as needed.

3.9 Vegetation and Invasive Species

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for vegetation and invasive species in the project area.

3.9.1 Ecological Sites

Six ecological site inventories were conducted on November 17 and 18, 2009 within the proposed site location (Figure 3.8). An ecological site is the product of all the environmental factors responsible for its development, and has a set of defining characteristics (NRCS 2003). Ecological sites have characteristic soils that have developed over time through the soil development process. The factors which affect soil development are parent material, climate, living organisms, topography or landscape position, and time. An ecological site has a characteristic hydrology, particularly infiltration and runoff, which has developed over time. The hydrologic development is influenced by the development of the soil and plant community. The opposite is also true. Ecological sites evolve into characteristic plant communities. The plant community on an ecological site is typified by an association of plant species that differs from that of other ecological sites in the kind and/or proportion of species, or in primary production (NRCS 2003).

Three ecological sites were identified within the project area: Thin, Loamy, and Sandy Claypan (Table 3.9a). The most common ecological site type was Thin Claypan (3 locations), followed by Sandy (2 locations) and Loamy (1 location). The pad site for the Darcie 34x-14 well location is located within a hayfield. The most commonly encountered plant species found at these sample locations included smooth brome, crested wheatgrass, alfalfa, prairie junegrass, and tall tumblemustard. A comprehensive plant list for the project area was compiled (Table 3.9b). No State sensitive plant species were found during the November 17-18, 2009 site visit (Table 3.9b).

Table 3.9a: ***Summary of vegetation sample sites at the proposed Darcie 34x-14 project area.***

Sample Site ID	Ecological Soil Type (reference ID)	Location	Approx. Elevation (feet)	Aspect	Percent Slope	Dominant Plant Species[1] Photo Numbers in App. C[2]
Site #1	Thin Claypan - hayfield (R054XY033ND)	Pad Site	2,025	NW	3	smooth brome, crested wheatgrass, tall tumblemustard **Photos 9-11**, page B-2.
Site #2	Loamy - Hayfield (R054XY031ND)	Pad Site	2,018	NW	3	smooth brome, crested wheatgrass, alfalfa, tall tumblemustard **Photos 12-14**, pages B-2, B-3.
Site #3	Thin Claypan - hayfield (R054XY033ND)	Pad Site	2,021	W	3	smooth brome, tall tumblemustard **Photos 15-17**, page B-3.
Site #4	Sandy - hayfield (R054XY026ND)	Pad Site	2,018	N	2	smooth brome, prairie junegrass **Photos 18-20**, pages B-3, B-4.
Site #5	Thin Claypan - hayfield (R054XY033ND)	Pad Site	2,020	SW	1	smooth brome, crested wheatgrass **Photos 21-23**, page B-4.
Site #6	Sandy - hayfield (R054XY026ND)	Access Road	2,019	SW	1	smooth brome, crested wheatgrass, prairie junegrass

Sample Site ID	Ecological Soil Type (reference ID)	Location	Approx. Elevation (feet)	Aspect	Percent Slope	Dominant Plant Species[1] Photo Numbers in App. C[2]
						Photos 24-26, pages B-4, B-5.
General appearance, Southwest, Southeast, Northeast, Northwest Perimeters						**Photos 1-8**, pages B-1, B-2, **Photos 27-36**, pages B-5, B-6.

[1]See Appendix C for more detailed information on species encountered at each site and for scientific names.
[2]Photographs at each Ecological Site can be found on pages B-1 through B-6 in Appendix B.

The following are brief descriptions (NRCS 2004) of the three types of ecological sites found in the project area. Photographs of each site are in Appendix B and worksheets for each ecological site are in Appendix C. More detailed information is also available from the NRCS (2004).

Thin Claypan Ecological Site

The Thin Claypan ecological sites occur within hayfields on gently undulating to rolling sedimentary uplands such as alluvial fans, alluvial flats, hills, and knolls. These sites are moderately well to well drained and formed in soft sandstone, siltstone, shales, and alluvium. Water is the limiting factor to vegetation production. Typically the historic climax plant community (HCPC) for the thin claypan ecological site type is western wheatgrass (*Pascopyrum smithii*)/thickspike wheatgrass (*Elymus lanceolatus*)/blue grama community type. The potential vegetative composition for this community type is estimated at roughly 85 percent grasses/grass-likes, 10 percent forbs, and 5 percent shrubs. Although

Table 3.9b: ***Plant species observed in each Ecological Site for the proposed Darcie 34X-14 project area.***[1]

SCIENTIFIC NAME	COMMON NAME	SITE #1	SITE #2	SITE #3	SITE #4	SITE #5	SITE #6	PERIMETER[2]			
								SW	SE	NE	NW
GRASSES/GRASS-LIKES											
Agropyron cristatum	crested wheatgrass	X	X	X		X		X	X	X	X
Bouteloua gracilis	blue grama			X	X		X	X	X	X	X
Bromus inermis	smooth brome	X	X	X	X	X	X	X	X	X	X
Calamagrostis montanensis	plains reedgrass	X	X					X	X		
Koeleria macrantha	prairie junegrass	X	X	X	X		X	X	X	X	
Panicum virgatum	switchgrass	X							X		
Poa secunda	Sandberg bluegrass				X		X	X	X	X	X
FORBS											
Eriogonum spp.	buckwheat				X		X				
Medicago sativa	alfalfa	X	X	X				X			
Psoralea argophylla	silverleaf scurfpea								X		
Trifolium spp.	clover	X									
INVASIVE FORBS											
Camelina crantz	false flax								X		
Sisymbrium altissimum	tall tumblemustard	X	X	X	X	X	X	X	X	X	X
Taraxacum officinale	common dandelion		X	X	X		X	X		X	X
SHRUBS											
Artemisia frigida	fringed sagewort	X	X		X		X			X	X
Gutierrezia sarothrae	broom snakeweed	X							X		
Opuntia polyacantha	plains pricklypear			X	X		X				
Ribes aureum	golden currant								X		
Rosa arkansana	prairie rose	X	X	X	X	X	X	X	X		
Shepherdia argentea	silver buffaloberry								X		

[1] Presence is indicated by an "X". **Bolded species** are noxious in North Dakota.

[2] SW: southwest; SE: southeast; NE: northeast; NW: northwest

dependent upon site specific conditions, annual vegetative productivity can be expected to range from 500 lbs/acre to 1,200 lbs/acre, with the majority (79 percent) of plant growth occurring in May, June, and July (NRCS 2004). The Thin Claypan ecological sites sampled were found within a hayfield and therefore was not rated for ecological condition (Photos 9-11, 15-17 and 21-23 in Appendix B).

Loamy Ecological Site

Loamy ecological sites occur within hayfields on gently undulating to rolling sedimentary uplands such as alluvial fans, alluvial flats, and on hillsides. These sites are well drained and water is the limiting factor to vegetative production. Typically the historic climax plant community (HCPC) for loamy ecological site types is western wheatgrass/green needlegrass (*Nassella viridula*) community type. The potential vegetative composition for this community type is estimated at roughly 85 percent grasses/grass-likes, 10 percent forbs, and 5 percent shrubs. Although dependent upon site specific conditions, annual vegetative productivity can be expected to range from 1,400 lbs/acre to 3,400 lbs/acre, with the majority (79 percent) of plant growth occurring in May, June, and July (NRCS 2004). The Loamy ecological site sampled was found within a hayfield, therefore it was not rated for ecological condition (Photos 12-14, Appendix A).

Sandy Ecological Site

Sandy ecological sites occur on gently undulating to rolling sedimentary uplands, such as alluvial fans, alluvial flats, and on hillsides. These sites are moderately well to well drained; vegetative production is limited by water availability at this ecological sites. The HCPC for the sandy ecological site is the prairie sandreed/bluestem community type. As with the loamy ecological site, the potential vegetative composition for the sandy ecological site is estimated at roughly 85 percent graminoids, 10 percent forbs, and 5 percent shrubs. Roughly 83 percent of the annual plant growth occurs in May, June and July. Total annual vegetative productivity will vary based on site-specific conditions, but can be expected to range from 1,500 lbs/acre to 3,300 lbs/acre (NRCS 2004). The Sandy ecological site sampled were found within a hayfield and therefore were not rated for ecological condition (Photos 18-20 and 24-26, Appendix B).

3.9.2 Invasive Species

As defined by Executive Order 13112, an "invasive species" is that which is 1) a non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health (North Dakota Department of Agriculture [NDDA] 2009). Within the proposed Darcie 34X-14 project site, three exotic and invasive plants are present: false flax (*Camelina crantz*), tall tumblemustard (*Sisymbrium altissimum*), and common dandelion (*Taraxacum officinale*). Under normal native rangeland conditions, crested wheatgrass (*Agropyron cristatum*), smooth brome (*Bromus inermis*), and alfalfa (*Medicago sativa*) would be considered invasive, however these species were planted within a hayfield and are not considered invasive under this condition.

3.9.3 Noxious Weeds

The State of North Dakota defines a "Noxious weed" as any plant propagated by either seed or vegetative parts which is determined by the commissioner (after consulting with the North Dakota State University Extension Service) or a county weed board (after consulting with the county extension agent) to be injurious to public health, crops, livestock, land, or other property (ND Century Code 63-01.1-02) (NDDA 2009). Noxious weeds can spread easily to the detriment of public health, indigenous plant communities, crops, livestock and recreational areas and to the detriment of natural or agricultural systems management. In North Dakota, twelve species have been declared noxious under the North Dakota Century Code (Chapter 63-01.1) (Table 3.9c). However, only five noxious weeds are known to occur in Dunn County (Table 3.9c). Within the project boundaries, no noxious weeds were found.

Table 3.9c: ***North Dakota Noxious Weeds present in Dunn County and in vicinity of the project area.***

Scientific Name	Common Name	Present in Dunn County?	Present in vicinity of project site?
Artemisia absinthium	absinth wormwood	Yes	No
Carduus nutans	musk thistle	No	No
Centaurea diffusa	diffuse knapweed	No	No
Centaurea maculosa	spotted knapweed	No	No
Centaurea repens	Russian knapweed	No	No
Centaurea solstitialis	yellow starthistle	No	No
Cirsium arvense	Canada thistle	Yes	No
Convolvulus arvensis	field bindweed	Yes	No
Euphorbia esula	leafy spurge	Yes	No
Linaria dalmatica	Dalmation toadflax	Yes	No
Lythrum salicaria	purple loosestrife	No	No
Tamarix spp. [complex]	saltcedar	Yes	No

3.9.4 Vegetation Impacts

Construction of the well pad and access road would impact all three types of ecological sites within the project area. The total temporary and permanent disturbance area of 5.72 acres could be expected to reduce available forage to livestock and wildlife in the area from 6,500 pounds to 15,200 pounds per year (NRCS 2004). Actual forage reductions would depend on the timing and amount of precipitation the site receives each year.

Soil compaction by heavy equipment might hinder vegetation regrowth and revegetation efforts because it reduces the ability of water to percolate through the soil and reduces air spaces for water to occupy (Goodwin and Sheley 2003). Broadcast seeding on top of compacted soil could cause more seeds to blow away, be eaten by predators, or eroded away by precipitation (Goodwin and Sheley 2003).

Within the proposed well pad and access road sites there are no noxious weeds. However, there are three invasive species within the project area. The potential disturbance of 5.72 acres could allow invasive weeds to spread or noxious weeds to invade the site. Invasive and noxious weeds often out-compete native plants because they grow in the absence of population controls. Their populations reduce the quality and quantity of forage for game/livestock and crop production, reduce bio-diversity in the landscape, and generally does not provide habitat for native fauna (NDDA 2009).

3.9.5 Vegetative Mitigation

The following mitigation measure would be implemented to avoid, minimize and mitigate for impacts to vegetative resources in the project area.

- To maintain plant biodiversity, ground disturbance would be minimized to the extent that is necessary for the project. Equipment would work within the confines of the approved ROW and well pad area boundary.
- Topsoil that is removed would be stock-piled, and used in reclamation efforts.
- Severely compacted soil would be scarified or plowed to roughen the soil and increase germination rates (Goodwin and Sheley 2003). Soil scarification would be conducted by raking the soil with a ripper shank that is pulled behind a tractor, grader, or bulldozer.
- Areas stripped of topsoil would be reseeded with desirable plant species and be reclaimed at the earliest practicable opportunity.
- Certified weed-free straw and seed would be used for all construction, seeding, and reclamation

efforts.

- The APDs would require the operator to control all noxious weeds within the project area (Appendix A), though none were observed during the November 2009 site visit. In the event noxious weeds invade the site prior to development, control efforts would be implemented for a growing season prior to ground-disturbing activities and after ground-disturbing activities occur. Control measures could include using herbicides, hand-pulling, applying bio-control, seeding, and/or planting of desirable vegetation. Herbicides would be applied at the appropriate time(s) of year, in the appropriate weather condition, with the appropriate chemical, and at the appropriate rate.

North Dakota Parks and Recreation recommends that impacted areas be revegetated with species native to the project area (NDPR 2009) (Appendix F). Further, the USFWS recommends that a diverse mixture of native cool and warm season grasses and forbs be planted (USFWS 2009d). Seed mixes containing a diversity of plant habits and species have a greater chance of resisting invasion by non-native plants and eventually become more ecologically beneficial (USFWS 2009d). The appropriate seed mix should be designed to meet the objective of the revegetation effort. The objective for the proposed project would be to restore the plant community to its prior condition with minimal erosion and weed invasion. This would be accomplished by using a quick establishing cover crop of oats or barley at a rate of 10 lbs/acre combined with a native seed mixture at a rate of 5.4 lbs (pure live seed)/acre. The recommended seed mix developed by Darryl Turcotte of the BIA is comprised of native grasses to the area (Table 3.9d). More details on the species in this seed mix are included in Appendix C. A native forb component is generally encouraged but may be difficult to achieve for various reasons, including commercial availability, difficulty in germination, etc. Dependent on commercial availability, potential native forbs for inclusion in the seed mix include black samson (*Echinacea angustifolia*), purple prairie clover (*Dalea purpurea*), dotted gayfeather (*Liatris punctata*), and candle anemone (*Anemone cylindrica*). If forbs are included in the seed mix they should be in addition to the seeding rate of 5.4 pls/acre specified in Table 3.9d.

Table 3.9d. ***Native seed mix to be used in reclamation of the proposed Darcie 34X-14 project site.***

Plant Species	Pounds[1]	Composition
Western wheat Grass	2.4pls	30%
Green needlegrass	1.2pls	20%
Blue grama	0.2pls	10%
Sideoats grama	0.6pls	10%
Little bluestem	0.4pls	10%
Slender wheatgrass	0.5pls	10%
Prairie junegrass	0.1pls	10%
Total	**5.4pls**	**100%**

[1] Pounds of pure live seed.

3.10 Cultural Resources

This section describes existing conditions, the potential impacts from the Proposed Action, and suggested mitigation measures for cultural resources in the project area.

Historic properties, or cultural resources, on federal or tribal lands are protected by many laws, regulations and agreements. The *National Historic Preservation Act of 1966* (16 USC 470 *et seq.*) at Section 106 requires, for any federal, federally assisted or federally licensed undertaking, that the federal agency take into account the effect of that undertaking on any district, site, building, structure or object that is included in the National Register of Historic Places (National Register) before the expenditure of any federal funds or the issuance of any federal license. Cultural resources is a broad

term encompassing sites, objects, or practices of archaeological, historical, cultural and religious significance. Eligibility criteria (36 CFR 60.6) include association with important events or people in our history, distinctive construction or artistic characteristics, and either a record of yielding or a potential to yield information important in prehistory or history. In practice, properties are generally not eligible for listing on the National Register if they lack diagnostic artifacts, subsurface remains or structural features, but those considered eligible are treated as though they were listed on the National Register, even when no formal nomination has been filed. This process of taking into account an undertaking's effect on historic properties is known as "Section 106 review," or more commonly as a cultural resource inventory.

The area of potential effect (APE) of any federal undertaking must also be evaluated for significance to Native Americans from a cultural and religious standpoint. Sites and practices may be eligible for protection under the *American Indian Religious Freedom Act of 1978* (42 USC 1996). Sacred sites may be identified by a tribe or an authoritative individual (Executive Order 13007). Special protections are afforded to human remains, funerary objects, and objects of cultural patrimony under the *Native American Graves Protection and Repatriation Act* (NAGPRA, 25 USC 3001 *et seq.*).

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably include consultation requirements at various stages of a federal undertaking. The MHA Nation has designated a Tribal Historic Preservation Officer (THPO) by Tribal Council resolution, whose office and functions are certified by the National Park Service. The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the exterior boundaries of the Fort Berthold Reservation.

A cultural resource inventory of this well pad and access road was conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 12.2 acres were inventoried on November 19, 2009 (Ó Donnchadha 2009). No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for this undertaking. This determination was communicated to the THPO on January 20, 2010; however, the THPO did not respond within the allotted 30 day comment period.

If cultural resources are discovered during construction or operation, XTO Energy, Inc. would immediately stop work, secure the affected site, and notify the BIA and THPO. Unexpected or inadvertent discoveries of cultural resources or human remains trigger mandatory federal procedures that include work stoppage and BIA consultation with all appropriate parties. Following any such discovery, XTO Energy, Inc. would not resume construction or operations until written authorization to proceed was received from the BIA. **Project personnel are prohibited from collecting any artifacts or disturbing cultural resources in the area under any circumstances.** No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

3.11 Socio-Economics

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for social-economic resources in the project area. The Proposed Action would occur on the FBIR; however, to provide a broad perspective for the region, the overlapping counties of Dunn, McKenzie, and McLean will also be evaluated. The State of North Dakota is provided for comparison purposes.

The level of employment for a given area can be used to draw conclusions on the health and stability of the local economy. The U.S. Census Bureau and BIA Indian Labor Force Reports were used for employment and income data. As shown in Table 3.11a, in 2000, FBIR had a lower median household income ($26,274) and higher unemployment rate (6.4 percent) in comparison to the overlapping counties and the state. Fort Berthold Reservation had a high percent of persons living below poverty (28.1 percent), when compared to the overlapping counties and state. At the same time, populations on or near the FBIR that are enrolled in the Three Affiliated Tribes had an unemployment rate of 51 percent and 47 percent of the population living below poverty. The higher unemployment rate can be attributable to the lower employment-to-population ratio for American Indians.

Table 3.11a: ***2000 Employment and income data.***

Unit of Analysis	Per Capita Income	Median Household Income	Unemployment Rate	Persons Below Poverty Level
MHA Nation members[1]	No Data	No Data	51 %	47 %
Fort Berthold Reservation[2]	$10,291	$26,274	6.4 %	28.1 %
Dunn County[2]	$14,624	$30,015	4.0 %	17.5 %
McKenzie County[2]	$14,732	$29,342	4.1%	17.2%
McLean County[2]	$16,220	$32,337	3.2 %	13.5 %
Mountrail County[2]	$13,422	$27,098	3.4 %	19.3 %
North Dakota State[2]	$17,769	$34,604	3.0%	11.9 %

[1] Source: BIA (1999).
[2] Source: USCB (2000).

The latest American Indian Population and Labor Force Report (BIA, 2005) indicates that within the Three Affiliated Tribes, approximately 4,381 persons were available for work. Of these, 1,287 were employed, 430 were not available for work, and 3,094 were not employed. Between 2000 and 2005, the unemployment rate increased from 51 percent to 71 percent and the percent of persons living below poverty increased from 47 percent to 55 percent. Meanwhile, in 2005, Dunn (3.4 percent) and McKenzie (3.7 percent) counties experienced a decrease in the unemployment rate while McLean (5.0 percent) and Mountrail (6.0 percent) counties and the State of North Dakota (3.4 percent) experienced an increase in unemployment rates (BLS, 2005).

The most recent census (held in 2000) and subsequent mathematical projections indicates that per capita income for residents of the FBIR is $10,291 or about 58 percent of the North Dakota per capita income of $17,769. Similarly, the median household income on the Fort Berthold reservation was $26,274 in 2000, or about 76 percent of the North Dakota median household income.

Population trends and demographics are shown in Table 3.11b. The number of people in North Dakota decreased slightly during the last eight years. The four counties surrounding the project area exhibited greater estimated decreases in population than exhibited at the state level in 2008. Between the 1990 and 2000 censuses the population on the Fort Berthold Reservation increased by almost ten percent. American Indians are the dominant group on the reservation and the dominant minority in Dunn, McKenzie, McLean, and Mountrail Counties, and at the State level.

Table 3.11b: ***North Dakota population trends at the Reservation, County, and State levels.***

Reservation, County, & State	Estimated 2008 Population	% of 2008 State Population	% Change, April 2000 – July 2008	Predominant Ethnic Group (2008)	Predominant Minority (2008)
Fort Berthold Reservation[1]	5,915 (in 2000)	0.92 (in 2000)	+ 9.8 (1990 to 2000)	American Indian (in 2000)	White (26.9%) (in 2000)
Dunn[2]	3,318	0.52	- 7.8	White	American Indian (14.1%)
McKenzie[2]	5,674	0.88	- 1.1	White	American Indian (22%)
McLean[2]	8,337	1.29	- 10.5	White	American Indian (7.0%)
Mountrail[2]	6,511	1.01	-1.8	White	American Indian (34.9%)
Statewide[2]	641,481	100	-0.1	White	American Indian (5.5%)

[1] Source: USCB (2000).
[2] Source: USCB (2008).

The proposed project would not be expected to have measurable impacts on demographic distributions. The proposed project would likely have substantial and widespread beneficial economic impacts by slightly easing unemployment and increasing income through short-term construction employment and long-term commercial development. Consequently, no mitigation measures are proposed for socio-economic resources in the area.

3.12 Environmental Justice

This section describes existing conditions, potential impacts from the Proposed Action, and suggested mitigation measures for environmental justice in the project area.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* requires agencies to advance environmental justice (EJ) by pursuing fair treatment and meaningful involvement of minority and low-income populations. Fair treatment means such groups should not bear a disproportionately high share of negative environmental consequences from federal programs, policies, decisions or operations. Meaningful involvement means federal officials actively promote opportunities for public participation and federal decisions can be materially affected by participating groups and individuals.

The EPA headed the interagency workgroup established by the 1994 Order and is responsible for related legal action. Working criteria for designation of targeted populations are provided in *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (EPA 1998). This guidance uses a statistical approach to consider various geographic areas and scales of analysis to define a particular population's status under the Order. Environmental justice is an evolving concept with potential for disagreement over the scope of analysis and the implications for federal responsiveness.

As shown in Table 3.12, within the overlapping counties the predominant race is White ranging from 65.7 percent in Mountrail County to 92.3 percent in McLean County. Within the FBIR, the predominant race is American Indian (65.3 percent) followed by White (26.7 percent) and other races (5.3 percent) which include Asian, Native Hawaiian and other Pacific Islander, some other race alone, and two or more races.

Table 3.12: ***Study Area Race and Ethnicity.***

Reservation, County, & State	Total Population	% White	% Black or African American	% American Indian or Alaska Native	% Hispanic	% Other
Fort Berthold Reservation	5,915	26.7	0.1	65.3	2.6	5.3
Dunn County	3,600	86.1	>0.1	12.3	0.8	0.8
McKenzie County	5,737	77.0	0.1	20.8	1.0	1.1
McLean County	9,311	92.3	>0.1	5.5	0.9	1.4
Mountrail County	6,631	65.7	0.1	29.2	1.3	3.7
North Dakota	642,200	91.7	0.6	4.8	1.2	1.7

Source: USCB (2000).

It is nevertheless clear that tribal members on the Great Plains qualify for special EJ consideration as both a minority and a low-income population. The population of North Dakota is predominantly White. Tribal members comprise almost six percent of North Dakota residents and about 14 percent of the population of Dunn County (Table 3.11b). Even in a state with relatively low per capita and household income, Indian individuals and households are distinctly disadvantaged. There are, however, some unusual EJ considerations when proposed federal actions are meant to benefit tribal members. Determination of fair treatment necessarily addresses the existence and distribution of both benefits and negative impacts, due to variation in the interests of various tribal groups and individuals. There is also potential for major differences in impacts to resident tribal members and those enrolled or living elsewhere.

A general benefit to tribal government and infrastructure has already resulted from tribal leasing, fees and taxes. Oil and gas leasing has also already brought much-needed income to MHA Nation members who hold mineral interests, some of whom might eventually benefit further from royalties on commercial production. Profitable production rates at proposed locations might lead to exploration and development on additional tracts owned by currently non-benefitting allottees. The absence of lease and royalty income does not, moreover, necessarily preclude other benefits. Exploration and development would provide many relatively high-paying jobs, with oversight from the Tribal Employment Rights Office (TERO).

The owners of allotted surface within project areas may not hold mineral rights. In such cases, surface owners do not receive oil/gas lease or royalty income, and their only income would be compensatory for productive acreage lost to road and well pad construction. Tribal members without either surface or mineral rights within the project area would not receive any direct benefits whatsoever. In these cases, indirect benefits of employment and general tribal gains would be the only offset to any impacts.

Potential impacts to tribes and tribal members include disturbance of cultural resources. There is potential for disproportionate impacts, especially if the impacted tribes and members do not reside within the reservation and therefore do not share in direct or indirect benefits. This potential is significantly reduced following the survey of the possible six wells on a single location and one access road route and determination by the BIA that there would be no effect to historic properties or TCPs. Nothing is known to be present, furthermore, that qualifies as a traditional or cultural property or for protection under the *American Indian Religious Freedom Act* (AIRFA). The potential for disproportionate impacts is further mitigated by requirements for immediate work stoppage following an unexpected discovery of cultural resources of any type. Mandatory consultation would take place

during any such work stoppage, affording an opportunity for all affected parties to assert their interests and contribute to an appropriate resolution, regardless of their home location or tribal affiliation.

The proposed project has not been found to pose significant impacts to any other critical element – air, public health and safety, water, wetlands, wildlife, soils, or vegetation – within the human environment. Avoiding or minimizing such impacts also makes it unlikely that a disproportionate amount of adverse impact to low-income or minority populations would occur. The Proposed Action offers many positive consequences for tribal members, while recognizing Environmental Justice concerns. Procedures summarized in this document and in the APD are binding and sufficient. No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

3.13 Mitigation and Monitoring

Many protective measures and procedures are described in this document and in the APD. These mitigation measures are summarized below. No laws, regulations, or other requirements have been waived; no compensatory mitigation measures are required.

- All construction activities would follow lease stipulations, practices, and procedures outlined in the APD and in the guidelines and standards in the book, *Surface Operating Standards for Oil and Gas Exploration and Development* (USDI-USDA 2007).
- North Dakota One Call will be contacted (call #811) so that all existing utilities will be located prior to earthmoving activities and avoided as much as practicable. In situations where they cannot be completely avoided, the owner of the utility will be consulted prior to construction.
- A semi-closed loop system would be used for all drilling activities at this location.
- Fresh water would be used to drill the well bore to a depth of 1,500 to 2,500 feet.
- Surface casing would be cemented in place to a depth of about 1,500 to 2,500 feet.
- Water produced from the drilling would be captured into tanks and periodically hauled to an approved disposal site.
- Evidence of groundwater contamination related to the project would result in a stop work order until all appropriate measures were identified and implemented.
- Dust control measures would be employed, as necessary or as required by the BIA during construction and production, to suppress road dust.
- XTO would take the necessary steps to reduce and control air emissions and would obtain all necessary permits required by the State or Federal Agencies.
- If initial site construction occurred between February 1st-July 15th then the project area would be surveyed by a qualified biologist to determine if active migratory bird nests were present, and if present, construction would be suspended or buffers established to ensure no adverse impacts to nesting migratory birds.
- Power and utility spur lines leading to the well pad would be installed below ground.
- Drip buckets and barrels placed under valves and spigots would be covered with wire mesh to prevent wildlife species from entering and becoming entrapped.
- The cuttings pit and catch-all pit would be covered with a net to prevent birds from entering them.
- Free fluids in pits would be cleaned up immediately to prevent wildlife mortality.
- The well pad would be fenced to prevent access to the pad by livestock and wildlife.

- The cuttings pit and catch-all pit would be fenced on all four sides to prevent personnel, livestock, and wildlife from accidentally falling into the pit if the entire site has not been protected within a fence.
- If a Bald Eagle or Golden Eagle nest is observed within one-half mile of the project area, a no disturbance buffer of one-half mile radius would be place around the nest, and the USFWS would be notified.
- Any sighting of a protected species within one-mile of the project area would be immediately reported to the USFWS, NDGFD, and BIA.
- Biological monitors would be available between February 1st and July 15th to survey the project site for threatened or endangered species, and for avian nesting activity.
- Ground disturbance would be minimized to that which is necessary to implement the project.
- Ground disturbing activities and vehicular traffic would only occur within the approved right-of-way and well pad area boundary.
- All noxious weeds should be controlled prior to and after ground-disturbing activities.
- If used, appropriate herbicides would be applied during the proper time(s) of the year, during the proper weather conditions, and at the appropriate rate. Herbicides would be used in accordance to their specific label instruction (which includes personal protective equipment and storage and disposal requirements).
- An approved weed-free seed mix would be used, such as the seed mix and cover crop identified in *Section 3.9.5* and Appendix C.
- Certified weed-free mulch (e.g., straw) would be used as needed in reclamation efforts.
- To maintain some habitat integrity, disturbed ground would be reclaimed using native plants from approved plant lists as identified by the Tribe and BIA. As required by the NDIC, cost would be covered by issuance of a bond.
- Topsoil removal would be limited to areas necessary to implement the project. Topsoil that is removed would be stockpiled and used to reclaim disturbed ground in the project area. The time that topsoil is stockpiled would be minimized, as is practicable, in order to retain viability of soil nutrients.
- The amount of time at which barren areas are exposed would be minimized, as is practicable, to reduce soil erosion and decrease the possibility of weed colonization.
- BMPs would be applied to reduce soil erosion. Sediment controls would be emplaced around swales, topsoil stockpiles, and staging areas, to prevent or reduce soil erosion, especially during precipitation events. Erosion control measures would be needed along deep cuts and fills to prevent deposition into swales and drainages.
- Soil stabilizers or soil binders could be applied, as needed.
- Monitoring of any identified cultural resource impacts by qualified personnel is recommended during all ground-disturbing activities.
- Project personnel are prohibited from collecting any artifacts or disturbing cultural resources in the area under any circumstances.

3.14 Cumulative Impacts

Environmental impacts may accumulate slowly over time or hasten when in combination with similar activities in the area. Unrelated activities may also have negative impacts on critical elements, thereby contributing to cumulative degradation of the environment. Reasonably foreseeable future impacts must also be considered.

Earlier oil and gas exploration did not result in commercial production. Current land uses are expected to continue with little change since virtually all available acreage is already organized into range units to use surface resources for economic benefit. Undivided interests in the land surface, range permits, and agricultural leases are often held by different tribal members than those holding the mineral rights; oil and gas development is not expected to have more than a minor effect on land use patterns.

Prairie habitat is increasingly being lost or fragmented in North Dakota. Structures (e.g., oil pad wells, buildings, and houses), roadways, and vehicular traffic fragment the landscape, alter movement patterns by wildlife species, and increase the ability for invasive/noxious plants to colonize. Many prairie species require large, contiguous blocks of grasslands for their biological needs and may avoid fragmented habitat or experience reduced reproduction. To prevent or limit habitat fragmentation XTO has proposed to install multiple wells (up to six) at one well pad location, and accessed by one road. XTO has also positioned this proposed well pad such that it would use an existing road entrance off BIA 15. This reduces the number of well pad footprints and access roads required for the project. To reduce fragmentation further, disturbed ground would be reclaimed with native prairie plants.

XTO has proposed that additional well pads might eventually be drilled from other sections within the Fort Berthold Indian Reservation. Associated surface disturbance would be relatively minimal and other impacts, such as air quality, would mostly be temporary. Impacts to air quality by emissions from individual well pads have not been an issue in the 'far-field' as indicated, in part, by SO_2, NO_2, O_3, PM_x, CO, and Pb levels occurring within State and Federal standards (see *Section 3.2-Air Quality*). However, cumulative impacts to air quality in the 'near-field' of a Class II airshed has not been addressed by the EPA and remains unknown.

As of February 2010, 189 active wells occur within a 20-mile radius of the proposed project site (NDIC 2009) (Table 3.14a; Figure 3.14). Another 153 oil/gas wells have become dry, expired, inactive, abandoned, or cancelled within a 20 mile-radius of the proposed project site (Table 3.14b). As of November 2009 a total of 102 active, 136 confidential, two drilling, and 23 permitted exploratory wells had been proposed or approved within the FBIR (BIA 2009) (Table 3.14a; Figure 3.14). Another 247 oil/gas wells have become dry, abandoned, expired, inactive, or cancelled within the FBIR.

The proposed project would not share roads with any of the other listed installation. However, vehicular traffic would increase slightly on the rural road system. Visual changes would accumulate over the landscape from physical development of the well pad and access road and from possible increased lighting of the pad. Commercial success at any new well might result in additional oil/gas exploration proposals, but such developments are completely speculative at this time, as no other APDs have been submitted to the BLM or BIA. Approved oil/gas leases carry an implied right to conduct exploration and development activity, but additional cumulative impact analysis and BIA approvals are required before the surface is disturbed at any other location. No cumulative impacts are reasonably foreseen from existing and proposed activities, other than increasingly positive impacts to the reservation economy.

Table 3.14: ***Number of oil wells and their proximity to the proposed Darcie 34X-14 project site.***[1]

Distance[2] (mile)	Number of Oil Wells in Proximity to the Darcie Site				
	Active	Confidential	Drilling	Permit Location to Drill	Total
0 to 1	0	1	0	0	1
1 to 5	2	0	0	0	2
5 to 10	7	13	0	0	20
10 to 20	94	79	0	16	189
Fort Berthold	102	136	2	23	263

[1] Source: NDIC 2010.
[2] Oil wells that occur between 0 to 20 miles from the project site may occur on reservation and non-reservation lands. Fort Berthold well locations only include wells occurring within the Reservation.

3.15 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken would be an irreversible and irretrievable commitment of resources. Other potential resource commitments include acreage devoted to disposal of cuttings, soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife losses during earthmoving or in collisions with vehicles, and energy expended during construction and operation.

3.16 Short-Term Use of the Environment Versus Long-Term Productivity

Short-term activities would not detract significantly from long-term productivity of the project area. The small area dedicated to the access road and well pad would be unavailable for livestock grazing, wildlife habitat and other uses. Allottees with surface rights would be compensated for loss of productive acreage and project footprints would shrink considerably once wells were drilled and non-working areas were reclaimed and reseeded. Successful and ongoing reclamation of the landscape would soon support wildlife and livestock grazing and stabilize the soil to reduce erosion and sedimentation. The major long-term resource that would be lost corresponds with the project's purpose of extracting hydrocarbons from the Bakken.

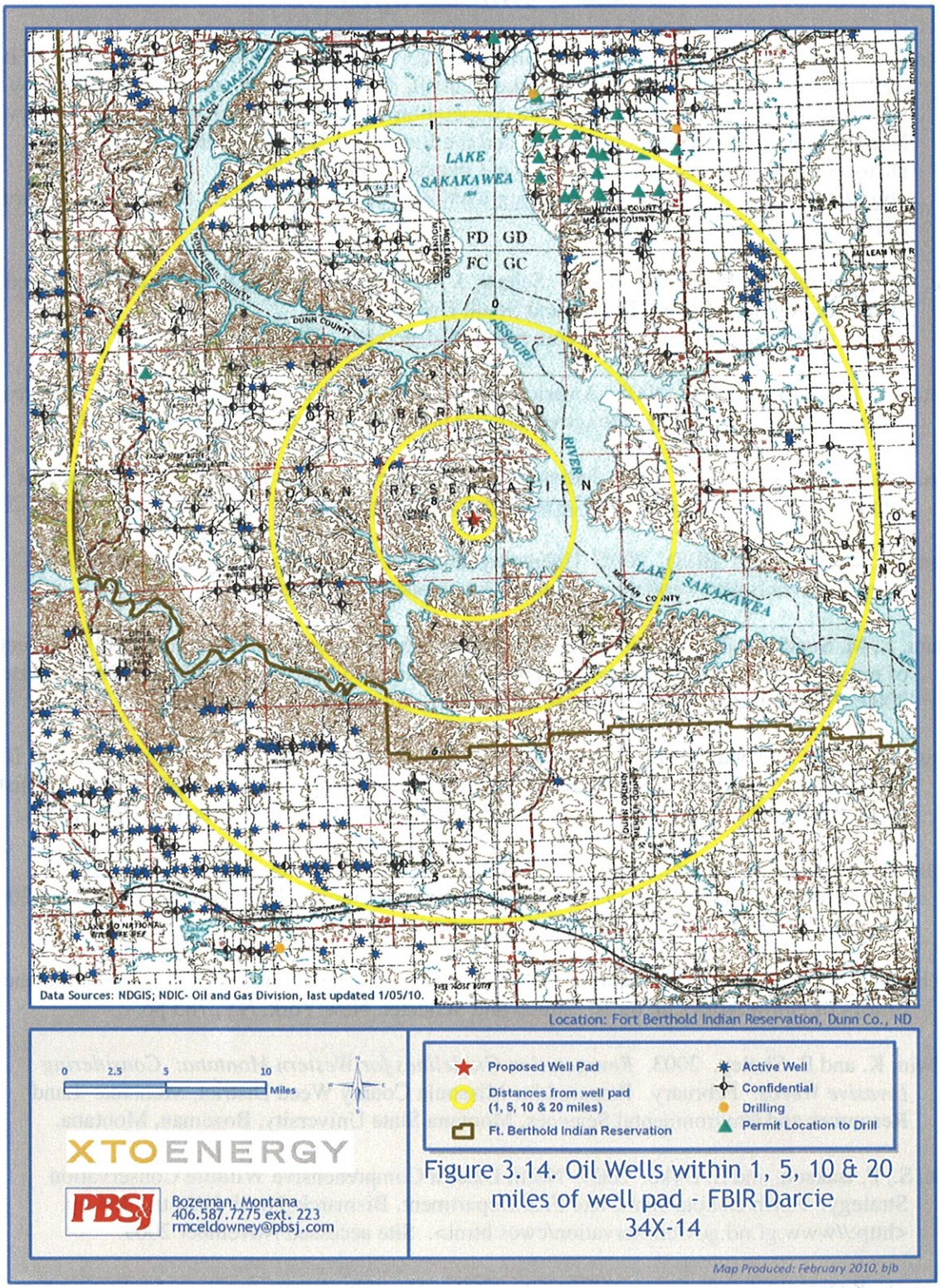


Figure 3.14. Oil Wells within 1, 5, 10 & 20 miles of well pad - FBIR Darcie 34X-14

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5.0 List of Preparers

An interdisciplinary team contributed to this document, following guidance in Part 1502.6 of CEQ regulations. Post, Buckley, Schuh, and Jernigan prepared this EA under contract to XTO Energy, Inc. and in cooperation with the Bureau of Indian Affairs, Great Plains Regional Office, Division of Environment, Safety and Cultural Resources. Preparers, reviewers, consultants, and federal officials include the following:

- Chris Miller — Project Manager, PBS&J
  Sections 1 and 2; document QA/QC.
- Richard McEldowney — Senior Scientist, PBS&J
  Affected Environment, Water Resources, and Cumulative Effects
- Mark Traxler — Senior Scientist, PBS&J
  General Wildlife and Fisheries,
- Andrea Pipp — Scientist, PBS&J
  Air Quality, Public Health and Safety, Water Resources, Cultural Resources, Environmental Justice, and Socio-Economics; document preparation.
- Lynn Bacon — Senior Scientist, PBS&J
  Threatened and Endangered Species
- Karen Stockmann — Planner I, PBS&J
  Document preparation
- Bridget Belliveau — GIS Specialist, PBS&J
  Maps
- Dennis Phillippi — Principal, Natural Resource Options, Inc.
  Document QA/QC
- Matt Phillippi — Range Scientist, Natural Resource Options, Inc.
  Vegetation and Invasive Species
- Doug Harrison — Soil Scientist, Natural Resource Options, Inc.
  Soils
- Jennifer Harty — Cultural Resources Specialist, Kadrmas, Lee & Jackson
  Cultural Investigation
- Donny Worthington — XTO Energy, Inc.
  Document QA/QC
- Marilyn Bercier — BIA - Regional Environmental Scientist. Division of Environmental, Safety and Cultural Resources. Review of draft EA and recommendation to BIA Regional Director regarding FONSI or EIS.

6.0 Consultation and Coordination

The project scoping letter reproduced below was mailed on April 13, 2010 and posted at the BIA Fort Berthold Agency. Direct mail recipients include those listed in Table 6.0. Eleven comment letters were received within the 30-day scoping period.

Dear Interested Party:

The Bureau of Indian Affairs (BIA) is preparing an Environmental Assessment (EA) under the *National Environmental Policy Act* (NEPA), in cooperation with the Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the drilling and completion of up to six exploratory oil and gas well using one well pad and one access road on the Fort Berthold Reservation by XTO Energy. The proposed well pad is in the following locations and shown on the enclosed project location map:

- **Darcie** 34X-14 Site: SW ¼, SE ¼, Section 14, Township 148N, Range 92W

Development of the project would consist of the mechanical excavation and preparation of one well pad and construction of one new access road. The well pad is roughly 5.75 acres in size. The proposed access road for the Darcie 34X-14 site is roughly 158 feet long. The six wells would be located within a 1280-acre spacing unit and positioned to use the same access road. The drilling of these well sites is proposed to begin as early as summer/fall 2010.

To ensure that social, economic, and environmental effects are analyzed accurately, we solicit your views and comments on the proposed action, pursuant to Section 102(2) (D) (IV) of NEPA, as amended. We are interested in developments proposed or underway that should be considered in connection with the proposed project. We also ask your assistance in identifying any property or resources that you own, manage, oversee or otherwise value that might be adversely impacted. Please send your replies and requests for additional project information to:

Chris Miller, Project Manager
PBS&J
115 N. 28th Street, Suite 202
Billings, Montana 59101-2045
406-259-7979
lcmiller@pbsj.com

If we do not hear from you by **May 15, 2010,** we will assume that you have no comment on this project. Questions can be directed to Chris Miller using the information provided, or Rich McEldowney at (406) 587-7275 (ext. 223).

Sincerely,

Chris Miller
Project Director

Table 6.0: ***Responses by direct mail by recipients of scoping letter sent on April 13, 2010.***

ENTITY	CONTACT	RESPONSE*
MHA Nation		
Chairman	Marcus Wells Jr.	No comments received.
Four Bears Representative	V. Judy Brugh	No comments received.
Mandaree Representative	Nathan Hale	No comments received.
New Town Representative	Malcom Wolf	No comments received.
Parshall/Lucky Mound Representative	Mervin Packineau	No comments received.
Twin Buttes Representative	Barry Benson	No comments received.
THPO	Perry Brady	No comments received.
	Fred Fox	No comments received.
Director of Game and Fish	Fred Poitra	No comments received.
	Damon Williams	No comments received.
	NAGPRA Office	No comments received.
Natural Resource Dept.	Barry Benson	No comments received.
Sisston-Wahpeton Sioux Tribe	Mike Selvage	No comments received.
Spirit Lake Sioux Tribe	Myra Pearson	No comments received.
Standing Rock Tribe	Charles W. Murphy	No comments received.
Turtle Mountain Band of Chippewa	Richard Marcellais	No comments received.
U.S. Department of Agriculture		
Natural Resource Conservation Service	Paul Sweeney State Conservationist	The proposed project is not supported by federal funding or action, therefore, the Farmland Protection Policy Act (FPPA) does not apply and no further action is needed. The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that is a USDA participant coverts a wetland for the purposes of, or to have the effect of, making agriculture production possible, loss of USDA benefits could occur. NRCS has provided guidelines for the installation of permanent structures where wetlands occur and if followed, participants would continue to receive USDA benefits. NRCS recommends impacts to wetlands be avoided.
Little Missouri National Grassland-McKenzie		No comments received.

ENTITY	CONTACT	RESPONSE*
U.S. Department of Defense		
Minot Air Force Base		No comments received.
U.S. Army Corps of Engineers	Garrison Project Office	No comments received.
U.S. Army Corps of Engineers	Omaha District	No comments received.
U.S. Army Corps of Engineers	Daniel E. Cimarosti Regulatory Program Manager Bismarck, ND	Section 10 of the Rivers and harbor Act regulates work in or affecting navigable waters including work over, through, or under Section 10 water. These waters include the Missouri River, Lake Sakakawea and Lake Oahe. Section 404 regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the U.S. (rivers, stream, ditches, coulees, lakes, ponds, and their adjacent wetlands. For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require a DA permit application (ENG 4345). Fact sheets for Nationwide Permits 12 and 14 (Utility Line Activities and Linear Transportation, respectively) are provided. EPA has denied 401 Water Quality Certification for activities in perennial drainages and wetlands, with conditions on activities in ephemeral and intermittent drainages. EPA 401 Conditions for Nationwide Permits is also provided.
U.S. Army Corps of Engineers	Charles Sorensen Riverdale, ND Office	USACE requests the following conditions be considered in the construction of a well location: avoid potential for river and lake contamination by using a closed loop mud and drilling fluid system; establish a catch trench on the down slope side of the pad closest to the COE boundary; all fluids in trench will be pumped out and disposed of properly; all sewage collection systems are a closed system –no open or exposed tanks, catch basins; all

ENTITY	CONTACT	RESPONSE*
		fill/soil material be certified free of noxious weeds; equipment be pressure washed prior to arrival at the site; no surface occupancy within 0.5 miles of known T&E critical habitat; no water withdrawals from Lake Sakakawea via the recreation area at McKenzie Bay will be allowed; no vehicles or equipment will be allowed within the recreation area.
U.S. Department of Energy		
Western Area Power Administration		No comments received.
U.S. Department of Homeland Security		
Federal Emergency Management Agency Region VIII		No comments received.
U.S. Department of the Interior		
Bureau of Indian Affairs	Marilyn Bercier	No comments received.
Bureau of Indian Affairs Fort Berthold Agency	Darryl Turcotte	No comments received.
Bureau of Indian Affairs Fort Berthold Agency	Marietta Shortbull	No comments received.
Bureau of Indian Affairs Fort Berthold Agency	Jeff Dejarlais	No comments received.
Bureau of Land Management	Billings, MT Office	No comments received.
Bureau of Land Management	Dickinson, ND Office	No comments received.
Bureau of Reclamation	Ronald D. Melhouse Environmental Specialist	Proposed oil well pad and access roads could potentially affect rural water pipelines. There are water lines either existing or proposed for construction in the immediate vicinity of the well pad. Proposed access roads are not shown on the map so an index map and detailed map is provided to show proposed or existing water line alignments in the vicinity of the well pad. Any work planned should be coordinated with Mr. Marvin Danks.
U.S. Fish and Wildlife Service	Jeffrey Towner	Numerous recommendations received – see Appendix F.
National Park Service	Midwest Regional Office	No comments received.
U.S. Environmental Protection Agency		
Region 8 NEPA Program	Larry Svoboda	No comments received.
Region 8 Water Quality Program	David Moon	No comments received.

ENTITY	CONTACT	RESPONSE*
U.S. Department of Transportation		
Federal Aviation Administration		No comments received.
North Dakota State Government		
Department of Health	L. David Glatt Chief Environmental Health Section	Impacts from proposed construction are considered minor. Efforts should be made to control fugitive dust. Care should be taken during construction to minimize adverse impacts on water bodies. Caution must be taken to minimize spills of oil and grease that may reach the receiving water(s) from equipment maintenance and/or the handling of fuels. May need a permit to discharge storm water runoff from EPA. Guidelines to minimize erosion and control sediment to protect surface water quality are provided. This department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. Proposed activities are consistent with State Implementation Plan for the Control of Air Pollution. The U.S. Army Corps of Engineers may require a water quality certification if Section 404 permitting is required.
Department of Transportation	Ronald J. Henke Director Office of Project Development	Proposed project will have no adverse effect on the highways unless working in highway ROW's then appropriate permits and risk management documents need to be completed.
Game and Fish Department Conservation and Communication Div.	Michael McKenna Conservation and Communication Division	Primary concern is the fragmentation and loss of wildlife habitat associated with well pads and access roads. Recommend avoiding, to the extent possible, native prairie, wooded draws, riparian corridors and wetlands. Suggest botanical surveys be completed during the appropriate season and aerial surveys be conducted for raptor nests prior to construction.
Indian Affairs Commission	Scott Davis	No comments received.
Parks and Recreation	Jesse Hanson	There are no known occurrences of plant or animal species of concern or

ENTITY	CONTACT	RESPONSE*
Planning and Natural Resources Div.		other significant ecological communities. Recommend using native plant species in reclamation.
State Water Commission		The property is not located in an identified floodplain and will not affect an identified floodplain. All waste material must be disposed of properly and not placed in identified floodway areas. No sole source aquifers have been identified in ND.
State Historical Society of North Dakota/SHPO	Merlan E. Paaverud, Jr. Director	Request that a copy of cultural resource site forms and reports be sent to this office to keep records current.
North Dakota State Land Department	Energy Development Impact Office	No comments received.
North Dakota Industrial Commission	Oil & Gas Division	No comments received.
County Government		
Dunn County, Treasurer	Reinhard Hauck	No comments received.
Dunn County, Commissioner	Ray Kadrmas	No comments received.
Dunn County, Commissioner Chair	Cliff Ferebee	No comments received.
McKenzie County, Commissioner	Richard Cayko	No comments received.
McKenzie County, Auditor	Frances Olson	No comments received.
Municipal Government		
New Town Municipal Airport, Manager	Harley Johnson	No comments received.
Parshall-Hankins Field Airport, Manager	John Kuehn	No comments received.
Utility Companies		
McKenzie Electric Cooperative		No comments received.
McLean Electric Cooperative, Inc.		No comments received.
Mid-Continent Cable Company		No comments received.
Montana-Dakota Utilities		No comments received.
NoDak Electric Co-op, Inc.		No comments received.
Northern Border Pipeline Company		No comments received.
Reservation Telephone Cooperative		No comments received.
Southwest Water Authority		No comments received.
West Plains Electric Cooperative, Inc.		No comments received.

* See Appendix F for full comments from the agencies/organizations.

Appendix A

FBIR Darcie 34X-14 Application for Permit to Drill

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

Insert Appendix A.

Appendix B

Ecological Site Photographs

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

2009 FBIR Darcie 34X-14 Photographs

Photo 1: General appearance of pad site. Southeast corner looking northeast.

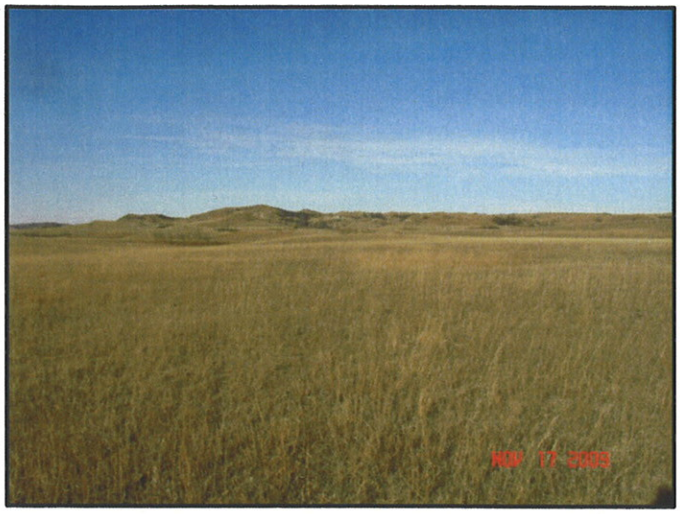

Photo 2: General appearance of pad site. Southeast corner looking northwest.

Photo 3: General appearance of pad site. Northeast corner looking northwest.

Photo 4: General appearance of pad site. Northeast corner looking southwest.

Photo 5: General appearance of pad site. Northwest corner looking southwest.

Photo 6: General appearance of pad site. Northwest corner looking southeast.

2009 FBIR Darcie 34X-14 Photographs

Photo 7: General appearance of pad site. Southeast corner looking northeast.

Photo 8: General appearance of pad site. Southeast corner looking southeast.

Photo 9: Ecological Site #1 – Thin Claypan. NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

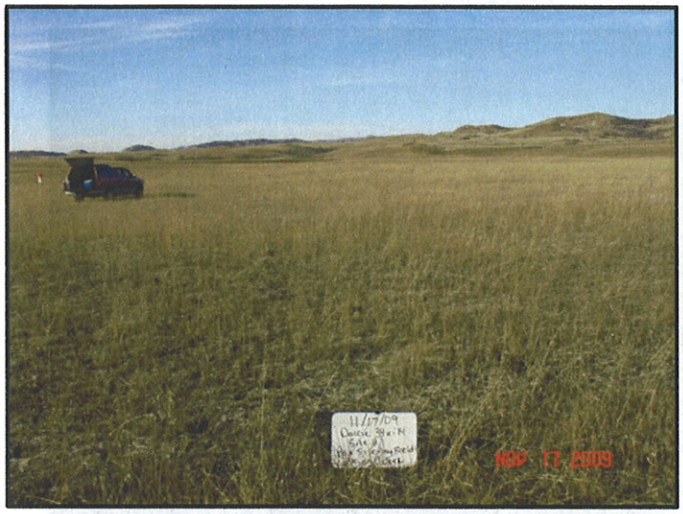

Photo 10: Ecological Site #1 – Thin Claypan. On pad site looking south. N5278687.535 E698300.693.

Photo 11: Ecological Site #1 – Thin Claypan. Soil pit on pad site.

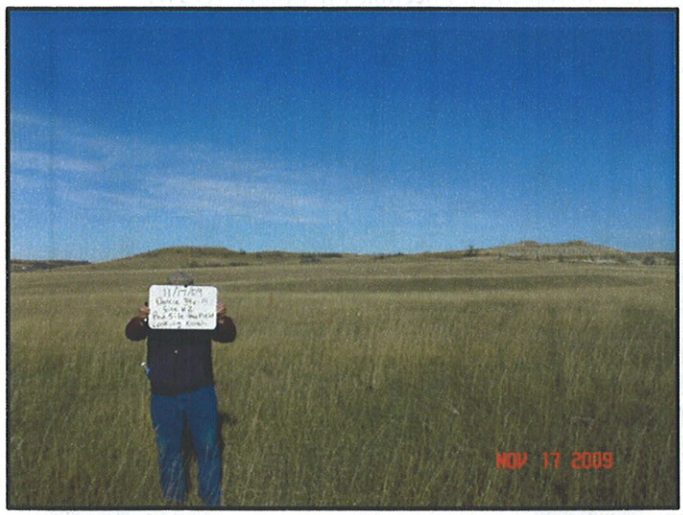

Photo 12: Ecological Site #2 – Loamy. On pad site looking north. NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

2009 FBIR Darcie 34X-14 Photographs

Photo 13: Ecological Site #2 – Loamy. Looking west. N5278734.688 E698258.170.

Photo 14: Ecological Site #2 – Loamy. Soil pit on pad site.

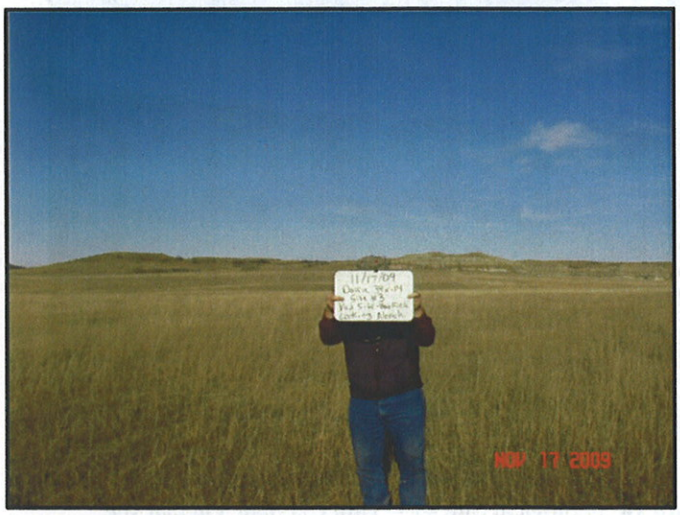

Photo 15: Ecological Site #3 – Thin Claypan. NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

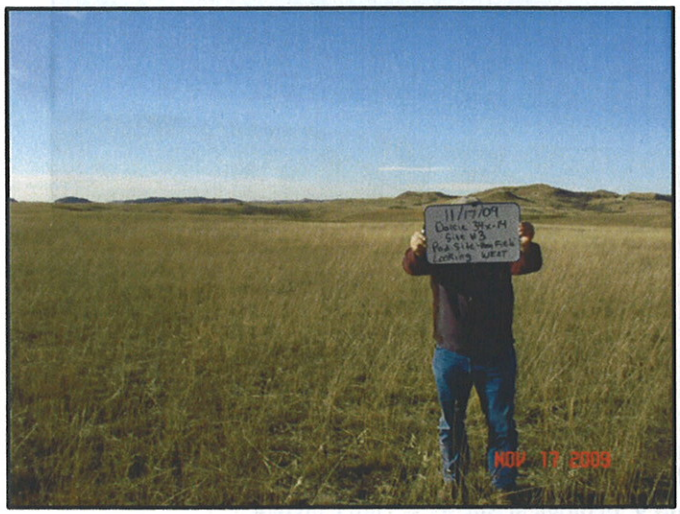

Photo 16: Ecological Site #3 – Thin Claypan. On pad site looking west. N5278663.531 E698245.046.

Photo 17: Ecological Site #3 – Thin Claypan. Soil pit on pad site.

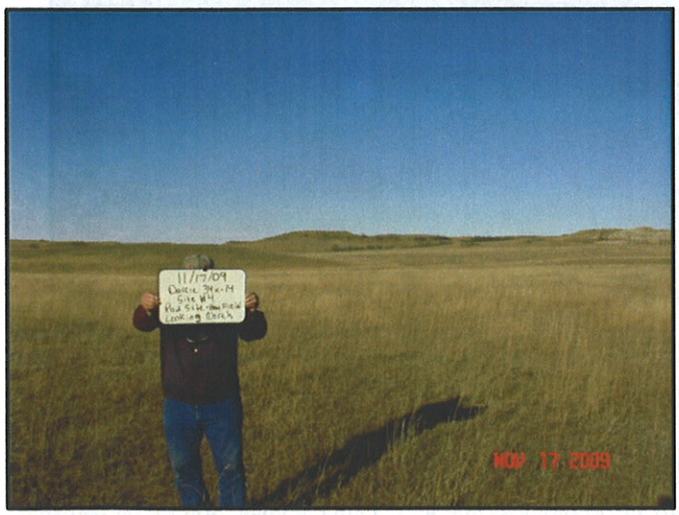

Photo 18: Ecological Site #4 – Sandy. On pad site looking north. NW1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

2009 FBIR Darcie 34X-14 Photographs

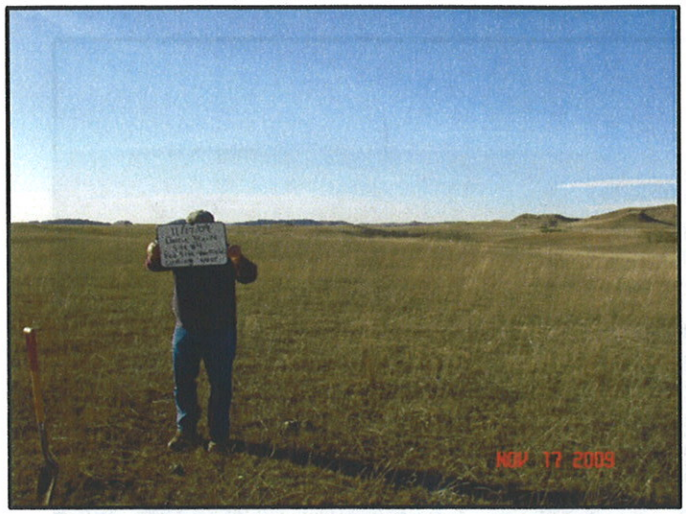

Photo 19: Ecological Site #4 – Sandy. Looking west. N5278652.922 E698194.553.

Photo 20: Ecological Site #4 – Sandy. Soil pit on pad site.

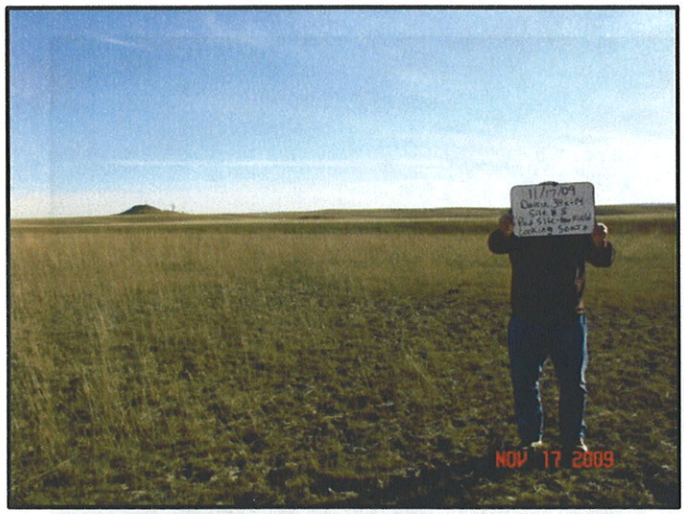

Photo 21: Ecological Site #5 – Thin Claypan. SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

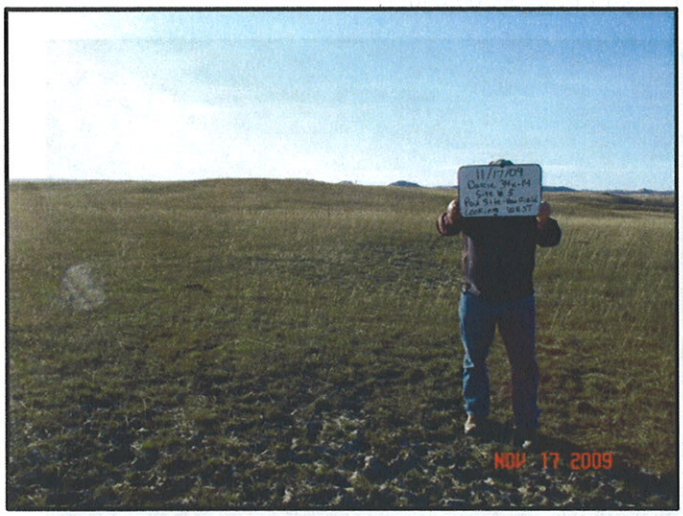

Photo 22: Ecological Site #5 – Thin Claypan. On pad site looking west. N5278609.231 E698222.192.

2.59

Photo 23: Ecological Site #5 – Thin Claypan. Soil pit on pad site.

Photo 24: Ecological Site #6 – Sandy. Access road looking west. SE1/4SW1/4SE1/4 Section 14, T148N, R92W.

2009 FBIR Darcie 34X-14 Photographs

Photo 25: Ecological Site #6 – Sandy. Access road looking east. N5278559.145 E698199.929.

Photo 26: Ecological Site #6 – Sandy. Access road looking south.

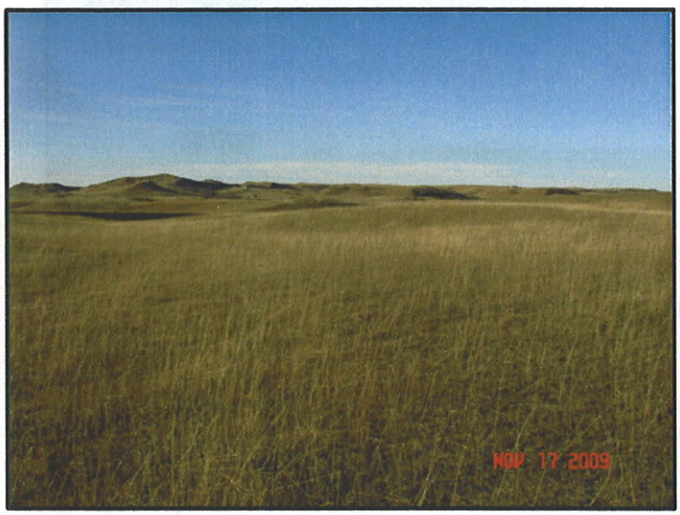

Photo 27: Southwest perimeter of pad site looking northwest.

Photo 28: Southwest perimeter of pad site looking southeast.

Photo 29: Southeast perimeter of pad site looking southwest.

Photo 30: Southeast perimeter of pad site looking northeast.

2009 FBIR Darcie 34X-14 Photographs

Photo 31: Northeast perimeter of pad site looking northwest.

Photo 32: Northeast perimeter of pad site looking southeast.

Photo 33: Northwest perimeter of pad site looking northeast.

Photo 34: Northwest perimeter of pad site looking southwest.

Photo 35: Access road looking southeast.

Photo 36: Access road and county road looking east.

Appendix C

Ecological Site Worksheets and Characteristics of Native Seed Mix

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

Plant Species Worksheet

Date: 11-17-09 **Slope: 3 Percent** **Aspect: Northwest**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278687.535 E698300.693
Ecological Site: Thin Claypan
Site #1 - Pad Site
Community Type: Smooth brome/Crested wheatgrass/Tall tumblemustard

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Crested wheatgrass		*Agropyron cristatum*
Plains reedgrass		*Calamagrostis montanensis*
Prairie junegrass		*Koeleria macrantha*
Smooth brome		*Bromus inermis*
FORBS:		
Alfalfa		*Medicago sativa*
Clover		*Trifolium spp.*
INVASIVES/WEEDS:		
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Broom snakeweed		*Gutierrezia sarothrae*
Fringed sagewort		*Artemisia frigida*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 3 Percent** **Aspect: Northwest**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278734.688 E698258.170
Ecological Site: Loamy
Site #2 - Pad Site
Community Type: Smooth brome/Crested wheatgrass/Alfalfa/Tall tumblemustard

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Crested wheatgrass		*Agropyron cristatum*
Plains reedgrass		*Calamagrostis montanensis*
Prairie junegrass		*Koeleria macrantha*
Smooth brome		*Bromus inermis*
Switchgrass		*Panicum virgatum*
FORBS:		
Alfalfa		*Medicago sativa*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 3 Percent** **Aspect: West**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278663.531 E698245.046
Ecological Site: Thin Claypan
Site #3 - Pad Site
Community Type: Smooth brome/Tall tumblemustard

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Prairie junegrass		*Koeleria macrantha*
Smooth brome		*Bromus inermis*
FORBS:		
Alfalfa		*Medicago sativa*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Plains pricklypear		*Opuntia polyacantha*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 2 Percent** **Aspect: North**
Resource Area: Darcie 34x-14
Legal Description: NW1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278652.922 E698194.553
Ecological Site: Sandy
Site #4 - Pad Site
Community Type: Smooth brome/Prairie junegrass

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Prairie junegrass		*Koeleria macrantha*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
FORBS:		
Buckwheat		*Eriogonum spp.*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*
Plains pricklypear		*Opuntia polyacantha*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 1 Percent** **Aspect: Southwest**

Resource Area: Darcie 34x-14

Legal Description: SE1/4SW1/4SE1/4 Section 14, T148N, R92W

UTM Coordinates: N5278609.231 E698222.192

Ecological Site: Thin Claypan

Site #5 - Pad Site

Community Type: Smooth brome/Crested wheatgrass

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Crested wheatgrass		*Agropyron cristatum*
Smooth brome		*Bromus inermis*
INVASIVES/WEEDS:		
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 1 Percent** **Aspect: Southwest**
Resource Area: Darcie 34x-14
Legal Description: SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278559.145 E698199.929
Ecological Site: Sandy
Site #6 - Access Road
Community Type: Smooth brome/Crested wheatgrass/Prairie junegrass

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Plains reedgrass		*Calamagrostis montanensis*
Prairie junegrass		*Koeleria macrantha*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
FORBS:		
Alfalfa		*Medicago sativa*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 1 Percent** **Aspect: Southwest**
Resource Area: Darcie 34x-14
Legal Description: SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278591.027 E698183.474

Southwest Perimeter
Community Type: Smooth brome/Crested wheatgrass/Prairie junegrass

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Plains reedgrass		*Calamagrostis montanensis*
Prairie junegrass		*Koeleria macrantha*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
FORBS:		
Alfalfa		*Medicago sativa*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*
Prairie rose		*Rosa arkansana*

Plant Species Worksheet

Date: 11-17-09 **Slope: 3 Percent** **Aspect: West**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278625.707 E698312.902

Southeast Perimeter
Community Type: Smooth brome/Sandberg bluegrass/Tall tumblemustard

Plant Composition		
Common Name		**Scientific Name**
GRASSES;		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Plains reedgrass		*Calamagrostis montanensis*
Prairie junegrass		*Koeleria macrantha*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
Switchgrass		*Panicum virgatum*
FORBS:		
Silverleaf scurfpea		*Psoralea argophylla*
INVASIVES/WEEDS:		
False flax		*Camelina crantz*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Broom snakeweed		*Gutierrezia sarothrae*
Common snowberry		*Symphoricarpos albus*
Golden currant		*Ribes aureum*
Prairie rose		*Rosa arkansana*
Silver buffaloberry		*Shepherdia argentea*

Plant Species Worksheet

Date: 11-18-09 **Slope: 3 Percent** **Aspect: Northwest**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SE1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278745.406 E698313.194

Northeast Perimeter
Community Type: Smooth brome/Sandberg bluegrass

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Prairie junegrass		*Koeleria macrantha*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*

Plant Species Worksheet

Date: 11-18-09 **Slope: 2 Percent** **Aspect: Northwest**
Resource Area: Darcie 34x-14
Legal Description: NE1/4SW1/4SW1/4SE1/4 Section 14, T148N, R92W
UTM Coordinates: N5278712.169 E698199.358

Northwest Perimeter
Community Type: Smooth brome/Sandberg bluegrass/Tall tumblemustard

Plant Composition		
Common Name		**Scientific Name**
GRASSES:		
Blue grama		*Bouteloua gracilis*
Crested wheatgrass		*Agropyron cristatum*
Sandberg bluegrass		*Poa secunda*
Smooth brome		*Bromus inermis*
INVASIVES/WEEDS:		
Common dandelion		*Taraxacum officinale*
Tall tumblemustard		*Sisymbrium altissimum*
SHRUBS:		
Fringed sagewort		*Artemisia frigida*

Table C.1 ***Characteristics of native seed mix to be used in reclamation of the proposed project site.***

Common Name	Plant Species	Suggested Variety[1]	Pounds (PLS)[2]	Seeds per Pound	Composition	Preferred soil type	Notes[1, 3]
Cool Season Grasses							
Slender wheatgrass	*Elymus trachycaulus* ssp. *trachycaulus*	Primer	0.5	135,000	10%	Sandy to clayey	Moderate drought tolerance. Rapid establishment, short-live. Saline-tolerant and adapted to a wide range of sites. Useful where quick, native, non-aggressive perennial cover is desired.
Western wheatgrass	*Pascopyrum smithii*	Mandan 456	2.4	115,000	30%	Silty-loamy to clay	Drought tolerant. Fairly easy to moderate establishment, long-lived. Useful for slightly saline, erosive soils where long-lived hardy vegetation is desired and rapid establishment is not.
Prairie junegrass	*Koeleria macrantha*	NA	0.1	2,315,000	10%	Sandy	Drought tolerant. Easy establishment. Useful where early season forage is desired and erosion is not a severe problem. Not tolerant of heavy early season grazing.
Green needlegrass	*Nassella viridula*	Lodorm	1.2	167,840	20%	Wide-range	Drought tolerant. Establishes on a wide variety of sites, long-lived, fibrous deep root system. Moderately palatable to livestock and wildlife year-round.
Warm season grasses							
Blue grama	*Bouteloua gracilis*	Bad River	0.2	724,400	10%	Fine-textured rolling uplands	Drought resistant. Easy establishment. Saline tolerant. Sod-forming with seedling vigor and leafiness.
Sideoats grama	*Bouteloua curtipendula*	Killdeer	0.6	159,200	10%	Fine to coarse textured	Moderately drought tolerant. Excellent winter hardiness. Saline tolerant. High palatability during spring and summer.
Little bluestem	*Andropogon scoparius*	Aldous, Blaze, Camper	0.4	240,670	10%	Wide-range	Moderately drought tolerant. Long-lived bunchgrass with deep fibrous root system. Intolerant of saline or wetland conditions.
Total			5.4		100%		

[1] USGS 2006
[2] pounds of pure live seed
[3] Goodwin and Sheley 2003

Appendix D

Soil Data Summary

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

Table D1: *A summary of soil attributes for ecological sites at the proposed Darcie 34X-14 project site.*

Site ID	Soil Pit Location	SMU	Soil Series Component	Texture Family / Taxonomic Class	Slope %	Aspect	Landform	Depth	Parent Material	Ecological Site
Access Road										
>006	E698200 N5278559	81B	Parshall fine sandy loam	Co-lo,m,SA,f,Pachic Haplustolls	1	SW	Hills/Backslope	>60"	Sandy/Mixed sources	Sandy
Pad										
>001	E698300 N5278688	62B	Rhoades silt loam	Fn-smectitic.f,Leptic Vertic Natrustolls	3	NW	Hills/Toeslope	>60"	Residuum/Shale	Thin Claypan
>002	E698258 N5278735	62B	Morton silt loam	Fn-si,m,SA,f,Typic Argiustolls	3	NW	Hills/Backslope	>60"	Alluvium/Shale	Loamy
>003	E698245 N5278664	62B	Rhoades silt loam	Fn-smectitic,f,Leptic Vertic Natrustolls	3	W	Hills/Toeslope	>60"	Residuum/Shale	Thin Claypan
>004*	E698195 N5278653	81B	Parshall fine sandy loam	Co-lo,m,SA,f,Pachic Haplustolls	2	N	Hills/Backslope	>60"	Sandy/Mixed sources	Sandy
>005	E698222 N5278609	62B	Belfield silty clay loam	Fn-smectitic,f,Glossic Natrustolls	1	SW	Hills/Depression	>60"	Residuum/Shale	Thin Claypan

>Note: UTM Zone is 13T

Figure D1: Definitions of the Unified Soil Classification System.

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	SW	Well-graded sands or gravelly sands, little or no fines.
			SP	Poorly-graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amt. of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silt-clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	Fine	Medium	Coarse	Fine	Coarse		

No. 200 No. 40 No. 10 No. 4 ¾ in. 3 in. 12 in.

U. S. STANDARD SIEVE SIZE

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

1969 R.W.F

Figure G 160

Appendix E

Cultural Resources Documentation

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E.
Aberdeen, South Dakota 57401

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

JAN 20 2010

Perry 'No Tears' Brady, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Brady:

We have considered the potential effects on cultural resources of three oil well pads and access roads in Dunn County, North Dakota. Approximately 83.1 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-1669/FB/09**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Herson, Chandler S.
(2009) FBIR Iron Woman 21x-10 and Yellow Wolf 21x-10: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for XTO Energy, Fort Worth, TX.

Ó Donnchadha, Brian
(2009) Darcie 34x-14 Well Pad and Access Road: Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for XTO Energy, Fort Worth, TX.

Rabe, Angie M.
(2009) Beaks 24x-8 and Hunts Medicine 24x-8 Well Pad and Access Road: A Class III Cultural Resource Inventory in Dunn County, North Dakota. KLJ Cultural Resources for XTO Energy, Fort Worth, TX.

If your office concurs with this determination, consultation will be completed under the National Historic Preservation Act and its implementing regulations. The Standard Conditions of Compliance will be adhered to.

If you have any questions, please contact Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,

Acting Regional Director

Enclosures

cc: Chairman, Three Affiliated Tribes
Superintendent, Fort Berthold Agency

Appendix F

Agency Correspondence

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

Insert Appendix F.

Appendix F

Agency Correspondence

Darcie 34X-14 Well Pad and Access Road Environmental Assessment
XTO Energy

October 27, 2009

Christine Dirk
Natural Resource Division
North Dakota Parks & Recreation Department
1600 East Century Ave., Suite 3
Bismarck, ND 58503

Dear Ms. Dirk:

We are requesting known location information and any associated data for threatened, endangered, and rare animals and plants within a one-mile distance of our project area boundary (**Project Vicinity Map**). Our project is located on the Fort Berthold Indian Reservation, east of Mandaree, in Dunn County, North Dakota. The project area occurs within:

* Township 149N, Range 92W, Sections 10-12, 13-15, 22-24, 25-27, and 34-36;
* Township 149N, Range 91W, Sections 7-8, 17-18, 19-20, 29-30, and 31-32;
* Township 148N, Range 92W, Sections 3 & 10.

I understand there is a fee for out-of-state information requests. I will gladly pay this fee. Please let me know the amount, types of payment you accept (e.g. check, money order, etc.), and any other details. I can be contacted by phone at (406) 439-0284 or through e-mail at apipp@pbsj.com. Information can be mailed to me at the address on this letterhead or to my e-mail address.

Thank you very much for providing plant and animal information.

Sincerely,

Andrea Pipp

Andrea K. Pipp
Botanist

John Hoeven, Governor
Douglass A. Prchal, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

November 17, 2009

Andrea K. Pipp
PBS & J
801 N. Last Chance Gulch, Suite 101
Helena, MT 59601-3360

Re: Project on the Fort Berthold Indian Reservation

Dear Ms. Pipp:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal located in Sections 10-12, 13-15, 22-27, and 34-36, T149N, R92W; Sections 7-8, 17-20, and 29-32, T149N, R91W; and Sections 3 and 10, T148N, R92W, Dunn County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

Thank you for the opportunity to comment on this project. Please contact Kathy Duttenhefner (701-328-5370 or kgduttenhefner@nd.gov) of our staff if additional information is needed.

Sincerely,

Jesse Hanson

Jesse Hanson, Coordinator
Planning and Natural Resources Division

R.USNDNHI*2009-332

Play in our backyard!

October 27, 2009

Jeffery Towner
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Subject: XTO Energy Oil Exploration on the Fort Berthold Indian Reservation

Dear Mr. Towner:

XTO Energy, Inc. (XTO) is proposing to conduct oil exploration activities at several sites in Dunn County, east of Mandaree, North Dakota on the Fort Berthold Indian Reservation (FBIR). The well sites fall under the jurisdiction of the U.S. Department of Interior's Bureau of Indian Affairs (BIA), necessitating the preparation of an environmental assessment (EA). XTO is preparing a draft EA on behalf of the BIA. As outlined under Section 7 of the Endangered Species Act of 1973, as amended, XTO and their consultants, as the designated agent for the BIA for XTO projects, requests that the U.S. Fish and Wildlife Service provide a list of and any ancillary information for known occurrences of proposed, candidate, threatened, and endangered species, as well as, designated critical habitat areas that occur or potentially occur in the project area (**Project Vicinity Map**). We would also appreciate any additional guidance regarding migratory birds, wetlands, other related biological issues that your office regulates or has a specific interest in, and concerns related to proposed activities.

The proposed action includes approvals by the BIA and BLM of the drilling and completion of multiple exploratory oil wells at six sites on the FBIR (**Approximate Well Pad & Access Road Location Map**). The general legal descriptions of the well pads and access roads are provided in **Table 1**. The development of these sites would require mechanical excavation and construction for the well pads and access roads. Well pads will range in size from four to five acres. Access roads vary in length, but will generally be a maximum of 40 feet wide and will be placed to maximize the use of the existing road system to the greatest extent possible.

Table 1. *Proposed XTO Energy oil well sites on the Fort Berthold Indian Reservation.*

Site Name	Township	Range	Section(s)	Notes
FBIR Iron Woman 21X-10, FBIR Yellow Wolf 21X-10	148N	92W	3, 10	Well pad and access road occur on native prairie with existing cattle use.
FBIR Stephen 31X-19, FBIR Bird 31X-19	149N	91W	19	The well pad and access road occur in a hayfield.
FBIR Beaks 24X-8, FBIR Medicine 24X-8	149N	91W	8, 17	Well pad occurs on native prairie with a substantial amount of snowberry on it. Site has some use by cattle. Access road follows an existing two-track road for the majority of its length. It also crosses along one edge of a hayfield and some native prairie to reach the well pad.
FBIR Smith 11X-10	149N	92W	9, 10	The well pad and access road occur on native prairie.
FBIR Walter Packs Wolf 31X-12	149N 149N	92W 91W	12 7, 18	Well pad occurs on native prairie with existing cattle use and a substantial amount of snowberry. Access road follows an existing two-track road for almost its entire length.
FBIR Baker 34X-25	149N	92W	25, 36	Well pad occurs on native prairie with existing horse and cattle use. Access road follows an existing driveway from BIA Road 13 before heading north across native prairie to the well pad.

If at all possible, we would greatly appreciate a response by November 15, 2009. Please contact me with questions by e-mail at apipp@pbsj.com or by phone at (406) 439-0284.

Thank you very much for your attention and I look forward to discussing this project with you.

Sincerely,

Andrea Pipp

Andrea K. Pipp
Botanist

Cc: C. Miller, PBS&J
R. McEldowney, PBS&J
D. Phillippi, NRO
D. Worthington, XTO Energy

-----Original Message-----
From: Carol_Aron@fws.gov [mailto:Carol_Aron@fws.gov]
Sent: Tuesday, February 09, 2010 8:54 AM
To: Bacon, Lynn
Cc: Jeffrey_Towner@fws.gov; William_Bicknell@fws.gov; marie_nelson@fws.gov; carol_aron@fws.gov
Subject: Re: addendum to Dec172009 XTO Ltr

Lynn,
Thank you for contacting us regarding an additional well site at Darcie 34X-14, T.148N., R. 92 W, SE ¼, SW ¼, Section 14. I have reviewed the site location and have no further information to add about this well. The recommendations in the December 17, 2009 letter also apply to this site.

Please let me know if you have any further questions.

Carol Aron
U.S. Fish and Wildlife Biologist
3425 Miriam Avenue
Bismarck, ND 58501
Telephone: (701) 355-8506
Fax: (701) 355-8513
E-mail: Carol _Aron@fws.gov

From: Dirk, Christine N. G. [mailto:cdirk@nd.gov]
Sent: Wednesday, January 27, 2010 2:44 PM
To: Bacon, Lynn
Subject: addendum to Nov72009 XTO Ltr

Lynn,

Kathy forwarded your message. I checked our database for the added area – Section 14, T148N, R92W. We have no comments to add to the November 17, 2009 letter.

Christine Dirk
Natural Resource Division

North Dakota Parks & Recreation Department
1600 East Century Ave., Suite 3
Bismarck, ND 58503
Ph. 701-328-5368 Fax 701-328-5363
cdirk@nd.gov

From: Pavelka, Gregory A NWO [mailto:Gregory.A.Pavelka@usace.army.mil]
Sent: Thursday, January 28, 2010 12:06 PM
To: Bacon, Lynn
Subject: RE: closest LT nest

Hi Lynn,

Attached is a pdf of the area around the proposed project with the closest endangered species nesting. It is slim pickings; there has been only the one piping plover nest at Ruona Bay in 2001. The birds just don't use the area. Also, the Missouri River Arm of Lake Sakakawea was not included as critical habitat for the piping plover.

Greg

From: Pavelka, Gregory A NWO [mailto:Gregory.A.Pavelka@usace.army.mil]
Sent: Thursday, January 28, 2010 1:33 PM
To: Bacon, Lynn
Subject: RE: closest LT nest

Hi Lynn,

The closest historic least tern nests are around eight to nine miles northeast of the proposed project in Deepwater Bay, which is along the east shore of Lake Sakakawea southwest of Parshall ND. I looked at my critical habitat map and stand corrected. Piping plover critical habitat extends 15 miles up the Little Missouri River Arm, just past Wolf Chief Bay.

Greg

From: Pavelka, Gregory A NWO [mailto:Gregory.A.Pavelka@usace.army.mil]
Sent: Monday, February 08, 2010 11:52 AM
To: Bacon, Lynn
Subject: RE: last set

Hi Lynn,

Attached is a pdf of a map showing the tern and plover nesting sites closest to the proposed drill pads and a spreadsheet with the number of nests by location, species and year. There are two areas that are near the proposed sites, Pouch Point and Independence Point. Pouch Point is located on the north side of the lake across from the drill pad locations. This area has seen increased use by the piping plovers over the last three years after only being used once previously in 1995. Independence Point is the collective name given to the shoreline that runs northwest to southeast from Independence Point. It has seen sporadic use from 1993-2009. The last time least terns nested along this shoreline was in 1997. The last time piping plovers nested here was in 2008. The imagery is from 2003; that is why some of the later nests appear to be in the water. Hope this is what you need.

Greg

From: Pavelka, Gregory A NWO [mailto:Gregory.A.Pavelka@usace.army.mil]
Sent: Thursday, February 11, 2010 8:49 AM
To: Bacon, Lynn
Subject: RE: last set

Hi Lynn,

It is time to retire. I went back into the data and found I made a mistake in the table. It was 2 plover nests along Independence in 1997 and zero tern nests. The only tern nests were the five in 1994 and the one in 1995. All were located in the little inlet where you see the green 1995 triangle. The 1994 tern nests at that location are gray squares. Thanks for catching the error.

Greg

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

DEC 17 2009

DEC 17 2009

Ms. Andrea K. Pipp, Botanist
PBS&J
801 N. Last Chance Gulch, Suite 101
Helena, Montana 59601-3360

Re: Nine exploratory oil and gas wells on the Fort Berthold Reservation

Dear Ms. Pipp:

This is in response to your October 27, 2009, letter regarding proposed exploratory oil and gas wells on the Fort Berthold Reservation. XTO Energy Inc. has proposed nine exploratory oil and gas well on six well pad sites on the Fort Berthold Reservation, Dunn County, North Dakota.

Specific locations are:

FBIR Iron Woman 21X-10 and FBIR Yellow Wolf 21 X-10: T. 148. N., R. 92 W., Sections 3, 10
FBIR Stephen 31 X-19 and FBIR Bird 31X-19: T. 149 N., R. 91 W., Section 19
FBIR Beaks 24X-8 and FBIR Medicine 24X-8: T. 149 N., R. 91 W., Sections 8, 17
FBIR Smith 11X-10: T. 149 N., R. 92 W., Sections 9, 10
FBIR Walter Packs: T. 149 N., R. 92 W., Section 12
Wolf 31X-12: T. 149., R. 91 W., Sections 7, 18
FBIR Baker 34X-25: T. 149 N., R. 92 W., Sections 25, 36

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA), and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

In an e-mail dated October 13, 2009, the Bureau of Indian Affairs (BIA) designated PBS&J, as a consultant to XTO Energy, to represent the BIA for informal Section 7 consultation under the ESA. Therefore, the U.S. Fish and Wildlife Service (Service) is responding to you as the designated non-Federal representative.

Threatened and Endangered Species

A list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. This list fulfills requirements of the Service under Section 7 of the ESA. This list remains valid for 90 days. The BIA or designated non-Federal agent should make a determination of the proposed projects' effects on listed species, including whether there is anticipated destruction or adverse modification of designated critical habitat. This determination may be included in the EA. It should state whether or not the BIA plans to incorporate the Service's recommendations to avoid and minimize any adverse effects. If the BIA does not plan to take the recommended measures, the document should explain why not.

There is designated critical habitat for the piping plover in Dunn County. We recommend that a buffer of at least one-half mile be maintained from piping plover critical habitat. Critical habitat can be viewed on the Service website (http://www.fws.gov/northdakotafieldoffice/endspecies/species/piping_plover.htm). GIS layers of critical habitat can be obtained by contacting our office at the letterhead address.

The Aransas Wood Buffalo Population (AWBP) of endangered whooping cranes is the only self-sustaining migratory population of whooping cranes remaining in the wild. These birds breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. They make numerous stops along their migration route to feed and roost before moving on.

Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. The proposed project lies within a 90 mile corridor that includes approximately 75 percent of all reported whooping crane sightings in the State (enclosure).

Whooping cranes are unlikely to spend more than a few days in any one spot during migration. The Service suggests that the Environmental Assessment (EA) include a requirement that if a whooping crane is sighted within one mile of a well site or associated facilities while it is under construction, that all work cease within one mile of that part of the project and the Service be contacted immediately. In coordination with the Service, work may resume after the bird(s) leave the area.

Potential habitat for the Dakota skipper exists on the Fort Berthold Reservation in Dunn and McKenzie Counties. In 1995, the Dakota skipper was determined to be a candidate species under the ESA. No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting.

The Dakota skipper is a small to medium-sized hesperiine butterfly associated with high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. The first type of habitat is relatively flat and moist native bluestem prairie. Three species of wildflowers are usually present: wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*), and smooth camas (*Zygadenus elegans*). The second habitat type is upland (dry) prairie that is often on ridges and hillsides. Bluestem grasses and needlegrasses dominate these habitats. On this habitat type, three wildflowers are typically present in high quality sites that are suitable for Dakota skipper: pale purple (*Echinacea pallida*) and upright (*E. angustifolia*) coneflowers and blanketflower (*Gaillardia sp.*). Because of the difficulty of surveying for Dakota skippers and a short survey window, we recommend that the project avoid any impacts to potential Dakota skipper habitat. If Dakota skipper habitat is present near the proposed project, and you intend to take precautions to avoid impacts to skipper habitat, please notify the Service for further direction.

Migratory Birds

The MBTA has no provisions for incidental take. Regardless, it is understood that some birds may be killed even if all reasonable conservation measures are implemented. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, and through fostering relationships with individuals and industries seeking to eliminate their impacts to migratory birds. While it is not possible under the MBTA and BGEPA to absolve individuals or companies from liability by following these guidelines, enforcement will be focused on those individuals or companies that take migratory birds with disregard for the law, and where no legitimate conservation measures have been applied. Please inform us as to whether you intend to follow the following recommendations to minimize impacts to migratory birds, including bald and golden eagles.

Schedule construction for late summer or fall/early winter so as not to disrupt migratory birds or other wildlife during the breeding season (February 1 to July 15). If work is proposed to take place during the breeding season or at any other time which may result in the take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent arrange to have a qualified biologist conduct a field survey of the affected habitats to determine the presence of nesting migratory birds. If nesting migratory birds, their eggs, or active nests are found, we request you contact this office, suspend construction, or take other measures, such as maintaining adequate buffers, to protect the birds until the young have fledged. The Service further recommends that field surveys for nesting birds, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be thoroughly documented and that such documentation be shared with the Service and maintained on file by the project proponent.

The Service estimates that 500,000 to 1 million birds are killed nationwide every year from exposed oil at oil drilling and/or production sites. The unauthorized take of migratory birds at oil production facilities can be prevented with a minimum of expense

and effort. Wildlife mortalities in North Dakota are most often observed in association with drilling reserve pits, flare pits, and/or drip buckets and barrels. The Service strongly recommends that the pads be constructed as closed-loop systems, without a reserve pit. Regardless of whether the pads are built with reserve pits, we recommend that the BIA include the following measures in the EA so as to ensure compliance with the MBTA.

- **Keep Oil Off Open Pits or Ponds**. Immediate clean up of oil in open pits is critical to prevent wildlife mortalities.

- **Place Covers on Drip Buckets/Barrels Located Under Valves and Spigots.** Bird entrapments are common within the small (55 gallon or less) barrels placed under valves and spigots to collect dripped oil. Placing a wire mesh or grate over the top of these barrels is a very practical way of preventing access for wildlife.

- **Use Effective and Proven Exclusionary Devices.** Netting is the most effective method of keeping birds from entering open pits (reserve and flare pits). Flagging, reflectors, and strobe lights are not effective. Published scientific studies as well as field inspections by Service personnel have documented bird mortalities at oil pits with flagging, reflectors, and strobe lights (e.g. Esmoil 1995). The effectiveness of netting pits to exclude birds and other wildlife depends on its installation. Effective installation requires a design allowing for snow-loading and one that also prevents ground entry by small mammals and birds. A maximum mesh size of 1.5 inches will allow for snow-loading and will exclude most birds. Nets or wire mesh over flare pits can be implemented if the flare tube is high enough to keep flame away from the net. Some examples of both effective and ineffective netting techniques can be found on the Service's website at http://www.fws.gov/mountain%2Dprairie/contaminants/ contaminants1c.html.

Bald and/or golden eagles may use the project area where the proposed wells will be located. Golden eagles inhabit a wide variety of habitat types, including open grassland areas. They are known to nest on cliffs, in trees, manmade structures, and on the ground (Kochert et al. 2002). There are numerous records of golden eagle nests on the Fort Berthold reservation (Pers. Comm. Anne Marguerite Coyle, Dickinson State University). While the bald eagle tends to be more closely associated with forested areas near water (Buehler 2000), they have been found nesting in single trees several miles from the nearest water body. Therefore, there may also be potential habitat for the bald eagle at the proposed project sites. Especially early in the nesting season, eagles can be very sensitive to disturbance near the nest site and may abandon their nest as a result of low disturbance levels, even from foot traffic. A buffer of at least 1/2 mile should be maintained for golden and bald eagle nests. A permit is required for any take of bald or golden eagles or their nests. Permits to take golden eagles or their nests are available only for legitimate emergencies and as part of a program to protect golden eagles.

The Service recommends that aerial raptor surveys be conducted prior to any on-the-ground activities. The Service recommends that an aerial nest survey (preferably by

helicopter) be conducted within 1.0-mile of any proposed ground disturbances to identify active and inactive nest sites near the proposed well pad and associated facilities, including proposed new roads. Aerial surveys should be conducted between March 1 and May 15, before leaf-out so that nests are visible.

Aerial surveys should include the following:

1. Due to the ability to hover and facilitate observations of the ground, helicopters are preferred over fixed wing aircraft, although small aircraft may also be used for the raptor surveys. Whenever possible, two observers should be used to conduct the surveys. Even experienced observers only find approximately 50 percent of nests on a flight (Pers. Comm. Anne Marguerite Coyle, Dickinson State University), so we recommend that two flights be performed prior to any on-the-ground work, including other biological surveys or other work.

2. Observations of raptors and nest sites should be recorded using GPS. The date, location, nest condition, activity status, raptor species, and habitat should be recorded for each sighting.

3. We request that you share the qualifications of the biologist(s) conducting the survey, method of survey, and results of the survey with the Service.

High Value Habitat Avoidance

To minimize disturbance to fish and wildlife habitat in the project area, the Service provides the following recommendations:

- Make no stream channel alterations or changes in drainage patterns.

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.

- Reseed disturbed areas with a mixture of native grass and forb species immediately after construction to reduce erosion.

Cumulative Effects Analysis

A large number of wells and appurtenant facilities are being constructed in the western portion of North Dakota. The Service is concerned that the wells, and especially the associated roads, are being put in piecemeal without an overarching plan to ensure that the facilities are being constructed to access all new pads most efficiently, while disturbing the least amount of habitat. While we understand that there is still some level of uncertainty regarding the extent of the oil formations, there has been enough drilling in this area that the Service believes that the uncertainty is relatively small and decreasing. It would be appropriate for the EA to include some cumulative effects analysis of the

existing and proposed pads, roads, electrical transmission lines, and preferably pipelines to transport the products.

Habitat Fragmentation

Prairie habitat is increasingly being lost or fragmented because of the large number of wells and associated roads that are being constructed in areas of the state that were formerly relatively undeveloped. Only about 30% of native prairie in North Dakota remains from pre-settlement times (Strong et al. 2005), with nearly all native tallgrass prairie converted nationwide (Ricketts et al. 1999). Oil pads, associated roadways and vehicle traffic can cause fragmentation of the landscape, disrupting wildlife patterns, and making it more likely that non-native plant species may invade an area. The Service recommends placing as few well pads as possible on the landscape and locating pads so as to avoid or minimize the construction of new roads. Many prairie species require large, contiguous blocks of grasslands for their biological needs and may either avoid patchy habitat or experience reduced reproductive success.

- The Service recommends that impacts to native prairie be avoided or minimized. If native prairie cannot be avoided, the Service recommends outlining stringent reclamation requirements, including a bond sufficient to cover the cost of reclamation, as described in the "Post-production Phase – Reclamation" section below.

- The Service recommends that oil wells use existing roads and trails to the greatest extent possible, minimizing all new road construction.

- If a new road is necessary, the Service recommends avoiding native prairie to the greatest extent possible.

- If new roads are constructed, the Service recommends that the disturbed areas along the road be reseeded immediately with a native prairie mix to reduce erosion and prevent invasion by non-native species. Disturbed areas should be monitored regularly throughout the life of the project, and treated with herbicide as necessary to ensure that exotic species are not infesting disturbed areas.

- If multiple companies are developing well pads in the same general area, roads should be shared to the greatest extent possible to minimize disturbance.

- Install and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams near the project area.

The Service recommends that the BIA incorporate the relevant requirements described in the Dakota Prairie Grasslands Land and Resource Management Plan (USDA 2001). This document includes a number of requirements to avoid sensitive resources. In particular, the Service suggests that the BIA incorporate the relevant portions of Appendix D, Oil and Gas Stipulations.

Post-production Phase – Reclamation

Each project should include a plan to restore the landscape following project completion, including a bond sufficient to reclaim the area in full. Within one year of a well's closure, the well pads, roads, and associated facilities should be completely removed from the landscape, the land recontoured back to its original profile, and the area reseeded with a native prairie mix. Since native prairie species take some time to establish, and intensive management may be required for several years to ensure that weeds do not infest the area, the Service recommends that the BIA follow the timeline requirements set out in the 2003 *North Dakota Public Service Commission, Standards for evaluation of revegetation success and recommended procedures for pre-and postmining vegetation assessments* (available on-line at http://www.psc.state.nd.us/jurisdiction/reclamation/files/revegdocjuly2003final.pdf). This document requires that reclaimed areas be managed for a minimum of ten years, starting in the year when first seeded. Starting in the sixth year, for at least two consecutive years, or three out of the last five, including the last year, the reclaimed area must meet the approved standard as described in the document.

For prairie areas, the Service recommends planting a diverse mixture of native cool and warm season grasses and forbs. While the North Dakota Public Service Commission document requires only five native grass species, recent research has suggested that a more diverse mix, including numerous forb species, is not only ecologically beneficial, but is also more weed resistant, allowing for less intensive management and chemical use. In essence, the more species included in a mixture, the higher the probability of providing competition to resist invasion by non-native plants. The seed source should be as local as possible, preferably collected from the nearby native prairie.

Thank you for the opportunity to comment on this project. If you require further information or the project plans change, please contact me or Carol Aron of my staff at (701) 250-4481 or at the letterhead address.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosures

cc: Bureau of Indian Affairs, Aberdeen
(Attn: Marilyn Bercier)
Bureau of Land Management, Dickinson
ND Game & Fish Department, Bismarck

Literature Cited

Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506.

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Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Accessed October 13, 2009. Available online at: http://bna.birds.cornell.edu/bna/species/684.

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Strong, L. L, T. H. Sklebar, and K. E. Kermes. 2005. The North Dakota Gap Analysis Project – Final Report. U.S. Geological Survey. 451 pages. Available online at http://www.npwrc.usgs.gov/projects/ndgap/NDGAP_FinalReport_complete.pdf.

USDA. 2001. Land and resource management plan for the Dakota Prairie Grasslands Northern Region. Accessed October 13, 2009. Available at http://www.fs.fed.us/ngp/plan/feis_plan_dakota_prairie.htm.

FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
DUNN COUNTY, NORTH DAKOTA
December 2009

ENDANGERED SPECIES

Birds

Interior least tern (Sterna antillarum): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (Grus Americana): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (Scaphirhynchus albus): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Black-footed ferret (Mustela nigripes): Exclusively associated with prairie dog towns. No records of occurrence in recent years, although there is potential for reintroduction in the future.

Gray wolf (Canis lupus): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (Charadrius melodus): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

CANDIDATE SPECIES

Invertebrates

Dakota skipper (Hesperia dacotae): Found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers and blanketflower.

DESIGNATED CRITICAL HABITAT

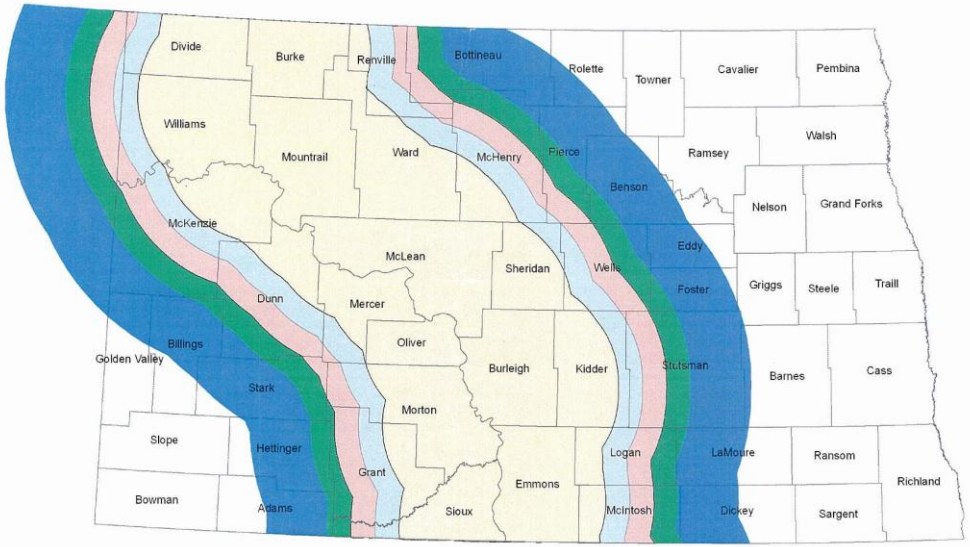
Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

U.S. Fish and Wildlife Service

North Dakota and Montana Whooping Crane Migration Corridor

Central Flyway of the United States



Legend
Percent of Central Flyway Confirmed Sightings
- 75%
- 80%
- 85%
- 90%
- 95%

Miles
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N W E S

Produced for Ecological Services
Grand Island, NE
Current to: 2007

United States Department of the Interior
BUREAU OF RECLAMATION
Dakotas Area Office
P.O. Box 1017
Bismarck, North Dakota 58502

TAKE PRIDE IN AMERICA

DK-5000
ENV-6.00

APR 23 2010

Mr. Chris Miller
Project Manager
PBS&J
115 N. 28th Street, Suite 202
Billings, MT 59101-2045

Subject: Solicitation for an Environmental Assessment for the Drilling and Completion of up to Six Exploratory Oil and Gas Wells Using One Pad and One Access Road by XTO Energy, Inc., on the Fort Berthold Reservation in Dunn County, North Dakota

Dear Mr. Miller:

This letter is written to inform you that your letter written on April 13 was received and the information and map have been reviewed by Bureau of Reclamation staff.

Proposed oil well pads and access roads located in Dunn County could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System.

There are water lines either existing or proposed for construction in the immediate vicinity of the well pad in the project area that you provided.

Darcie 34X-14 Site: SW¼ SE¼ section 14, T148N, R92W

Since we have no location for the proposed access road we are providing an index map and a detailed map of proposed or existing water line alignments in the vicinity of the well pad. Reclamation is the lead Federal agency for the Fort Berthold Rural Water System and we request that any work planned on the reservation be coordinated with Mr. Marvin Danks, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763.

Thank you for providing the information and opportunity to comment. If you have any further questions, please contact me at 701-221-1288 or Kelly McPhillips at 701-221-1287.

Sincerely,

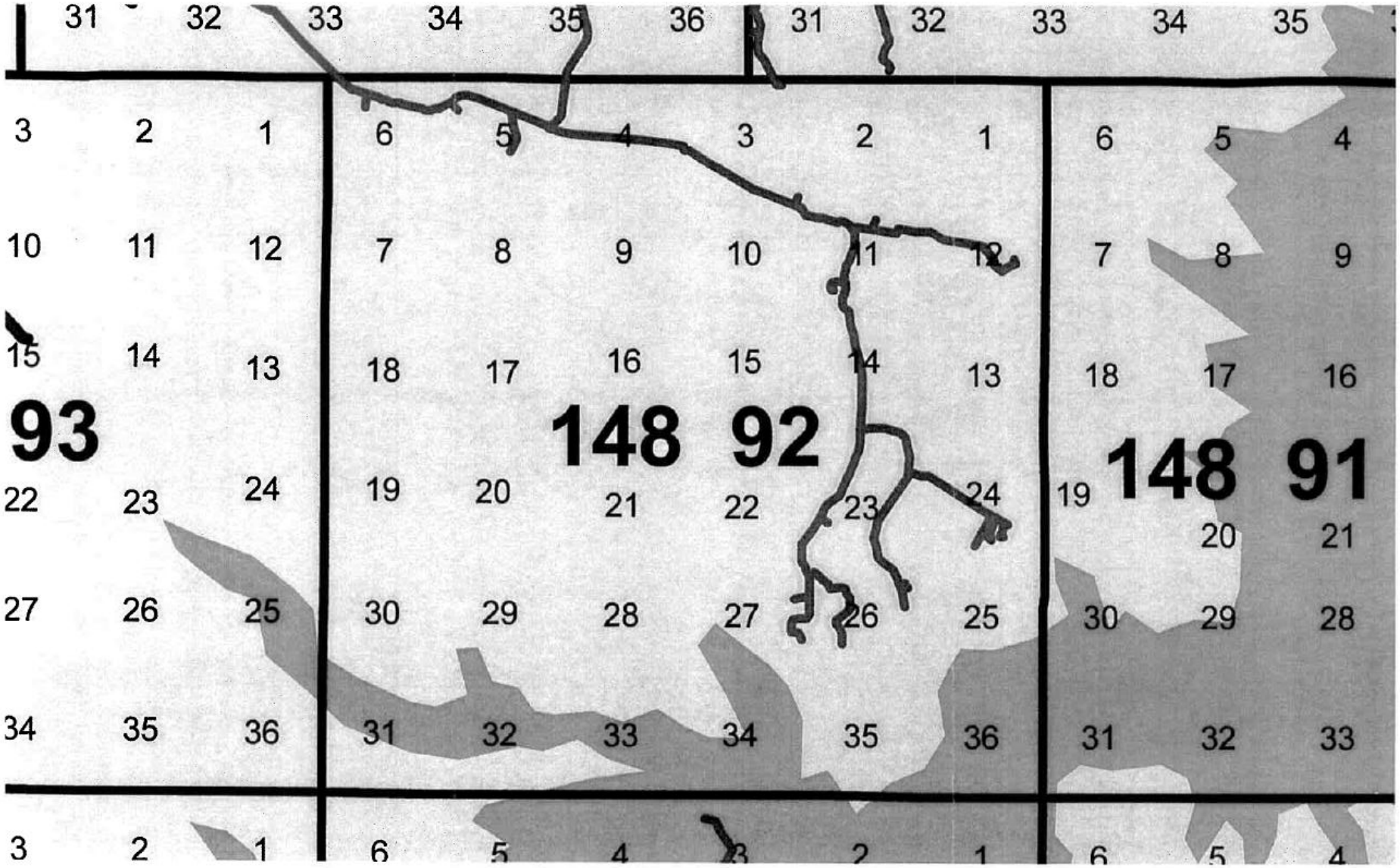
Ronald D. Melhouse

Ronald D. Melhouse
Environmental Specialist

Enclosure

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
115 Fourth Avenue S.E.
Aberdeen, SD 57401
(w/encl)

Mr. Marvin Danks
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763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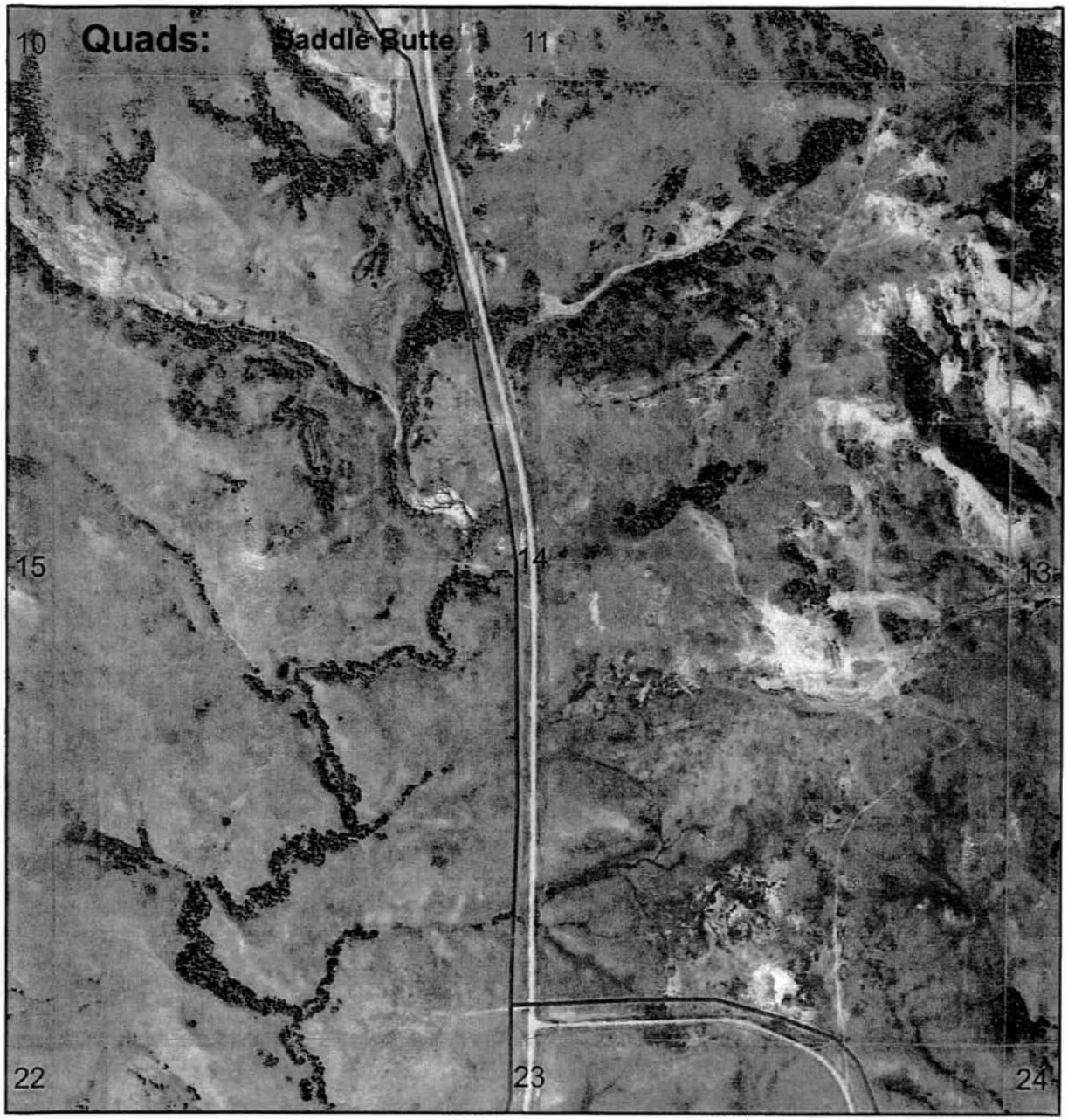

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

REPLY TO
ATTENTION OF

April 19, 2010

North Dakota Regulatory Office

[NWO-2010-00721-BIS]

PBS&J
Attn: Chris Miller, Project Manager
115 North 28th Street, Suite 202
Billings, Montana 59101-2045

Dear Mr. Miller:

This is in response to your solicitation letter on behalf of **XTO Energy (XTO)**, received on April 15, 2010 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for proposed oil and gas exploratory wells (up to six wells using one well pad and one access road) within the Fort Berthold Indian Reservation. The proposed well, **Darcie 34X-14**, is located within SW ¼, SE ¼ Section 14, Township 148 North, Range 92 West, Dunn County, North Dakota.

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act regulates work in or affecting navigable waters. This would include work over, through, or under Section 10 water. Section 10 waters in North Dakota include the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent provide a DA permit application (ENG Form 4345) to the Corps.

Enclosed for your information is the fact sheet for Nationwide Permit 12, Utility Line Activities. Utility lines are already authorized by Nationwide Permit 12 **provided the utility line can be placed without any change to pre-construction contours and all other proposed construction activities and facilities are in compliance with the Nationwide's permit conditions and 401 Water Quality Certification is obtained.** Please note the pre-construction notification requirements on page 2 of the fact sheet. **If a project involves any one of the seven notification requirements, the project proponent must submit a DA application.** Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 12 and 13 of the fact sheet. Please be advised that the United States Environmental Protection Agency (EPA), Region 8 has denied 401 Water Quality Certification for activities in perennial drainages and wetlands. Furthermore, EPA has placed conditions on activities in ephemeral and intermittent drainages. It is recommended you contact the U.S. Environmental Protection Agency, Region 8, Attn: Brent Truskowski, 1595 Wynkoop Street, Denver, Colorado 80202-1129 to review the conditions pursuant to Section 401 of the Clean Water Act prior to any construction.

Printed on Recycled Paper

Also enclosed for your information is the fact sheet for Nationwide Permit 14, Linear Transportation Projects. Road crossings are already authorized by Nationwide Permit 14 **provided the discharge does not cause the loss of greater than ½ acre of waters of the United States per crossing and all other proposed construction activities are in compliance with the Nationwide's permit conditions.** Please note the pre-construction notification requirements on the front page of the fact sheet (highlighted in yellow). **If a project involves (1) the loss of waters of the United States exceeding 1/10 acre per crossing; or (2) there is a discharge in a special aquatic site, including wetlands, the project proponent must submit a DA application prior to the start of construction.** Please reference General Condition 27, Pre Construction Notification on page 8 of the fact sheet. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 11 and 12 of the fact sheet. Enclosed is a copy of the United States Environmental Protection Agency, Region 8's; General Conditions for all Nationwide Permits and specific conditions for Nationwide Permit 14.

In the event your project requires approval from the U.S. Army Corps of Engineers and cannot be authorized by Nationwide Permit(s), a Standard or Individual Permit will be required. A project that requires a Standard or Individual Permit is intensely reviewed and will require the issuance of a public notice. A Standard or Individual Permit generally requires a minimum of 120 days for processing but based on the project impacts and comments received through the public notice may extend will beyond 120 days.

This correspondence letter **does not approve** the proposed construction work or **does not verify** the proposed project complies with the Nationwide Permit(s).

If any of these projects require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Department of the Army permit application (ENG Form 4345) to the U.S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12th Street, Bismarck, North Dakota 58504. If you are unsure if a permit is required, you may submit an application; include a project location map, description of work, and construction methodology.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter of phone at (701) 255-0015.

Sincerely,

Daniel E. Cimarosti

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345
Fact Sheet NWP 12
Fact Sheet NWP 14
EPA 401 Conditions for Nationwide Permits

CF w/o encl
EPA Denver (Brent Truskowski)

FACT SHEET
NATIONWIDE PERMIT 12
(2007)

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. (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).

General Conditions: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically in North Dakota, the North Dakota Department of Health has denied certification for projects under this Nationwide Permit proposed to cross* ***all classified rivers, tributaries and lakes****; individual certification for project in these waterways must be obtained by the project proponent prior to authorization under this Nationwide Permit. For utility line crossings of all other waters, the Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed.*

22. Coastal Zone Management. *Not Applicable.*

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certificaticn, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____
(Transferee)

_____
(Date)

26. Compliance Certification. Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. *See attached pages.*

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

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, 45, and 47, 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

FACT SHEET
NATIONWIDE PERMIT 14
(2007)

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 of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. 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.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

General Conditions: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically for North Dakota, the North Dakota Department of Health has issued water quality certification for projects under this Nationwide Permit provided the attached Construction and Environmental Disturbance Requirements are followed.*

22. Coastal Zone Management. *Not Applicable.*

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____
(Date)

26. Compliance Certification. Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. *See attached pages.*

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

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, 45, and 47, 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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

May 11, 2007

Ref: 8EPR-EP

Colonel Ronald N. Light
District Engineer, Sacramento District
Attn: Michael S. Jewel, Regulatory Section
U.S. Army Corps of Engineers
1325 J Street, 14th floor
Sacramento, California 95814-2922

Colonel David Press,
District Engineer, Omaha District
Attn: Martha Chieply, Chief of Regulatory
U.S. Army Corps of Engineers
106 S. 15th Street
Omaha, Nebraska 68102

Colonel Bruce Estok
District Engineer, Albuquerque District
Attn: Don Borda, Chief of Regulatory
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE, Room 313
Albuquerque, New Mexico 87109-3435

Re: Certification of Nationwide Permits in Indian Country
Pursuant to Section 401 of the Clean Water Act

Dear Colonels Light, Press and Estok:

This letter is in response to the US Army Corps of Engineers Final Notice of Issuance of Nationwide Permits (NWPs) listed in the Monday, March 12, 2007, Federal Register for Clean Water Act (CWA) Section 401 water quality certification. This water quality certification applies only to waters of the United States within Environmental Protection Agency (EPA) Region 8 where Tribes have not assumed CWA Section 401 Water Quality Certification and Section 303 Water Quality Standards Programs.

Region 8 has not received any final regional conditions from the USACE. Therefore, if final regional conditions are modified such that changes necessitate a change in 401 certification, Region 8 will modify this certification following receipt of final NWP regional conditions.

The USACE and applicants should consider contacting EPA, Region 8 as early as possible for potential permits and actions that may be complicated and when early discussions may be beneficial to all parties. EPA requests notification when the USACE District Engineer intends to exert discretionary authority or waive the acreage, linear feet or cubic yard limits of the 2007 Nationwide Permits. We would like the opportunity to discuss the rationale and finding of minimal impact in these instances.

For NWPs that do require an individual 401 certification application, submission or notification, the information should be sent to the EPA and to the appropriateTribe. Suggested minimum information needed by EPA is enclosed; if minimum information is not included, the request for 401 certification may not be considered complete. The USACE should be aware of tribal trust lands that are outside of commonly known reservation boundaries. A state certification is not valid on these waters; and without a valid 401 certification, a permit would not be valid.

Your staff may contact Ms. Toney Ott at 303-312-6909, ott.toney@epa.gov, or your assigned Region 8 Section 404 staff if there are any questions or if clarification is necessary.

Sincerely,

Original signed by Gene R. Reetz for

Brian Caruso, Unit Chief
Wetlands and Watershed Unit
Ecosystems Protection Program

cc: Region 8 Tribal Environmental Directors
Cheryl Goldsberry, Omaha District

Enclosures:

USEPA Region 8 Water Quality Certification in Accordance with Section 401 of the Clean Water Act for the 2007 Nationwide Permits in Indian Country

Application Checklist for Completeness - - 401 Certifications for USACE NWPs

Tribal Contacts in U.S.E.P.A. Region 8, Current as of May 8, 2007

Region 8 Tribes with Treatment as State Status for CWA Section 303 and Section 401, Current as of May 8, 2007

Environmental Protection Agency, Region 8

Water Quality Certification in Accordance with Section 401 of the Clean Water Act for the 2007 Nationwide Permits in Indian Country

May 11, 2007

These requirements apply to permitted activities occurring within "Indian country" as defined at 18 U.S.C. Section 1151, which includes lands located within formal Indian reservations as well as lands held in trust by the United States for Indian tribes and located outside the boundaries of formal Indian reservations. Please be aware that tribal trust lands located outside the boundaries of formal Indian reservations exist in Region 8.

A. SPECIFIC NATIONWIDE PERMITS CWA Section 401 CERTIFICATION DENIED

USEPA Region 8 is denying CWA Section 401 certification on all waters for the following NWPs: # 16, # 17, # 21, # 33, # 34, # 44, # 45, # 46, # 47, # 49 and # 50. On NWPs that have been "denied" the EPA will review the proposed permit activity and issue a project-specific 401 Certification decision on each permit.

B. GENERAL CONDITIONS FOR ALL NATIONWIDE PERMITS

1. Project proponent/contractor must have the following on-site:
   - a copy of the appropriate USEPA Regional 401 certification general and specific conditions contained in this certification;

   in addition, for NWP permits requiring a 401 certification application to USEPA:
   - the 401 certification application, and
   - EPA Region 8 CWA Section 401 certification document if applicable.

2. Certification is denied for any activity affecting fens and springs.
   Note: EPA adopts the definitions of these aquatic resources as defined by the 2007 Regional Conditions, as defined by the published draft conditions.

3. This certification does not authorize the placement or construction of septic/leach systems or other sewage/waste treatment plants in wetlands.

4. This certification does not authorize the construction of dams, except for stream restoration projects.

5. This certification does not authorize the construction of any portion of a facility for confined animal feeding operations, including, but not limited to, the construction of buildings, holding/detention and sewage lagoons, and/or livestock holding areas.

6. Wetland mitigation under these nationwide permits shall be completed prior to, or concurrent with, the project impacts. Wetland mitigation should be in-kind and on-site replacing native wetland plant communities lost from all project impacts. If the USACE

recommends a mitigation bank or in-lieu fee program and the permittee chooses to utilize the option of a mitigation bank or in-lieu fee program, the applicant must submit the name of the bank or program, and the number and type of credits to be purchased prior to project impacts.

7. For any general or specific nationwide permit conditions requiring notification in accordance with the Preconstruction Notification general condition #27 (72 Fed. Reg. 11092, 11195 (March 12, 2007)), "Agency Coordination" for project activities should include coordination with Native American Tribe or Tribes affected by such project activities.

8. Based on experience with invasive species, infestations of invasive plant species may result in increased erosion and/or pesticide applications, have the potential to reduce water quality, impact aquatic habitat, and impact designated water quality uses. This certification requires the use of certified weed-free hay/straw with any revegetation of project areas for activities authorized under these nationwide permits. This certification requires the use of seed that contain no noxious weed seed and meets certified seed quality. All seed must have a valid seed test within one year of the use date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab results shall show no more than 0.5 percent by weight of other weed seeds; and the seed lot shall contain no noxious, prohibited, or restricted weed seeds according to State seed laws in the respective State(s).

9. This certification requires monitoring for and control of invasive species during project construction if areas are disturbed and not immediately revegetated. This certificate requires monitoring for and immediate control of invasive species after project completion through at least one growing season. A maximum goal of less than 5% weed-species plants should be set, unless local, State, Tribal, or USACE rules, ordinances or permit conditions require more stringent monitoring and response.

10. Vegetation should be protected except where its removal is absolutely necessary for completion of the work. Applicant should revegetate disturbed soil in a manner that optimizes plant establishment for that specific site. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching as necessary. Applicant should use native material where appropriate and feasible. Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas. All cut and fill slopes that will not be protected with riprap should be revegetated with appropriate species to prevent erosion.

11. The following conditions apply when operating equipment or otherwise undertaking construction in a water of the U.S.

A. This certification requires all equipment to be inspected for oil, gas, diesel, anti-freeze, hydraulic fluid and other petroleum leaks. All such leaks will be properly repaired and equipment cleaned prior to being allowed on the project.

Leaks that occur after the equipment is moved to the project site will be fixed that same day or the next day or removed from the project area. The equipment is not allowed to continue operating once the leak is discovered.

B. Construction equipment should not be operated below the existing water surface except as follows:

a) Fording at one location is acceptable; however, vehicles should not push or pull material along bed or bank below the existing water level. Impacts from fording should be minimized.

b) Work below the waterline which is essential should be done in a manner to minimize impacts to the aquatic system and water quality.

C. All equipment that has been operated in waters of the US, with known invasive species infestation(s) is to be inspected and cleaned before entering waters of the U.S. for this permit. All equipment is to be inspected and cleaned after use.

12. Any temporary crossings, bridge supports, cofferdams or other structures that are necessary during the permit activity should be designed to handle high flows that can be anticipated during permit activity. All temporary structures should be completely removed from the waterbody at the conclusion of the permitted activity and the area restored to a natural appearance.

13. This certification does not authorize any unconfined discharge of liquid cement in waters of the United States. Grouting riprap must occur under dry conditions with no exposure of wet concrete to the waterbody.

14. All discharges must occur during the low flow or no flow period of the season.

C. ADDITIONAL CONDITIONS FOR SPECIFIC NATIONWIDE PERMITS

In addition to the general conditions for all Nationwide Permits, the following conditions are specific to each listed nationwide permit.

Nationwide Permit 3. Maintenance Activities

A. For the repair of low water crossings, this certification is denied for discharges of any fill or dredged material that would result in an increase in land contour height beyond the original dimensions.

B. Silt and sediment removal associated with low water crossings shall be limited to a maximum of 50 linear feet.

C. Silt and sediment removal associated with bridge crossings shall be limited to a maximum of 100 linear feet.

Nationwide Permit 4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 7. Outfall Structures and Associated Intake Structures

For construction and maintenance activities:

A. Construction of the outfall structure shall be placed at the streambed elevation and, at a minimum; the pipeline should be oversized to prevent high-pressure discharge of stormwater.

B. Certification is denied for construction of the outfall structure in wetlands.

C. Controls shall be put in place to stabilize all areas of the bed and bank around and adjacent to the outfall structure and associated intake structures that may be affected by outfall or stream flows, respectively.

D. This certification does not authorize structures for drainage activities that result in a loss of waters of the U.S., such as tile systems.

Nationwide Permit 11. Temporary Recreational Structures

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 12. Utility Line Activities

A. Project proponent/contractor must have a copy of the 401 certification application and the EPA 2007 water-quality-certification-document on-site.

B. Certification is denied for activities in perennial drainages and wetlands.

C. Certification is denied for all water intake structures.

D. Activities in ephemeral and intermittent drainages are certified with the following conditions:

a) Crossings must be placed as close to perpendicular to the watercourse as possible.

b) Affected streambanks must be sloped such that the stream bottom width is not reduced and bottom elevations are restored to original elevations.

c) Disturbed stream banks must be reconfigured to mimic a stable naturally vegetated portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream. If a natural/native stream reach is not available within the adjacent reach, other natural portions of the drainage can serve as a reference condition.

E. USACE General Condition 20. Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. A statement or other evidence that General Condition 20 has been met should be submitted.

F. Applications for this NWP water quality 401 certification must include the following detailed information at a minimum and will serve as baseline certification conditions for the project.

a) Location and Wetland Map:
- Narrative describing both the location (i.e., Section, Township Range, and decimal Latitude/Longitude) of the proposed construction project, the affected waters/wetlands, and the type of utility line.
- An aerial photograph with wetland overlays must be provided with Ordinary High Water Mark delineated.

b) Waters of the U.S. Description:
- A description of the waterbody/wetlands including the dominant plant communities present in the wetlands or riparian areas.
- On-site photographs of the site must be taken during the growing season to include a colored overlay line indicating the alignment of the pipeline across the waterbody/wetlands or other construction features.

c) Construction Description:
- A description of the methods by which the utility will be constructed on the site including (but not limited to) the trench size and depth, backfill materials (specifications), construction machinery to be used, cofferdam or road crossing specifications, and best

management practices to be implemented on-site (including invasives controls).

- Access roads must be constructed outside of waters /wetlands where alternatives are available.
- Proposed under drains (tile, french drains, etc.) must be described if proposed with the project.
- Details on pipeline corrosion protection methods must be provided.
- Where a positive gradient exits the wetlands such that drainage along the pipeline may occur, clay blocks, or another suitable method that will protect aquatic resources from inadvertent drainage, are required to prevent said wetland drainage.
- Site-specific cross-sectional drawings should be provided, including a drawing of the clay block or other method used to stop drainage.

d) Description of Impacts to Waters of the U.S.:

- A description of the amount (acreage and square feet) of disturbance/loss to waters of the U.S. (including wetlands) must be provided. Loss of waters includes both temporary and permanent impacts to wetlands resources from the construction project, including access roads.
- The length and width of the crossing and amount of impacts to the dominant plant communities must be provided.
- All unavoidable temporary sidecasting of materials (dredge or fill material) in wetlands must be placed on landscaping fabric or a weed-free hay/straw layer to mark the existing wetlands elevation.

e) Mitigation and Restoration Plan:

- Where proposed construction of the utility results in the conversion of a wetland type (i.e., forested/shrub willow type) to an herbaceous wetland type (i.e., wet meadow type), mitigation of the shrub community must be accomplished on-site to restore designated uses.
- The top six to 12 inches must be backfilled with topsoil from the trench.
- Mitigation plans (including road design specifications to minimize adverse impacts to adjacent wetlands) for unavoidable impacts resulting from access roads must be provided.

Nationwide Permit 13. Bank Stabilization

A. For this certification to be valid, the use of root wads, tree trunks, planting of live vegetation, proper bank sloping or a combination thereof will be used as bank stabilization structures. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed

shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities. Sediment control measures shall be maintained in good working order at all times.

For the purpose of this condition, "proper sloping" is defined as configuring the disturbed bank to mimic a stable portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream.

B. If flow conditions dictate the use of hardened structures, only appropriately sized angular rock may be used. The use of soil cement, concrete, grouted riprap, etc. is NOT certified.

Nationwide Permit 14. Linear Transportation Projects

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the steam bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

Nationwide Permit 15. U.S. Coast Guard Approved Bridges

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the steam bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

E. Bridge decks should be designed such that they do not drain directly into the waterbody.

Nationwide Permit 16. Return Water From Upland Contained Disposal Areas.
Certification is denied.

Nationwide Permit 17. Hydropower Projects.
Certification is denied.

Nationwide Permit 19. Minor Dredging

A. Dredge or fill may **not** be placed on temporary islet, islands, sandbars, landmass or other area of sediment accumulation, within the banks of a stream, shore of lake, edge of wetland or other type of waterbody; unless the vegetation and geomorphology signify a long term stable configuration. (e.g. Areas of accumulation are not formed from temporary situations such as drought conditions or temporary upstream reservoir release conditions).

B. Dredge materials must be placed in an upland and controlled such that it cannot return to waters of the U.S.

Nationwide Permit 21. Surface Coal Mining Operations. Nationwide Permit 21. Surface Coal Mining Activities
Certification is denied.

Nationwide Permit 23. Approved Categorical Exclusions
This certification is valid only for Categorical Exclusions listed in RGL 05-07.

Nationwide Permit 27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities

A. This certification does not allow conversion of one habitat type to another (e.g. wetlands to open water, woody vegetation to herbaceous).

B. This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 28. Modifications of Existing Marinas

This certification does not allow for expansion.

Nationwide Permit 29. Residential Developments

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages.

B. Subdivisions not authorized under this certification.

C. USACE General Condition 20. Mitigation (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that General Condition 20 has been met should be submitted.

Nationwide Permit 30. Moist Soil Management for Wildlife

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 33. Temporary Construction, Access and Dewatering

Certification is denied.

Nationwide Permit 34. Cranberry Production Activities

Certification is denied.

Nationwide Permit 37. Emergency Watershed Protection and Rehabilitation

A. In addition to the information specified in USACE General Condition 27 Preconstruction Notification (72 Fed. Reg. 11092, 11188 (March 12, 2007)), the notification to USEPA must include documentation that the work qualifies as an "emergency" situation and that immediate action will be taken if nationwide authorization is verified. In addition, notification must include:

a) A delineation of special aquatic sites;

b) Any spoil must be placed in an upland and controlled such that it cannot return to waters of the U.S.; and

c) A delineation of riparian areas to be cleared and an analysis of alternatives to such clearing.

B. Certification is denied for discharges for which notification is submitted more than one year after the official conclusion of the emergency that caused the situation.

C. Certification is denied for channelization of streams or sloughs or for removal of silt beyond what was deposited by the emergency.

Channelization is defined, for this purpose, as the placement of excess material in a manner that modifies the bank alignment, and subsequently the channel alignment, from its present condition.

D. Certification is denied for a discharge of fill or dredged material into special aquatic sites if a practicable alternative that does not involve discharge into a special aquatic site is available. If discharge into a special aquatic site is unavoidable, discharge must be minimized.

E. The disturbing or clearing of riparian areas shall be minimized to enough space to provide equipment access.

F. Construction of temporary structures or drains for the purpose of reducing or preventing flood damage is certified if the site is returned to pre-flood condition within 60 days following the emergency.

G. Repair of permanent structures damaged by floodwaters is certified to the extent that it returns the structure to pre-flood condition.

Nationwide Permit 38. Cleanup of Hazardous and Toxic Waste

For this certification to be valid, notification to USEPA and the Tribe is required.

Nationwide Permit 39. Commercial and Institutional Developments

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages.

B. Certification is denied for subdivisions

C. USACE General Condition 20. Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that general condition 20 has been met should be submitted.

Nationwide Permit 40. Agricultural Activities

A. Certification is denied for the construction of new levees, ditches, or drainage activities.

B. Certification is denied for the construction of building pads causing the loss of greater than 1/10 acre of wetlands for both USDA program participants and non-participants.

C. Certification is denied for activities related to tile construction.

Nationwide Permit 41. Reshaping Existing Drainage Ditches

A. Clearing of riparian corridors must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract.

B. This certification does not authorize stream relocation projects.

Nationwide Permit 42. Recreation Facilities

A. Certification is denied for the construction of parking lots, golf course, golf course buildings, ponds and reservoirs, ski areas and ski infrastructures, race tracks, and amusement parks.

B. Certification is denied for discharges resulting in the loss of more than 100 linear feet of channel, streambank, and/or wetlands for a single and complete project.

C. Clearing of riparian corridors and wooded and scrub shrub areas must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract on a drawing and/or map, and in narrative format.

Nationwide Permit 43. Stormwater Management Facilities

Certification is denied for the construction of new stormwater management facilities.

Nationwide Permit 44. Mining Activities. Nationwide Permit 44. Mining Activities

Certification is denied.

Nationwide Permit 45. Repair of Uplands Damaged by Discrete Events.

Certification is denied.

Nationwide Permit 46. Discharges in Ditches

Certification is denied.

Nationwide Permit 47. Pipeline Safety Program Designated Time Sensitive Inspections and Repairs

A. Certification is denied, unless there is imminent danger to human health or the health of the environment.

B. Notification and restoration should begin immediately after inspections and repairs are completed. After the fact, notification should be done as soon as possible and include documentation that the work done qualifies as an "emergency" situation and that immediate action was necessary.

Nationwide Permit 49. Coal Remining Activities.
Certification is denied.

Nationwide Permit 50. Underground Coal Mining Activities
Certification is denied.

APPLICATION CHECKLIST FOR COMPLETENESS
401 CERTIFICATIONS for USACE NWPs

1. Application date.
2. Applicant's full identity whether individual or corporate.
3. Applicant's full mailing address or addresses.
4. Signature of the legal applicant is required.
5. Telephone number and e-mail address (and FAX, if available) at which the applicant may be reached during normal business hours.
6. If the applicant is utilizing the services of a legal agent to apply for certification, items 2, 3, 4 and 5 will be also needed for this agent.
7. Full names and addresses of all property owners of the project.
8. Full names and addresses of all adjoining property owners to the project.
9. Overall project description and range of project. (This includes all phases of work.)
10. Purpose of the project (flood control, drainage improvement, erosion control, road construction, etc.).
11. Project dimensions (length, width, height) expressed in standard, commonly-used, units of measurement.
12. Site maps and engineering drawings for more complex projects are recommended, sketches may suffice for smaller or less complex projects. Maps or aerial photographs should be clear and readable. Aerial photographs should be marked with wetlands, waterbodies or high water mark and areas of activity marked.
13. Legal description of the project location (appropriate breakdown into Section(s), Township, Range and County sufficient to locate and define on topographic maps). The notification should also include locational information in decimal degree latitude and longitude.
14. General travel directions to the site.
15. Name or identity of the water body(s) that the project is expected to impact. If the stream is not permanent flow, the applicant will need to include an evaluation by the Corps of Engineers that the water body is jurisdictional.
16. Specifically, state which NWP(s) the applicant is applying for from the USACE. Include measures of impact to waterbody (for example: acreage for surface water impacts, linear feet of bank, shoreline linear feet and acreage) for each NWP.
17. A statement of the cubic yards of material or fill proposed to be placed below the ordinary high water mark within the watercourse, in a wetland, or other waterbody and a complete description as to the source and type of material or fill to be used.
18. A complete description of all work initiated or completed prior to the application submission at this site and within the vicinity. If there has been recent work done by others, this should be noted also.
19. As unavoidable losses to the aquatic resources (including streams and wetlands) must be mitigated, a detailed mitigation plan must be submitted where such losses will be incurred.
20. Statement discussing the avoidance and minimization, a presumption of NWPs and required for individual permits.
21. Monitoring of site, including photograph of site from marked sites, photograph of site after work is complete.
22. Complete copy of USACE application or Checklist (such as the PCN Checklist available from Southern Pacific Division), with supporting material.

Instructions for Preparing a
Department of the Army Permit Application

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant, if an agent is to be employed.

Block 12. Proposed Project Name or Title. Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

Block 13. Name of Waterbody. Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the proposed project is located at a site having a street address (not a box number), please enter it here.

Block 15. Location of Proposed Project. Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known.

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reasons for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Description of Avoidance, Minimization, and Compensation. Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

Block 24. Is Any Portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identity the authorization, if possible.

Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

Block 26. Information about Approvals or Denials by Other Agencies. You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 27. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-0003
EXPIRES: 31 August 2012

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
NWO-2010-721-BTS			

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME: First - Middle - Last – Company – E-mail Address –	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) First - Middle - Last – Company – E-mail Address –
6. APPLICANT'S ADDRESS. Address - City – State – Zip – Country –	9. AGENT'S ADDRESS Address - City – State – Zip – Country –
7. APPLICANT'S PHONE NOs. W/AREA CODE. a. Residence b. Business c. Fax	10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable) Address
15. LOCATION OF PROJECT Latitude: °N Longitude: °W	City - State – Zip -

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)
State Tax Parcel ID Municipality
Section – Township – Range –

17. DIRECTIONS TO THE SITE

ENG FORM 4345, SEPT 2009 EDITION OF OCT 2004 IS OBSOLETE Proponent: CECW-OR

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres

Or

Liner Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? Yes ☐ No ☐ IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list)

Address –

City – State – Zip –

26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

ENG FORM 4345, SEPT 2009

From: Sorensen, Charles G NWO [mailto:Charles.G.Sorensen@usace.army.mil]
Sent: Friday, April 16, 2010 3:25 PM
To: Miller, Chris
Cc: Brown, Phillip H NWO; Phelps, Linda M NWO; Klein, Kasondra L NWO
Subject: Comments and Concerns on the Darcie 34X-14 Well Site

The U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project requests that XTO Energy consider and if at all possible implement the following management practices during the exploration phase of the Darcie 34X-14 Well site.

Due to the close proximity of the well location to lands managed by the U.S. Army Corps of Engineers (USACE) there is a high risk that any storm water runoff from the well location will enter the Missouri River/Lake Sakakawea. As such the USACE would request that Marathon consider the construction/ establishment of a catch trench located on the down sloping side of the well pad. Said trench would help in containing any hazardous wastes from the well pad. Those fluids that accumulate in the trench should be pumped out and disposed of properly.

As previously mentioned the location of the proposed well site is extremely close to lands managed by the USACE and as previously stated the possibility for contamination of the Missouri River/Lake Sakakawea is of great concern to this agency. To aid in the prevention of hazardous wastes from entering the aforementioned bodies of water, the USACE would strongly recommend that a Closed Loop Drilling Method be used in the handling of all drilling fluids.

Should living quarters be established onsite it is requested that all sewage collection systems be of a closed design and all holding tanks are to be either double walled or contained in a secondary containment system. All sewage waste removed from the well site location should be disposed of properly.

That all additional fill material required for the construction of the well pad is obtained from a private supplier who's material has been certified as being free of all noxious weeds.

That prior to the drilling rig and associated equipment be placed that said equipment be either pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.

That no surface occupancy be allowed within ½ mile of any known Threatened or Endangered Species critical habitat.

No withdrawal of water from Lake Sakakawea via the adjacent recreation area (McKenzie Bay) will be allowed.

No vehicles and or equipment associated with the drilling of the well will be allowed within the recreational area (private vehicles are allowed).
If you have any questions regarding the above recommendations please feel free to contact me

Charles Sorensen
Natural Resource Specialist
U.S. Army Corps of Engineers
Riverdale, North Dakota Office
(701) 654 7411 ext 232

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

April 20, 2010

Chris Miller, Project Manager
PBS&J
115 N. 28th Street, Suite 202
Billings, MT 59101-2045

Re: Up to 6 Proposed Exploratory Oil and Gas Wells by XTO Energy
At the Darcie 34X-14 Site on the Fort Berthold Reservation
Dunn County, North Dakota

Dear Mr. Miller:

This department has reviewed the information concerning the above-referenced project submitted under date of April 13, 2010, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.

2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

3. Oil and gas related construction activities that disturb five or more acres and are located within tribal boundaries within North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities or counties may impose additional requirements and/or specific

best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

April 22, 2010

Chris Miller
Project Director
PBSJ
3810 Valley Commons Dr. – Suite 4
Bozeman, MT 59718

EA PROPOSED ACTION INCLUDES APPROVAL BY BIA AND BLM OF DRILLING AND COMPLETION OF UP TO TWELVE EXPLORATORY WELLS, DARCIE, FORT BERTHOLD RESERVATION, NORTH DAKOTA

We have reviewed your April 13, 2010, letter.

The project referenced above will have no adverse effect on the North Dakota Department of Transportation highways.

However, if any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Walter Peterson at 701-774-2700.

RONALD J. HENKE, P.E., DIRECTOR - OFFICE OF PROJECT DEVELOPMENT

57:rjh:js

c: Walter A. Peterson, Williston District

608 East Boulevard Avenue • Bismarck, North Dakota 58505-0700
Information: (701) 328-2500 • FAX: (701) 328-0310 • TTY: (701) 328-4156 • www.dot.nd.gov

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100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

May 12, 2010

Chris Miller
Project Director
PBS&J
115 N 28th Street, Suite 202
Billings, MT 59101-2045

Dear Mr. Miller:

RE: Darcie 34X-14

XTO Energy has proposed up to six exploratory oil and gas wells using one well pad and access road on the Fort Berthold Reservation in Dunn County, North Dakota.

Our primary concern with oil and gas development is the fragmentation and loss of wildlife habitat associated with construction of the well pads and access roads. We recommend that construction be avoided to the extent possible within native prairie, wooded draws, riparian corridors, and wetland areas.

We also suggest that botanical surveys be completed during the appropriate season and aerial surveys be conducted for raptor nests before construction begins.

We appreciate the use of a single well pad for multiple wells as a means to reduce impacts to the environment, and support the use of such where feasible.

Sincerely,

Steve Dyke

(for) Michael G. McKenna
Chief
Conservation & Communication Division

js

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
P.O. Box 1458
Bismarck, ND 58502-1458

April 29, 2010

Chris Miller
PBS&J
115 N. 28th Street, Suite 202
Billings, Montana 59101-2045

RE: The proposed action includes approval by the BIA and BLM of the drilling and completion of up to six exploratory oil and gas wells using one well pad and one access road on the Fort Berthold Reservation by XTO Energy. The well pad and access road are located on Darcie 34X-14 Site: SW1/4, SE ¼, Section 14, Township 148N, R92W, in Dunn County, ND

Dear Mr. Miller:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated April 13, 2010, concerning drilling and completion of up to six exploratory oil and gas wells using one well pad and one access road by XTO Energy on the Fort Berthold Reservation in Dunn County, North Dakota.

NRCS has a major responsibility with the Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use. It appears your proposed project is not supported by federal funding or actions; therefore, FPPA does not apply and no further action is needed.

The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that if a USDA participant converts a wetland for the purpose of, or to have the effect of, making agricultural production possible, loss of USDA benefits could occur. The NRCS has developed the following guidelines for the installation of permanent structures where wetlands occur. If these guidelines are followed, the impacts to the wetland(s) will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements: 1) Disturbance to the wetland(s) must be temporary, 2) no drainage of the wetland(s) is allowed (temporary or permanent), 3) mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained, 4) temporary side cast material must be placed in such a manner not to be dispersed in the wetland, and 5) all trenches must be backfilled to the original wetland bottom elevation.

Helping People Help the Land

An Equal Opportunity Provider and Employer

NRCS would recommend that impacts to wetlands be avoided. If the installment of permanent structures requires passage through a wetland, NRCS can complete a certified wetland determination if requested by the landowner/operator.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, Liaison Soil Scientist, NRCS, Bismarck, ND at 701-530-2019.

Sincerely,

ACTING PAUL J. SWEENEY
State Conservationist

cc:
Susan Tuhy, DC, NRCS, Killdeer, ND
Terrance Gisvold, ASTC (FO), NRCS, Dickinson, ND

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

John Hoeven
Governor of North Dakota

North Dakota
State Historical Board

Chester E. Nelson, Jr.
Bismarck - President

Gereld Gerntholz
Valley City - Vice President

Richard Kloubec
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Tourism Division

Kelly Schmidt
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Alvin A. Jaeger
Secretary of State

Douglass Prchal
Director
Parks and Recreation Department

Francis Ziegler
Director
Department of Transportation

Merlan E. Paaverud, Jr.
Director

Accredited by the American Association of Museums

April 19, 2010

Mr. Chris Miller
Project Director
PBS&J
115 N 28th St, Suite 202
Billings MT 59101-2045

NDSHPO REF. 10-1083 BIA/BLM/MHAN Oil pad and access roads Darcie 34X-14 Site [SW SE T148N R92W Section 14] Dunn County, North Dakota

Dear Mr. Miller,

We received your letter regarding NDSHPO REF. 10-1083 BIA/BLM/MHAN Oil pad and access roads Darcie 34X-14 Site [SW SE T148N R92W Section 14] Dunn County, North Dakota.

We request that a copy of cultural resource site forms and reports be sent to this office so that the cultural resources archives can be kept current. Perhaps one might consider putting TCP (Traditional Cultural Properties) related information in separate reports not sent to this office.

Thank you for your consideration. Consultation is with MHAN THPO. If you have any questions please contact Susan Quinnell, Review & Compliance Coordinator at (701)328-3576 or squinnell@nd.gov

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and Director, State Historical Society of North Dakota

North Dakota Heritage Center • 612 East Boulevard Avenue, Bismarck, ND 58505-0830 • Phone: 701-328-2666 • Fax: 701-328-3710
Email: histsoc@nd.gov • Web site: http://history.nd.gov • TTY: 1-800-366-6888

John Hoeven, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

May 7, 2010

Chris Miller
PBS&J
115 N. 28th Street, Suite 202
Billings, MT 59101-2045

Re: XTO Energy Oil and Gas Wells Proposal
Darcie 34X-14

Dear Mr. Miller:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal to develop six oil and gas wells located in Section 14, T148N, R92W; Dunn County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

Thank you for the opportunity to comment on this project. Please contact Kathy Duttenhefner (701-328-5370 or kgduttenhefner@nd.gov) of our staff if additional information is needed.

Sincerely,

Jesse Hanson

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNHI*2010-127

Play in our backyard!

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

June 15, 2010

Chris Miller
PBS&J
115 N 28th Str, STE 202
Billing, MT 59101-2045

Dear Mr. Miller:

This is in response to your request for review of environmental impacts associated with the drilling and completion of up to six exploratory oil and gas wells using one well pad and one access road on the Fort Berthold Reservation - Darcie.

The proposed project have been reviewed by State Water Commission staff and the following comments are provided:

- The property is not located in an identified floodplain and it is believed the project will not affect an identified floodplain.

- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.

- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.

- No sole-source aquifers have been designated in ND.

There are no other concerns associated with this project that affect State Water Commission or State Engineer regulatory responsibilities.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 328-4969.

Sincerely,

Larry Knudtson
Research Analyst

LJK:dp/1570

JOHN HOEVEN, GOVERNOR
CHAIRMAN

DALE L. FRINK
SECRETARY AND STATE ENGINEER

Notice of Availability and Appeal Rights

XTO Energy: Darcie 34X-14

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to installation of one oil/gas well pad with up to six wells and related infrastructure as shown on the attached map. Construction by XTO Energy is expected to begin in the Fall of 2010.

An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Howard Bemer, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until November 26, 2010 by contacting:

United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Indian Appeals
801 N. Quincy Street, Suite 300, Arlington, Va 22203.

Procedural details are available from the BIA Fort Berthold Agency at 701-627-4707.

Project location.

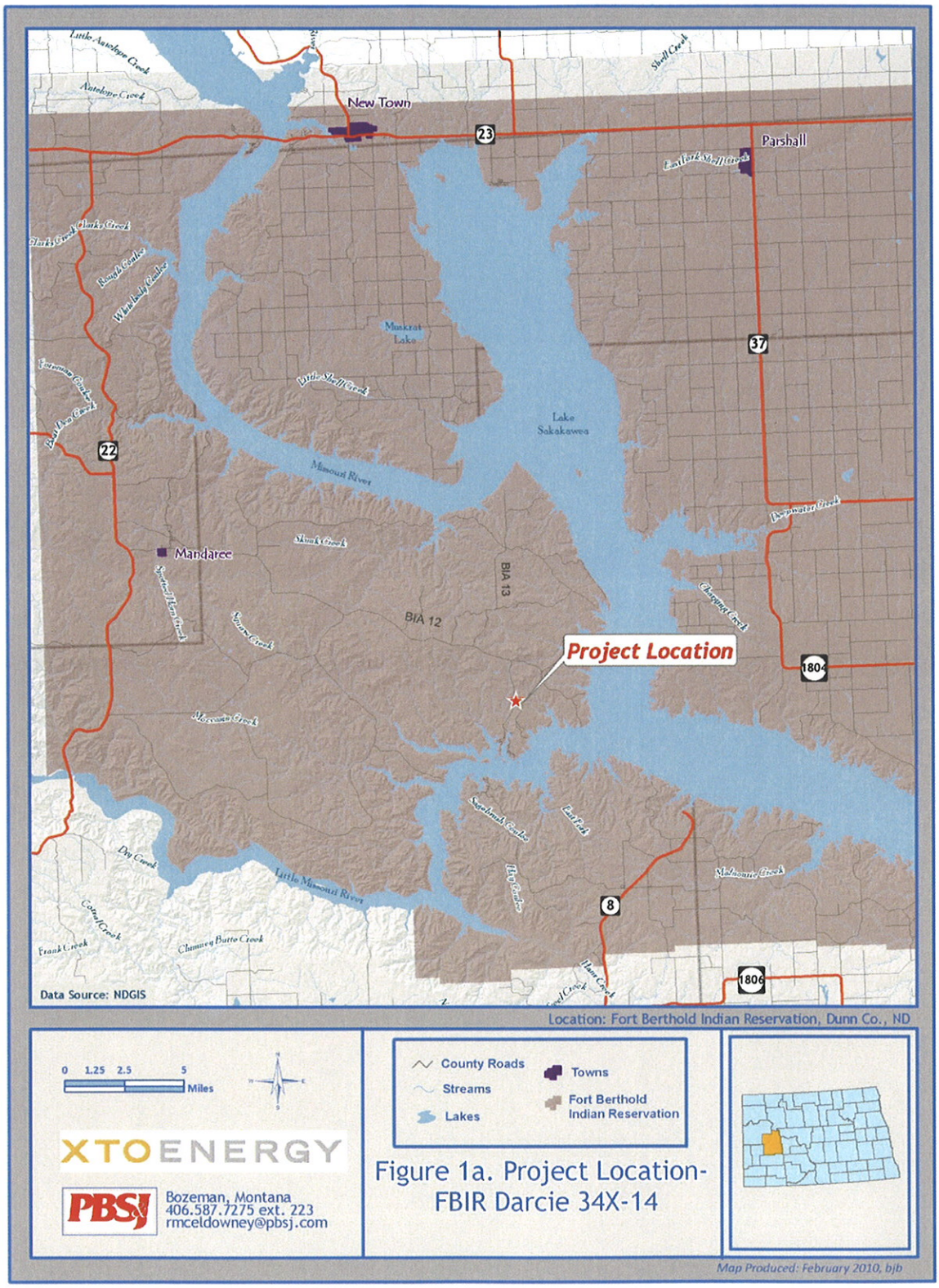

Figure 1a. Project Location-
FBIR Darcie 34X-14