United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401

IN REPLY REFER TO:
DESCRM
MC-208

SEP 0 5 2012

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Acting 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, an Environmental Assessment has been completed and a Finding of No Significant Impact (FONSI) has been issued. The EA authorizes land use for twenty Bakken oil and gas wells located atop one well pad on the Fort Berthold Indian Reservation.

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 (40 C.F.R. Section 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: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, Tribal Historic Preservation Officer (with attachment)
Derek Enderud, BLM, Bureau of Land Management (with attachment)
Grady Wolf, KLJ (with attachment)
Eric Wortman, EPA (with attachment)
Carson Hood/Fred Fox, MHA Energy Dept. (with attachment)
Jonathon Shelman, Corps of Engineers (e-mail)
Jeff Hunt, Fort Berthold Agency (e-mail)

Finding of No Significant Impact

Marathon Oil Company (Marathon)

Environmental Assessment for

Drilling of
Twenty Oil and Gas Wells Atop One Well Pad:
Lincoln Hopkins

Fort Berthold Indian Reservation
Dunn County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill 20 oil and gas wells located atop one well pad as follows:

- Lincoln Hopkins Well Pad located in the SE¼SE¼ of Section 9, SW¼SW¼ of Section 10, NW¼NW¼ of Section 15, and NE¼NE¼ of Section 16, T147N, R94W, 5th P.M. and containing the following 20 wells: Lincoln USA 16-3H, Lincoln USA 16-2TFH, Lincoln USA 16-4H, Lincoln USA 16-3TFH, Lincoln USA 16-5H, Lincoln USA 16-4TFH, Lincoln USA 16-1H, Lincoln USA 16-5TFH, Lincoln USA 16-2H, Lincoln USA 16-1TFH, Hopkins USA 15-2H, Hopkins USA 15-2TFH, Hopkins USA 15-3H, Hopkins USA 15-1TFH, Hopkins USA 15-3TFH, Hopkins USA 15-5H, Hopkins USA 15-4H, Hopkins USA 15-5TFH, Hopkins USA 15-4TFH, and Hopkins USA 15-1H.

Associated federal actions by BIA include determinations of effect regarding environmental resources and positive recommendations to the Bureau of Land Management regarding the Applications for Permit to Drill.

The potential of the proposed action to impact the human environment is analyzed in the following Environmental Assessment (EA), as required by the National Environmental Policy Act. Based on the EA, I have determined that the proposed project will not significantly affect the quality of the human or natural 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 solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
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 alternatives.
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 action is designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.
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 project will improve the socio-economic condition of the affected Indian community.

Regional Director

9/5/12
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Marathon Oil Company

Drilling of
Twenty Oil and Gas Wells Atop One Well Pad:
Lincoln Hopkins

Fort Berthold Indian Reservation

September, 2012

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

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the regulations of the Council on Environmental Quality (CEQ), 40 CFR parts 1500 through 1508. An EA is an informational document intended for use by both decision-makers and the public. It discloses relevant environmental information concerning the proposed action and the no-action alternative.

1.2 Description of the Proposed Action

The Fort Berthold Reservation encompasses 988,000 acres, 457,837 of which are in Tribal and individual Indian ownership by the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) and its members. The reservation is located in west central North Dakota and is split into three areas by Lake Sakakawea, which traverses the center of the reservation. It occupies sections of six counties: Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward.

The Fort Berthold Reservation lies atop the Bakken formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks formation lies beneath the Bakken. The North Dakota Department of Mineral Resources (NDDMR) estimates that there are approximately 2.1 billion barrels of recoverable oil in each of the formations. (The Bakken contains about 169 billion barrels of oil and the Three Forks contains about 20 billion barrels; however, most of this is not expected to be recoverable.) The NDDMR's director estimates that there are 30 to 40 years of production remaining or more if technology improves.

The proposed action includes approval by the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Marathon Oil Company (Marathon) to drill and complete 20 wells atop one well pad. The well pad is proposed to be positioned in the following location and as shown on ***Figure 1.1, Project Location Map:***

- Lincoln Hopkins Well Pad located in the SE¼SE¼ of Section 9, SW¼SW¼ of Section 10, NW¼NW¼ of Section 15, and NE¼NE¼ of Section 16, T147N, R94W, 5th P.M. and containing the following 20 wells: Lincoln USA 16-3H, Lincoln USA 16-2TFH, Lincoln USA 16-4H, Lincoln USA 16-3TFH, Lincoln USA 16-5H, Lincoln USA 16-4TFH, Lincoln USA 16-1H, Lincoln USA 16-5TFH, Lincoln USA 16-2H, Lincoln USA 16-1TFH, Hopkins USA 15-2H, Hopkins USA 15-2TFH, Hopkins USA 15-3H, Hopkins USA 15-1TFH, Hopkins USA 15-3TFH, Hopkins USA 15-5H, Hopkins USA 15-4H, Hopkins USA 15-5TFH, Hopkins USA 15-4TFH, and Hopkins USA 15-1H.

The wells would target the Bakken and Three Forks formations. Each well would have an associated spacing unit in which the minerals to be developed by that well are located. Proposed completion activities include acquisition of rights-of-way (ROW), the installation of infrastructure for the proposed wells, and the construction of a new roadway. In addition, a central tank battery (CTB) would be constructed northwest of the proposed well pad upon which recovered minerals would be treated and stored.

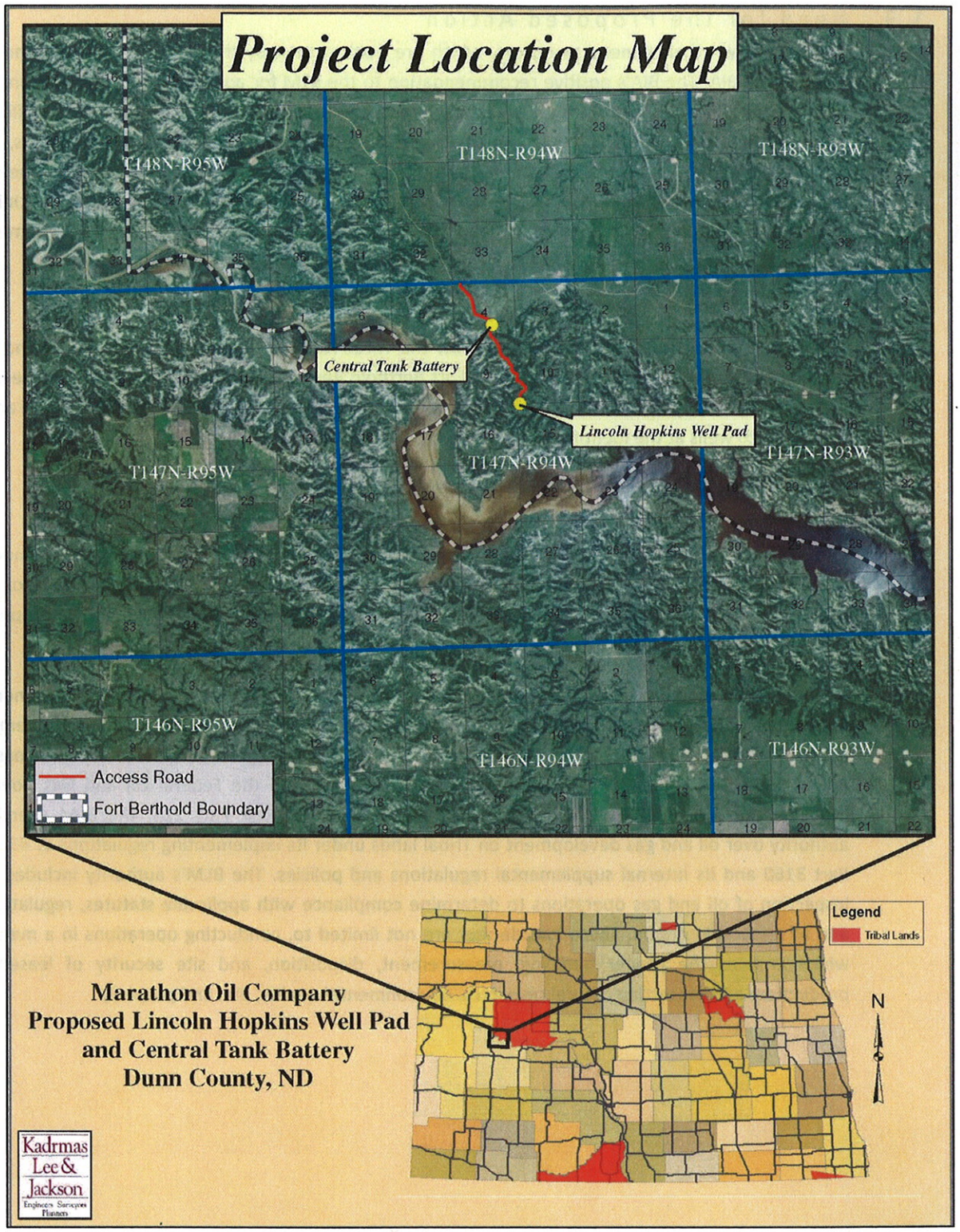

Figure 1.1, Project Location Map

1.3 Need for the Proposed Action

The Tribes own their mineral resources, which are held in trust by the United States government through the BIA. The BIA's positive recommendation to the BLM for approval of the Applications for Permit to Drill (APDs) to drill the 20 wells would provide important benefits to the Three Affiliated Tribes, including revenue that could contribute to the Tribal budgets, satisfy Tribal obligations, and fund land purchase programs to stabilize its land base. It would also provide individual members of the Tribes with needed employment and income. Furthermore, the proposed action gives the United States an opportunity to reduce its dependence on foreign oil and gas by exploring for domestic sources of oil and gas.

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to allow the Three Affiliated Tribes to provide for oil and gas development on the identified lands on the Fort Berthold Reservation. Additionally, the purpose is to access commercially recoverable oil and gas resources on the lands subject to Marathon's lease areas by drilling 20 wells at the identified location.

1.5 Regulations that Apply to Oil and Gas Development Activities

The BIA must comply with NEPA before it issues a determination of effect regarding environmental resources and provides a recommendation to the BLM regarding the APDs. Therefore, an EA for the proposed wells is necessary to analyze the direct, indirect, and cumulative impacts of the proposed project.

Oil and gas development activities on Indian lands are subject to a variety of federal environmental regulations and policies under the authority of the BIA and BLM. This inspection and enforcement authority derives from the United States trust obligations to the Tribes, the Indian Mineral Leasing Act of 1938, the Indian Mineral Development Act of 1982, and the Federal Oil and Gas Royalty Management Act of 1982. Under the BIA's regulations at 25 CFR Part 225, the BLM exercises authority over oil and gas development on Tribal lands under its implementing regulations at 43 CFR Part 3160 and its internal supplemental regulations and policies. The BLM's authority includes the inspection of oil and gas operations to determine compliance with applicable statutes, regulations, and all applicable orders. These include, but are not limited to, conducting operations in a manner which ensures the proper handling, measurement, disposition, and site security of leasehold production; and protecting natural resources, environmental quality, life, and property.

CHAPTER 2 ALTERNATIVES

2.1 Introduction

This chapter provides information on the development and evaluation of project alternatives. The development of alternatives is directly related to the purpose and need for the project. Two alternatives are being considered for this project: a no action alternative and a proposed action alternative.

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of the proposed well pad, resulting in no drilling or completion of the 20 proposed oil and gas wells. There would be no environmental impacts associated with Alternative A; however, the Three Affiliated Tribes would not receive potential royalties from production or other economic benefits from oil and gas development on the Reservation. Further, the oil and gas resources targeted by the proposed action would not be explored for commercial production or recovered and made available for domestic energy use.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes authorization by the BIA and BLM to construct one well pad, drill and complete 20 oil and gas wells, construct a CTB, roadways and infrastructure for the wells, and acquire the associated ROW. The well pad is where the actual surface disturbance caused by drilling activities would occur; however, additional disturbance would result from construction of the CTB and access road. The spacing units are the location of the minerals that are to be developed. The location of the proposed well pad, CTB, access road, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

The well pad and CTB would require new ROW for the site areas, access points, and associated infrastructure. ROW would be located to avoid sensitive surface resources and any cultural resources identified during site surveys. Infrastructure would include subsurface oil and gas gathering pipelines and buried electrical lines, all of which would be located within the ROW acquired by Marathon. Infrastructure located outside of the proposed ROW would require additional NEPA analysis. Please refer to ***Figure 2.1, Overview of Well Pads*** and ***Appendix C, Well Pad Plats***.

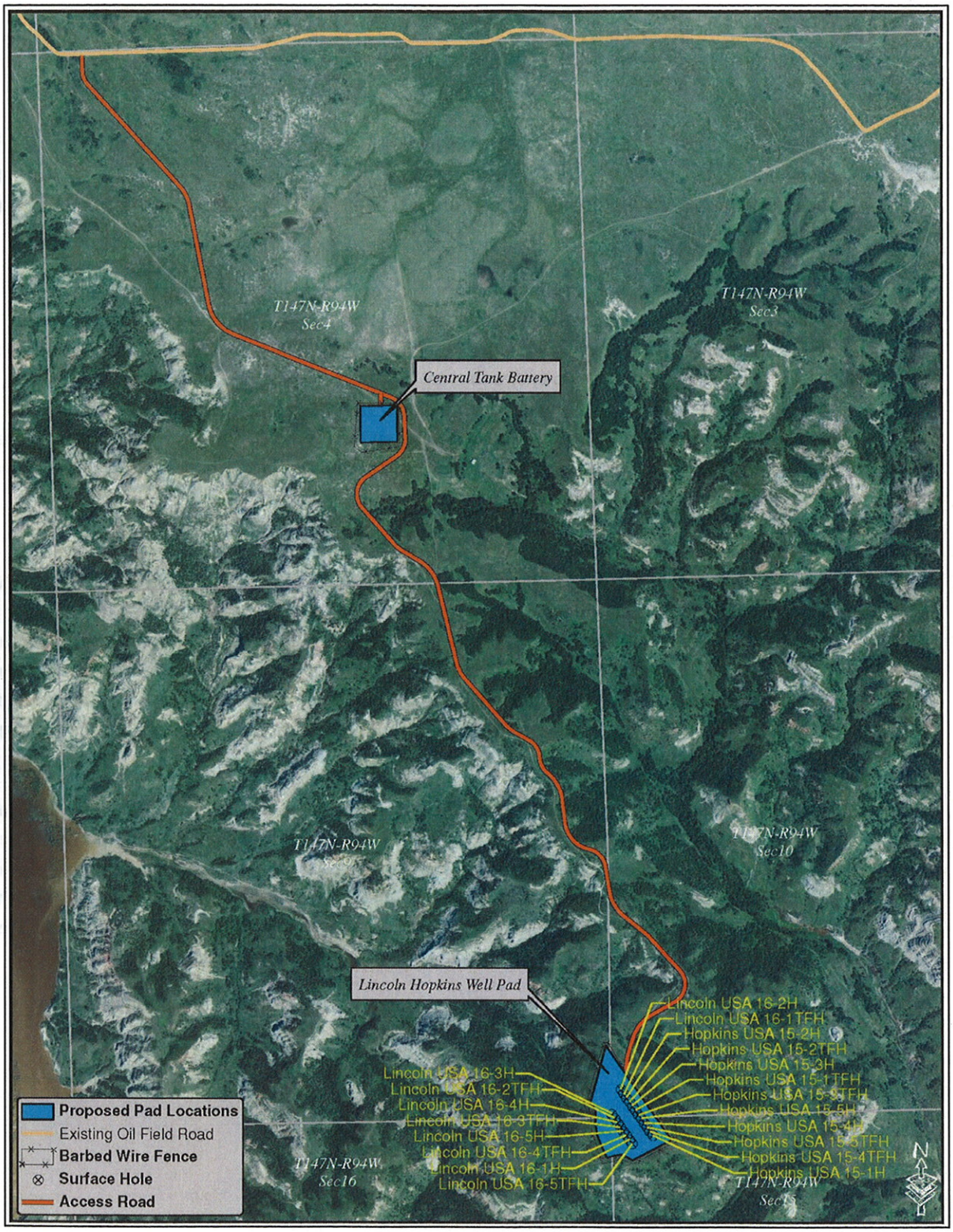

Figure 2.1, Overview of Well Pads

An intensive, pedestrian resource survey of the proposed well pad, CTB, and access road was initially conducted on July 27, 2011 by Kadrmas, Lee & Jackson (KL&J), with revisits conducted on April 18, 2012 and June 5, 2012. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. The study area for the proposed project consisted of a 200-foot buffer around all well pad and CTB disturbance areas. In addition, a 300-foot wide access road corridor was surveyed, with the survey corridor extending to approximately 400 feet in areas of steep terrain. Two eagle/raptor surveys were conducted in conjunction with the proposed project, the first occurring on July 27, 2011 and the second on June 5, 2012. A 0.50-mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles/raptors and eagle/raptor nests. The eagle/raptor surveys consisted of visual inspection which focused specifically on potential nesting sites within 0.5 mile of the project disturbance areas, including cliffs and wooded draws. Wooded draws were observed from both the upland areas overlooking the draws and from bottomlands within the draws.

The BIA-facilitated EA on-site assessment of the well pad, CTB, and access road was conducted on June 5, 2012 with the BIA also present for the July 27, 2011 and April 18, 2012 visits. BIA Environmental Protection Specialists, as well as representatives from Marathon, the BLM, and KL&J were present during the June 5, 2012 on-site assessment. A representative from the Tribal Historic Preservation Office was present during the July 27, 2011 site visit and cleared the area of cultural significance. During this assessment, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into the final APDs. Those present at the on-site assessments agreed that the chosen locations would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

2.3.1 Field Camps

Self-contained trailers may be required to temporarily house key personnel on-site during drilling operations. No long-term residential camps are being proposed. Sewage would be collected in standard portable chemical toilets or service trailers on-site and 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.

2.3.2 Access Roads

Existing roadways and two track trails would be used to the extent possible to access the proposed wells; however, a new access road approximately 2.53 miles long (59.70 acres) would be constructed in Sections 4, 9, and 10, Township 147 North, Range 94 West. The new access road would be constructed off of an existing oil field access road and travel southeast approximately 0.98 mile to the proposed CTB. The road would then go around the east side of the CTB and continue in a southeast direction for approximately 1.55 miles, terminating at the northeast end of the proposed Lincoln Hopkins well pad.

The access road would be situated to avoid drainages and wooded draws to the extent possible; however, the southern 1.35 miles would be situated atop a ridgeline with numerous drainages and

wooded draws running perpendicular to the proposed running surface. Grading would be required to flatten existing landscape grades along the proposed access road alignments. Culverts and cattle guards would be installed along the access road, the locations of which can be seen in ***Appendix C, Well Pad Plats*** and ***Appendix D, Access Road Plan and Profile***. The running surface of the access road would be surfaced with crushed gravel from a previously approved location, and erosion control measures would be installed as necessary. The access road would be improved as necessary to eliminate overly steep grades, maintain current drainage patterns, and provide all-weather driving surfaces.

ROW width required for this access road would range from 130 to 375 feet depending upon terrain. Areas along the southern portion of access road would require the greatest amount of ROW due to steep side slopes. The roadway would consist of a 20- to 28-foot wide running surface with the remainder of the disturbed area due to borrow ditches and construction slopes. The ROW would be wide enough to accommodate future utility installation and snow removal/storage efforts. The outslope portions of the constructed access road would be re-seeded upon completion of construction to reduce access road related disturbance. Construction of the access road would follow road design standards outlined in the BLM's Gold Book (4th Edition, 2007).

In addition to the primary access road discussed above, a secondary access road would also be constructed connecting the CTB to the primary access road. This roadway would be approximately 218 feet in length with a 130 foot ROW (0.65 acre). All applicable previously mentioned mitigation measures would be utilized in the construction of this roadway.

Construction of the proposed project and commencement of drilling operations for the proposed wells is planned to occur in Fall 2012. All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

2.3.3 Well Pads

The proposed well pad and CTB would consist of leveled areas covered with several inches of gravel. The well pad would be used for a drilling rig and related equipment, and would include excavated pits that would be reinforced and lined[1] to store drill cuttings. The CTB would contain heater/treaters and storage tanks. At the proposed well pad location, the level well pad plus cut and fill slope areas required for drilling and completing operations (including cuttings pit for drill cuttings) would be approximately 13.10 acres. The level pad surface plus cut and fill slope areas for the CTB would be approximately 5 acres. Placing multiple wells on one pad location would reduce the amount of area that would be disturbed from approximately 100 acres (assuming five acres per well location) to 18.1 acres within the fenced areas of the well pad and CTB.

The well pad and CTB areas would be cleared of vegetation, stripped of topsoil, and graded to specifications in the APDs submitted to the BLM, and would comply with the standards and guidelines

[1] The lining would have a minimum thickness of 20 mils.

prescribed in the BLM's Gold Book. Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoil would be used in well pad and CTB construction, with the finished well pad graded to ensure water drains away from the drill sites. A berm would be installed around the entire Lincoln Hopkins well pad and CTB with diversion dikes installed atop all cut slopes to prevent precipitation or meltwater from running onto or off of the well pad. In addition, secondary dikes would be installed below all fill slopes to further safeguard against runoff in the unlikely event of a spill. Where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes. Erosion control at the sites would be maintained through the use of BMPs including installation of blanket matting on all fill slopes and the placement of straw rolls within all adjacent drainages. Additional BMP's may include, but are not limited to, water bars, diversion ditches, silt fences, and re-vegetation of disturbed areas.

The drill cuttings pits would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations. All cut slopes on the edge of the CTB would be 2:1 where less than eight feet and 3:1 where eight feet or greater, while all cut slopes on the edge of the well pad would be 2:1 regardless of height. Fill slopes for the CTB would be constructed at 3:1 while fill slopes for the well pad would be constructed at 1.5:1 to minimize the well pad footprint. Blanket matting would be placed on all fill slopes. The entire well pad and CTB would be fenced to prevent livestock intrusion.

As mentioned previously, construction of the proposed project and drilling of the proposed wells is planned to occur in Fall 2012. All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction survey to deter birds from nesting in the project area.

2.3.4 Drilling

Following access road construction and well pad preparation, a drilling rig would be rigged up at the well pad. The time for rigging up, drilling the well, and rigging down each well is anticipated to be about 30 days. During that phase, vehicles and equipment would access the sites several times a day.

The 20 proposed wells would access potential oil and gas resources within two 2,560 acre spacing units. The west spacing unit would encompass Sections 16, 17, 20 and 21, Township 147 North, Range 94 West, 5th P.M. The east spacing unit would encompass Sections 14, 15, 22 and 23, Township 147 North, Range 94 West, 5th P.M. Please refer to ***Figure 2.2, Location of Spacing Units***.

Initial drilling would be vertical to a depth of approximately 10,400 feet to reach the Bakken formation and 10,500 feet to reach the Three Forks formation, at which time drilling would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. The horizontal drilling technique would minimize surface disturbance.

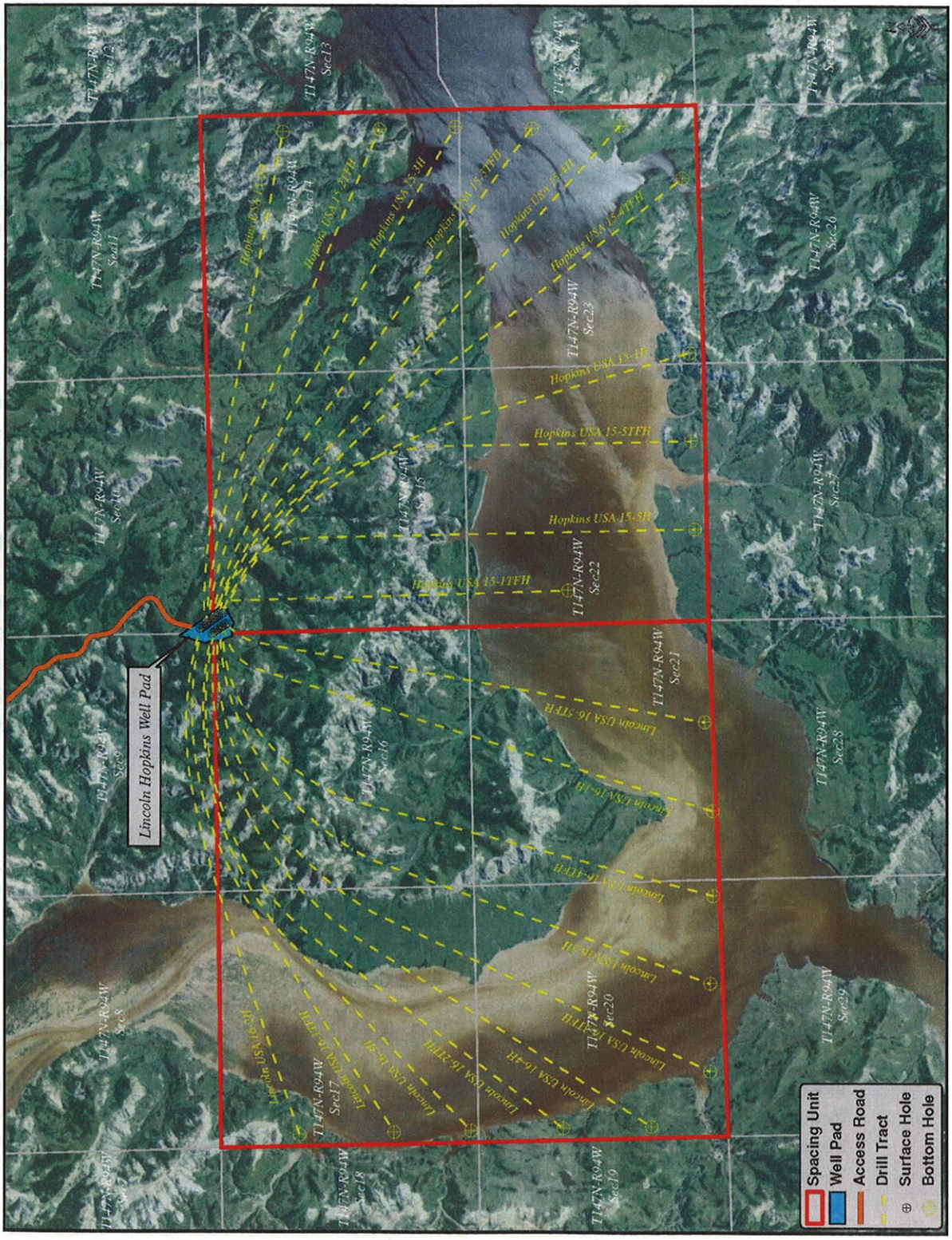

Figure 2.2, Location of Spacing Units

For the first 2,000 feet drilled at each well (commonly referred to as a "surface hole"), a fresh-water-based mud system with non-hazardous additives would be used to minimize contaminant concerns. Water would be obtained from a commercial source for this drilling stage. About eight gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). Upon drilling the "surface hole," 9-5/8" diameter surface casing would then be run and cemented from the casing shoe back to the surface to ensure protection of all known freshwater zones as required by BLM and NDIC regulations. An oil-based mud system consisting of about 80% diesel fuel and 20% saltwater would be used to drill the remainder of the vertical hole and curve. Seven-inch production casing would be set and cemented from the production casing shoe to a cement top depth that reaches above the Dakota Group at approximately 4,600 feet ensuring that any zones known to contain oil, gas and other fluids are adequately isolated. A saltwater based drilling mud would then be utilized for the horizontal portion of the wellbore. Upon drilling completion of the horizontal lateral, a 4.5" production liner/packer assembly would be run in the lateral, tying back to the 7" casing to allow a staged fracture stimulation to be completed on the well.

A semi-closed loop drilling system would be utilized. As part of this, Marathon would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized and placed in an on-site cuttings pit. Any minimal free fluid remaining in the cuttings pits would be removed and disposed of in accordance with BLM and NDIC regulations. The cuttings pits would be lined to prevent seepage and contamination of the adjacent and underlying soil. Prior to their use, the pits would be fenced on the non-working sides. The access sides would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit. In accordance with NDIC and BLM regulations and guidelines, drill cuttings would be stabilized into a solid mass using Class C fly ash. Upon well completion, the pits would be reclaimed and covered with at least four feet of backfill and surface sloped, when practicable, to promote surface drainage away from the reclaimed area.

2.3.5 Casing and Cementing

Casing and cementing methods would be used to isolate all near-surface aquifers and hydrocarbon zones encountered during drilling. Any portion of the bore occurring outside of the spacing unit would also be cased and cemented.

2.3.6 Completion and Evaluation

Once each well is drilled and cased, approximately 60 additional days would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bores, pressure testing the casings, perforating and hydraulic fracturing ("fracking") to stimulate the horizontal portion of the wells, and running production tubing for potential future commercial production. Marathon would only utilize fracking on the section of the bore that is located within the spacing unit. Fluids utilized in the completion process would be captured in tanks and disposed of in accordance with BLM and NDIC rules and regulations. Once the wells are completed, site activity and vehicle access would be reduced. If wells are determined to be successful, tank trucks would initially transport the product to market. It is anticipated that a pipeline gathering system will be installed within the area in the near future. Should pipeline connections become available, Marathon would make every effort to tie into natural gas, oil, and produced water gathering lines.

2.3.7 Commercial Production

In addition to the proposed well pad, a CTB would be constructed in conjunction with the proposed action. Production equipment, including vertical heater-treaters, storage tanks and flare systems with associated piping would be installed at the CTB. The storage tanks and heater-treaters would be surrounded by impermeable berms that would act as secondary containment to guard against possible spills. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Natural gas would be flared on-site in accordance with BIA's Notice to Lessees 4A and NDIC regulations, which prohibit gas flaring for more than the initial year of operation. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

Produced minerals would be transported from the well pad to the CTB via two buried emulsion[2] flow-lines located within the access road ROW, resulting in minimal fluid storage on the well pad. These flow-lines would be installed and maintained by Marathon and would be installed during access road and well pad construction. Test facilities consisting of six 400-barrel storage tanks and two heater-treaters would be the only production equipment located on the well pad. The storage tanks would be low profile to reduce visual impacts associated with the proposed action. These tanks and heater-treaters would also be surrounded by an impermeable berm sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production.

During the initial phase of commercial production, oil would be collected at the CTB in 400-barrel steel storage tanks and periodically trucked into an existing oil terminal to be sold. Produced water would also be captured in 400-barrel steel or fiberglass storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both oil resources and produced water would be dependent upon volumes and rates of production. All haul routes used would be either private roads or roads that are approved for use by the local governing tribal, township, county, and/or state entities. All associated applicable permits would be obtained and restrictions complied with. Should oil, gas, and/or saltwater pipelines be installed, every attempt to tie production facilities at the proposed sites to regional pipelines would be made, thereby minimizing truck traffic. Any future oil, gas, or saltwater transportation pipelines would be constructed within the approved ROW; otherwise, additional NEPA analysis and approval from the BIA would be undertaken.

Should pipeline facilities for oil and gas gathering be constructed, Marathon has chosen Saddle Butte Pipeline, LLC (Saddle Butte) as the pipeline provider for the wells proposed in this EA. The pipelines would require approval for the associated ROW acquisition consisting of 50 feet of permanent ROW and 50 feet of temporary ROW for construction. Installation of the pipelines may require clearing and grading within the entire approved ROW along the entire pipeline corridor. If installed, the pipelines would tie into the proposed CTB.

Every effort would be made to minimize surface disturbance during the construction process. Trenches would be excavated to a depth sufficient to maintain a minimum of 48 inches of ground coverage over the pipeline. Other utilities, including phone and water pipelines, may be present in the immediate area, and the appropriate utility providers would be consulted. Topsoil would be separated and stockpiled along either side of any disturbed cross section. If construction activities

[2] The emulsion would consist of produced oil and gas in combination with produced water.

take place near the end of construction season, topsoil would only be removed far enough in advance that the pipeline could be installed and the site re-graded prior to the end of the construction season. In addition, Saddle Butte would also install straw bales on slopes as needed to provide erosion breaks. Continued use of pasture and livestock grazing areas would be maintained during construction via use of temporary fencing or cattle guards when crossing land with livestock present and temporary crossings, as needed.

As current estimates expect the Bakken field to remain active for 30 to 40 years, it is important that pipeline systems are designed to perform for this period of time. Pipelines, if designed effectively and well maintained, may have an indefinite life expectancy. To ensure their long-term viability, all pipelines would be coated with between 14 and 16 mils of fusion bonded epoxy coating, which would help protect the pipelines against corrosive elements in the soil. The coating would be inspected thoroughly at the time of installation, both visually and by electronic testing. Saddle Butte would also utilize specialty coatings that are applicable for underground fittings, bore crossings, etc. to provide additional levels of protection where necessary. Velocities and pressure drops for the pipeline system would be carefully evaluated and lines sized to prevent erosion velocity. Additionally, lines would be designed to be cleaned and inspected via internal tools (e.g., cleaning pigs and smart pigs) to assess pipeline conditions in order to maintain the integrity of the pipeline system.

All Saddle Butte installations would be monitored by an inspection/construction management team as well as independent third party contract experts. Saddle Butte's construction specifications require contractors to allow for inspection, and no pipeline would be laid and backfilled without appropriate approvals. Hydrotesting of pipelines would be used at the time of installation to assure no possibility of leakage. Following design and installation, Saddle Butte would immediately conduct a cathodic survey utilizing test stations, rectifier pads and other means designed by cathodic protection specialists.

In the event that a pipeline company other than Saddle Butte would construct within the proposed ROW, the company would be required to comply with all commitments and procedures set forth in this EA, or additional NEPA analysis and approval would be required.

When any of the proposed wells cease to flow naturally, an artificial lift unit would be installed. After production ceases, the wells would be plugged and abandoned, and the land fully reclaimed in accordance with BIA and BLM requirements.

Marathon would avoid, minimize, and mitigate the environmental effects of the 20 wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM's Gold Book, and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.

2.3.8 Reclamation

Interim reclamation activities would begin within six months after well completion, unless snow cover or the drilling schedule precludes it. In the event that reclamation activities do not begin within six months of well completion, Marathon would request an extension from the BIA. Reclamation measures to be implemented upon well completion would include leveling, re-contouring, reduction of cut and fill slopes where necessary, treating, backfill, erosion control, and redistribution of stockpiled topsoil and re-seeding of the disturbed areas with native vegetation or a seed mixture prescribed by the BIA. Erosion control measures would include blanket matting, placement of straw

rolls in all adjacent drainages, and seeding of all disturbed areas. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities spread back into the disturbed areas, and noxious weeds are under control.

Topsoil separated during pipeline installation would be used for prompt reseeding and reclamation of the disturbed areas. If topsoil cannot be spread in a timely manner allowing vegetation to reestablish prior to winter, topsoil would be spread and reseeded the following spring to avoid wind and water erosion. For pipeline locations that are reclaimed in winter months or late fall such that no germination is possible, Saddle Butte would either use sprayed reinforcement, lain matting reinforcement, spread and crimp straw, straw wattles and/or silt fences to minimize erosion through winter months. Any temporary reclamation measures would remain until Saddle Butte can completely reclaim and revegetate the area in the spring. All temporary reclamation measures would be inspected on a monthly basis, or more frequently as necessary, throughout the winter. Additional reclamation activities would occur throughout the life of the pipeline, due to routine maintenance or addition of infrastructure. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities spread back into the disturbed areas, and noxious weeds are under control.

If no commercial production were developed from the 20 proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set in accordance with NDIC and BLM requirements. The access road and well pad areas would be re-contoured to match topography of the original landscape and reseeded with a mixture that is consistent with surrounding native species to ensure a healthy and diverse vegetative community that is free of noxious weeds. Erosion control measures including blanket matting, straw rolls, and seeding of all disturbed areas would be implemented. Maintenance of the grass seeding would continue until such time that the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds. An exception to the reclamation measures may occur if the BIA approves assignment of the access road either to the BIA roads inventory or to concurring surface allottees.

2.3.9 Potential for Future Development

Development beyond the 20 wells and associated activities discussed in this document is not included with this proposal. Further development would be subject to applicable regulations, including 43 CFR Part 3160, and the BLM's Onshore Oil and Gas Order No. 1 – Approval of Operations on Onshore Federal and Indian Oil and Gas Leases, and would be subject to review under NEPA, as appropriate.

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

This chapter describes the existing conditions within the study areas. The existing conditions, or affected environment, are the baseline conditions that may be affected by the proposed action. This chapter also summarizes the positive and negative direct environmental impacts of the project alternatives, as well as cumulative impacts. Indirect impacts are discussed in impact categories where relevant. Information regarding the existing environment, potential effects to the environment resulting from the proposed alternatives, and avoidance, minimization, and/or mitigation measures for adverse impacts is included.

3.2 Climate, Geologic Setting, and Land Use

The proposed well pad, CTB, and access road are situated geologically within the Williston Basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 milion to 2 million years ago), including the Sentinel Butte and Golden Valley formations. The Bakken formation's middle member and the underlying Three Forks Formation would be targeted by the proposed project, and are well-known sources of hydrocarbons. Although earlier oil and gas exploration activity within the Fort Berthold Reservation was limited and commercially unproductive, recent advances in drilling technologies, including horizontal drilling techniques, now make accessing oil in the Bakken and Three Forks formations feasible.

According to Great Plains Regional Climate Center data collected at the Dunn Center weather station from 1918 to 2011, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.42 inches of precipitation annually, predominantly during spring and summer. Winters in the region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and approximately 36 inches of snow are received annually.

The topography within the project area is identified as the border area between the United States Geological Survey's (USGS) Missouri Plateau and Little Missouri Badlands sections of the Northwestern Great Plains ecoregion. Both sections are unglaciated, with the Missouri Plateau characterized by rolling plains and some sandstone buttes, and the Little Missouri Badlands consisting of highly dissected conical hills. They have formed particularly in soft, easily erodible strata of the Ludlow, Cannonball, Slope, Bullion Creek, and/or Sentinel Butte formations.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project area is located within a predominately rural area. According to National Agricultural Statistics Services (NASS) data, land within the proposed project area is primarily grasslands (92%), with woodlands located within the draws (8%). Please refer to ***Figure 3.1, Land Use.***

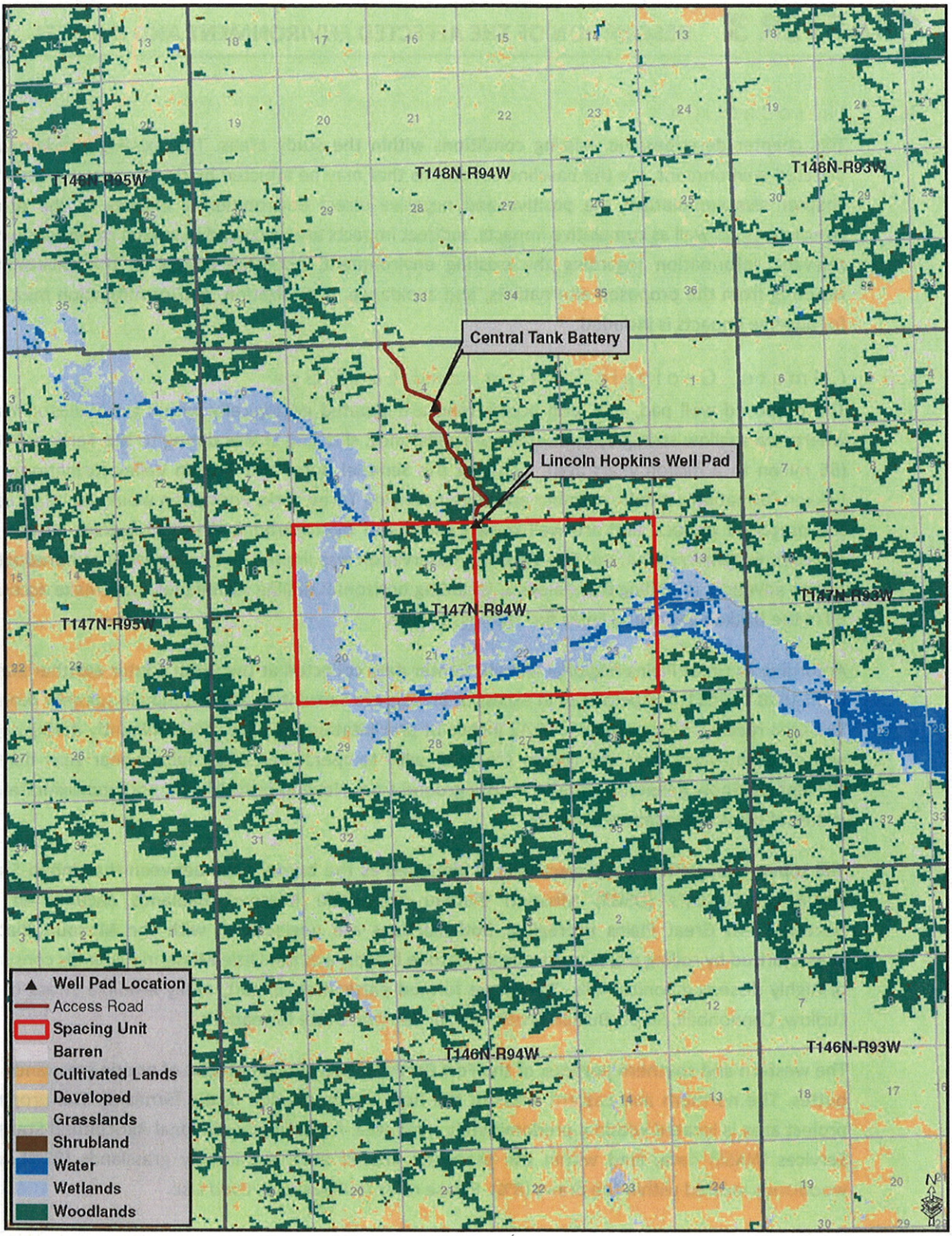

Figure 3.1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact land use, climatic conditions, or geological setting.

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 78.45 acres of land from present use to part of an oil and gas network. Of this, a total of 18.1 acres would be as a result of construction of the well pad and CTB and a total of 60.35 acres would be from construction of access roads. The land use of the affected area is predominantly grassland.

Mineral resources would be impacted through the development of oil and gas resources at the proposed well site, as is the nature of this project. Impacts to the geologic setting and paleontological resources are not anticipated.

3.3 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey of Dunn County dates from 1982, with updated information available online through the NRCS Web Soil Survey. The soil survey information indicated there are nine soil types within the project impact areas. The physical properties and characteristics of the soils are identified in

Table 3.1, Soils.

The soils listed have moderate susceptibility to sheet and rill erosion and can tolerate moderate to high levels of erosion without loss of productivity. All soils are well drained with depth to the water table recorded at greater than six feet with the exception of the Belfield-Grail silty clay loams and Rhoades silt loam, both of which are moderately well drained with a depth to water table of approximately four feet. None of the soils listed within the project impact areas are susceptible to flooding or ponding.

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR[3]		HYDROLOGIC SOIL GROUP[4]
			% SAND	% SILT	% CLAY	T	KF	
9E	Cabba loam	15 to 45	40.5	39.5	20.0	2	0.32	D
18	Belfield-Grail silty clay loams	0 to 2	21.6	43.0	35.4	5	0.37	C
52C	Morton-Dogtooth silt loams	6 to 9	18.5	58.1	23.3	3	0.28	B
62B	Rhoades silt loam	0 to 6	11.0	50.8	38.2	2	0.32	D
62D	Dogtooth-Cabba complex	9 to 15	5.1	46.6	48.3	2	0.32	D
69B	Savage-Rhoades silty clay loams	0 to 6	8.7	53.2	38.1	5	0.32	C
82D	Vebar extremely stony fine sandy loam	3 to 15	75.4	14.8	9.8	3	0.24	B
101C	Amor loam	6 to 9	39.9	38.5	21.6	3	0.24	B
211F	Badland-Cabba-Arikara complex	25 to 70	17.8	65.0	20.5	5	0.32	D

3.3.1 Soil Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact soils.

Alternative B (Proposed Action) – Construction activities associated with the proposed well pad, CTB, access roads and associated utilities would result in soil disturbances, though impacts to soils are not anticipated to be significant. Based on NRCS soil data, topsoil exists to depths approximately 3-8 inches at the sites. Topsoil depths taken during the onsite surveys indicated soil depths of approximately 8 inches at the well pad and CTB sites and approximately 6 inches along the proposed access road, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil stockpile quantities identified in the design plats for the locations were calculated assuming eight inches of existing topsoil. The well pad topsoil stockpiles would contain approximately 13,511 cubic yards of material (including topsoil used for berming) placed along the north edge of the access road just east of the well pad. The CTB topsoil stockpile would contain approximately 4,140 cubic yards of material (including topsoil used for berming) placed along the southern edge of the proposed pad. The stockpile area for the Lincoln Hopkins well pad would be outside of the fenced area and is not included in the area of impact. The CTB stockpile would be located within the fenced area. Where the

[3] Erosion Factors indicate susceptibility of a soil to sheet and rill erosion by water. 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. T Factors estimate 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. Soils with higher T values can tolerate higher rates of erosion without loss of productivity.

[4] Hydrologic Soil Groups (A, B, C, and D) are based on estimates of runoff potential according to the rate of water infiltration under the following conditions: soils are not protected by vegetation, soils are thoroughly wet, and soils receive precipitation from long-duration storms. The rate of infiltration decreases from Group A (high infiltration, low runoff) to D (low infiltration, high runoff).

BIA determines necessary, stockpiles would be used to divert drainage outside of the cut slopes, thus minimizing erosion and allowing for interim reclamation soon after the wells are put into production.

Soil impacts would be localized, and BMPs would be implemented to minimize the impacts. Surface disturbance caused by construction of the proposed well pad, CTB and access road would result in the removal of vegetation from the soil surface. Removal of vegetation can damage soil crusts and destabilize the soil. As a result, the soil surface could become more prone to accelerated erosion by wind and water. BMPs used at the site to reduce the impacts would include erosion and sediment control measures during and after construction, segregating topsoil from subsurface material for future reclamation, chipping any woody vegetation removed from the sites and incorporating it into topsoil stockpiles, re-seeding of disturbed areas immediately after construction activities are completed, the use of construction equipment appropriately sized to the scope and scale of the project, ensuring the road gradient fits closely with the natural terrain, and maintaining proper drainage. According to discussions at the field on-site assessments and standard industry practices, BMPs identified in the BLM Gold Book would be utilized to further minimize erosion at the sites.

Soil compaction can occur by use of heavy equipment. When soil is compacted, it decreases permeability and increases surface runoff, especially in silt and clay soils. In addition, soils may be impacted by mixing of soil horizons. Soil compaction and mixing of soil horizons would be minimized by the previously discussed topsoil segregation.

Contamination of soils from various chemicals and other products used during oil development activities is not anticipated. In the rare event that such contamination may occur, the event would be immediately reported to the BLM, the NDIC, and where appropriate the North Dakota Department of Health (NDDH) and the procedures of the surface management agency would be followed to contain spills and leaks.

3.4 Water Resources

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, provides the authority to Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE) to establish water quality standards, control discharges into surface and ground waters, develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and for dredged or fill material (Section 404). Within the Fort Berthold Reservation, the Missouri River, the Little Missouri River and Lake Sakakawea are considered navigable waters and are therefore subject to Section 10 of the Rivers and Harbors Act of 1899.

The EPA also has the authority to protect the quality of drinking water under the Safe Drinking Water Act (SDWA) of 1974. As amended in 1986 and 1996, the SDWA requires many actions to protect drinking water and its sources: rivers, lakes reservoirs, springs, and ground water wells[5]. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA[6].

[5] The SDWA does not regulate private wells that serve fewer than 25 individuals.

[6] The use of diesel fuel during hydraulic fracturing is still regulated under the SDWA.

3.4.1 Surface Water

The project area is situated in the Great Plains region of North Dakota on the eastern edge of the Badlands. The Great Plains region is an arid area with few isolated surface water basins. The majority of the surface waters in the region are associated with the Missouri River, Lake Sakakawea, and tributaries to those water bodies. Surface water generally flows overland until draining into those systems.

The proposed well sites are located in the Lake Sakakawea basin, meaning surface waters within the basin drain to Lake Sakakawea. The proposed well pad and CTB are located in the Waterchief Bay Watershed and 101102050606 Sub-Watershed. Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to the Little Missouri River/Lake Sakakawea.

The proposed well pad would be situated on an upland area with drainages to the east and west. In the event that runoff was to flow off the well pad, it would drain into a series of ravines located on the western and eastern edges of the pad. Drainage flowing west would travel approximately 1.18 miles through ravines terminating at the Little Missouri River. Drainage flowing east would enter into an ephemeral drainage terminating near the Little Missouri River/Lake Sakakawea confluence for a total traveled distance of approximately 1.47 miles. The nearest wooded draw is approximately 100 feet north of the proposed well pad. Culverts along the proposed access roads would be implemented to avoid drainage impacts.

The proposed CTB would also be located on an upland area with a series of drainages located east of the proposed pad. If runoff were to flow off site, the topography of the area would result in a generally southeast flow direction. Runoff would initially flow overland before draining into a series of ravines located east of the proposed CTB. Runoff would then flow into an ephemeral drainage terminating near the Little Missouri River/Lake Sakakawea confluence for a total traveled distance of approximately 3.07 miles. The nearest wooded draw is approximately 250 feet northeast of the proposed CTB. Please refer to ***Figure 3.2, Surface Water Resources.***

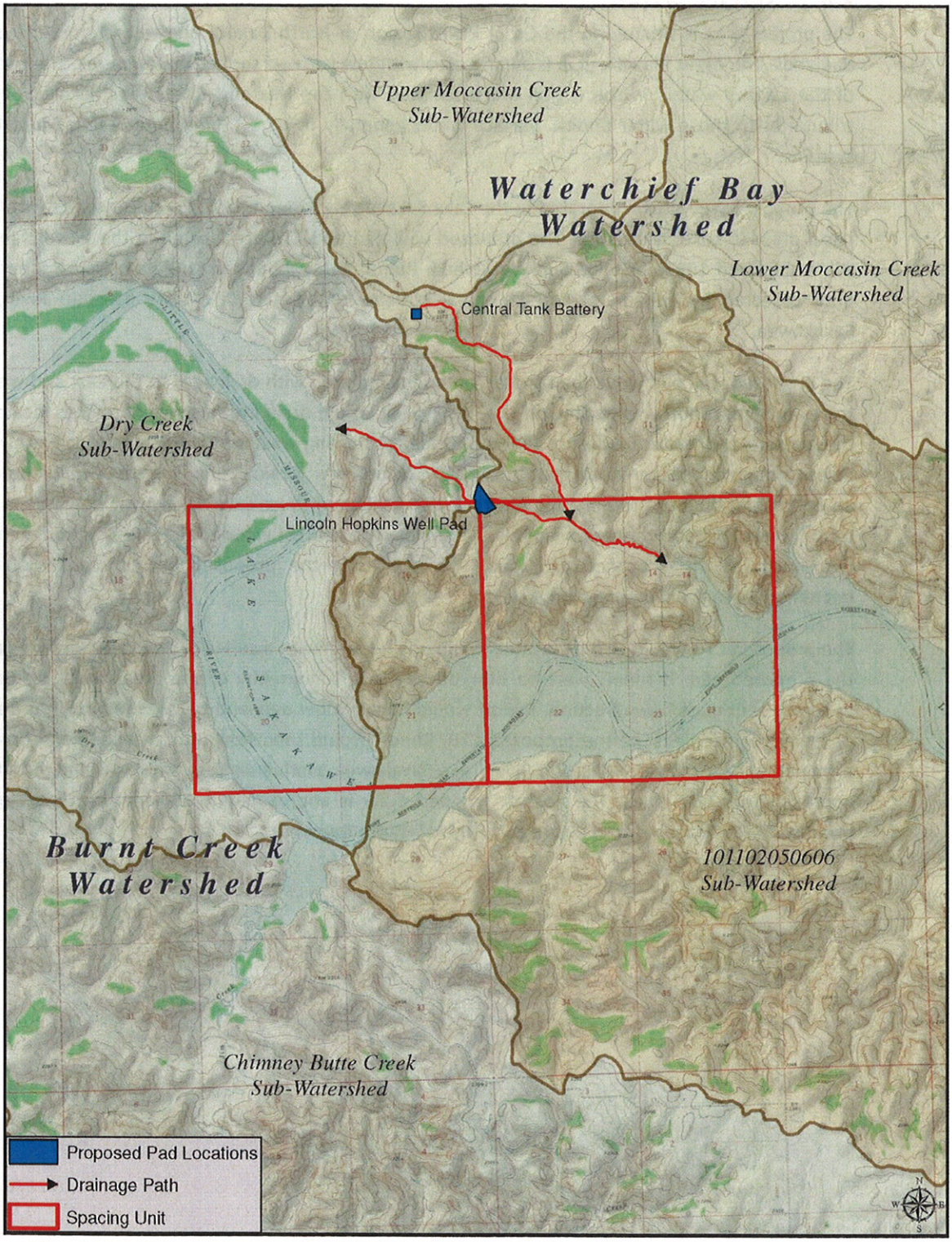

Figure 3.2, Surface Water Resources

3.4.1.1 Surface Water Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact surface water.

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed project has been situated to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans would contain measures to divert surface runoff around the well pad and CTB. Culverts would be implemented along the access road to avoid drainage impacts. Roadway engineering and the implementation of BMPs would be utilized as needed to minimize runoff of sediment downhill or downstream.

Test facilities consisting of six 400-barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur at the CTB. The majority of oil and gas produced at the well site would be transported via two buried emulsion flow-lines, located within the access road right-of-way, to the CTB. Storage tanks and the heater/treaters located at both the well pad and CTB would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The entire well pad and CTB would also be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes. Any pipeline(s) would be situated to avoid direct impacts to surface water and to minimize the disruption of drainage patterns across the landscape. Implementation of BMPs to control erosion would mitigate runoff of sediment downhill or downstream.

Third-party intrusions are one of the biggest contributing factors to spills. To aid in the prevention of such intrusions, Saddle Butte would fully comply with the utility marking requirements specified in US Department of Transportation (USDOT) rules and regulations, specifically contained in 49 CFR Parts 192 and 195. To ensure such compliance, Saddle Butte has developed construction specifications to delineate the requirements for pipeline marking in accordance with applicable laws, rules, and regulations, including the locations of such markings (e.g., road crossings, waterbody crossings, line of sight, etc.) and the manner of marking such pipelines (e.g., height of markings and signage on the markings).

Saddle Butte has committed to developing a spill response plan that would be submitted to the BIA prior to the commencement of the construction activities. The response plan would include procedures that specifically address making the appropriate contacts, isolating the incident, protecting waterways and providing contact information for all the appropriate contractors and experts necessary to facilitate a rapid response.

Two types of valves would be utilized for spill isolation: check valves and manual valve sets. Check valves would be installed between trunk lines and lateral lines to prevent a "back feed" scenario to a spill, thereby limiting the volume of any spill to the wells that are directly contributing to it. Manual

valve sets would also be installed at all intersections of laterals to trunk lines, allowing isolation at the wells themselves.

Saddle Butte has also developed a GIS database that establishes real time, web-based maps for use by its operations team and first responder personnel. In addition, Saddle Butte has provided options in its trunk lines for automatic isolation based on low pressure switching devices once the system pressure exceeds 1,400 pounds per square inch. The valves would automatically isolate the pipeline under most line rupture circumstances. Based on the mitigation measures, the proposed project is not anticipated to result in measurable increases in runoff or impacts to surface waters.

3.4.2 Ground Water

The North Dakota State Water Commission's electronic Ground and Surface Water Data Query revealed no active or permitted groundwater wells within one mile of the proposed project area. The nearest active water well is located approximately 2.24 miles north at the nearest point (CTB). The Little Missouri River Aquifer is located to the south of the proposed well pad within the spacing units. This is a shallow groundwater aquifer extending less than 400 feet deep. No sole source aquifers have been identified within the state of North Dakota. Please refer to ***Figure 3.3, Aquifers and Groundwater Wells.***

3.4.2.1 Ground Water Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact groundwater.

Alternative B (Proposed Action) – Limited scientific data are available regarding the effects of hydraulic fracturing on ground water[7]. Five geologic formations above the Three Forks and Bakken formations contain salts, which work to stop the flow of fluid through the geologic formations. The formations lie between groundwater aquifers and the Three Forks and Bakken formations, making the leaching of fluids from the fracking process into groundwater supplies unlikely. The southern portion of the proposed spacing units would be located near or directly below the Little Missouri River Aquifer, which is classified as a near surface aquifer; however, initial drilling of the proposed wells would be vertical to an approximate depth of 10,100-11,000 feet, well below all known aquifers within the region. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones. In addition, the first 2,000 feet drilled at each well would utilize a fresh water based mud system with non-hazardous additives to minimize contamination concerns. Due to the depth of the proposed wells and aforementioned precautions that would be implemented by Marathon, no significant impacts to groundwater are expected to result from Alternative B.

Saddle Butte's standard pipeline bore depth beneath an actively eroding drainage area is eight feet. However, bores are designed on a case by case basis to avoid any adverse effects to the natural surface in the vicinity of the bore. Additionally, bore pipe would be coated with abrasion resistant coating that provides substantial abrasion resistance if a large erosion or flooding event occurs. In addition, measures used to install and inspect the pipe prior to use along with monitoring procedures for potential leaks would minimize potential groundwater disturbance.

[7] The EPA is currently scoping a study on fracking, which will address potential impacts to ground water. The study is anticipated to be completed in 2014.

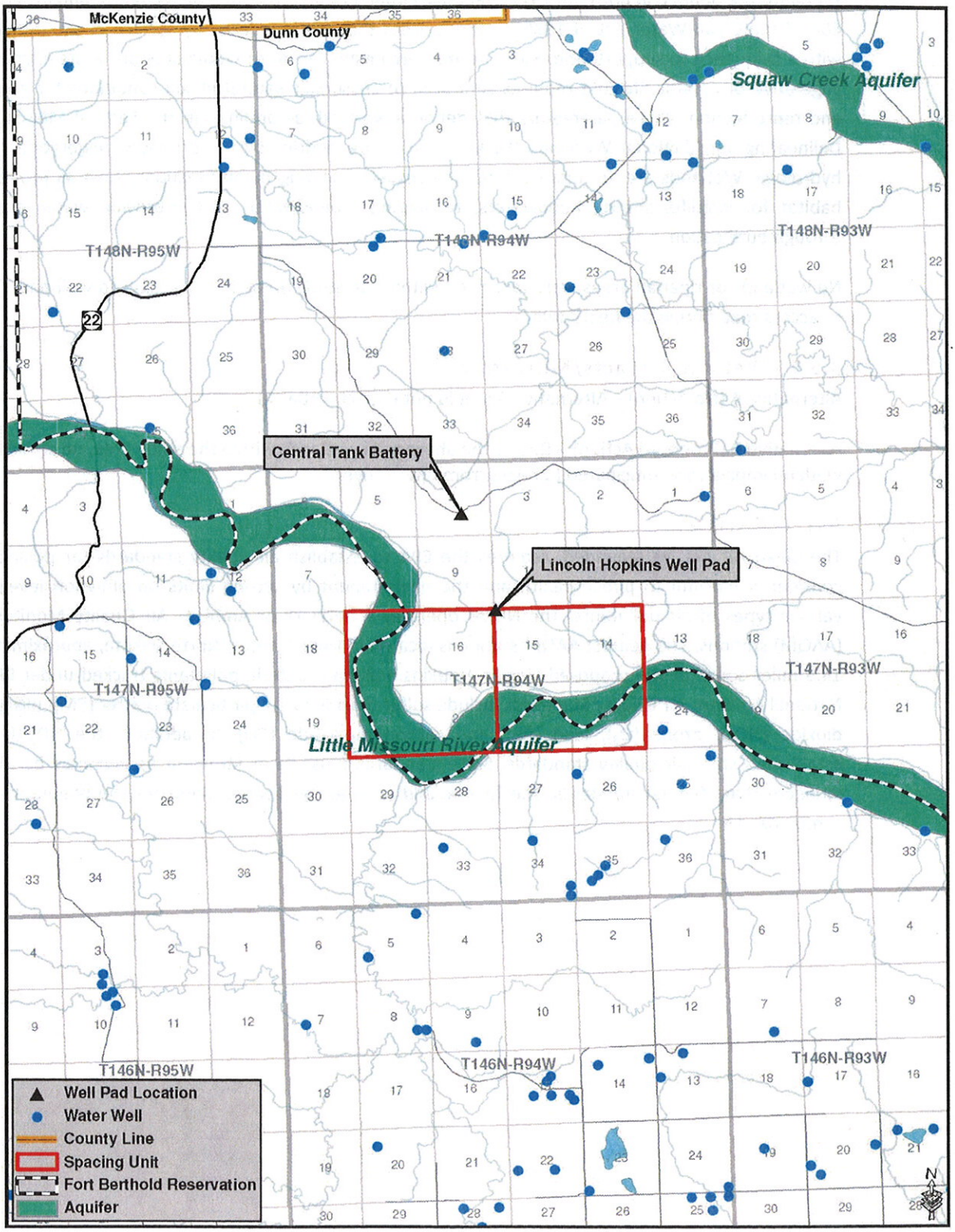

Figure 3.3, Aquifers and Groundwater Wells

3.5 Wetlands

Wetlands are defined in both the 1977 Executive Order 11990, Protection of Wetlands, and in Section 404 of the Clean Water Act of 1986, as those areas that are inundated by surface or groundwater with a frequency to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Three parameters that define a wetland, as outlined in the Federal Manual for Delineating Jurisdictional Wetlands (USACE, 1987), are hydric soils, hydrophytic vegetation, and hydrology. Wetlands are an important natural resource serving many functions, such as providing habitat for wildlife, storing floodwaters, recharging groundwater, and improving water quality through purification.

No wetlands or riparian areas were identified within the study areas of the proposed well pad, CTB, or access road during the field surveys.

3.5.1 Wetland Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact wetlands.

Alternative B (Proposed Action) – Due to the absence of wetlands within the study area, no significant wetland impacts are anticipated to result from Alternative B.

3.6 Air Quality

The Clean Air Act, as amended, requires the EPA to establish air quality standards for pollutants considered harmful to public health and the environment by setting limits on emission levels of various types of air pollutants. The NDDH operates a network of Ambient Air Quality Monitoring (AAQM) stations. The nearest AAQM station is located in Dunn Center, North Dakota, approximately 14.3 miles south of the proposed Lincoln Hopkins well pad. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards include sulfur dioxide (SO_2), particulate matter (PM), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), and carbon monoxide (CO). In addition, the NDDH has established state air quality standards. State standards must be as stringent as, but may be more stringent than, federal standards. The federal and state air quality standards for the pollutants are summarized in

Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center (EPA 2006, NDDH 2010).

Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		DUNN CENTER 2010 REPORTED DATA	
		µg/m³	PARTS PER MILLION	µg/m³	PARTS PER MILLION	µg/m³	PARTS PER MILLION
SO_2	24-Hour	365	0.14	365	0.14	--	.0037
	Annual Mean	80	0.030	80	0.030	--	.0007
PM_{10}[8]	24-Hour	150	--	125	--	31.0	--
	Annual Mean	--	--	--	--	9.7	--
$PM_{2.5}$[9]	24-Hour	35	--	35	--	12.0	--
	Weighted Annual Mean	15	--	15	--	3.87	--
NO_2	Annual Mean	100	0.053	100	0.053	--	.0014
CO	1-Hour	40,000	35	40,000	35	--	--
	8-Hour	10,000	9	10,000	9	--	--
Pb	3-Month	1.5	--	1.5	--	--	--
O_3	1-Hour	--	--	--	--	--	.068
	8-Hour	--	0.075	--	0.075	--	.066

North Dakota was one of thirteen states in 2010 that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the EPA (NDDH 2010).

Additionally, the Fort Berthold Reservation complies with the North Dakota and National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 28.1 miles west of the proposed project at the nearest point (CTB).

3.6.1 Air Quality Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact air quality.

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota and National Ambient Air Quality Standards and visibility protection. In addition, the Dunn Center AAQM Station reported air quality data well below the state and federal standards. Alternative B would not

[8] PM_{10} refers to particulates 10 micrometers (µ) or less in size.

[9] $PM_{2.5}$ refers to particulates 2.5 micrometers (µ) or less in size.

include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds. Emissions would be limited to the immediate project area and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, the State of North Dakota, or Theodore Roosevelt National Park.

On August 1, 2012 the EPA Administrator, Lisa Jackson, signed the approval and promulgation of the Federal Implementation Plan (FIP) for oil and gas well production facilities on the Fort Berthold Reservation. The Reservation-specific FIP regulates emissions from oil and gas production facilities producing in the Bakken Pool that were constructed and operating on or after August 12, 2007. The Interim Final Rule (IFR) became effective on August 3, 2012 and compliance with the IFR is required no later than 90 days after publication in the Federal Register. The FIP will be a permit by rule, the emission control requirements are clearly defined as follows:

> "The owner or operator is required to reduce the mass content of VOC emissions from natural gas during oil and natural gas production and storage operations by at least 90.0 percent on the first date of production. Within ninety (90) days of the first date of production, we require the owner or operator to route the natural gas from the production and storage operations through a closed-vent system to a utility flare or equivalent combustion device capable of reducing the mass content of VOC in the natural gas vented to the device by at least 98.0 percent."

Marathon would comply with all rules and regulations set forth in the FIP. In addition, Marathon would provide dust control for their access roads and haul roads.

3.7 Threatened, Endangered, and Candidate Species

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, 50 CFR Part 402, as amended, each federal agency is required to ensure the following two criteria: first, any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the Secretary of the Interior. An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. A candidate species is a plant or animal for which the USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. While candidate species are not legally protected under the ESA, it is within the spirit of the ESA to consider said species as having significant value and worth protecting.

The proposed action area was evaluated to determine the potential for occurrences of federally listed threatened, endangered, and candidate species. The USFWS February 2012 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the gray wolf, interior least tern, pallid sturgeon, black-footed ferret and whooping crane as endangered species that may be found within Dunn County. The piping plover is listed as a threatened species and the Dakota skipper and Sprague's pipit are listed as candidate species. In addition, Dunn County

contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. None of the species were observed in the field during field surveys. Habitat requirements, the potential for suitable habitat within the project area, and other information regarding listed species for Dunn County are as follows.

3.7.1 Endangered Species

Gray Wolf (*Canis lupus*)

The gray wolf is the largest wild canine species in North America. It is found throughout northern Canada, Alaska, and the forested areas of northern Michigan, Minnesota, and Wisconsin and has been reintroduced to Yellowstone National Park in Wyoming. While the gray wolf is not common in North Dakota, individual wolves do occasionally pass through the state. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. The gray wolf lives in packs of up to 21 members, although some individuals roam alone.

The project area is located far from other known wolf populations and is surrounded by mixed-grass pasture land which would not likely provide suitable gray wolf habitat.

Interior Least Tern (*Sterna antillarum*)

The interior least tern nests along inland rivers. The interior least tern is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it has been sighted along the Missouri River during the summer nesting season. The interior least tern nests in sandbars or barren beaches, preferably in the middle of a river for increased safety while nesting. The birds nest close together, using safety in numbers to scare away predators.

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravelly Little Missouri River shoreline exists approximately 0.87 miles southwest of the proposed CTB, or approximately 1.18 miles from the Lincoln Hopkins well pad, assuming the shortest drainage path to the river.

Pallid Sturgeon (*Scaphirhynchus albus*)

The pallid sturgeon is known to exist in the Yellowstone, Missouri, middle and lower Mississippi, and Atchafalaya Rivers, and seasonally in some tributaries. In North Dakota, the pallid sturgeon is found principally in the Missouri River and upstream of Lake Sakakawea in the Yellowstone River. Dating to prehistoric times, the pallid sturgeon has become well adapted to living close to the bottom of silty river systems. According to the USFWS, its preferred habitat includes "a diversity of water depths and velocities formed by braided river channels, sand bars, sand flats, and gravel bars." Weighing up to 80 pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

Potential habitat for pallid sturgeon may exist in the Little Missouri River approximately 1.18 miles west of the proposed Lincoln Hopkins well pad assuming the shortest drainage path.

Black-footed Ferret (*Mustela nigripes*)

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, this species has not been confirmed in North Dakota for nearly 30 years and is presumed to be extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie

dogs for food and lives in prairie dog burrows. The black-footed ferret requires a prairie dog town of at least 80 acres to survive.

The access road and CTB are located within a half mile of an active prairie dog town. This town is greater than 80-acres in size; however, it was previously cleared by the BIA and USFWS for a previous well pad project and determined to be void of a black-footed ferret population.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and west into Colorado. The whooping crane migrates through North Dakota along a band running from the south central to the northwest parts of the state. This species uses shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, individuals are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes yielding a total species population of approximately 383 birds in the wild. Only one of the flocks is self-sustaining.

There were no wetlands or cropland observed near the proposed well pad location; however, the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. The Little Missouri River may provide potential stopover habitat for individuals migrating through the area. The river is located approximately 0.87 mile southwest of the proposed CTB, or about 1.18 miles from the well pad, assuming the shortest drainage pattern to the river.

3.7.1.2 Endangered Species Impacts/Mitigation

Alternative A (No Action) — Alternative A would have no effect on the gray wolf, interior least tern, pallid sturgeon, black-footed ferret or whooping crane.

Alternative B (Proposed Action) — Due to lack of preferred habitat characteristics and/or known populations the proposed project is anticipated to have no effect on the gray wolf or black-footed ferret.

Suitable habitat for the interior least tern and pallid sturgeon is largely associated with Lake Sakakawea and its shoreline. The well pad, CTB, and access road are all located on upland bluffs of mixed-grass pastureland, with the Little Missouri River located approximately 350 feet below. The Little Missouri River is located approximately 0.87 miles southwest of the proposed project area at the nearest point (i.e., the CTB), or about 1.18 miles from the well pad, assuming the shortest drainage path to the river. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Test facilities consisting of six 400-barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur at the CTB. The majority of oil and gas produced at the well site would be transported via two buried emulsion flow-lines, located within the access road right-of-way, to the CTB. Storage tanks and the heater/treaters located at both the well pad and CTB would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The entire well pad and CTB would also be surrounded by a minimum 24-inch tall berm to prevent run-on

and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to the Little Missouri River/Lake Sakakawea and its associated habitats is reasonably feasible but unlikely. Any new electrical lines would be buried to prevent bird strikes. Therefore, the proposed project may affect but is not likely to adversely affect the interior least tern or pallid sturgeon.

There were no shallow wetlands or cropland found in the study areas; however, the proposed project is located within the Central Flyway where approximately 75 percent of confirmed whooping crane sightings have occurred. Individuals traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development. Therefore, the proposed project may affect but is not likely to adversely affect the whooping crane or its associated habitat. To minimize the potential of direct whooping crane impacts, electrical lines would be buried to prevent bird strikes. Per USFWS recommendations, if a whooping crane is sighted within one mile of the well site or associated facilities while under construction, all work within one mile of the whooping crane location would cease and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird leaves the area.

3.7.2 Threatened Species

Piping Plover (*Charadrius melodus*)

The piping plover is a small migratory shorebird. Historically, this species could be found throughout the Atlantic Coast, Northern Great Plains, and the Great Lakes. Drastically reduced, sparse populations presently occur throughout this historic range. In North Dakota, breeding and nesting sites can be found along the Missouri River. Preferred habitat for the piping plover includes riverine sandbars, gravel beaches, alkali areas of wetlands, and flat, sandy beaches with little vegetation. The USFWS has identified critical habitat for the piping plover on the Missouri River system. Critical habitat includes reservoir reaches composed of sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with water bodies.

There is no existing or potential piping plover habitat within the project area. Critical habitat in the form of sandy/gravelly shoreline along the Little Missouri River exists approximately 0.87 mile southwest of the proposed project area at the nearest point (i.e., the CTB), or about 1.18 miles from the well pad assuming the shortest drainage path to the river.

3.7.2.2 Threatened Species Impacts/Mitigation

Alternative A (No Action) — Alternative A would have no effect on the piping plover and would not impact designated piping plover critical habitat.

Alternative B (Proposed Action) — Suitable habitat for the piping plover is largely associated with Lake Sakakawea and its shoreline. The well pad, CTB, and access road would all be located on upland bluffs of mixed-grass pastureland, with the Little Missouri River located approximately 350 feet below. The Little Missouri River is located approximately 0.87 mile southwest of the proposed project area at the nearest point (i.e., the CTB), or about 1.18 miles from the well pad assuming the shortest

drainage path to the river. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Test facilities consisting of six 400-barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur at the CTB. The majority of oil and gas produced at the well site would be transported via two buried emulsion flow-lines, located within the access road right-of-way, to the CTB. Storage tanks and the heater/treaters located at both the well pad and CTB would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The entire well pad and CTB would also be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to the Little Missouri River/Lake Sakakawea and its associated habitats is reasonably feasible but unlikely. Any new electrical lines would be buried to prevent bird strikes. Therefore, the proposed project may affect but is not likely to adversely affect the piping plover, nor is the proposed project likely to destroy or adversely modify designated piping plover critical habitat.

3.7.3 Candidate Species

Dakota Skipper (*Hesperia dacotae*)

The Dakota skipper is a small butterfly with a one-inch wing span. The butterflies historically ranged from southern Saskatchewan, across the Dakotas and Minnesota, to Iowa and Illinois. The preferred habitat for the Dakota skipper consists of flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. Individuals are visible in their butterfly stage from mid-June to early July.

The proposed project site consists of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. Although grazing is evident, it is moderate in nature; therefore, the project site does contain potentially suitable habitat for the Dakota skipper. No individuals of this species were observed during the field visits.

Sprague's pipit (*Anthus spragueii*)

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal disturbance.

The proposed project site consists of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. Although grazing is evident, it is moderate in nature; therefore, the project site does contain potentially suitable habitat for the Sprague's pipit. No individuals of this species were observed during the field visits.

3.7.3.2 Candidate Species Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact Dakota skippers, Sprague's pipits or their associated habitats.

Alternative B (Proposed Action) — Due to the presence of potential habitat for the Dakota skipper and Sprague's pipit within the project area, the proposed project may impact individuals or habitat through earthwork associated with construction activities, habitat conversion, and/or fragmentation. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

3.8 Bald and Golden Eagles

Protection is provided for the bald and golden eagles through the Bald and Golden Eagle Protection Act (BGEPA). The BGEPA of 1940, 16 U.S.C. 668–668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. The BGEPA prohibits, except under certain specified conditions, the taking, possession, or commerce of bald and golden eagles. Under the BGEPA, to "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

The bald eagle (*Haliaeetus leucocephalus*) has been sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. The ND Game and Fish Department estimated in 2009 that 66 bald eagle nests were occupied, although not all eagle nests were visited and verified. Preferred habitat for the bald eagle includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the previous year's nest. No bald eagle individuals or nests were observed within 0.5 miles of the proposed project area during the eagle/raptor surveys conducted on July 27, 2011 and June 5, 2012.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the Badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No individuals or nests were observed within 0.5 mile of the proposed project area during the field surveys conducted on July 27, 2011 and June 5, 2012.

The USGS Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for the proposed project area does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information (last updated in 2010), the closest recorded golden eagle nest is located approximately 0.28 mile south of the proposed access road. During the eagle survey, an attempt to locate this site was unsuccessful and it was concluded that the nest is no longer present. Please refer to ***Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings.***

3.8.1 Bald and Golden Eagle Impacts/Mitigation

Alternative A (No Action) — Alternative A would not impact bald or golden eagles.

Alternative B (Proposed Action) — The proposed project is located within areas of recorded suitable bald and golden eagle habitat; however, no evidence of eagle nests was found within 0.5 mile of the project area. Therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle nest is sighted within 0.5 mile of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed. Furthermore, any new electrical lines, would be buried to prevent the potential for electrical line strikes by bald or golden eagles.

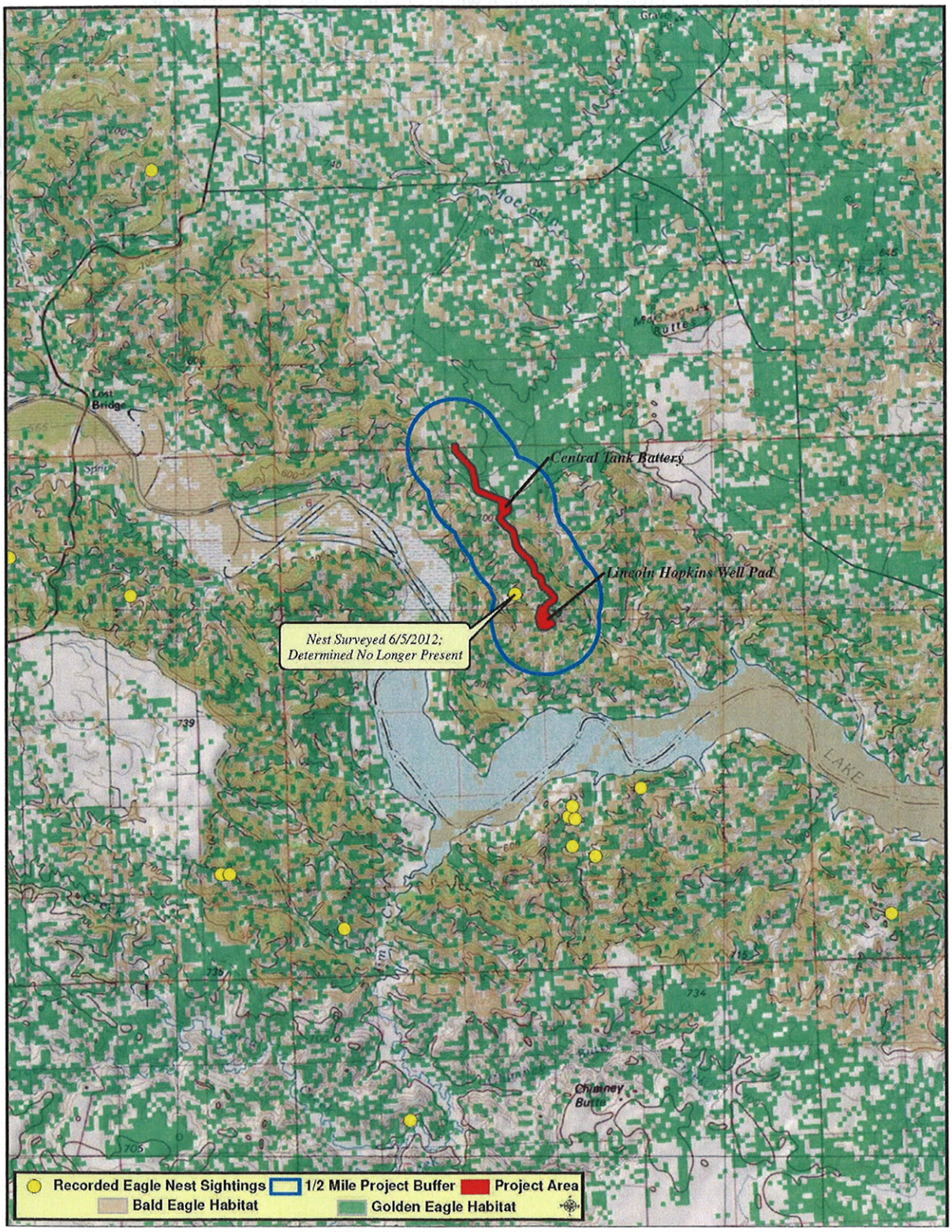

Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings

3.9 Migratory Birds and Other Wildlife

The Migratory Bird Treaty Act (MBTA), 916 U.S.C. 703–711, provides protection for 1,007 migratory bird species, 58 of which are legally hunted. The MBTA regulates impacts to the species such as direct mortality, habitat degradation, and/or displacement of individual birds. The MBTA defines "taking" to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations. In addition, comments received from the USFWS have been considered in the development of this project.

The proposed project study area lies in the Central Flyway of North America. As such, the area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. In addition, the project area contains suitable habitat for mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), American badger (*Taxidea taxus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), mountain lion (*Puma concolor*), North American porcupine (*Erethizon dorsatum*), eastern cottontail rabbit (*Sylvilagus floridanus*), jackrabbit (*Lepus townsendii*), sharp-tailed grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), wild turkey (*Meleagris gallopavo*), various raptors, and song birds.

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or bird nests were identified, if present. Wildlife species observed during the field surveys included 11 turkey vultures (*Cathartes aura*), two red-tailed hawks (*Buteo jamaicensis*), one Swainson's hawk (*Buteo swainsoni*), two mourning doves (*Zenaida macroura*), and one prairie rattlesnake (*Crotalus viridis*).

3.9.1 Migratory Birds and Other Wildlife Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact migratory birds or other wildlife.

Alternative B (Proposed Action) – Due to the presence of suitable habitat at the project site for many avian and wildlife species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. Therefore, the proposed project may affect individuals and populations of wildlife species, but is not likely to result in a trend towards listing of any of the species identified. As no grouse leks were observed in the project area, additional timing restrictions for construction are not required.

Construction of the proposed project and drilling of the proposed wells is planned to commence in Fall 2012. All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project area.

All reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. Measures would include: using suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise; utilizing only approved roadways; placing wire mesh or grate covers on containers used to collect dripped oil under valves and spigots; maintaining open pits and ponds that are free from oil; netting cuttings pits with a maximum mesh size of 1.5 inches; and burying electrical lines.

The proposed project area is located on upland rangeland that is at a considerably higher elevation (approximately 350 feet) than the Little Missouri River/Lake Sakakawea shoreline. The Little Missouri River is located approximately 0.87 mile southwest of the proposed site at the nearest point (i.e., the CTB), or about 1.18 miles from the well pad assuming shortest drainage path to the river. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds. The project has been designed to avoid impacts to native prairie, wooded draws, riparian corridors, and wetlands to the extent feasible.

During drilling activities, the noise, movements, and lights associated with the drilling are expected to deter wildlife from entering the project area. In addition, the cuttings pits would be used primarily for solid material storage, and it is expected that very minimal free fluid would be present in the pits. The absence of exposed liquids in the pits would minimize their attractiveness to wildlife. Immediately after drilling rigs leave the locations, cuttings pits would be either netted with State and Federally approved nets or closed and reclaimed. If nets are utilized, they would remain in place until the closure of the cuttings pits.

In addition, design considerations would be implemented to further protect against potential habitat degradation. Test facilities consisting of six 400-barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur at the CTB. The majority of oil and gas produced at the well site would be transported via two buried emulsion flow-lines, located within the access road right-of-way, to the CTB. Storage tanks and the heater/treaters located at both the well pad and CTB would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The entire well pad and CTB would also be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes. Any new electrical lines would be buried to prevent bird strikes.

3.10 Vegetation

During the pedestrian field surveys, botanical resources were evaluated using visual inspection. The Lincoln Hopkins well pad study area consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Western wheatgrass (*Pascopyrum smithii*), Kentucky bluegrass (*Poa pratensis*), needle and thread grass (*Hesperostipa comate*), fringed sagewort (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and prairie junegrass (*Koeleria macrantha*). Several large patches of Western snowberry (*Symphoricarpos occidentalis*) along with small patches of silver buffaloberry (*Shepherdia argentea*)

were also observed. Minor amounts of the noxious weed Canada thistle (*Cirsium arvense*) were observed. No wetland plant species were observed. Please refer to ***Figure 3.5, Well Pad Vegetation, View South.***

The CTB study area also consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by smooth bromegrass (*Bromus inermis*), Kentucky bluegrass, Western wheatgrass, needle and thread grass, fringed sagebrush, and common ragweed (*Ambrosia artemisiifolia*). Little bluestem (*Schizachyrium scoparium*) and Western snowberry were also observed in small patches. No wetland plant species or noxious weeds were observed. Please refer to ***Figure 3.6, CTB Vegetation, View South.***

The northwest portion of the proposed access road consisted of a similar vegetation composition to that of the CTB and well pad, comprised primarily of native and non-native grasses with intermixed patches of shrubby vegetation. The southeast portion was located on more rugged terrain with steep breaks and patchier vegetation communities. Common plant species found throughout this stretch included little bluestem, Western snowberry, creeping juniper (*Juniperus horizontalis*), Rocky Mountain juniper (*Juniperus scopulorum*), yellow sweet clover (*Melilotus officinalis*), cudweed sagewort (*Artemisia ludoviciana*), Western wheatgrass, and silver buffaloberry. In addition, several wooded draws were present along the corridor comprised primarily of green ash (*Fraxinus pennsylvanica*) and American elm (*Ulmus americana*). The noxious weeds Canada thistle and absinth wormwood (*Artemisia absinthium*) were also present. No wetland plant species were observed. Please refer to ***Figure 3.7, Access Road Vegetation, View Southeast.***

Figure 3.5, Well Pad Vegetation, View South

Figure 3.6, CTB Vegetation, View South

Figure 3.7, Access Road Vegetation, View Southeast

There are no threatened or endangered plant species listed for Dunn County. Of the eleven species declared noxious under the North Dakota Century Code (Chapter 63-01.0), four are known to occur in Dunn County. Please refer to ***Table 3.3, Noxious Weed Species***. Counties and cities have the option to add species to the list to be enforced within their jurisdictions; however, no additional species have been listed in Dunn County. The noxious weeds Canada thistle and absinth wormwood were identified during the on-site assessments.

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2011 DUNN COUNTY REPORTED ACRES
Absinth wormwood	*Artemesia absinthium L.*	**51,900**
Canada thistle	*Cirsium arvense (L.) Scop*	**41,200**
Dalmatian toadflax	*Linaria genistifolia ssp. Dalmatica*	**60**
Diffuse knapweed	*Centaurea diffusa Lam*	—
Leafy spurge	*Euphorbia esula L.*	**8,100**
Musk thistle	*Carduus nutans L.*	—
Purple loosestrife	*Lythrum salicaria*	—
Russian knapweed	*Acroptilon repens (L) DC.*	—
Salt cedar (tamarisk)	*Tamarix ramosissima*	—
Spotted knapweed	*Centaurea maculosa Lam.*	—
Yellow Toadflax	*Linaria vulgaris*	—

3.10.1 Vegetation Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact vegetation.

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed well pad, CTB, access road, and associated infrastructure would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and the impacts would be further minimized in accord with the BLM Gold Book standards for well reclamation.

Disturbance of vegetation in areas of noxious weed infestations may result in redistribution of invasive species to the project area. Thus, areas not currently dominated by such species would have a high potential to become infested. The spread of noxious weeds can have an adverse effect on multiple aspects of vegetation resources ranging from the suitability of sensitive plant habitat and maintenance of native biodiversity to forage production for livestock grazing. Noxious weed infestations would be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weed infestations.

Following construction, interim reclamation measures including reduction of cut and fill slopes, redistribution of stockpiled topsoil, and re-seeding of disturbed areas with a native grass seed or another BIA approved mixture consistent with surrounding vegetation would be implemented within six months after well completion, unless snow cover or the drilling schedule precludes it. In the event that reclamation activities do not begin within six months of well completion, Marathon would request an extension from the BIA.

If no commercial production develops from any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access road, well pad, and CTB areas would be re-contoured to match topography of the original landscape as closely as possible and re-seeded with vegetation consistent with surrounding native species to ensure a healthy and diverse mix free of noxious weeds. Seed would be obtained from a BIA/BLM-approved source and re-vegetation of the sites would be consistent with the BLM Gold Book standards. In addition, erosion control measures would be installed in a manner consistent with the BLM Gold Book standards. Maintenance of the re-vegetated sites would continue until such time that the stand was consistent with the surrounding undisturbed vegetation and the site free of noxious weeds. The surface management agency would provide final inspection of the site to deem the reclamation effort complete.

3.11 Cultural Resources

Historic properties, or cultural resources, on federal or tribal lands are protected by multiple laws, regulations and agreements.

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that projects needing federal approval and/or federal permits be evaluated for the effects on historic and cultural properties included or eligible for listing on the National Register of Historic Places (NRHP).

The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistoric, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a Federal, federally licensed, or federally funded project.

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 is triggered by the possession of human remains or cultural items by a federally-funded repository or by the discovery of human remains or cultural items on Federal or Tribal lands and provides for the inventory, protection, and return of cultural items to affiliated Native American groups. Permits are required for intentional excavation and removal of Native American cultural items from Federal or Tribal lands.

The American Indian Religious Freedom Act of 1978 requires consultation with Native American groups concerning proposed actions on sacred sites on Federal land or affecting access to sacred sites. It establishes federal policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians the right to free exercise of their religion in the form of site access, use and possession of sacred objects, as well as the freedom to worship through ceremonial and traditional rites. The Act requires federal agencies to consider the impacts of their actions on religious sites and objects important to American Indians, regardless of eligibility for listing on the NRHP.

In accordance with 16 U.S.C. 470hh(a), information concerning the nature and location of archaeological resources and traditional cultural properties, and detailed information regarding archaeological and cultural resources, is confidential. Such information is exempt from the Freedom of Information Act and is not included in this EA.

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably includes consultation requirements at various stages of a federal undertaking. The Mandan, Hidatsa, and Arikara Nation (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 (NPS). The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, the BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the Fort Berthold Reservation.

A cultural resource inventory of well pad, battery pad and access road was conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 78.5 acres were inventoried on July 27, 2011 (Ó Donnchadha 2011). At that time no historic properties were located that appeared 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 September 23, 2011; however, the THPO did not respond within the allotted 30 day comment period. Subsequently it was learned that a previously recorded archaeological site was believed by the North Dakota State Historic Preservation Office to have boundaries which included a major portion of this project area. Accordingly, 24 shovel test excavations were undertaken between July 2 and 5, 2012 to evaluate this site within approximately 16.7 acres of this project area (Ó Donnchadha 2012). No cultural resources were recovered in these test excavations, such that the archaeological site, on the basis of the information provided, did not possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) and was **not eligible** for inclusion on the National Register. This determination was communicated to the THPO on July 25, 2012; however, the THPO did not respond within the allotted 30 day comment period.

3.11.1 Cultural Resources Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact cultural resources.

Alternative B (Proposed Action) – No cultural resource sites were identified within the area of potential effect (APE) during the field surveys. As such, cultural resources impacts are not anticipated. If further cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of any other discoveries, work would not resume until written authorization to proceed has been received from the BIA. All project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

3.12 Socioeconomic Conditions

Socioeconomic conditions depend on the character, habits, and economic conditions of people living within the proposed project area. Business, employment, transportation, utilities, etc. are factors that affect the social climate of a community. Other factors that distinguish the social habits of one particular area from another include geography, geology, and climate.

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. The communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2006-2010 US Census data, educational/health/social services is the largest industry on

the reservation, followed by the entertainment/recreation/accommodation/food industry[10]. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90 percent of whom are Tribal members. In addition, several industries are located on the reservation, including Northrop Manufacturing, Mandaree Enterprise Corporation, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

Several paved state highways provide access to the Reservation including ND Highways 22 and 23 and Highway 1804. The highways provide access to larger communities such as Bismarck, Minot and Williston. Paved and gravel BIA Route roadways serve as primary connector routes within the reservation. In addition, networks of rural gravel roadways are located throughout reservation boundaries providing access to residences, oil and gas developments, and agricultural land. Major commercial air service is provided out of Bismarck and Minot, with small-scale regional air service provided out of New Town and Williston.

3.12.1 Socioeconomic Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact the socioeconomic conditions in the project area; however, Alternative A would not permit the development of oil and gas resources, which could have positive effects on employment and income through the creation of jobs and payment of leases, easement, and/or royalties to Tribal members.

Alternative B (Proposed Action) – Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project area, but it does have the potential to yield beneficial impacts on Tribal employment and income. Qualified individual Tribal members may find employment through oil and gas development and increase their individual incomes. Additionally, the proposed action may result in indirect economic benefits to Tribal business owners resulting from construction workers expending money on food, lodging, and other necessities. The increased traffic during construction may create more congested traffic conditions for residents. Marathon would follow Dunn County, BIA, and North Dakota Department of Transportation (NDDOT) rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads in order to maintain safe driving conditions.

3.13 Environmental Justice

Per Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, measures must be taken to avoid disproportionately high adverse impacts on minority or low-income communities. The Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population.

The population of North Dakota is predominantly Caucasian. American Indians compromise 5.4% of North Dakota's population and 12.7% of the population of Dunn County. Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County's population had been slowly declining prior to the oil boom, the Fort Berthold Reservation witnessed a steady increase in population. The recent increase in drilling activity in the western part of the state has likely contributed to population growth in western counties including the Fort Berthold Reservation. American Indians are the

[10] Since 2010, there has been an increasing focus on oil and gas development on the Fort Berthold Reservation. As such, it is anticipated that the trends have potentially shifted; however, data from the 2011 US Census has not yet been released for the Fort Berthold Reservation.

majority population on the Fort Berthold Reservation but are the minority population in Dunn County and the State of North Dakota. Please refer to

Table 3.4, Demographic Trends.

Table 3.4, Demographic Trends

LOCATION	POPULATION IN 2010	% OF STATE POPULATION	% CHANGE 2000–2010	PREDOMINANT RACE	PREDOMINANT MINORITY
Dunn County	3,536	0.53%	-1.8%	White	American Indian (12.7%)
Fort Berthold Reservation	6,162	0.92%	+7.2%	American Indian[11]	White (34.7%)
Statewide	672,591	—	4.7%	White	American Indian (5.4%)

Source: U.S. Census Bureau, 2006-2010 American Community Survey & 2010 Census

According to 2006-2010 U.S. Census Bureau data, the Fort Berthold Reservation has lower than statewide averages of per capita income and median household income, whereas Dunn County has higher median household income but lower per capita income than the statewide averages. Dunn County has the same rate of unemployment as the state average, while Fort Berthold's rate of unemployment is greater[12]. Please refer to ***Table 3.5, Employment and Income.***

Table 3.5, Employment and Income

LOCATION	PER CAPITA INCOME	MEDIAN HOUSEHOLD INCOME	UNEMPLOYMENT RATE	INDIVIDUALS LIVING BELOW POVERTY LEVEL
Dunn County	$24,832	$48,707	3.6%	8.6%
Fort Berthold Reservation	$18,059	$41,658	6.9%	26.0%
Statewide	$25,803	$46,781	3.6%	12.3%

Source: U.S. Census Bureau, 2006-2010 American Community Survey

3.13.1 Environmental Justice Impacts/Mitigation

Alternative A (No Action) – Alternative A would not result in disproportionately high adverse impacts to minority or low-income populations.

Alternative B (Proposed Action) – Alternative B would not require relocation of homes or businesses, cause community disruptions, or cause disproportionately adverse impacts to members of the Three Affiliated Tribes. The proposed project has not been found to pose significant impacts to any other critical element (public health and safety, water, wetlands, wildlife, soils, or vegetation) within the

[11] According to the North Dakota Tourism Division, there are 10,400 enrolled members of the Three Affiliated Tribes.

[12] While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not yet available, it is anticipated that 2011 numbers may show different trends. The exploration and production of oil and gas resources on the Reservation has created employment opportunities and have likely affected the economic indicators; however, this assessment uses the best available data.

human environment. The proposed project is not anticipated to result in disproportionately adverse impacts to minority or low-income populations.

Oil and gas development of the Bakken and Three Forks formations is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation from the following sources: (1) royalties from drilling and production; and (2) Tribal Permit Application and Tribal Employee Rights Office (TERO) fees collected on wells drilled on minerals held in trust by the BIA.

3.14 Infrastructure and Utilities

The Fort Berthold Reservation's infrastructure consists of roads, bridges, utilities, and facilities for water, wastewater, and solid waste.

Known infrastructure within the vicinity of the proposed project includes paved (ND Highway 22) and gravel (BIA Road 14 and oil field access roads) roadways. The Bureau of Reclamation (BOR) manages the Fort Berthold Rural Water System. The nearest known freshwater pipeline runs parallel to the existing oil field road before deviating to the south near the connection point with the proposed access road in Section 4, T147N, R94W. This pipeline would be crossed by the proposed access road.

3.14.1 Infrastructure and Utility Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact infrastructure or utilities.

Alternative B (Proposed Action) – Alternative B would require the construction of approximately 13,559 feet (2.57 miles) of new gravel roadways. In addition, vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network.

To minimize potential impacts to the roadway conditions and traffic patterns in the area, all haul routes used would either be private roads or roads that have been approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. Marathon would follow Dunn County, BIA, and NDDOT rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through said entities. Marathon's contractors would be required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

The project would also involve the installation of supporting electrical lines. In addition, if commercially recoverable oil and gas are discovered, a natural gas gathering system may need to be installed. It is expected that electric lines, telecommunication lines, and other pipelines would be constructed underground within the approved ROW. Otherwise, additional NEPA analysis and BIA approval would be completed prior to their construction. To minimize potential impacts to the identified water pipeline, Marathon would consult with BOR prior to construction. Other utility modifications would be identified during design and coordinated with the appropriate utility company.

Drilling operations at the proposed site would generate produced water. In accordance with the BLM Gold Book and BLM Onshore Oil and Gas Order Number 7, produced water would be disposed of via subsurface injection at an approved disposal site. Produced water may be trucked to nearby oil fields where injection wells are available.

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed project. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed well site. If commercial operations are established at the proposed site following drilling activities, the pumps would be checked daily and oil and water would be transported via two buried emulsion flow-lines to the CTB where hauling activities would commence. Oil would be hauled using a semi tanker trailer, typically capable of hauling 140 barrels of oil per load. Traffic to and from the CTB would depend upon the productivity of the wells. A 1,000-barrel-per-day well would require approximately seven tanker visits per day, while a 300-barrel-per-day well would require approximately two visits per day.[13] If produced water were to be hauled from the site, a tanker would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production.[14] Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate. It is expected that these wells would be tied into Saddle Butte's oil and gas gathering systems once available, thereby reducing the need for long term truck traffic as a mode of transportation.

3.15 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H_2S) gas[15] and hazardous materials used or generated during well installation or production.

3.15.1 Public Health and Safety Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact public health and safety.

Alternative B (Proposed Action) – Project design and operational precautions would minimize the likelihood of impacts from H_2S gases and hazardous materials as described below.

H2S Gases — It is unlikely that the proposed action would result in release of H_2S in dangerous concentrations; however, Marathon would submit H_2S Contingency Plans to the BLM as part of the site APD process. The plans would establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_2S into the atmosphere. The Contingency Plans would be designed to protect persons living and/or working within 3,000 feet (0.57 mile) of each well location and include emergency response procedures and safety precautions to minimize the potential for an H_2S gas leak during drilling activities. Satellite imagery revealed that there are no residences/buildings within 3,000 feet of the proposed project area.

[13] A typical Bakken oil well initially produces at a high rate and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 500 to 1,000 BOPD (barrels of oil per day) could be expected, dropping to 200 to 400 BOPD after several months.

[14] A typical Bakken oil well initially produces water at 200 bbls per day and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 200 BWPD (barrels of water per day) could be expected, dropping to 30 to 70 BWPD after several months.

[15] H_2S is extremely toxic in concentrations above 500 parts per million. H_2S has not been found in measurable quantities in the Bakken formation; however, before reaching the Bakken, drilling would penetrate the Mission Canyon formation, which is known to contain varying concentrations of H_2S.

Hazardous Materials — The EPA specifies chemical reporting requirements under the Superfund Amendments and Reauthorization Act of 1986, as amended. No materials used or generated by this project for production, use, storage, transport, or disposal are on either the Superfund list or on the EPA's list of extremely hazardous substances in 40 CFR 355.

The SPCC rule includes EPA requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans.

Spill Response Plan — Marathon and Saddle Butte (for proposed pipelines) have committed to developing a spill response plan. The response plan would include monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures. The spill response plan would be submitted to the BIA prior to the commencement of construction activities.

Pipeline Marking Procedures — Saddle Butte would fully comply with the marking requirements specified in USDOT rules and regulations, specifically contained in 49 CFR Parts 192 and 195.

3.16 Cumulative Considerations

Cumulative impacts result from the incremental consequences of an action "when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). Effects of an action may be minor when evaluated in an individual context, but the effects can add to other disturbances and collectively may lead to a measurable environmental change. By evaluating the impacts of the proposed action with the effects of other actions, the relative contribution of the proposed action to a projected cumulative impact can be estimated.

3.16.1 Past, Present, and Reasonably Foreseeable Actions

Oil and gas development in western North Dakota has occurred with varying intensity for the past 100 years. Gas development began in the area in 1909, and the first recorded oil well was drilled in 1920. North Dakota's oil production has boomed twice prior to the current boom: first in the 1950s, peaking in the 1960s, and again in the 1970s, peaking in the 1980s. North Dakota is currently experiencing its third oil boom, which has already far surpassed the previous events in magnitude. The current oil boom is occurring both within and outside of the Fort Berthold Reservation.

According to the NDIC, as of July 31, 2012, approximately 889 active and/or confidential oil and gas wells were located within the Fort Berthold Reservation, 547 of which were located on tribal trust property under the authority of the BIA. In addition, there were approximately 1,103 active and/or confidential oil and gas wells within a 20-mile radius of the proposed Lincoln Hopkins well pad. Please refer to

Table 3.6, Summary of Permitted Confidential/Active Wells and *Figure 3.8, Permitted Confidential/Active Wells.*

Table 3.6, Summary of Permitted Confidential/Active Wells

DISTANCE FROM SITE	NUMBER OF PERMITTED CONFIDENTIAL/ ACTIVE WELLS
1 mile radius	0
5 mile radius	73
10 mile radius	335
20 mile radius	1,103

As mentioned previously in this EA, the Bakken formation covers approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks formation lies beneath the Bakken. The NDDMR estimates that there are approximately 2.1 billion barrels of recoverable oil in each of the formations and that there will be 30 to 40 remaining years of production, or more if technology improves.

Commercial success at any new well can be reasonably expected to result in additional nearby oil/gas exploration proposals; however, it is speculative to anticipate the specific details of such proposals. While such developments remain speculative until APDs have been submitted to the BLM or BIA, it is reasonable to assume based on the estimated availability of the oil and gas resources that further development will continue in the area for the next 30 to 40 years. It is also reasonable to assume that natural gas and oil gathering and/or transportation systems will be proposed and likely built in the future to facilitate the movement of products to market. Currently, natural gas gathering systems are being constructed and on and around the Fort Berthold Reservation, and many more laterals connecting current and future wells are in the planning process.

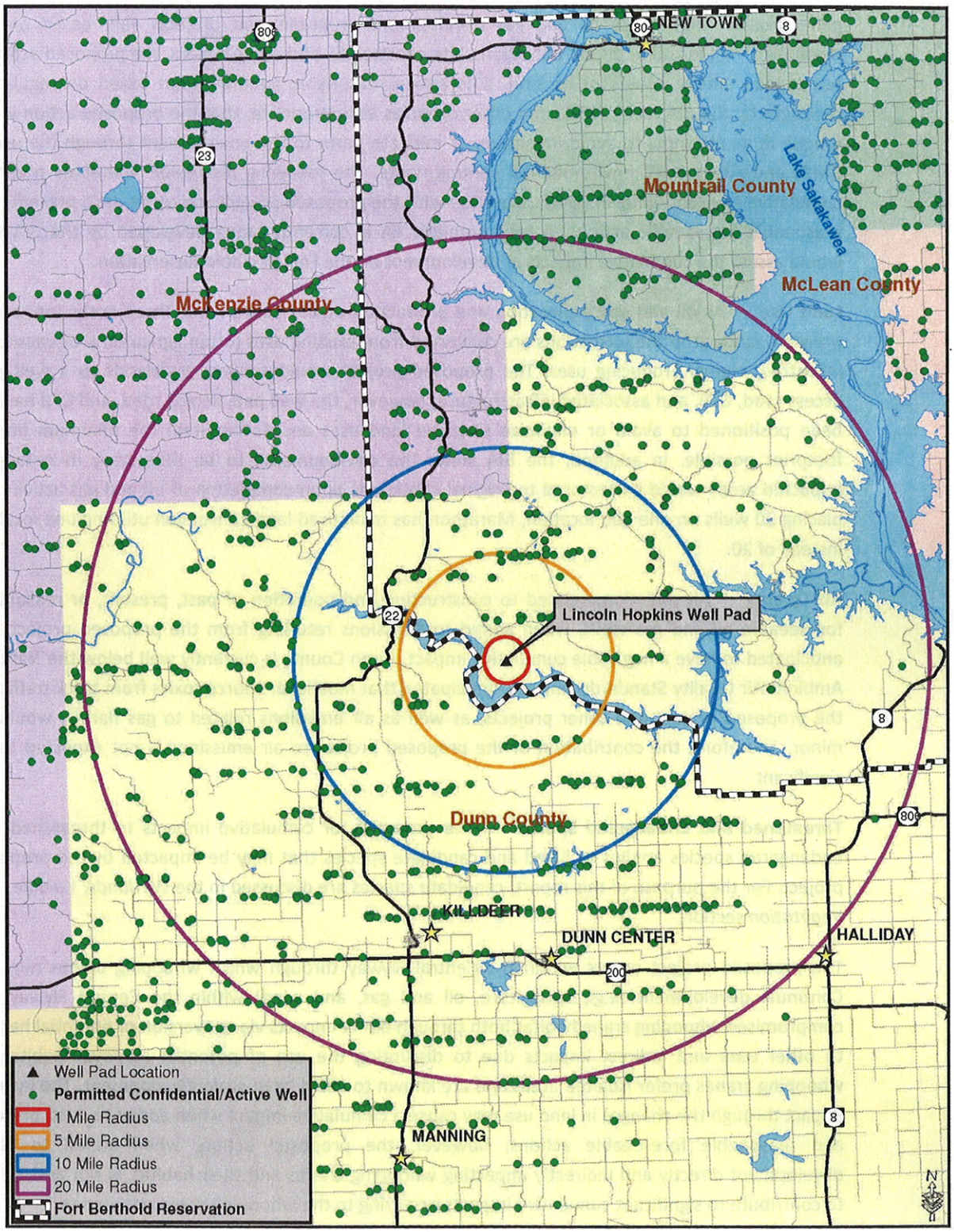

Figure 3.8, Permitted Confidential/Active Wells

3.16.2 Cumulative Impact Assessment

The proposed project is not anticipated to directly impact other oil and gas projects. It is a reasonable generalization that, while oil and gas development proposals and projects vary based on the developer, well location, permit conditions, site constraints, and other factors, the proposed action is not unique among others of its kind. It is also a reasonable generalization based on regulatory oversight by the BIA, BLM, NDIC, and other agencies as appropriate, that the proposed action is not unique in its attempts to avoid, minimize, or mitigate harm to the environment through the use of BMPs and site-specific environmental commitments. The following discussion addresses potential cumulative environmental impacts associated with the proposed project and other past, present, and reasonably foreseeable actions. A programmatic EA is currently being developed by the BIA that would assess the cumulative impacts of development on the Fort Berthold Reservation.

Land Use — As oil and gas exploration and production of the Bakken and Three Forks formations proceed, lands atop the formations are converted from existing uses (often agricultural or vacant) to industrial, energy-producing uses. The proposed project would convert grasslands to a well pad, access road, CTB, and associated infrastructure; however, the well pad, access road, and CTB have all been positioned to avoid or minimize sensitive land uses and to maintain the minimum impact footprint possible. In addition, the BIA views the developments to be temporary in nature as impacted areas would be restored to original conditions upon completion of oil and gas activity. By placing 20 wells on one pad location, Marathon has minimized land conversion utilizing one location instead of 20.

Air Quality — Air emissions related to construction and operation of past, present, or reasonably foreseeable oil and gas wells, when added to emissions resulting from the proposed project, are anticipated to have a negligible cumulative impact. Dunn County is currently well below the National Ambient Air Quality Standards, and it is anticipated that mobile air source toxics from truck traffic for the proposed project and other projects, as well as air emissions related to gas flaring, would be minor. Therefore, the contribution of the proposed project to air emissions is not expected to be significant.

Threatened and Endangered Species — The potential for cumulative impacts to threatened and endangered species applies to listed and candidate species that may be impacted by the proposed project. For the purpose of this report, candidate species are discussed in the *Wetlands, Wildlife, and Vegetation* section.

The proposed project occurs within the Central Flyway through which whooping cranes migrate. Continual development (e.g., agriculture, oil and gas, and wind) within the Central Flyway has compromised whooping crane habitat both through direct impacts via conversion of potential habitat to other uses and indirect impacts due to disrupting the use of potential stopover habitat, as whooping cranes prefer isolated areas and are known to avoid large-scale development. The indirect impact through the changes in land use may cause a cumulative impact when added to past, present, and reasonable foreseeable actions; however, the proposed action, when added to other development directly and indirectly impacting whooping cranes and their habitat, is not anticipated to contribute to significant cumulative impacts occurring to the whooping crane population.

As previously stated, habitat for the interior least tern, pallid sturgeon, and piping plover is primarily associated with the Little Missouri River and its shoreline. When added to other past, present, and

reasonably foreseeable projects, such as oil and gas wells and water intake structures near the Little Missouri River and Lake Sakakawea, the proposed project may have an indirect cumulative impact on potential habitat (Little Missouri River and its shoreline) for said species due to potential leaks or spills; however, due to the implementation of a semi-closed loop drilling system, as well as secondary and tertiary containment measures for the proposed project, the transfer of accidentally released fluids to the Little Missouri River and its associated habitats is unlikely. Furthermore, any new electrical lines would be buried to prevent the potential for electrical line strikes by the interior least tern and piping plover. Therefore, it is unlikely the project would contribute to significant cumulative impacts to the interior least tern, pallid sturgeon, and piping plover.

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of the well pad, CTB, access road, and associated development. By placing 20 wells at one location, habitat loss has been minimized. The North Dakota Parks and Recreation Department notes in its undated publication, *"North Dakota Prairie: Our Natural Heritage,"* that approximately 80 percent of the state's native prairie has been lost to agriculture, with most of the remaining areas found in the arid west. Ongoing oil and gas activity has the potential to impact remaining native prairie resources. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition would increase. Consequences could include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. In particular, species that rely on native prairie for breeding, feeding, and sheltering, such as the Dakota skipper and Sprague's pipit, may experience population impacts due to the cumulative loss of habitat through conversion and fragmentation.

The proposed action has been carefully planned to avoid or minimize impacts to wetlands, wildlife and vegetation resources. Multiple components of the process used by the BIA to evaluate and approve such actions, including biological and botanical surveys, on-site assessments with representatives from multiple agencies and entities, public and agency comment periods on this EA, and the use of BMPs and site-specific environmental commitments are in place to ensure that environmental impacts associated with oil and gas development are minimized. The practice of utilizing existing roadways to the greatest extent practicable further minimizes impacts to wildlife habitats and prairie ecosystems. The proposed well pad, CTB, and access road have been situated to avoid sensitive areas such as surface water, wetlands, and riparian areas. Reclamation activities would minimize and mitigate disturbed habitat.

Infrastructure and Utilities — The proposed action, along with other oil and gas wells proposed and drilled in the Bakken and Three Forks formations, requires infrastructure and utilities to provide needed resource inputs and accommodate outputs such as fresh water, power, communications, site access, transportation of products to market, and disposal of produced water and other waste materials. As with the proposed action, many other well sites currently being proposed and/or built are positioned to make the best use of existing roadways and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. The proposed well pad has been positioned as closely as possible to existing roadways to minimize the extent of access road impacts in the immediate area. The contribution of the proposed project and

other projects to stress on local roadways used for hauling materials may result in a cumulative impact to local roadways; however, abiding by permitting requirements and roadway restrictions with the jurisdictional entities are anticipated to offset any cumulative impact that may result from the proposed project and other past, present, or future projects. BMPs would be implemented to minimize impacts of the proposed project.

The proposed action has been planned to avoid impacts to resources such as wetlands, floodplains, surface water, cultural resources, and threatened and endangered species. Unavoidable impacts to these or other resources would be minimized and/or mitigated in accordance with applicable regulations.

3.17 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken and Three Forks formations 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 killed during earth-moving operations or in collisions with vehicles, and energy expended during construction and operation.

3.18 Short-term Use of the Environment Versus Long-term Productivity

Short-term activities would not significantly detract from long-term productivity of the project area. The area dedicated to the access road, well pad, and CTB would be unavailable for livestock grazing, wildlife habitat, or other uses; however, allottees with surface rights would be compensated for loss of productive acreage, and project footprints would shrink considerably once the wells were drilled and non-working areas reclaimed and reseeded. Successful and ongoing reclamation of the landscape would reestablish the land's use for wildlife and livestock grazing, stabilize the soil, and reduce the potential for erosion and sedimentation. The primary long-term resource loss would be the extraction of oil and gas resources from the Bakken and Three Forks formations, which is the purpose of this project.

3.19 Permits

Marathon would be required to acquire the following permits prior to construction:

- *Application for Permit to Drill* – Bureau of Land Management
- *Application for Permit to Drill* – North Dakota Industrial Commission
- *Section 10 Permit* – United States Army Corps of Engineers

3.20 Environmental Commitments/Mitigation

The following commitments have been made by Marathon:

- Topsoil would be segregated and stored to be used in the reclamation process.
- BMPs such as seeding, erosion mats, and biologs would be implemented to minimize wind and water erosion of soil resources.

- The proposed well pad, CTB and access roads would avoid surface waters, including wetlands and riparian areas. The proposed project would not alter stream channels or change drainage patterns, except for storm water diversion purposes.

- The entire Lincoln Hopkins well pad and CTB would be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes.

- Earth berms, fiber rolls, straw wattles, and/or additional BMP's would be placed in all drainages located adjacent to the well pad, CTB, and access road.

- A water diversion berm would be installed along all cut slopes of the proposed well pad and CTB to prevent precipitation or meltwater from running onto the pads.

- The proposed wells would be cemented and cased per BLM and NDIC regulations to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

- A semi-closed loop drilling system would be utilized whereby stabilized cuttings would be placed in an earthen, reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a thickness of 20 mil to prevent seepage into the underlying bedrock.

- Any minimal free fluid present in the cuttings pits would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site.

- Prior to their use, the cuttings pits would be fenced on the non-working sides. It is expected that the pits would be closed immediately following drilling and completion of the wells, or the access sides would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pits.

- Spills or leaks of chemicals and other pollutants would be reported to the appropriate regulatory agencies. The procedures of the surface management agency would be followed to contain leaks or spills.

- Storage tanks and the heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production.

- Welds completed on the steel pipelines would be subjected to a 100 percent Non-Destructive Testing.

- For expected pipeline construction, Saddle Butte would develop a spill response plan to be submitted to the BIA prior to construction. The plan would include procedures that specifically address making the appropriate contacts, isolating the incident, protecting waterways and providing contact information for all the appropriate contractors and experts necessary to facilitate a rapid response.

- For expected pipeline operations, Saddle Butte would fully comply with the marking requirements specified in USDOT rules and regulations, specifically contained in 49 CFR Parts 192 and 195.

- Marathon would comply with all rules and regulations set forth in the EPA FIP.

- Marathon would provide dust control for their access roads and haul roads when necessary.
- All woody vegetation removed during construction would be ground up and incorporated into topsoil stockpiles.
- An H_2S Contingency Plan would be submitted by Marathon to the BLM as part of the APD.
- In the event that a construction activity needs to take place within the migratory bird nesting and breeding season (February 1 to July 15), pre-construction surveys for migratory birds and their nests would be conducted within five days prior to the initiation of construction activities. Mowing/grubbing the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction survey.
- Measures implemented during construction to avoid the taking of migratory bird species would include: using suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise; utilizing only approved roadways; placing wire mesh or grate covers on containers used to collect dripped oil under valves and spigots; maintaining open pits and ponds that are free from oil; netting cuttings pits (if not reclaimed immediately after drilling and completion of the well) with a maximum mesh size of 1.5 inches; and burying electrical lines.
- If a whooping crane is sighted within one mile of the well site or associated facilities while it is under construction, all work being conducted within one mile of the whooping crane's location would cease and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- If a bald or golden eagle nest is sighted within 0.5 miles of the project construction area, construction activities would cease and the USFWS would be notified for advice on how to proceed.
- Marathon would complete interim reclamation measures within six months of well completion; however, if circumstances prevent interim reclamation activities from occurring within this timeframe, Marathon would contact BIA and BLM to request an extension.
- Pipeline corridor reclamation would occur promptly after construction. Topsoil separated during pipeline installation would be used for reseeding and reclaiming the disturbed area. If topsoil cannot be spread in a timely manner that allows vegetation to reestablish prior to winter, Saddle Butte would use sprayed reinforcement, lain matting reinforcement, spread and crimp straw, straw wattles and/or silt fences to minimize erosion until spring. All temporary reclamation measures would be inspected on a monthly basis, or more frequently as necessary, throughout the winter. Additional reclamation activities would occur throughout the life of the pipeline, if required due to routine maintenance or the addition of infrastructure.
- Disturbed vegetation would be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed would be obtained from a BIA/BLM approved source.
- Noxious weed infestations would be treated with a BIA/BLM approved herbicide prior to construction to prevent the further spread of noxious weeds.

- Prior to mobilization and entry to Tribal or USACE lands, drilling rigs and associated equipment would be pressure washed or air blasted to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.

- The proposed well pad, CTB, and access roads would avoid impacts to cultural resources. If cultural resources would be discovered during construction or operation, work would immediately stop, the affected site secured, and the BIA and THPO notified. In the event of a discovery, work would not resume until written authorization to proceed has been received from the BIA.

- Project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

- The wells and associated facilities would be painted in earth tones, based on standard colors stipulated by the BLM in the approved federal APD, to allow them to better blend in with the natural background color of the surrounding landscape.

- Marathon would ensure all contractors working for the company adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.

- Established load restrictions for State and BIA roadways would be followed and haul permits would be acquired as appropriate.

- Utility modifications would be identified during design and coordinated with the appropriate utility company.

CHAPTER 4 PREPARERS AND AGENCY COORDINATION

4.1 Introduction

This chapter identifies the names and qualifications of the principal people contributing information to this EA. In accordance with Part 1502.6 of the Council on Environmental Quality regulations for implementing NEPA, the efforts of an interdisciplinary team comprising technicians and experts in various fields were required to accomplish this study.

This chapter also provides information about consultation and coordination efforts with agencies and interested parties, which has been ongoing throughout the development of this EA.

4.2 Preparers

Kadrmas, Lee & Jackson, Inc. prepared this EA under a contractual agreement between Marathon Oil Company and KL&J. A list of individuals with the primary responsibility for conducting this study, preparing the documentation, and providing technical reviews is contained in ***Table 4.1, Preparers.***

Table 4.1, Preparers

AFFILIATION	NAME	TITLE	PROJECT ROLE
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Marathon Oil Company	Luke Franklin	Senior HES Professional	Project development, alternatives, document review
	Darrell Nodland	Operations Specialist	Project development, alternatives, document review
Kadrmas, Lee & Jackson, Inc.	Mike Huffington	Environmental Planner	Principal Author, field resources surveys, impact assessment, exhibit creation
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Doug Timpe	Environmental Planner	Senior Review
	Grady Wolf	Environmental Scientist	Project Manager
William H. Smith & Associates P.C.	William H. Dolinar	Surveyor	Site plats

4.3 Agency Coordination

To initiate early communication and coordination, an early notification scoping package to tribal, federal, state, and local agencies and other interested parties was distributed on June 14, 2012. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

By the conclusion of the 30-day comment period, eight responses had been received. The comments provide valuable insight into the evaluation of potential environmental impacts. The comments were referenced and incorporated where appropriate within the environmental impact categories addressed in this document. Please refer to ***Appendix A for Agency Scoping Materials and Appendix B for Agency Scoping Responses.***

4.4 Public Involvement

Provided the BIA approves this document and determines that no significant environmental impacts would result from the proposed action, a Finding of No Significant Impact (FONSI) will be issued. The FONSI is followed by a 30-day public appeal period. BIA will advertise the FONSI and public appeal period by posting notices in public locations throughout the Reservation. No construction activities may commence until the 30-day public appeal period has expired.

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Appendix A

Agency Scoping Materials

June 14, 2012

«CTitle» «First» «Last»
«Title»
«Department»
«Agency»
«Address»
«City», «State» «Zip»

RE: Marathon Oil Company
Lincoln Hopkins Well Pad
Fort Berthold Reservation
Dunn County, North Dakota

Dear «CTitle» «First» «Last»;

On behalf of Marathon Oil Company, Kadrmas, Lee & Jackson, Inc. is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of up to 24 oil and gas wells located atop a single well pad in Dunn County, North Dakota on the Fort Berthold Reservation. Recovered oil and gas resources from these wells would be piped to an off-site production facility that would also be constructed in association with this proposed action. The well pad and production facility are proposed to be positioned in the following locations:

- Lincoln Hopkins Well Pad (24 well) located in Section 9, 10, 15, and 16, T147N, R94W, 5th P.M.
- Production Facility located in Section 4, T147N, R94W, 5th P.M.

Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil and gas from the Bakken and Three Forks Formations. The well pad and production facility have been positioned to utilize existing roadways for access to the extent possible; however, the proposed action would require the construction of a new access road. Construction of the proposed well pad, production facility, and access road is scheduled to begin in fall 2012.

To ensure that social, economic, and environmental effects are analyzed accurately, we solicit your views and comments on the proposed action. We ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted. We are also interested in existing or proposed developments you may have that should be considered in connection with the proposed project.

Please provide your comments by **July 14, 2012**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (701) 271-2100. Thank you for your cooperation.

Sincerely,

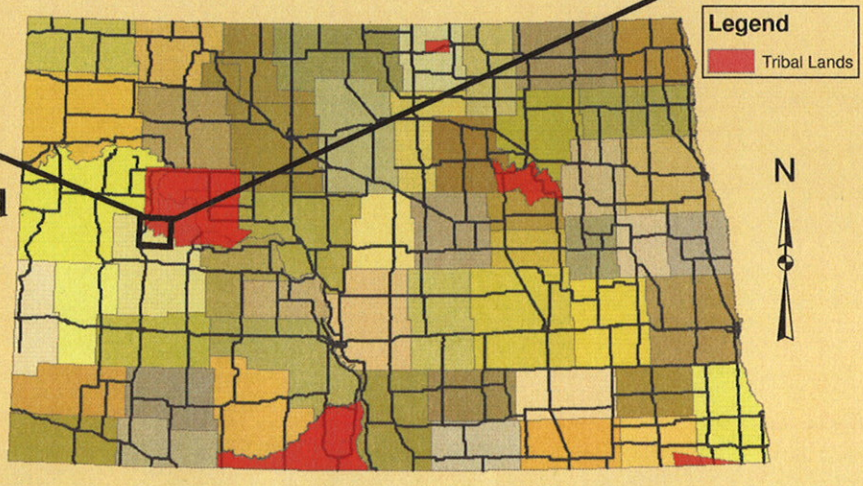
Kadrmas, Lee & Jackson, Inc.

Mike Huffington
Environmental Planner

Enclosure (Project Location Map)

Project Location Map

Marathon Oil Company
Proposed Lincoln Hopkins Well Pad
and Production Facility
Dunn County, ND



Kadrmas Lee & Jackson
Engineers Surveyors Planners

June 14, 2012

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

Re: Marathon Oil Company
Lincoln Hopkins Well Pad
Fort Berthold Reservation
Dunn County, North Dakota

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Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil and gas from the Bakken and Three Forks Formations. The well pad and production facility have been positioned to utilize existing roadways for access to the extent possible; however, the proposed action would require the construction of a new access road. Construction of the proposed well pad, production facility, and access road is scheduled to begin in fall 2012.

An intensive, pedestrian resource survey of the proposed well pad, production facility, and access road was initially conducted on July 27, 2011 by KL&J, with revisits conducted on April 18, 2012 and June 5, 2012. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. The study area for the proposed project consisted of a 200-foot buffer around all well pad and production facility disturbance areas, and a 300-foot wide access road corridor. Two eagle/raptor surveys were conducted in conjunction with the proposed project, the first occurring on July 27, 2011 and the second on June 5, 2012. A 0.50-mile wide buffer around all areas of project disturbance was used to

evaluate the presence of eagles/raptors and eagle/raptor nests. Resources were evaluated using visual inspection from elevated ridgelines as well as within wooded draws. ***Please refer to the enclosed Study Area Map and Eagle Buffer Map.***

The BIA-facilitated EA on-site assessment of the well pad, production facility, and access road was conducted on June 5, 2012 with the BIA also present for the July 27, 2011 and April 18, 2012 visits. BIA Environmental Protection Specialists, as well as representatives from Marathon, the BLM, and KL&J were present during the June 5, 2012 on-site assessment. A representative from the Tribal Historic Preservation Office was present during the July 27, 2011 site visit and cleared the area of cultural significance. During this assessment construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into the final APDs. Those present at the on-site assessments agreed that the chosen locations are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. BMPs and other commitments Marathon has made to avoid, minimize, or mitigate impacts are listed at the end of this letter.

Threatened and Endangered Species: The proposed project occurs in Dunn County, North Dakota. In Dunn County, the interior least tern, whooping crane, black-footed ferret, pallid sturgeon, and gray wolf are all listed as endangered species. The piping plover is listed as a threatened species, and the Dakota skipper and Sprague's pipit are listed as candidate species. Dunn County also contains designated critical habitat for the piping plover. None of these species were observed during the field surveys and on-site assessment.

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. There were no wetlands observed on or near any of the proposed areas of disturbance. The majority of the proposed project occurs on open rangeland that is moderately grazed by livestock. The proposed project is located within the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Whooping cranes traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development; however, it is believed that there are still large, undeveloped areas on the Fort Berthold Reservation in which migrating cranes could land to rest. Therefore, the proposed project may affect but is not likely to adversely affect whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of the well site or associated facilities while under construction, all work would cease within one-

mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

Suitable habitat for the interior least tern and critical habitat for the piping plover are largely associated with the shoreline of the Little Missouri River or back bay of Lake Sakakawea depending on water elevations. Potential habitat for these species exists approximately 0.87 miles southwest of the proposed production facility, or about 1.18 miles away following the shortest drainage pattern to the River from the Lincoln Hopkins Well Pad. The well pad, production facility, and access road are all located on upland bluffs of rangeland with the Little Missouri River/Lake Sakakawea and its shoreline located approximately 350 feet below the bluffs. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Suitable habitat for the pallid sturgeon is found within the Little Missouri River/Lake Sakakawea, located approximately 1.18 miles away following the shortest drainage pattern to the River.

The proposed project is located 1.18 miles from the Little Missouri River/Lake Sakakawea (following the shortest drainage pattern), making the potential for significant quantities of accidentally released fluids reaching the River unlikely, but reasonably feasible. Test facilities consisting of six 400 barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur off-site at the production facility. The majority of oil and gas produced at the well site would be piped via two emulsion lines, located within the access road right-of-way, to the off-site production facility. Storage tanks and the heater/treaters located at both the well pad and production facility would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The entire well pad and production facility would also be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to the Little Missouri River/Lake Sakakawea and its associated habitats is reasonably feasible but unlikely. Therefore, the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover. The proposed project is not likely to impact critical habitat for the piping plover.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. Preferred habitat for the black-footed ferret includes areas around prairie dog towns, as ferrets rely on prairie dogs for food and live in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. In North Dakota, the southwestern corner of the state provided suitable habitat and supported the black-footed ferret; however, this species has not been confirmed in North Dakota for nearly 30 years and is presumed extirpated. The access road and production facility are located within a half mile of an active prairie dog town. This town is greater than 80-acres in size but was previously cleared for black-footed ferrets by the BIA and USFWS for a previous well pad project. Due to a lack of known populations within North Dakota, the proposed project is anticipated to have no effect to the black-footed ferret.

Historically, the gray wolf's preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. The project sites are located far from other known wolf populations and are positioned on open rangeland and river breaks that would not likely provide sufficient habitat for gray wolves. No wolves or indications of wolves were observed during the field surveys. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect on the gray wolf.

The preferred habitat for the Dakota skipper consists of undisturbed, flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. The proposed sites consist of moderately grazed rangeland that could potentially provide suitable Dakota skipper habitat as grazing patterns change. Upland prairie and wildflower species were observed. No Dakota skippers were observed during the field surveys. Due to the presence of potential habitat for the Dakota skipper within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie of intermediate height with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. The proposed project areas consist of moderately grazed upland mixed-grass prairie. Although the overall health and productivity of the site compared to historical conductions are unknown, as grazing patterns change, the site may contain the prairie habitat necessary for the Sprague's pipit. No Sprague's pipit were observed during the field surveys. Due to the presence of potential habitat for the Sprague's pipit within the project area, the proposed action may impact individuals or habitat. An

"effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

Botanical Resources: The proposed Lincoln Hopkins well pad and production facility consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Western wheatgrass (*Pascopyrum smithii*) Kentucky bluegrass (*Poa pratensis*), needle and thread (*Hesperostipa comate*), fringed sage (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and smooth bromegrass (*Bromus inermis*). Large patches of Western snowberry (*Symphoricarpos occidentalis*) were also observed along with Missouri goldenrod (*Solidago missouriensis*). Trees found within the adjacent draws were primarily green ash (*Fraxinus pennsylvanica*) and American elm (*Ulmus americana*). The production facility study area consisted of a similar grass and forb composition with few shrubs and no trees present. No wetlands or noxious weeds were observed on or near the proposed well pad or production facility. There are no threatened or endangered plant species listed for Dunn County.

The proposed access road study area also consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The study area was dominated by Kentucky bluegrass, smooth brome, needle and thread, silver sagebrush (*Artemisia cana*), and common ragweed (*Ambrosia artemisiifolia).* Little bluestem (*Schizachyrium scoparium*) was observed in large patches along hill slopes and Western snowberry was observed throughout. The proposed access road passes through several woody draws composed primarily of green ash and American elm with Rocky Mountain juniper (*Juniperus scopulorum*) occasionally present. The noxious weeds Canada thistle (*Cirsium arvense*) and absinthe wormwood (*Artemisia absinthium*) were both observed in minor amounts along the access road corridor.

Biological Resources: The project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), sharp-tailed grouse (*Tympanuchus phasianellus*), turkey (*Meleagris gallopavo*), ring-necked pheasant (*Phasianus colchicus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), red tail hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), badger (*Taxidea taxus*), song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), cottontail rabbit (*Sylvilagus floridanus*), jackrabbit (*Lepus townsendii*), mountain lion (*Puma concolor*), and North American porcupine (*Erethizon dorsatum*). The following wildlife and/or migratory bird species were observed during the field survey/on-site assessment and eagle survey: 5 turkey vultures (*Cathartes aura*), 2 red tailed hawks, 1 sharp-tailed grouse, and 2 western meadowlarks (*Sturnella neglecta*).

During drilling activities, the noise, movements, and lights associated with having a drilling rig on-site are expected to deter wildlife from entering the area. In

addition, the cuttings pits would only be used for solid material storage, and it is expected that very minimal free fluid would be present in the pits. The absence of exposed liquids in the pits would minimize their attractiveness to wildlife. Immediately after the drilling rig leaves the location, cuttings pits would be netted with State and Federal approved nets, or closed and reclaimed. These would remain in place with proper maintenance until the closure of the cuttings pits.

In addition, design considerations would be implemented to further protect against potential habitat degradation. Test facilities consisting of six 400 barrel tanks and two treaters would be located at the well site; however, all additional storage of produced oil and gas would occur off-site at the production facility. The majority of oil and gas produced at the well site would be piped via two emulsion lines, located within the access road right-of-way, to the off-site production facility. Storage tanks and the heater/treaters located at both the well pad and production facility would be surrounded by impermeable berms that would act as secondary containment to guard against accidental release of fluids from both sites. The berms would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The entire well pad and production facility would also be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes. Pit and soil stockpiles would be used to divert drainage outside of the cut slopes and straw rolls would be placed in all drainages. In addition, a modified closed-loop mud/cuttings system with an onsite cuttings pit would be put into practice. The stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes.

It is anticipated that construction would take place after July 15 and would therefore avoid the migratory bird nesting and breeding season (between February 1 and July 15). In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities or mowing of the site prior to and throughout the nesting/breeding season would prevent birds from nesting at the site.

Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. These measures would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.

Eagles: Ground surveys for eagle nests were conducted on July 27, 2011 and June 5, 2012. During these surveys, no eagles or eagle nests were observed. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information (last updated in 2010), the closest recorded golden eagle nest is located approximately 0.28 miles south of the proposed access road. During the eagle survey, an attempt to locate this site was unsuccessful and it was concluded that the nest is no longer present. If a bald or golden eagle nest is sighted within 0.5 miles of the project area during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Water Resources: The Lincoln Hopkins well site is situated on an upland area with drainages to the east and west. The entire well pad would be surrounded by a minimum 24-inch tall berm with secondary berms placed below all well pad fill slopes. The topography of the area, the pad configuration, and berming would prevent the site from draining towards these areas. In the event that runoff was to flow off of the well pad, it would drain into a series of ravines located on the western and eastern edges of the pad. Drainage flowing west off of the proposed pad would travel approximately 1.18 miles through ravines terminating at the Little Missouri River. Drainage flowing east off of the pad would enter into an ephemeral drainage terminating near the Little Missouri River/Lake Sakakawea confluence for a total traveled distance of approximately 1.47 miles.

The proposed production facility would also be located on an upland area with a series of drainages located east of the proposed pad. The production facility would be surrounded by a minimum 24-inch tall berm to prevent runoff from exiting the pad. If runoff were to flow off site, the topography of the area would result in a generally southeast flow direction. Runoff would initially flow overland before draining into a series of ravines located east of the proposed production facility. Runoff would then flow into an ephemeral drainage terminating near the Little Missouri River/Lake Sakakawea confluence for a total traveled distance of approximately 3.07 miles. Culverts along the proposed access roads would be implemented as necessary to avoid drainage impacts. ***Please refer to the enclosed Drainage Map.***

Best Management Practices: BMPs for soil and wind erosion would include the placement of blanket matting on all disturbed areas, over-seeding of cut areas and spoil piles, as well as the use of diversion ditches and silt fences. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles. The alteration of drainages near the proposed well pad and production facility would be avoided. Berming would be utilized around the entire well pad and production facility to prevent pad run-on and run-off, and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. Culverts to maintain drainage along the

access roads would also be installed where needed. Upon well completion, a portion of the well pad would be reclaimed to further avoid environmental areas of concern. In addition, secondary berms would be placed below all fill slopes to provide an additional level of containment.

Summary of Commitments to Avoid or Minimize Impacts: In an effort to minimize the potential environmental effects associated with the proposed project, Marathon would also implement the following measures into the development of this site:

- A modified closed-loop mud/cuttings system with an on-site cuttings pit would be used during drilling. Drill cuttings would be stabilized before being placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mil to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.
- Prior to their use, the cuttings pits would be fenced on the non-working sides. The access sides would be fenced and netted, or closed and reclaimed immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pits.
- The entire well pad and production facility would be surrounded by a minimum 24-inch tall berm to prevent run-on and run-off, with secondary berms placed below all well pad fill slopes.
- Erosion of the well pad and access road would also be controlled through the placement of blanket matting on all disturbed slopes.
- It is anticipated that construction would take place after July 15 and would therefore avoid the migratory bird nesting and breeding season (between February 1 and July 15). In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities or mowing of the site prior to and throughout the nesting/breeding season would prevent birds from nesting at the site.
- Measures implemented during construction to avoid the taking of migratory bird species would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting the cuttings pits with netting that has a maximum mesh size of 1.5 inches.

- Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of the well pad or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- The storage tanks and heater/treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- Per BIA guidance, interim reclamation measures would occur within six months of well completion; however, if winter weather conditions or Marathon's drilling schedule prevent interim reclamation from occurring within this timeframe, Marathon would contact BIA to request an extension.
- All utilities/pipelines would be installed belowground
- Woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles.
- To reduce the overall footprint of the well pad, all fill slopes would be designed at a 1.5:1 slope and all cut slopes would be designed at a 2:1 slope.
- Fences would be installed around all facilities to prevent livestock intrusion and cattle guards would be installed along access roads as needed.
- When deemed necessary, Marathon would provide dust control for their access roads and haul roads.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted. We are also interested in existing or proposed developments you may have that should be considered in connection with the proposed project. Any information that might help us in our study would be appreciated.

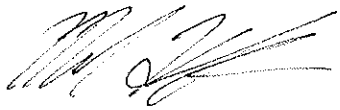
It is requested that any comments or information be forwarded to our office on or before **July 14, 2012**. We request your comments by that date to ensure that we would have ample time to review them and incorporate them into the necessary environmental documentation.

Lincoln Hopkins Well Pad
Marathon Oil Company
Fort Berthold Reservation

If you would like further information regarding this project, please contact me at (701) 271-2100. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.



Mike Huffington
Environmental Planner

Enclosures (Maps)

Project Location Map

T148N-R95W

T148N-R94W

T148N-R93W

Production Facility

Lincoln Hopkins Well Pad

T147N-R95W

T147N-R94W

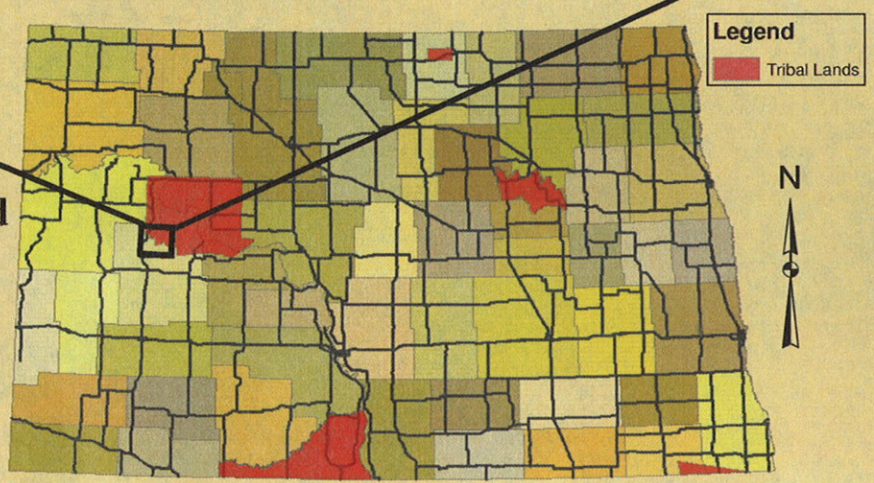
T147N-R93W

T146N-R95W

T146N-R94W

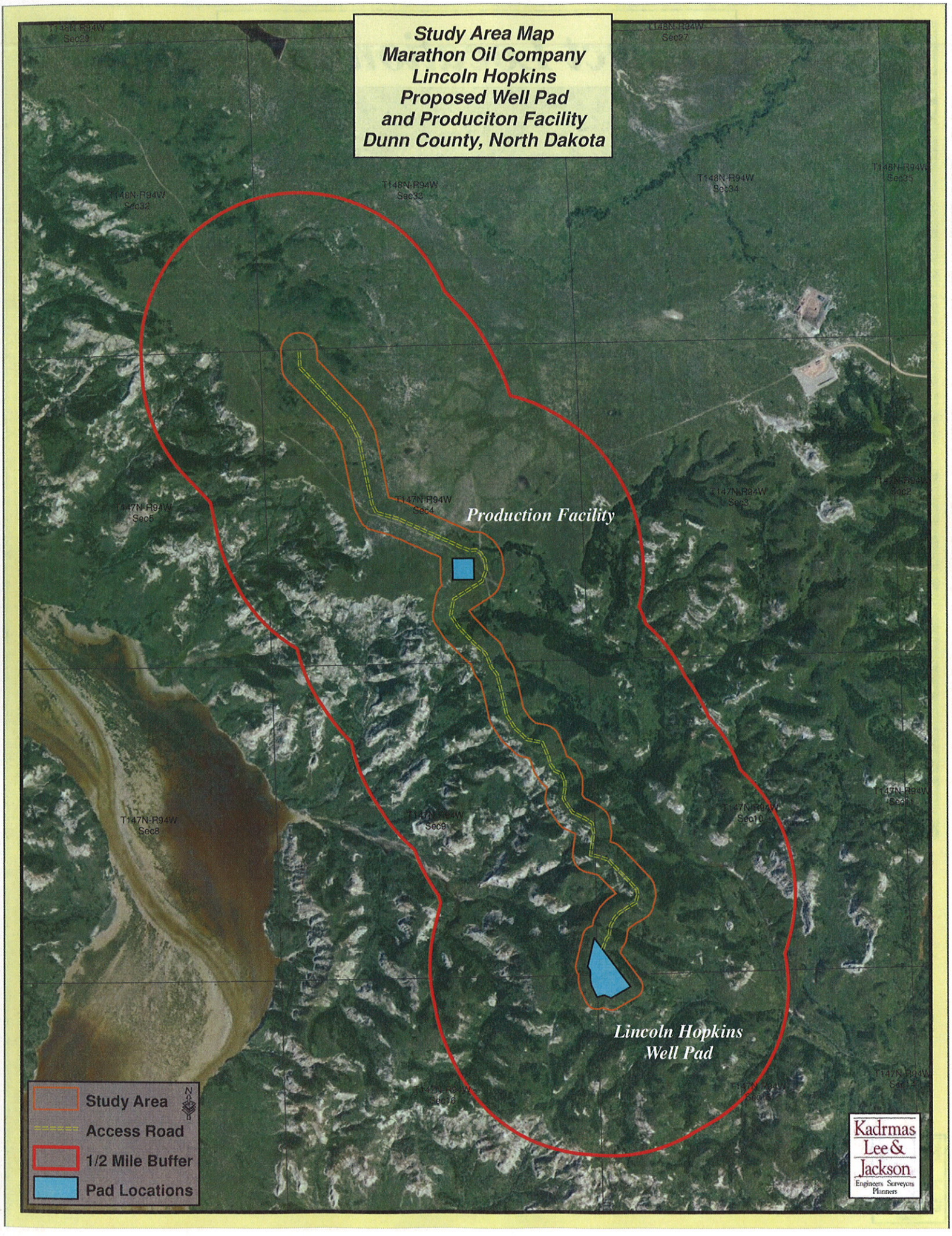
T146N-R93W

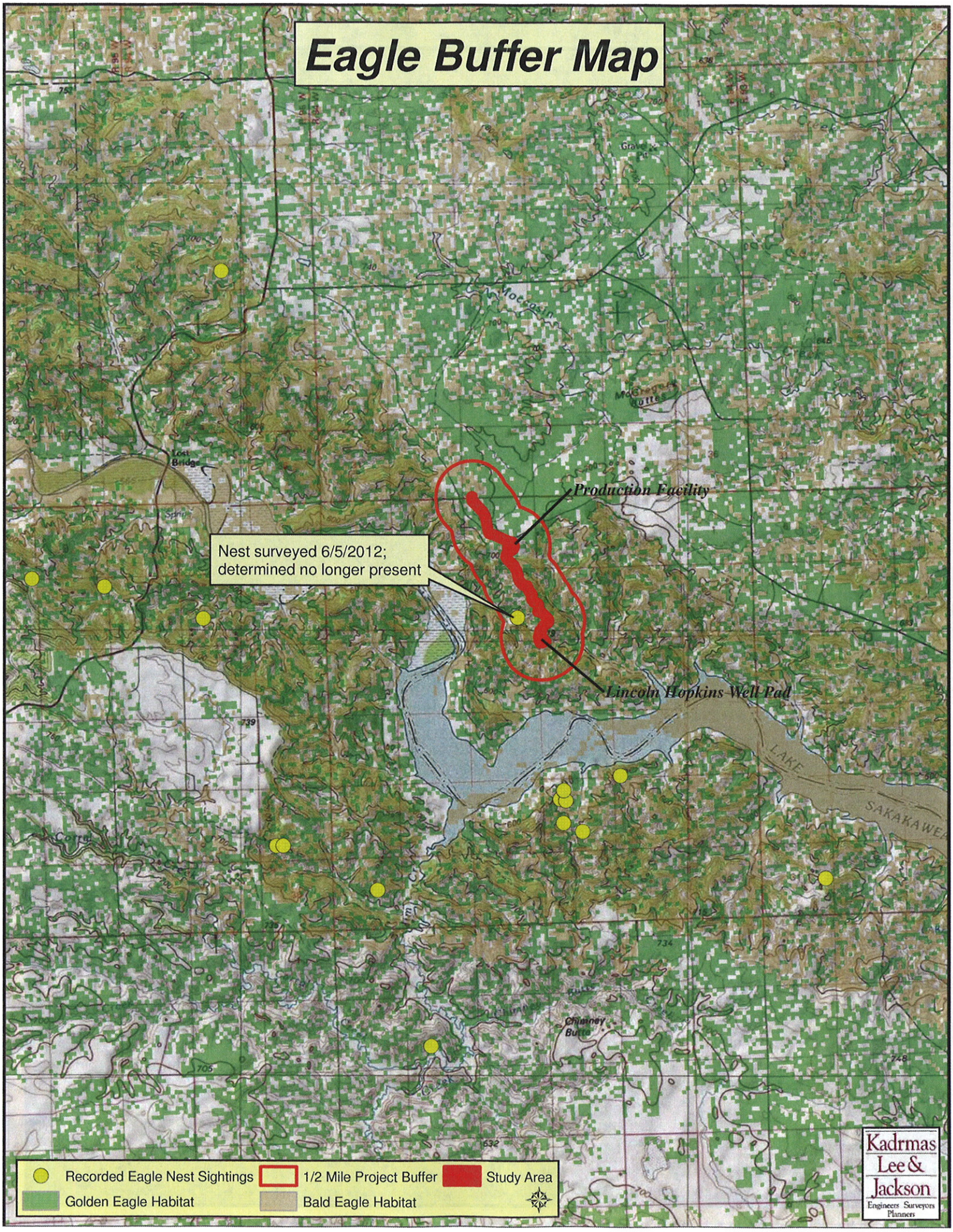
Access Road

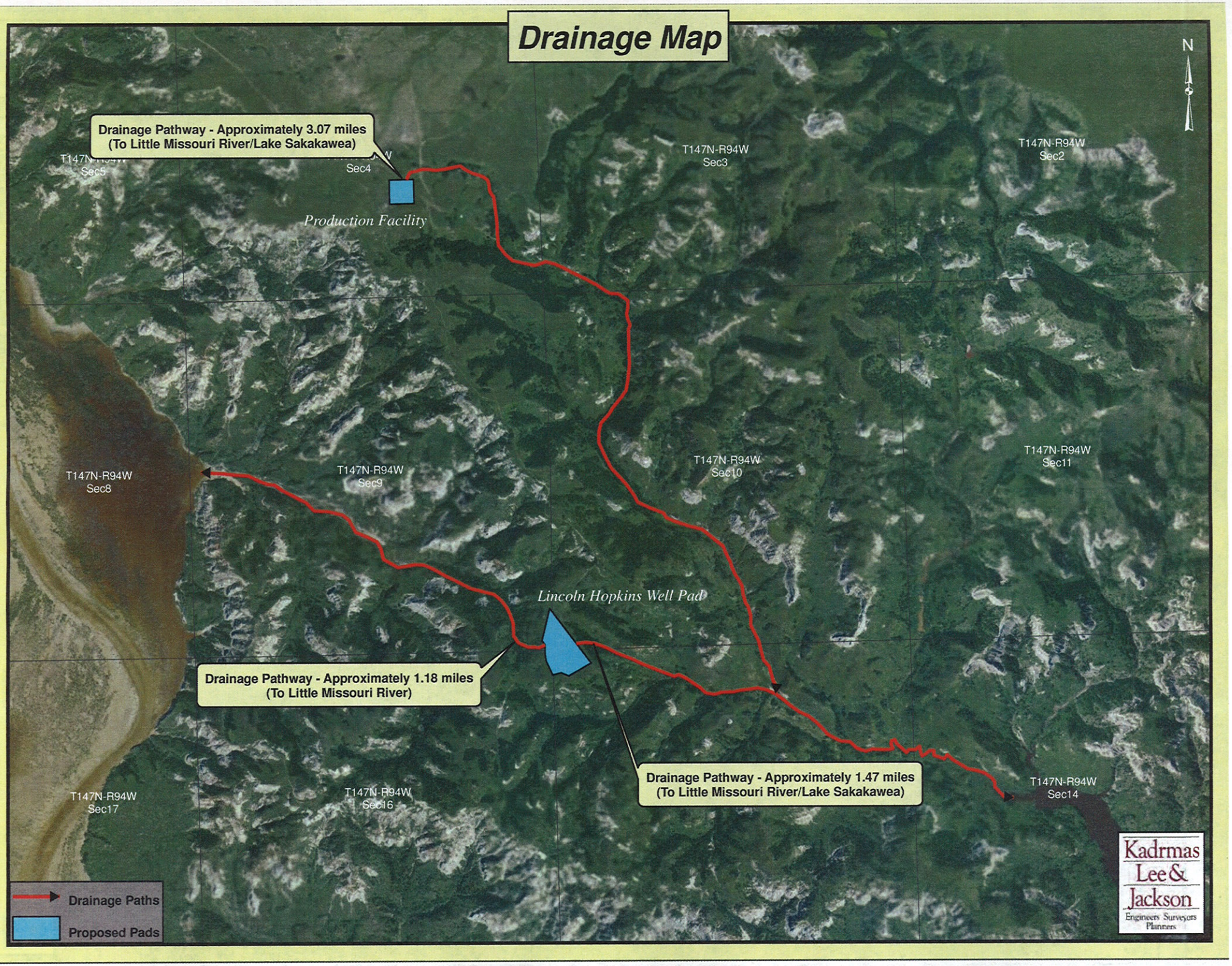


Marathon Oil Company
Proposed Lincoln Hopkins Well Pad
and Production Facility
Dunn County, ND

Kadrmas Lee & Jackson
Engineers Surveyors Planners


Study Area Map
Marathon Oil Company
Lincoln Hopkins
Proposed Well Pad
and Produciton Facility
Dunn County, North Dakota
T148N-R94W Sec29
T148N-R94W Sec27
T148N-R94W Sec32
T148N-R94W Sec33
T148N-R94W Sec34
T148N-R94W Sec35
T147N-R94W Sec5
T147N-R94W Sec4
T147N-R94W Sec3
T147N-R94W Sec2
Production Facility
T147N-R94W Sec8
T147N-R94W Sec9
T147N-R94W Sec10
T147N-R94W Sec16
Lincoln Hopkins
Well Pad
Study Area
Access Road
1/2 Mile Buffer
Pad Locations
N
Kadrmas Lee & Jackson
Engineers Surveyors Planners


Eagle Buffer Map
Production Facility
Nest surveyed 6/5/2012; determined no longer present
Lincoln Hopkins Well Pad
LAKE SAKAKAWEA
Recorded Eagle Nest Sightings
1/2 Mile Project Buffer
Study Area
Golden Eagle Habitat
Bald Eagle Habitat
Kadrmas Lee & Jackson
Engineers Surveyors Planners


Drainage Map
N
Drainage Pathway - Approximately 3.07 miles
(To Little Missouri River/Lake Sakakawea)
Production Facility
T147N-R94W
Sec5
T147N-R94W
Sec4
T147N-R94W
Sec3
T147N-R94W
Sec2
T147N-R94W
Sec8
T147N-R94W
Sec9
T147N-R94W
Sec10
T147N-R94W
Sec11
Lincoln Hopkins Well Pad
Drainage Pathway - Approximately 1.18 miles
(To Little Missouri River)
Drainage Pathway - Approximately 1.47 miles
(To Little Missouri River/Lake Sakakawea)
T147N-R94W
Sec17
T147N-R94W
Sec16
T147N-R94W
Sec14
Drainage Paths
Proposed Pads
Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

Lincoln Hopkins Mailing List

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon	Louderemilk	Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Jeffrey	Desjarlais	Environmental Protection Specialist		Bureau of Indian Affairs	202 Main Street	New Town	SD	58763
Sir		*or Madam*		Environmental Management Division	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Thomas	Schauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Sir		*or Madam*	CENWO-PM-AC	Environmental Resources MRRP Plan Formulation	US Army Corps of Engineers, Omaha District	1616 Capital Avenue	Omaha	NE	68102
Ms.	Mary	Podoll	State Conservationist		Natural Resources Conservation Service	220 East Rosser Avenue	Bismarck	ND	58501
Mr.	Gerald	Paulson	Director, Transmission Linest Substations	ND Maintenance Office	US Department of Energy Western Area Power Admin.	PO Box 1173	Bismarck	ND	58502-1173
Ms.	Suzanne	Bohan	Director	NEPA Program, Region 8	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Wetlands Coordinator	Region 8, EPR-EP	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Mr.	Irwin	Russell	Assistant State Conservationist		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Scott	Davis	Executive Director		Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	Gregg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Interstate Ave.	Bismarck	ND	58501
Mr.	L. David	Glatt	Chief	Environmental Health Section Gold Seal Center	ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Steve	Dyke	Conservation Section Supervisor		ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Ed	Murphy	State Geologist		ND Geological Survey	600 E. Blvd. Avenue	Bismarck	ND	58505-0840
Mr.	Mark	Zimmerman	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	Todd	Sando	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Scott	Hochhalter	Soil Conservation Specialist	NDSU Extension Service	Soil Conservation Committee	2718 Gateway Ave., #104	Bismarck	ND	58503
Mr.	Bill	Boyd	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	John	Skurupey	General Manager		McKenzie Electric Cooperitive	PO Box 649	Watford City	ND	58854-0649
Sir		*or Madam*		Right of Way Department	Northern Border Pipeline Company	13710 FNB Parkway, Suite 300	Omaha	NE	68154
Ms.	Mary	Massad	Manager/CEO		Southwest Water Authority	4665 2nd St. SW.	Dickinson	ND	58601
Mr.	David C.	Schelkoph	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
Sir		*or Madam*	Manager		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
Sir		*or Madam*	Manager		Mountrail-Williams Electric Cooperative	355 Main St	New Town	ND	58763
Mr.	Larry	Gangl	District Engineer	Dickinson District	ND Department of Transportation	1700 3rd Ave W. Suite 101	Dickinson	ND	58601-3009
Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Michael	Seivage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Ms.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58325
Mr.	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Joe	Gillies	Environmental Division Director	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Elgin	Crows Breast	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Tex	Hall	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Merle	St. Claire	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr.	Damon	Williams	Tribal Attorney		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	V. Judy	Brugh	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Arnold	Strahs	Representative	Mandaree Segment	Three Affiliated Tribes	PO Box 665	Mandaree	ND	58757
Mr.	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Mervin	Packineau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	PO Box 468	Parshall	ND	58770
Mr.	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	70879 E Ave NW	Halliday	ND	58636
Mr.	Fred	Poitra		Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Lester	Crowsheart	Director	Fort Berthold Rural Water	Three Affiliated Tribes	308 Four Bears Complex	New Town	ND	58763
Mr.	Brooks	Goodall	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Reinhard	Hauck	Auditor		Dunn County	PO Box 105	Manning	ND	58642
Mr.	Glenn	Eckelberg	Chairman	County Commission	Dunn County	266 2nd Avenue NW	Killdeer	ND	58640

Appendix B

Agency Scoping Responses

List of Scoping Responses

Marathon Oil Company

Environmental Assessment for Drilling of

Twenty Oil and Gas Wells Atop One Well Pad:

Lincoln Hopkins

Fort Berthold Indian Reservation
Dunn County, North Dakota

Federal

U.S. Department of Agriculture – Natural Resources Conservation Service

U.S. Department of the Army – Corps of Engineers, North Dakota Regulatory Office

U.S. Department of the Army – Corps of Engineers, Planning, Programs, and Project Management Division

U.S. Department of the Interior – Bureau of Reclamation

U.S. Department of the Interior – Fish and Wildlife Service

State

North Dakota Department of Health

North Dakota Game and Fish Department

North Dakota State Water Commission

Local

N/A

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
P.O. Box 1458
Bismarck, ND 58502-1458

July 10, 2012

Mike Huffington
Kadrmas, Lee & Jackson
3203 32nd Ave S, Suite 201
PO Box 9767
Fargo, ND 58106-9767

RE: Marathon Oil Company
Lincoln Hopkins Well Pad
Dunn County, ND

Dear Mr. Huffington:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated June 14, 2012, concerning the Lincoln Hopkins well pad on the Fort Berthold Reservation in Dunn County, North Dakota.

Important Farmlands - NRCS has a major responsibility with Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use when the project utilizes federal funds. It appears your proposed project is not supported by federal funding; therefore, FPPA does not apply and no further action is needed.

Wetlands – 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. NRCS has developed the following guidelines for the installation of buried utilities. 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.

NRCS would recommend that impacts to wetlands be avoided. If the alignment of the project 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, State Soil Liaison, NRCS, Bismarck, North Dakota (701-530-2019).

Sincerely,

ACTING FOR

STEVEN J. SIELER
State Soil Scientist/MO 7 Leader (Acting)

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

June 15, 2012

North Dakota Regulatory Office

Kadrmas Lee and Jackson
Attn: Mike Huffington
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767

Dear Mr. Huffington:

This is in response to your letter dated June 14, 2012 on behalf of Marathon Oil Company, under the National Environmental Policy Act for the Bureau of Indian Affairs and Bureau of Land Management, requesting U.S. Army Corps of Engineers (Corps) comments in regards to the development of up to 24 oil and gas wells located atop a single well pad in Dunn County on the Fort Berthold Indian Reservation.

The Lincoln Hopkins Well Pad (24 well) is located in Sections 9, 10, 15, and 16, Township 147 North, Range 94 West in Dunn County, North Dakota.

The Production Facility is located in Section 4, Township 147 North, Range 94 West in Dunn County, North Dakota.

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work in or affecting navigable waters. This would include work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of the railroad track in Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 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 is 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 submit a completed permit application (ENG Form 4345) to the Corps. Include a location map and description of all work associated with the proposal, i.e., well bore, road construction, utility lines, etc. Send the completed application to the U.S. Army Corps of Engineers; North Dakota Regulatory Office; 1513 South 12th Street; Bismarck, North Dakota; 58504.

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.

Sam Werner
Acting Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345

CF w/o encl
EPA Denver (Brent Truskowski)

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

(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

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.

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.**

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

REPLY TO
ATTENTION OF

June 26, 2012

Planning, Programs, and Project Management Division

Kadrmas Lee & Jackson
Attention: Mr. Mike Huffington
3203 32nd Avenue S Suite 201
P.O. Box 9767
Fargo, North Dakota 58106

Dear Mr. Huffington:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated June 14, 2012, regarding Marathon Oil Company's proposed development of up to twenty four oil and gas wells located atop a single well pad on the Fort Berthold Reservation in Dunn County, North Dakota. The Corps offers the following comments.

As a member of the Working Group established by Executive Order (EO) #13605 by President Barack Obama, the Departments of Interior and Defense support the safe discovery and development of domestic natural oil and gas resources and have the right to regulate such activities on public and Indian trusts lands. Potential degradation to natural resources and the impact that may have on humans should be considered in order to responsibly develop our oil and gas resources. The Working Group must address other members concerns, including the Corps, to ensure our natural resources and public health and safety is preserved. The Corps requests that full consideration be given in the Environmental Assessment (EA) to the following comments.

The Corps requests the BIA complete a thorough cumulative impact evaluation this action would have when combined with other past, present and reasonably foreseeable actions regarding oil and gas development on the Fort Berthold Reservation (40 CFR §1508.7). Since August of 2009, the Omaha District has received scoping letters requesting comments on the construction of over 500 wells. Many of these wells are very close to Lake Sakakawea, which is managed by the Corps. From a cumulative impacts perspective, the risk of adverse cumulative impacts to Lake Sakakawea may increase with each well constructed within such a close proximity to the lake. Setting back wells and locating them away from drainages that connect directly to the lake should be considered in the alternative analysis.

The location for the proposed pad that will accommodate up to twenty four wells appears to be located on top of a bluff that drains less than 1,000 feet into Lake Sakakawea. As previously stated, the Corps recommends that Marathon Oil Company consider moving off of the bluff and into the flat area north of the proposed location. By setting back the pad site from the lake, potential environmental impacts resulting from accidental spills or blowouts may be reduced.

Additionally, removing the large pad from atop a lakeside bluff will also reduce the impact to visual resources experienced by recreational users on the lake.

The Corps is aware of recent reports that describe environmental impacts associated with the use of open drilling waste pits in North Dakota. These open pits may be susceptible to flooding, which may threaten drinking water supplies, wildlife, soil and other water resources. Due to the proximity of the proposed wells to Lake Sakakawea, a significant drinking water resource, the Corps encourages the applicant to use a complete closed loop drilling system. A complete closed loop drilling system may reduce or eliminate the discharge of toxic drilling wastes and their potential negative impacts to the environment.

The Corps is also aware that the Bureau of Indian Affairs is currently developing a programmatic EA for oil and gas development on the Fort Berthold Reservation. The Corps requests Marathon Oil Company include some information about the programmatic evaluation in the site specific EA. It is important for the reader to know that an overarching analysis is currently underway that will address the scale and rapid development of oil and gas wells within this region.

In addition to the comments provided above, it is recommended for Marathon Oil Company to complete the following actions:

a. Your plans should be coordinated with the state water quality office in which the project is located to ensure compliance with federal and state water quality standards and regulations mandated by the Clean Water Act and administered by the U.S. Environmental Protection Agency (EPA). Please coordinate with the North Dakota Department of Health concerning state water quality programs.

b. Consult with the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department regarding fish and wildlife resources. In addition, the North Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

c. Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no floodplain or flood risk information. To determine if the proposed project may impact areas designated as a Federal Emergency Management Agency special flood hazard area, please consult the following floodplain management office:

North Dakota State Water Commission
Attention: Jeff Klein
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850
jjkein@nd.gov
Telephone: 701-328-4898
Fax: 701-328-3747

Finally, any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided website (http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Bismarck Regulatory Office
Attention: CENWO-OD-R-ND/Cimarosti
1513 South 12th Street
Bismarck, North Dakota 58504

I am forwarding a copy of this letter to the Chairman of the Three Affiliated Tribes, Chairman Tex Hall; Three Affiliated Tribes Director of Game and Fish, Mr. Fred Poitra; Three Affiliated Tribes Energy Director, Mr. Fred Fox; Three Affiliated Tribes Natural Resource Director, Ms. Annette Young Bird; Three Affiliated Tribes Tribal Historic Preservation Officer, Mr. Elgin Crows Breast all located at 404 Frontage Road, New Town, North Dakota 58763. If you have any questions, please contact Mr. Shannon Sjolie of my staff at (402) 995-2887.

Sincerely,

Randal P. Sellers
Acting Chief, Environmental Resources and Missouri River Recovery Program Plan Formulation Section

United States Department of the Interior

BUREAU OF RECLAMATION
Dakotas Area Office
P.O. Box 1017
Bismarck, North Dakota 58502

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DK-5000
ENV-6.00

JUN 27 2012

Mr. Mike Huffington
Environmental Planner
Kadrmas, Lee, & Jackson, Inc.
P.O. Box 9767
Fargo, ND 58106-9767

Subject: Solicitation for an Environmental Assessment by BIA and BLM for the Construction of One Well Pad With up to 24 Oil and Gas Wells by Marathon Oil on the Fort Berthold Reservation in Dunn County, North Dakota

Dear Mr. Huffington:

This letter is written to inform you that we received your letter of June 14, 2012, and the information and map have been reviewed by Bureau of Reclamation staff.

Your well pads are both located in:

Sections 4, 9, 10, 15 and 16, T147N, R94W, Mandaree SW, ND, McKenzie County

There are Federal, Reclamation facilities in Section 4, T152N, R94W in the form of Fort Berthold Rural Water System pipelines. I have provided you with a map of the general vicinity of your proposed well pad, production facility, and access road to assist you in determination of potential effects due to your proposed action (red line indicates water lines). Please note that rural water system pipelines commonly follow roads, as in this case.

Should you have need to cross a Fort Berthold Rural Water System pipeline to access or develop your proposed project, please refer to the enclosed sheet for pipeline crossing specifications and contact our engineer, Tom Thompson.

Since Reclamation is the lead Federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, 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 environmental questions, please contact me at 701-221-1287 or Tom Thompson, Civil Engineer, for engineering questions at 701-221-1220.

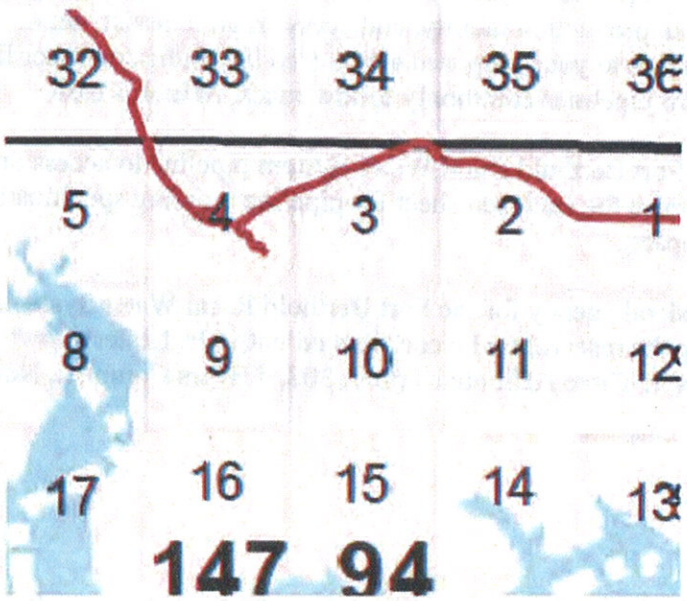
Sincerely,

Kelly B. McPhillips
Environmental Specialist

Enclosure

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
Regional Environmental Scientist
115 Fourth Avenue S.E.
Aberdeen, SD 57401

Mr. Lester Crows Heart
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763
(w/encl)



Sections 4, 9, 10, 15 and 16, T147N, R94W, Mandaree SW, ND, McKenzie County

NOTES

1. Drawing is not to scale.
2. Clearances shown are minimum for all conditions.
3. Any additional permits required/needed for construction shall be provided by the Contractor.
4. Overhead conductor clearances shown are for 120 degrees F and final unloaded sag.
5. Erosion control measures, including re-vegetation, shall be implemented after completing construction activities.
6. The applicant shall submit a project description, and detailed construction plans showing plan views, profiles and sections, and grading plans of proposed work within Reclamation's Right-of-Way (ROW).
7. The applicant shall submit procedures, excavation plans, and schedules for crossing the Reclamation pipeline.
8. At the completion of construction activities the applicant shall submit AS-BUILT drawings that indicate the horizontal and vertical alignments of all utilities in areas disturbed during construction within Reclamation ROW.
9. Pipelines carrying hazardous materials or pollutants (e.g., oils, gasoline, natural gas, contaminated water and nonpotable water, etc.) should be designed for a reduced risk of failure in the portion within Reclamation's ROW. The design shall require either:
   - 9.1. Designing the crossing pipeline with an additional 50 percent working pressure factor, or
   - 9.2. Use secondary containment (pipe casing) for all hazardous material pipelines.
10. All work within 18 inches of the facility shall be done using hand-held tools only. The excavation and backfill shall be made in the presence of Reclamation personnel or authorized representative.
11. The applicant and or his/her contractor shall be liable for all damages to Reclamation facilities and appurtenances as a result of construction and for any other damages or losses suffered by Reclamation, including power, municipal and industrial water supply and communication losses.
12. For crossings of all Reclamation facilities, Reclamation personnel familiar with the facilities will obtain and provide copies of existing files showing information about existing buried facilities (center of pipeline, approximate depth of cover, size of pipe, class of pipe, etc.) to the applicant.
13. Typical Reclamation potable and raw water pipelines are PVC. If metallic pipelines or those containing metallic reinforcement (e.g. reinforced concrete) are encountered in the crossing a suitable bonded dielectric coating and cathodic protection may be required.

DETECTABLE WARNING TAPE

A. For potable water lines, the warning tape shall be a 3-inch-wide blue detectable tape imprinted with "CAUTION BURIED POTABLE WATER LINE".

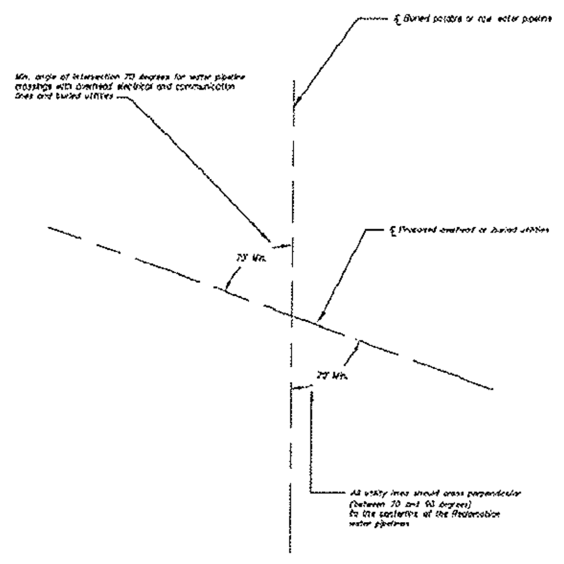
B. For nonpotable water lines, the warning tape shall be a 3-inch-wide purple detectable tape imprinted with "CAUTION BURIED NONPOTABLE WATER LINE".

C. For gas, oil, and steam chemical lines, the warning tape shall be a 3-inch-wide yellow detectable tape imprinted with "CAUTION BURIED (type) LINE".

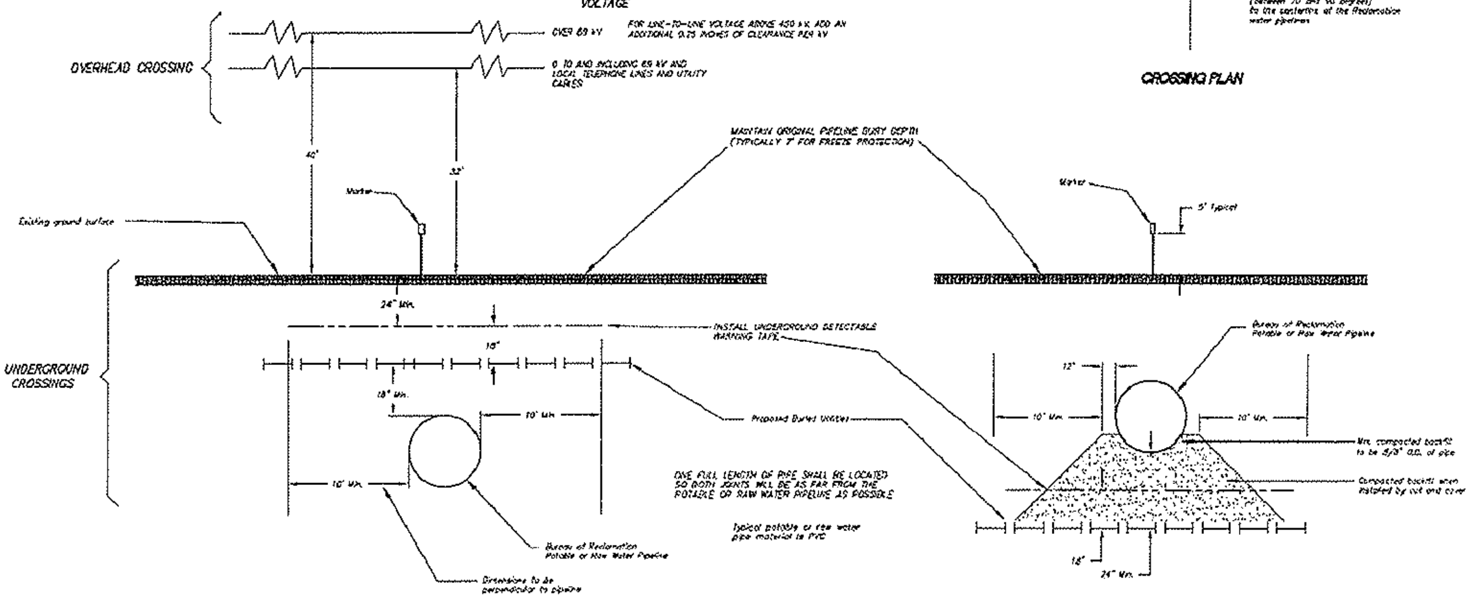
D. For telecommunications, telephone, television conduit(s), the warning tape shall be a 3-inch-wide orange detectable tape imprinted with "CAUTION BURIED (type) LINE".

E. For electrical conduit(s), the warning tape shall be a 3-inch-wide red detectable tape imprinted with "CAUTION BURIED ELECTRICAL LINE".

F. A marker sign shall be provided that shows the clearance and electrical line voltage. The warning sign should face oncoming traffic and state "DANGER, HIGH VOLTAGE OVERHEAD".



CROSSING PLAN



TYPICAL SECTION
POTABLE OR RAW WATER PIPELINE CROSSING

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

MR&I RURAL WATER SYSTEMS
STANDARD CROSSING AND CLEARANCE REQ.
POTABLE AND RAW WATER PIPELINES

769-603-25480

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

June 14, 2012

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

U.S. FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
ND FIELD OFFICE

Project as described will have no significant impact on fish and wildlife resources. No endangered or threatened species are known to occupy the project area and/or are not likely to be adversely affected. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT PLANS FOR REVIEW.

6-21-12 Jeffrey K. Towner
Date Jeffrey K. Towner
Field Supervisor

Re: **Marathon Oil Company**
Lincoln Hopkins Well Pad
Fort Berthold Reservation
Dunn County, North Dakota

Dear Mr. Towner,

On behalf of Marathon Oil Company, Kadrmas, Lee & Jackson, Inc. is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of up to 24 oil and gas wells located atop a single well pad in Dunn County, North Dakota on the Fort Berthold Reservation. Recovered oil and gas resources from these wells would be piped to an off-site production facility that would also be constructed in association with this proposed action. The well pad and production facility are proposed to be positioned in the following locations:

- Lincoln Hopkins Well Pad (24 well) located in Section 9, 10, 15, and 16, T147N, R94W, 5th P.M.
- Production Facility located in Section 4, T147N, R94W, 5th P.M.

Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil and gas from the Bakken and Three Forks Formations. The well pad and production facility have been positioned to utilize existing roadways for access to the extent possible; however, the proposed action would require the construction of a new access road. Construction of the proposed well pad, production facility, and access road is scheduled to begin in fall 2012.

An intensive, pedestrian resource survey of the proposed well pad, production facility, and access road was initially conducted on July 27, 2011 by KL&J, with revisits conducted on April 18, 2012 and June 5, 2012. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. The study area for the proposed project consisted of a 200-foot buffer around all well pad and production facility disturbance areas, and a 300-foot wide access road corridor. Two eagle/raptor surveys were conducted in conjunction with the proposed project, the first occurring on July 27, 2011 and the second on June 5, 2012. A 0.50-mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles/raptors and eagle/raptor nests. Resources were evaluated using visual inspection from elevated ridgelines as well as within wooded draws. ***Please refer to the enclosed Study Area Map and Eagle Buffer Map.***

The BIA-facilitated EA on-site assessment of the well pad, production facility, and access road was conducted on June 5, 2012 with the BIA also present for the July 27, 2011 and April 18, 2012 visits. BIA Environmental Protection Specialists, as well as representatives from Marathon, the BLM, and KL&J were present during the June 5, 2012 on-site assessment. A representative from the Tribal

701 232 5353
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767
Fax 701 232 5354
kljeng.com

Lincoln Hopkins Well Pad
Marathon Oil Company
Fort Berthold Reservation

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted. We are also interested in existing or proposed developments you may have that should be considered in connection with the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **July 14, 2012**. We request your comments by that date to ensure that we would have ample time to review them and incorporate them into the necessary environmental documentation.

If you would like further information regarding this project, please contact me at (701) 271-2100. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Mike Huffington
Environmental Planner

Enclosures (Maps)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

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

June 19, 2012

Mr. Mike Huffington
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
P.O. Box 9767
Fargo, ND 58106-9767

Re: Marathon Oil Company
Development of Lincoln Hopkins Well Pad
Fort Berthold Reservation, Dunn County

Dear Mr. Huffington:

This department has reviewed the information concerning the above-referenced project submitted under date of June 14, 2012, 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, well pads or pipelines 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. Detailed guidance is available at www.ndhealth.gov/AQ/OilAndGasWells.htm.

   Any questions about air pollution control or permitting requirements should be addressed to Ms. Kathleen Paser at the U.S. Environmental Protection Agency, Region 8. She may be reached at (303) 312-6526 or Paser.Kathleen@epa.gov.

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 located within tribal boundaries in 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.

4. Projects that involve construction, drilling, completion and/or production of crude oil or natural gas wells should select locations that minimize the potential for environmental damage during development of the well and in the event of a spill, restrict fluids from reaching surface waters. Well placement should avoid close proximity to drainage areas and steep slopes. Environmental damage can be reduced by developing a spill response plan that emphasizes rapid deployment of prepositioned assets necessary to contain spills and subsequent cleanup. Proper surveillance and monitoring of pipelines is necessary for the early detection of leaks.

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.

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

July 10, 2012

Mike Huffington
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
PO Box 9767
Fargo, ND 58106-9767

Dear Mr. Huffington:

RE: Grady USA
Prairie Chicken/Weasel USA
Lincoln Hopkins

Marathon Oil Company is proposing up to 32 oil and gas wells on three well pads on the Fort Berthold Reservation in Dunn & McKenzie Counties, 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.

Sincerely,

Greg Link
Chief
Conservation & Communication Division

js

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

July 6, 2012

Mike Huffington
Kadrmas, Lee & Jackson
PO Box 9767
Fargo, ND 58106

Dear Mr. Huffington:

This is in response to your request for review of environmental impacts associated with the Marathon Oil Company, Lincoln Hopkins Well Pad, Fort Berthold Reservation, Dunn County, ND. Lincoln Hopkins Well Pad (24 well) located in Section 9, 10, 15, and 16, T147N, R94W, 5th P.M. Production Facility located in Section 4, T147N, R94W, 5th P.M.

The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- There are no floodplains identified and/or mapped where this proposed project is to take place. The project takes place in an unmapped county. No floodplain permits are necessary from Dunn County relative to the National Flood Insurance Program.

- If wetlands are drained or filled, a permit will be needed, please contact Dwight Comfort at 701-328-4949.

- 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 701-328-4967.

Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dp/1570

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

SEP 23 2011

Elgin Crows Breast, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of three oil well pads, a battery pad and an access road in Dunn County, North Dakota. Approximately 113.1 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located which 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-1924/FB/11**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Ó Donnchadha, Brian
(2011a) Lincoln USA 16-1TFH & Hopkins USA 15-1MBH Well Pad, Battery Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, Dickinson, ND.

(2011b) Bears Ghost USA 11-4H & Bears Ghost USA 11-4TFH Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, Dickinson, ND.

(2011c) Fox USA 14-1H & Fox USA 14-1TFH Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, Dickinson, ND.

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

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

Sincerely,

ACTING Regional Director

Enclosures

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401

IN REPLY REFER TO:
DESCRM
MC-208

JUL 25 2012

Elgin Crows Breast, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of the Lincoln/Hopkins well pad in Dunn County, North Dakota. Approximately 16.7 acres within site 32DU311were evaluated via 24 shovel test probes and nine meter-square excavation units. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No cultural materials were located in these excavations, such that site 32DU311 does not appear to possess the quality of integrity and meet at least one of the criteria (36 C.F.R. § 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 U.S.C. 1996 [1994]).

As the surface management agency, and as provided for in 36 C.F.R. § 800.5 (2005), we have reached a determination of **no adverse effect** for this undertaking. Catalogued as **BIA Case Number AAO-3018/FB/12**, the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian
(2012) Lincoln/Hopkins Well Pad: Phase 2 Archaeological Testing of 32DU311 in Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil, Dickinson, ND.

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

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

Sincerely,

Acting
Regional Director

Enclosure

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

Appendix C

Well Pad Plats

P.O. BOX 820
GREEN RIVER, WYOMING 82935

WILLIAM H. SMITH & ASSOCIATES P.C.

SURVEYING CONSULTANTS

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

WELL LOCATION PLAT

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH, DICKINSON, NORTH DAKOTA 58601
LINCOLN USA 16-1H
217 FEET FROM THE NORTH LINE AND 229 FEET FROM THE WEST LINE (SURFACE HOLE LOCATION)
SECTION 15, T 147 N, R 94 W., 5TH P.M.
250 FEET FROM THE SOUTH LINE AND 1435 FEET FROM THE WEST LINE (BOTTOM HOLE LOCATION)
SECTION 21, T 147 N, R 94 W., 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

Scale: 1"= 1000'

MARATHON OIL COMPANY
LINCOLN USA 16-1H
(SURFACE HOLE LOCATION)
Lat. 47°33'31.77"
Long.102°39'04.13"W NAD 83
Lat. 47.558824°
Long.102.651148°W
Elev. 2230.5' GROUND
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Lat. 47.558813°
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MARATHON OIL COMPANY
LINCOLN USA 16-1H
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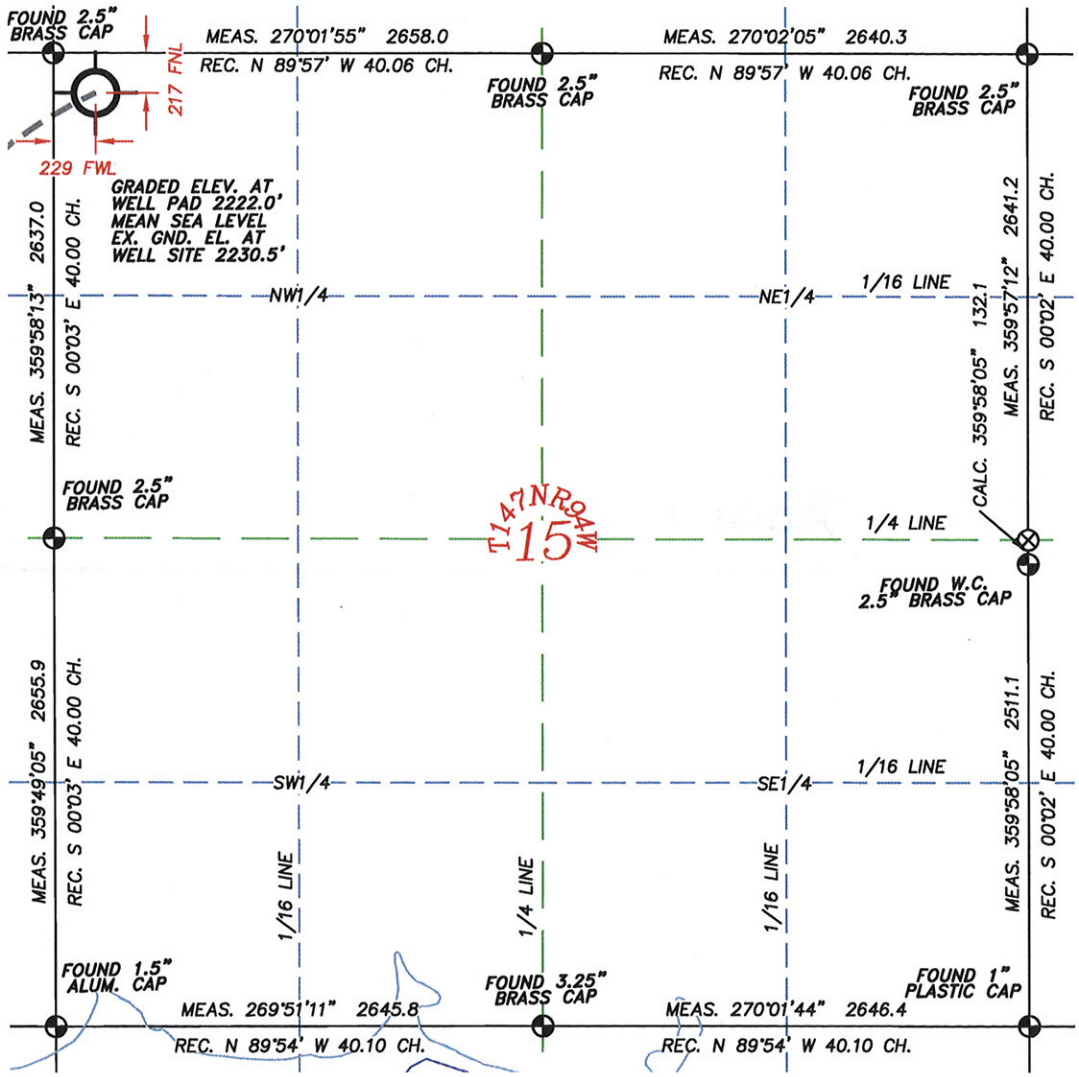

LEGEND

- FOUND/SET CORNER
- CALCULATED CORNER
- NOTHING FOUND
- FOUND/SET BY OTHER

I, William H. Dolinar, Professional Land Surveyor, ND. RLS # 6550 hereby certify that (in accordance with a request from Darrell Nodland with Marathon Oil Co, 3172 Highway 22 North, Dickinson, ND 58601) I and or personnel under my direction made a survey on the 1st day of June 2012, for the Surface Hole Location and Elevation of Marathon Oil Co. Well LINCOLN USA 16-1H being located within the NW1/4 NW1/4 of Section 15, T147N R94W and the Bottom Hole Location being located within the SE1/4 SW1/4 of Section 21, T147N R94W both being of the 5th P.M., Dunn County, State of North Dakota. Surface Hole Elevation of ungraded ground is 2230.5 ft

Notes: All Azimuths are based on the South line of the Southwest Quarter of Section 10, T147N R94W of the 5th P.M., being an Azimuth of 270°01'55" using GPS observations, occupying a WHS control point (5/8" rebar) and having the Location and Elevation derived from an OPUS Solution. Azimuths shown have been rotated 1°34'10.86979" West from SPC Grid bearings to Geodetic North, based on convergence angle provided by a conversion using Corpscon. Vertical Datum used is of NAVD 88.
Control Point is located 168°11'11" 10,503.75 ft. from the SW Section Corner of Section 10, T147N R94W of the 5th P.M.
Distances shown are Ground Distances using a combined scale factor of 1.000087745
Location shown here on is not an "ASBUILT" location.
Additional 3rd party survey data was obtained for help in mitigating HES concerns in gathering data per client. Data that could be cheked was within 0.5± feet.
Record Bearings and Distances as shown are based on the General Land Office Survey plats approved on the 22nd day of June, 1907 and the 22nd day of July, 1914.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/20/12
NORTH DAKOTA
~SEAL~

JOB NO. 2010011
REV 08/04/2012 CDC

P.O. BOX 820
GREEN RIVER, WYOMING 82935

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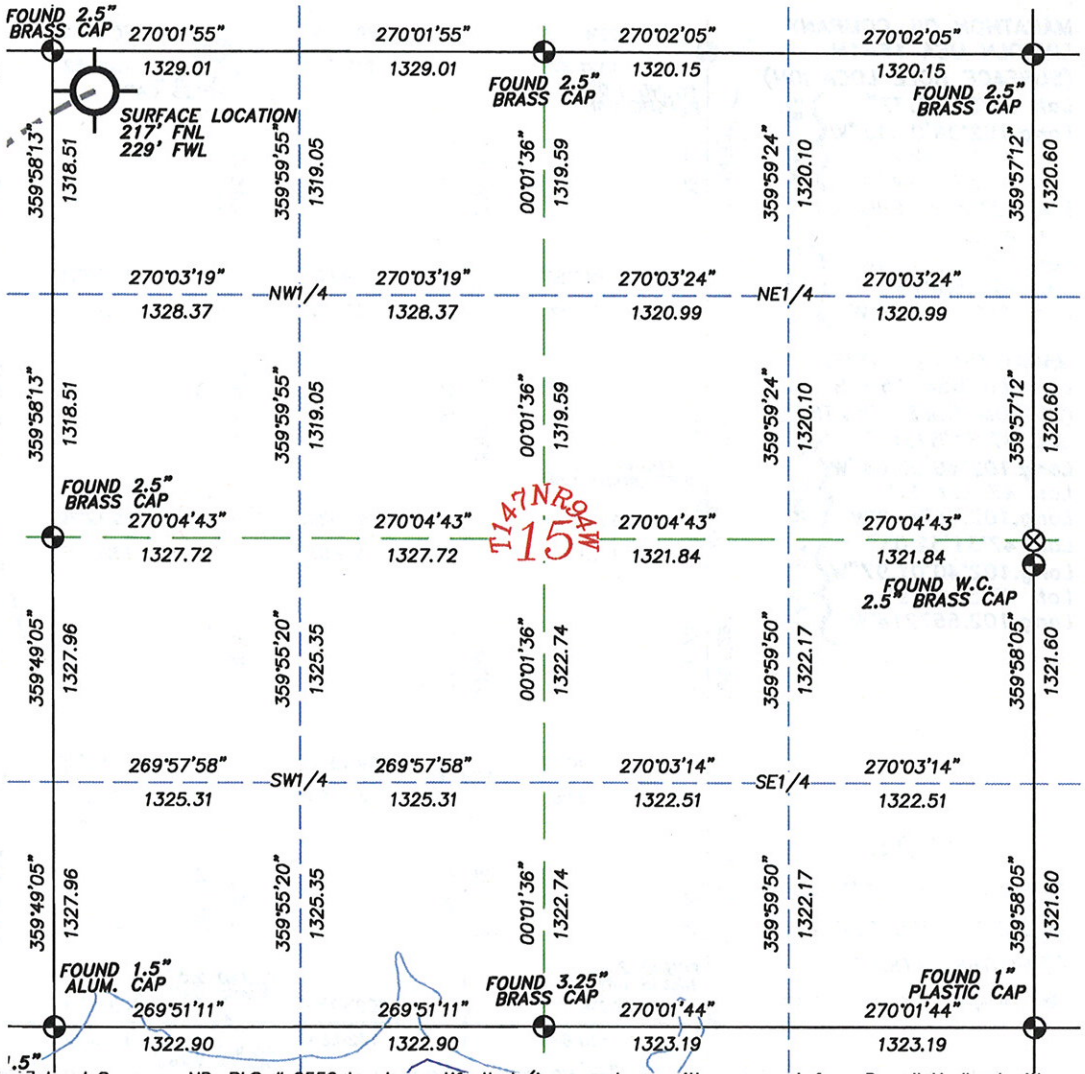

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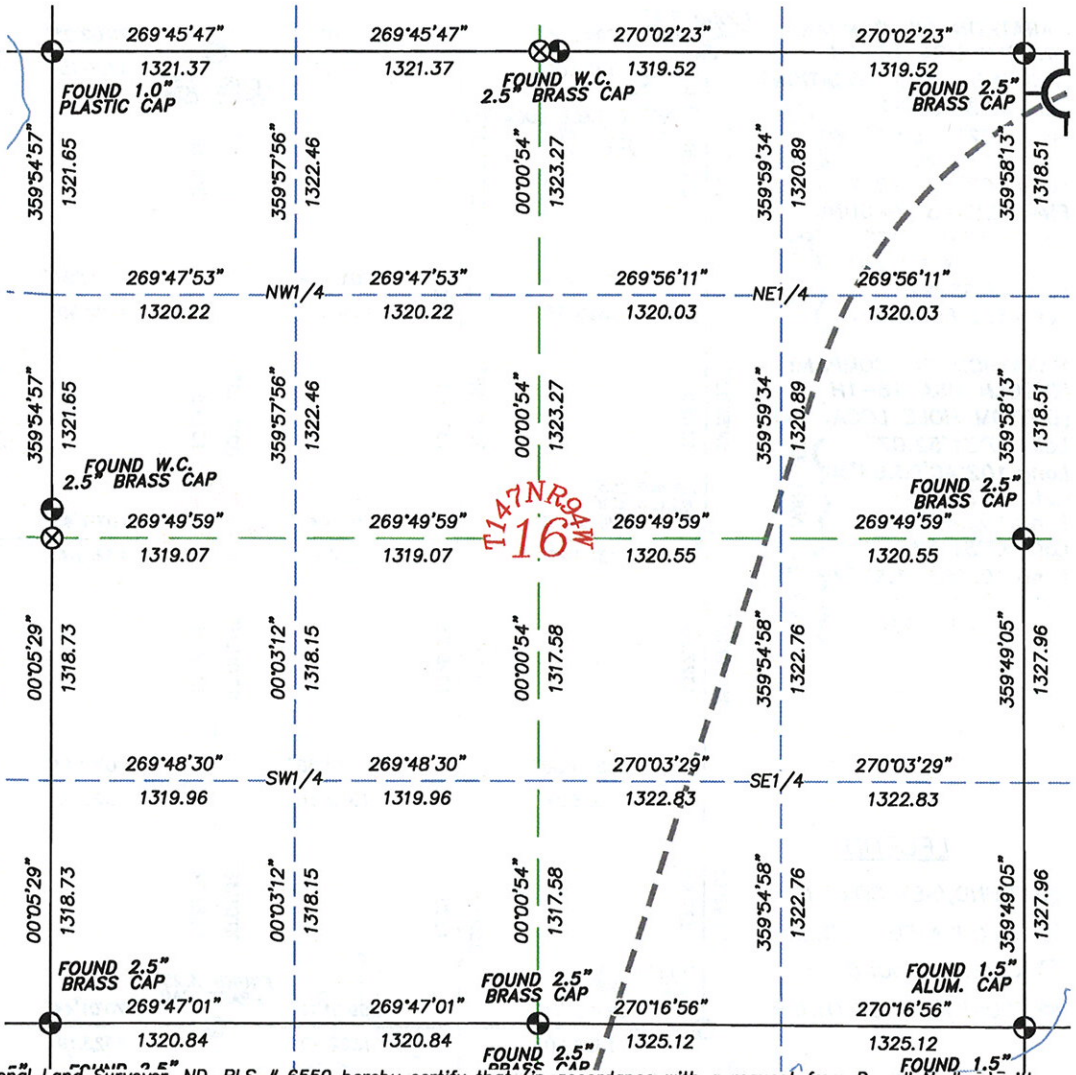

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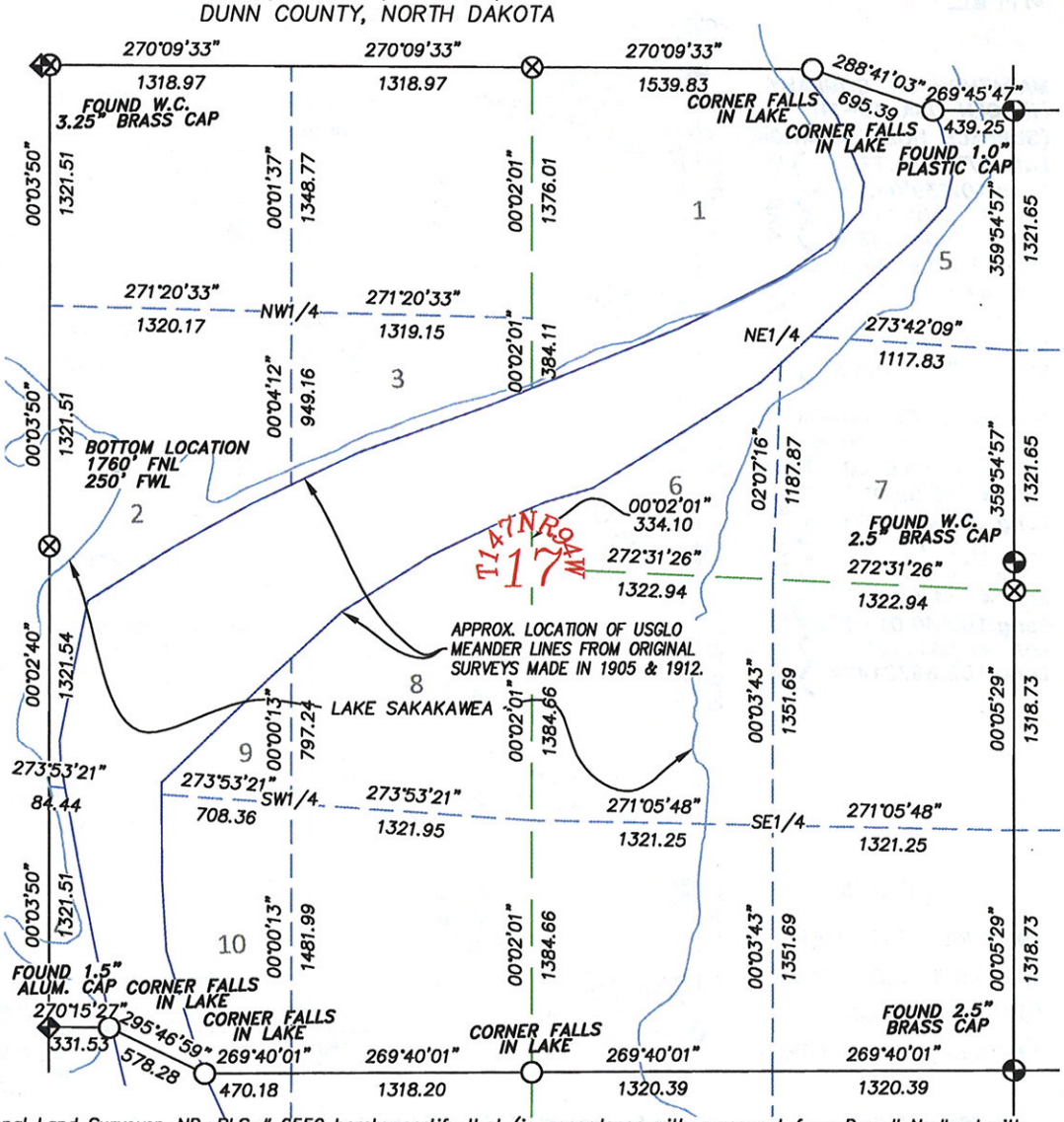

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DATE 06/20/12
NORTH DAKOTA
~SEAL~

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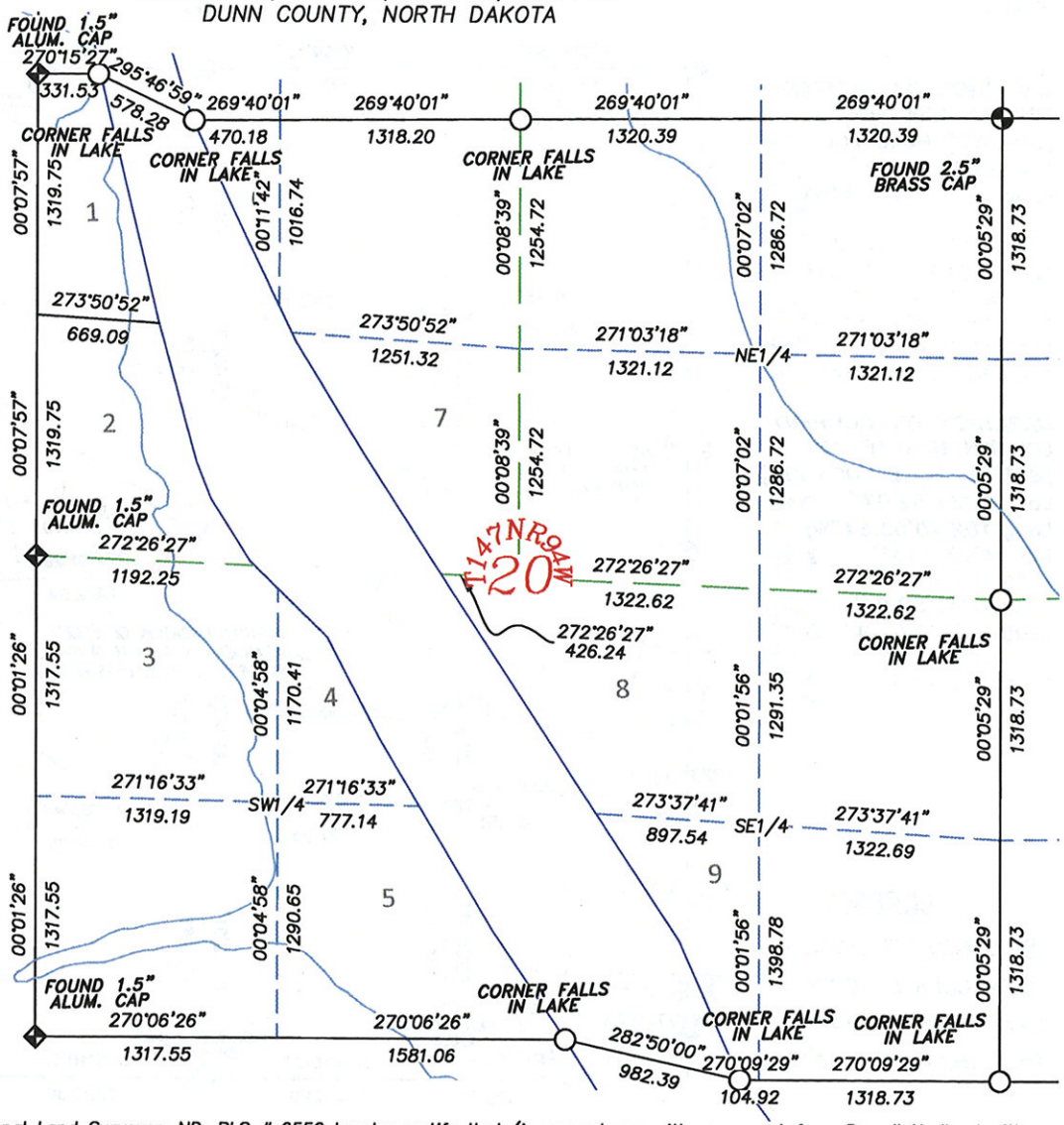

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Control Point is located 168°11'11" 10,503.75 ft. from the SW Section Corner of Section 10, T147N R94W of the 5th P.M.
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Location shown here on is not an "ASBUILT" location.
Additional 3rd party survey data was obtained for help in mitigating HES concerns in gathering data per client. Data that could be cheked was within 0.5± feet.
Record Bearings and Distances as shown are based on the General Land Office Survey plats approved on the 22nd day of June, 1907 and the 22nd day of July, 1914.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/20/12
NORTH DAKOTA
~SEAL~

JOB NO. 2010011
REV 08/04/2012 CDC

P.O. BOX 820
GREEN RIVER, WYOMING 82935

WILLIAM H. SMITH & ASSOCIATES P.C.

SURVEYING CONSULTANTS

HORIZONTAL SECTION PLAT

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH, DICKINSON, NORTH DAKOTA 58601
LINCOLN USA 16-1H

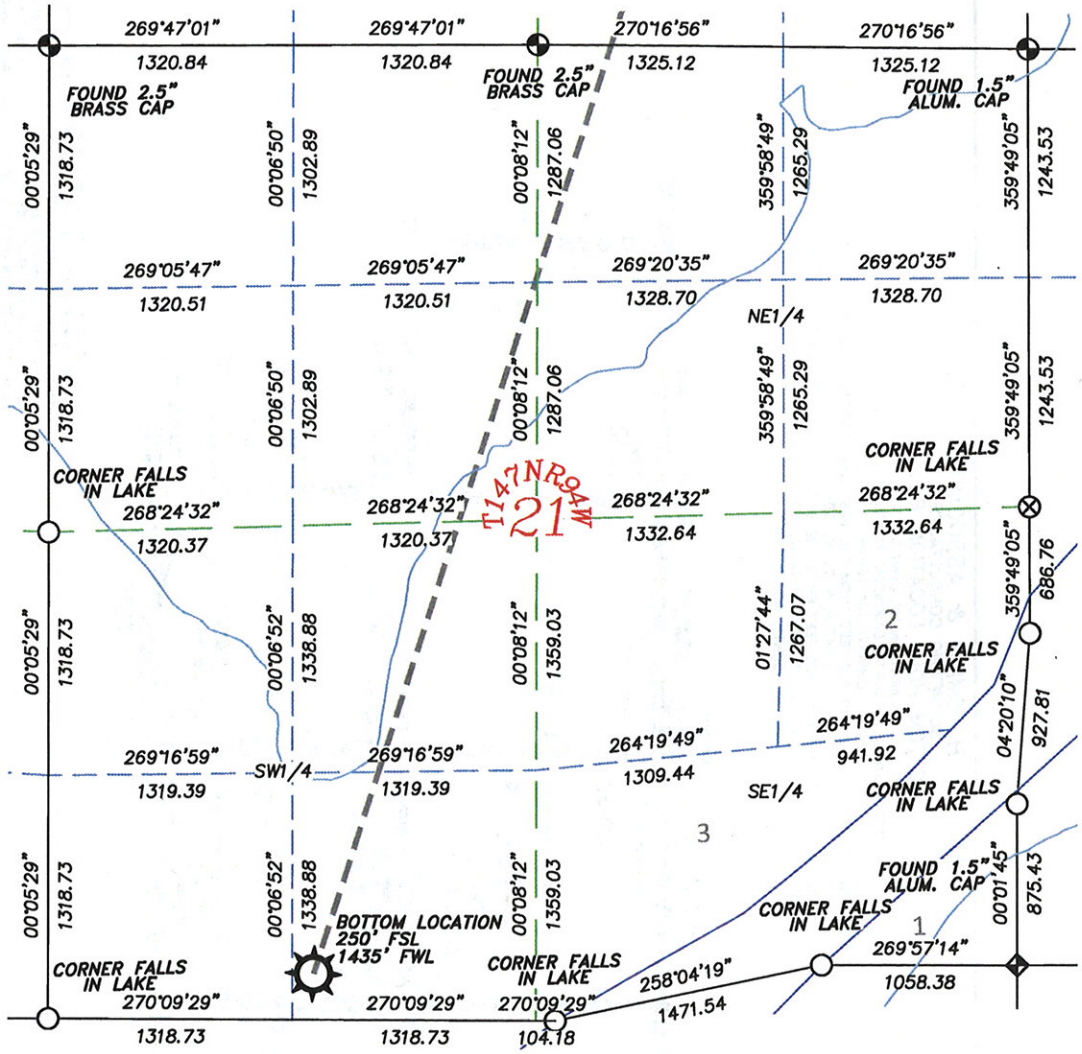
217 FEET FROM THE NORTH LINE AND 229 FEET FROM THE WEST LINE (SURFACE HOLE LOCATION)
SECTION 15, T 147 N, R 94 W., 5TH P.M.

250 FEET FROM THE SOUTH LINE AND 1435 FEET FROM THE WEST LINE (BOTTOM HOLE LOCATION)
SECTION 21, T 147 N, R 94 W., 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

Scale: 1"= 1000'

MARATHON OIL COMPANY
LINCOLN USA 16-1H
(SURFACE HOLE LOCATION)
Lat. 47°33'31.77"
Long.102°39'04.13"W } NAD 83
Lat. 47.558824°
Long.102.651148°W
Elev. 2230.5' GROUND
Lat. 47°33'31.73"
Long.102°39'02.46"W } NAD 27
Lat. 47.558813°
Long.102.650684°W

MARATHON OIL COMPANY
LINCOLN USA 16-1H
(BOTTOM HOLE LOCATION)
Lat. 47°31'52.07"
Long.102°40'03.64"W } NAD 83
Lat. 47.531131°
Long.102.667678°W
Lat. 47°31'52.03"
Long.102°40'01.97"W } NAD 27
Lat. 47.531119°
Long.102.667214°W



LEGEND

- FOUND/SET CORNER
- CALCULATED CORNER
- NOTHING FOUND
- FOUND/SET BY OTHER

I, William H. Dolinar, Professional Land Surveyor, ND. RLS # 6550 hereby certify that (in accordance with a request from Darrell Nodland with Marathon Oil Co, 3172 Highway 22 North, Dickinson, ND 58601) I and or personnel under my direction made a survey on the 1st day of June 2012, for the Surface Hole Location and Elevation of Marathon Oil Co. Well LINCOLN USA 16-1H being located within the NW1/4 NW1/4 of Section 15, T147N R94W and the Bottom Hole Location being located within the SE1/4 SW1/4 of Section 21, T147N R94W both being of the 5th P.M., Dunn County, State of North Dakota. Surface Hole Elevation of ungraded ground is 2230.5 ft

Notes: All Azimuths are based on the South line of the Southwest Quarter of Section 10, T147N R94W of the 5th P.M., being an Azimuth of 270°01'55" using GPS observations, occupying a WHS control point (5/8"rebar) and having the Location and Elevation derived from an OPUS Solution. Azimuths shown have been rotated 1°34'10.86979" West from SPC Grid bearings to Geodetic North, based on convergence angle provided by a conversion using Corpscon.
Vertical Datum used is of NAVD 88.
Control Point is located 168°11'11" 10,503.75 ft. from the SW Section Corner of Section 10, T147N R94W of the 5th P.M.
Distances shown are Ground Distances using a combined scale factor of 1.000087745
Location shown here on is not an "ASBUILT" location.
Additional 3rd party survey data was obtained for help in mitigating HES concerns in gathering data per client. Data that could be cheked was within 0.5± feet.
Record Bearings and Distances as shown are based on the General Land Office Survey plats approved on the 22nd day of June, 1907 and the 22nd day of July, 1914.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/20/12
NORTH DAKOTA
~SEAL~

JOB NO. 2010011
REV 08/04/2012 CDC

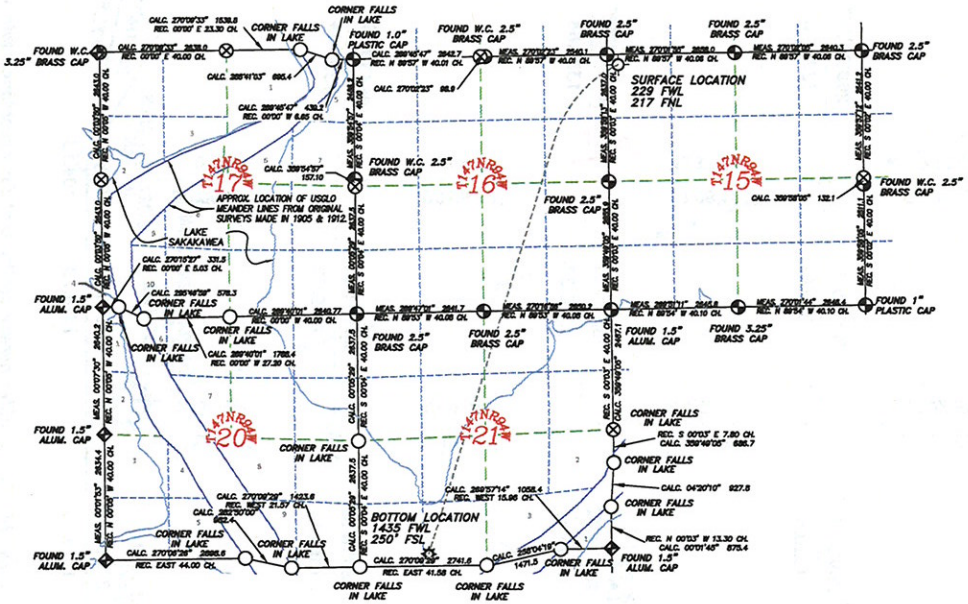
WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
BOTTOM HOLE LOCATION PLAT

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH, DICKINSON, NORTH DAKOTA 58601
LINCOLN USA 16–1H
217 FEET FROM THE NORTH LINE AND 229 FEET FROM THE WEST LINE (SURFACE HOLE LOCATION)
SECTION 15, T 147 N, R 94 W., 5TH P.M.
250 FEET FROM THE SOUTH LINE AND 1435 FEET FROM THE WEST LINE (BOTTOM HOLE LOCATION)
SECTION 21, T 147 N, R 94 W., 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

Scale: 1"= 2500'

MARATHON OIL COMPANY
LINCOLN USA 16–1H
(SURFACE HOLE LOCATION)
Lat. 47°33'31.77" } NAD 83
Long.102°39'04.13"W }
Lat. 47.558824° } NAD 83
Long.102.651148°W }
Elev. 2230.5' GROUND
Lat. 47°33'31.73" } NAD 27
Long.102°39'02.46"W }
Lat. 47.558813° } NAD 27
Long.102.650684°W }

MARATHON OIL COMPANY
LINCOLN USA 16–1H
(BOTTOM HOLE LOCATION)
Lat. 47°31'52.07" } NAD 83
Long.102°40'03.64"W }
Lat. 47.531131° } NAD 83
Long.102.667678°W }
Lat. 47°31'52.03" } NAD 27
Long.102°40'01.97"W }
Lat. 47.531119° } NAD 27
Long.102.667214°W }



Note: The East, West and South quarter corners as well as the Southwest corner of Section 21 shown on the original G.L.O. plat dated July 22, 1914 cannot be found or re–set due to the fact that they are now under water in Lake Sakakawea.

I, William H. Dolinar, Professional Land Surveyor, ND. RLS # 6550 hereby certify that (in accordance with a request from Darrell Nodland with Marathon Oil Co, 3172 Highway 22 North, Dickinson, ND 58601) I and or personnel under my direction made a survey on the 1st day of June 2012, for the Surface Hole Location and Elevation of Marathon Oil Co. Well LINCOLN USA 16–1H being located within the NW1/4 NW1/4 of Section 15, T147N R94W and the Bottom Hole Location being located within the SE1/4 SW1/4 of Section 21, T147N R94W both being of the 5th P.M., Dunn County, State of North Dakota. Surface Hole Elevation of ungraded ground is 2230.5 ft.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/20/12
NORTH DAKOTA
~SEAL~

WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH PHONE: 307–875–3636
GREEN RIVER, WY 307–875–3639
www.whsmithpc.com

DRAWN BY: DTW	CH.ECKED BY: WHD
PROJECT NO: N/A	JOB NO: 2010011
REVISIONS:	

Notes: All Azimuths are based on the South line of the Southwest Quarter of Section 10, T147N R94W of the 5th P.M., being an Azimuth of 270°01'55" using GPS observations, occupying a WHS control point (5/8"rebar) and having the Location and Elevation derived from an OPUS Solution. Azimuths shown have been rotated 1°34'10.86979" West from SPC Grid bearings to Geodetic North, based on convergence angle provided by a conversion using Corpscon.
Vertical Datum used is of NAVD 88.
Control Point is located 168°11'11" 10,503.75 ft. from the SW Section Corner of Section 10, T147N R94W of the 5th P.M.
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LEGEND
- FOUND/SET CORNER
- CALCULATED CORNER
- NOTHING FOUND
- FOUND/SET BY OTHER

Marathon Oil
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

BOTTOM HOLE LOCATION PLAT

SCALE: 1"=2500'	
DATE: 08/11/2012	SHEET 7 OF 7

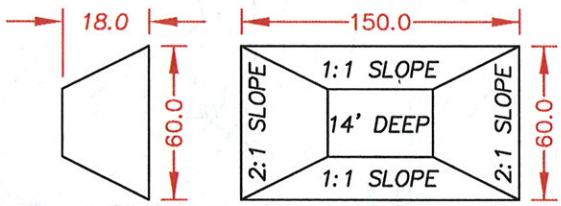
MARATHON OIL COMPANY
LINCOLN USA 16-1H
LOCATED WITHIN THE NW/4 NW/4, SECTION 15, T147N, R94W, 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

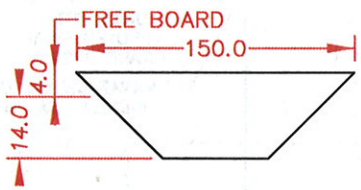
WELL SITE ELEVATION	2230.5
GRADED PAD ELEVATION	2222.0

EXCAVATION	71,796 CU. YDS. (CUT)
PLUS PIT	3,336 CU. YDS. (CUT)
	75,132 CU. YDS
EMBANKMENT	26,976 CU. YDS. (FILL)
PLUS SHRINKAGE (+30%)	8,093 CU. YDS. (FILL)
	35,069 CU. YDS.
STOCKPILE PIT	3,336 CU. YDS (SPOIL)
STOCKPILE TOP SOIL (8")	13,511 CU. YDS. (TOP SOIL-CUT)
ROAD EMBANKMENT & STOCKPILE FROM PAD	36,726 CU. YDS. (SPOIL)
TOTAL CUT VOLUME	88,643 CU. YDS.
TOTAL FILL VOLUME	35,069 CU. YDS.
TOTAL SPOIL VOLUME	40,062 CU. YDS.
DISTURBED AREA FROM PAD	12.50 ACRES
AREA INSIDE BARBED WIRE FENCE	
ALLOTTEE 1906-B	7.58 ACRES
ALLOTTEE 1968	5.52 ACRES
TOTAL	13.10 ACRES

NOTE
ALL FILL END SLOPES ARE DESIGNED AT 1.5:1 SLOPES.
ALL CUT END SLOPES ARE DESIGNED AT 2:1 SLOPES.
ALL STOCKPILES ARE TO BE BUILT AT 3:1 SLOPES.

MARATHON H&P FLEX RIG PIT





WELL SITE LOCATION
229 FEET FROM THE WEST LINE
217 FEET FROM THE NORTH LINE

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WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

LOCATION:
LINCOLN USA 16-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

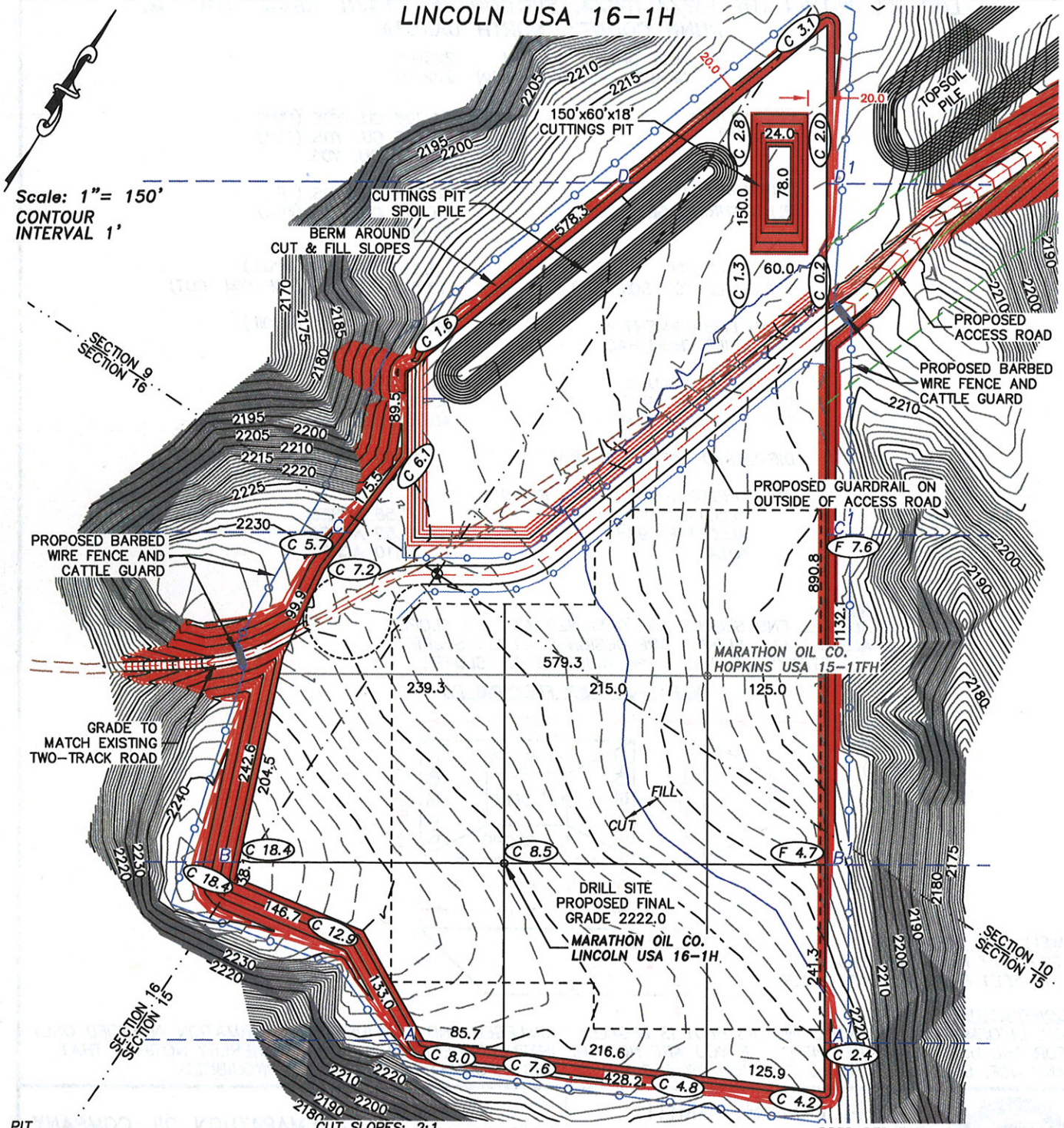
CONSTRUCTION DATA PAGE

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: N.T.S.
DATE: 07/27/2012	JOB NO: 2010011	SHEET 1 OF 8

WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
MARATHON OIL COMPANY
LINCOLN USA 16-1H

P.O. BOX 820
GREEN RIVER, WYOMING 82935

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640



PIT
140' X 60' X 14'
SLOPE = 1:1 & 2:1
CAPACITY
13,160 BBLs FULL
7,894 BBLs WORKING CAPACITY
WITH 4' FREE BOARD

CUT SLOPES: 2:1
FILL SLOPES: 1.5:1
QUANTITIES:
TOTAL CUT = 88,643 BANK CUBIC YARDS
TOTAL FILL = 35,069 BANK CUBIC YARDS
TOPSOIL AT 8 INCHES OF DEPTH = 13,511 BANK CUBIC YARDS
SPOIL = 40,062 BANK CUBIC YARDS
DISTURBED AREA = 544,490 SQ. FT. OR 12.50 ACRES

PREPARED FOR:
MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

LOCATION:
LINCOLN USA 16-1H
229 FWL and 217 FNL
FALLS WITHIN THE
NW/4 NW/4 SECTION 15,
T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA
SHEET 2 OF 8

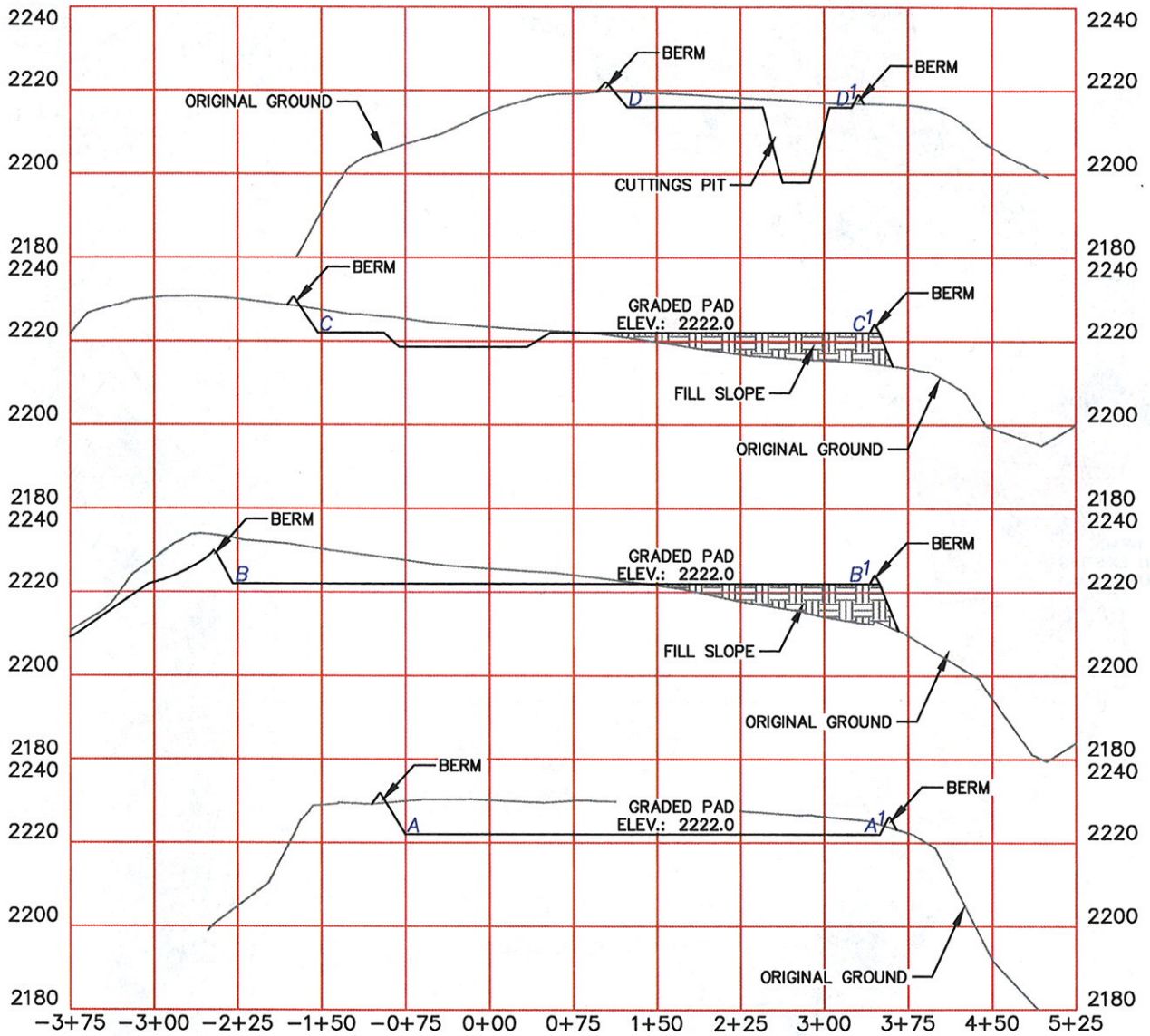
JOB NO. 2010011
07/27/2012 CDC

WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS

P.O. BOX 820
GREEN RIVER, WYOMING 82935

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

MARATHON OIL COMPANY
LINCOLN USA 16-1H



CUTTINGS PIT
140' X 60' X 14'
SLOPE = 1:1 & 2:1
CAPACITY
13,160 BBLs FULL
7,894 BBLs WORKING
CAPACITY WITH 4'
FREE BOARD

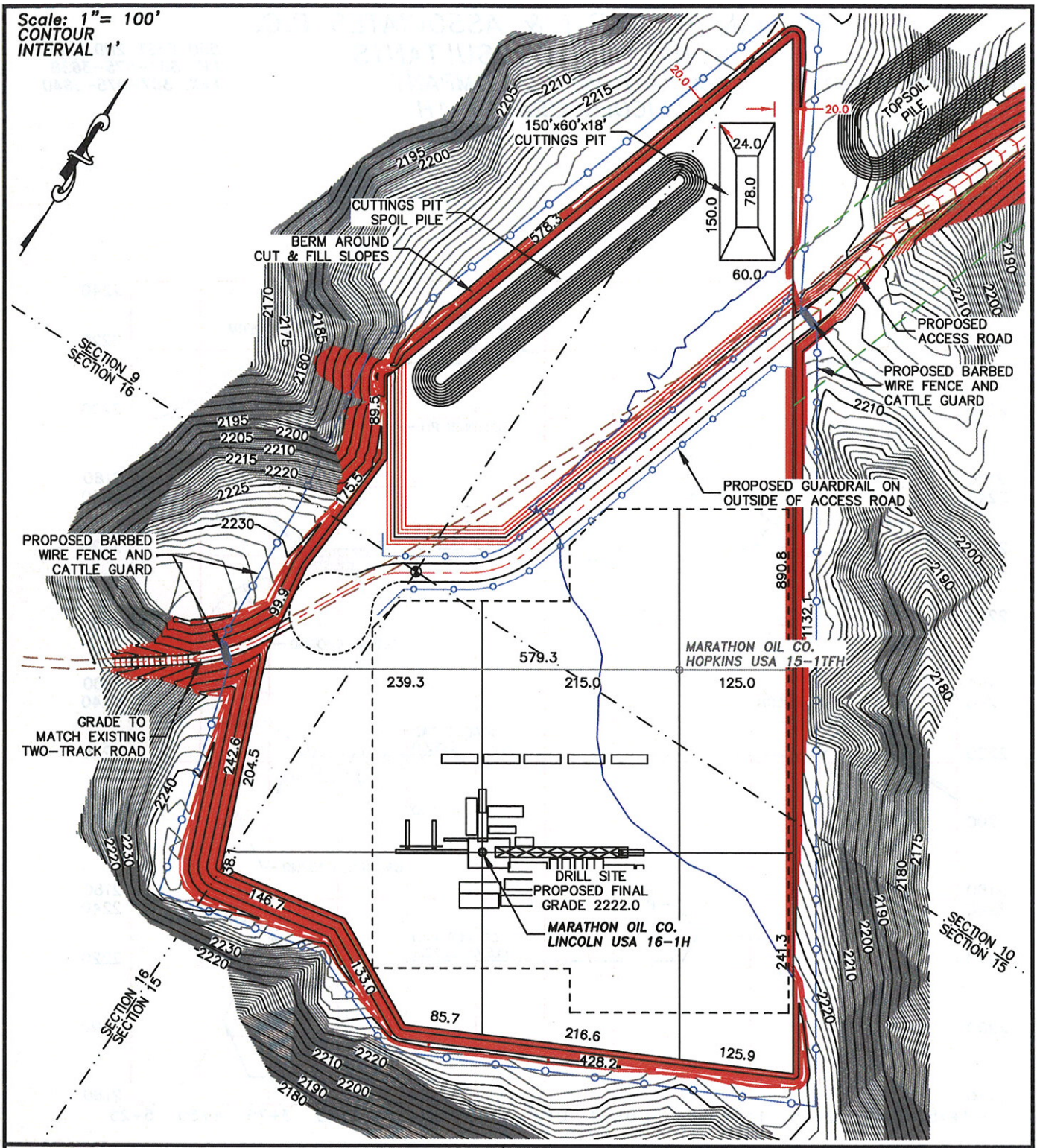
JOB NO. 2010011
07/27/2012 CDC

HORIZONTAL SCALE: 1"=150 FEET
VERTICAL SCALE: 1"=40 FEET

CUT SLOPES: 2:1
FILL SLOPES: 1.5:1
QUANTITIES:
TOTAL CUT = 88,643 BANK CUBIC YARDS
TOTAL FILL = 35,069 BANK CUBIC YARDS
TOPSOIL AT 8 INCHES OF DEPTH = 13,511 BANK CUBIC YARDS
SPOIL = 40,062 BANK CUBIC YARDS
DISTURBED AREA = 544,490 SQ. FT. OR 12.50 ACRES

PREPARED FOR:
MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

LOCATION:
LINCOLN USA 16-1H
229 FWL and 217 FNL
FALLS WITHIN THE
NW/4 NW/4 SECTION 15,
T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA
SHEET 3 OF 8



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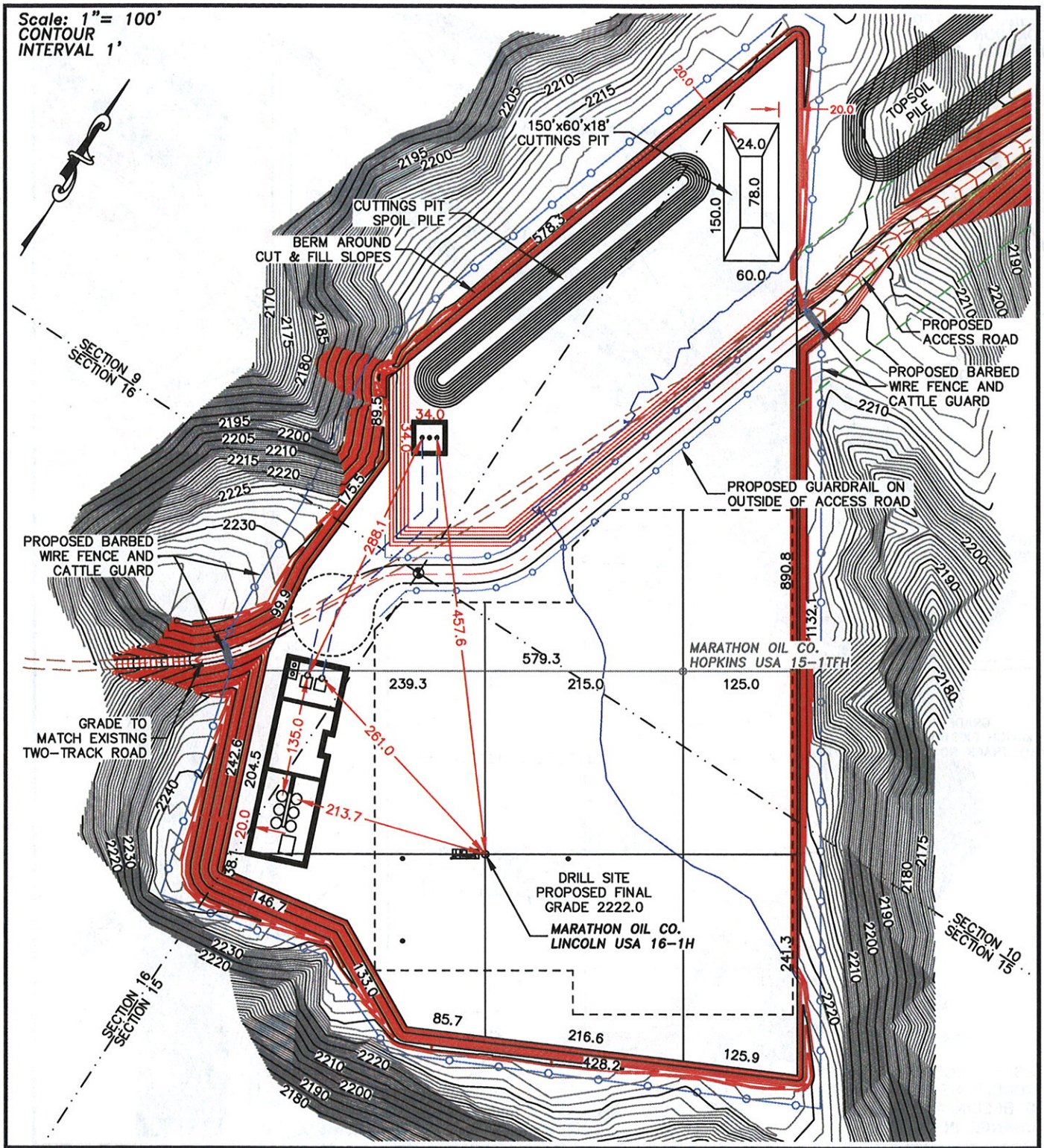
307-875-3639
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=100'
DATE: 07/27/2012	JOB NO: 2010011	SHEET 4 OF 8

LOCATION:
LINCOLN USA 16-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

RIG LAYOUT PAGE



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307-875-3639
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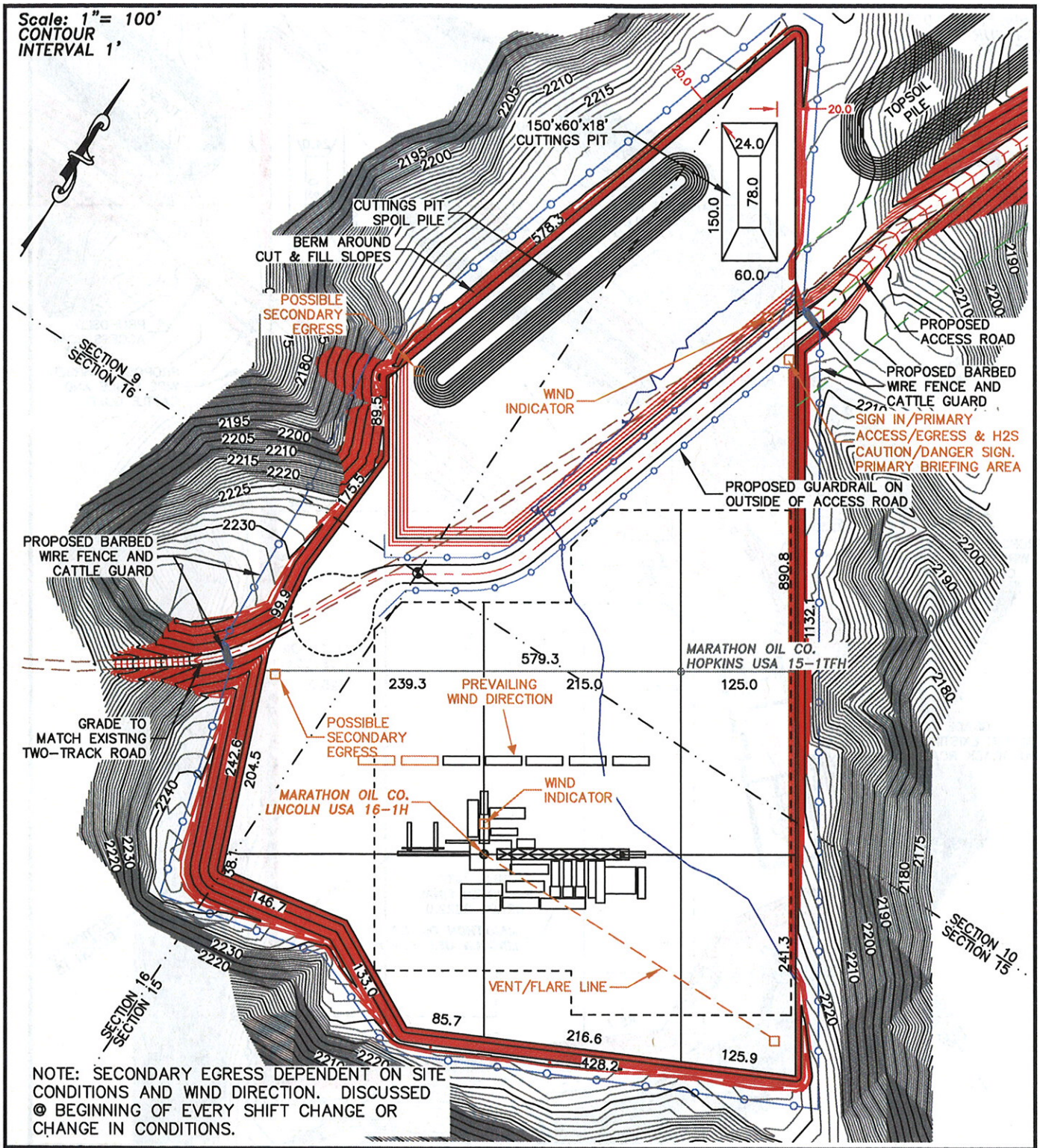
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=100'
DATE: 07/25/2012	JOB NO: 2010011	SHEET 5 OF 8

LOCATION:
LINCOLN USA 16-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

PRODUCTION FACILITIES LAYOUT PAGE



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550 EAST SECOND NORTH
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307-875-3639
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=100'
DATE: 07/27/2012	JOB NO: 2010011	SHEET 6 OF 8

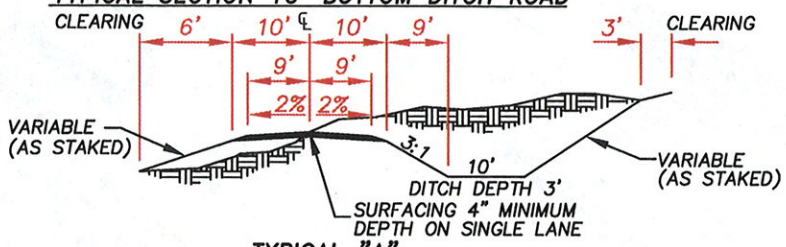
LOCATION:
LINCOLN USA 16-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

H2S DRILLING OPERATIONS PAGE

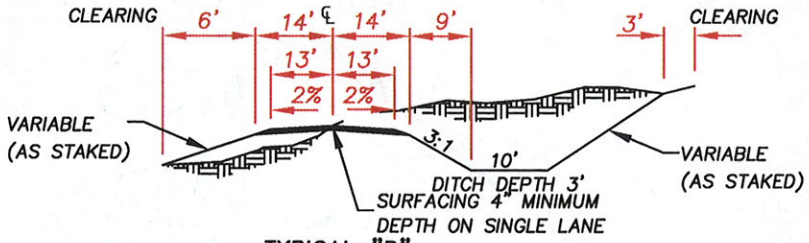
LINCOLN USA 16-1H
ROADWAY TYPICAL SECTIONS

TYPICAL SECTION 10' BOTTOM DITCH ROAD



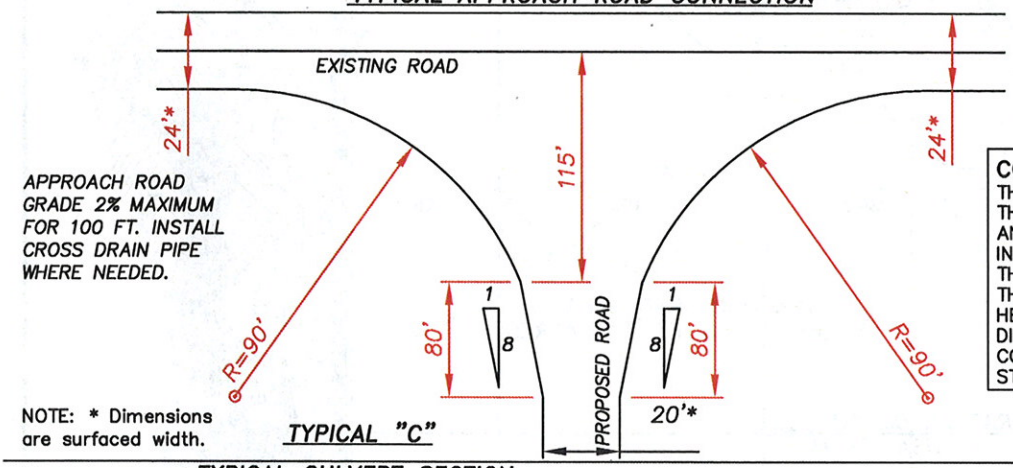
TYPICAL "A"

TYPICAL SECTION 10' BOTTOM DITCH ROAD



TYPICAL "B"

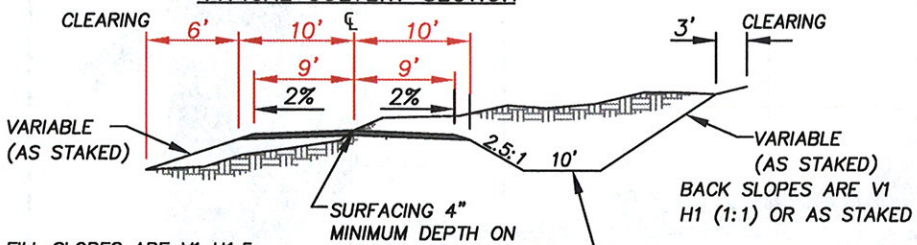
TYPICAL APPROACH ROAD CONNECTION



NOTE: * Dimensions are surfaced width.

TYPICAL "C"

TYPICAL CULVERT SECTION



FILL SLOPES ARE V1 H1.5 (1.5:1) OR AS STAKED

TYPICAL "D"

FILL SLOPES
3:1 UNDER 4' HEIGHT
2:1 OVER 4' HEIGHT
(-) SLOPES STEEPER THAN 2:1 WILL BE SUBJECT TO FS APPROVAL

CUT SLOPES
3:1 UNDER 10' HEIGHT
2:1 10' TO 20' HEIGHT
(-) VARIABLE OVER 20' HEIGHT W/FS APPROVAL

FILL WIDENING
2' TO 5' HIGH/ADD 1'
OVER 5' HIGH/ADD 2'

CURVE WIDENING
130 / R

DITCH WIDTH SHALL BE THE LARGER OF THE FOLLOWING:
A. STANDARD DITCH WIDTH.
B. 2 TIMES THE PIPE DIAMETER.
C. 4.25'

DITCH DEPTH SHALL BE:

CMP DIAMETER	DITCH DEPTH
18"	2.5'
24"	3.0'
36"	4.0'
48"	5.0'

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GREEN RIVER, WY
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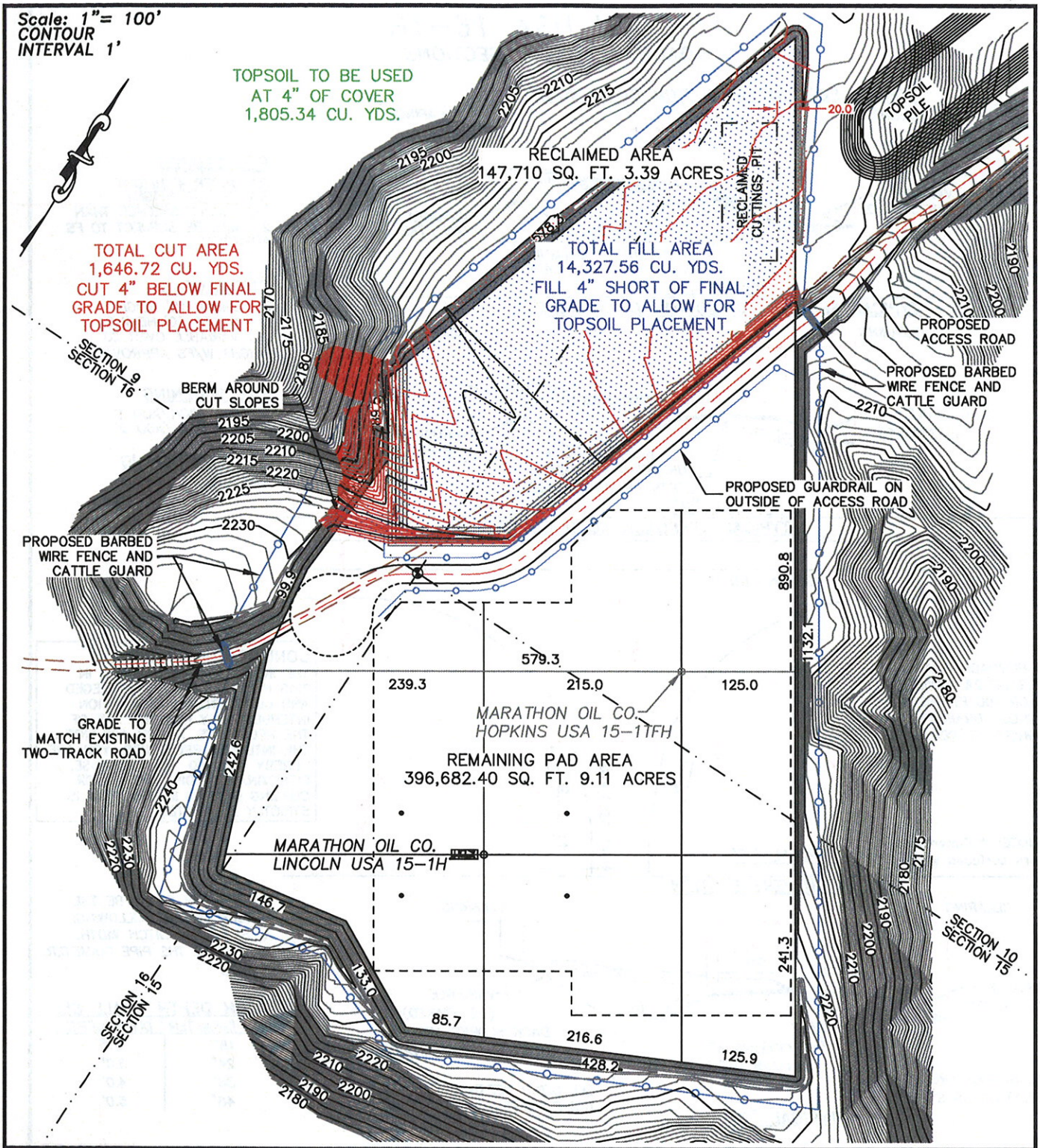
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: N.T.S.
DATE: 07/27/2012	JOB NO: 2010011	SHEET 7 OF 8

LOCATION:
LINCOLN USA 16-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

TYPICAL ROADWAY DIAGRAM



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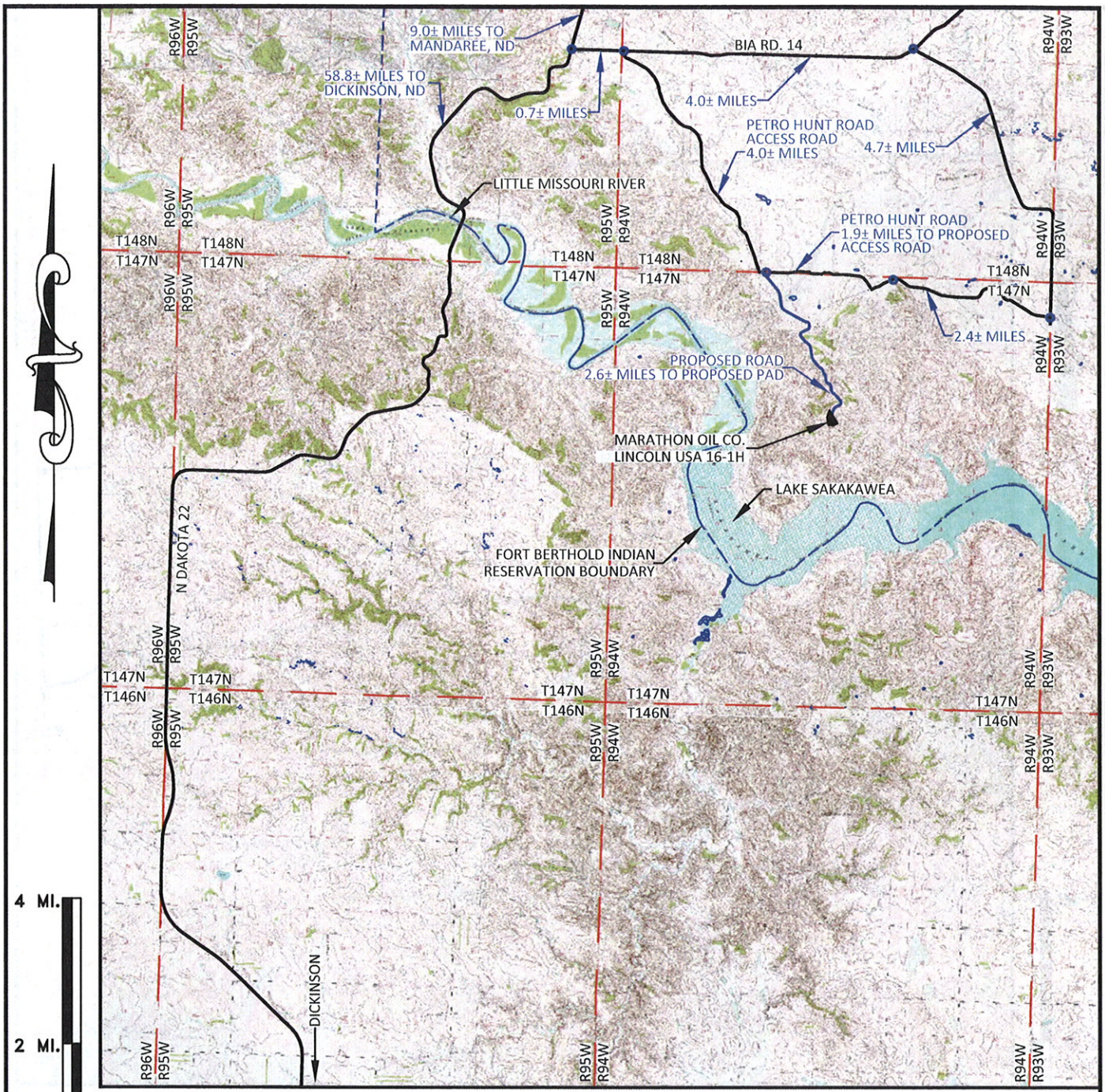
307-875-3639
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=100'
DATE: 07/27/2012	JOB NO: 2010011	SHEET 8 OF 8

LOCATION:
LINCOLN USA 15-1H
WITHIN THE NW/4 NW/4 SECTION 15, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

RECLAIMED PAD



LEGEND

EXISTING ROADS

PROPOSED ROADS

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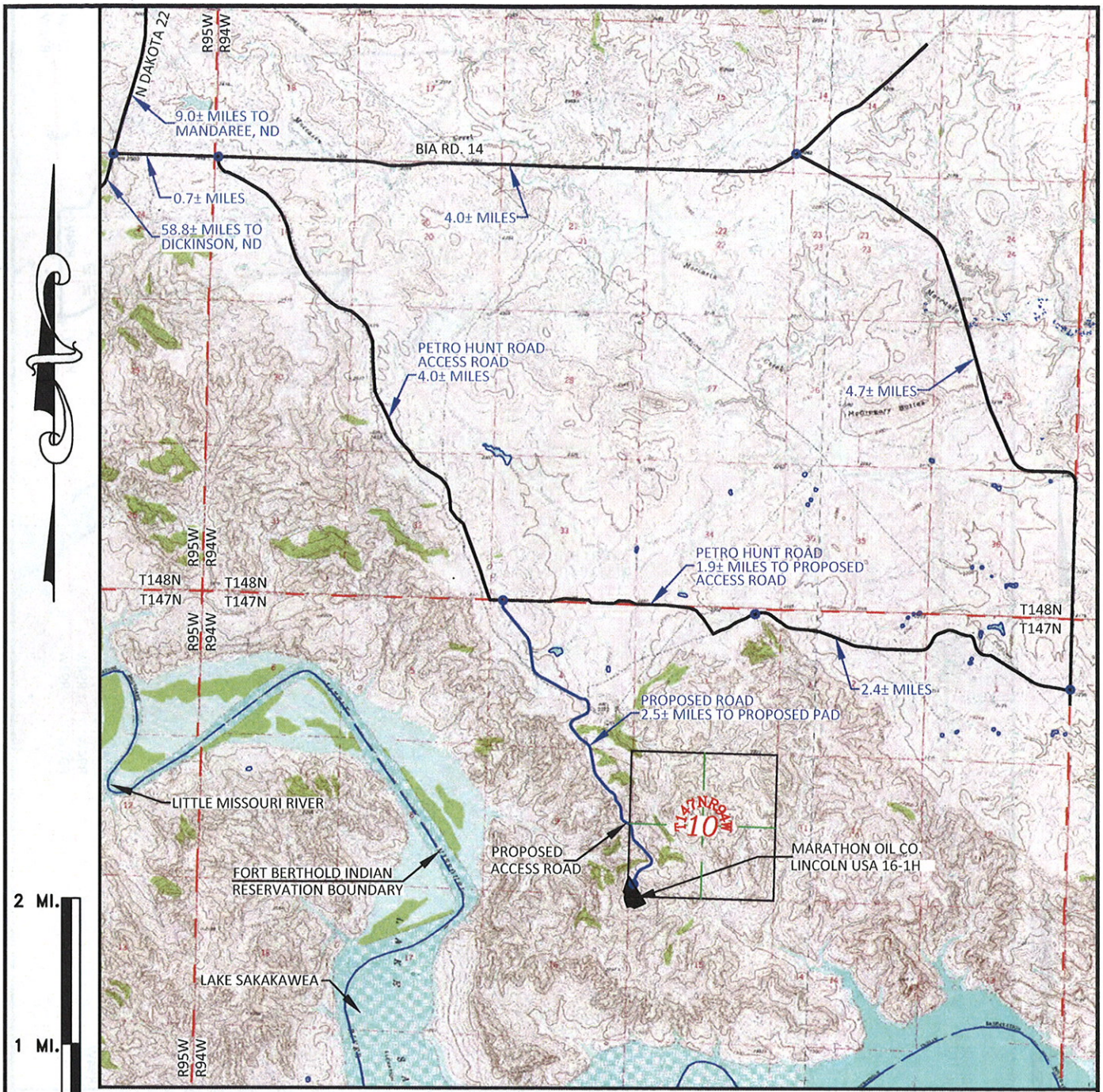
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=2 MILE
DATE: 07/26/2012	JOB NO: 2010011	SHEET 1 OF 3

LOCATION:
LINCOLN USA
16-1H
SW/4 SW/4 SEC. 10,
T147N, R94W,
5TH P.M.
DUNN COUNTY,
NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

MAP "A"

COUNTY ACCESS ROUTE



LEGEND

EXISTING ROADS

PROPOSED ROADS

CONFIDENTIALITY NOTES:

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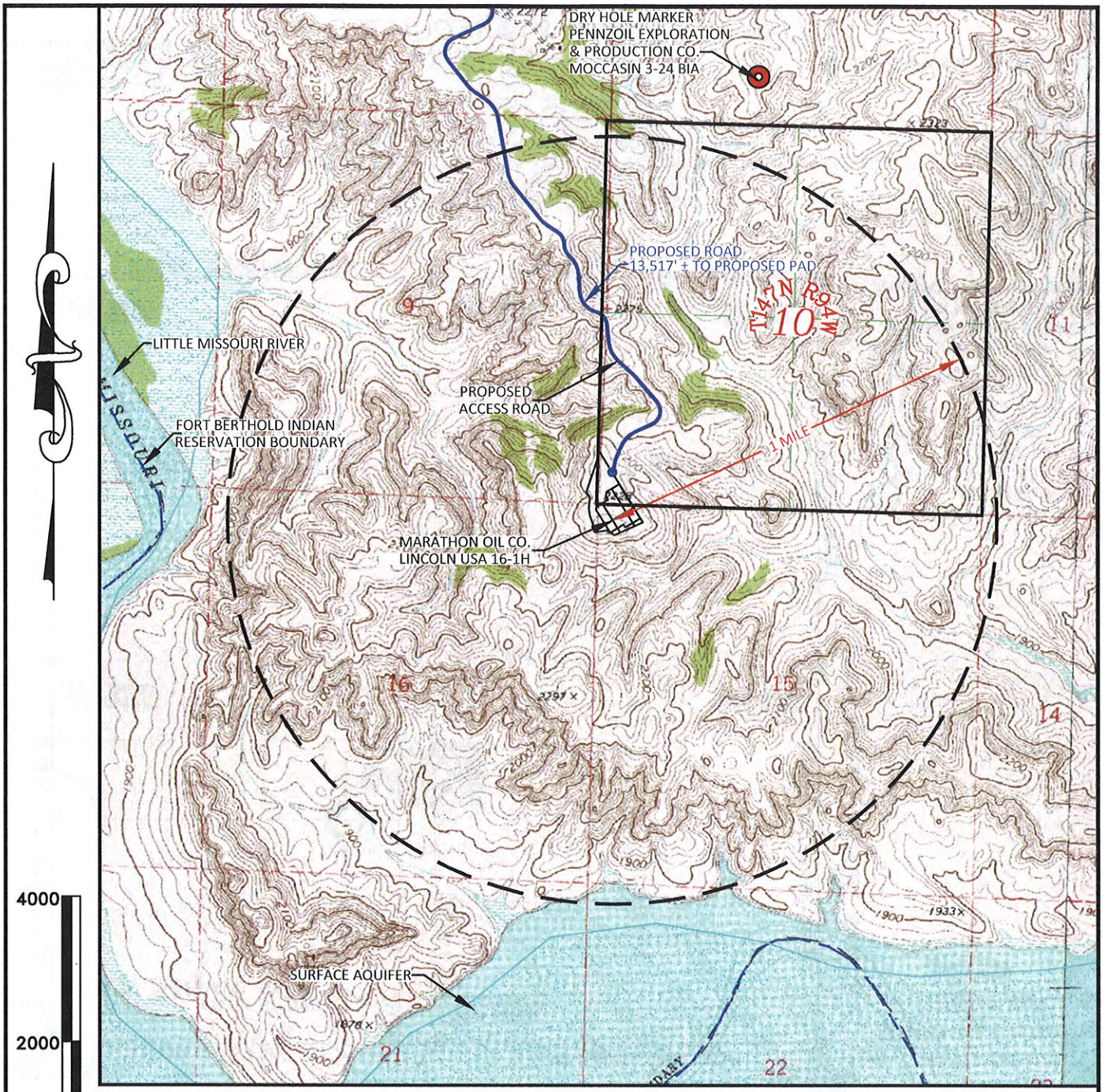
WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: CED	SCALE: 1"=1 MILE
DATE: 07/26/2012	JOB NO: 2010011	SHEET 2 OF 3

LOCATION:
LINCOLN USA 16-1H
SW/4 SW/4 SEC. 10, T147N, R94W, 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

MAP "B"
QUAD ACCESS ROUTE



LEGEND

EXISTING ROADS

PROPOSED ROADS

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DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=2000'
DATE: 07/26/2012	JOB NO: 2010011	SHEET 3 OF 3

LOCATION:
LINCOLN USA
16-1H
SW/4 SW/4 SEC. 10,
T147N, R94W,
5TH P.M.
DUNN COUNTY,
NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

MAP "C"
ONE MILE RADIUS MAP

P.O. BOX 820
GREEN RIVER, WYOMING 82935

WILLIAM H. SMITH & ASSOCIATES P.C.

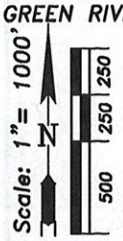
SURVEYING CONSULTANTS

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

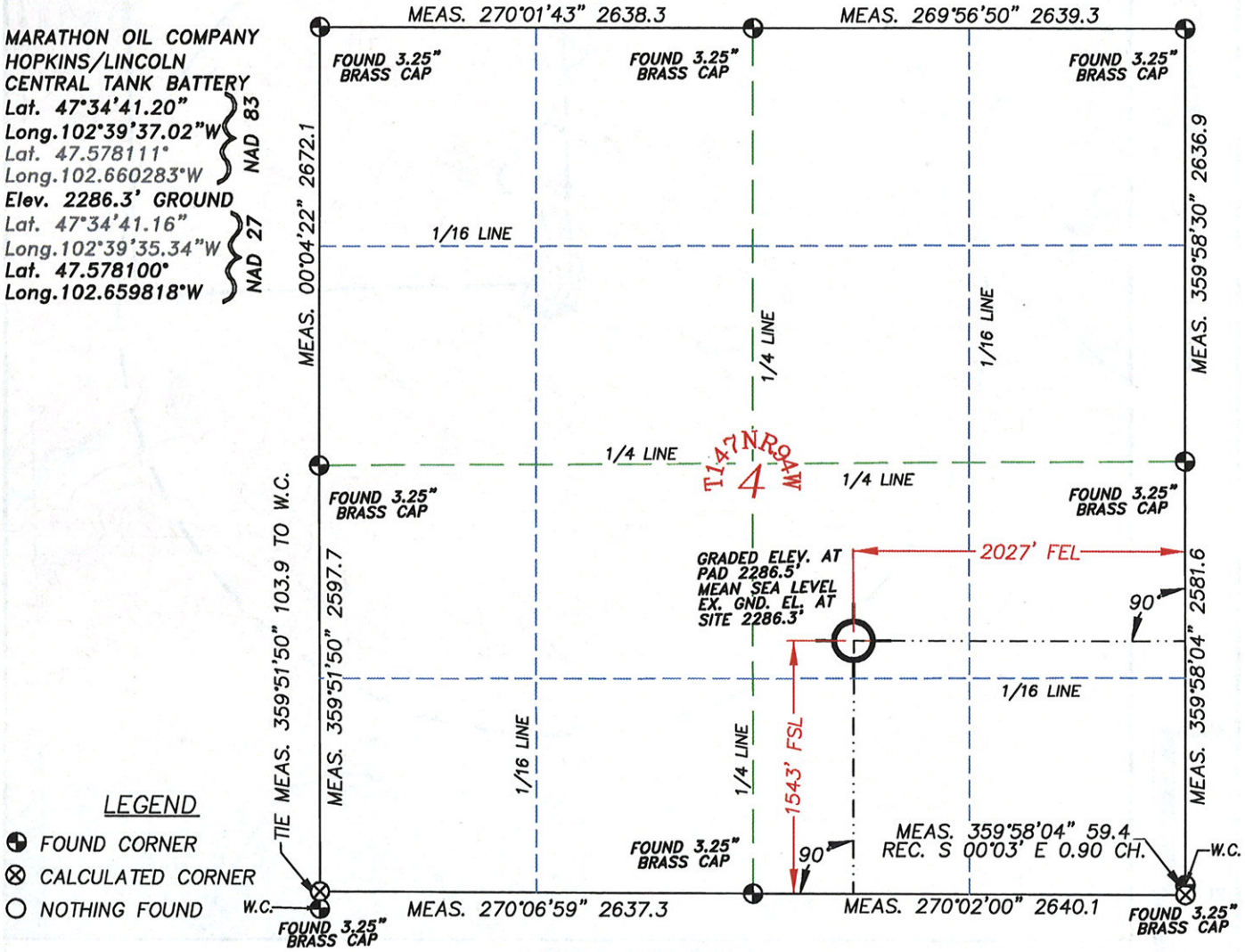
LOCATION PLAT

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH, DICKINSON, NORTH DAKOTA 58601
HOPKINS/LINCOLN CENTRAL TANK BATTERY
1543 FEET FROM THE SOUTH LINE AND 2027 FEET FROM THE EAST LINE
SECTION 4, T 147 N, R 94 W., 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

Scale: 1"= 1000'



MARATHON OIL COMPANY
HOPKINS/LINCOLN
CENTRAL TANK BATTERY
Lat. 47°34'41.20"
Long.102°39'37.02"W
NAD 83
Lat. 47.578111°
Long.102.660283°W
Elev. 2286.3' GROUND
Lat. 47°34'41.16"
Long.102°39'35.34"W
NAD 27
Lat. 47.578100°
Long.102.659818°W



LEGEND

- FOUND CORNER
- CALCULATED CORNER
- NOTHING FOUND

I, William H. Dolinar, Professional Land Surveyor, ND. RLS # 6550 hereby certify that (in accordance with a request from Darrell Nodland with Marathon Oil Co, 3172 Highway 22 North, Dickinson, ND 58601) I and or personnel under my direction made a survey on the 1st day of June 2012, for the Location and Elevation of Marathon Oil Co. HOPKINS/LINCOLN CENTRAL TANK BATTERY being located in the NW/4 SE/4 of Section 4, T147N, R94W, of the 5th P.M., Dunn County, State of North Dakota.
Pad Center Surface Elevation of ungraded ground is 2286.3 ft

Notes: All Azimuths are based on the East line of the Northeast Quarter of Section 4, T147N R94W of the 5th P.M., being an Azimuth of 359°58'30" using GPS observations, occupying a WHS control point (5/8"rebar) and having the Location and Elevation derived from an OPUS Solution. Azimuths shown have been rotated 1°34'10.87712" West from SPC Grid bearings to Geodetic North, based on convergence angle provided by a conversion using Corpscon.
Vertical Datum used is of NAVD 88.
Control Point is located 147°14'09" 2,341.45 ft. from the NE Corner of Section 4, T147N R94W of the 5th P.M.
Distances shown are Ground Distances using a combined scale factor of 1.000084195
Location shown here on is not an "ASBUILT" location.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 07/28/12
NORTH DAKOTA
~SEAL~

JOB NO. 2010011
07/24/2012 – CDC

P.O. BOX 820
GREEN RIVER, WYOMING 82935

WILLIAM H. SMITH & ASSOCIATES P.C.

SURVEYING CONSULTANTS

550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

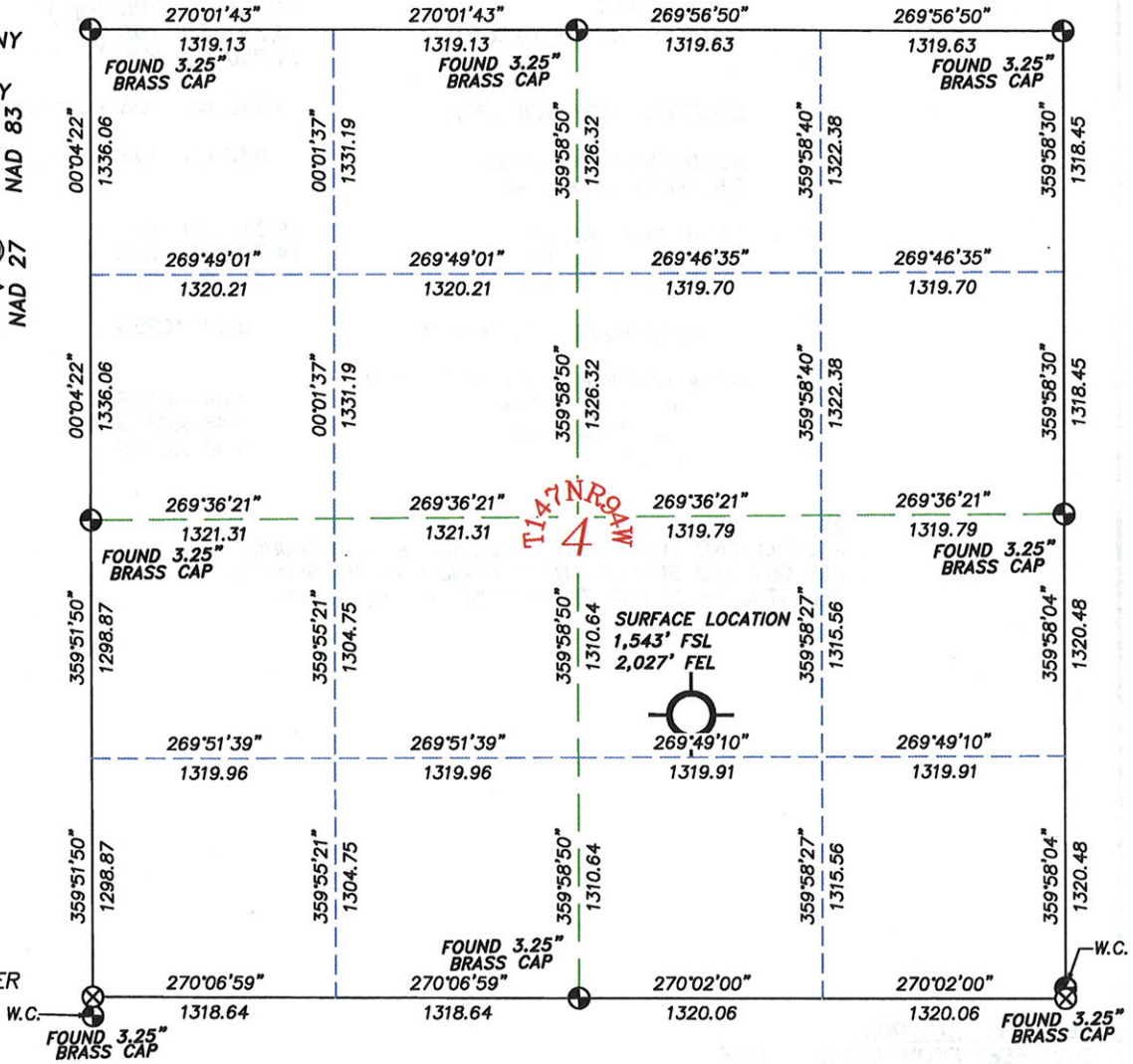
HORIZONTAL SECTION PLAT

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH, DICKINSON, NORTH DAKOTA 58601
HOPKINS/LINCOLN CENTRAL TANK BATTERY
1543 FEET FROM THE SOUTH LINE AND 2027 FEET FROM THE EAST LINE
SECTION 4, T 147 N, R 94 W., 5TH P.M.
DUNN COUNTY, NORTH DAKOTA

Scale: 1"= 1000'

MARATHON OIL COMPANY
HOPKINS/LINCOLN
CENTRAL TANK BATTERY
Lat. 47°34'41.20"
Long.102°39'37.02"W
Lat. 47.578111°
Long.102.660283°W
NAD 83

Elev. 2286.3' GROUND
Lat. 47°34'41.16"
Long.102°39'35.34"W
Lat. 47.578100°
Long.102.659818°W
NAD 27



LEGEND

- FOUND CORNER
- CALCULATED CORNER
- NOTHING FOUND

I, William H. Dolinar, Professional Land Surveyor, ND. RLS # 6550 hereby certify that (in accordance with a request from Darrell Nodland with Marathon Oil Co, 3172 Highway 22 North, Dickinson, ND 58601) I and or personnel under my direction made a survey on the 1st day of June 2012, for the Location and Elevation of Marathon Oil Co. HOPKINS/LINCOLN CENTRAL TANK BATTERY being located in the NW/4 SE/4 of Section 4, T147N, R94W, of the 5th P.M., Dunn County, State of North Dakota.
Pad Center Surface Elevation of ungraded ground is 2286.3 ft

Notes: All Azimuths are based on the East line of the Northeast Quarter of Section 4, T147N R94W of the 5th P.M., being an Azimuth of 359°58'30" using GPS observations, occupying a WHS control point (5/8"rebar) and having the Location and Elevation derived from an OPUS Solution. Azimuths shown have been rotated 1°34'10.87712" West from SPC Grid bearings to Geodetic North, based on convergence angle provided by a conversion using Corpscon.
Vertical Datum used is of NAVD 88.
Control Point is located 147°14'09" 2,341.45 ft. from the NE Corner of Section 4, T147N R94W of the 5th P.M.
Distances shown are Ground Distances using a combined scale factor of 1.000084195
Location shown here on is not an "ASBUILT" location.

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 07/28/12
NORTH DAKOTA
~SEAL~

JOB NO. 2010011
07/24/2012 – CDC

MARATHON OIL COMPANY
HOPKINS/LINCOLN CENTRAL TANK BATTERY
LOCATED WITHIN THE NW1/4 SE1/4, SECTION 4, T 147 N, R 94 W, 5TH PM. DUNN COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2286.3
GRADED PAD ELEVATION	2286.5

EXCAVATION	15,238 CU. YDS.	(CUT)
EMBANKMENT	11,308 CU. YDS.	(FILL)
PLUS SHRINKAGE (+30%)	3,392 CU. YDS.	(FILL)
	14,700 CU. YDS.	
STOCKPILE TOP SOIL (8")	4,140 CU. YDS.	(TOP SOIL-CUT)
ROAD EMBANKMENT & STOCKPILE FROM PAD	537 CU. YDS.	(SPOIL)
TOTAL CUT VOLUME	19,378 CU. YDS.	
TOTAL FILL VOLUME	14,700 CU. YDS.	
TOTAL SPOIL VOLUME	537 CU. YDS.	
DISTURBED AREA FROM PAD	3.83 ACRES	
AREA INSIDE BARBED WIRE FENCE		
ALLOTTEE 1069A	4.54 ACRES	
ALLOTTEE 1936	0.46 ACRES	
TOTAL	5.00 ACRES	

NOTE
ALL FILL END SLOPES ARE DESIGNED AT 3:1 SLOPES.
ALL CUT END SLOPES ARE DESIGNED AT 3:1 SLOPES.
ALL STOCKPILES ARE TO BE BUILT AT 3:1 SLOPES.

WELL SITE LOCATION
2027 FEET FROM THE EAST LINE
1543 FEET FROM THE SOUTH LINE

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GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: N.T.S.
DATE: 07/23/2012	JOB NO: 2010011	SHEET 1 OF 5
REV:		

LOCATION:
HOPKINS/LINCOLN CENTRAL TANK BATTERY WITHIN THE NW/4 SE/4, SECTION 4, T147N, R94W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

CONSTRUCTION DATA PAGE

WILLIAM H. SMITH & ASSOCIATES P.C.
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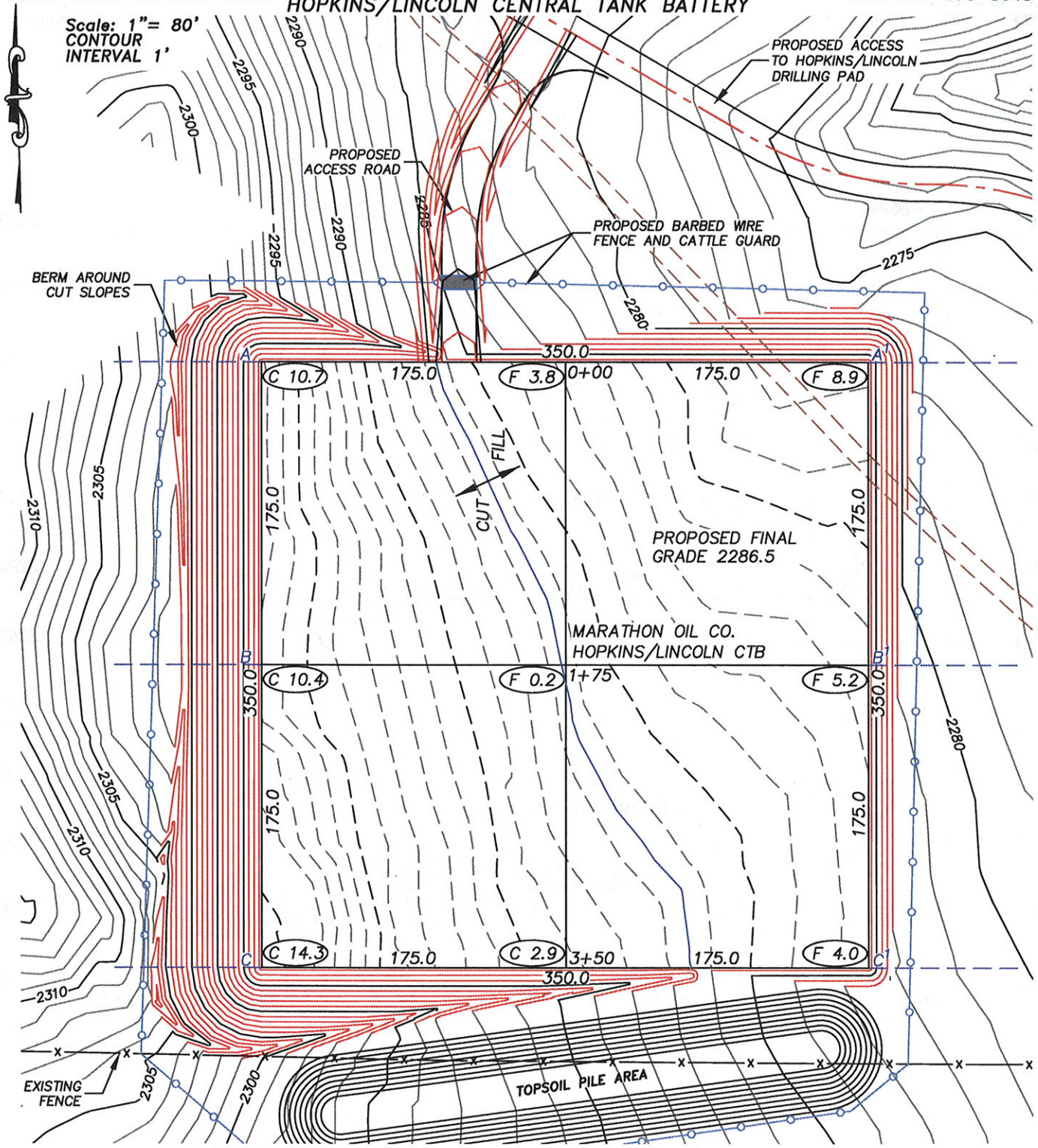
550 EAST 2ND NORTH
PH. 307-875-3638
FAX. 307-875-3640

MARATHON OIL COMPANY
HOPKINS/LINCOLN CENTRAL TANK BATTERY



CUT SLOPES: 3:1
FILL SLOPES: 3:1
QUANTITIES:
TOTAL CUT = 19,378 BANK CUBIC YARDS
TOTAL FILL = 14,700 BANK CUBIC YARDS
TOPSOIL AT 8 INCHES OF DEPTH = 4,140 BANK CUBIC YARDS
SPOIL = 537 BANK CUBIC YARDS
DISTURBED AREA = 166,844 SQ. FT. OR 3.83 ACRES

PREPARED FOR:
MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

LOCATION:
HOPKINS/LINCOLN CTB
2027 FEL and 1543 FSL
WITHIN THE NW/4 SE/4, SECTION 4,
T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA
SHEET 2 OF 5

JOB NO. 2010011
07/23/2012 CDC

WILLIAM H. SMITH & ASSOCIATES P.C.
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550 EAST 2ND NORTH
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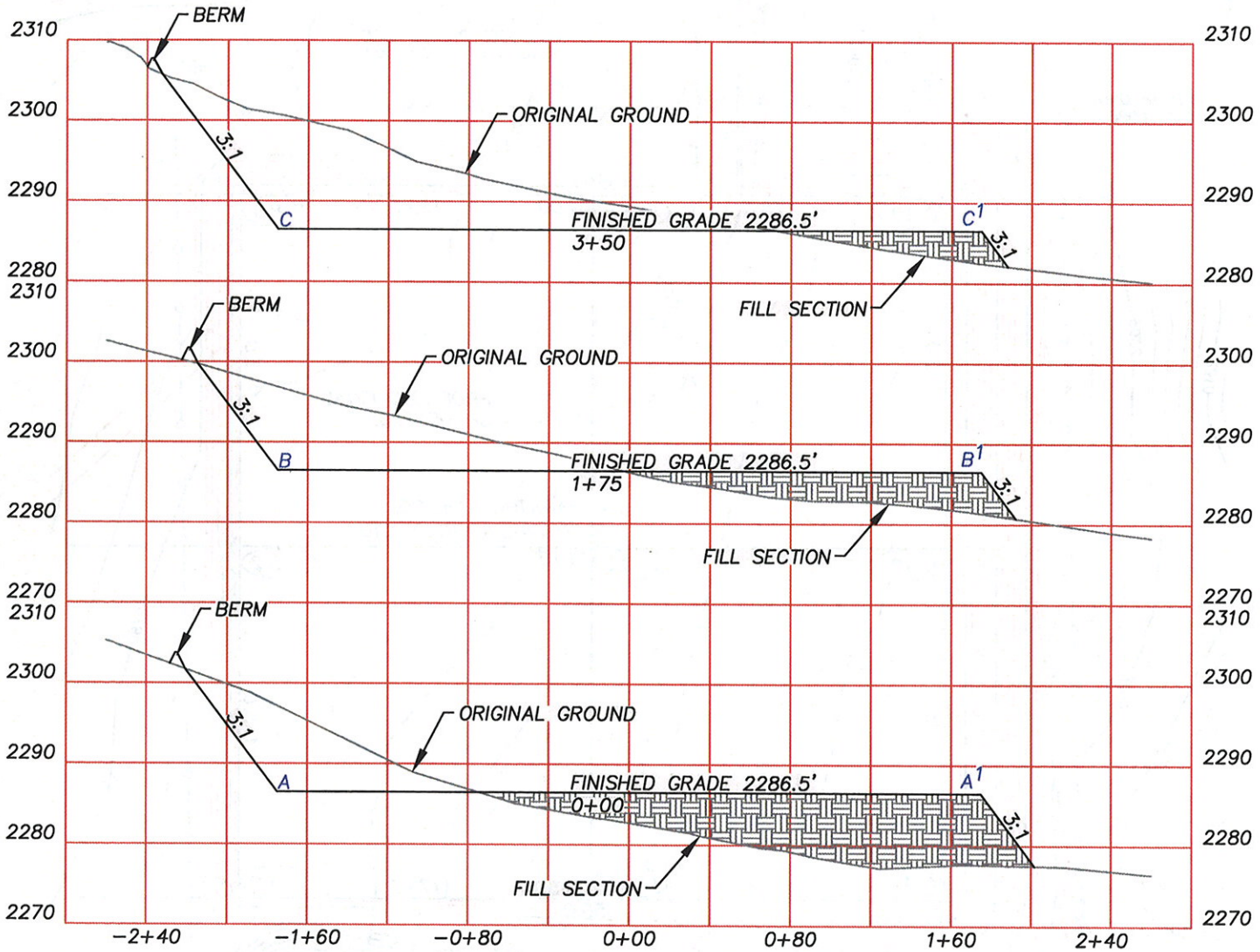
FAX. 307-875-3640

MARATHON OIL COMPANY
HOPKINS – LINCOLN CTB



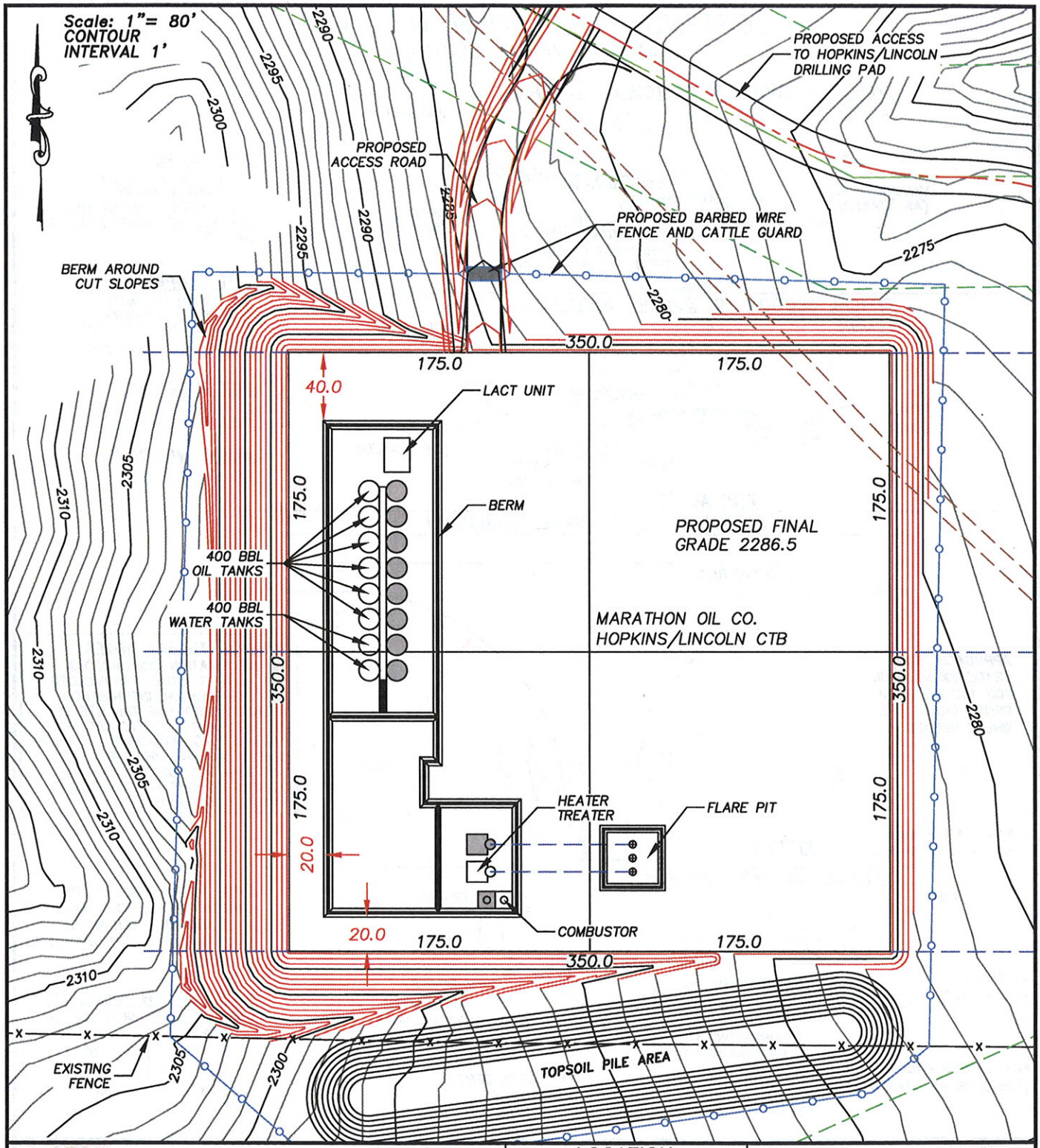
HORIZONTAL SCALE: 1"=80 FEET
VERTICAL SCALE: 1"=20 FEET

CUT SLOPES: 3:1
FILL SLOPES: 3:1
QUANTITIES:
TOTAL CUT = 19,378 BANK CUBIC YARDS
TOTAL FILL = 14,700 BANK CUBIC YARDS
TOPSOIL AT 8 INCHES OF DEPTH = 4,140 BANK CUBIC YARDS
SPOIL = 537 BANK CUBIC YARDS
DISTURBED AREA = 166,844 SQ. FT. OR 3.83 ACRES

PREPARED FOR:
MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

LOCATION:
HOPKINS/LINCOLN CTB
2027 FEL and 1543 FSL
WITHIN THE NW/4 SE/4, SECTION 4,
T 147 N, R 94 W, 5TH PM.
DUNN COUNTY,NORTH DAKOTA
SHEET 3 OF 5

JOB NO. 2010011
07/23/2012 CDC



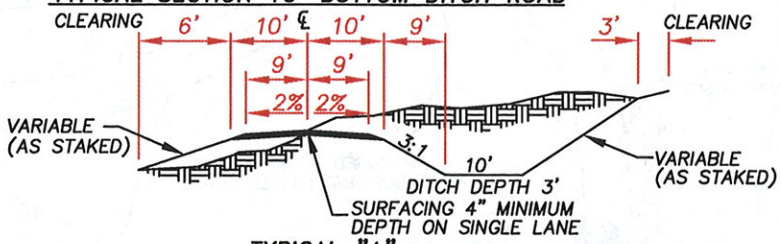
WILLIAM H. SMITH & ASSOCIATES P.C. SURVEYING CONSULTANTS 550 EAST SECOND NORTH, GREEN RIVER, WY PHONE: 307-875-3638, 307-875-3639 www.whsmithpc.com	LOCATION: HOPKINS/LINCOLN CENTRAL TANK BATTERY WITHIN THE NW/4 SE/4, SECTION 4, T147N, R94W, 5TH PM. DUNN COUNTY, NORTH DAKOTA	MARATHON OIL COMPANY 3172 HIGHWAY 22 NORTH DICKINSON, NORTH DAKOTA 58601 PRODUCTION FACILITIES LAYOUT PAGE

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=80'
DATE: 07/23/2012	JOB NO: 2010011	SHEET 4 OF 5

HOPKINS – LINCOLN USA CTB

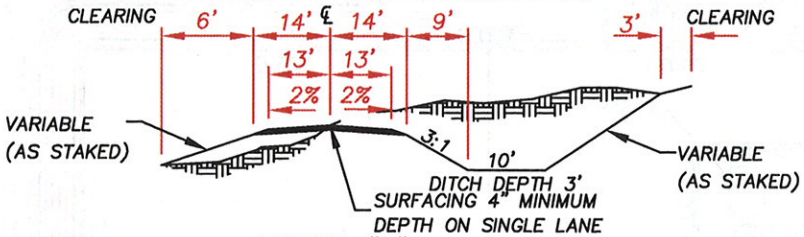
ROADWAY TYPICAL SECTIONS

TYPICAL SECTION 10' BOTTOM DITCH ROAD



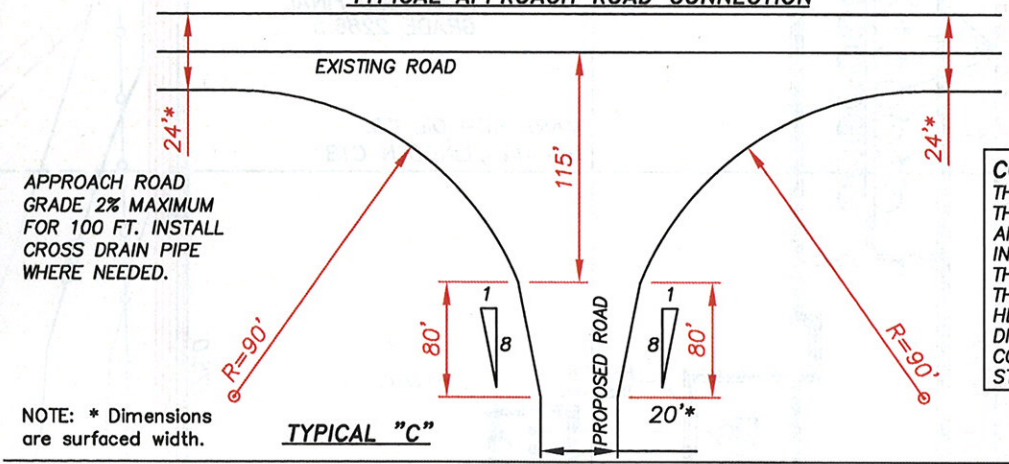
TYPICAL "A"

TYPICAL SECTION 10' BOTTOM DITCH ROAD



TYPICAL "B"

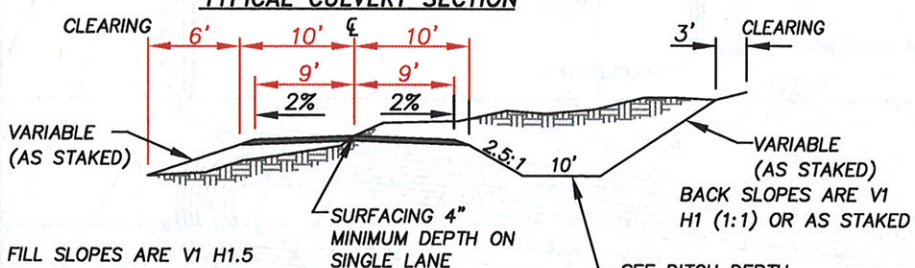
TYPICAL APPROACH ROAD CONNECTION



NOTE: * Dimensions are surfaced width.

TYPICAL "C"

TYPICAL CULVERT SECTION



FILL SLOPES ARE V1 H1.5 (1.5:1) OR AS STAKED

TYPICAL "D"

FILL SLOPES

3:1 UNDER 4' HEIGHT
2:1 OVER 4' HEIGHT
(–) SLOPES STEEPER THAN 2:1 WILL BE SUBJECT TO FS APPROVAL

CUT SLOPES

3:1 UNDER 10' HEIGHT
2:1 10' TO 20' HEIGHT
(–) VARIABLE OVER 20' HEIGHT W/FS APPROVAL

FILL WIDENING

2' TO 5' HIGH/ADD 1'
OVER 5' HIGH/ADD 2'

CURVE WIDENING

130 / R

DITCH WIDTH SHALL BE THE LARGER OF THE FOLLOWING:
A. STANDARD DITCH WIDTH.
B. 2 TIMES THE PIPE DIAMETER.
C. 4.25'

DITCH DEPTH SHALL BE:

CMP DIAMETER	DITCH DEPTH
18"	2.5'
24"	3.0'
36"	4.0'
48"	5.0'

WILLIAM H. SMITH & ASSOCIATES P.C.
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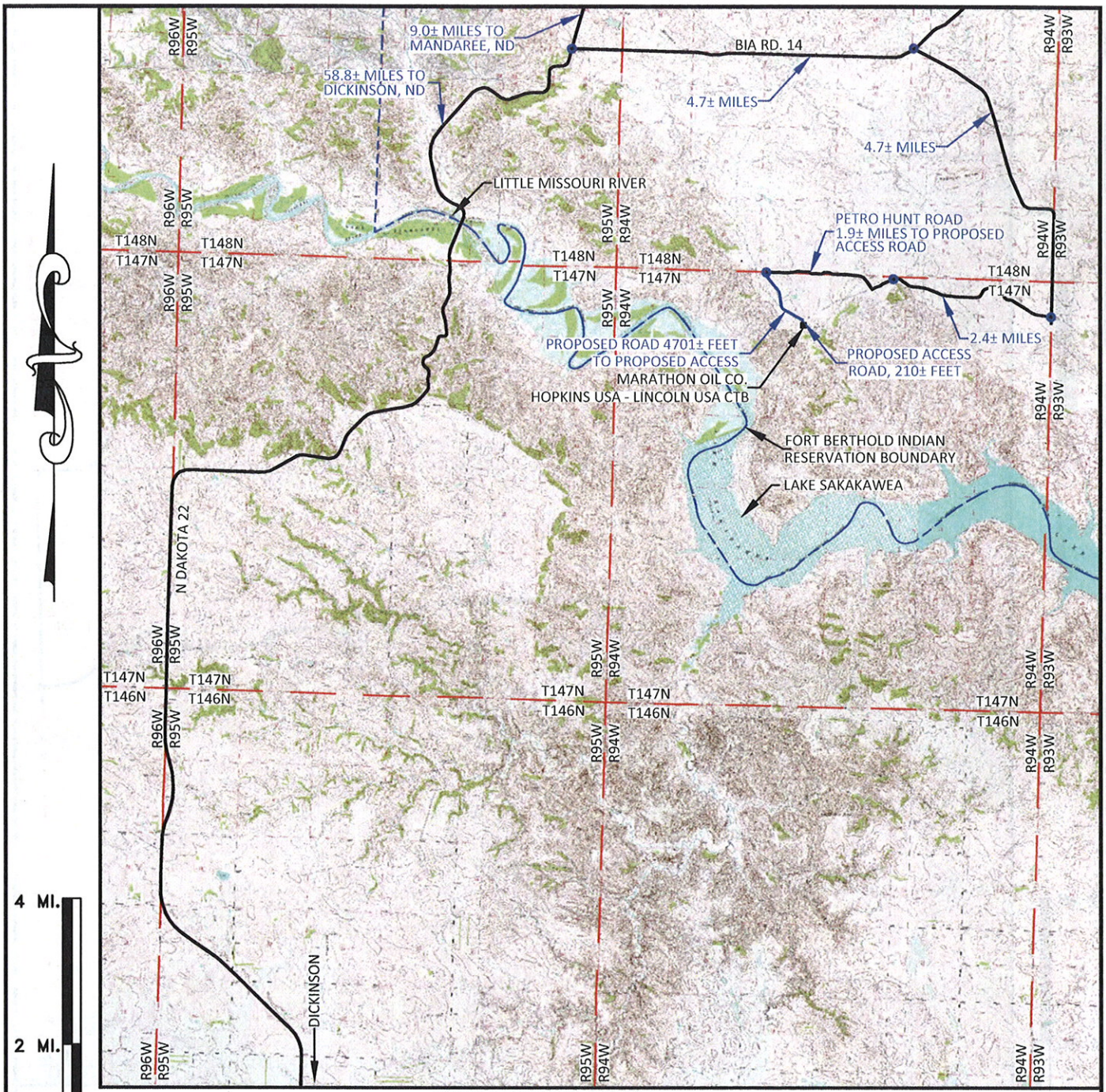
www.whsmithpc.com

DRAWN BY: CDC	CHECKED BY: WHD	SCALE: N.T.S.
DATE: 07/23/2012	JOB NO: 2010011	SHEET 5 OF 5
REV:		

LOCATION:
HOPKINS – LINCOLN USA CTB
WITHIN THE NW/4 SE/4, SECTION 4, T 147 N, R 94 W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

TYPICAL ROADWAY DIAGRAM



LEGEND

EXISTING ROADS

PROPOSED ROADS

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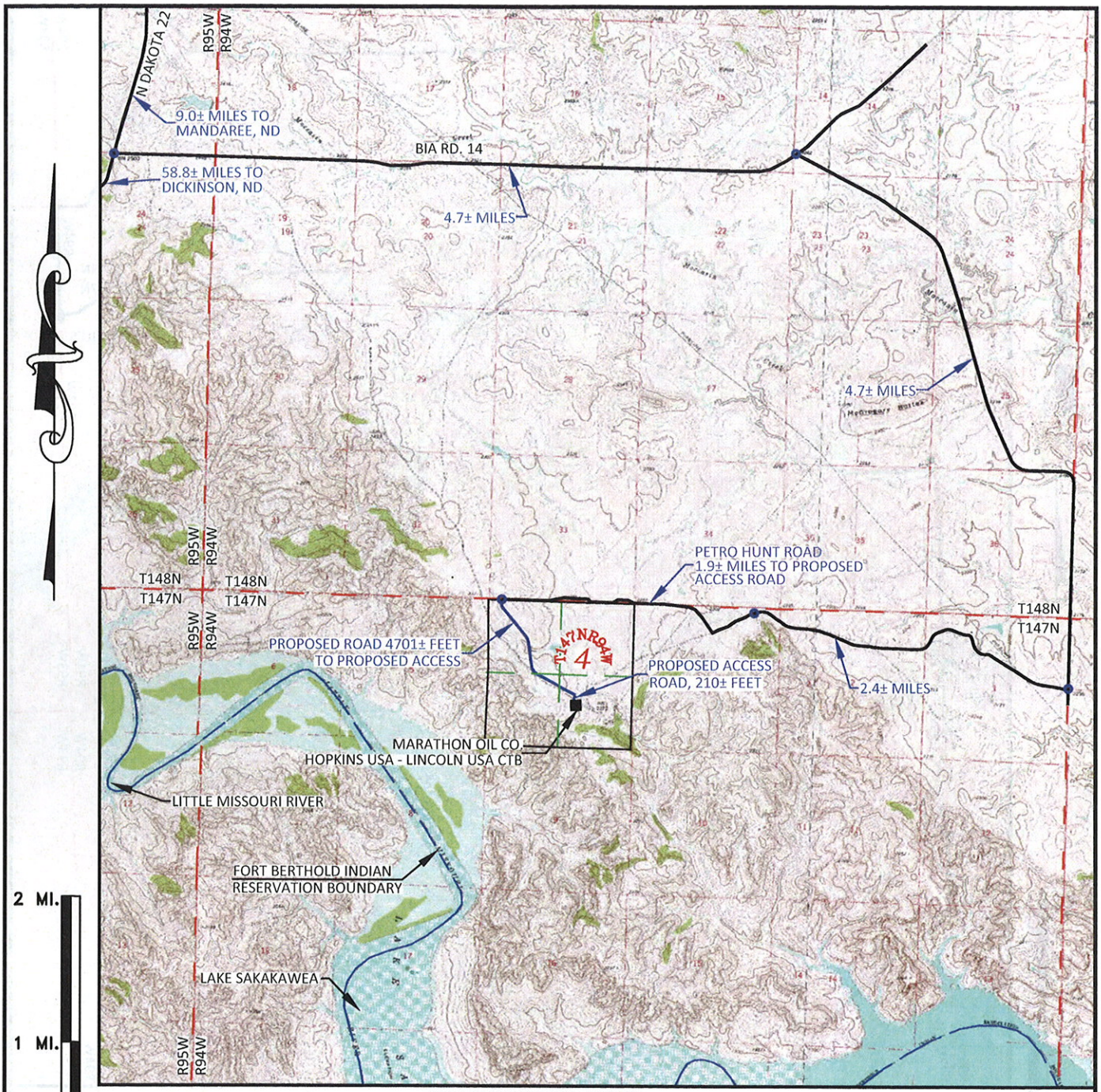
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=2 MILE
DATE: 07/24/2012	JOB NO: 2010011	SHEET 1 OF 3

LOCATION:
HOPKINS/LINCOLN CENTRAL TANK BATTERY WITHIN THE NW/4 SE/4, SECTION 4, T147N, R94W, 5TH PM. DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

MAP "A"
COUNTY ACCESS ROUTE



LEGEND

EXISTING ROADS

PROPOSED ROADS

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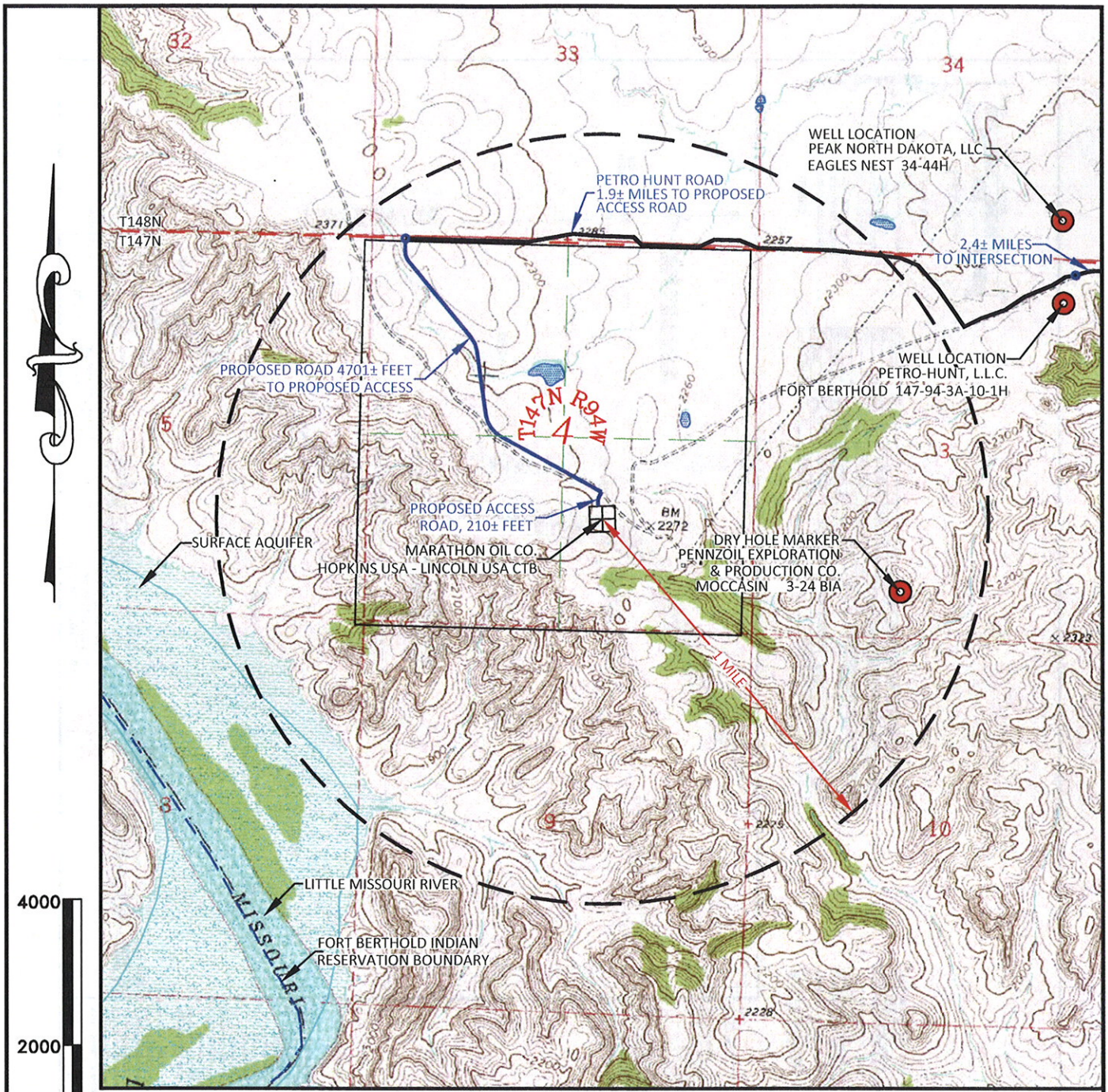
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=1 MILE
DATE: 07/24/2012	JOB NO: 2010011	SHEET 2 OF 3

LOCATION:
HOPKINS/LINCOLN CENTRAL TANK BATTERY WITHIN THE NW/4 SE/4, SECTION 4, T147N, R94W, 5TH PM.
DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

MAP "B"
QUAD ACCESS ROUTE



LEGEND

EXISTING ROADS

PROPOSED ROADS

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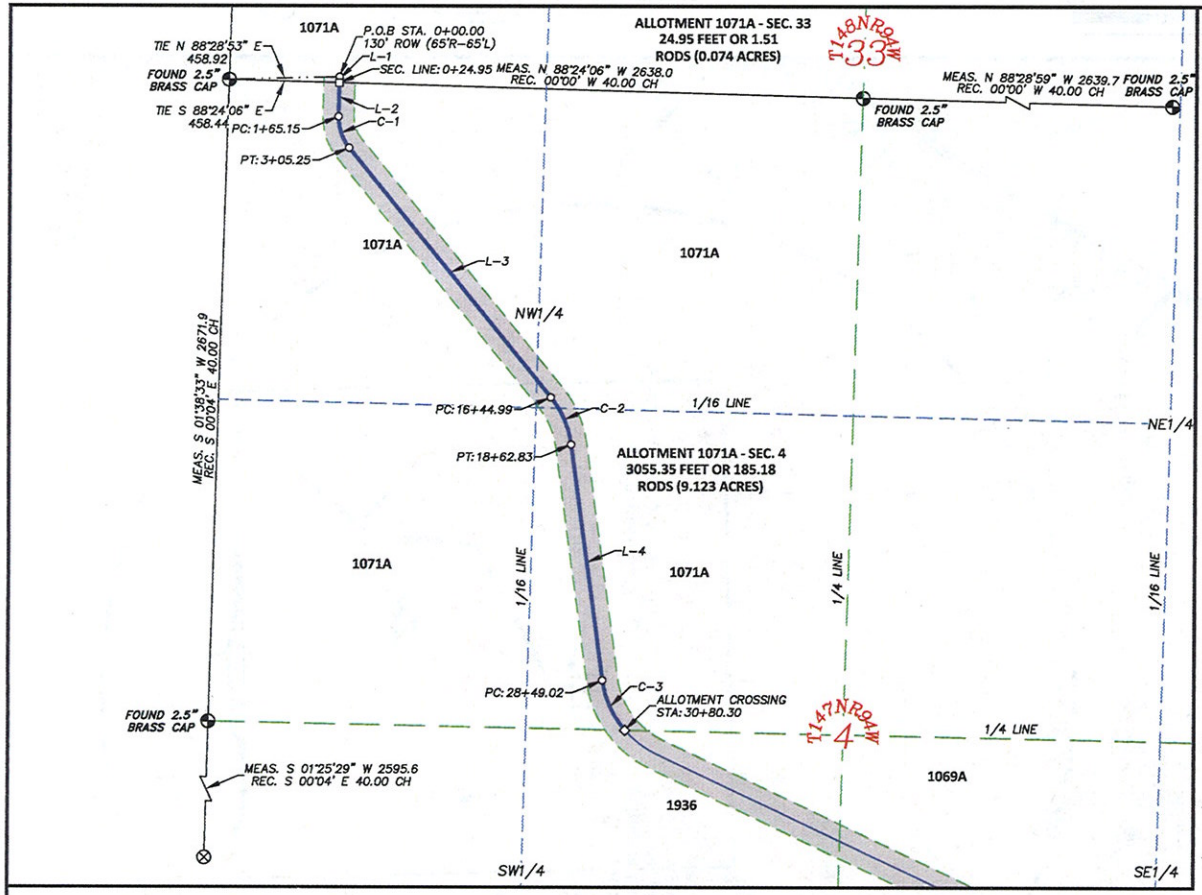
DRAWN BY: CDC	CHECKED BY: WHD	SCALE: 1"=2000'
DATE: 07/24/2012	JOB NO: 2010011	SHEET 3 OF 3

LOCATION:
HOPKINS/LINCOLN
CENTRAL TANK
BATTERY WITHIN THE
NW/4 SE/4, SECTION
4, T147N, R94W,
5TH PM.
DUNN COUNTY,
NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON,
NORTH DAKOTA 58601

MAP "C"

ONE MILE RADIUS MAP



ROAD, ALL UTILITY, & PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

A strip of land located within the Southwest quarter (SW1/4) of the Southwest quarter (SW1/4), of Section 33, Township 148 North, Range 94 West, the North half (N1/2) of the Northwest quarter (NW1/4), Southeast quarter (SE1/4) of the Northwest quarter (NW1/4), Northeast quarter (NE1/4) of the Southwest quarter (SW1/4), West half (W1/2) of the Southeast quarter (SE1/4), of Section 4, the North half (N1/2) of the Northeast quarter (NE1/4), Southeast quarter (SE1/4) of the Northeast quarter (NE1/4), Northeast quarter (NE1/4) of the Southeast quarter (SE1/4), of Section 9, the Southwest quarter (SW1/4) of the Northwest quarter (NW1/4), West half (W1/2) of the Southwest quarter (SW1/4), of Section 10, Township 147 North, Range 94 West, of the 5th Principal Meridian, Dunn County, State of North Dakota, starting as one hundred thirty feet (130') in width, lying sixty five feet (65') on each side of the following described center line:

Commencing at the Southwest Corner of Section 33, Township 148 North, Range 94 West (Found 2.5" Brass Cap); thence North 88°28'53" East, a distance of 458.92 feet to the POINT OF BEGINNING;.

thence S 01°08'27" W a distance of 24.95' (Sta. 0+24.95), to a point on the North line of the Northwest quarter of Section 4, Township 147 North, Range 94 West, said point being located South 88°24'06" East, a distance of 458.44' from the Northwest quarter of said section 4 (Found 2.5" Brass Cap);

thence S 01°08'27" W a distance of 140.20' (Sta. 1+65.15);
thence along a 200.00' radius curve to the left a distance of 140.10' through a central angle of 40°08'10" (Sta. 3+05.25);
thence S 38°59'43" E a distance of 1339.74' (Sta. 16+44.99);
thence along a 400.00' radius curve to the right a distance of 217.84' through a central angle of 31°12'10" (Sta. 18+62.83);
thence S 07°47'33" E a distance of 986.19' (Sta. 28+49.02);
thence along a 400.00' radius curve to the left a distance of 231.28' through a central angle of 33°07'43" (Sta. 30+80.30) to a point on the South line of the Southeast quarter (SE1/4) of the Northwest quarter (NW1/4) of said Section 4, said point being located South 88°49'28" East, a distance of 1733.19' from the West quarter corner of said section 4 (Found 2.5" Brass Cap);

CONTINUED ON SHEET 2

SURVEYOR'S CERTIFICATE

I, William H. Dolinar, state that I am by occupation a registered land surveyor employed by Marathon Oil Co., to make the survey of this right of way as shown on this map, and that the survey of said works was made by personnel under my direction, and that such survey is accurately represented on this map.

William H. Dolinar, Professional Land Surveyor
N.D. No. 6550

08/14/2012
Date

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/14/12
NORTH DAKOTA

"SEAL"

LEGEND

- FOUND MONUMENT
- CALCULATED CORNER
- P.O.B., P.O.E., P.C., OR P.T.
- SECTION CROSSING
- ALLOTMENT CROSSING
- CHANGE IN ROW
- CENTER LINE OF ROW
- EDGE OF ROW
- EXISTING ROADS

GRAPHIC SCALE

500 250 0 250 500
SCALE 1"=500' FEET

EVENT TABLE		LINE TABLE			CURVE TABLE					
EVENT	STATION	LINE	BEARING	DIST.	CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
P.O.B.	0+00.00	L-1	S 01°08'27" W	24.95						
SEC. LINE	0+24.95	L-2	S 01°08'27" W	140.20						
P.C.	1+65.15				C-1	140.10	200.00	40°08'10"	S 18°55'38" E	137.25
P.T.	3+05.25	L-3	S 38°59'43" E	1339.74						
P.C.	16+44.99				C-2	217.84	400.00	31°12'10"	S 23°23'38" E	215.15
P.T.	18+62.83	L-4	S 07°47'33" E	986.19						
P.C.	28+49.02				C-3	231.28	400.00	33°07'43"	S 24°21'24" E	228.07
ALLOTMENT	30+80.30									

ALLOTTEE 1071A - SEC. 33

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	0.074 AC.
TOTAL DISTURBANCE - 1071A	0.074 AC.

ALLOTTEE 1071A - SEC. 4

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	9.123 AC.
TOTAL DISTURBANCE - 1071A	9.123 AC.

TOTAL DISTURBANCE - THIS PAGE

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	9.197 AC.
TOTAL DISTURBANCE - THIS PAGE	9.197 AC.

WILLIAM H. SMITH
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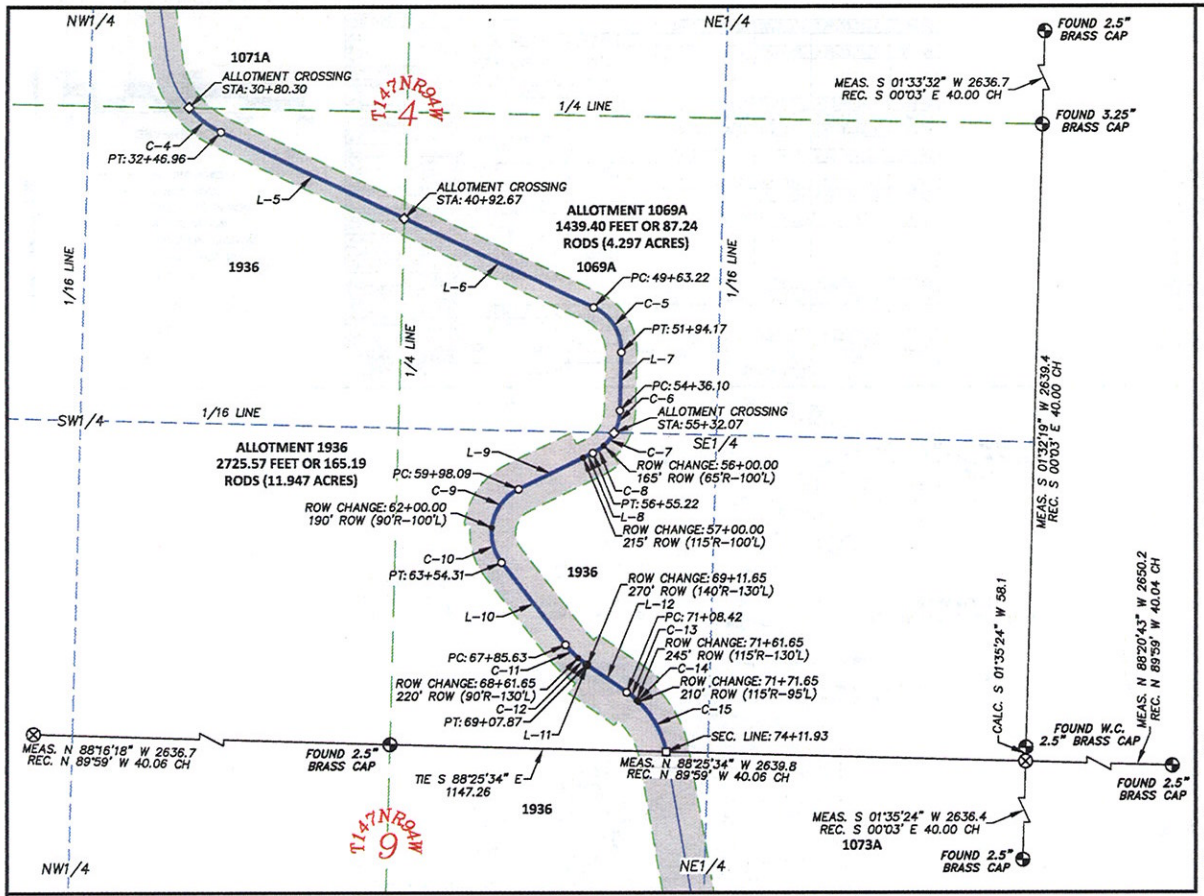
HOPKINS/LINCOLN
ROAD, ALL UTILITY, & PIPELINE
CORRIDOR ROW PLAT

SW1/4 SW1/4 SEC. 33, T148N, R94W, N1/2 NW1/4 & SE1/4 NW1/4 SEC. 4, T147N, R94W, DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

DRAWN BY: CED	CHECKED BY: WHD	SCALE: 1"=500'
DATE: 08/11/2012	JOB NO: 2010011	SHEET 1 OF 5
REV:		



ROAD, ALL UTILITY, & PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

thence along a 400.00' radius curve to the left a distance of 166.66' through a central angle of 23°52'20" (Sta. 32+46.96);
thence S 64°47'36" E a distance of 845.71' (Sta. 40+92.67), to a point on the East line of the Northeast quarter (NE1/4) of the Southwest quarter (SW1/4) of said Section 4, said point being located North 01°33'01" East, a distance of 2179.46' from the South quarter corner of said section 4 (Found 2.5" Brass Cap);
thence S 64°47'36" E a distance of 870.55' (Sta. 49+63.22);
thence along a 200.00' radius curve to the right a distance of 230.95' through a central angle of 66°09'44" (Sta. 51+94.17);
thence S 01°22'08" W a distance of 241.93' (Sta. 54+36.10);
thence along a 200.00' radius curve to the right a distance of 95.97' through a central angle of 27°29'33" (Sta. 55+32.07), to a point on the South line of the Northwest quarter (NW1/4) of the Southeast quarter (SE1/4) of said section 4, said point being located North 35°50'36" East, a distance of 1589.60' from the South quarter corner of said section 4 (Found 2.5" Brass Cap);
thence along a 200.00' radius curve to the right a distance of 67.93' through a central angle of 19°27'37" (Sta. 56+00.00), to a point being a change in right-of-way width to 165.00', being 100.00' Left and 65.00' Right of centerline;
thence along a 200.00' radius curve to the right a distance of 55.22' through a central angle of 15°49'05" (Sta. 56+55.22);
thence S 64°08'22" W a distance of 44.78' (Sta. 57+00.00), to a point being a change in right-of-way width to 215.00', being 100.00' Left and 115.00' Right of centerline;
thence S 64°08'22" W a distance of 298.09' (Sta. 59+98.09);
thence along a 200.00' radius curve to the left a distance of 201.91' through a central angle of 57°50'35" (Sta. 62+00.00), to a point being a change in right-of-way width to 190.00', being 100.00' Left and 90.00' Right of centerline;
thence along a 200.00' radius curve to the left a distance of 154.31' through a central angle of 44°12'26" (Sta. 63+54.31);
thence S 37°54'39" E a distance of 431.32' (Sta. 67+85.63);
thence along a 400.00' radius curve to the left a distance of 76.02' through a central angle of 10°53'19" (Sta. 68+61.65), to a point being a change in right-of-way width to 220.00', being 130.00' Left and 90.00' Right of centerline;
thence along a 400.00' radius curve to the left a distance of 46.22' through a central angle of 06°37'14" (Sta. 69+07.87);
thence S 55°25'12" E a distance of 3.78' (Sta. 69+11.65), to a point being a change in right-of-way width to 270.00', being 130.00' Left and 140.00' Right of centerline;
thence S 55°25'12" E a distance of 196.77' (Sta. 71+08.42);
thence along a 400.00' radius curve to the right a distance of 53.23' through a central angle of 07°37'26" (Sta. 71+61.65), to a point being a change in right-of-way width to 245.00', being 130.00' Left and 115.00' Right of centerline;
thence along a 400.00' radius curve to the right a distance of 10.00' through a central angle of 01°25'57" (Sta. 71+71.65), to a point being a change in right-of-way width to 210.00', being 95.00' Left and 115.00' Right of centerline;
thence along a 400.00' radius curve to the right a distance of 240.28' through a central angle of 34°25'04" (Sta. 74+11.93), to a point on the South line of the Southeast quarter of said Section 4, said point being located South 88°25'34" East, a distance of 1147.26' from the South quarter corner of said section 4 (Found 2.5" Brass Cap);

CONTINUED ON SHEET 3

SURVEYOR'S CERTIFICATE

I, William H. Dolinar, state that I am by occupation a registered land surveyor employed by Marathon Oil Co., to make the survey of this right of way as shown on this map, and that the survey of said works was made by personnel under my direction, and that such survey is accurately represented on this map.

William H. Dolinar, Professional Land Surveyor
N.D. No. 6550

08/14/2012
Date

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/14/12
NORTH DAKOTA

"SEAL"

LEGEND

- FOUND MONUMENT
- CALCULATED CORNER
- P.O.B., P.O.E., P.C., OR P.T.
- SECTION CROSSING
- ALLOTMENT CROSSING
- CHANGE IN ROW
- CENTER LINE OF ROW
- EDGE OF ROW
- EXISTING ROADS

GRAPHIC SCALE

500 250 0 250 500
SCALE 1"=500' FEET

EVENT TABLE		LINE TABLE			CURVE TABLE					
EVENT	STATION	LINE	BEARING	DIST.	CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
ALLOTMENT	30+80.30				C-4	166.66	400.00	23°52'20"	S 52°51'26" E	165.46
P.T.	32+46.96									
ALLOTMENT	40+92.67	L-5	S 64°47'36" E	845.71						
P.C.	49+63.22	L-6	S 64°47'36" E	870.55						
P.T.	51+94.17				C-5	230.95	200.00	66°09'44"	S 31°42'44" E	218.33
P.C.	54+36.10	L-7	S 01°22'08" W	241.93						
ALLOTMENT	55+32.07				C-6	95.97	200.00	27°29'33"	S 15°06'54" W	95.05
ROW CHANGE	56+00.00				C-7	67.93	200.00	19°27'37"	S 38°35'29" W	67.60
P.T.	56+55.22				C-8	55.22	200.00	15°49'05"	S 56°13'50" W	55.04
ROW CHANGE	57+00.00	L-8	S 64°08'22" W	44.78						
P.C.	59+98.09	L-9	S 64°08'22" W	298.09						
ROW CHANGE	62+00.00				C-9	201.91	200.00	57°50'35"	S 35°13'05" W	193.44
P.T.	63+54.31				C-10	154.31	200.00	44°12'26"	S 15°48'26" E	150.51
P.C.	67+85.63	L-10	S 37°54'39" E	431.32						
ROW CHANGE	68+61.65				C-11	76.02	400.00	10°53'19"	S 43°21'18" E	75.90
P.T.	69+07.87				C-12	46.22	400.00	6°37'14"	S 52°06'35" E	46.20
ROW CHANGE	69+11.65	L-11	S 55°25'12" E	3.78						
P.C.	71+08.42	L-12	S 55°25'12" E	196.77						
ROW CHANGE	71+61.65				C-13	53.23	400.00	7°37'26"	S 51°36'29" E	53.19
ROW CHANGE	71+71.65				C-14	10.00	400.00	1°25'57"	S 47°04'48" E	10.00
SEC. LINE	74+11.93				C-15	240.28	400.00	34°25'04"	S 29°09'17" E	236.68

ALLOTTEE 1936

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	11.947 AC.
TOTAL DISTURBANCE - 1936	11.947 AC.

ALLOTTEE 1069A

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	4.297 AC.
TOTAL DISTURBANCE - 1069A	4.297 AC.

TOTAL DISTURBANCE - THIS PAGE

DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	16.244 AC.
TOTAL DISTURBANCE - THIS PAGE	16.244 AC.

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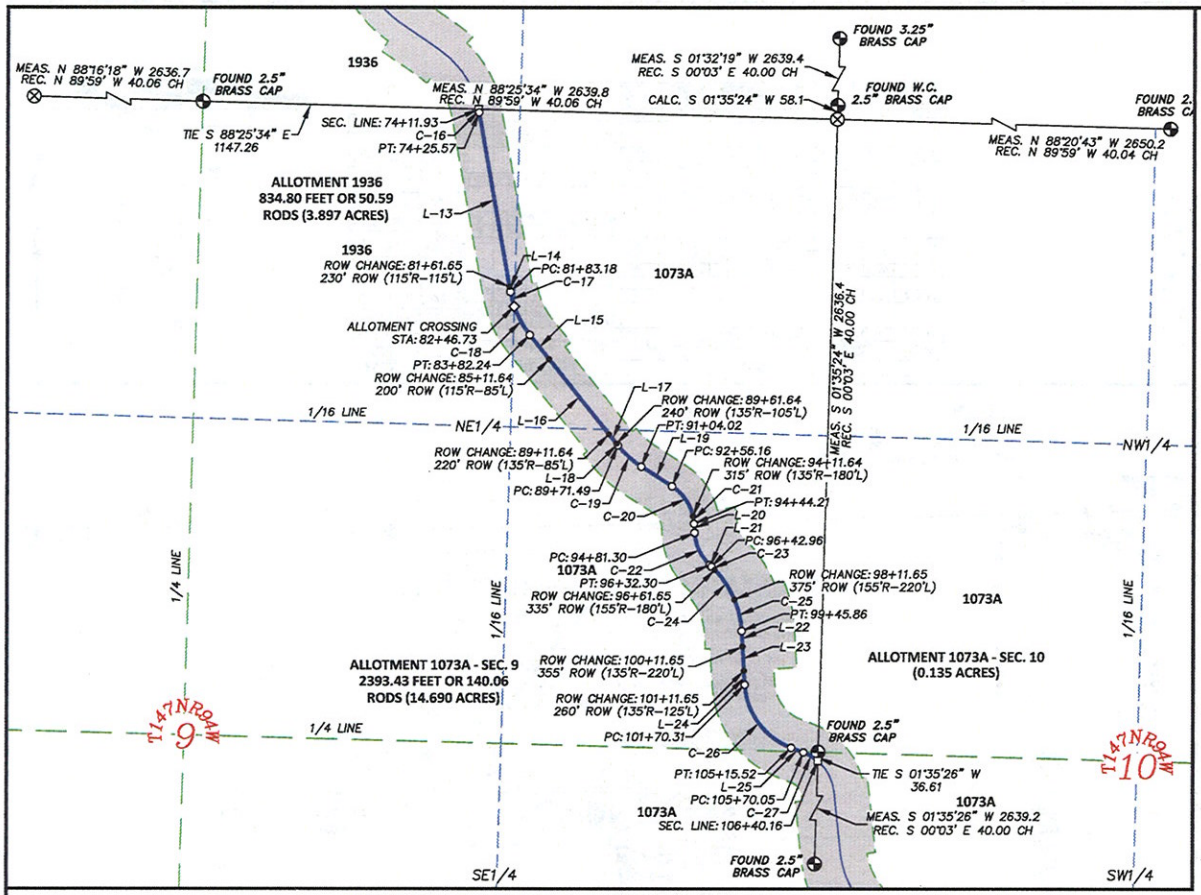
CORRIDOR ROW PLAT

NE1/4 SW1/4 & W1/2 SE1/4 SEC. 4, T147N, R94W, DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

DRAWN BY: CED	CHECKED BY: WHD	SCALE: 1"=500'
DATE: 08/11/2012	JOB NO: 2010011	SHEET 2 OF 5
REV:		



ROAD, ALL UTILITY, & PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

thence along a 400.00' radius curve to the right a distance of 13.64' through a central angle of 01°57'12" (Sta. 74+25.57);
thence S 09°59'34" E a distance of 736.08' (Sta. 81+61.65), to a point being a change in right-of-way width to 230.00', being 115.00' Left and 115.00' Right of centerline;
thence S 09°59'34" E a distance of 21.53' (Sta. 81+83.18);
thence along a 400.00' radius curve to the left a distance of 63.55' through a central angle of 09°06'13" (Sta. 81+83.18), to a point on the East line of the Northwest quarter (NW1/4) of the Northeast quarter (NE1/4) of Section 9, Township 147 North, Range 94 West, said point being located South 56°40'52" East, a distance of 1551.93' from the North quarter corner of said section 9 (Found 2.5" Brass Cap);
thence along a 400.00' radius curve to the left a distance of 135.51' through a central angle of 19°24'37" (Sta. 83+82.24);
thence S 38°30'23" E a distance of 129.40' (Sta. 85+11.64), to a point being a change in right-of-way width to 200.00', being 85.00' Left and 115.00' Right of centerline;
thence S 38°30'23" E a distance of 400.00' (Sta. 89+11.64), to a point being a change in right-of-way width to 220.00', being 85.00' Left and 135.00' Right of centerline;
thence S 38°30'23" E a distance of 50.00' (Sta. 89+61.64), to a point being a change in right-of-way width to 240.00', being 105.00' Left and 135.00' Right of centerline;
thence S 38°30'23" E a distance of 9.85' (Sta. 89+71.49);
thence along a 400.00' radius curve to the left a distance of 132.53' through a central angle of 18°59'03" (Sta. 91+04.02);
thence S 57°29'26" E a distance of 152.14' (Sta. 92+56.16);
thence along a 200.00' radius curve to the right a distance of 155.48' through a central angle of 44°32'35" (Sta. 94+11.64), to a point being a change in right-of-way width to 315.00', being 180.00' Left and 135.00' Right of centerline;
thence along a 200.00' radius curve to the right a distance of 32.57' through a central angle of 09°19'47" (Sta. 94+44.21);
thence S 03°37'04" E a distance of 37.09' (Sta. 94+81.30);
thence along a 200.00' radius curve to the left a distance of 151.00' through a central angle of 43°15'31" (Sta. 96+32.30);
thence S 46°52'35" E a distance of 10.66' (Sta. 96+42.96);
thence along a 400.00' radius curve to the right a distance of 18.69' through a central angle of 02°40'39" (Sta. 96+61.65), to a point being a change in right-of-way width to 335.00', being 180.00' Left and 155.00' Right of centerline;
thence along a 400.00' radius curve to the right a distance of 150.00' through a central angle of 21°29'09" (Sta. 98+11.65), to a point being a change in right-of-way width to 375.00', being 220.00' Left and 155.00' Right of centerline;
thence along a 400.00' radius curve to the right a distance of 134.21' through a central angle of 19°13'27" (Sta. 99+45.86);
thence S 03°29'19" E a distance of 65.79' (Sta. 100+11.65), to a point being a change in right-of-way width to 355.00', being 220.00' Left and 135.00' Right of centerline;
thence S 03°29'19" E a distance of 100.00' (Sta. 101+11.65), to a point being a change in right-of-way width to 260.00', being 125.00' Left and 135.00' Right of centerline;
thence S 03°29'19" E a distance of 58.66' (Sta. 101+70.31);
thence along a 300.00' radius curve to the left a distance of 345.21' through a central angle of 65°55'48" (Sta. 105+15.52);
thence S 69°25'08" E a distance of 54.53' (Sta. 105+70.05);
thence along a 200.00' radius curve to the right a distance of 70.11' through a central angle of 20°05'11" (Sta. 106+40.16), to a point on the East line of the Southeast quarter of said section 9, said point being located South 01°35'26" West, a distance of 36.61' from the Northeast corner of said section 9 (Found 2.5" Brass Cap);

CONTINUED ON SHEET 4

SURVEYOR'S CERTIFICATE

I, William H. Dolinar, state that I am by occupation a registered land surveyor employed by Marathon Oil Co., to make the survey of this right of way as shown on this map, and that the survey of said works was made by personnel under my direction, and that such survey is accurately represented on this map.

William H. Dolinar, Professional Land Surveyor
N.D. No. 6550

08/14/2012
Date

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/14/12
NORTH DAKOTA

~SEAL~

LEGEND

- FOUND MONUMENT
- CALCULATED CORNER
- P.O.B., P.O.E., P.C., OR P.T.
- SECTION CROSSING
- ALLOTMENT CROSSING
- CHANGE IN ROW
- CENTER LINE OF ROW
- EDGE OF ROW
- EXISTING ROADS

GRAPHIC SCALE
500 250 0 250 500
SCALE 1"=500' FEET

EVENT TABLE		LINE TABLE			CURVE TABLE					
EVENT	STATION	LINE	BEARING	DIST.	CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
SEC. LINE	74+11.93				C-16	13.64	400.00	1°57'12"	S 10°58'10" E	13.64
P.T.	74+25.57	L-13	S 09°59'34" E	736.08						
ROW CHANGE	81+61.65	L-14	S 09°59'34" E	21.53						
P.C.	81+83.18				C-17	63.55	400.00	9°06'13"	S 14°32'40" E	63.49
ALLOTMENT	82+46.73				C-18	135.51	400.00	19°24'37"	S 28°48'05" E	134.86
P.T.	83+82.24									
ROW CHANGE	85+11.64	L-15	S 38°30'23" E	129.40						
ROW CHANGE	89+11.64	L-16	S 38°30'23" E	400.00						
ROW CHANGE	89+61.64	L-17	S 38°30'23" E	50.00						
P.C.	89+71.49	L-18	S 38°30'23" E	9.85						
P.T.	91+04.02				C-19	132.53	400.00	18°59'03"	S 47°59'55" E	131.93
P.C.	92+56.16	L-19	S 57°29'26" E	152.14						
ROW CHANGE	94+11.64				C-20	155.48	200.00	44°32'35"	S 35°13'08" E	151.60
P.T.	94+44.21				C-21	32.57	200.00	9°19'47"	S 08°16'58" E	32.53
P.C.	94+81.30	L-20	S 03°37'04" E	37.09						
P.T.	96+32.30				C-22	151.00	200.00	43°15'31"	S 25°14'50" E	147.44
P.C.	96+42.96	L-21	S 46°52'35" E	10.66						
ROW CHANGE	96+61.65				C-23	18.69	400.00	2°40'39"	S 45°32'16" E	18.69
ROW CHANGE	98+11.65				C-24	150.00	400.00	21°29'09"	S 33°27'22" E	149.12
P.T.	99+45.86				C-25	134.21	400.00	19°13'27"	S 13°06'03" E	133.58
ROW CHANGE	100+11.65	L-22	S 03°29'19" E	65.79						
ROW CHANGE	101+11.65	L-23	S 03°29'19" E	100.00						
P.C.	101+70.31	L-24	S 03°29'19" E	58.66						
P.T.	105+15.52				C-26	345.21	300.00	65°55'48"	S 36°27'14" E	326.48
P.C.	105+70.05	L-25	S 69°25'08" E	54.53						
SEC. LINE	106+40.16				C-27	70.11	200.00	20°05'11"	S 59°22'32" E	69.76

ALLOTTEE 1936
DRILLING PAD DISTURBANCE 0.00 AC.
ROAD DISTURBANCE 3.897 AC.
TOTAL DISTURBANCE - 1936 3.897 AC.

ALLOTTEE 1073A - SEC. 9
DRILLING PAD DISTURBANCE 0.00 AC.
ROAD DISTURBANCE 14.690 AC.
TOTAL DISTURBANCE - 1073A 14.690 AC.

ALLOTTEE 1073A - SEC. 10
DRILLING PAD DISTURBANCE 0.00 AC.
ROAD DISTURBANCE 0.135 AC.
TOTAL DISTURBANCE - 1073A 0.135 AC.

TOTAL DISTURBANCE - THIS PAGE
DRILLING PAD DISTURBANCE 0.00 AC.
ROAD DISTURBANCE 18.722 AC.
TOTAL DISTURBANCE - THIS PAGE 18.722 AC.

WILLIAM H. SMITH & ASSOCIATES P.C.
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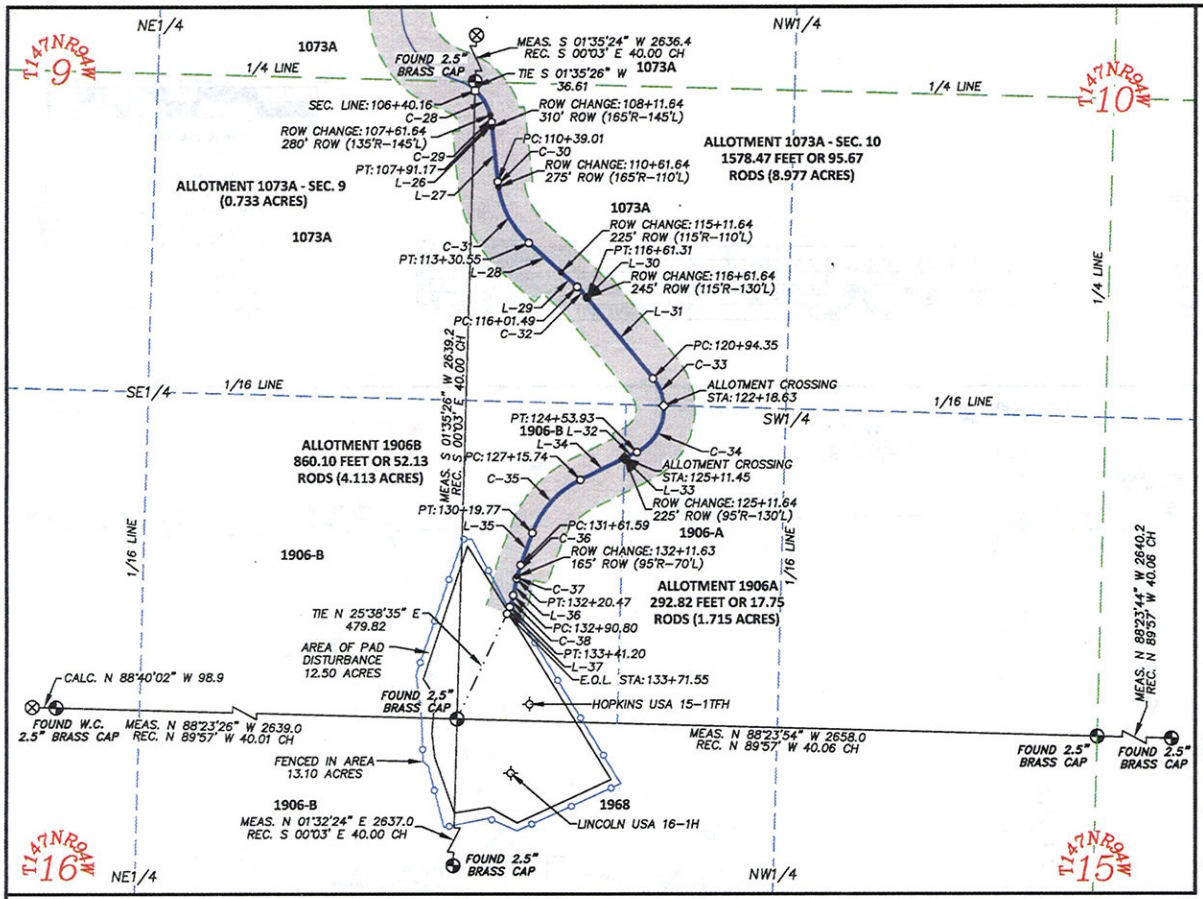
CORRIDOR ROW PLAT

N1/2 NE1/4, SE1/4 NE1/4 & NE1/4 SE1/4 SEC. 4, T147N, R94W, DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

DRAWN BY: CED	CHECKED BY: WHD	SCALE: 1"=500'
DATE: 08/11/2012	JOB NO: 2010011	SHEET 3 OF 5
REV:		



ROAD, ALL UTILITY, & PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

thence along a 200.00' radius curve to the right a distance of 121.48' through a central angle of 34°48'04" (Sta. 107+61.64), to a point being a change in right-of-way width to 280.00', being 145.00' Left and 135.00' Right of centerline;
thence along a 200.00' radius curve to the right a distance of 29.53' through a central angle of 08°27'34" (Sta. 107+91.17);
thence S 06°04'19" E a distance of 20.47' (Sta. 108+11.64), to a point being a change in right-of-way width to 310.00', being 145.00' Left and 165.00' Right of centerline;
thence S 06°04'19" E a distance of 227.37' (Sta. 110+39.01);
thence along a 400.00' radius curve to the left a distance of 22.63' through a central angle of 03°14'28" (Sta. 110+61.64), to a point being a change in right-of-way width to 275.00', being 110.00' Left and 165.00' Right of centerline;
thence along a 400.00' radius curve to the left a distance of 268.91' through a central angle of 38°31'05" (Sta. 113+30.55);
thence S 47°49'52" E a distance of 181.09' (Sta. 115+11.64), to a point being a change in right-of-way width to 225.00', being 110.00' Left and 115.00' Right of centerline;
thence S 47°49'52" E a distance of 89.85' (Sta. 116+01.49);
thence along a 400.00' radius curve to the right a distance of 59.82' through a central angle of 08°34'08" (Sta. 116+61.31);
thence S 39°15'44" E a distance of 0.33' (Sta. 116+61.64), to a point being a change in right-of-way width to 245.00', being 130.00' Left and 115.00' Right of centerline;
thence S 39°15'44" E a distance of 432.71' (Sta. 120+94.35);
thence along a 200.00' radius curve to the right a distance of 124.28' through a central angle of 35°36'09" (Sta. 122+18.63), to a point on the South line of the Northwest quarter (NW1/4) of the Southwest quarter (SW1/4) of Section 10, Township 147 North, Range 94 West, said point being located South 30°17'06" East, a distance of 1554.15' from the Northwest corner of said section 10 (Found 2.5" Brass Cap);
thence along a 200.00' radius curve to the right a distance of 235.30' through a central angle of 67°24'33" (Sta. 124+53.93);
thence S 63°44'58" W a distance of 57.52' (Sta. 125+11.45), to a point on the East line of the Northeast quarter (NE1/4) of the Southwest quarter (SW1/4) of the Southwest quarter (SW1/4) of said section 10, said point being located North 01°35'26" East, a distance of 1282.70' from the Southwest corner of said section 10 (Found 2.5" Brass Cap);
thence S 63°44'58" W a distance of 0.19' (Sta. 125+11.64), to a point being a change in right-of-way width to 225.00', being 130.00' Left and 95.00' Right of centerline;
thence S 63°44'58" W a distance of 204.10' (Sta. 127+15.74);
thence along a 400.00' radius curve to the left a distance of 304.03' through a central angle of 43°32'59" (Sta. 130+19.77);
thence S 20°11'59" W a distance of 141.82' (Sta. 131+61.59);
thence along a 400.00' radius curve to the left a distance of 50.04' through a central angle of 07°10'03" (Sta. 132+11.63), to a point being a change in right-of-way width to 165.00', being 70.00' Left and 95.00' Right of centerline;
thence along a 400.00' radius curve to the left a distance of 8.84' through a central angle of 01°15'58" (Sta. 132+20.47);
thence S 11°45'58" W a distance of 70.33' (Sta. 132+90.80);
thence along a 300.00' radius curve to the right a distance of 50.40' through a central angle of 09°37'31" (Sta. 133+41.20);
thence S 21°23'29" W a distance of 30.33' (Sta. 133+71.55) to the POINT OF ENDING, said ending point being located North 25°38'35" East, a distance of 479.82' from the Northwest corner of said section 10 (Found 2.5" Brass Cap);

Said centerline is 13,341.20 feet or 810.40 rods and contains 59.701 Acres more or less.

Bearings are grid bearings based on the North Dakota State Plane Coordinate System South Zone NAD 83 from GPS observations, occupying a WHS control point (5/8" rebar) and having the Location and Elevation derived from an OPUS Solution.
Control Point is located South 59°39'05" East a distance of 558.45 ft. from the North quarter corner of Section 4, T147N, R94W, of the 5th P.M.

Distances shown are Grid.

Location shown hereon is not an "ASBUILT" location.

SURVEYOR'S CERTIFICATE

I, William H. Dolinar, state that I am by occupation a registered land surveyor employed by Marathon Oil Co., to make the survey of this right of way as shown on this map, and that the survey of said works was made by personnel under my direction, and that such survey is accurately represented on this map.

William H. Dolinar, Professional Land Surveyor
N.D. No. 6550

08/14/2012
Date

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/14/12
NORTH DAKOTA
~SEAL~

LEGEND
- FOUND MONUMENT
- CALCULATED CORNER
- P.O.B., P.O.E., P.C., OR P.T.
- SECTION CROSSING
- ALLOTMENT CROSSING
- CHANGE IN ROW
- CENTER LINE OF ROW
- EDGE OF ROW
- EXISTING ROADS

GRAPHIC SCALE
500 250 0 250 500
SCALE 1"=500' FEET

EVENT TABLE		LINE TABLE			CURVE TABLE					
EVENT	STATION	LINE	BEARING	DIST.	CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
SEC. LINE	106+40.16				C-28	121.48	200.00	34°48'04"	S 31°55'55" E	119.62
ROW CHANGE	107+61.64				C-29	29.53	200.00	8°27'34"	S 10°18'06" E	29.50
P.T.	107+91.17	L-26	S 06°04'19" E	20.47						
ROW CHANGE	108+11.64	L-27	S 06°04'19" E	227.37						
P.C.	110+39.01				C-30	22.63	400.00	3°14'28"	S 07°41'32" E	22.62
ROW CHANGE	110+61.64				C-31	268.91	400.00	38°31'05"	S 28°34'19" E	263.87
P.T.	113+30.55									
ROW CHANGE	115+11.64	L-28	S 47°49'52" E	181.09						
P.C.	116+01.49	L-29	S 47°49'52" E	89.85						
P.T.	116+61.31				C-32	59.82	400.00	8°34'08"	S 43°32'48" E	59.77
ROW CHANGE	116+61.64	L-30	S 39°15'44" E	0.33						
P.C.	120+94.35	L-31	S 39°15'44" E	432.71						
ALLOTMENT	122+18.63				C-33	124.28	200.00	35°36'09"	S 21°27'39" E	122.29
P.T.	124+53.93				C-34	235.30	200.00	67°24'33"	S 30°02'42" W	221.96
ALLOTMENT	125+11.45	L-32	S 63°44'58" W	57.52						
ROW CHANGE	125+11.64	L-33	S 63°44'58" W	0.19						
P.C.	127+15.74	L-34	S 63°44'58" W	204.10						
P.T.	130+19.77				C-35	304.03	400.00	43°32'59"	S 41°58'29" W	296.77
P.C.	131+61.59	L-35	S 20°11'59" W	141.82						
ROW CHANGE	132+11.63				C-36	50.04	400.00	7°10'03"	S 16°36'58" W	50.01
P.T.	132+20.47				C-37	8.84	400.00	1°15'58"	S 12°23'57" W	8.84
P.C.	132+90.80	L-36	S 11°45'58" W	70.33						
P.T.	133+41.20				C-38	50.40	300.00	9°37'31"	S 16°34'43" W	50.34
E.O.L.	133+71.55	L-37	S 21°23'29" W	30.35						

ALLOTTEE 1073A - SEC. 9		ALLOTTEE 1906-A	
DRILLING PAD DISTURBANCE	0.00 AC.	DRILLING PAD DISTURBANCE	0.00 AC.
ROAD DISTURBANCE	0.733 AC.	ROAD DISTURBANCE	1.715 AC.
TOTAL DISTURBANCE - 1073A	0.733 AC.	TOTAL DISTURBANCE - 1906-A	1.715 AC.
ALLOTTEE 1073A - SEC. 10		ALLOTTEE 1968	
DRILLING PAD DISTURBANCE	0.00 AC.	DRILLING PAD DISTURBANCE	5.52 AC.
ROAD DISTURBANCE	8.977 AC.	ROAD DISTURBANCE	0.00 AC.
TOTAL DISTURBANCE - 1073A	8.977 AC.	TOTAL DISTURBANCE - 1968	5.52 AC.
ALLOTTEE 1906-B - SEC. 10		TOTAL DISTURBANCE - THIS PAGE	
DRILLING PAD DISTURBANCE	4.72 AC.	DRILLING PAD DISTURBANCE	13.10 AC.
ROAD DISTURBANCE	4.113 AC.	ROAD DISTURBANCE	15.538 AC.
TOTAL DISTURBANCE - 1906-B	11.693 AC.	TOTAL DISTURBANCE - THIS PAGE	28.638 AC.
ALLOTTEE 1906-B - SEC. 9		TOTAL DISTURBANCE - PAGES 1-4	
DRILLING PAD DISTURBANCE	1.77 AC.	DRILLING PAD DISTURBANCE	13.10 AC.
ROAD DISTURBANCE	0.00 AC.	ROAD DISTURBANCE	59.701 AC.
TOTAL DISTURBANCE - 1906-B	1.77 AC.	TOTAL DISTURBANCE - PAGES 1-4	72.801 AC.
ALLOTTEE 1906-B - SEC. 16			
DRILLING PAD DISTURBANCE	1.09 AC.		
ROAD DISTURBANCE	0.00 AC.		
TOTAL DISTURBANCE - 1906-B	1.09 AC.		

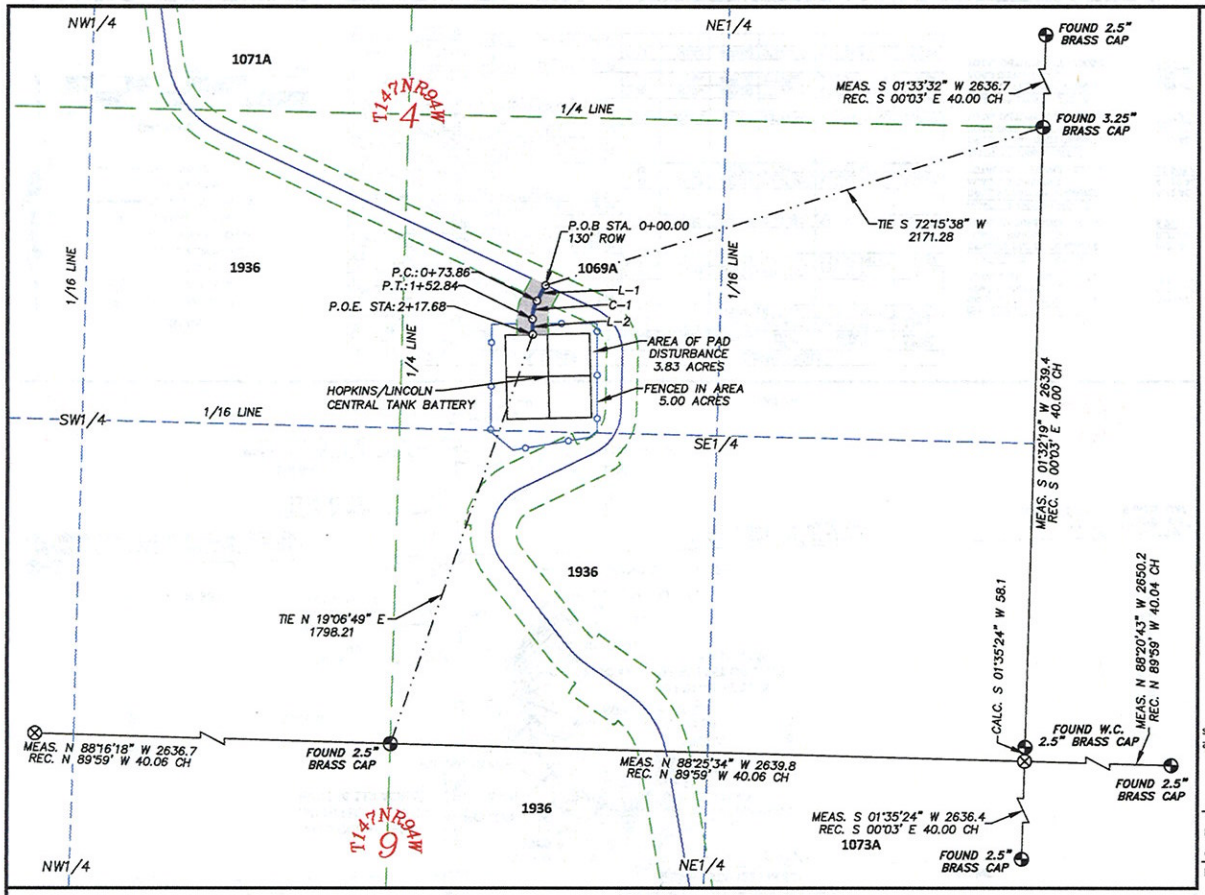
WILLIAM H. SMITH
& ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

HOPKINS/LINCOLN
ROAD, ALL UTILITY, & PIPELINE
CORRIDOR ROW PLAT

W1/2 SW1/4 SEC. 10, NW1/4 NW1/4 SEC. 15, NE1/4 NE1/4 SEC. 16 & SE1/4 SE1/4 SEC. 9, T147N, R94W, DUNN COUNTY, NORTH DAKOTA

MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

DRAWN BY: CED	CHECKED BY: WHD	SCALE: 1"=500'
DATE: 08/11/2012	JOB NO: 2010011	SHEET 4 OF 5
REV:		



ROAD, ALL UTILITY, & PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

A strip of land located within the West half (W1/2) of the Southeast quarter (SE1/4), of Section 4, Township 147 North, Range 94 West, of the 5th Principal Meridian, Dunn County, State of North Dakota, being one hundred thirty feet (130') in width, lying sixty five feet (65') on each side of the following described center line:

Commencing at the East Quarter Corner of Section 4, Township 147 North, Range 94 West (Found 3.25" Brass Cap); thence South 72°15'38" West, a distance of 2171.28 feet to the POINT OF BEGINNING;.
thence S 28°53'19" W a distance of 73.86' (Sta. 0+73.86);
thence along a 150.00' radius curve to the left a distance of 78.98' through a central angle of 30°09'59" (Sta. 1+52.84);
thence S 01°16'39" E a distance of 64.84' (Sta. 2+17.68) to the POINT OF ENDING, said ending point being located North 19°06'49" East, a distance of 1798.21' from the South Quarter Corner of said section 4 (Found 2.5" Brass Cap);

Said centerline is 217.68 feet or 13.19 rods and contains 0.650 Acres more or less.

Bearings are grid bearings based on the North Dakota State Plane Coordinate System South Zone NAD 83 from GPS observations, occupying a WHS control point (5/8" rebar) and having the Location and Elevation derived from an OPUS Solution.
Control Point is located South 59°39'05" East a distance of 558.45 ft. from the North quarter corner of Section 4, T147N, R94W, of the 5th P.M.

Distances shown are Grid.

Location shown hereon is not an "ASBUILT" location.

SURVEYOR'S CERTIFICATE

I, William H. Dolinar, state that I am by occupation a registered land surveyor employed by Marathon Oil Co., to make the survey of this right of way as shown on this map, and that the survey of said works was made by personnel under my direction, and that such survey is accurately represented on this map.

William H. Dolinar, Professional Land Surveyor
N.D. No. 6550

08/14/2012
Date

REGISTERED LAND SURVEYOR
WILLIAM H. DOLINAR
LS-6550
DATE 08/14/12
NORTH DAKOTA

~SEAL~

LEGEND

- FOUND MONUMENT
- CALCULATED CORNER
- P.O.B., P.O.E., P.C., OR P.T.
- SECTION CROSSING
- ALLOTMENT CROSSING
- CHANGE IN ROW
- CENTER LINE OF ROW
- EDGE OF ROW
- EXISTING ROADS

GRAPHIC SCALE

500 250 0 250 500
SCALE 1"=500' FEET

EVENT TABLE		LINE TABLE			CURVE TABLE					
EVENT	STATION	LINE	BEARING	DIST.	CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
P.O.B.	0+00.00	L-1	S 28°53'19" W	73.86						
P.C.	0+73.86				C-1	78.98	150.00	30°09'59"	S 13°48'20" W	78.07
P.T.	1+52.84	L-2	S 01°16'39" E	64.84						
P.O.E.	2+17.68									

ALLOTTEE 1069A

DRILLING PAD DISTURBANCE	4.54 AC.
ROAD DISTURBANCE	0.650 AC.
TOTAL DISTURBANCE - 1069A	11.947 AC.

ALLOTTEE 1936

DRILLING PAD DISTURBANCE	0.46 AC.
ROAD DISTURBANCE	0.00 AC.
TOTAL DISTURBANCE - 1936	4.297 AC.

TOTAL DISTURBANCE - THIS PAGE

DRILLING PAD DISTURBANCE	5.00 AC.
ROAD DISTURBANCE	0.650 AC.
TOTAL DISTURBANCE - THIS PAGE	5.650 AC.

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HOPKINS/LINCOLN CENTRAL TANK BATTERY
ROAD, ALL UTILITY, & PIPELINE
CORRIDOR ROW PLAT

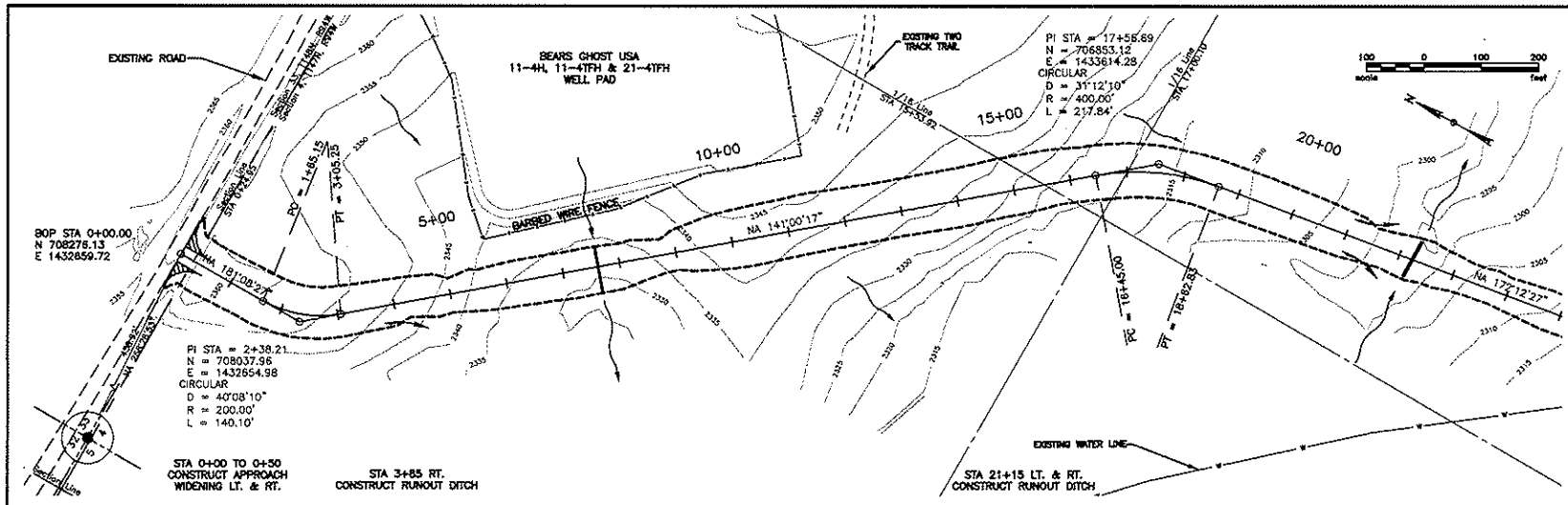
W1/2 SE1/4 SEC. 4, T147N, R94W, DUNN COUNTY, NORTH DAKOTA

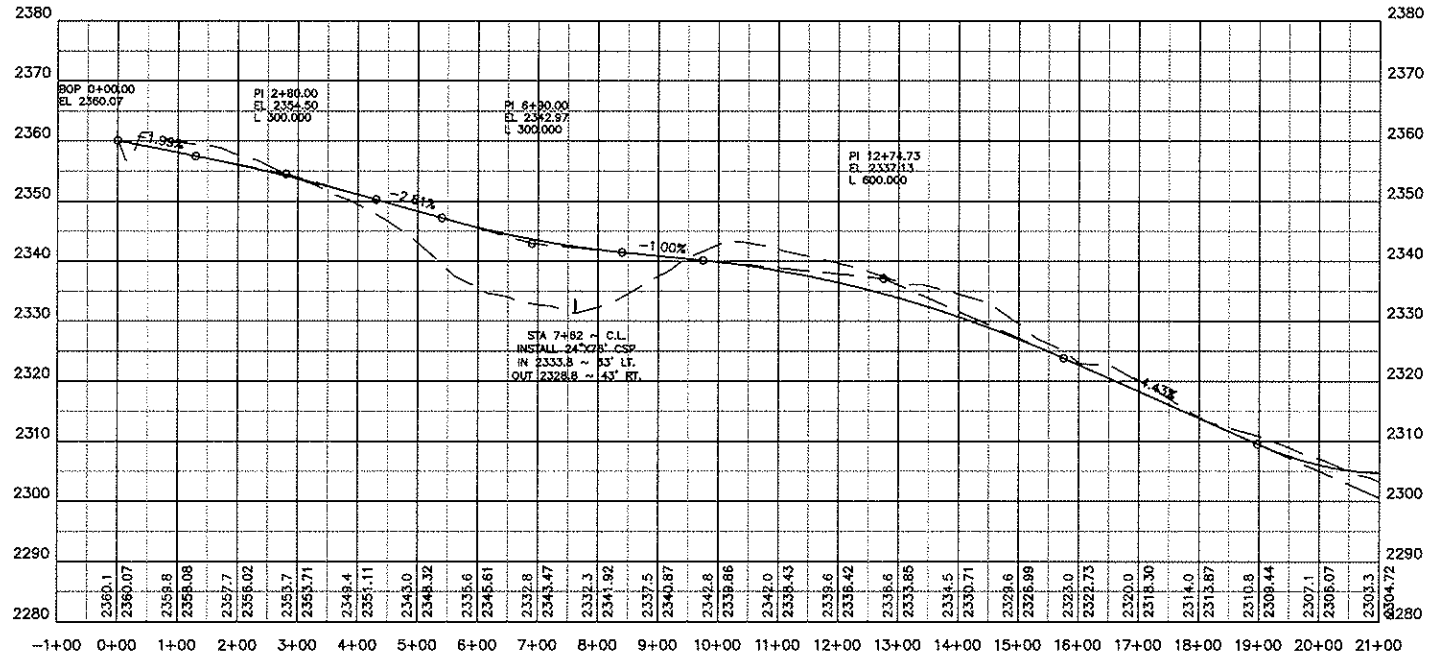
MARATHON OIL COMPANY
3172 HIGHWAY 22 NORTH
DICKINSON, NORTH DAKOTA 58601

DRAWN BY: CED	CHECKED BY: WHD	SCALE: 1"=500'
DATE: 08/11/2012	JOB NO: 2010011	SHEET 5 OF 5
REV:		

Appendix D

Access Road Plan and Profile





Aug 14, 2012 – 11:52am – J:\oilfield\Marathon Oil\3711641\CADD\Civil 3D 2012\3711641_BAS03.dwg

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Marathon Oil Company
Hopkins USA/Lincoln USA
Super Pad Road

Section 33, T148N, R94W &
Sections 4, 9 & 10, T147N, R94W, 5th P.M.
Dunn County, North Dakota

NORTH DAKOTA ONE CALL
"CALL BEFORE YOU DIG AND DIG SAFELY"
1-800-795-0555

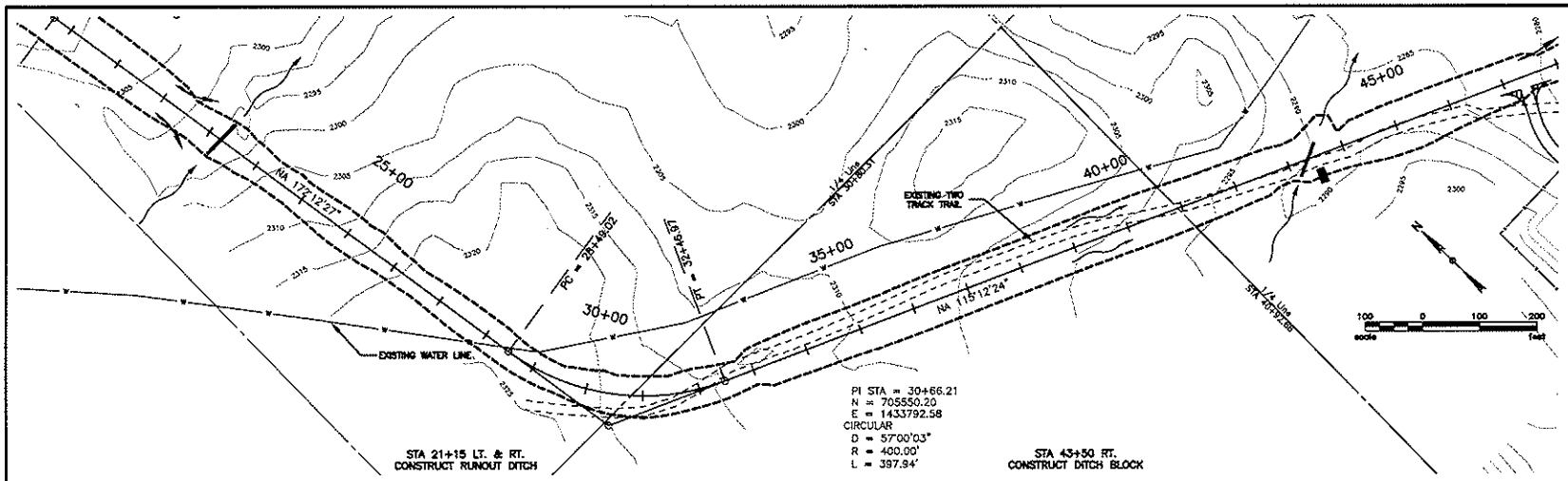
DATUM UNKNOWN
SURVEY COMPLETED BY OTHERS

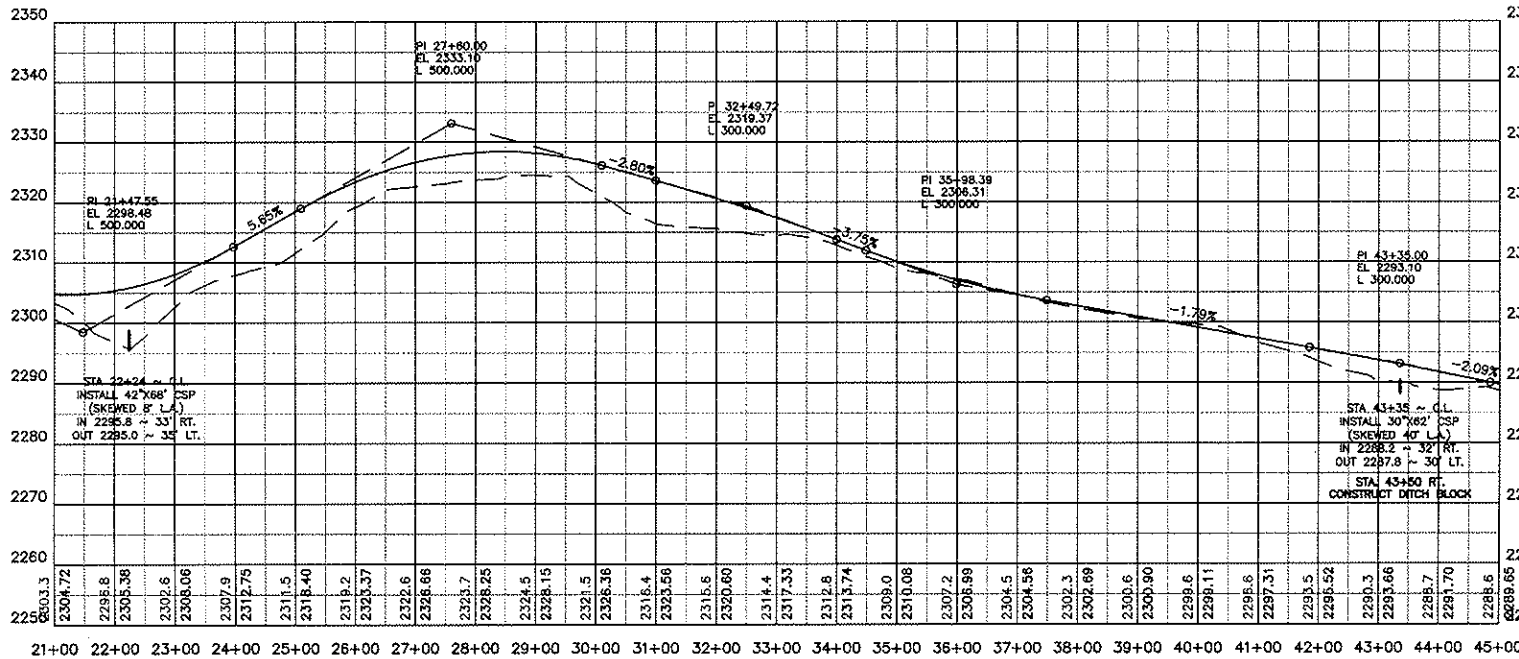
Drawn By:	DMB
Checked By:	ISK
Project No.	3711641
Issued:	11/28/2011
Revised:	08/14/2012
Field Book:	Surveyed by Others

This document was originally issued and sealed by Daphne Baseflug, Registration No. PE-7489, on 08/14/12 and the original is stored at Kadrmas, Lee & Jackson in Dickinson, North Dakota.

PLAN & PROFILE
STA. 0+00 TO 21+00

SHEET NO. 11





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Sections 4, 9 & 10, T147N, R94W, 5th P.M.
Dunn County, North Dakota

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SURVEY COMPLETED BY OTHERS

Drawn By:	DMB
Checked By:	JSK
Project No.	3711641
Issued:	11/28/2011
Revised:	08/14/2012
Field Book:	Surveyed by Others

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PLAN & PROFILE
STA. 21+00 TO 45+00

SHEET NO. 12

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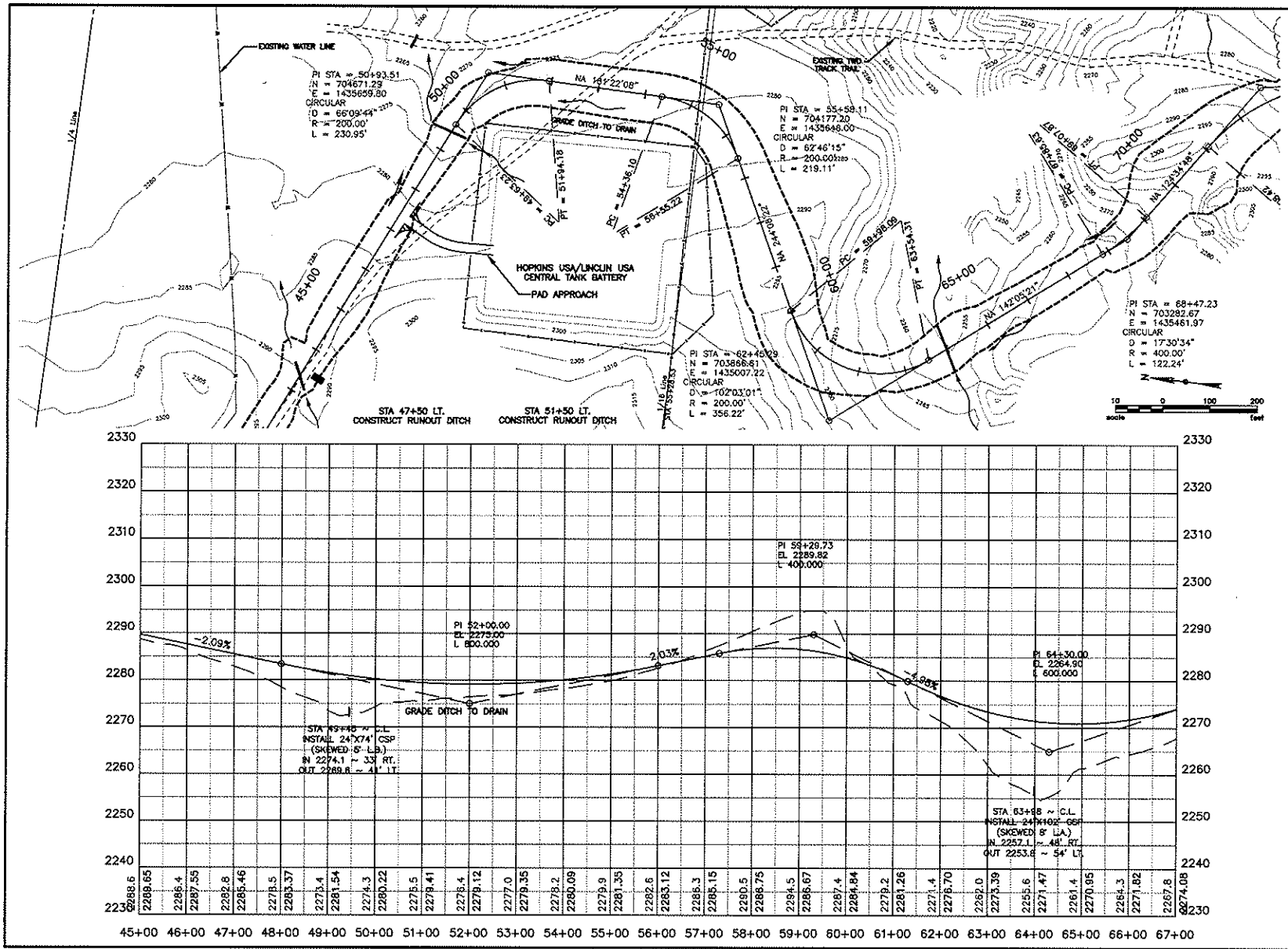

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Kadrmas Lee & Jackson
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Marathon Oil Company
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Super Pad Road

Section 33, T146N, R94W &
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DATUM UNKNOWN
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Project No.	3711641
Issued:	11/28/2011
Revised:	08/14/2012
Field Book:	Surveyed by Others

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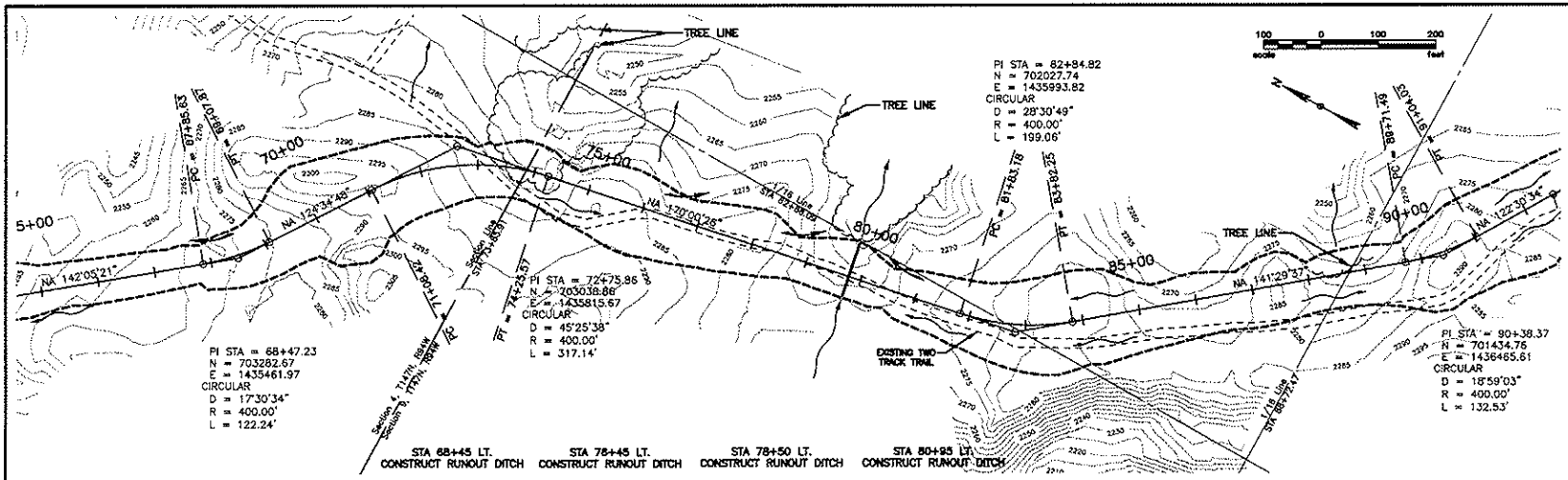
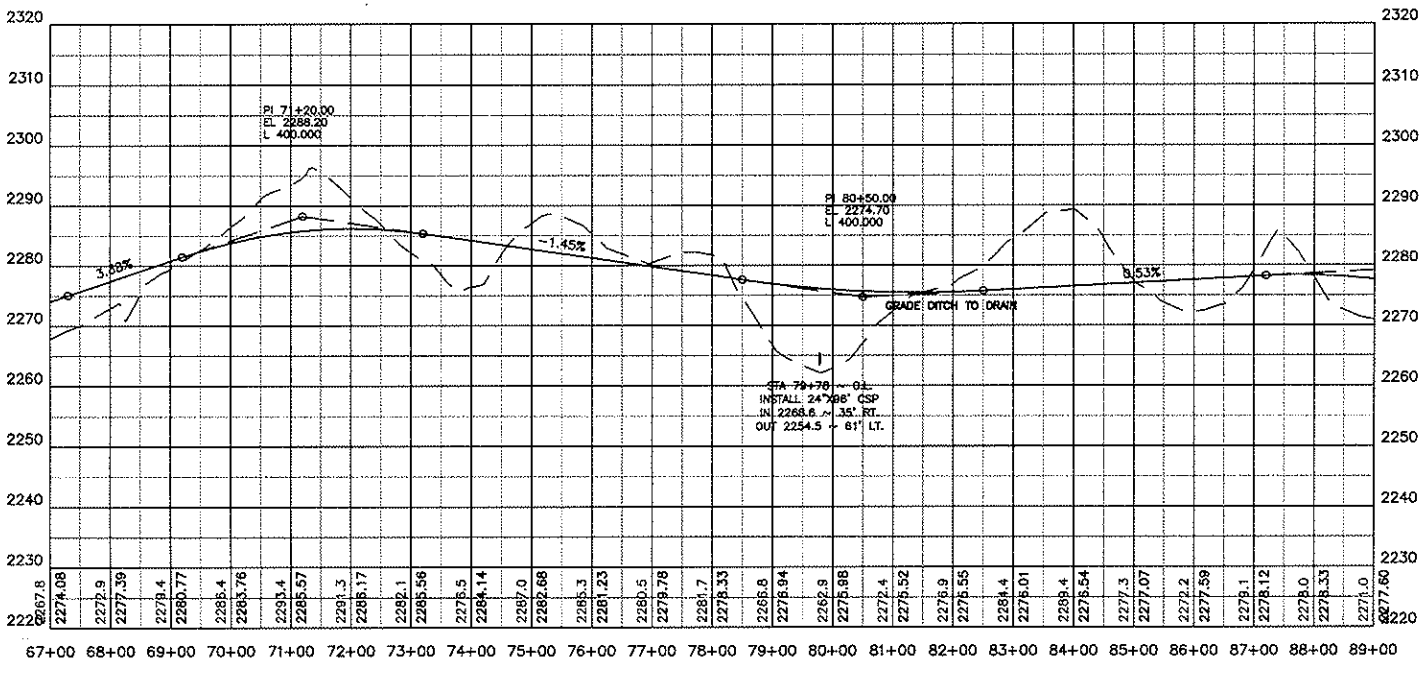
STA. 45+00 TO 67+00

SHEET NO. 13





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Project No.	3711641
Issued:	11/28/2011
Revised	08/14/2012
Field Book.	Surveyed by Others

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PLAN & PROFILE
STA. 67+00 TO 89+00

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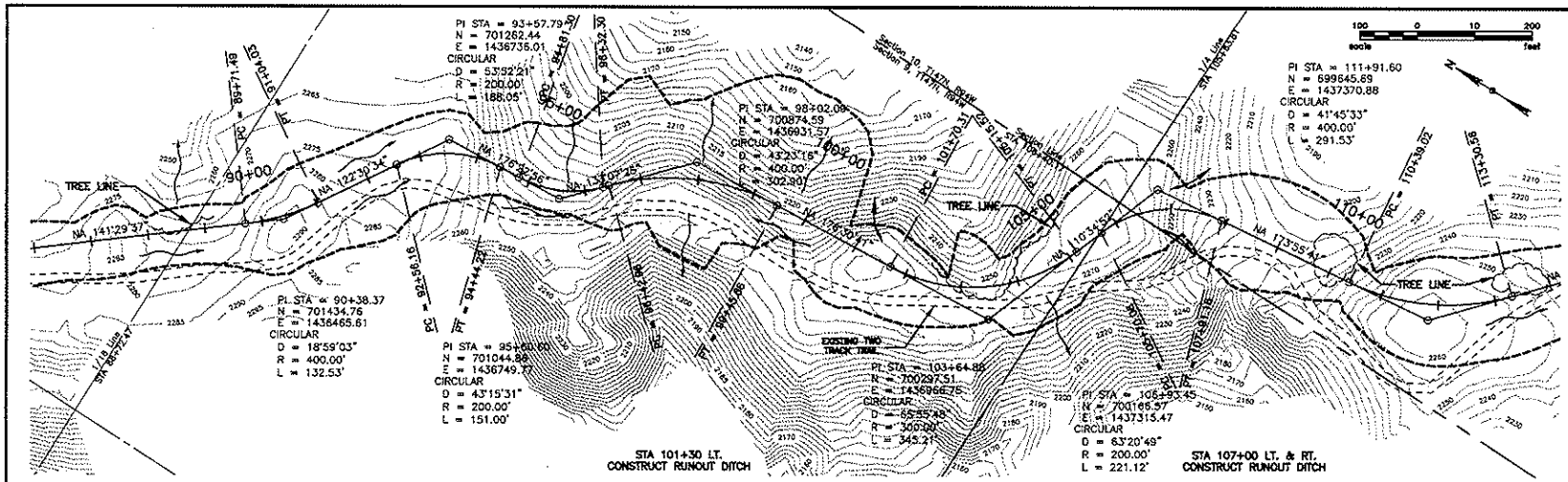

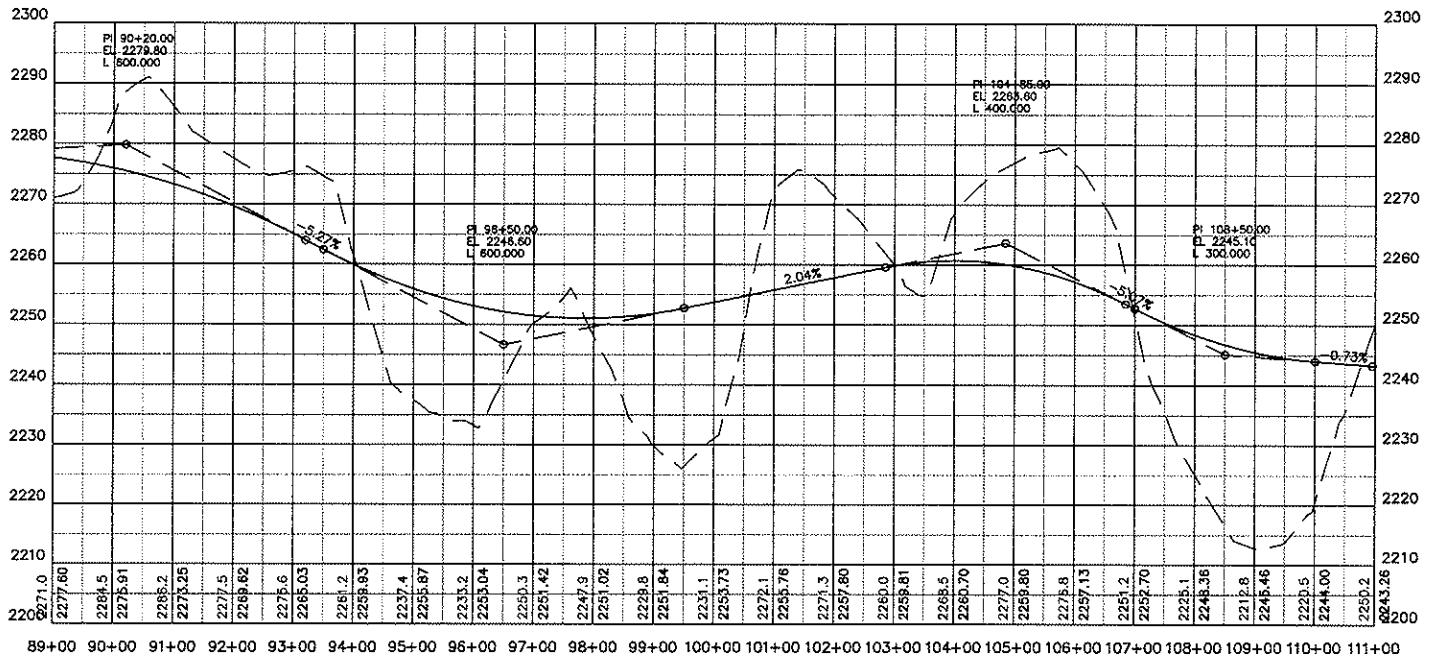

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Marathon Oil Company
Hopkins USA/Lincoln USA
Super Pad Road

Section 33, T148N, R94W &
Sections 4, 9 & 10, T147N, R94W, 5th P.M.
Dunn County, North Dakota

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DATUM UNKNOWN
SURVEY COMPLETED BY OTHERS

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Checked By	JSK
Project No.	3711641
Issued:	11/28/2011
Revised:	08/14/2012
Field Book	Surveyed by Others

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PLAN & PROFILE
STA. 89+00 TO 111+00

SHEET NO. 15

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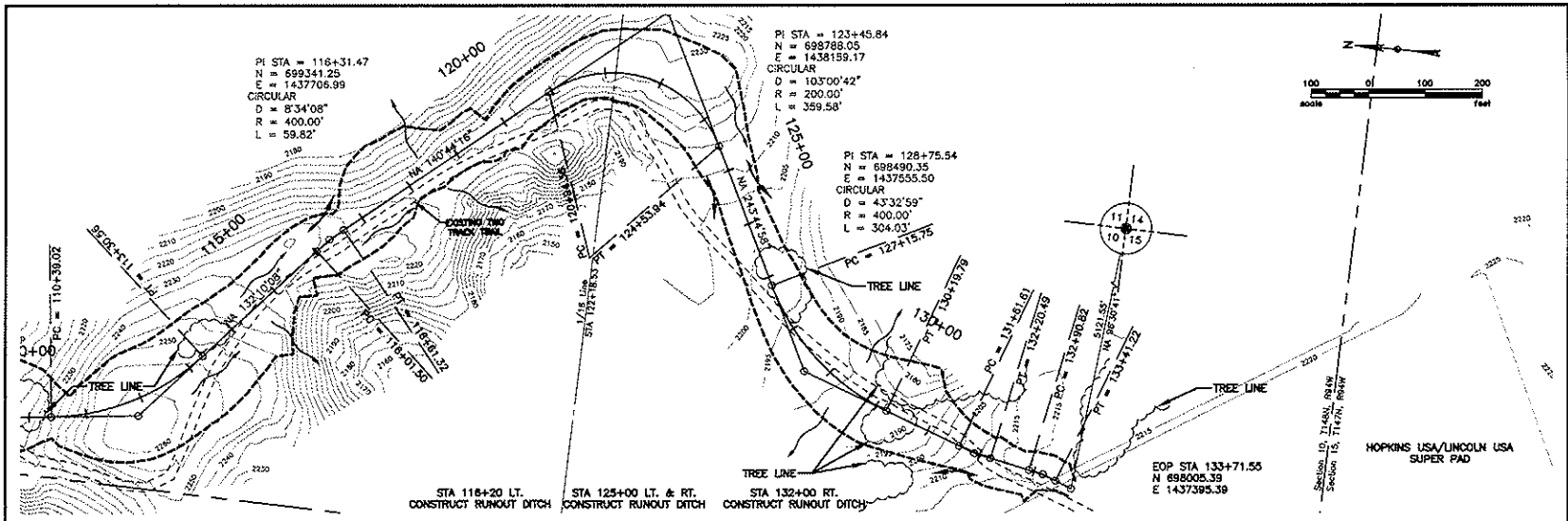

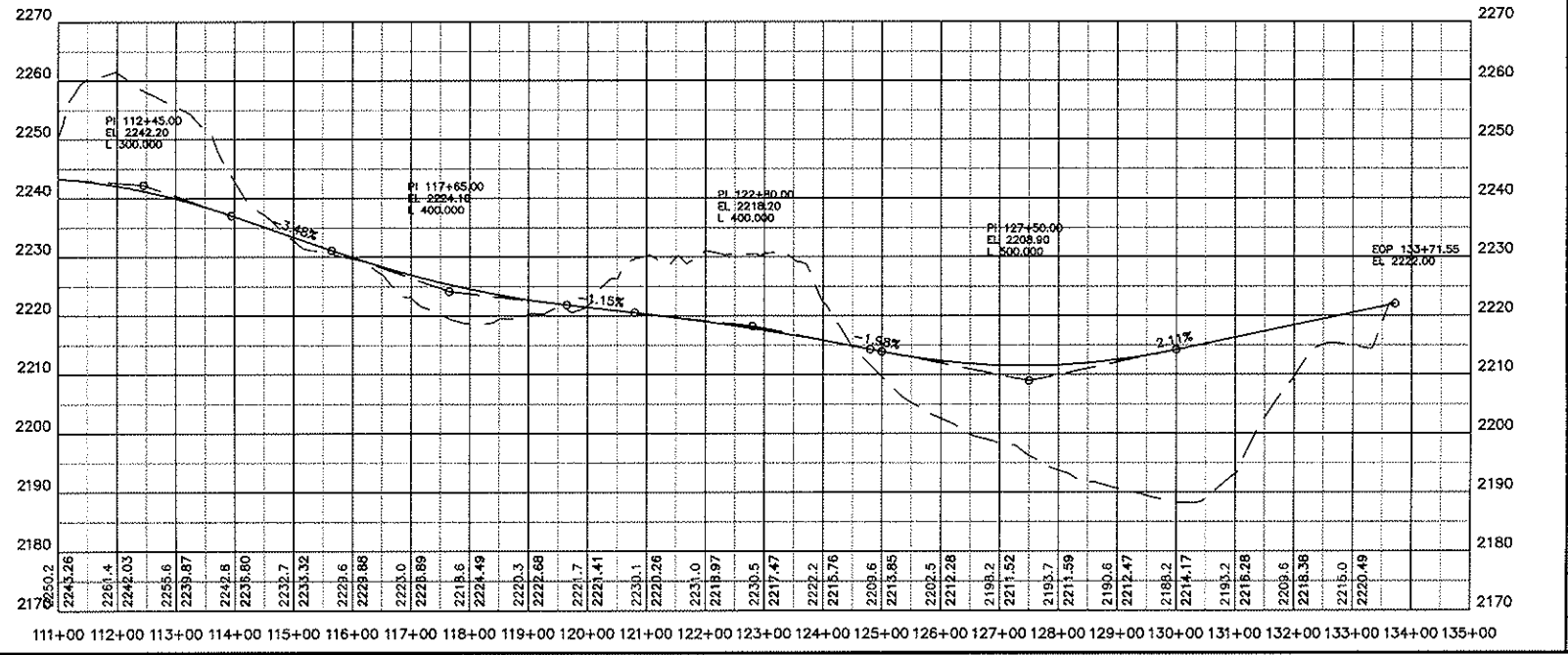

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Super Pad Road
Section 33, T148N, R94W &
Sections 4, 9 & 10, T147N, R94W, 5th P.M.
Dunn County, North Dakota

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DATUM UNKNOWN
SURVEY COMPLETED BY OTHERS

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Checked By:	JSK
Project No.	3711841
Issued:	11/28/2011
Revised:	08/14/2012
Field Book:	Surveyed by Others

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STA. 111+00 TO 133+71.55

SHEET NO. 16

Aug 14, 2012 - 11:55am - J:\oilfield\Marathon Oil\3711841\CADD\Civil 3D 2012\3711841_BAS03.dwg

Notice of Availability and Appeal Rights

Marathon Oil Company: Twenty Oil and Gas Wells Atop One Well Pad:
Lincoln Hopkins

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to drilling Twenty Oil and Gas Wells Atop One Well Pad: Lincoln Hopkins on the Berthold Reservation as shown on the attached map. Construction by Marathon Oil is expected to begin in 2012.

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 Earl Silk, Superintendent at 701-627-6570 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 October 4, 2012, 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 701-627-6570.

Project locations.