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

OCT 17 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 seven Bakken oil and gas wells located atop two well pads 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 Seven Oil and Gas Wells atop Two Well Pads:
Grady USA & Prairie Chicken USA

Fort Berthold Indian Reservation
McKenzie County, North Dakota

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

- Grady USA Well Pad located in Section 33, T152N, R94W, 5th P.M. and containing four wells: Grady USA 11-4H, Grady USA 21-4TFH, Grady USA 21-4H, and Grady USA 31-4TFH
- Prairie Chicken USA Well Pad located in Sections 33 and 34, T152N, R94W, 5th P.M. and containing three wells: Prairie Chicken USA 11-3TFH, Prairie Chicken USA 11-3H, and Weasel USA 41-4TFH.

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

10/17/12
Date

Notice of Availability and Appeal Rights

Marathon Oil Company: Seven Oil and Gas Wells atop Two Well Pads:
Grady USA & Prairie Chicken USA

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to Seven Bakken Oil and Gas Wells atop two well pads on the Berthold Reservation as shown on the attached map. Construction by Marathon Oil is expected to begin in 2012.

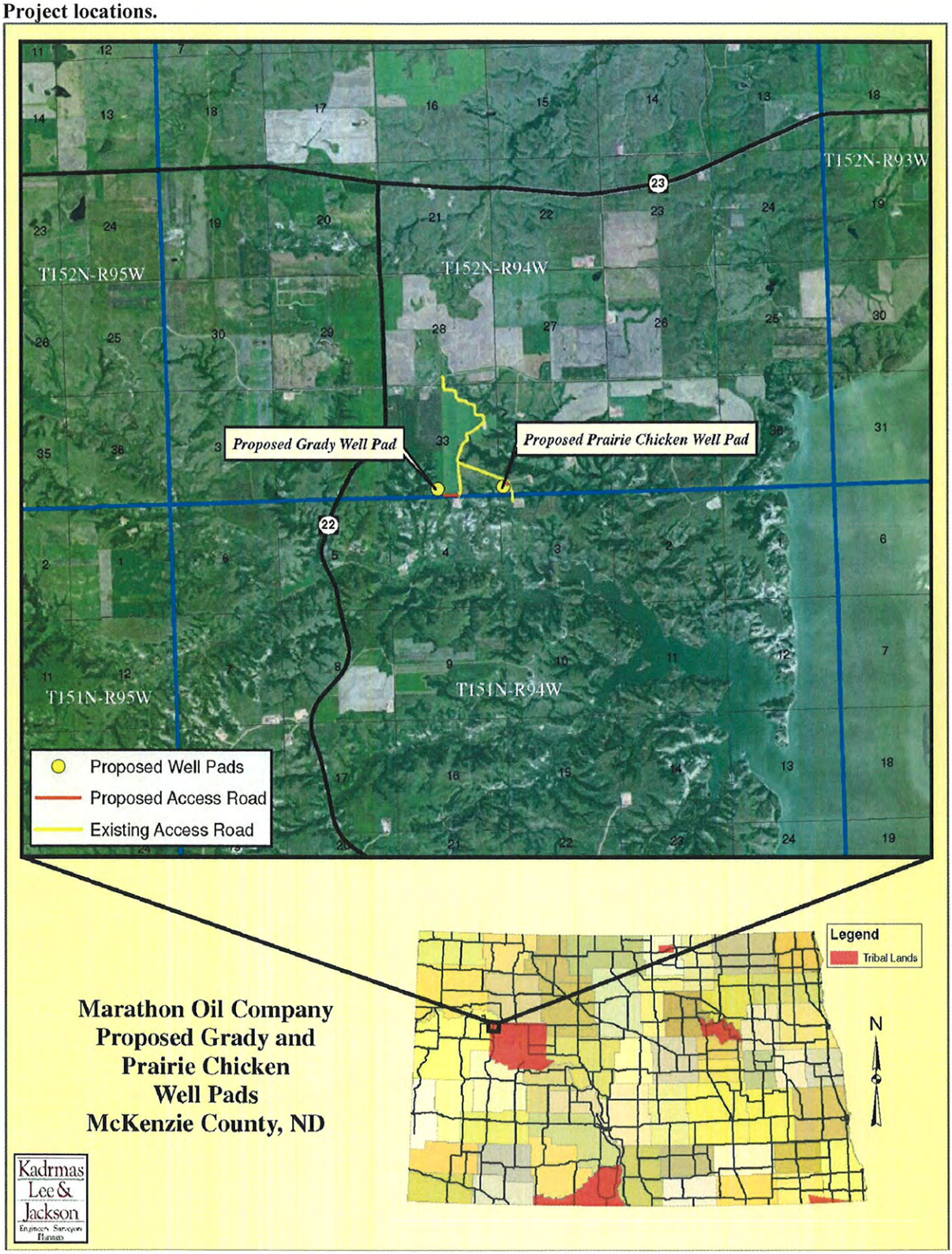
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-6570 for more information and/or copies of the EA and the Finding of No Significant 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 November 15, 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.



ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Marathon Oil Company

Drilling of Seven Oil and Gas Wells atop Two Well Pads:
Grady USA & Prairie Chicken USA

Fort Berthold Indian Reservation

October 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

CHAPTERS

FIGURES

TABLES

APPENDICES

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 (Bakken), 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 located beneath North Dakota. The Three Forks formation lies beneath the Bakken. The North Dakota Department of Mineral Resources (NDMR) estimates that there are approximately 2.1 billion barrels of recoverable oil in each of the formations. (Note: 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 NDMR estimates that there are 30 to 40 years of production remaining, and possibly 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 seven wells on two well pads. The well pads are proposed to be positioned in the following locations and as shown on ***Figure 1.1, Project Location Map:***

- Grady USA Well Pad located in Section 33, T152N, R94W, 5th P.M. and containing four wells: Grady USA 11-4H, Grady USA 21-4TFH, Grady USA 21-4H, and Grady USA 31-4TFH
- Prairie Chicken USA Well Pad located in Sections 33 and 34, T152N, R94W, 5th P.M. and containing three wells: Prairie Chicken USA 11-3TFH, Prairie Chicken USA 11-3H, and Weasel USA 41-4TFH.

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), infrastructure for the proposed wells, and roadway improvements.

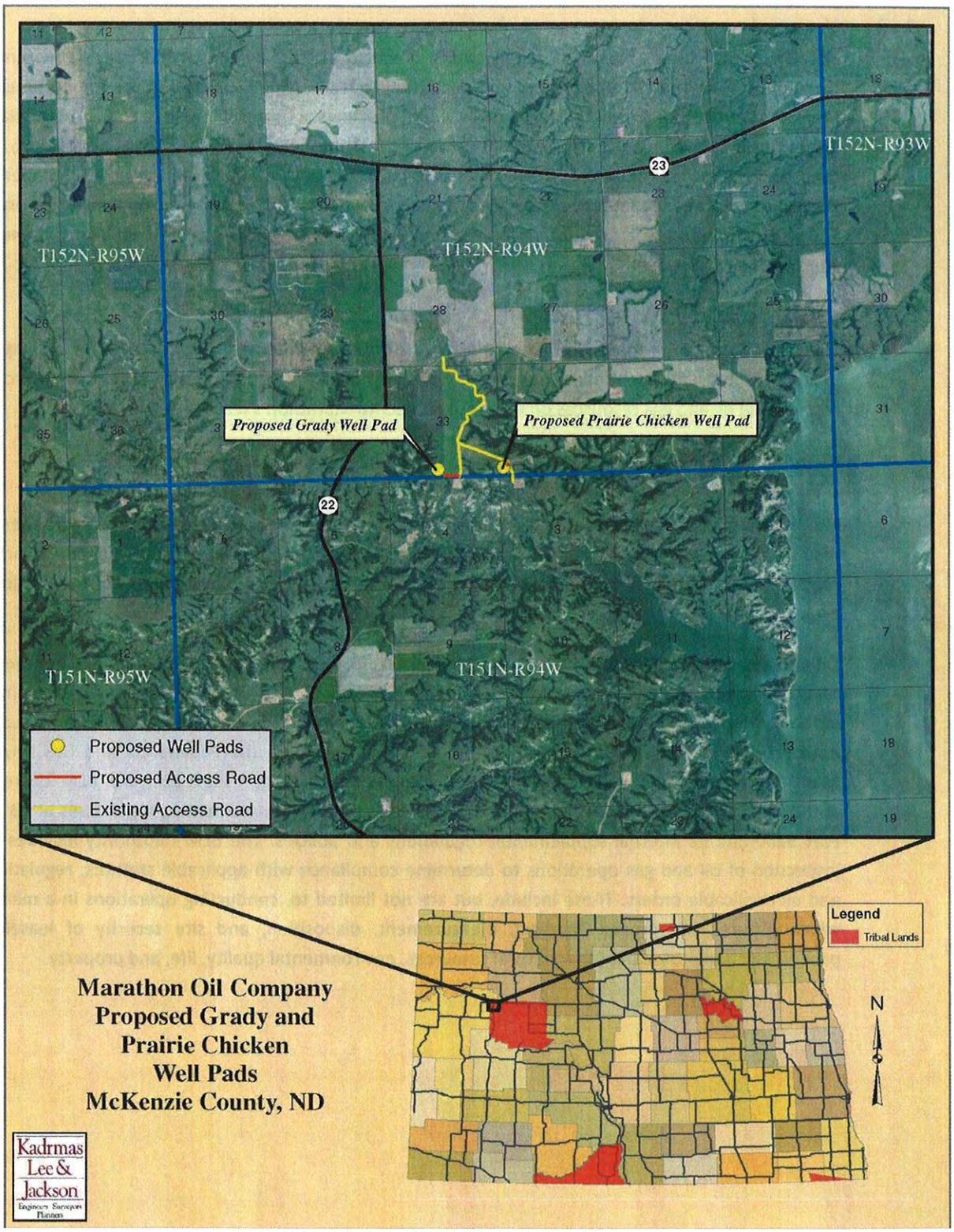


Figure 1.1, Project Location Map

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 seven 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 developing 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 of the Fort Berthold Reservation, and to access commercially recoverable oil and gas resources on the lands subject to Marathon's lease areas.

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 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 other 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 two proposed well pads, resulting in no drilling or completion of the seven 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 two multiple well pads, resulting in the drilling and completion of seven oil and gas wells, as well as associated ROW acquisition, roadway improvements, and infrastructure for the wells. Each site would consist of a well pad, access road, associated infrastructure, and spacing units. The well pads are where the actual surface disturbance caused by drilling activities would occur. The spacing units are the location of the minerals that are to be developed. The locations of the proposed well pads, access roads, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

The well pads 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. Additional ROW would also be required for the current oil field access road leading to the proposed sites. This ROW would be used for snow removal and infrastructure. Infrastructure may include subsurface oil and gas gathering pipelines and buried electrical lines, both of which would be located within the ROW acquired by Marathon. Please refer to ***Figure 2.1, Overview of Well Pads*** and ***Appendix C, Well Pad Plats***.

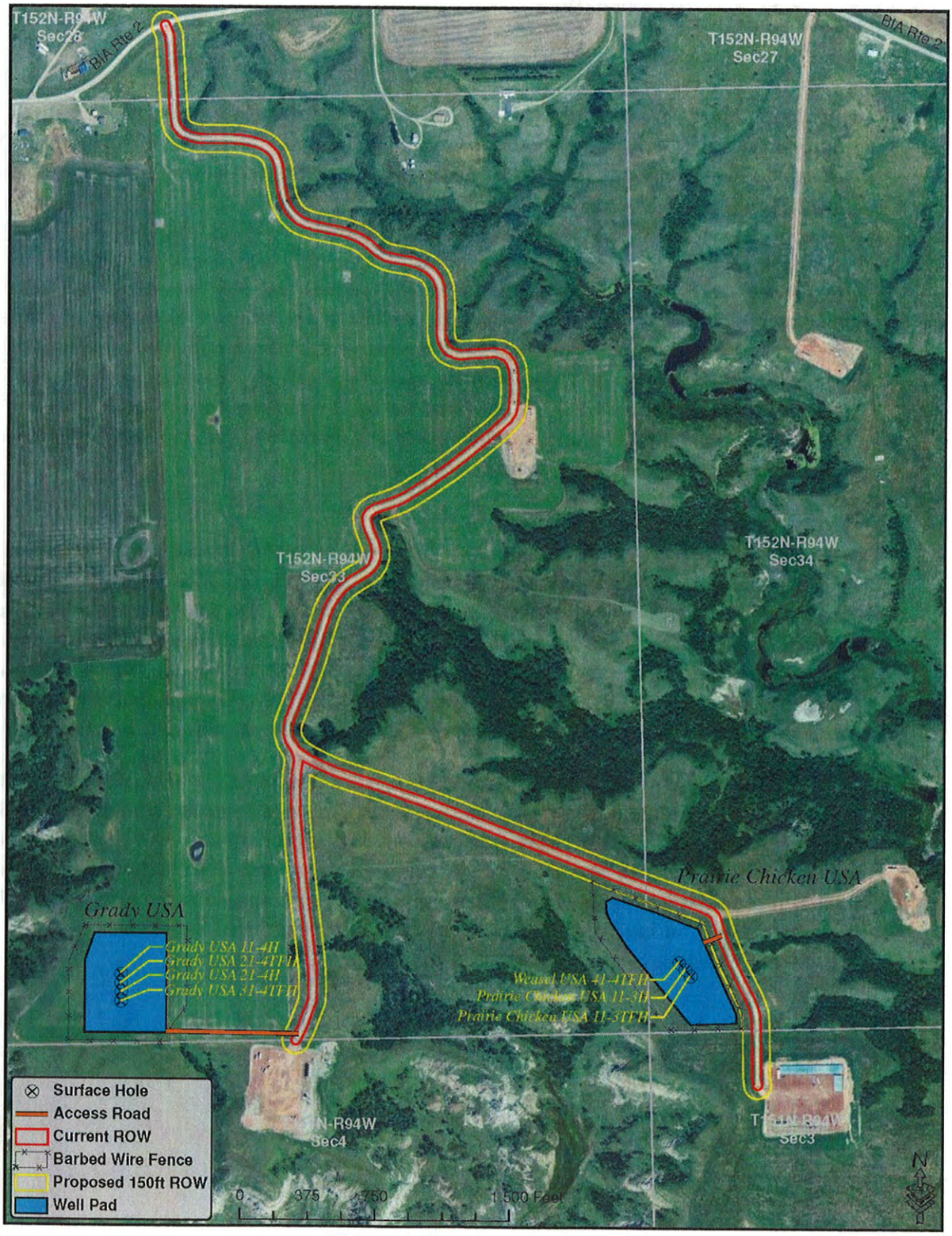


Figure 2.1, Overview of Well Pads

Intensive, pedestrian resource surveys of the proposed well pad sites and access road corridors were conducted on April 30, 2012 by Kadrmas, Lee & Jackson, Inc. (KLJ). The purpose of the 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 well pads consisted of a 200-foot buffer around the proposed well pad disturbance area and a 200-foot wide access road corridor at each site. The eagle surveys consisted of pedestrian transects focusing 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 assessments of the well pads and access roads were also conducted on April 30, 2012. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office, Marathon, and KLJ were present. During these assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. 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 locations chosen are positioned in areas which would reduce impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize impacts to the environment. In addition, comments received from the US Fish and Wildlife Service (USFWS) have been considered in the development of this project.

2.3.1 Field Camps

Self-contained trailers may be used 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, the construction of new access roads would be required. The proposed Grady well pad would be accessed from the east. A new access road approximately 767 feet long with a ROW width of 130 feet (2.3 acres) would be constructed in the SW¼ of the SE¼ of Section 33, Township 152 North, Range 94 West. The new access road would be constructed off of an existing oil field access road, and travel west to the proposed well pad. The proposed Prairie Chicken well pad would be accessed from the northeast. A new access road approximately 107 feet long with a ROW width of 130 feet (0.3 acres) would be constructed in the SW¼ of the SW¼ of Section 34, Township 152 North, Range 94 West. The new access road would be constructed off of an existing oil field access road and travel southwest to the proposed well pad.

The well pads have been positioned to utilize an existing access road to the extent possible. In order to utilize this existing access road, the current 50 foot ROW would need to be expanded to 150 feet. This additional ROW would be used for the placement of buried utilities and snow removal. The current running surface of the roadway would not be expanded. This additional ROW would begin at BIA Route 2 and extend south to the proposed well pads, and would amount to approximately 25.3 acres.

The new access roads would be situated to avoid drainages and wooded draws. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignments. Culverts and cattle guards would be installed at the entrances to both well pads, as well as the east end of the proposed Grady access road. The running surface of the access roads would be surfaced with crushed scoria from a previously approved location, and erosion control measures including seeding of all fill slopes and placement of straw rolls in all adjacent drainages would be installed. The access roads would be improved to eliminate overly steep grades, maintain current drainage patterns, and provide all-weather driving surfaces.

A ROW width of 130 feet would be required for construction of the new access roads, consisting of a 20- to 28-foot wide roadway 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 roads would be re-seeded upon completion of construction to reduce access road-related disturbance. Construction of the access roads would follow road design standards outlined in the BLM's Gold Book (4th Edition, 2006).

Construction of the proposed project and commencement of drilling of the proposed wells is planned to occur in the fall of 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 pads would each consist of a leveled area covered with several inches of crushed scoria. The pads would be used for a drilling rig and related equipment, as well as contain excavated, reinforced, and lined[1] pits to store drill cuttings. At the Grady site, 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 565 feet x 465 feet (approximately 6.1 acres). The Prairie Chicken well pad would be constructed in an asymmetrical shape with the level well pad plus cut and fill slope areas totaling approximately 6.2 acres.

The well pad 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 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 pad construction, with the finished well pads graded to ensure water drains away from the drill sites. The cut slopes of both well pads would be bermed to prevent run-on and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. Erosion control at the sites would be maintained through the use of BMPs including re-vegetation of disturbed areas and placement of straw rolls in all adjacent drainages. Additional BMP's may include, but would not be limited to, water bars, diversion ditches, bio-logs, and silt fences.

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

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 edges of the well pads would be 2:1 where less than eight feet and 3:1 where eight feet or greater. In areas where livestock are present, the entire well pads would also be fenced. Placing multiple wells on two pad locations would reduce the disturbance from approximately 35 acres (assuming 5 acres per well location) to the approximate 17 acres total that would be located within both well pad fenced areas.

Construction of the proposed project and commencement of drilling of the proposed wells is planned to occur in the fall of 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 survey to deter birds from nesting in project areas.

2.3.4 Drilling

Following access road construction and well pad preparation, drilling rigs would be rigged up. The time for rigging up, drilling the well, and rigging down each well is anticipated to be about 60 days. During that phase, vehicles and equipment would access the sites several times a day.

The four proposed wells associated with the Grady well pad would access potential oil and gas resources within a 1,280 acre spacing unit located in Sections 4 and 9, Township 151 North, Range 94 West, 5th P.M. The three proposed wells associated with the Prairie Chicken well pad would access potential oil and gas resources from two adjacent 1,280 acre spacing units. The west spacing unit would be the same spacing unit accessed by the Grady well pad located in Sections 4 and 9, Township 151 North, Range 94 West, 5th P.M. The east spacing unit would be located in Sections 3 and 10, Township 151 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 10,100 feet to reach the Bakken Formation and 11,000 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.

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 for surface hole drilling would be obtained from a commercial source. About 8 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). After setting and cementing the surface casing, an oil-based mud system consisting of about 80 percent diesel fuel and 20 percent saltwater would be used to drill the remainder of the vertical hole and curve. Seven-inch production casing would be set and cemented through the curve and into the lateral. A saltwater based drilling mud would then be utilized for the horizontal portion of the wellbore.

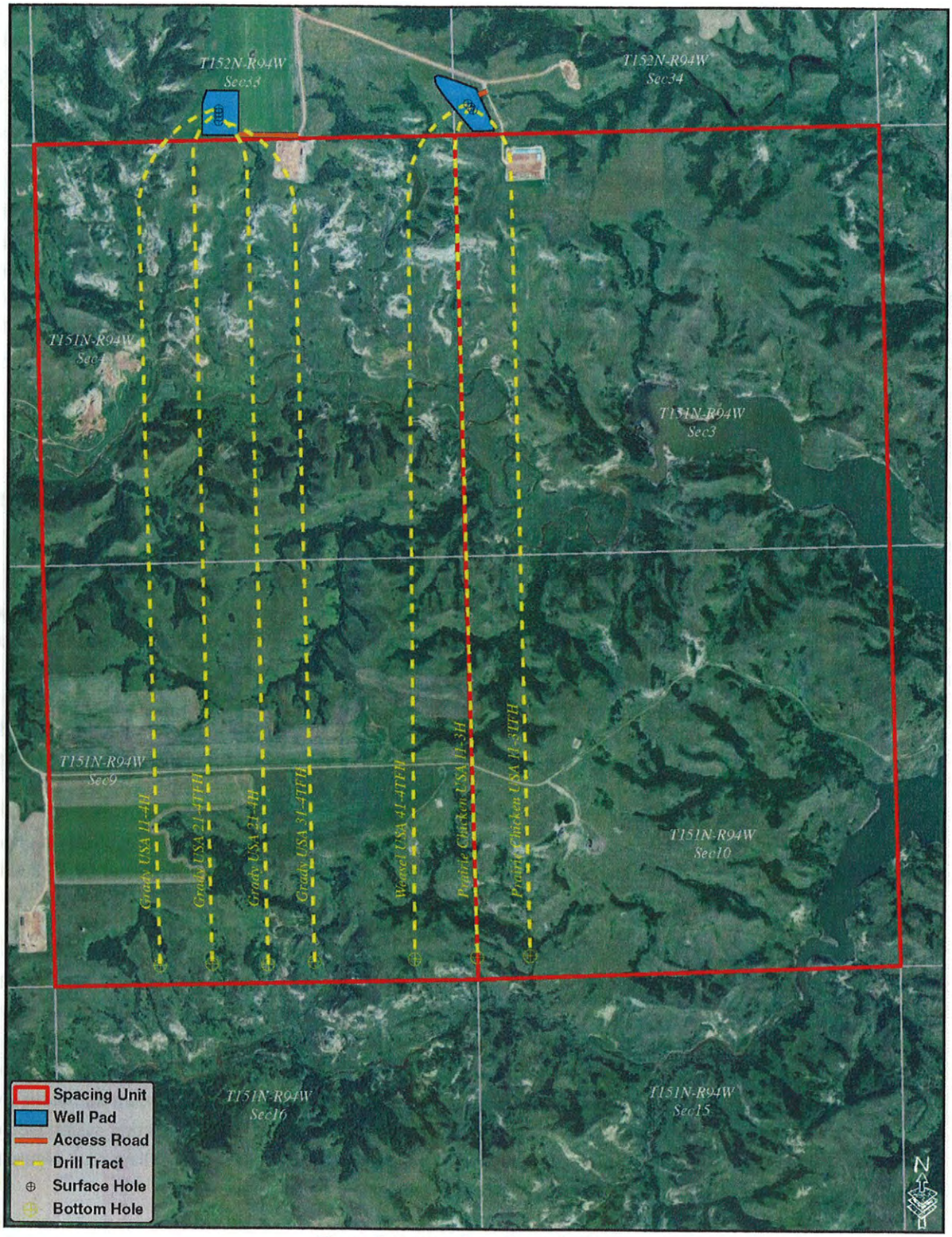


Figure 2.2, Location of Spacing Units

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. 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

If commercially recoverable oil and gas resources are found at any of the proposed wells, the respective well pad would become established as a production facility. Production equipment, including well pumping units, vertical heater-treaters, storage tanks and flare systems with associated piping would be installed. The storage tanks and heaters-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 with standard colors recommended by BLM and BIA to blend into the surrounding landscape.

During the initial phase of commercial production, oil would be collected 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 existing ROW, or additional NEPA analysis and approval from the BIA would be undertaken.

Should pipeline facilities be constructed, Marathon has chosen Saddle Butte Pipeline, LLC (Saddle Butte) as the pipeline provider for oil and produced water, and ONEOK Rockies Midstream, LLC (ONEOK) as the pipeline provider for gas 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 100-foot right-of-way along the entire pipeline corridor.

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 pipelines. Other utilities, including phone and water pipelines, may be present in the immediate area, and the appropriate utility providers would be coordinated with. Topsoil would be separated and stockpiled along either side of any disturbed cross section. If construction activities take place near the end of construction season, topsoil would only be removed far enough in advance that the pipelines could be installed and the site re-graded prior to the end of the construction season. In addition, Saddle Butte and ONEOK would also install straw bales on slopes as needed to provide erosion breaks. The use of pasture by livestock would continue during construction, and temporary fencing or cattle guards would be installed, as needed, within Marathon's approved ROW.

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. ONEOK's natural gas pipeline would be composed of a high-density polyethylene with a design life extending well beyond 40 years.

Saddle Butte's oil and produced water pipelines would likely be composed of steel. To ensure their long-term viability, all steel pipelines would be coated with 14 to 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. 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 with specialized tools (e.g., cleaning pigs and smart pigs) for assessing pipeline conditions and integrity.

All pipeline installations would be monitored by an inspection/construction management team as well as independent third party contract experts. Construction specifications would require contractors to allow for inspection, and no pipeline would be laid and backfilled without appropriate approvals.

Saddle Butte would perform hydrotesting on all pipelines 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.

ONEOK would also pressure test their pipeline to 1¼ times the actual maximum pressure for the proposed line. This series of pressure tests would occur for eight straight hours and would be documented for each segment.

In the event that a pipeline company other than Saddle Butte or ONEOK 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 seven 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 precluded by snow cover or the drilling schedule. 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, reducing cut and fill slopes where necessary, backfilling, erosion control, redistributing 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 recolonize the disturbed areas, and noxious weeds are under control. If commercial production equipment is installed, the well sites would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations. The remainder of the well pads would be reclaimed.

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 and ONEOK would 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 the pipeline provider 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 associated with routine maintenance or addition of infrastructure would occur throughout the life of the pipeline. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities recolonize the disturbed areas, and noxious weeds are under control.

If no commercial production were developed from the seven 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 roads and well pad areas would be re-contoured to match the topography of the original landscape and reseeded with a native grass seed mixture that is consistent with surrounding native species. This would enable the development of a healthy and diverse vegetative community that is free of noxious weeds. Erosion control measures including blanket matting, the placement of straw rolls in all adjacent drainages, 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 above reclamation measures may occur if the BIA approves assignment of the access roads either to the BIA roads inventory or to concurring surface allottees.

2.3.9 Potential for Future Development

Development beyond the seven wells 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 pads and access roads are situated geologically within the Williston Basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 million 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 to 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 areas is identified as the border area between the United States Geological Survey's (USGS) Missouri Plateau and River Breaks 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 River Breaks consisting of highly dissected hills and uplands bordering major rivers and associated alluvial plains. They have particularly formed 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 use within the proposed project areas is composed primarily of grasslands (82 percent) and cultivated land (18 percent). Please refer to ***Figure 3.1, Land Use.***

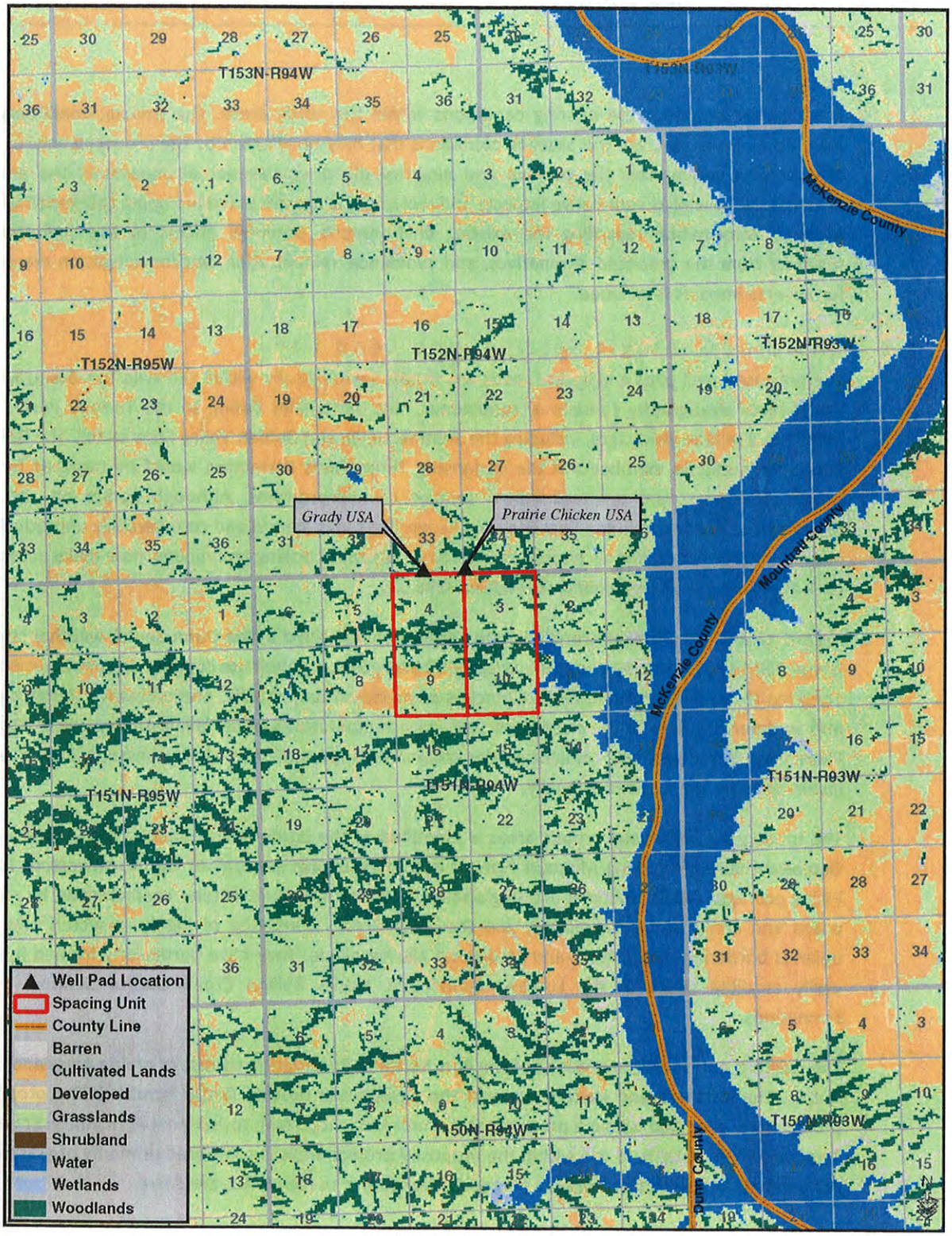


Figure 3.1, Land Use

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 44.9 acres of land from present use to part of an oil and gas network. Of this, a total of 17.0 acres would be as a result of construction of well pads and a total of 2.6 acres would be from construction of new access roads. The remaining 25.3 acres would result from the ROW expansion of the existing haul road. 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 sites, 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 McKenzie County dates from 2006, with updated information available online through the NRCS Web Soil Survey. The soil survey information indicated there are 10 soil types within the project impact areas. Characteristics of the soils are identified in ***Table 3.1, Soils.***

The soils listed have low to moderate susceptibility to sheet and rill erosion. In addition, all soils 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 Noonan-Niobell-Williams loams which are moderately well drained and depth to water table recorded at approximately 4 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[2]		HYDROLOGIC SOIL GROUP[3]
			% SAND	% SILT	% CLAY	T	KF	
41	Williams-Bowbells loams	0 to 3	34.8	35.2	30.0	5	0.28	B
41B	Williams-Bowbells loams	3 to 6	34.8	35.2	30.0	5	0.28	B
42C	Williams loam	6 to 9	34.8	35.2	30.0	5	0.28	B
43C	Williams-Zahl loams	6 to 9	35.0	35.2	30.6	5	0.28	B
83F	Cabba-Badland, outcrop complex	9 to 70	40.5	39.5	20.0	2	0.32	D
145F	Zahl-Cabba-Arikara complex	9 to 70	35.0	34.3	30.6	5	0.28	B
154F	Arikara-Shambo-Cabba loams	9 to 70	37.8	37.6	24.6	5	0.02	B
341B	Noonan-Niobell-Williams loams	0 to 6	34.6	34.2	31.2	5	0.37	D
341C	Noonan-Williams loams	6 to 9	34.6	34.2	31.2	5	0.28	B
442F	Zahl-Williams loams	15 to 45	35.0	34.3	30.6	5	0.28	B

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 pads, 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 to 8 inches at the sites. Topsoil depths taken during the onsite surveys indicated soil depths of approximately 8 inches at the sites, yielding sufficient quantities 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 Grady well pad topsoil stockpile would contain approximately 6,515 cubic yards of material (including topsoil used for berming) placed along the west edge of the proposed well pad. This stockpile would provide a buffer between the proposed well pad and the ravine located to the west. The Prairie Chicken well pad topsoil stockpile would contain approximately 6,645 cubic yards of material (including topsoil used for berming) placed along

[2] 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.

[3] 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).

the southwest edge of the proposed well pad. The stockpile areas were included in the fenced areas of impact. Where the BIA determines that it is 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 well development, road improvements, and facilities construction 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, using 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 shall be immediately reported to the appropriate regulatory agencies and the procedures of the surface management agency shall 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 the Environmental Protection Agency (EPA) and the US 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[4]. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA[5].

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

[5] 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, which includes surface waters that drain to Lake Sakakawea. Both of the proposed well pads would be constructed within the Clarks Creek Sub-Watershed of the Sanish Bay Watershed. Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea.

The proposed Grady well pad would be situated on an upland area with drainages to the south and west. In the event that runoff was to flow off the well pad, it would drain into a series of ravines located south and west of the proposed pad. From there, it would flow in a generally southern direction into Clarks Creek which drains east into Hunts Along Bay of Lake Sakakawea. The total traveled drainage distance from the proposed site to Lake Sakakawea is approximately 3.4 miles following the shortest route. The nearest wooded draw is approximately 200 feet west of the proposed well pad. Culverts would be installed at both ends of the proposed access road to maintain drainage.

The Prairie Chicken well site is also situated on an upland area. Runoff from the well pad would flow overland before draining into a series of ravines located southwest and east of the proposed well pad. Runoff entering into the east drainage would continue to flow in a generally east direction before heading south and draining into Hunts Along Bay of Lake Sakakawea for a total traveled distance of approximately 2.4 miles. Runoff entering into the southwest drainage would flow in a generally south direction before entering into Clarks Creek where it would then flow east, draining into Hunts Along Bay for a total traveled distance of approximately 2.7 miles. The nearest wooded draw is approximately 300 feet west of the proposed well pad. A culvert would be installed along the access road near the entrance of the proposed well pad to maintain drainage.

Please refer to ***Figure 3.2, Surface Water Resources.***

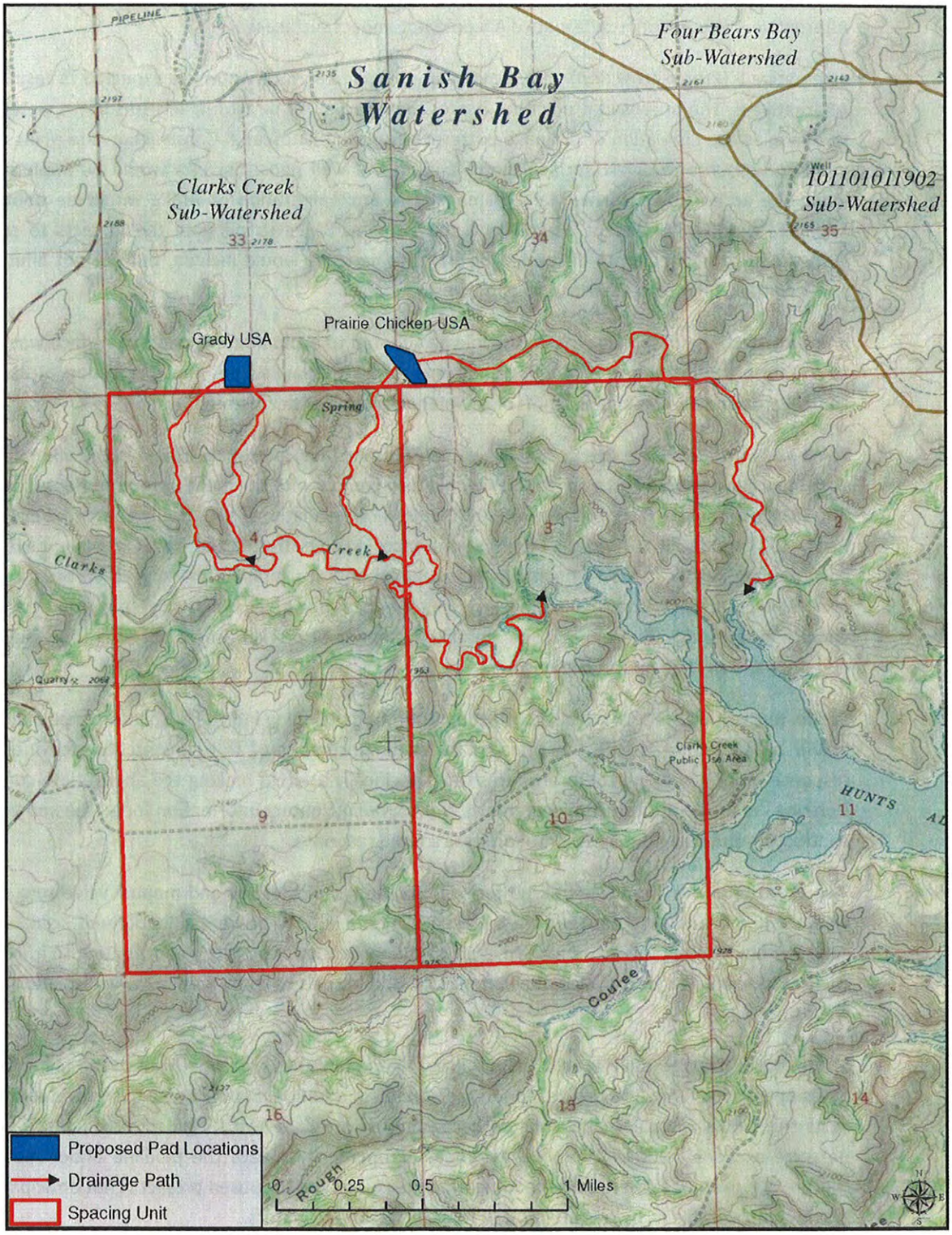


Figure 3.2, Surface Water Resources

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 pads. Culverts would be implemented along the access roads to maintain drainage. The implementation of BMPs would be utilized to minimize runoff of sediment downhill or downstream. BMPs to mitigate the impacts to surface waters and to minimize the disruption of drainage patterns would include, but are not limited to, straw wattles, fiber rolls, fiber matting and/or silt fences.

If constructed, the proposed pipelines 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 and ONEOK would fully comply with the 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 and ONEOK have 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 and ONEOK have also both committed to developing individual spill response plans that would be submitted to the BIA prior to the commencement of the construction activities. The response plans 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 psi. 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 five active or permitted groundwater wells within one mile of the proposed project area.

The nearest active water well is located approximately 0.4 mile northwest at the nearest point (Grady well pad). The Missouri River-Lake Sakakawea Aquifer is located to the east of the proposed well pads; however, 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[6]. 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. Initial drilling of the proposed wells would be vertical to an approximate depth of 10,100 to 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 freshwater-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.

Pipeline bores are designed on a case-by-case basis to reduce any adverse effects to the natural surface in the vicinity of the bore. 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.

[6] 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.

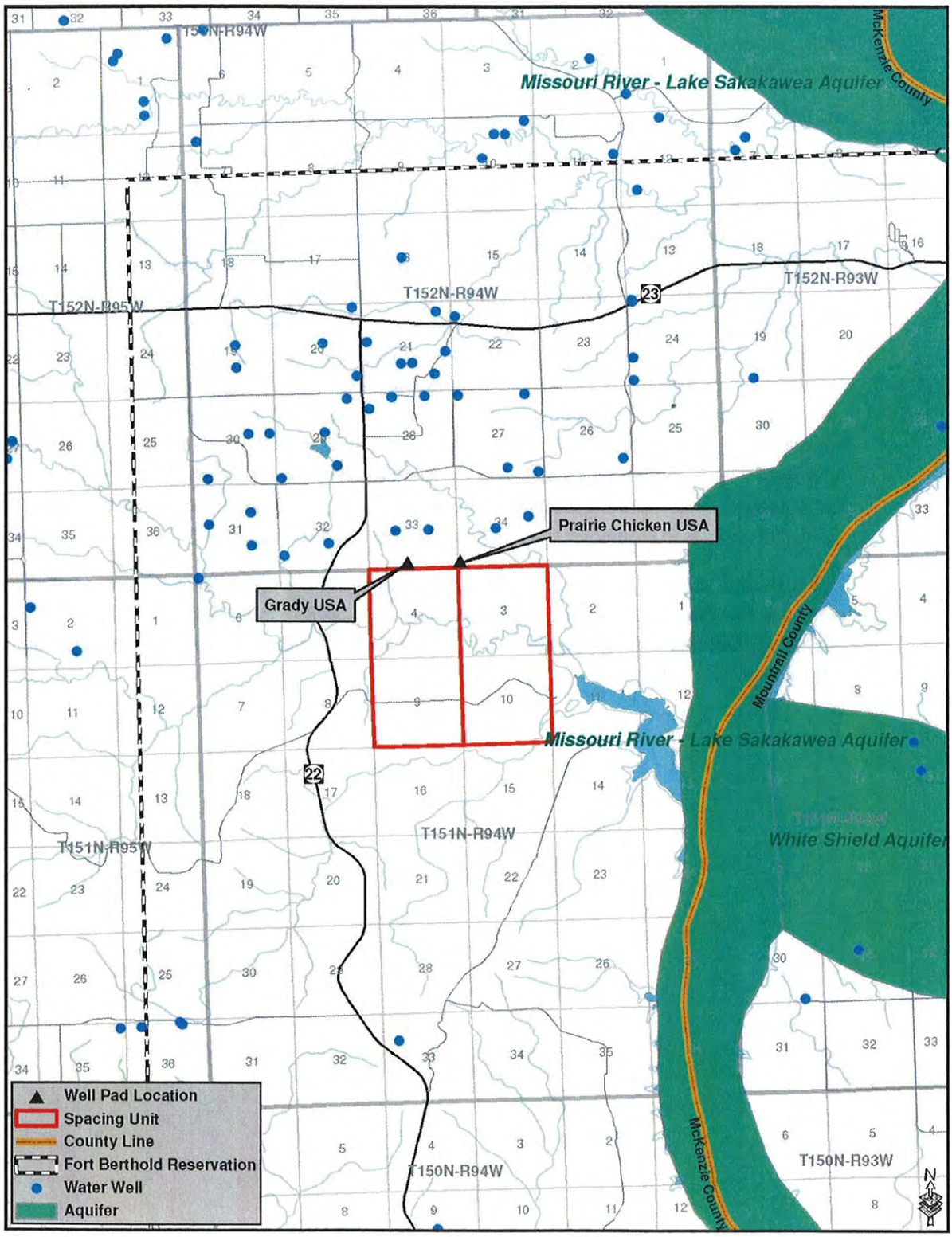


Figure 3.3, Aquifers and Groundwater Wells

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, 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 pads or access roads 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 areas, no 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 the North Unit of Theodore Roosevelt National Park (TRNP-NU), approximately 34.2 miles southwest of the proposed sites at the nearest point (Grady 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*** (EPA 2006, NDDH 2010).

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).

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 or near the study area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 34.2 miles southwest of the proposed sites at the nearest point (Grady well pad).

Table 3.2, Federal and State Air Quality Standards and Reported Data for TRNP-NU

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		TRNP-NU 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	—	.0041
	Annual Mean	80	0.030	80	0.030	—	.0006
PM_{10}[7]	24-Hour	150	—	125	—	31.0	—
	Annual Mean	—	—	—	—	8.6	—
$PM_{2.5}$[8]	24-Hour	35	—	35	—	27.3	—
	Weighted Annual Mean	15	—	15	—	5.46	—
NO_2	Annual Mean	100	0.053	100	0.053	—	.0012
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	—	—	—	—	—	.073
	8-Hour	—	0.075	—	0.075	—	.070

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 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 approved 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 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,

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

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

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. 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 McKenzie 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, McKenzie 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 McKenzie 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. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. Gray

wolves live in packs of up to 21 members, although some individuals roam alone. While the gray wolf is not common in North Dakota, individual wolves occasionally pass through the state.

The project areas are located far from other known wolf populations and are surrounded by mixed-grass pasture land which does not provide suitable gray wolf habitat.

Interior Least Tern (*Sterna antillarum*)

The interior least tern nests along inland rivers. It 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 deter predators.

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravelly Lake Sakakawea shoreline may exist approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake.

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 Lake Sakakawea approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake.

Black-footed Ferret (*Mustela nigripes*)

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. 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.

No black-footed ferrets, prairie dogs, or prairie dog towns were observed during the field visit.

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 east into Colorado. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. During migration, individuals are often observed in riverine habitats, including the Missouri

River. Currently there are three wild populations of whooping cranes with a total population of 383 individuals. Only one of the flocks is self-sustaining.

There were no wetlands observed near the proposed project areas; however, cropland was present and the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Lake Sakakawea may also provide potential stopover habitat for migrating whooping cranes.

3.7.1.2 Endangered Species Impacts/Mitigation

Alternative A (No Action) — Alternative A would have no effect to 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 in the project area, 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 pads and access roads are located on upland bluffs of mixed-grass pastureland and crop fields, with Lake Sakakawea located approximately 300 feet below. Lake Sakakawea is located approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Water diversions would be placed along cut slopes to prevent run-on, and pit and soil stockpiles would be placed along the west edges of both pads to prevent any runoff from entering adjacent drainages. Stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is possible but unlikely. In addition, if electrical lines are installed, the 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 found in the study areas; however, cropland was present and the proposed project is located within the Central Flyway where approximately 75 percent of confirmed whooping crane sightings have occurred. Consequently, it is possible that whooping cranes could occur in the project area.

Whooping cranes traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development. To minimize the potential of direct whooping crane impacts, if electrical lines are installed the lines would be buried to prevent bird strikes. Per USFWS recommendations, if a whooping crane is sighted within one mile of the well sites or associated facilities while under construction, all work withinone mile of the whooping crane's location would cease and the USFWS would be contacted immediately. In coordination with USFWS, work would resume after the bird(s) leave(s) the area.

Considering the above factors, the proposed project may affect, but is not likely to adversely affect, whooping crane populations or their associated habitat.

3.7.2 Threatened Species

Piping Plover (*Charadrius melodus*)

The piping plover is a small migratory shorebird. Historically, the piping plover could be found throughout the Atlantic Coast, Northern Great Plains, and the Great Lakes. 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 vegetationThe 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 areas. Critical habitat in the form of sandy/gravelly Lake Sakakawea shoreline may exist approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake.

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 pads and access roads would be located on upland bluffs of mixed-grass pastureland and crop fields, with Lake Sakakawea located approximately 300 feet below. Lake Sakakawea is located approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Water diversions would be placed along cut slopes to prevent run-on, and pit and soil stockpiles would be placed along the west edges of both pads to prevent any runoff from entering adjacent drainages. 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. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is possible but unlikely. In addition, if electrical lines are installed the lines would be buried to prevent bird strikes. Considering these factors, 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. This species 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. The Dakota skipper is visible in its butterfly stage from mid-June to early July.

Portions of the proposed sites consist 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 sites do contain potentially suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits; however, the visits occurred before the brief Dakota skipper butterfly stage.

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.

As previously stated, portions of the proposed sites consist 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 sites do contain potentially suitable habitat for the Sprague's pipit. No Sprague's pipits were observed during the field visits.

3.7.3.2 Candidate Species Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact the Dakota skipper, the Sprague's pipit 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 areas, 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 commercial use 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 leucocepholus*) 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 nests were

occupied by bald eagles, although not all eagle nests were visited and verified. Preferred habitat for the bald eagle includes open areas, forests, rivers, and large lakes. Bald eagle pairs 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 mile of the proposed project area during the field surveys conducted on April 30, 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 golden eagle nests were observed within 0.5 mile of the proposed project area during the field surveys conducted on April 30, 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 the golden eagle 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 3.50 miles southwest of the proposed Grady well pad. 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 were found within 0.5 mile of the project areas and no nest sightings have been recorded within 0.5 mile of the project areas. Therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle nest would be sighted within 0.5 mile of the project construction area, construction activities would cease and the USFWS would be notified for advice on how to proceed. Furthermore, electrical lines, if installed, would be buried to prevent the potential for electrical line strikes by bald or golden eagles.

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, raptor and song bird species. In addition, the project area contains

suitable habitat for resident species including 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*), and wild turkey (*Meleagris gallopavo*).

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and bird nests were identified if present. Wildlife species observed during the field surveys included one turkey vulture (*Cathartes aura*) at the Grady site and seven turkey vultures and one sharp-tailed grouse at the Prairie Chicken site.

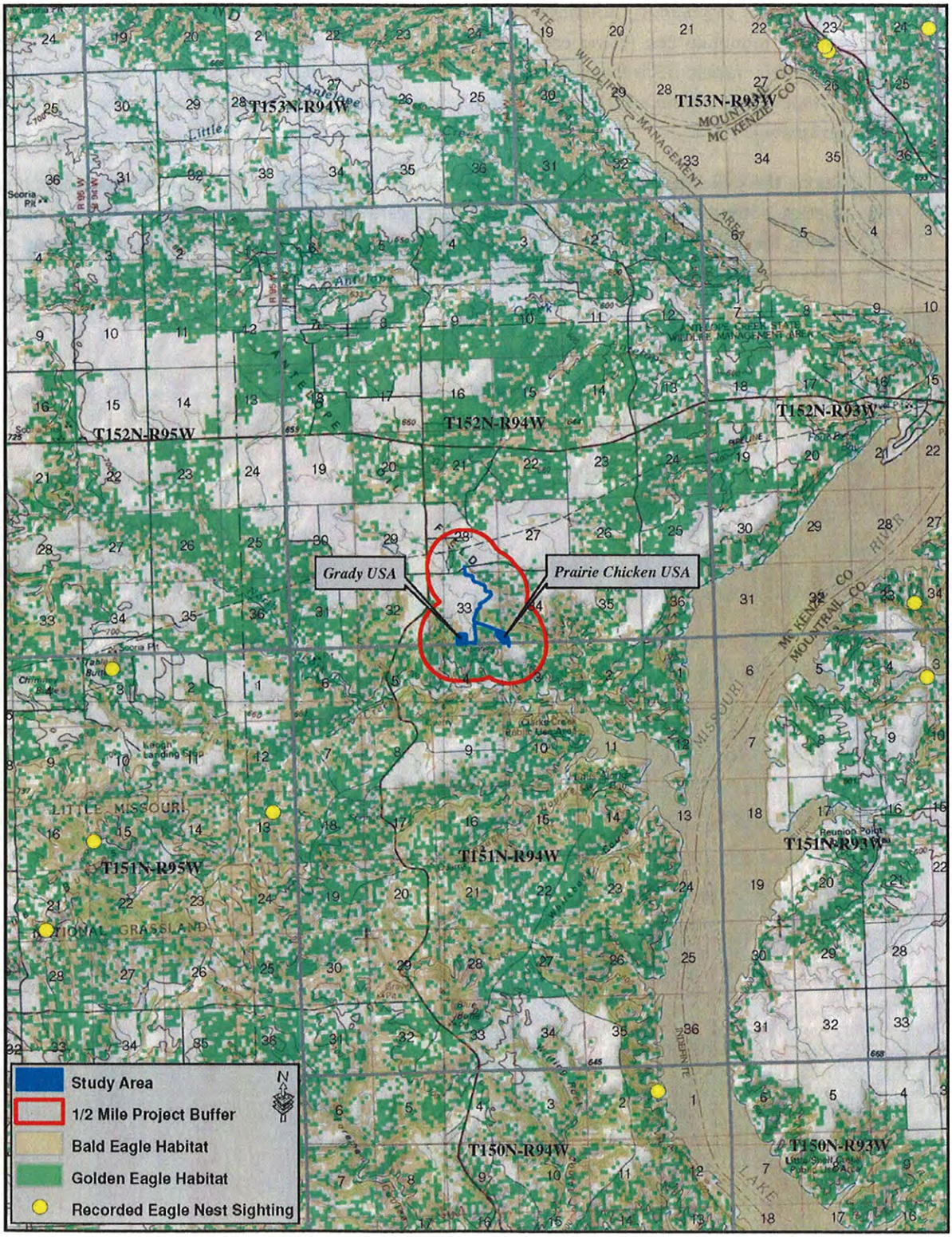


Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings

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 sites 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 relocate to surrounding areas where population density and competition increase, or utilize lower quality habitat. Consequences may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to adverse, 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 the commencement of drilling of the proposed wells is planned to occur in 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 areas.

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: the use of 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 well pads are located on an upland area that is at a considerably higher elevation (approximately 300 feet) than the Lake Sakakawea shoreline. Lake Sakakawea is located approximately 0.8 mile southeast of the proposed sites at the nearest point (Prairie Chicken well pad), or about 2.4 miles away following the shortest drainage path to the lake. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

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 netted with State and Federal approved nets. The nets 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. Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The

berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Water diversions would be placed along cut slopes to prevent run-on and pit and soil stockpiles would be placed along the west edges of both pads to prevent any runoff from entering adjacent drainages. Stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. BMPs to minimize wind and water erosion of soil resources would also be put into practice.

3.10 Vegetation

During the pedestrian field surveys, botanical resources were evaluated using visual inspection. The proposed Grady well pad study area consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing, and agricultural crop fields. The proposed well pad was heavily dominated by crested wheatgrass (*Agropyron cristatum*) with smooth bromegrass (*Bromus inermis*), western wheatgrass (*Pascopyrum smithii*), fringed sagebrush (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and green needle grass (*Nassella viridula*) also present in lesser amounts. Small patches of Western snowberry (*Symphoricarpos occidentalis*) were also observed along with Missouri goldenrod (*Solidago missouriensis*). The east edge of the proposed well pad, as well as the access road, was located on a fallow crop field. No wetland plant species were observed. Please refer to ***Figure 3.5, Grady USA Dominant Vegetation.***

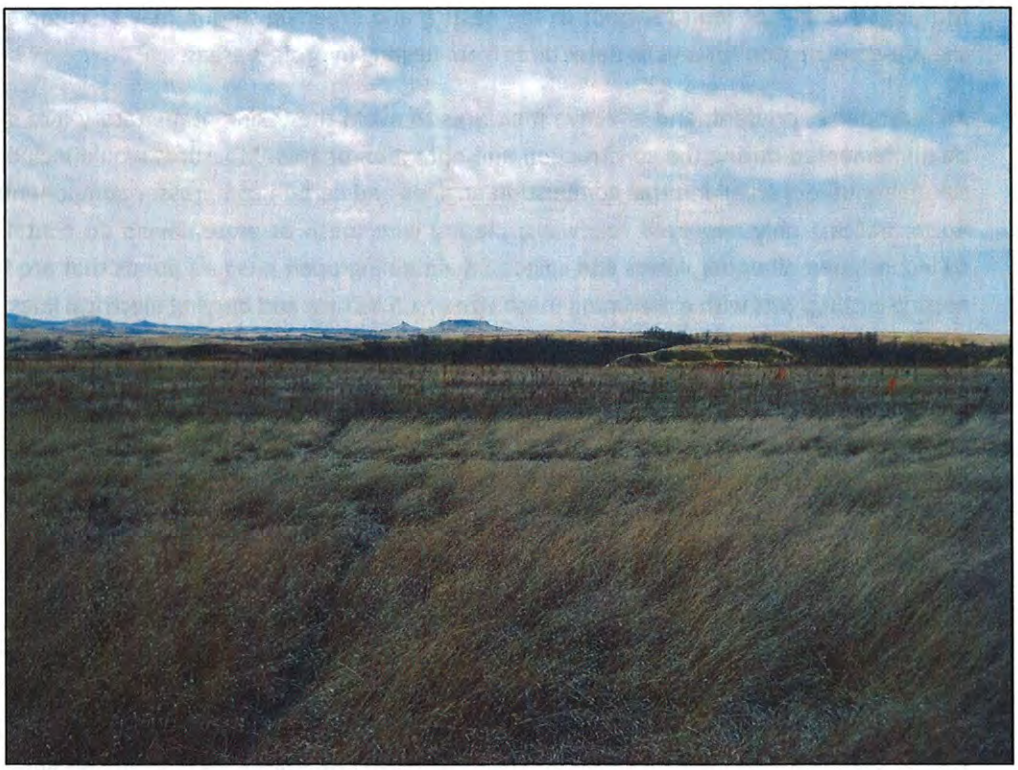


Figure 3.5, Grady USA Dominant Vegetation

The proposed Prairie Chicken 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 Kentucky bluegrass (*Poa pratensis*), needle and thread grass (*Hesperostipa comata*), crested wheatgrass, and common ragweed (*Ambrosia artemisiifolia*). Little bluestem (*Schizachyrium scoparium*) and goats beard (*Tragopogon dubius*) were also observed in small patches. No wetland plant species were observed. Please refer to ***Figure 3.6, Prairie Chicken USA Dominant Vegetation.***

Figure 3.6, Prairie Chicken USA Dominant Vegetation

There are no threatened or endangered plant species listed for McKenzie County. The project areas were also surveyed for the presence of noxious weeds. Of the eleven species declared noxious under the North Dakota Century Code (Chapter 63-01.0), seven are known to occur in McKenzie 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. McKenzie County has added black henbane (*Hyoscyamus niger*), common burdock (*Arctium minus*), houndstounge (*Cynoglossum officinale*), halogeton (*Halogeton glomeratus*), and baby's breath (*Gypsophila paniculata*). No noxious weeds were identified during the on-site assessments.

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2009 MCKENZIE COUNTY REPORTED ACRES
Absinth wormwood	*Artemesia absinthium L.*	15
Canada thistle	*Cirsium arvense (L.) Scop*	34,933
Dalmatian toadflax	*Linaria genistifolia ssp. Dalmatica*	1
Diffuse knapweed	*Centaurea diffusa Lam*	1
Leafy spurge	*Euphorbia esula L.*	26,348
Musk thistle	*Carduus nutans L.*	—
Purple loosestrife	*Lythrum salicaria*	—
Russian knapweed	*Acroptilon repens (L) DC.*	—
Salt cedar (tamarisk)	*Tamarix ramosissima*	2,400
Spotted knapweed	*Centaurea maculosa Lam.*	5
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 pads, access roads, 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 the 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. If advised by the BIA, identified noxious weed infestations may 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 the reduction of cut and fill slopes, the redistribution of stockpiled topsoil, and the re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation would be implemented within six months after well completion, unless precluded by snow cover or the drilling schedule. In the event that reclamation activities do not begin within six months of construction, Marathon would request an extension from the BIA.

If commercial production equipment is installed, the well pads would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pads reclaimed.

Reclamation activities would include leveling, re-contouring, backfilling, and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures including blanket matting and/or re-seeding all fill slopes, straw rolls, and silt fences would be installed. Stockpiled topsoil would be redistributed and re-seeded as recommended by 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 roads and well pad areas would be re-contoured to match the 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 the stand is consistent with the surrounding, undisturbed vegetation and the site is 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 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 has designated a Tribal Historic Preservation Officer (THPO) by Tribal Council resolution, whose office and functions are certified by the National Park Service. The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer. Thus, the BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the Fort Berthold Reservation.

Cultural resource inventories of these well pads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. For the Grady USA well pad approximately 39.7 acres were inventoried (Ó Donnchadha 2012a) and for the Prairie Chicken USA (as Weasel USA) well pad approximately 14.7 acres were inventoried (Ó Donnchadha 2012b). Both inventories were done on April 6, 2012. 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 these undertakings. This determination was communicated to the THPO on May 31, 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) at either of the proposed sites. The THPO has concurred with the findings of *No Historic Properties Affected* and it is anticipated that the proposed project would have no associated cultural resources impacts. If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the BIA and THPO notified. Work would not resume until written authorization to proceed was 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 the geography, geology, and climate of the area.

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[9]. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320

[9] 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.

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, 23 and 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 areas, 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 McKenzie 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 percent of North Dakota's population and 22.2 percent of the population of McKenzie County. The recent explosion of drilling activity in the western part of the state has contributed to increased populations in western counties including McKenzie County and the Fort Berthold Reservation. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in McKenzie 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
McKenzie County	6,360	0.95%	10.9	White	American Indian (22.2%)
Fort Berthold Reservation	6,162	0.92%	7.2	American Indian[10]	White (34.7%)
Statewide	672,591	—	4.7	White	American Indian (5.4%)

Source: U.S. Census Bureau, 2006-2010 American Community Survey and 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 than the respective statewide averages, whereas McKenzie County has higher median household income and per capita income than the respective statewide averages. McKenzie County has a slightly higher rate of unemployment than the statewide average, while Fort Berthold's rate of unemployment is significantly greater[11]. 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
McKenzie County	$27,605	$48,480	4.0%	10.0%
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 and 2010 Census

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

[11] 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.

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 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 the allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties if drilling and production are successful. Income would also be generated through the levying of Tribal Employee Rights Office taxes on construction of drilling facilities.

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 include paved (ND Highway 22 & 23) and gravel roadways. The Bureau of Reclamation (BOR) manages the Fort Berthold Rural Water System. The nearest known rural water pipeline runs along BIA Route 2, approximately 1 mile north of the proposed well pads. The existing access road, for which ROW expansion is proposed, connects to BIA Route 2 and crosses this pipeline.

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 two new scoria access roads totaling approximately 875 feet. 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 McKenzie 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 would be 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 sites may also require 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, or additional NEPA analysis and BIA approval would be completed prior to their construction. To minimize potential impacts to water pipelines in the area, Marathon would consult with BOR prior to construction if any pipeline must be crossed to access the prosed project site. Other utility modifications would be identified during design and coordinated with the appropriate utility company.

Drilling operations at the proposed sites 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, or other appropriate methods that would prevent spills or seepage. 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 each of the proposed sites. If commercial operations are established at the proposed sites following drilling activities, the pumps would be checked daily and oil and water 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 sites would depend upon the productivity of the wells. A 1,000 barrel of oil per day (BOPD) well would require approximately seven tanker visits per day, while a 300 BOPD well would require approximately two visits per day.[12] If produced water were to be hauled from the sites, a tanker would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production.[13]Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate. If pipelines were to be installed, much of the traffic would be reduced.

3.15 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H_2S) gas[14] 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

[12]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 could be expected, dropping to 200 to 400 BOPD after several months.

[13]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.

[14]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.

site APDs. 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 is one residence/building within 3,000 feet of the proposed site.

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 — Saddle Butte and ONEOK have both committed to developing individual spill response plans. These response plans 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 plans would be submitted to the BIA prior to the commencement of construction activities.

Pipeline Marking Procedures — Saddle Butte and ONEOK 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 measureable 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 proliferated 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 the Fort Berthold Reservation.

According to the NDIC, as of September 11, 2012, approximately 919 active and/or confidential oil and gas wells were located within the Fort Berthold Reservation, 575 of which were located on tribal trust property under the authority of the BIA. In addition, there were approximately 1,590 active and/or confidential oil and gas wells within a 20-mile radius of the proposed well pads. Please refer to

Table 3.6, Summary of Permitted Confidential/Active Wells and *Figure 3.7, 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	6
5 mile radius	72
10 mile radius	394
20 mile radius	1,590

As mentioned previously in this EA, the Bakken 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 years of production remaining, and possibly 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 that, based on the estimated availability of the oil and gas resources, 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 on the Fort Berthold Reservation, and many more laterals connecting current and future wells are in the planning process.

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. In addition, a programmatic EA is currently being developed by the BIA that would assess the cumulative impacts of development on Fort Berthold.

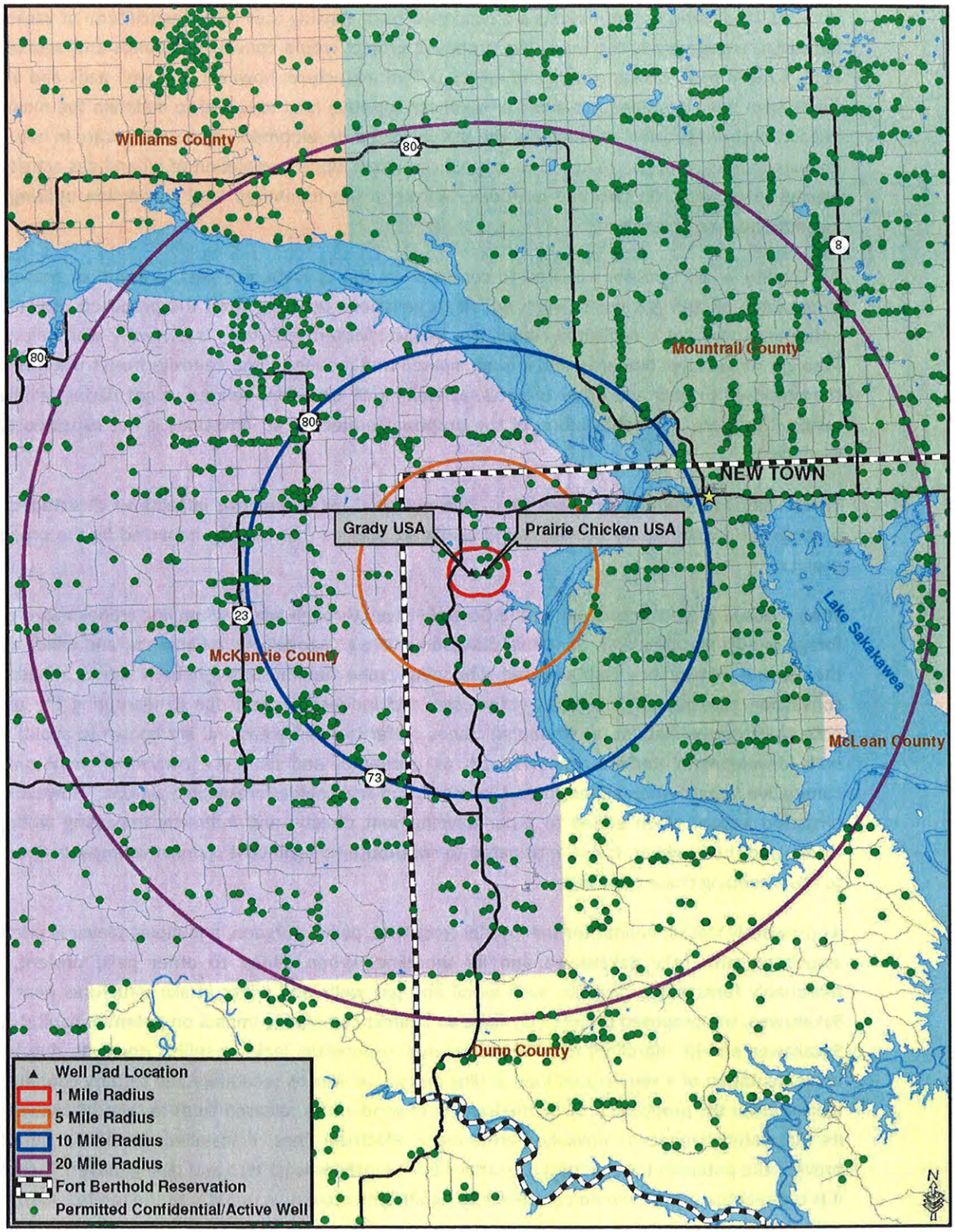


Figure 3.7, Permitted Confidential/Active Wells

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 and agricultural fields to well pads, access roads, and associated infrastructure; however, the well pads and access roads have 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 seven wells on two pad locations, Marathon has minimized land conversion utilizing two locations instead of seven.

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. McKenzie County is currently well below the 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.

The proposed project occurs within the Central Flyway through which whooping cranes migrate and forage in adjacent cropland. Continual development (e.g., agriculture, oil and gas, and wind) within the Central Flyway has compromised whooping crane habitat through both 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. Indirect impacts such as disruption and land use conversion 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 Lake Sakakawea and its shoreline. When added to other past, present, and reasonably foreseeable projects, such as oil and gas wells and water intake structures near Lake Sakakawea, the proposed project may have an indirect cumulative impact on potential habitat (Lake Sakakawea 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 Lake Sakakawea and its associated habitats is unlikely. Furthermore, electrical lines, if installed, 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 the construction of well pads, access roads, and associated development. By placing multiple wells at each 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 threaten 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 may 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 and other similar actions are 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 extent practicable further minimizes impacts to wildlife habitats and prairie ecosystems. The proposed wells have been located and designed to avoid direct impacts to 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 to 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 lengths of new access roads are commonly associated with new wells. The proposed well pads have been positioned in close proximity 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, any cumulative impacts that may result from the proposed project and other past, present, or future projects would be offset by adhering to the appropriate permitting requirements and roadway restrictions and by implementing the appropriate BMPs.

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 construction and operation activities, 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 roads and well pads 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

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. Subsoil would also be stockpiled and all disturbed areas would be re-contoured to original elevations to the extent feasible.
- BMPs such as seeding, erosion mats, and biologs would be implemented to minimize wind and water erosion of soil resources.
- The proposed well pads 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.
- Earth berms, fiber rolls, straw wattles, and/or additional BMPs would be placed in all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the site.
- A water diversion berm would be installed around all cut slopes to prevent precipitation and melt water from running onto the pads. Where BIA determines it necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes.
- The proposed wells would be cemented and cased 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, 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.

- To prevent wildlife and livestock from accessing the cuttings pits, the pits would be fenced on the non-working sides prior to their use. 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.

- Spills or leaks of chemicals and other products 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.

- Saddle Butte and ONEOK would both develop individual spill response plans to be submitted to the BIA prior to construction. The plans 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.

- Saddle Butte and ONEOK 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 FIP.

- Marathon would provide dust control for their access roads and haul roads when necessary.

- An H_2S Contingency Plan would be submitted to the BLM as part of the APD.

- In the event that a construction activity needs to occur during 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 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 sites or associated facilities while it is under construction, all work within one mile of the whooping crane's location would cease and the USFWS would be contacted immediately. In coordination with USFWS, work would resume after the bird(s) leave(s) the area.

- If a bald or golden eagle nest is sighted within 0.5 mile 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. If circumstances prevent interim reclamation activities from occurring within this timeframe, however, Marathon would contact BIA 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 manner that allows vegetation to reestablish prior to winter, the pipeline provider 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, 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 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.

- 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 or USACE-managed lands.

- The proposed well pads and access roads would be located to avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall 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 standard earth tones recommended by the BLM to blend with the natural background color of the surrounding landscape.

- Marathon would ensure that 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

KLJ prepared this EA under a contractual agreement between Marathon and KLJ. 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
KLJ	Mike Huffington	Environmental Planner	Principal Author, field resources surveys, impact assessment, exhibit creation
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Grady Wolf	Environmental Scientist	Project Manager, senior review
	Quentin Obrigewitsch	Surveyor	Site plats

4.3 Agency Coordination

To initiate early communication and coordination, an early notification 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, stakeholder comments were solicited to ensure that social, economic, and environmental effects were considered in the development of this project.

Eight responses were received by the conclusion of the 30-day comment period. The comments provided 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 will be 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

Appendix A

Agency Scoping Materials

June 14, 2012

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

RE: Marathon Oil Company
Grady and Prairie Chicken/Weasel Well Pads
Fort Berthold Reservation
McKenzie 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 two well pads (each containing up to four wells), resulting in the drilling and completion of up to eight oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Grady USA (four well) located in Section 33, T152N, R94W, 5th P.M.
- Prairie Chicken/Weasel USA (four well) located in Section 33 and 34, T152N, 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 pads have been positioned to utilize an existing access road to the extent possible. In order to utilize this existing access road, the current 50 foot right-of-way (ROW) would need to be expanded to 150 feet. This additional ROW would be used for the placement of buried utilities and snow removal. Construction of the proposed well pads and access roads 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.

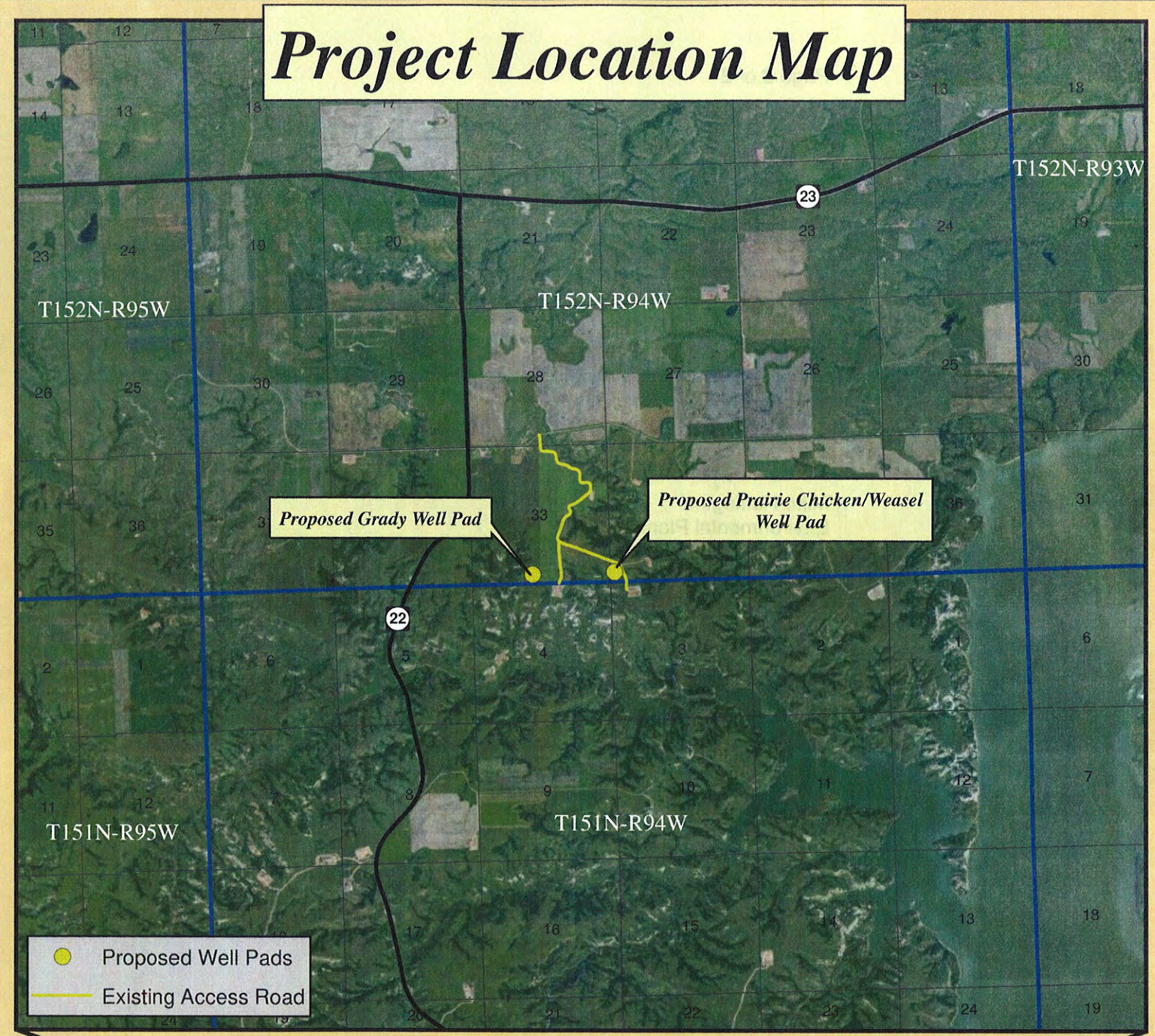
Sincerely,

Kadrmas, Lee & Jackson, Inc.

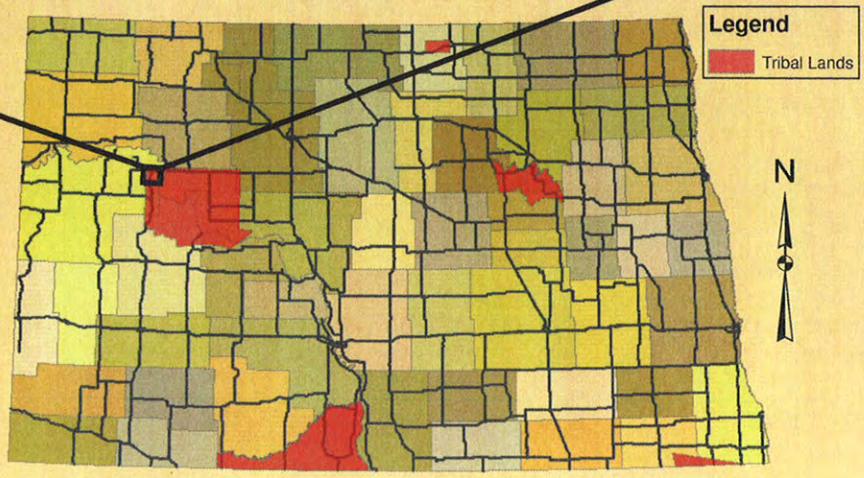
Mike Huffington
Environmental Planner

Enclosure (Project Location Map)

Project Location Map



Marathon Oil Company
Proposed Grady and Prairie Chicken/Weasel Well Pads
McKenzie 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
Grady and Prairie Chicken/Weasel Well Pads
Fort Berthold Reservation
McKenzie County, North Dakota

Dear Mr. Towner,

On behalf of Marathon Oil Company (Marathon), Kadrmas, Lee & Jackson, Inc. (KL&J) 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 two well pads (each containing up to four wells), resulting in the drilling and completion of up to eight oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Grady USA (four well) located in Section 33, T152N, R94W, 5th P.M.
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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 pads have been positioned to utilize an existing access road to the extent possible. In order to utilize this existing access road, the current 50 foot right-of-way (ROW) would need to be expanded to 150 feet. This additional ROW would be used for the placement of buried utilities and snow removal. The current running surface of the roadway would not be expanded. In addition, each well pad would require the construction of a new access road. Construction of the proposed well pads and access roads is scheduled to begin in fall 2012.

An intensive, pedestrian resource survey of each proposed well pad and access road was conducted on April 30, 2012 by KL&J. 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 well pads consisted of a 200-foot buffer around the proposed well pad disturbance area and a 200-foot wide access road corridor at each site. In addition, a 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were

evaluated using visual inspection and pedestrian transects across the sites. ***Please refer to the enclosed Study Area Map and Eagle Buffer Map.***

The BIA-facilitated EA on-site assessments of the well pads and access roads were also conducted on April 30, 2012. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office, Marathon, and KL&J were present. During these assessments, 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 well sites occur in McKenzie County, North Dakota. In McKenzie 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. McKenzie County also contains designated critical habitat for the piping plover. None of these species were observed during the field surveys and on-site assessments.

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 either of the proposed well pad sites, or along the access road corridor. Both sites occur on open rangeland that is moderately grazed by livestock, while the existing access road is bordered by cropland to the west and rangeland to the east. The proposed projects are 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 a 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 Lake Sakakawea and its shoreline depending on water elevations. Potential habitat for these species exists approximately 0.84 miles southeast of the proposed sites at the nearest point (Prairie Chicken/Weasel Well Pad), or about 2.37 miles away following the shortest drainage pattern to the Lake (Prairie Chicken/Weasel Well Pad). The well pads and access roads are located on upland bluffs of rangeland with Lake Sakakawea and its shoreline located approximately 300 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 Lake Sakakawea, located approximately 2.37 miles away following the shortest drainage pattern to the Lake (Prairie Chicken/Weasel Well Pad).

The proposed projects are located 2.37 miles from Lake Sakakawea (following the shortest drainage pattern), making the potential for significant quantities of accidentally released fluids reaching the Lake unlikely, but reasonably feasible. Storage tanks and the heater/treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Berming would be utilized around cut slopes to prevent run-on at each pad and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. 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. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to 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. There has not been a confirmed sighting of a black-footed ferret in North Dakota for over 30 years and they are presumed extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. No prairie dogs or prairie dog towns were observed in or near any of the project areas during the on-sites. Due to a lack of suitable habitat and known populations, 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 no wolves or indications of wolves were observed during the field survey. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect to 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 survey; however, the survey took place outside of the brief adult flight period for the Dakota skipper. 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 sites compared to historical conductions are unknown, as grazing patterns change, the sites may contain the prairie habitat necessary for the Sprague's pipit. No Sprague's pipit were observed during the field survey. Due to the presence of potential habitat for the Sprague's pipit within the project areas, 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 Grady well site 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 Kentucky bluegrass (*Poa pratensis*), crested wheat grass (*Agropyron cristatum*), needle and thread (*Hesperostipa comate*), fringed sage (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and prairie junegrass (*Koeleria macrantha*). Small patches of creeping juniper (*Juniperus horizontalis*) were also observed along with Missouri goldenrod (*Solidago missouriensis*). No wetlands or noxious weeds were observed within the study area. There are no threatened or endangered plant species listed for McKenzie County.

The Prairie Chicken/Weasel well site 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 Kentucky bluegrass, needle and thread, fringed sage, and common ragweed (*Ambrosia artemisiifolia)*. Little bluestem (*Schizachyrium scoparium*) and goats beard (*Tragopogon dubius*) were also observed in small patches. Minor amounts of the noxious weed Canada thistle (*Cirsium arvense*) were observed at the proposed well site. No wetlands were observed in the study area.

The existing haul road leading to the two proposed well pads was bordered by cropland to the west and disturbed rangeland to the east. Dominant rangeland plant species included smooth brome (*Bromus inermis*), Kentucky bluegrass, and crested wheatgrass. Several patches of woody vegetation also border the current roadway consisting of green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), chokecherry (*Prunus virginiana*), and silver buffaloberry (*Shepherdia argentea*). Minor amounts of Canada thistle were also present within the road side ditch. No wetland were observed within the study area.

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:

- Grady Well Pad – One turkey vulture (*Cathartes aura*)
- Prairie Chicken/Weasel Well Pad– Seven turkey vultures, one sharp-tailed grouse

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. 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. BMPs to minimize wind and water erosion of soil resources, as well as implementation of a modified closed loop mud/cuttings system with an on-site cuttings pit during drilling, would be put into practice. Earth berms, fiber rolls, straw wattles, and/or additional BMP's would be placed in or above headwaters of all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the site.

It is anticipated that construction of the proposed sites 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 construction is delayed and should occur during future migratory bird nesting and breeding seasons, a qualified biologist would conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities.

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 April 30, 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 3.50 miles southwest of the proposed Grady site. 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 Eagle well site is situated on an upland area with drainages to the south and west. 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 south of the proposed well pad. From here, it would flow in a generally southeast direction into Hunts Along Bay of Lake Sakakawea. The total traveled drainage distance from the proposed well site to Lake Sakakawea would be approximately 3.43 miles following the shortest route. The nearest wooded draw is approximately 200 feet west of the proposed well pad. Culverts

along the proposed access roads would be implemented as necessary to avoid drainage impacts. ***Please refer to the enclosed Drainage Map.***

The Prairie Chicken/Weasel well site is also situated on an upland area. Runoff from the well pad would flow overland before draining into a series of ravines located southwest and east of the proposed well pad. Runoff entering into the east drainage would continue to flow in a generally east direction before heading south and draining into Hunts Along Bay of Lake Sakakawea for a total traveled distance of approximately 2.37 miles. Runoff entering into the southwest drainage would flow in a generally south direction before heading east and draining into Hunts Along Bay for a total traveled distance of approximately 2.69 miles. The nearest wooded draw is approximately 300 feet west of the proposed well pad. Culverts along the proposed access roads would be implemented as necessary to avoid drainage impacts.

Best Management Practices: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as the use of diversion ditches, silt fences, and/or mats. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles. The alteration of drainages near the proposed well pads would be avoided. Berming would be utilized around cut slopes to prevent pad run-on, 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 each well pad would be reclaimed to further avoid environmental areas of concern.

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 at each site. 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.

- Berming would be utilized around cut slopes to prevent runoff from entering the pads and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes.
- Earth berms, fiber rolls, straw wattles, and/or additional BMP's would be placed in or above headwaters of all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the site.
- It is anticipated that construction of the proposed sites 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 construction is delayed and should occur during future migratory bird nesting and breeding seasons, a qualified biologist would conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.
- 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 either 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.
- 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. BMPs would be implemented to minimize wind and water erosion of soil resources and a modified closed loop mud/cuttings system would be used during drilling. Berming would be utilized around cut slopes to prevent run on, and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes.
- 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 utility/pipelines would be installed belowground.

- Marathon would provide dust control for their access roads and haul roads.
- All woody vegetation removed during construction would be ground and incorporated into topsoil stockpiles.

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.

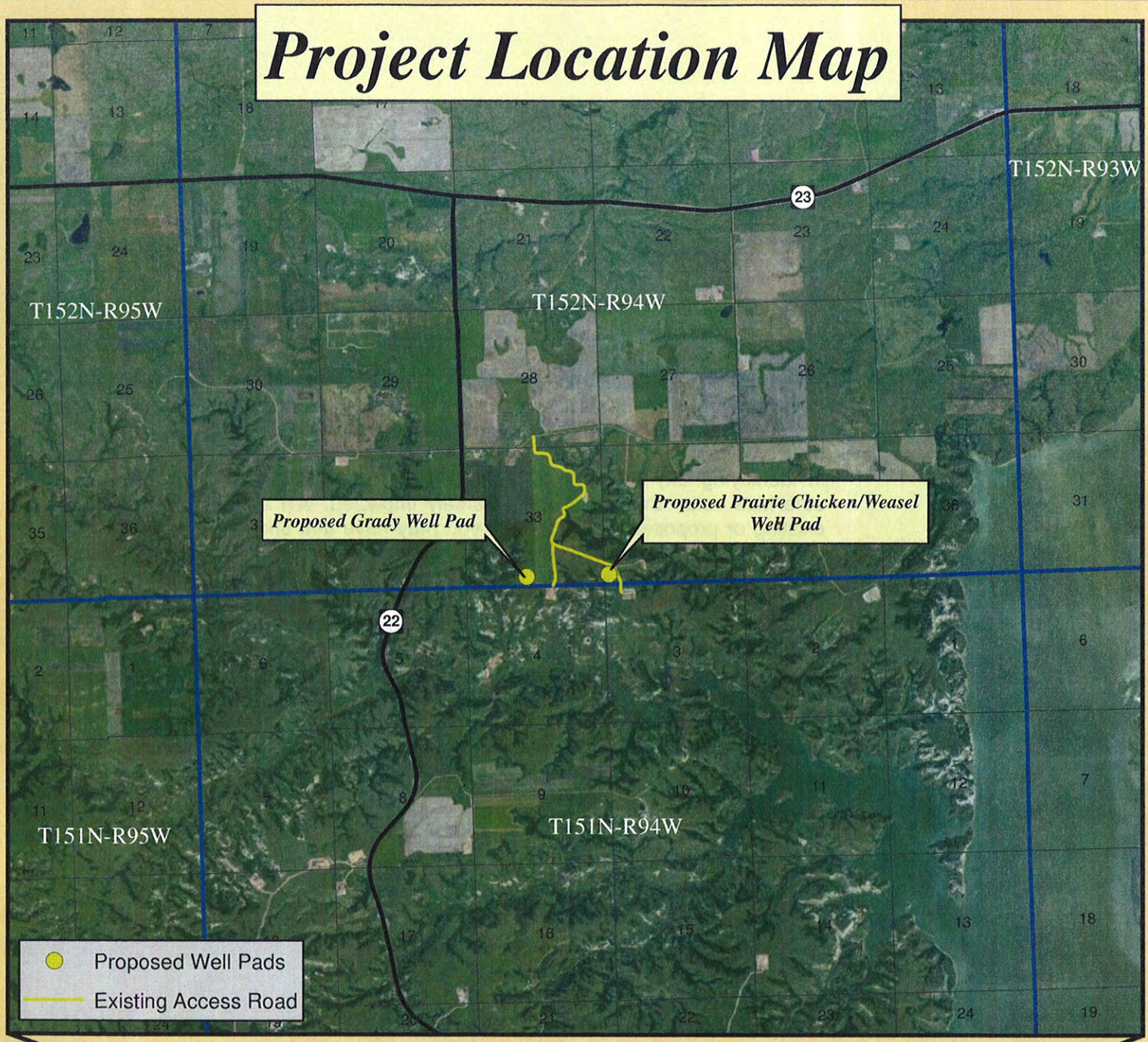
Sincerely,

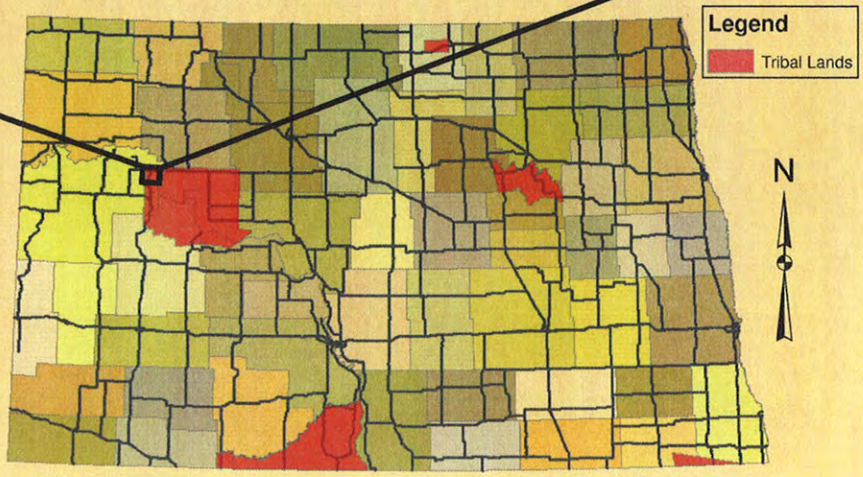
Kadrmas, Lee & Jackson, Inc.

Mike Huffington
Environmental Planner

Enclosures (Maps)

Project Location Map





Marathon Oil Company
Proposed Grady and
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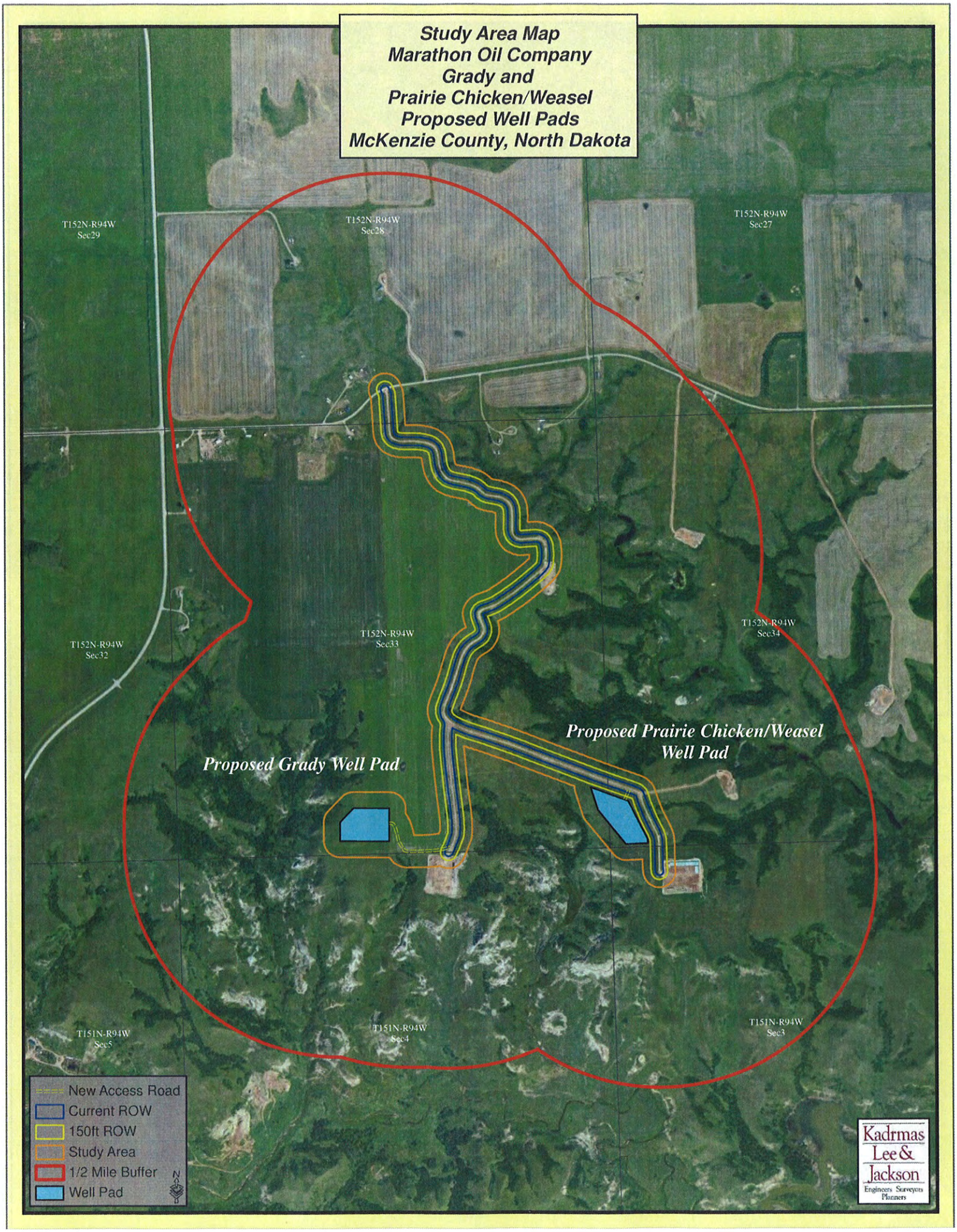
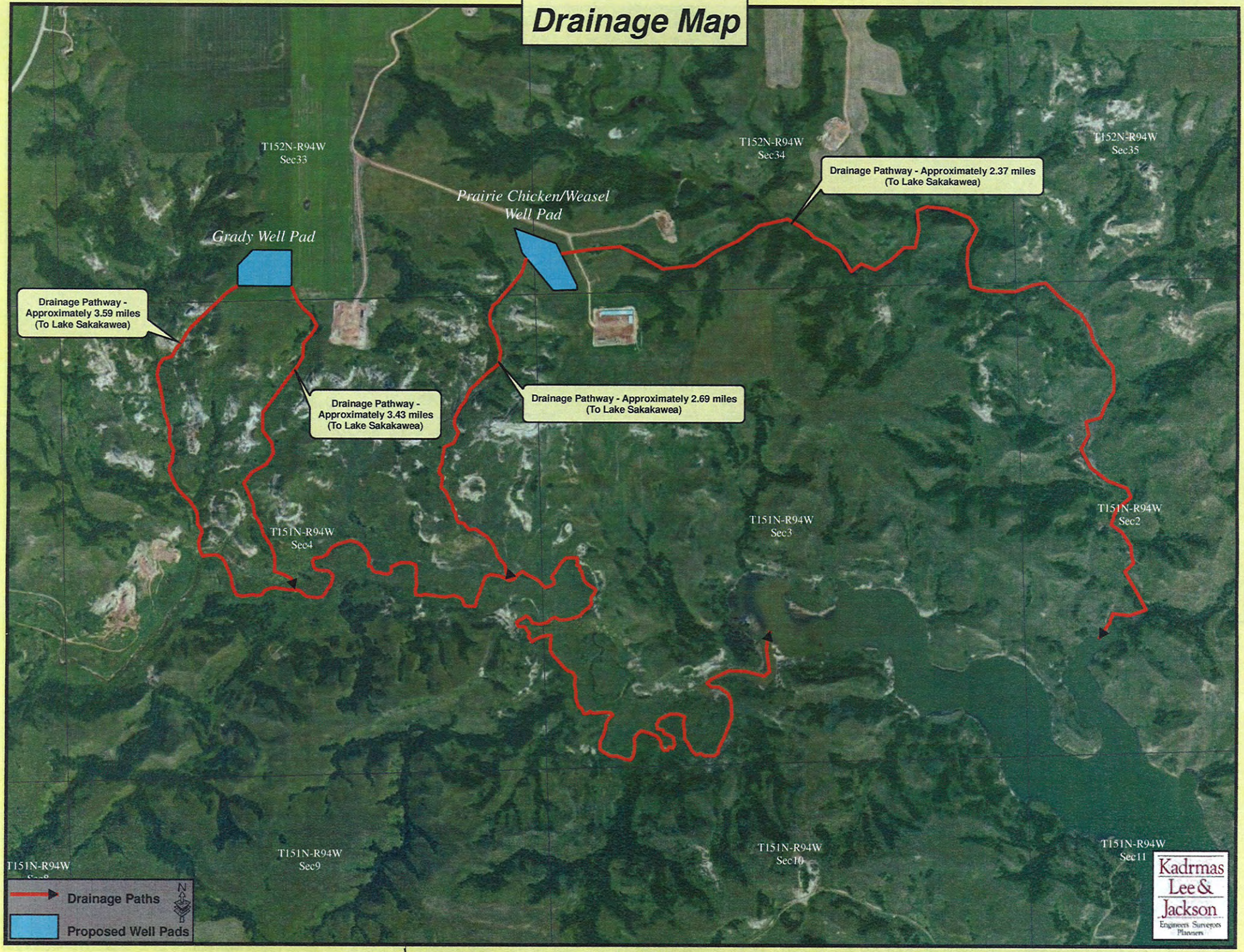
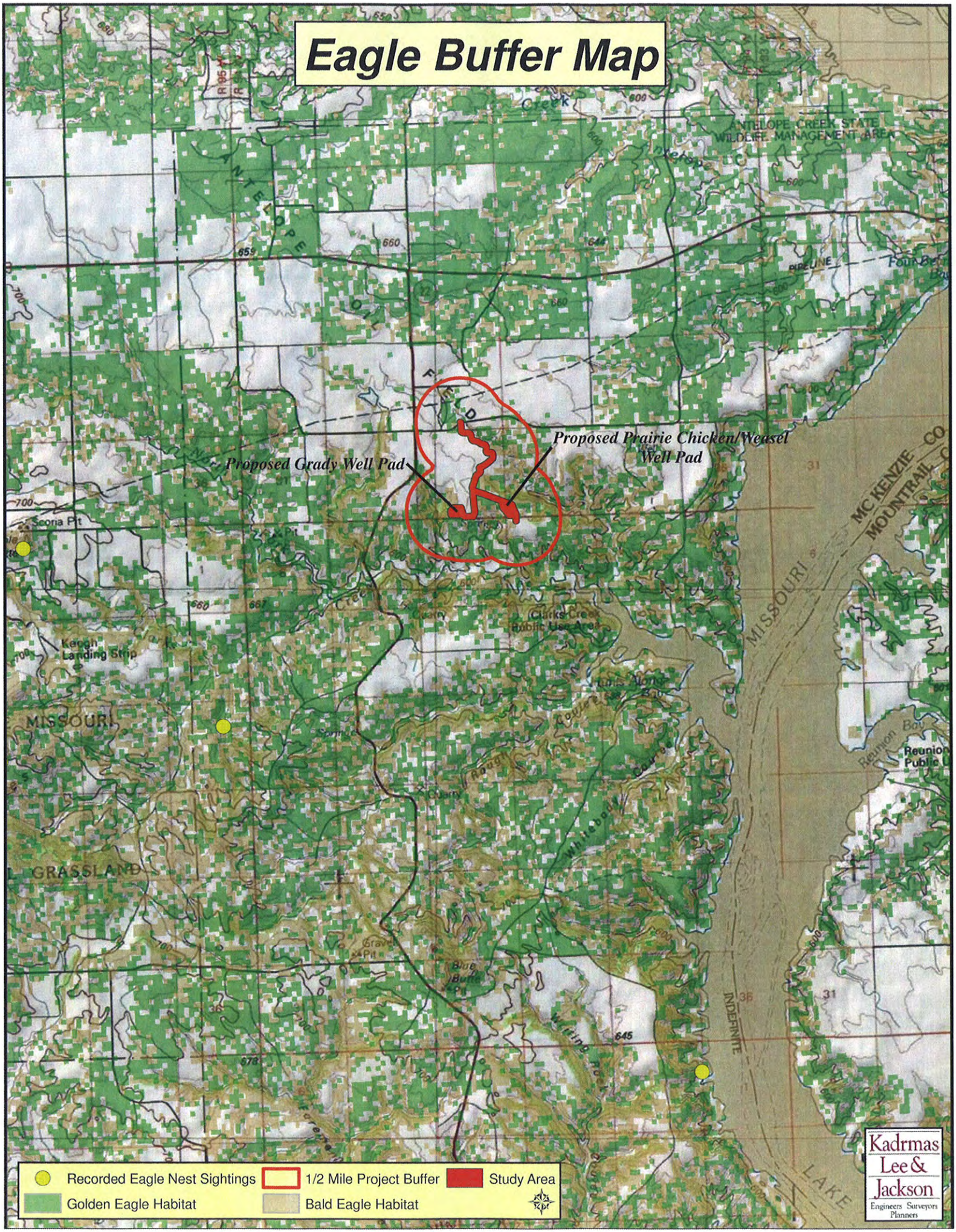
McKenzie County, ND

Kadrmas Lee & Jackson
Engineers Surveyors Planners


Study Area Map
Marathon Oil Company
Grady and
Prairie Chicken/Weasel
Proposed Well Pads
McKenzie County, North Dakota
T152N-R94W
Sec29
T152N-R94W
Sec28
T152N-R94W
Sec27
T152N-R94W
Sec32
T152N-R94W
Sec33
T152N-R94W
Sec34
T151N-R94W
Sec5
T151N-R94W
Sec4
T151N-R94W
Sec3
Proposed Grady Well Pad
Proposed Prairie Chicken/Weasel
Well Pad
New Access Road
Current ROW
150ft ROW
Study Area
1/2 Mile Buffer
Well Pad
N
Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

Drainage Map




Eagle Buffer Map
Proposed Grady Well Pad
Proposed Prairie Chicken/Weasel Well Pad
ANTELOPE CREEK STATE WILDLIFE MANAGEMENT AREA
ANTELOPE
FIELD
MISSOURI
MC KENZIE CO
MOUNTRAIL CO
Clarks Creek Public Use Area
Kergh Landing Strip
Scoria Pit
Reunion Public
INDEFINITE
GRASSLAND
Recorded Eagle Nest Sightings
1/2 Mile Project Buffer
Study Area
Golden Eagle Habitat
Bald Eagle Habitat
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Appendix B

Agency Scoping Responses

List of Scoping Responses

Marathon Oil Company

Environmental Assessment far Drilling of

Seven Oil and Gas Wells atop Two Well Pads:
Grady USA & Prairie Chicken USA

Oil & Gas Wells

Fort Berthold Indian Reservation
McKenzie 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
Grady and Prairie Chicken/Weasel Well Pads
McKenzie County, ND

Dear Mr. Huffington:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated June 14, 2012, concerning the Grady and Prairie Chicken/Weasel well pads on the Fort Berthold Reservation in McKenzie 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 two well pads (each containing up to four wells), resulting in the drilling and completion of up to eight oil and gas wells on the Fort Berthold Indian Reservation.

The Grady USA (four well) is located in Section 33, Township 152 North, Range 94 West in McKenzie County, North Dakota.

The Prarie Chicken/Weasal USA (four well) is located in Section 33 and 34, Township 152 North, Range 94 West in McKenzie 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

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 City - State - Zip -
15. LOCATION OF PROJECT Latitude: °N Longitude: °W	

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 Ave 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 two well pads(each containing up to four wells), resulting in the drilling and completion of up to eight oil and gas wells on the Fort Berthold Reservation in McKenzie 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 eight oil and gas wells appears to be located on top of a bluff that drains less than 2,500 feet into Lake Sakakawea. As previously stated, the Corps requests Marathon Oil Company consider in their EA alternative locations that would move the pad site further away from the lake. 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 Two Well Pads With Four Oil and Gas Wells Each by Marathon Oil on the Fort Berthold Reservation in McKenzie 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 33 and 34, T152N, R94W, Sanish NW, ND, McKenzie County

There are Federal, Reclamation facilities in Sections 33 and 34, 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 pads to assist you in determination of potential effects due to your proposed action (brown line indicates a road and blue lines indicate 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.

RECEIVED
JUN 29 2012
BY: JB

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.

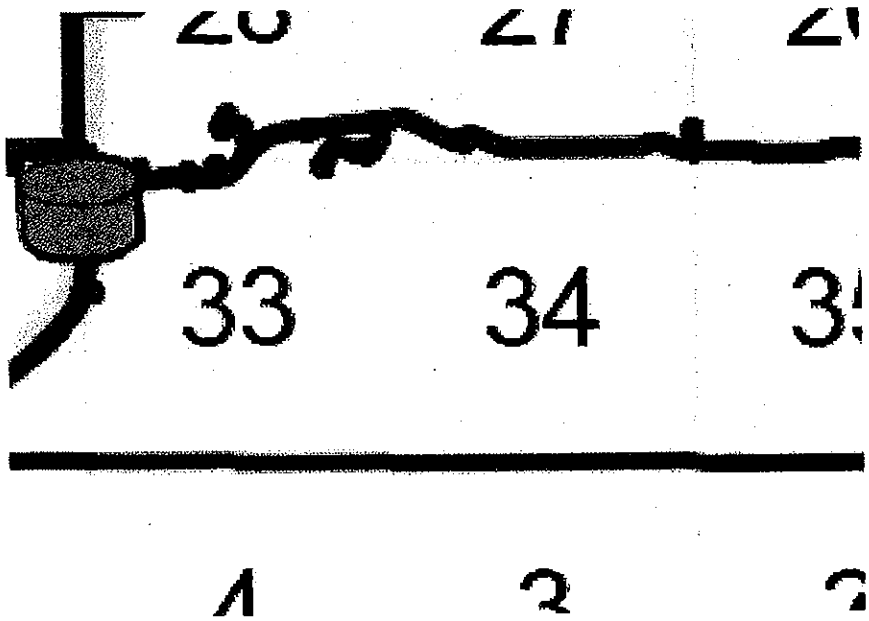
Sincerely,

Kelly B. McPhillips
Environmental Specialist

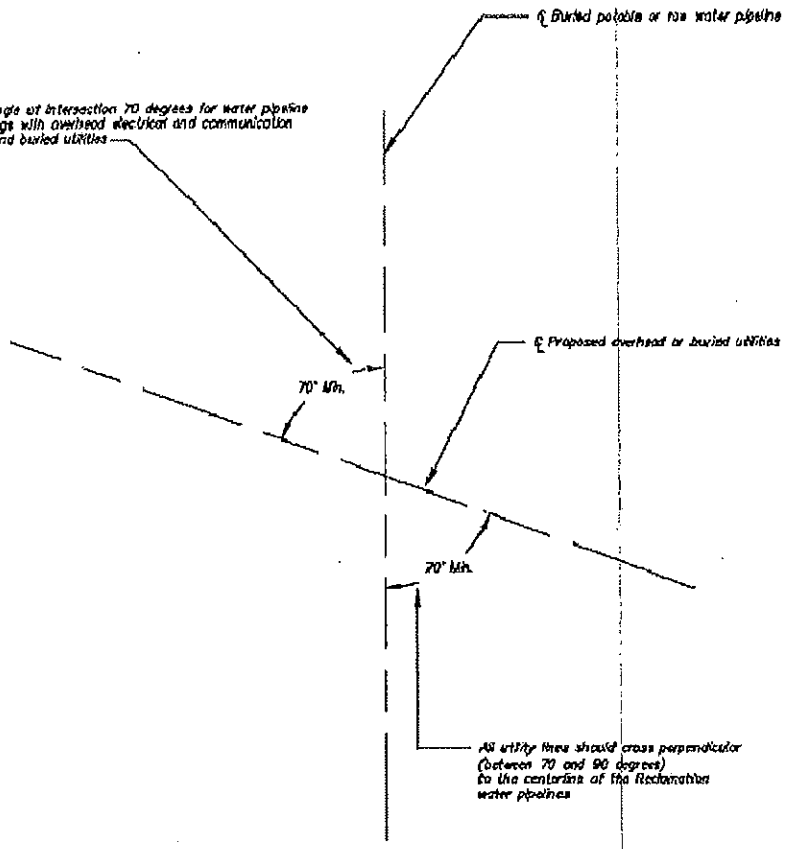
Enclosure

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

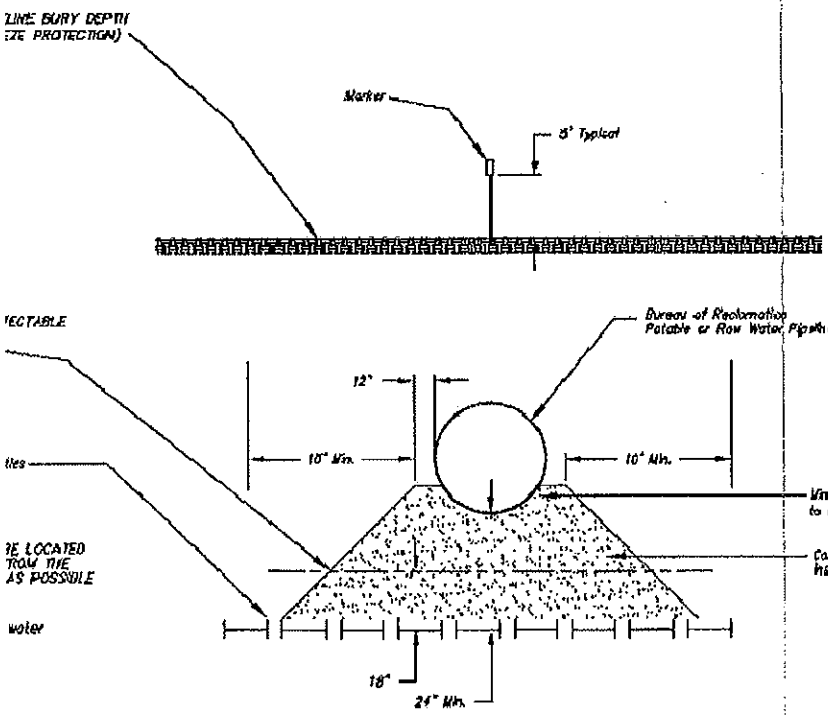
Mr. Lester Crows Heart
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763
(w/encl)



Sections 33 and 34, T152N, R94W, Sanish NW, ND, McKenzie County



CROSSING PLAN



CROSSING

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

PICK-SLOAN MISSOURI RIVER BASIN PROGRAM
GARRISON DIVERSION DIVISION
GARRISON DIVERSION UNIT, N.DAK.

M&I RURAL WATER SYSTEMS

STANDARD CROSSING AND CLEARANCE REQ.

POTABLE AND RAW WATER PIPELINES

DESIGNED R. Mehrer
DRAWN R. Mehrer
CHECKED R. Kahn
TECH. APPR. [illegible]
APPROVED [illegible]
BISMARCK, NORTH DAKOTA 07-30-2010

769-603-25480

SHEET 1 OF 1

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

MAY 31 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 two multi-well pads in McKenzie County, North Dakota. Approximately 54.4 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 that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-2072/FB/12**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Ó Donnchadha, Brian
(2012a) Grady USA Multi-Well Pad: A Class III Cultural Resource Inventory in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

(2012b) Weasel USA Multi-Well Pad: A Class III Cultural Resource Inventory in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, 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,

Regional Director

Enclosures

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

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

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

Project as described will have no sig
impact on fish and wildlife resources.
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

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
Grady and Prairie Chicken/Weasel Well Pads
Fort Berthold Reservation
McKenzie 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 two well pads (each containing up to four wells), resulting in the drilling and completion of up to eight oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Grady USA (four well) located in Section 33, T152N, R94W, 5th P.M.
- Prairie Chicken/Weasel USA (four well) located in Section 33 and 34, T152N, 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 pads have been positioned to utilize an existing access road to the extent possible. In order to utilize this existing access road, the current 50 foot right-of-way (ROW) would need to be expanded to 150 feet. This additional ROW would be used for the placement of buried utilities and snow removal. The current running surface of the roadway would not be expanded. In addition, each well pad would require the construction of a new access road. Construction of the proposed well pads and access roads is scheduled to begin in fall 2012.

An intensive, pedestrian resource survey of each proposed well pad and access road was conducted on April 30, 2012 by KL&J. 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 well pads consisted of a 200-foot buffer around the proposed well pad disturbance area and a 200-foot wide access road corridor at each site. In addition, a 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were evaluated using visual inspection and pedestrian transects across the sites. ***Please refer to the enclosed Study Area Map and Eagle Buffer Map.***

The BIA-facilitated EA on-site assessments of the well pads and access roads were also conducted on April 30, 2012. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office, Marathon, and KL&J were present. During these assessments, 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

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

Grady and Prairie Chicken/Weasel Well Pads
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)

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 Grady USA and Prairie Chicken/Weasel USA Well Pads
Fort Berthold Reservation, McKenzie 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, Grady and Prairie Chicken/Weasel Well Pads, Fort Berthold Reservation, McKenzie County, ND. Grady USA (four well) located in Section 33, T152N, R94W, 5th P.M. Prairie Chicken/Weasel USA (four well) located in Section 33 and 34, T152N, 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 McKenzie County relative to the National Flood Insurance Program.

- 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

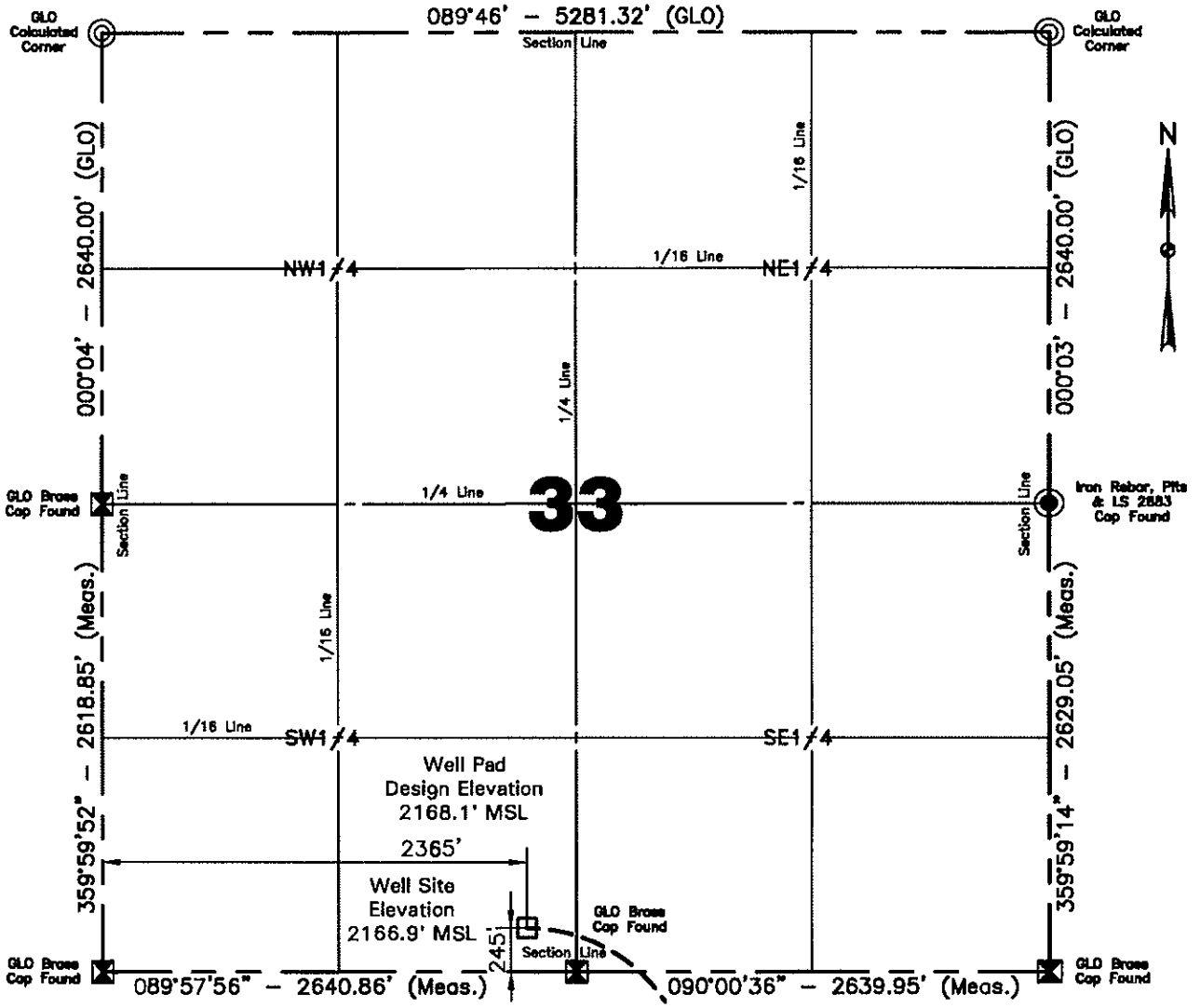
LW:dp/1570

Appendix C

Well Pad Plats

WELL LOCATION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Grady USA 31-4TFH
245 feet from the south line and 2365 feet from the west line (surface location)
Section 33, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1980 feet from the east line (bottom location)
Section 9, T. 151 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – 550A
NAD 83 Latitude 47°56'06.031" North; Longitude 102°43'09.094" West (surface location)
NAD 27 Latitude 47°56'05.966" North; Longitude 102°43'07.418" West (surface location)
NAD 83 Latitude 47°54'22.059" North; Longitude 102°42'55.394" West (bottom location)
NAD 27 Latitude 47°54'21.997" North; Longitude 102°42'53.716" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96) Converted to NAD-27]



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I, Myron J. Kadrmas, Professional Land Surveyor, N.D. No. 3758, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

NOTE: All land corners are assumed unless otherwise noted. The well location shown hereon is not an as-built location.

MYRON J. KADRMAS REGISTERED LAND SURVEYOR L.S. 3758 8-31-12 NORTH DAKOTA

Justin Semerad 4/10/2012
Surveyed By Date

Scale 1"=1000'

Vertical Control Datum Used
North American Vertical Datum 1988 (NAVD 88)
Based on elevation derived from OPUS Solution on GPS°32 (iron rebar) Located a distance of 2196.35' on an azimuth of 343°54'01" from the SW corner of Section 33 T.152N., R.94W., 5th P.M. being at 2192.82' Elevation MSL.

Project No. 37121049
Book OW-289 Pg. 25-28 Staking

Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-483-2795
Bus. Phone No. 701-483-1284
P.O. Box 290
677 27th Ave. East
Dickinson, North Dakota 58802
Certificate of Authorization #C-061

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:31pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS01.dwg

HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Grady USA 31-4TFH
245 feet from the south line and 2365 feet from the west line (surface location)
Section 33, T. 152 N., R. 94 W., 5th P.M.
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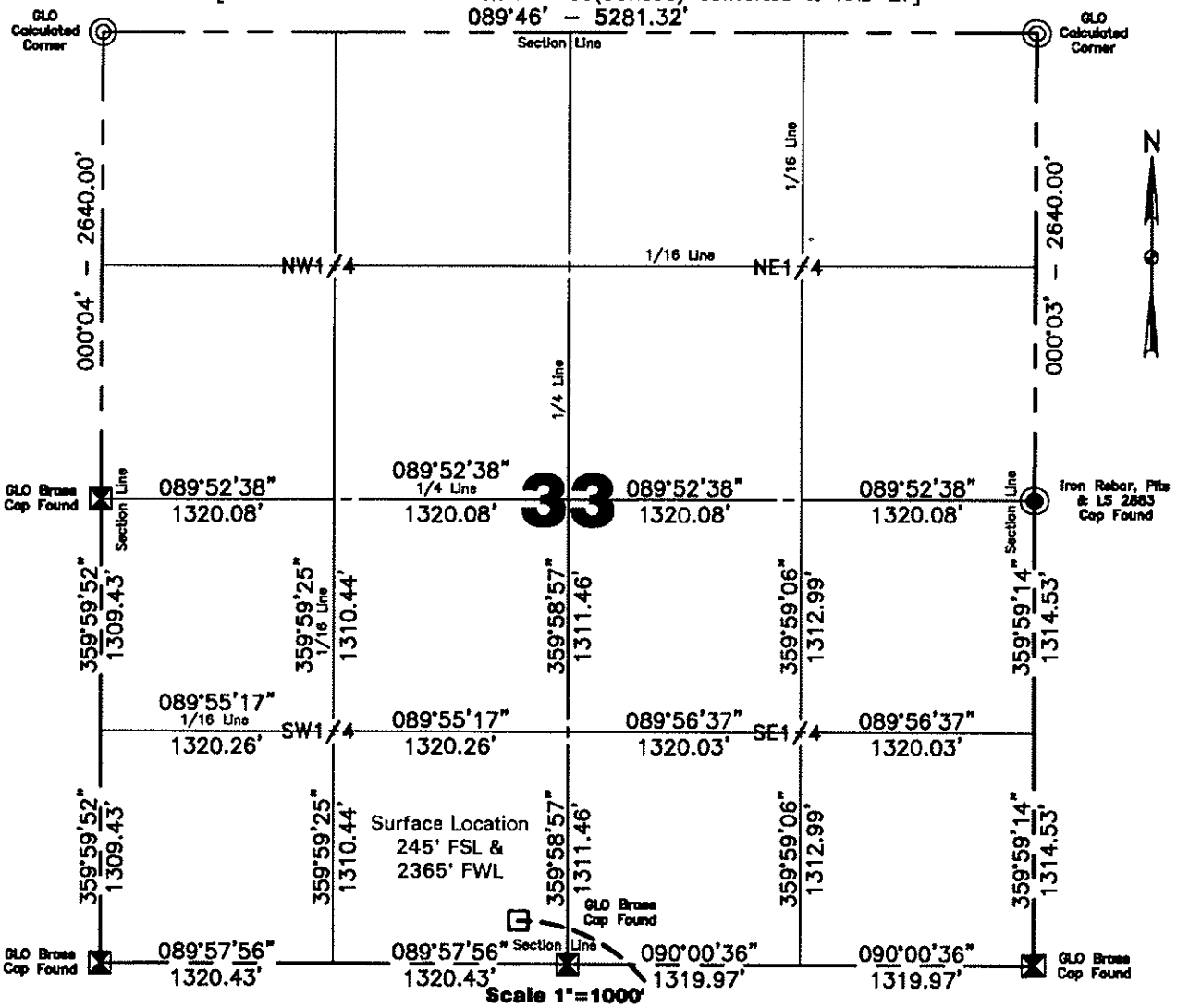

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MYRON J. KADRMAS
REGISTERED LAND SURVEYOR
L.S. 3758
8-31-12
NORTH DAKOTA

All corners shown on this plat were found in the field during Marathon Oil Company, Grady USA 31-4TFH oil well survey on April 10, 2012. Distances to all others are calculated. All azimuths are based on the south line of the southwest quarter of Section 33, being on an azimuth of 089°57'56".

Surveyed By	Field Book
J. Semerad	OW-289
Computed & Drawn By	Project No.
A. Stumpf	37121049

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:31pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS01.dwg

HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Grady USA 31-4TFH
245 feet from the south line and 2365 feet from the west line (surface location)
Section 33, T. 152 N., R. 94 W., 5th P.M.
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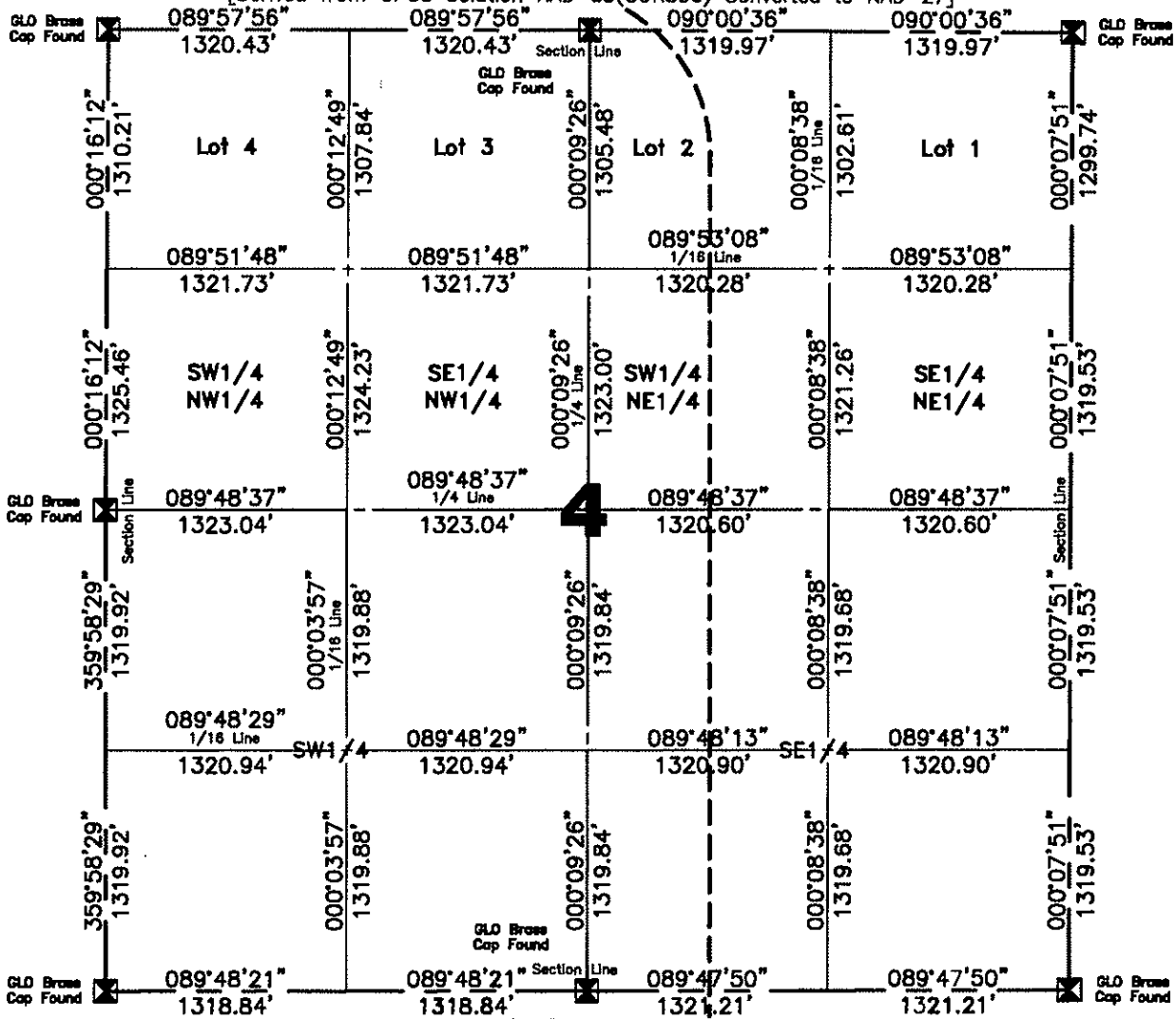

Scale 1"=1000'

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MYRON J. KADRMAS
REGISTERED LAND SURVEYOR
L.S. 3758
8-31-12
NORTH DAKOTA

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Surveyed By	Field Book
J. Semerad	OW-289
Computed & Drawn By	Project No.
A. Stumpf	37121049

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Grady USA 31-4TFH
245 feet from the south line and 2365 feet from the west line (surface location)
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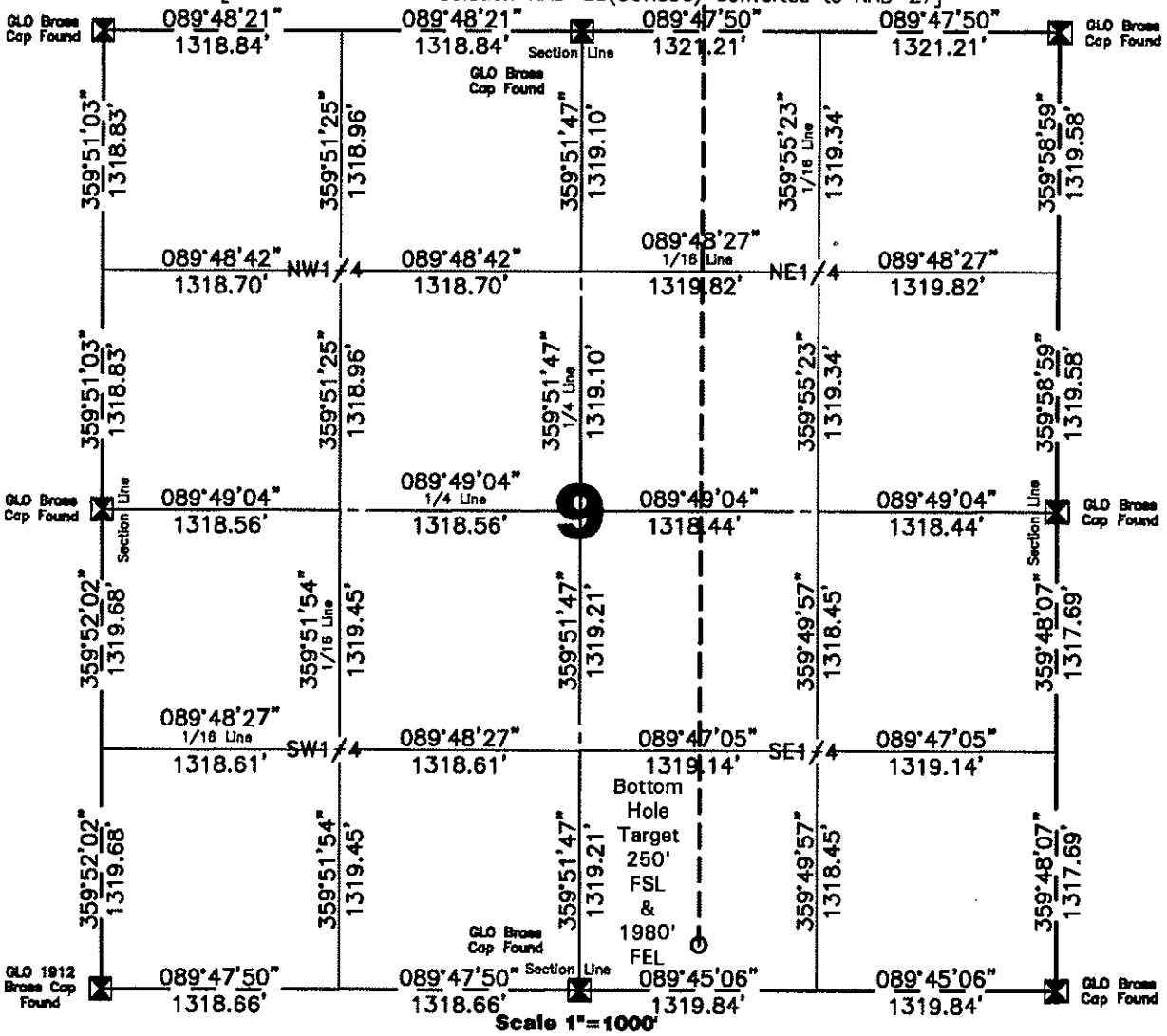

Scale 1"=1000'

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All corners shown on this plat were found in the field during Marathon Oil Company, Grady USA 31–4TFH oil well survey on April 10, 2012. Distances to all others are calculated. All azimuths are based on the south line of the southwest quarter of Section 33, being on an azimuth of 089°57'56".

MYRON J. KADRMAS
REGISTERED LAND SURVEYOR
L.S. 3758
8-31-12
NORTH DAKOTA

Surveyed By	Field Book
J. Semerad	OW–289
Computed & Drawn By	Project No.
A. Stumpf	37121049

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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BOTTOM HOLE LOCATION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Grady USA 31-4TFH
245 feet from the south line and 2365 feet from the west line (surface location)
Section 33, T. 152 N., R. 94 W., 5th P.M.
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McKenzie County, North Dakota
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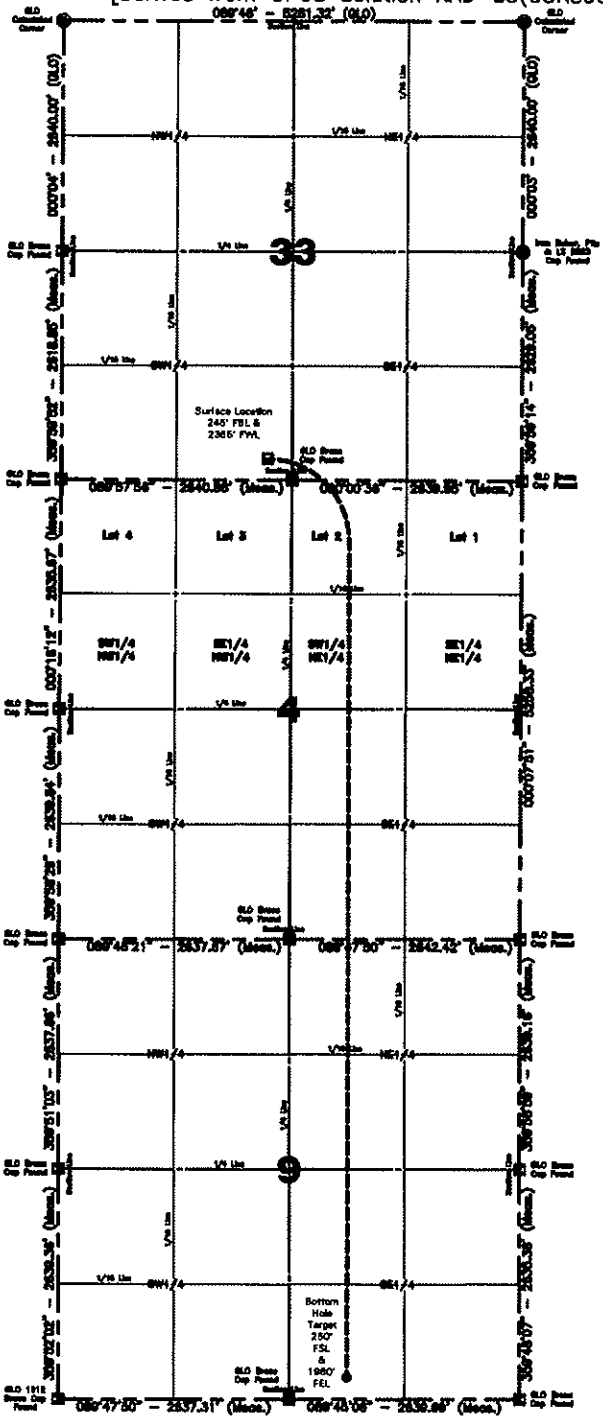

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Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

N

Scale 1"=2200'

I, Myron J. Kadrmas, Professional Land Surveyor, N.D. No. 3758, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

MYRON J. KADRMAS
REGISTERED LAND SURVEYOR
L.S. 3758
8-31-12
NORTH DAKOTA

Computed & Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=2200'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	B.H. Layout	–	37121049	5

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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Marathon Oil Company
Grady USA 31-4TFH
Section 33, T 152 N, R 94 W, 5th P.M.
McKenzie County, North Dakota

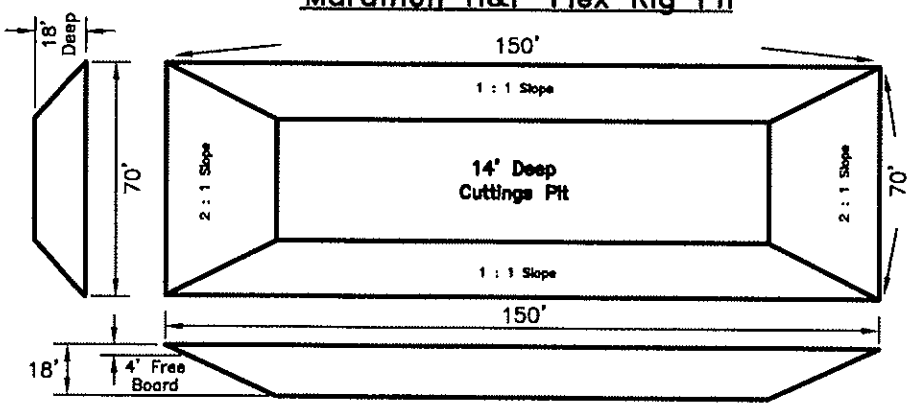
Well Site Elevation 2166.9' MSL
Well Pad Elevation 2168.1' MSL

Excavation	17,780 C.Y.
Plus Pit	7,080 C.Y.
	24,860 C.Y.
Embankment	7,635 C.Y.
Plus Shrinkage (+30%)	2,290 C.Y.
	9,925 C.Y.
Stockpile Pit	7,080 C.Y.
Stockpile Top Soil (8")	6,515 C.Y.
Road Embankment & Stockpile from Pad	1,340 C.Y.
Disturbed Area From Pad – 550A	6.06 Acres
Area Inside Barbed Wire Fence (Drilling) – 550A	8.00 Acres
Area Inside Barbed Wire Fence (Production) – 550A	7.00 Acres
Area Inside Barbed Wire Fence (Drilling) – 520A	1.00 Acres

NOTE: – All Fill End Slopes Are Designed With 3:1 Slopes To Be Seeded With S31 Erosion Control Blanket Installed.
– All Cut End Slopes Less Than 8' Are Designed With 2:1 Slopes & Greater Than 8' Are Designed With 3:1 Slopes.
– Build Water Diversion Trench With Berm Along Cut Slopes.
– All Stockpiles Are To Be Built At 3:1 Slopes.

Well Site Location
245' FSL
2365' FWL

Marathon H&P Flex Rig Pit



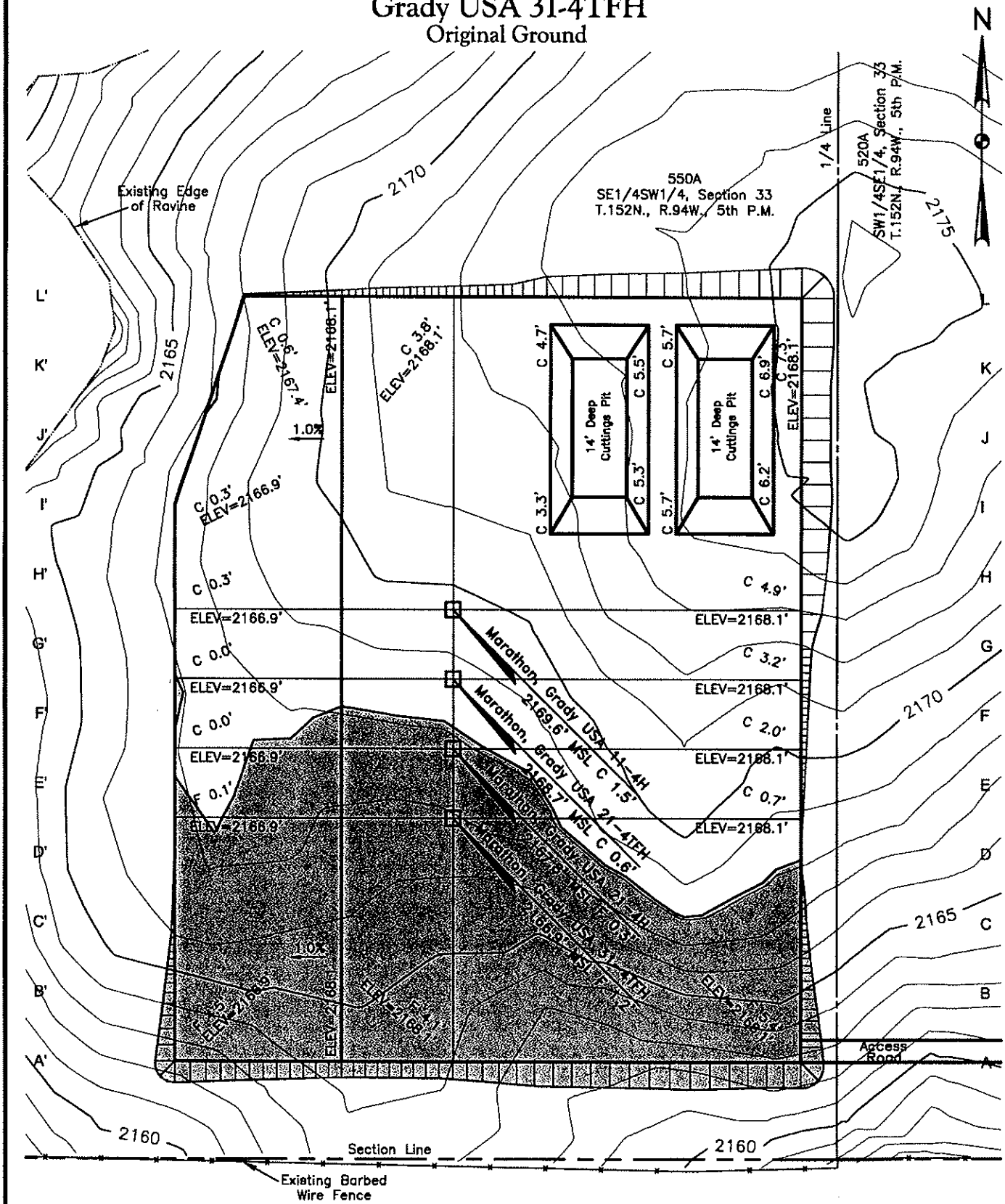
Drawn By: A. Stumpf	Surveyed By: J. Semerad	Approved By: M.J. Kadrmas	Scale: None	Date: 8/21/2012
Field Book: OW–289	Material: Quantities	Revised: –	Project No.: 37121049	Drawing No.: 6

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:32pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS02.dwg

Grady USA 31-4TFH

Original Ground



Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Original Ground	–	37121049	7

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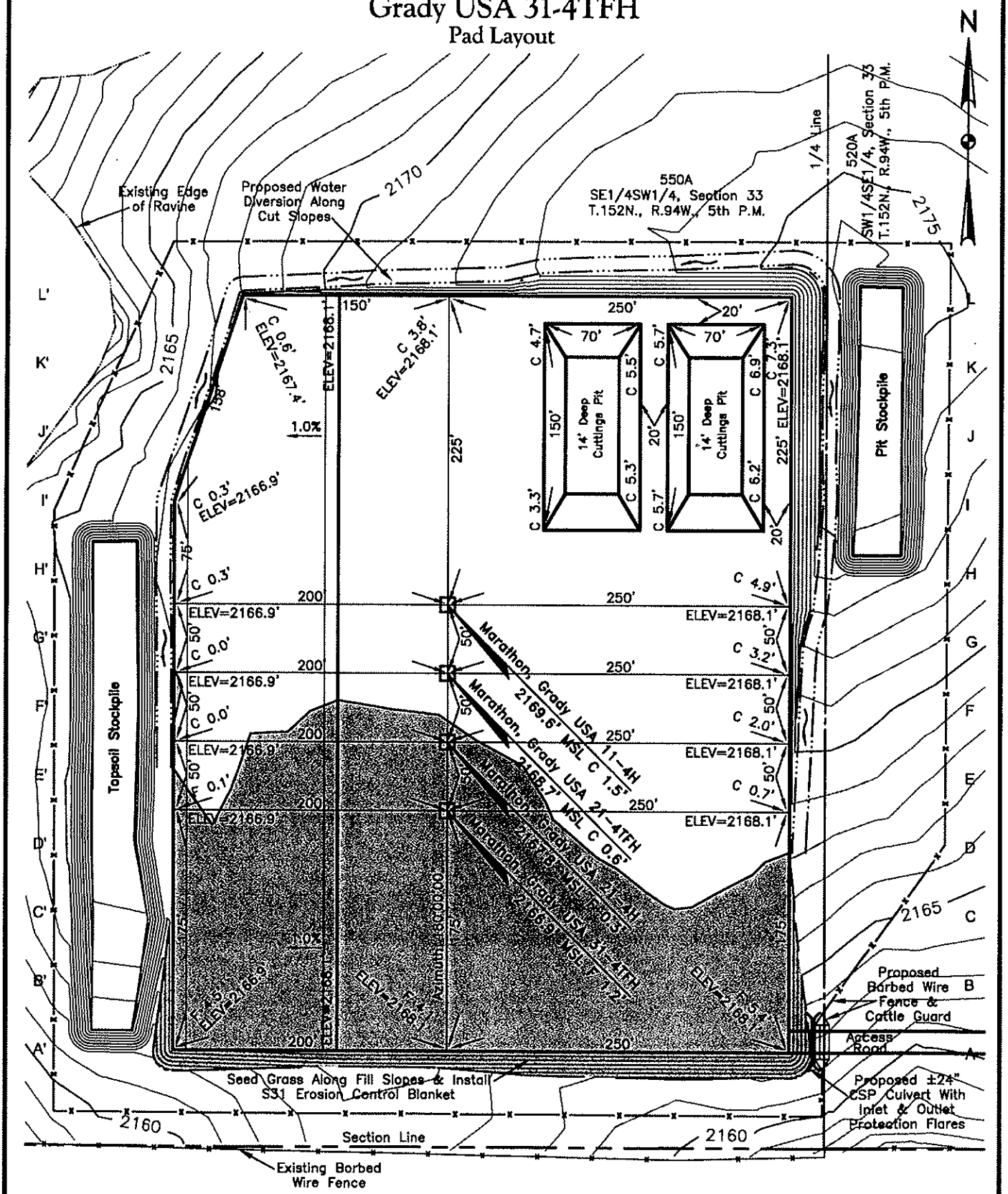
Engineers Surveyors Planners

Grady USA 31-4TFH

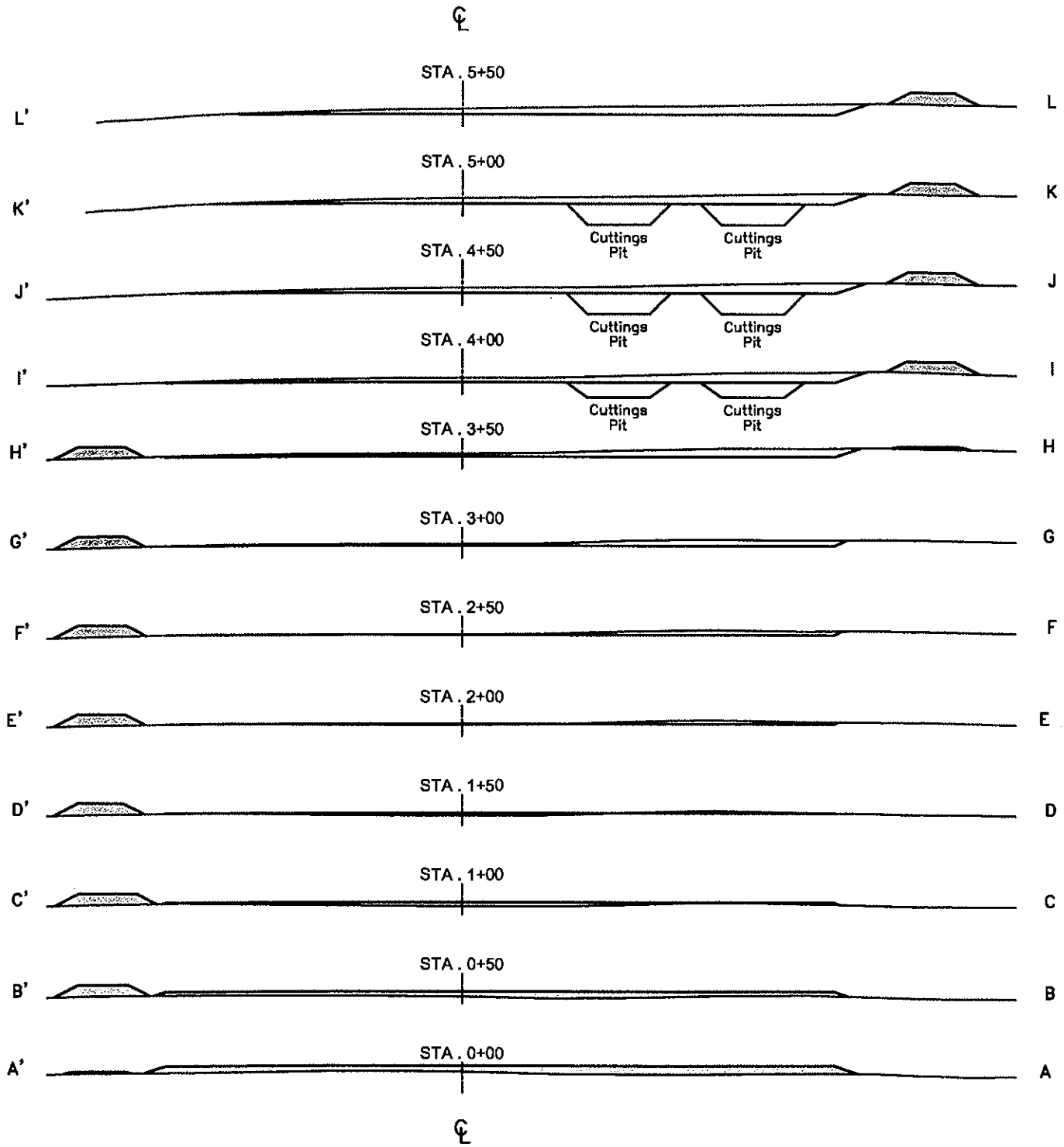
Pad Layout



Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Pad Layout	–	37121049	8

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Grady USA 31-4TFH
Cross Sections

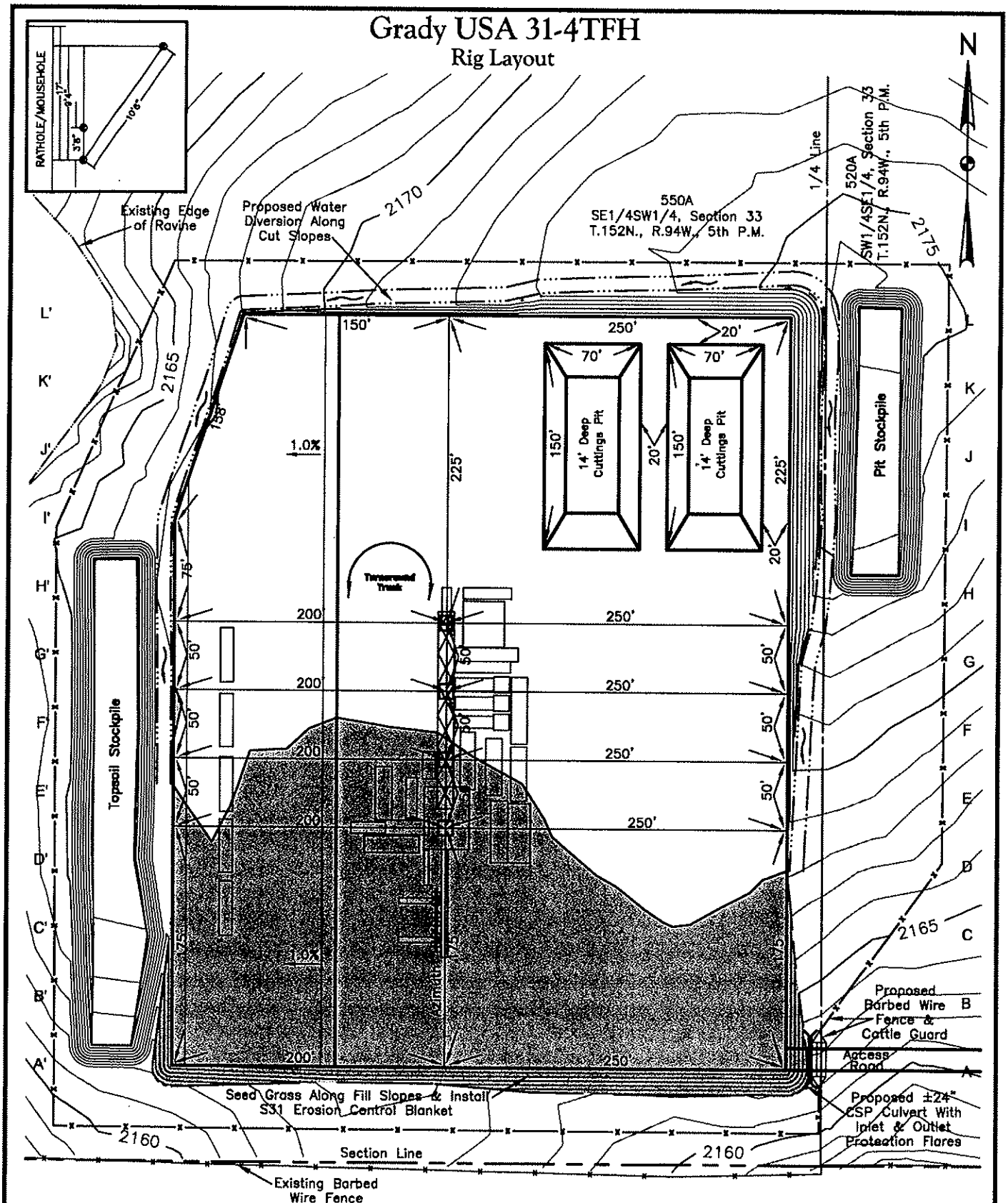


Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Cross Sections	–	37121049	9

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Grady USA 31-4TFH

Rig Layout



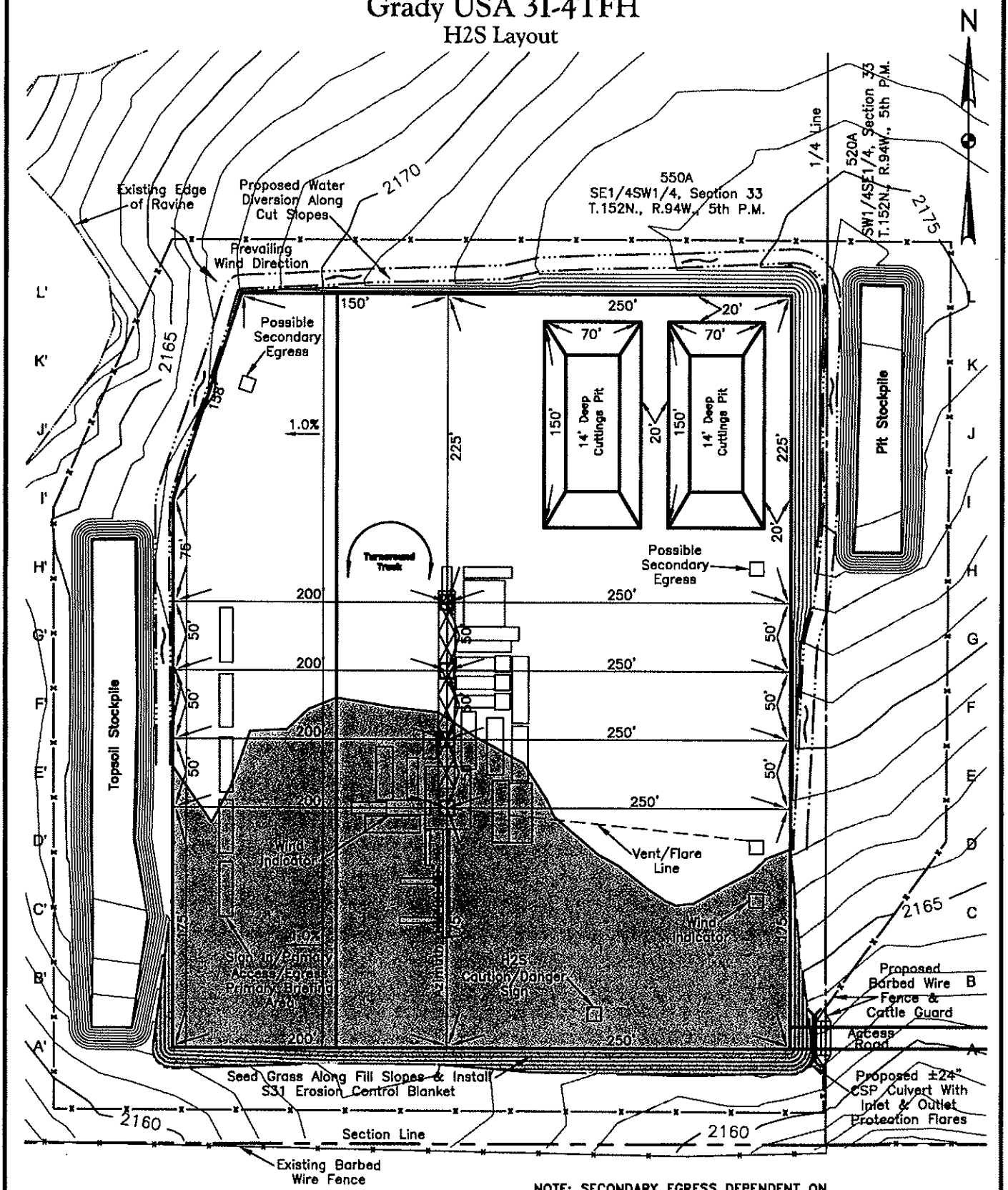
Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Rig Layout	–	37121049	10

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:34pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS02.dwg

Grady USA 31-4TFH

H2S Layout



NOTE: SECONDARY EGRESS DEPENDENT ON SITE CONDITIONS AND WIND DIRECTION. DISCUSSED @ BEGINNING OF EVERY SHIFT CHANGE OR CHANGE IN CONDITIONS.

Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	H2S Layout	–	37121049	11

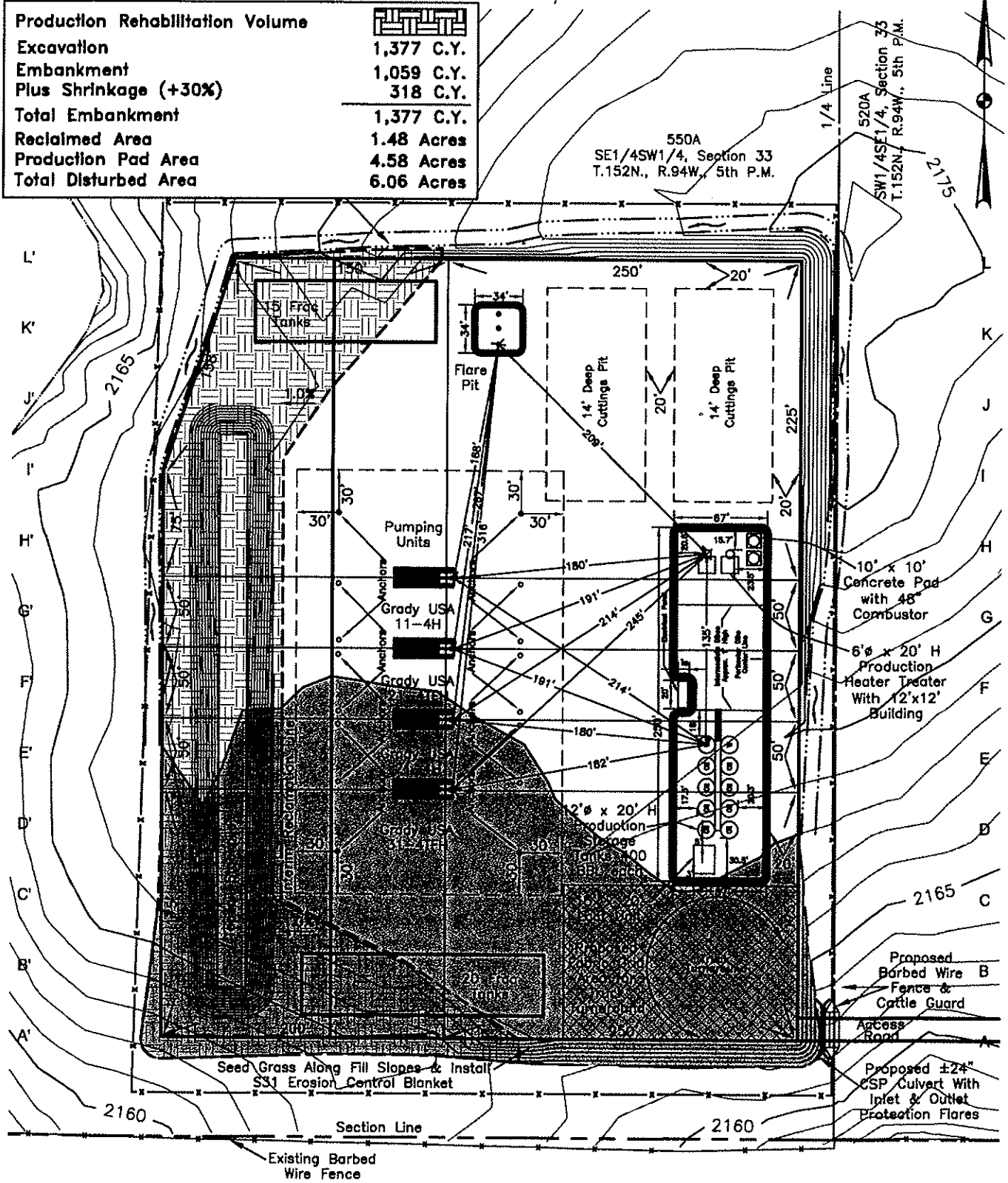
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:34pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS02.dwg

Grady USA 31-4TFH

Production Layout

Production Rehabilitation Volume	
Excavation	**1,377 C.Y.**
Embankment	**1,059 C.Y.**
Plus Shrinkage (+30%)	**318 C.Y.**
Total Embankment	**1,377 C.Y.**
Reclaimed Area	**1.48 Acres**
Production Pad Area	**4.58 Acres**
Total Disturbed Area	**6.06 Acres**

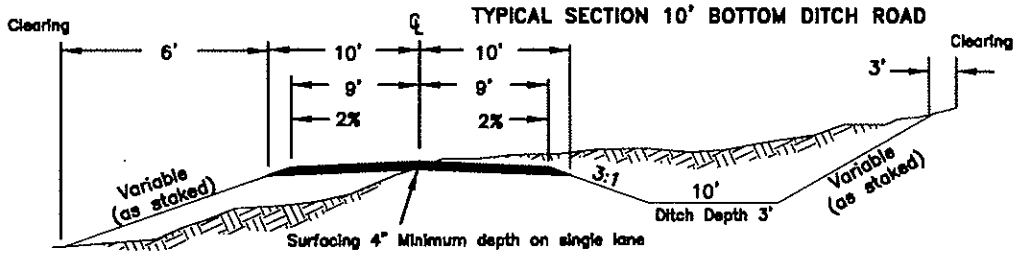


Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Prod Layout	–	37121049	12

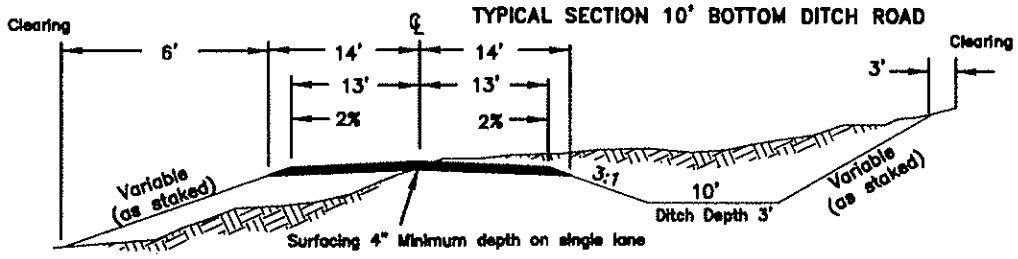
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:35pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS02.dwg

Grady USA 31-4TFH
Roadway Typical Sections



TYPICAL "A"
No Scale



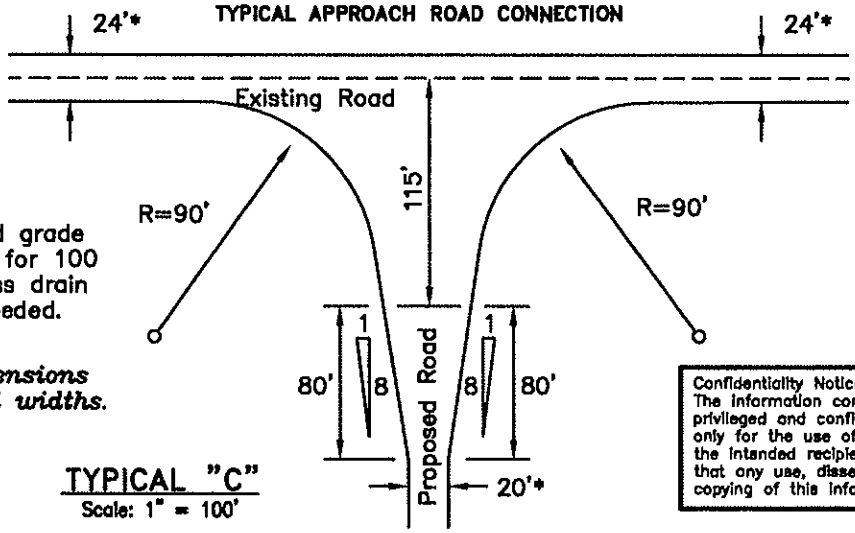
TYPICAL "B" SECTION LINE
No Scale

FILL SLOPES
3:1 Under 4' Height
2:1 Over 4' Height
(-) Slopes steeper than 2:1 will be subject to FS approval

FILL WIDENING
2' to 5' high/add 1'
Over 5' high/add 2'

CURVE WIDENING
130 / R

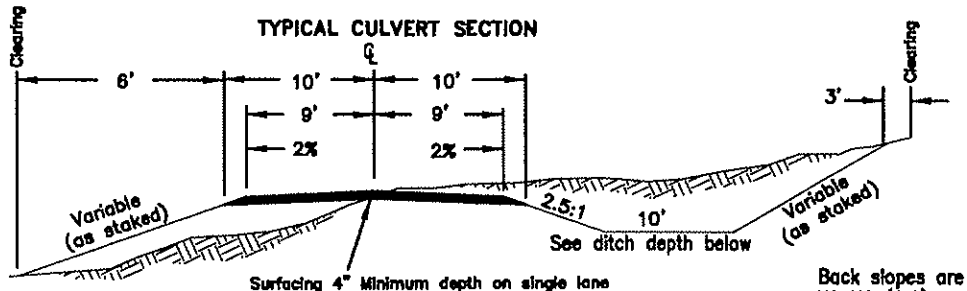
CUT SLOPES
3:1 Under 10' height
2:1 10' to 20' height
(-) Variable over 20' height W/FS approval



Approach road grade 2% maximum for 100 ft. Install cross drain pipe where needed.

***NOTE:* *Dimensions are surfaced widths.**

TYPICAL "C"
Scale: 1" = 100'



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'

Fill slopes are V1 H1.5 (1.5:1) or as staked

Back slopes are V1 H1 (1:1) or as staked

TYPICAL "D"
No Scale

Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	None	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Road Typical	–	37121049	13

Kadrmas Lee & Jackson
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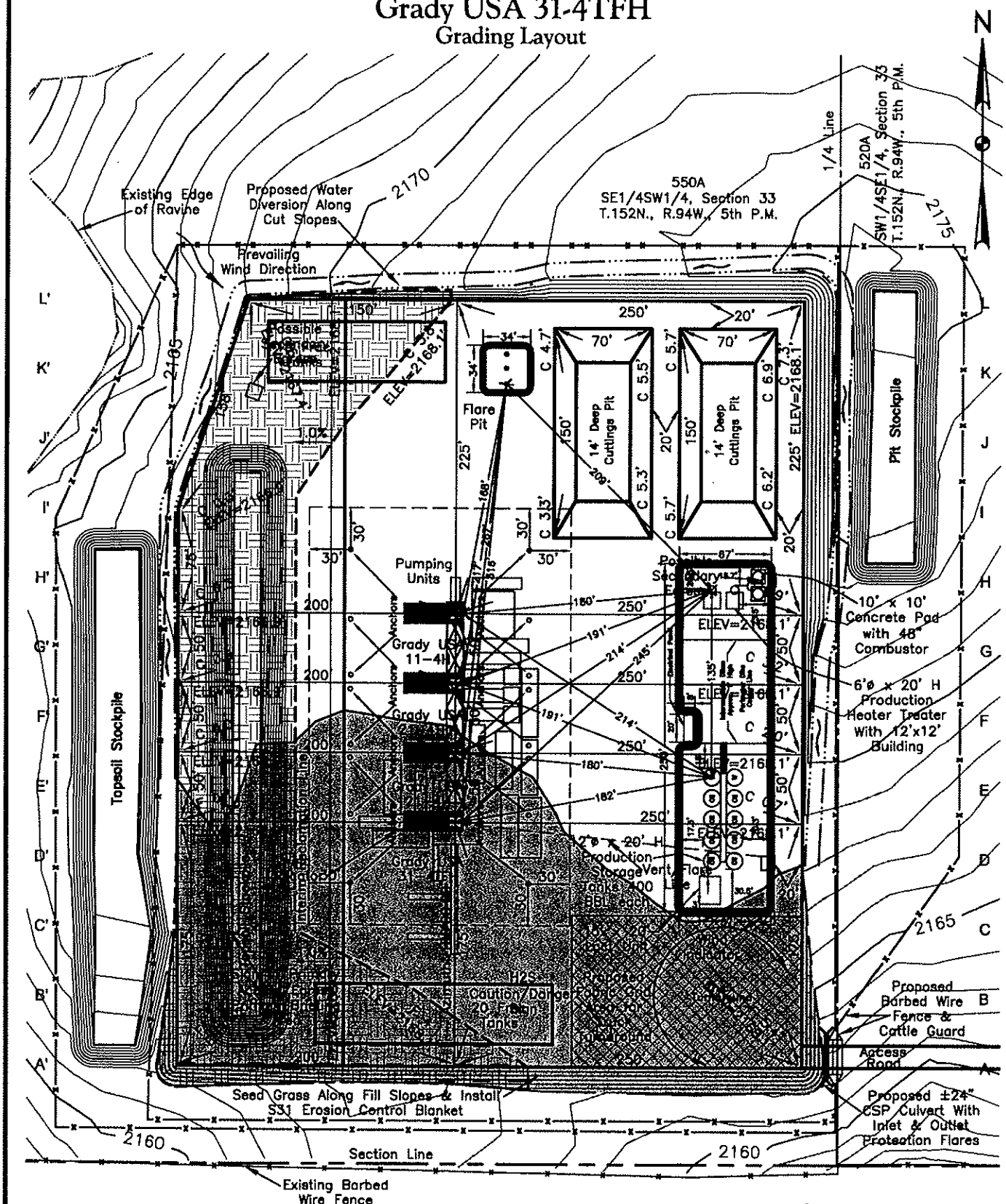
Grady USA 31-4TFH

Grading Layout

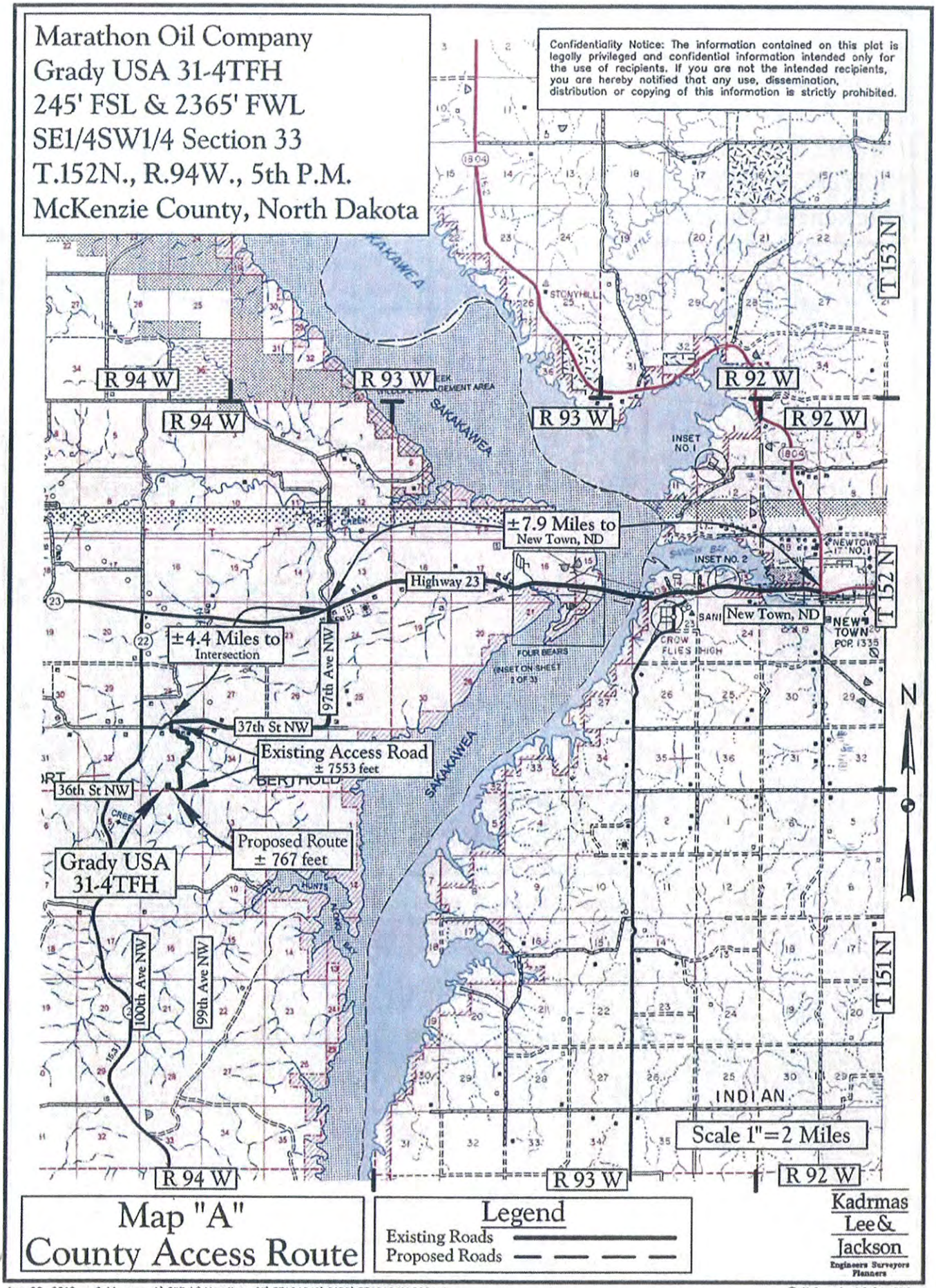


NOTE: SECONDARY EGRESS DEPENDENT ON SITE CONDITIONS AND WIND DIRECTION. DISCUSSED @ BEGINNING OF EVERY SHIFT CHANGE OR CHANGE IN CONDITIONS.

Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	M.J. Kadrmas	1"=100'	8/21/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Grading Layout	–	37121049	14

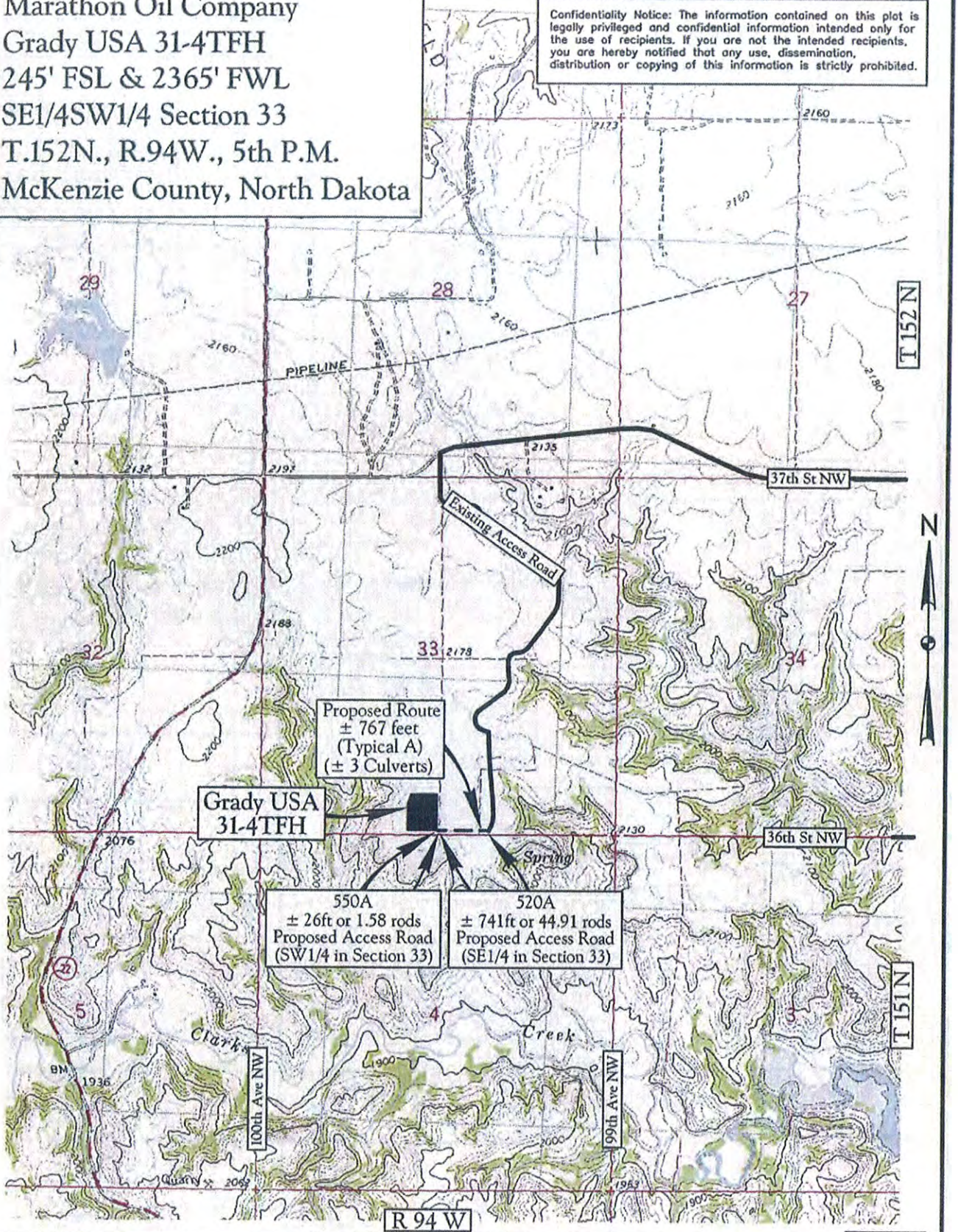
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 4:35pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049BAS02.dwg



Aug 28, 2012 - 9:11am - J:\Oilfield\Marathon Oil\37121049\CADD\37121049LOC01.dwg

Marathon Oil Company
Grady USA 31-4TFH
245' FSL & 2365' FWL
SE1/4SW1/4 Section 33
T.152N., R.94W., 5th P.M.
McKenzie County, North Dakota



Map "B"
Quad Access Route

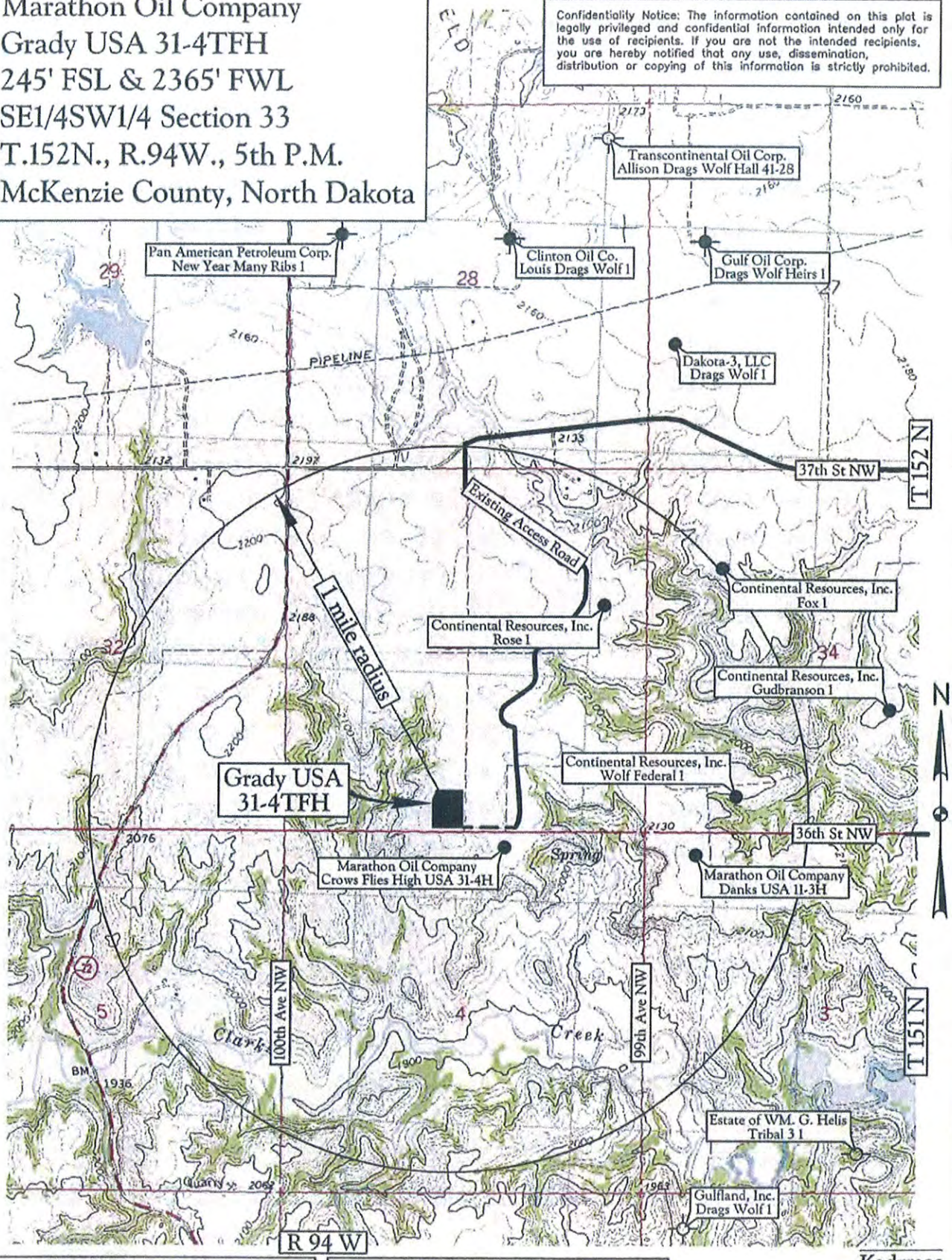
Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 30, 2012 – 3:05pm – J:\Oilfield\Marathon Oil\37121049\CADD\37121049LOC01.dwg

Marathon Oil Company
Grady USA 31-4TFH
245' FSL & 2365' FWL
SE1/4SW1/4 Section 33
T.152N., R.94W., 5th P.M.
McKenzie County, North Dakota



Map "C"
One Mile Radius Map

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 28, 2012 - 9:11am - J:\Oilfield\Marathon Oil\37121049\CADD\37121049LOC01.dwg

Legend

wells

STATUS, WELL_TYPE

- A, AGD
- A, AI
- A, CBM
- A, DF
- A, DFP
- A, GASC
- A, GASD
- A, GASN
- A, OG
- A, SWD
- A, WI
- A, WS
- A,AI
- AB, AI
- AB, DF
- AB, DFP
- AB, GASC
- AB, GASD
- AB, GI
- AB, OG
- AB, SWD
- AB, WI
- AB, WS
- Confidential, Confidential
- DRL, AI
- DRL, GASC
- DRL, GASD
- DRL, OG
- DRL, SWD
- DRL, WI
- DRY, GASC
- DRY, GASD
- DRY, OG
- DRY, ST
- EXP, GASD
- EXP, OG
- EXP, SWD
- EXP, WS
- IA, AI
- IA, CBM
- IA, DF
- IA, DFP
- IA, GASC
- IA, GASD
- IA, OG
- IA, SWD
- IA, WI
- IA, WS
- IA,AI
- LOC, GASC
- LOC, GASD
- LOC, OG
- LOC, SWD
- LOC, WI
- PA, DF
- PA, GASC
- PA, GASD
- PA, GS
- PA, OG
- PA, SWD
- PA, WI
- PA, WS
- PNC, GASD
- PNC, OG
- PNC, SWD
- TA, AI
- TA, GASC
- TA, GASD
- TA, OG
- TA, SWD
- TA, WI
- TA, WS
- TAO, GI
- TAO, OG
- TAO, WI

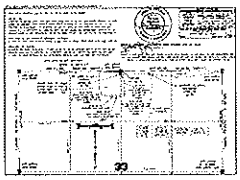
A = Active, AB = Abandoned, DRL = Drilling, Dry = Dry, EXP = Expired, IA = Inactive, LOC = Location, PA = Producer Abandoned, PNC = Permit Now Cancelled
TA = Temporarily Abandoned, TAO = Temporarily Abandoned Observation.

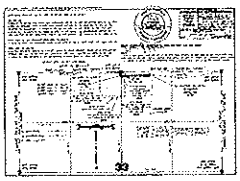
AGD = Acid Gas Disposal, AI = Air Injection, DF = Dump Flood, DFP = Dump Flood Producing, GASN = Nitrogen Gas Well, GASC = Gas Condensate, GASD = Gas Dry, GI = Gas Injection, GS = Gas Storage, OG = Oil or Gas Well, SWD = Salt Water Disposal, WI = Water Injection, WS = Water Supply, ST = Strat Test

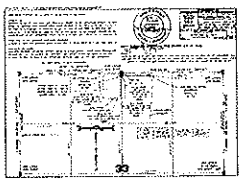
Exhibit "D"
GIS Well Symbols

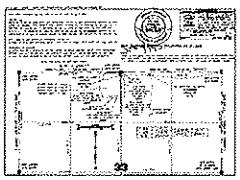
Kadrmas Lee & Jackson
Engineers Surveyors Planners

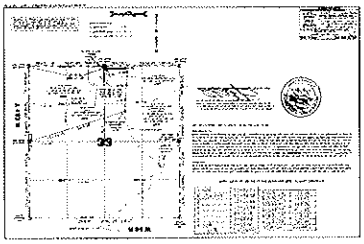
Prepared by NDIC Oil and Gas Division





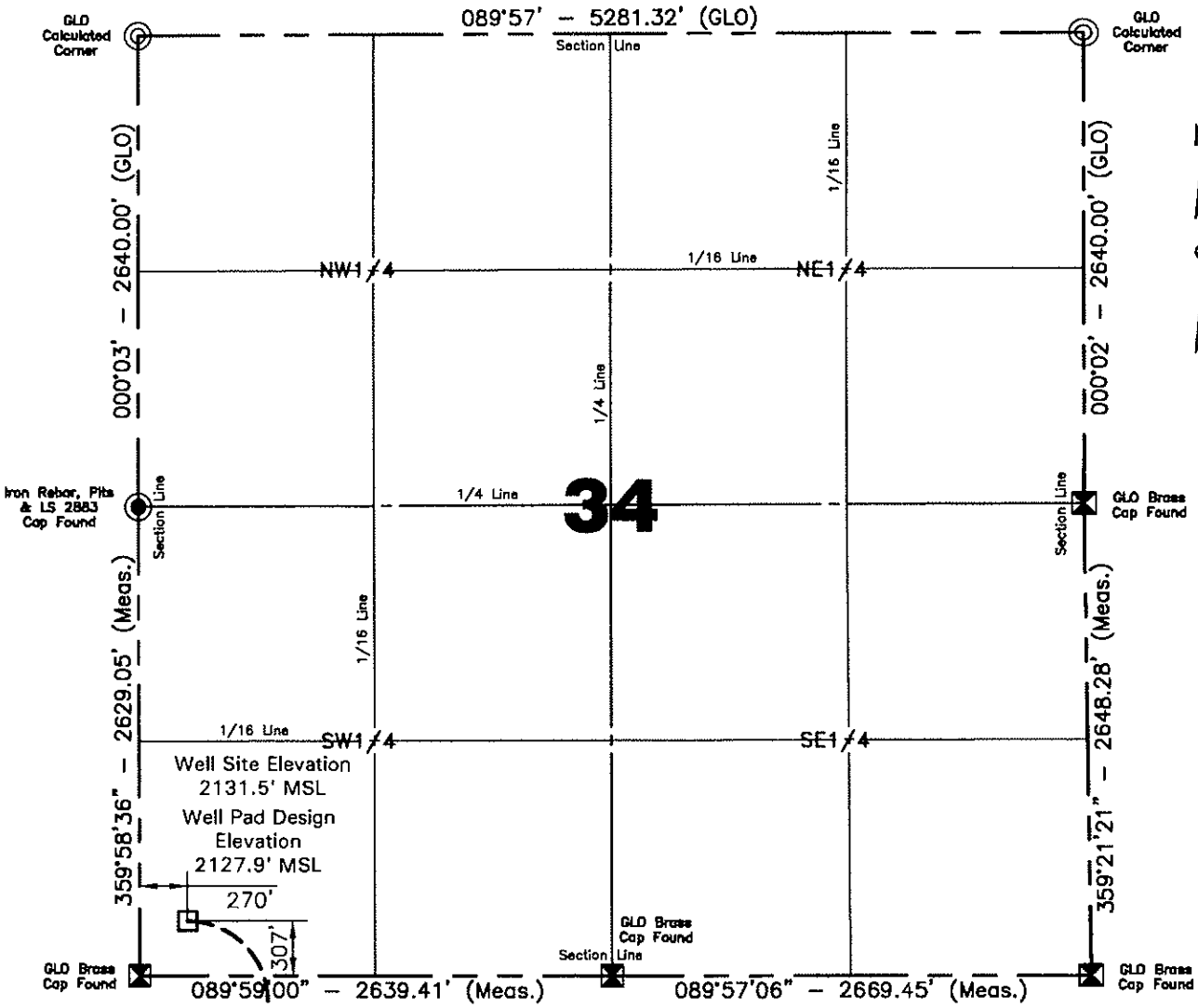






WELL LOCATION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Prairie Chicken USA 11-3TFH
307 feet from the south line and 270 feet from the west line (surface location)
Section 34, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 720 feet from the west line (bottom location)
Section 10, T. 151 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Allotted 521A-D
NAD 83 Latitude 47°56'06.638" North; Longitude 102°42'22.314" West (surface location)
NAD 27 Latitude 47°56'06.574" North; Longitude 102°42'20.640" West (surface location)
NAD 83 Latitude 47°54'22.145" North; Longitude 102°42'15.776" West (bottom location)
NAD 27 Latitude 47°54'22.084" North; Longitude 102°42'14.099" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96) Converted to NAD-27]



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

NOTE: All land corners are assumed unless otherwise noted. The well location shown hereon is not on as-built location.

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

Scale 1"=1000'

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 6/13/12
NORTH DAKOTA

Justin Semerad 4/10/2012
Surveyed By Date

Vertical Control Datum Used
North American Vertical Datum 1988 (NAVD 88)
Based on elevation derived from OPUS Solution on GPS*32 (iron rebar) Located a distance of 6255.78' on an azimuth of 289°41'36" from the SW corner of Section 34 T.152N., R.94W., 5th P.M. being at 2192.82' Elevation MSL.

Project No. 3712531
Book OW-289 Pg. 25-28 Staking

Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-483-2795
Bus. Phone No. 701-483-1284
P.O. Box 290
677 27th Ave. East
Dickinson, North Dakota 58602
Certificate of Authorization #C-061

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Jun 13, 2012 – 9:49am – J:\Oilfield\Marathon Oil\3712531\CADD\3712531BAS01.dwg

HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

Prairie Chicken USA 11-3TFH

307 feet from the south line and 270 feet from the west line (surface location)
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Section 10, T. 151 N., R. 94 W., 5th P.M.
McKenzie County, North Dokota
Surface owner @ well site – Allotted 521A–D

NAD 83 Latitude 47°56'06.638" North; Longitude 102°42'22.314" West (surface location)
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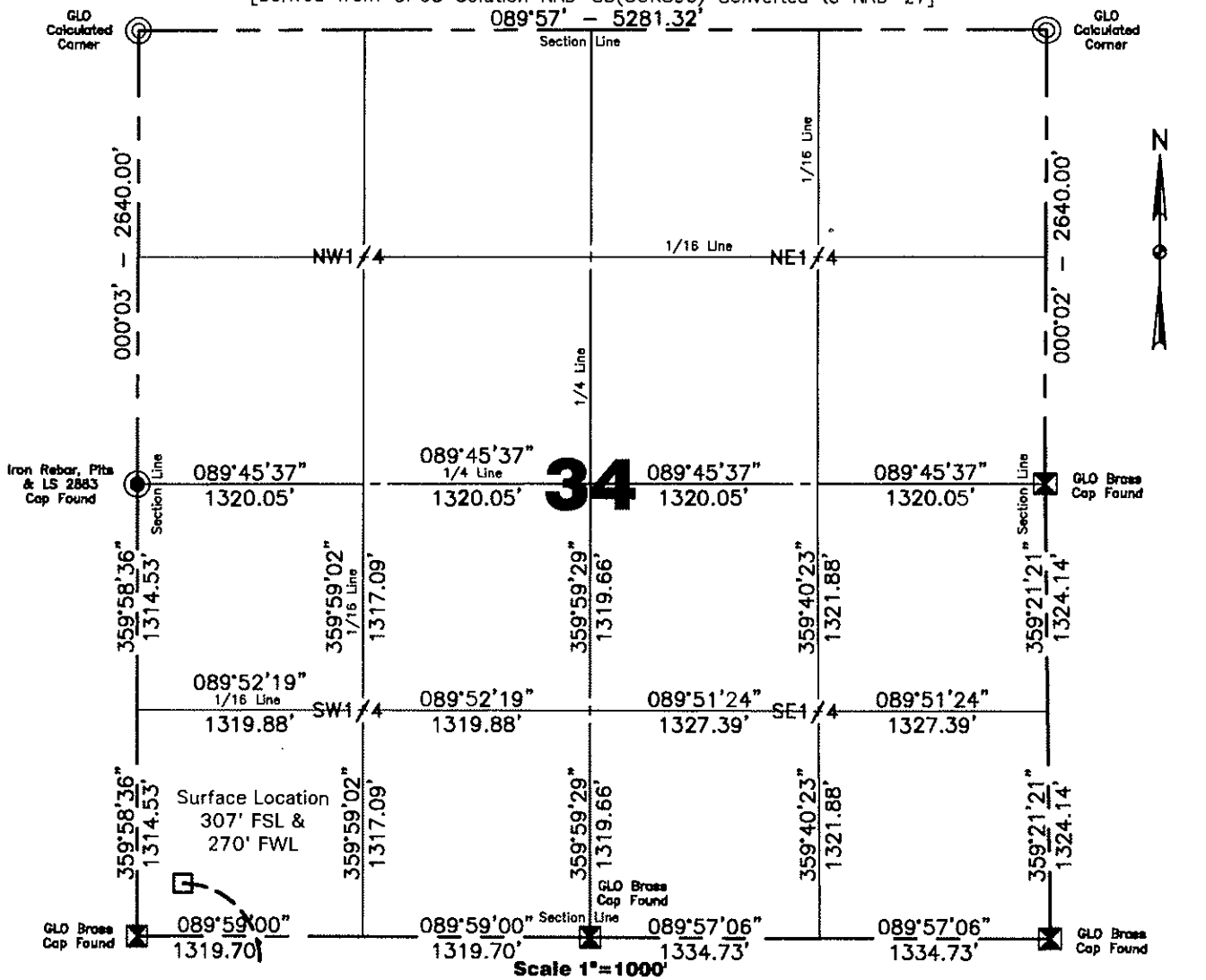
[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



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All corners shown on this plat were found in the field during Marathon Oil Company, Proirie Chicken USA 11–3TFH oil well survey on April 10, 2012. Distances to all others are colculated. All azimuths are based on the west line of the southwest quarter of Section 34, being on an azimuth of 359°58'36".

REGISTERED LAND SURVEYOR
QUENTIN QBRIGEWITSCH
LS-5999
DATE 6/13/12
NORTH DAKOTA

Surveyed By	Field Book
J. Semerad	OW–289
Computed & Drawn By	Project No.
A. Stumpf	3712531

Kadrmas Lee & Jackson
Engineers Surveyors Planners

HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

Prairie Chicken USA 11-3TFH

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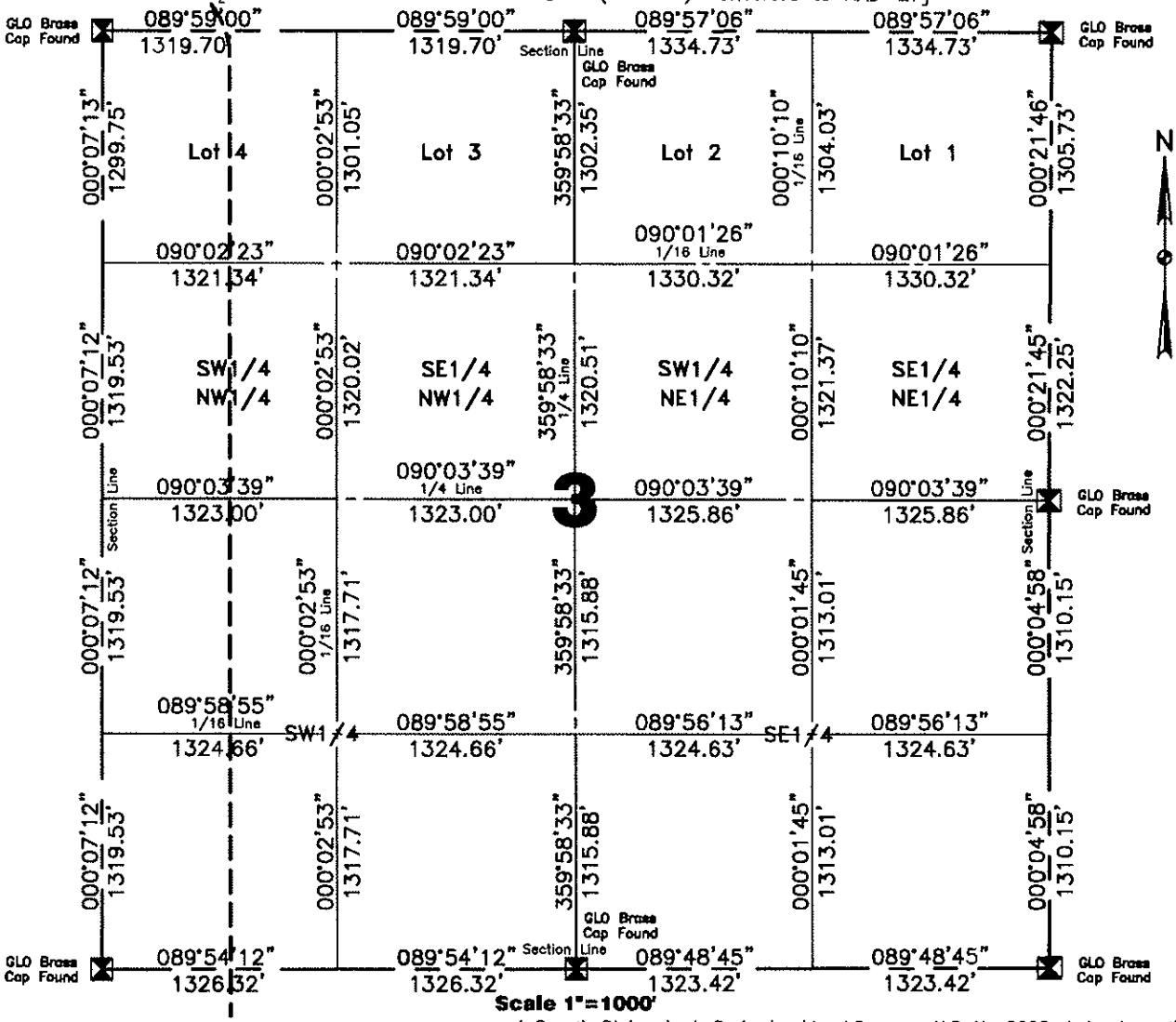
[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



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All corners shown on this plat were found in the field during Marathon Oil Company, Prairie Chicken USA 11–3TFH oil well survey on April 10, 2012. Distances to all others are calculated. All azimuths are based on the west line of the southwest quarter of Section 34, being on an azimuth of 359°58'36".

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 6/13/12
NORTH DAKOTA

Surveyed By	Field Book
J. Semerad	OW–289
Computed & Drawn By	Project No.
A. Stumpf	3712531

Kadrmas Lee & Jackson
Engineers Surveyors Planners

HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

Prairie Chicken USA 11-3TFH

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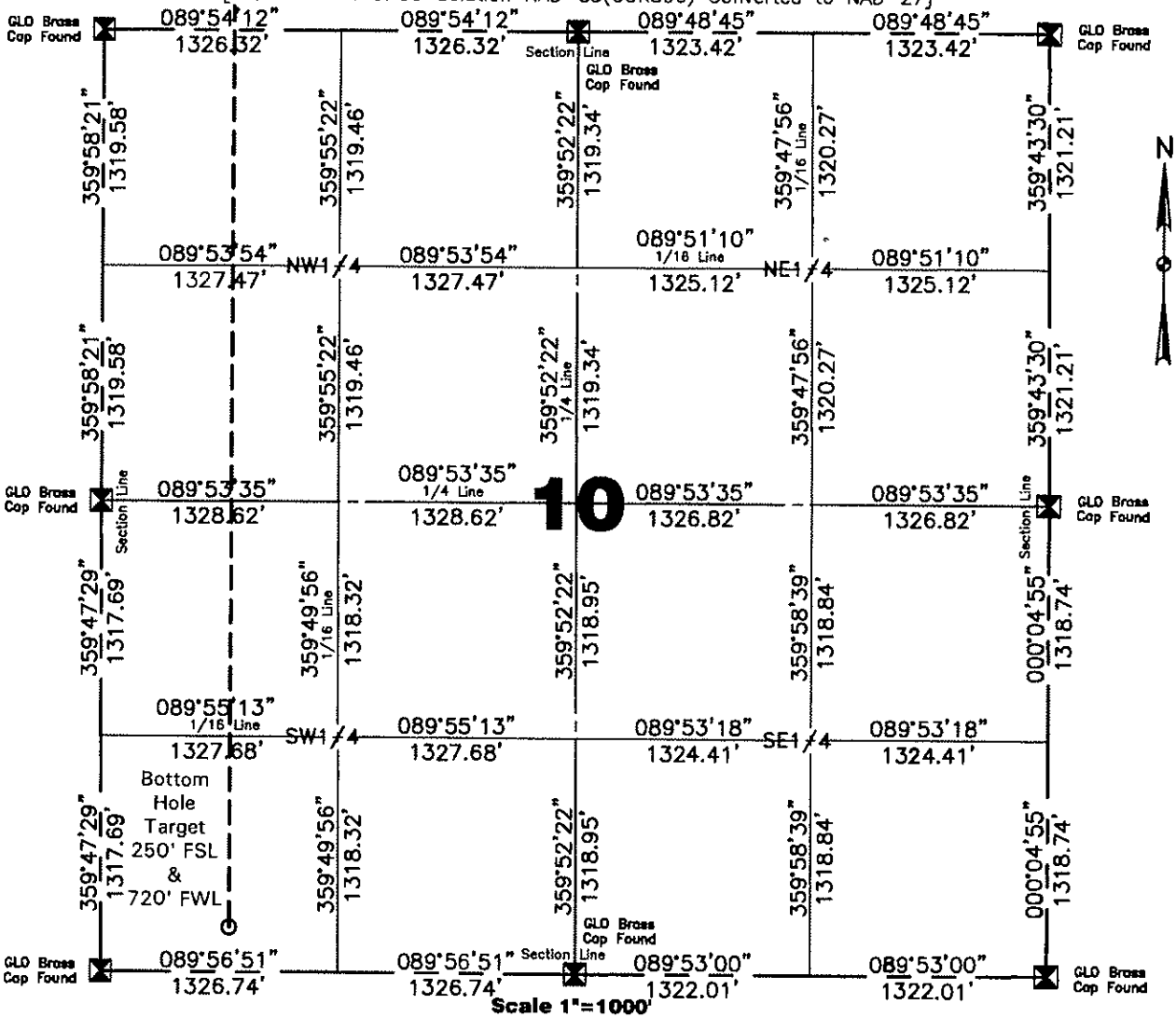
NAD 27 Latitude 47°54'22.084" North; Longitude 102°42'14.099" West (bottom location)
[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



Scale 1"=1000'

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

All corners shown on this plat were found in the field during Marathon Oil Company, Prairie Chicken USA 11–3TFH oil well survey on April 10, 2012. Distances to all others are calculated. All azimuths are based on the west line of the southwest quarter of Section 34, being on an azimuth of 359°58'36".

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 6/13/12
NORTH DAKOTA

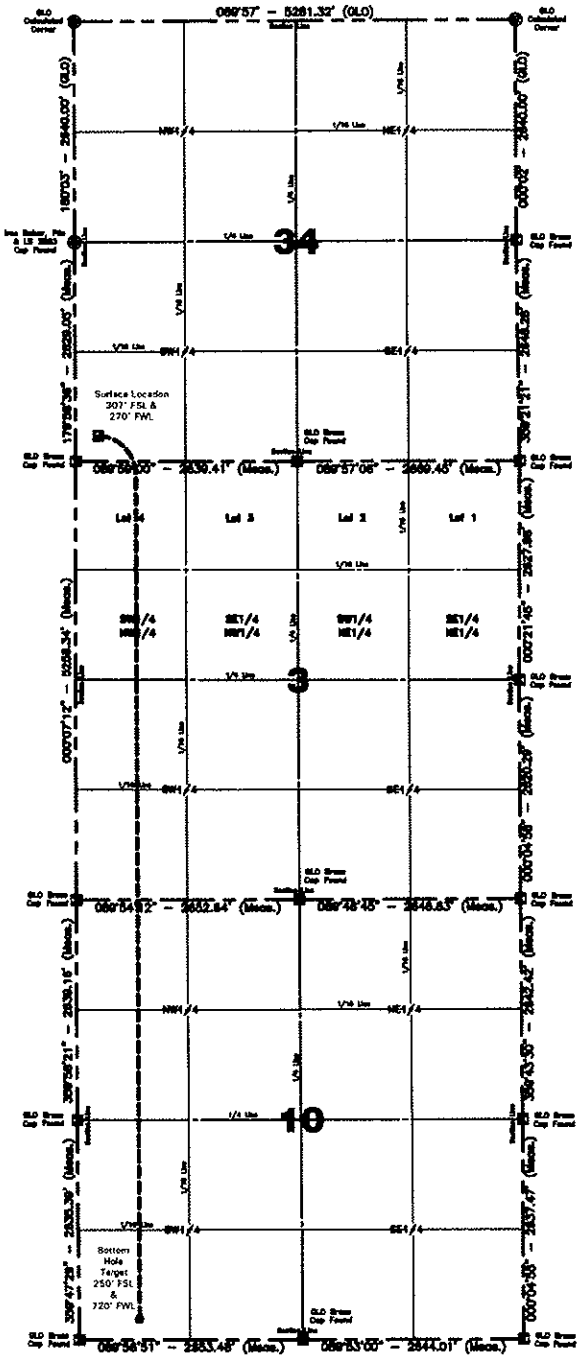
Surveyed By	Field Book
J. Semerad	OW–289
Computed & Drawn By	Project No.
A. Stumpf	3712531

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Jun 13, 2012 – 9:49am – J:\Oilfield\Marathon Oil\3712531\CADD\3712531BAS01.dwg

BOTTOM HOLE LOCATION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601
Prairie Chicken USA 11-3TFH
307 feet from the south line and 270 feet from the west line (surface location)
Section 34, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 720 feet from the west line (bottom location)
Section 10, T. 151 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Allotted 521A–0
NAD 83 Latitude 47°56'06.638" North; Longitude 102°42'22.314" West (surface location)
NAD 27 Latitude 47°56'06.574" North; Longitude 102°42'20.640" West (surface location)
NAD 83 Latitude 47°54'22.145" North; Longitude 102°42'15.776" West (bottom location)
NAD 27 Latitude 47°54'22.084" North; Longitude 102°42'14.099" West (bottom location)
[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



N

Scale 1"=2300'

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 6/13/12
NORTH DAKOTA

Computed & Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	Q. Obrigewitsch	1"=2300'	6/6/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW–289	B.H. Layout	–	3712531	5

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Jun 13, 2012 – 9:50am – J:\Oilfield\Marathon Oil\3712531\CADD\3712531BAS01.dwg

Marathon Oil Company
Prairie Chicken USA 11-3TFH
Section 34, T 152 N, R 94 W, 5th P.M.
McKenzie County, North Dakota

Well Site Elevation 2131.5' MSL
Well Pad Elevation 2127.9' MSL

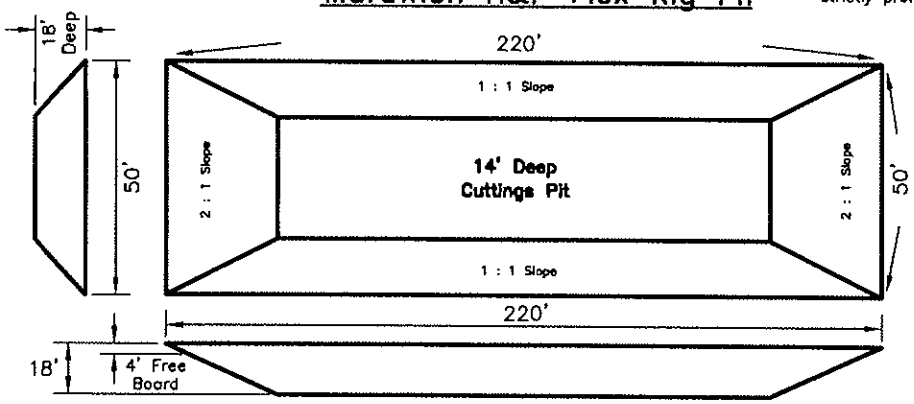
Excavation	15,325 C.Y.
Plus Pit	3,585 C.Y.
	18,910 C.Y.
Embankment	5,440 C.Y.
Plus Shrinkage (+30%)	1,630 C.Y.
	7,070 C.Y.
Stockpile Pit	3,585 C.Y.
Stockpile Top Soil (8")	6,645 C.Y.
Road Embankment & Stockpile from Pad	1,610 C.Y.
Disturbed Area From Pad–Section 33	1.20 Acres
Area Inside Barbed Wire Fence (Drilling)–Section 33	2.48 Acres
Area Inside Barbed Wire Fence (Production)–Section 33	1.85 Acres
Disturbed Area From Pad–Section 34	4.98 Acres
Area Inside Barbed Wire Fence (Drilling)–Section 34	6.52 Acres
Area Inside Barbed Wire Fence (Production)–Section 34	4.89 Acres

NOTE: – All Fill End Slopes Are Designed With 3:1 Slopes To Be Seeded With S31 Erosion Control Blanket Installed.
– All Cut End Slopes Less Than 8' Are Designed With 2:1 Slopes & Greater Than 8' Are Designed With 3:1 Slopes.
– Build Water Diversion Trench With Berm Along Cut Slopes.
– All Stockpiles Are To Be Built At 3:1 Slopes.

Well Site Location

307' FSL
270' FWL

Marathon H&P Flex Rig Pit



Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	Q. Obrigewitsch	None	6/6/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW–289	Quantities	–	3712531	6

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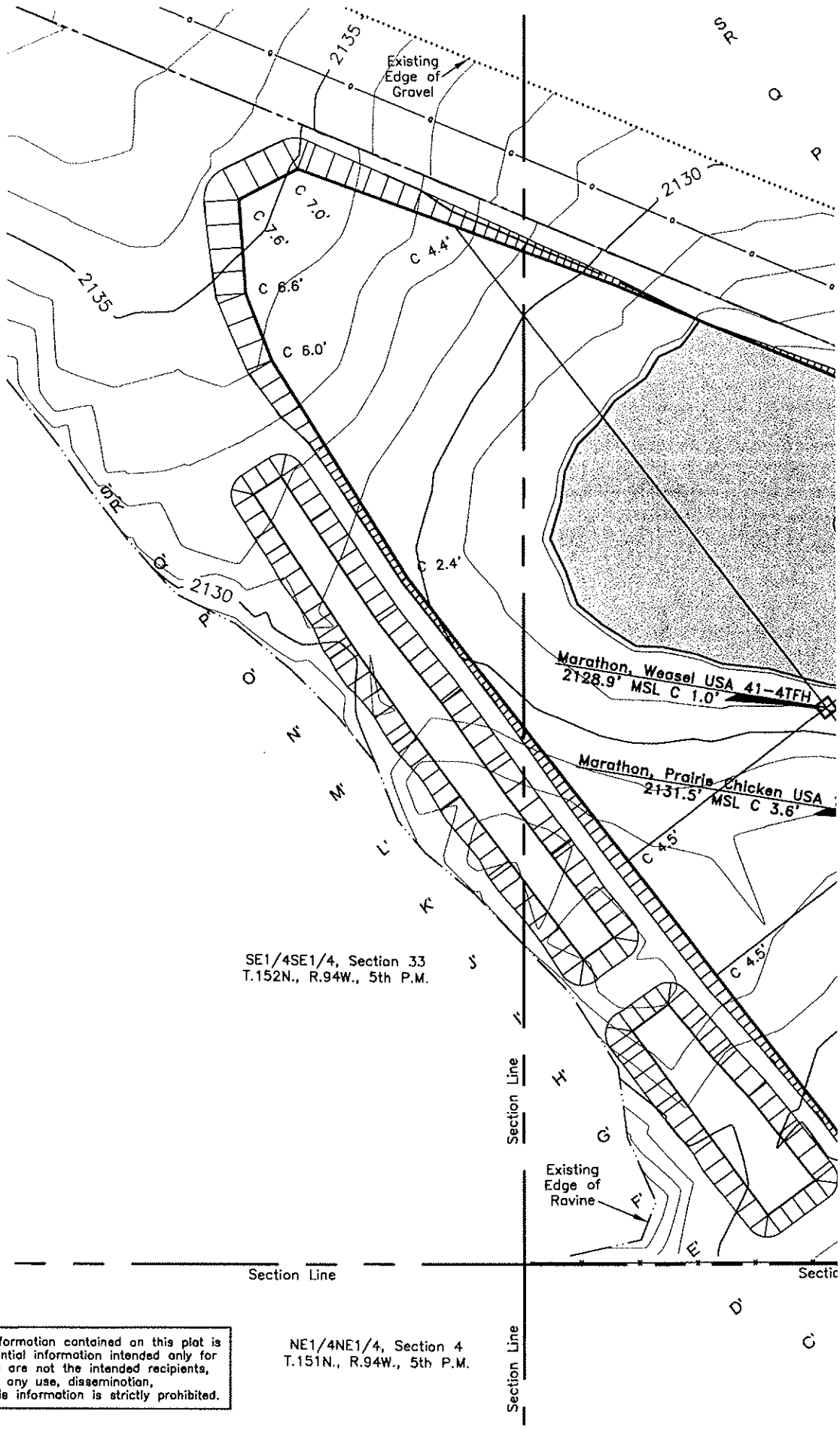
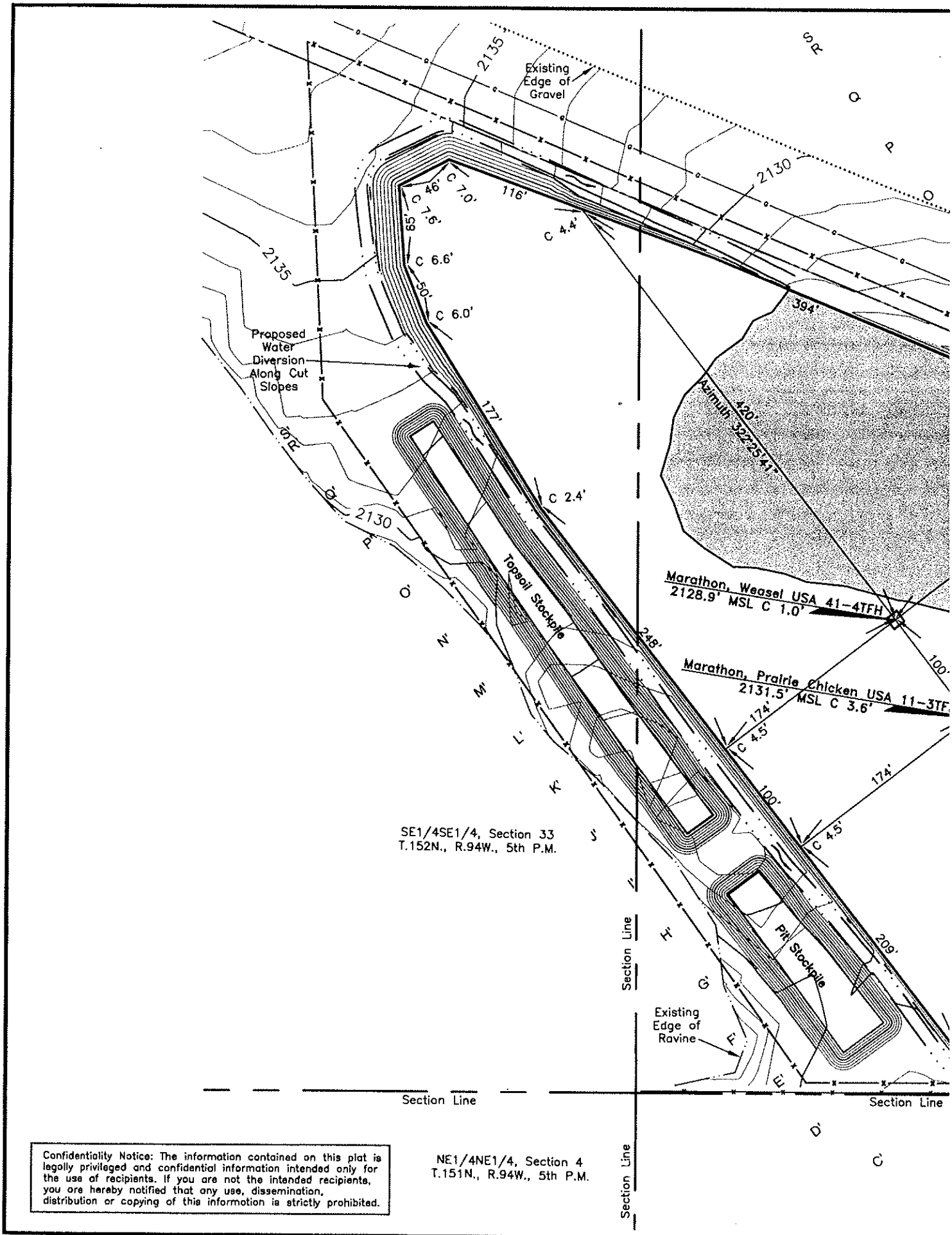
Engineers Surveyors Planners

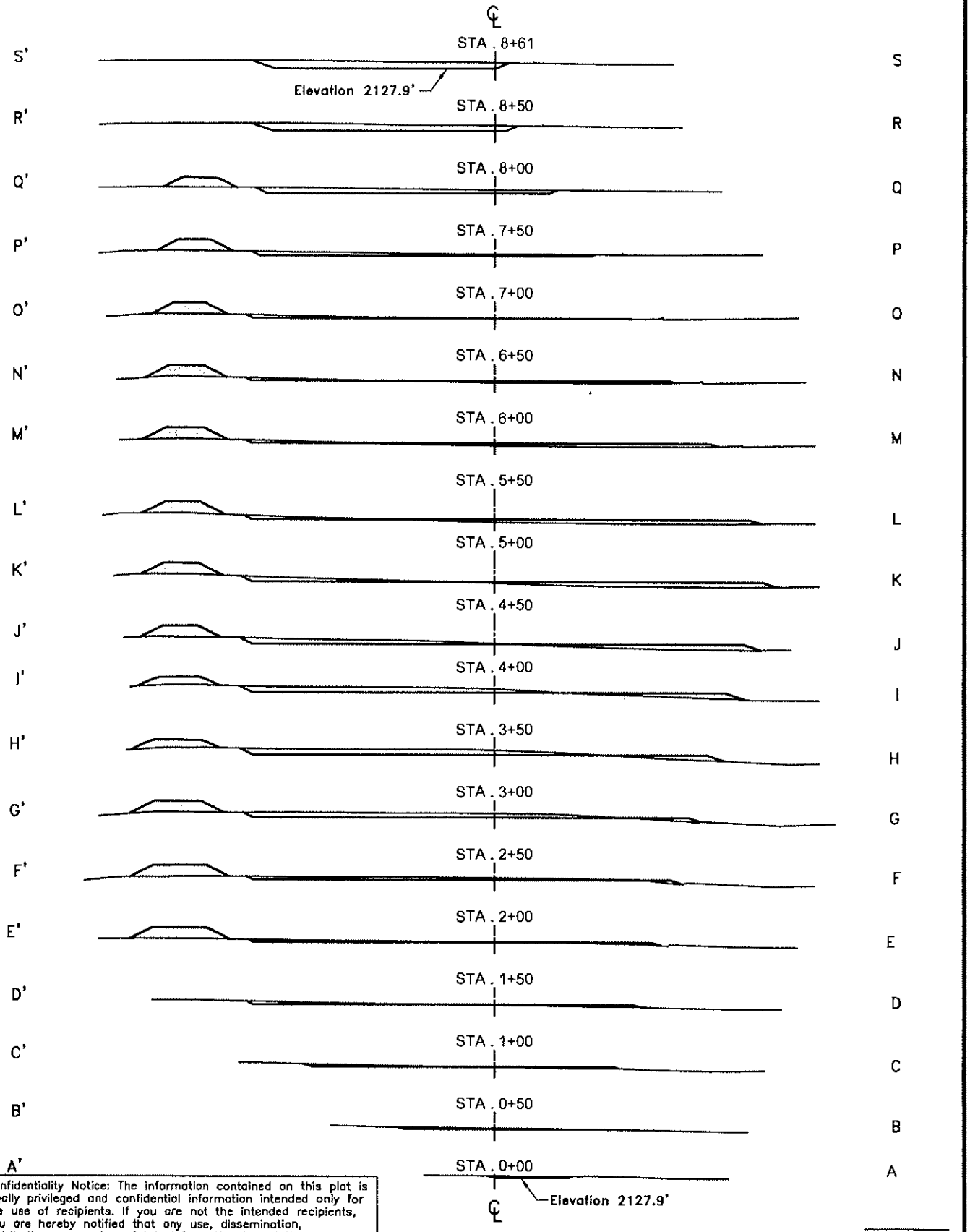
Jun 13, 2012 – 9:50am – J:\Oilfield\Marathon Oil\3712531\CADD\3712531BAS02.dwg





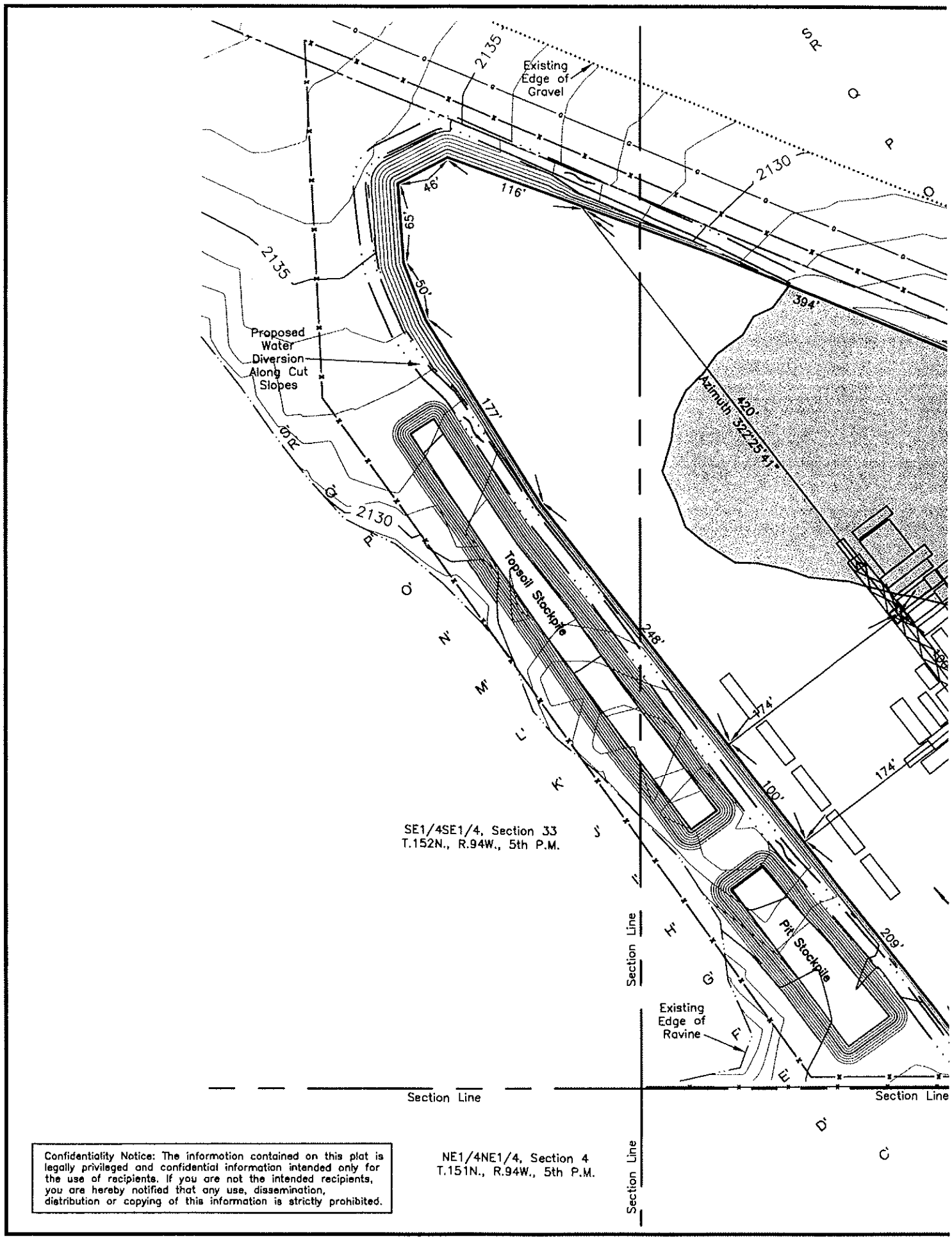
Prairie Chicken USA 11-3TFH

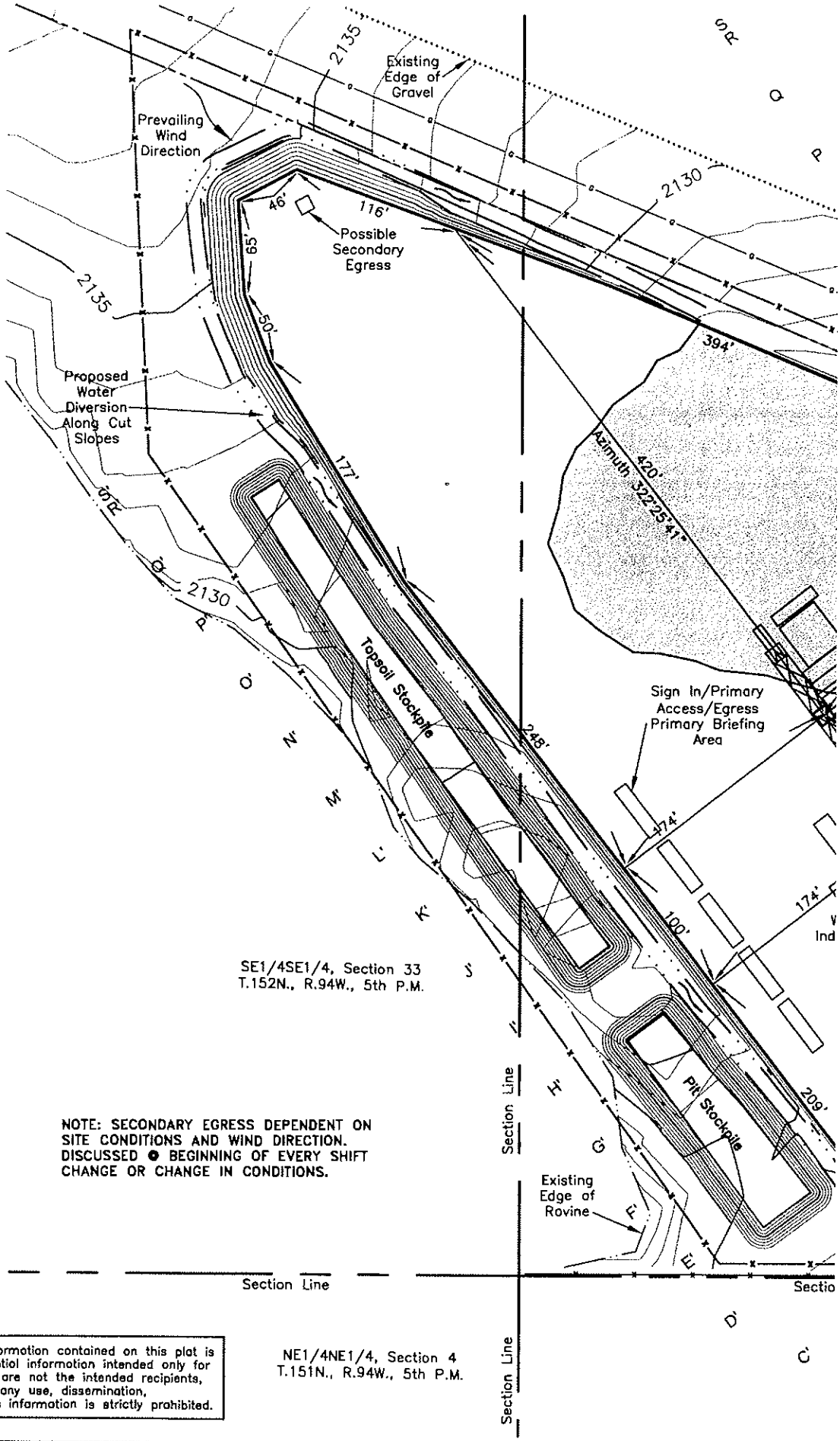
Cross Sections

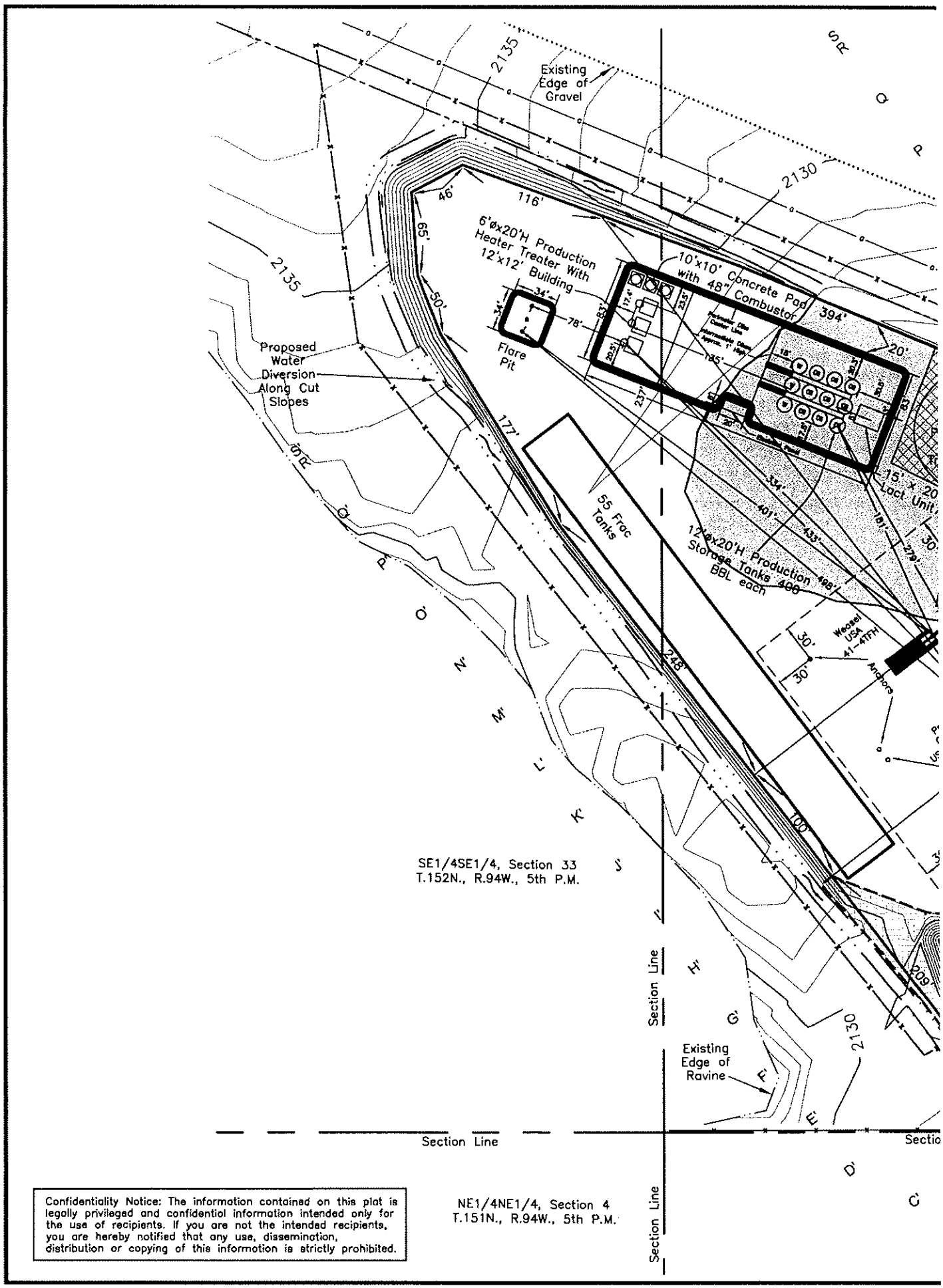


Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	Q. Obrigewitsch	1"=100'	6/6/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Cross Sections	—	3712531	9

Kadrmas Lee & Jackson
Engineers Surveyors Planners

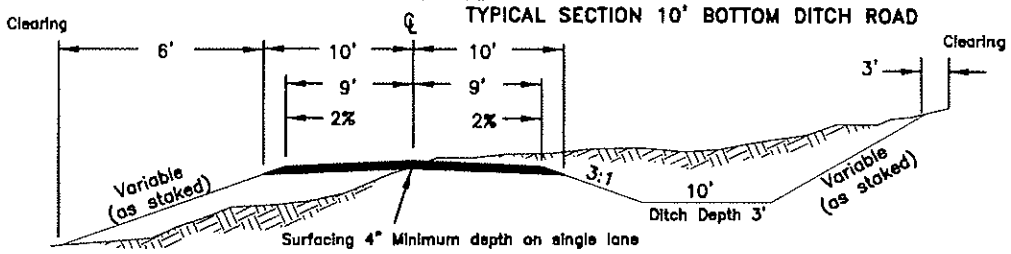




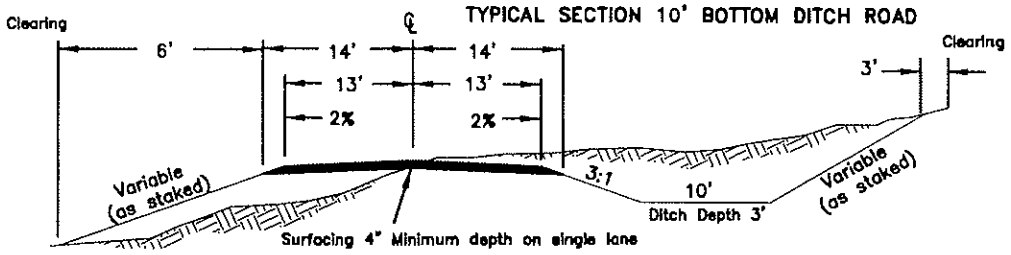


Prairie Chicken USA 11-3TFH

Roadway Typical Sections



TYPICAL "A"
No Scale



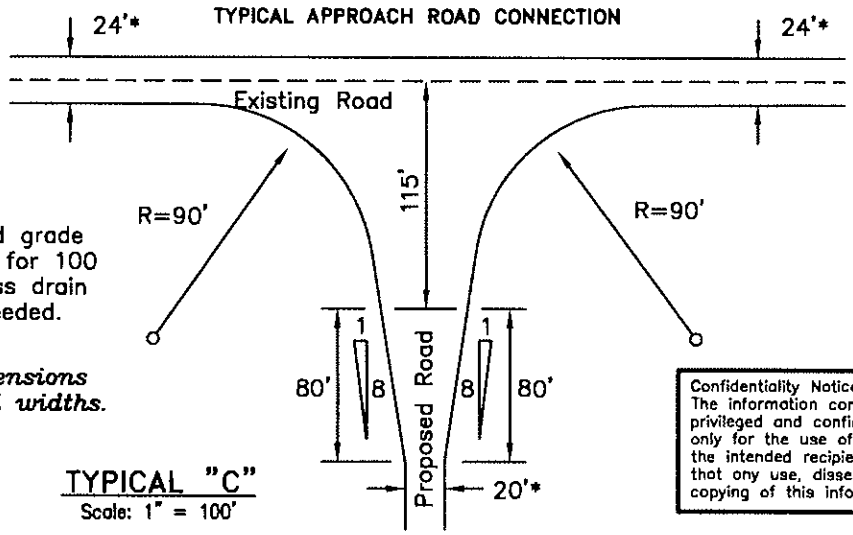
TYPICAL "B" SECTION LINE
No Scale

FILL SLOPES
3:1 Under 4' Height
2:1 Over 4' Height
(–) Slopes steeper than 2:1 will be subject to FS approval

FILL WIDENING
2' to 5' high/add 1'
Over 5' high/add 2'

CURVE WIDENING
130 / R

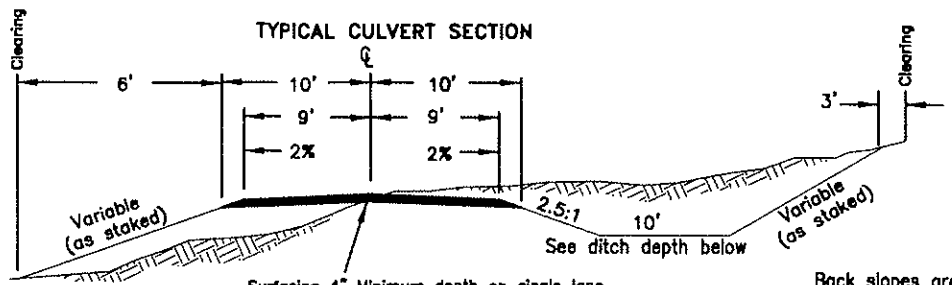
CUT SLOPES
3:1 Under 10' height
2:1 10' to 20' height
(–) Variable over 20' height W/FS approval



Approach road grade 2% maximum for 100 ft. Install cross drain pipe where needed.

***NOTE**: *Dimensions are surfaced widths.*

TYPICAL "C"
Scale: 1" = 100'



Fill slopes are V1 H1.5 (1.5:1) or as staked

Back slopes are V1 H1 (1:1) or as staked

TYPICAL "D"
No Scale

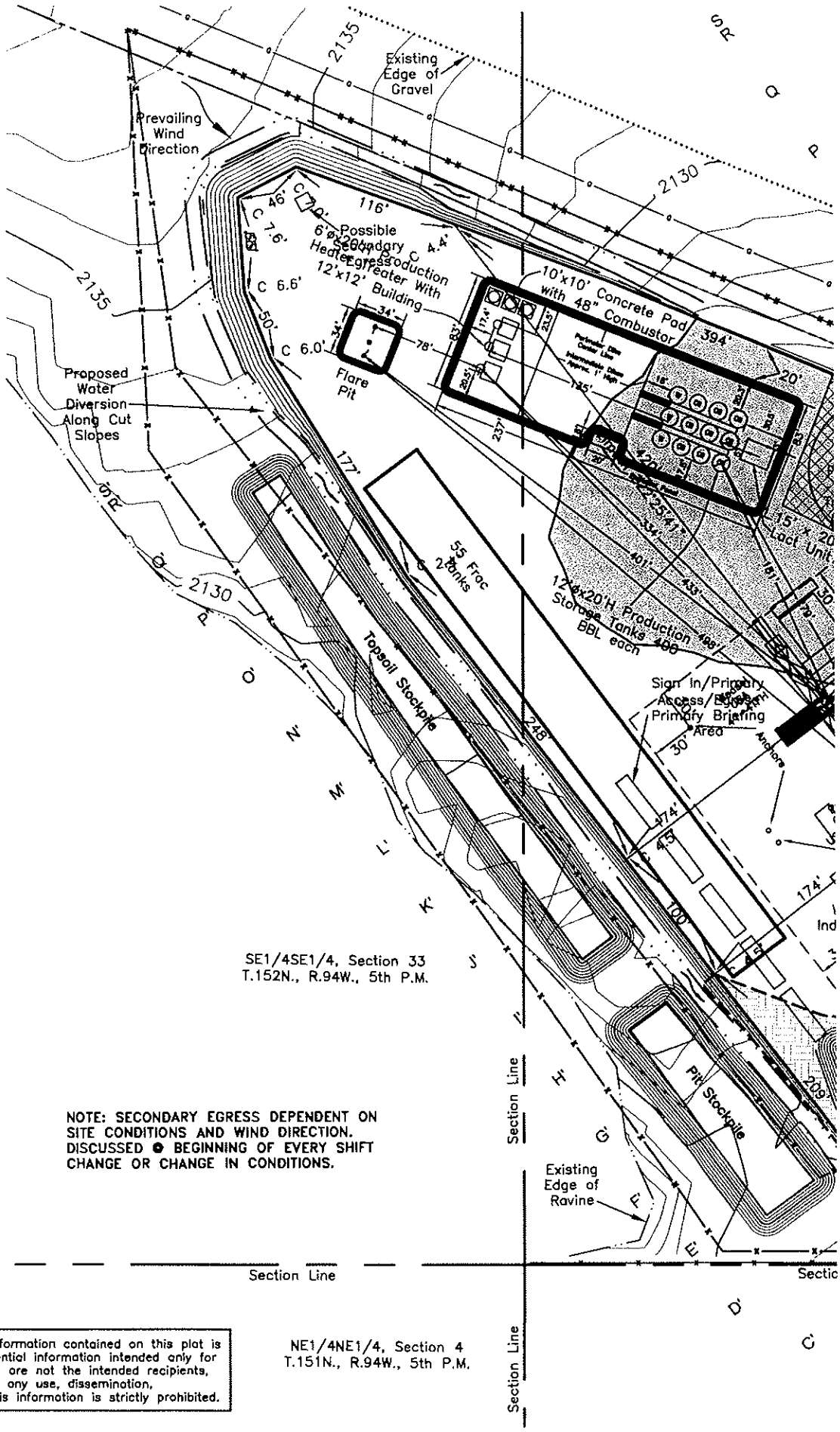
Ditch width shall be the larger of the following:
A. Standard ditch width
B. 2 times the pipe diameter
C. 4.25'

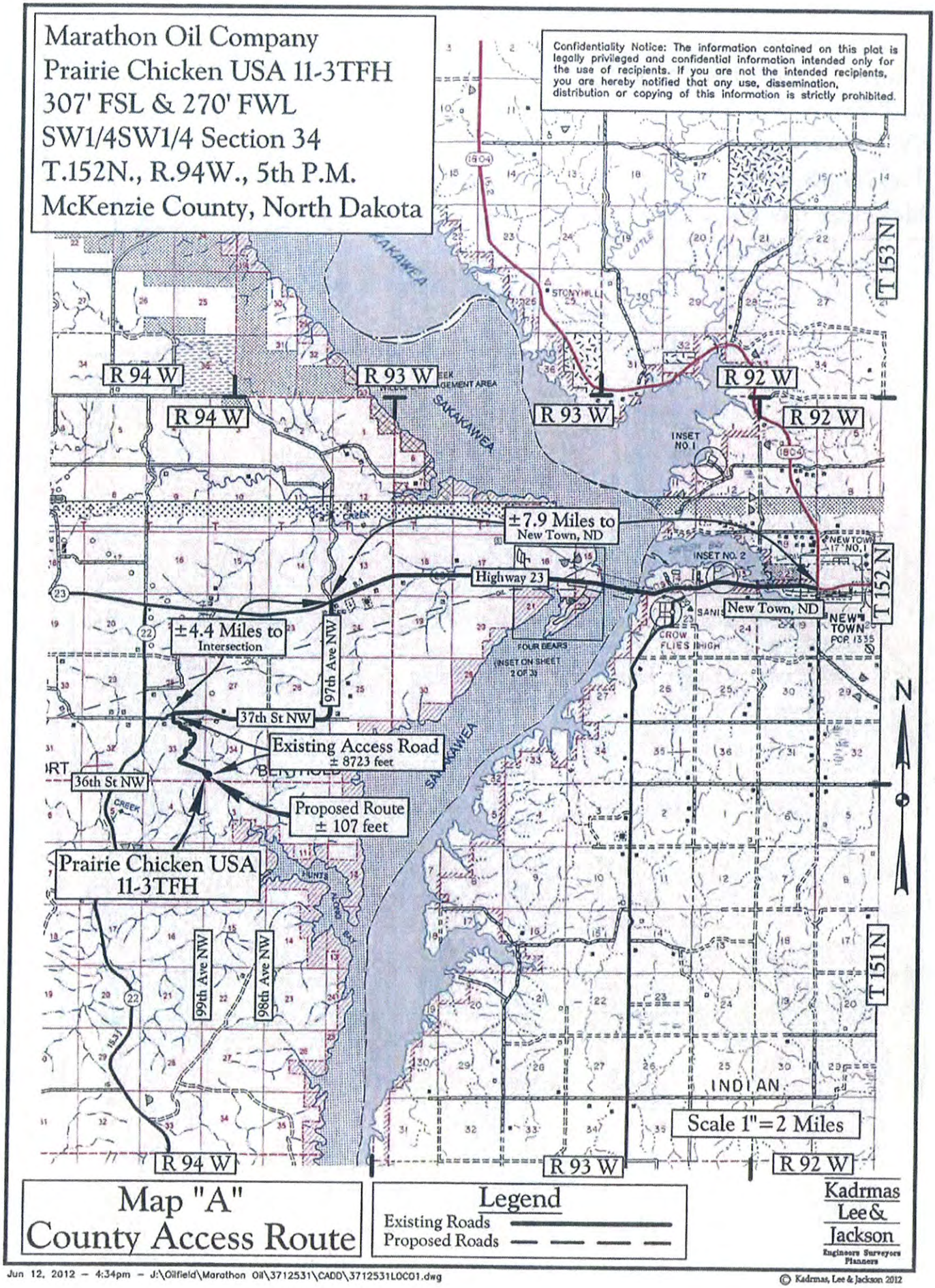
Ditch depth shall be:

CMP diameter	Ditch depth
18"	2.5'
24"	3.0'
36"	4.0'
48"	5.0'

Drawn By	Surveyed By	Approved By	Scale	Date
A. Stumpf	J. Semerad	Q. Obrigewitsch	None	6/6/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW–289	Road Typical	–	3712531	13

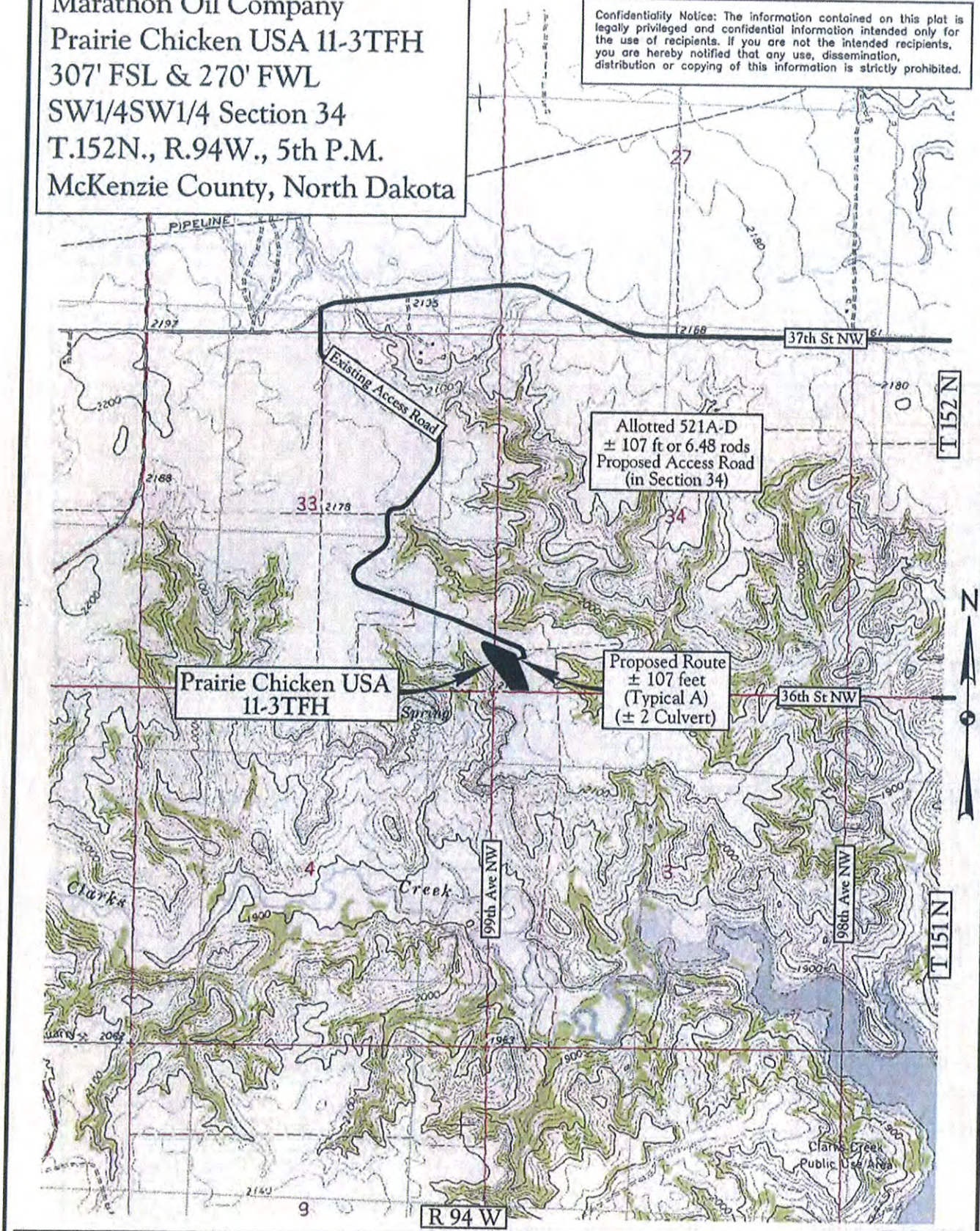
Kadrmas Lee & Jackson
Engineers Surveyors Planners





Jun 12, 2012 – 4:34pm – J:\Oilfield\Marathon Oil\3712531\CADD\3712531LOC01.dwg

Marathon Oil Company
Prairie Chicken USA 11-3TFH
307' FSL & 270' FWL
SW1/4SW1/4 Section 34
T.152N., R.94W., 5th P.M.
McKenzie County, North Dakota



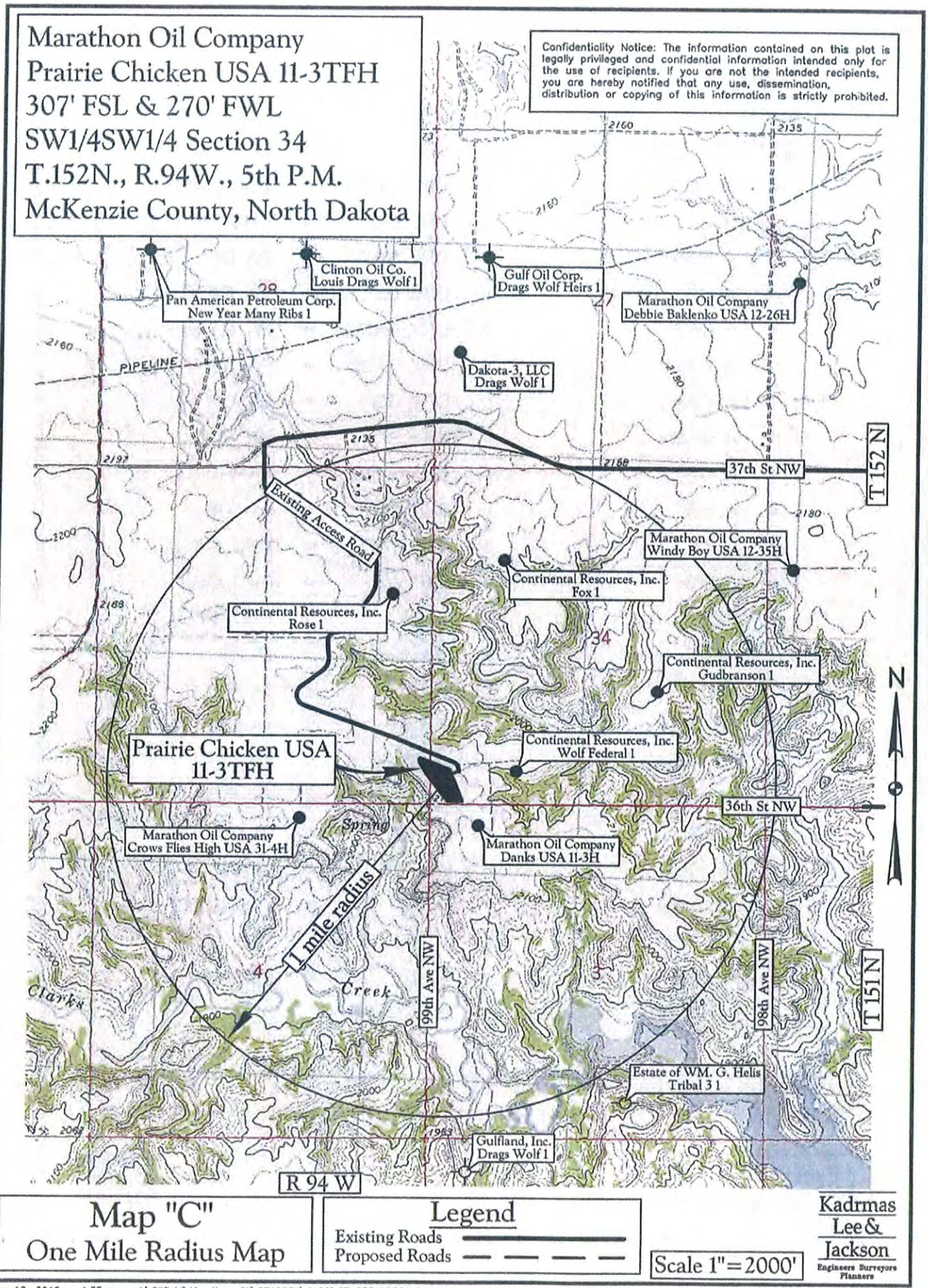
Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1" = 2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Jun 12, 2012 – 4:34pm – J:\Oilfield\Marathon Oil\3712531\CADD\3712531LOC01.dwg



Jun 12, 2012 - 4:35pm - J:\Oilfield\Marathon Oil\3712531\CADD\3712531LOC01.dwg

Legend

wells

STATUS, WELL_TYPE

- A, AGD
- A, AI
- A, CBM
- A, DF
- A, DFP
- A, GASC
- A, GASD
- A, GASN
- A, OG
- A, SWD
- A, WI
- A, WS
- A,AI
- AB, AI
- AB, DF
- AB, DFP
- AB, GASC
- AB, GASD
- AB, GI
- AB, OG
- AB, SWD
- AB, WI
- AB, WS
- Confidential, Confidential
- DRL, AI
- DRL, GASC
- DRL, GASD
- DRL, OG
- DRL, SWD
- DRL, WI
- DRY, GASC
- DRY, GASD
- DRY, OG
- DRY, ST
- EXP, GASD
- EXP, OG
- EXP, SWD
- EXP, WS
- IA, AI
- IA, CBM
- IA, DF
- IA, DFP
- IA, GASC
- IA, GASD
- IA, OG
- IA, SWD
- IA, WI
- IA, WS
- IA,AI
- LOC, GASC
- LOC, GASD
- LOC, OG
- LOC, SWD
- LOC, WI
- PA, DF
- PA, GASC
- PA, GASD
- PA, GS
- PA, OG
- PA, SWD
- PA, WI
- PA, WS
- PNC, GASD
- PNC, OG
- PNC, SWD
- TA, AI
- TA, GASC
- TA, GASD
- TA, OG
- TA, SWD
- TA, WI
- TA, WS
- TAO, GI
- TAO, OG
- TAO, WI

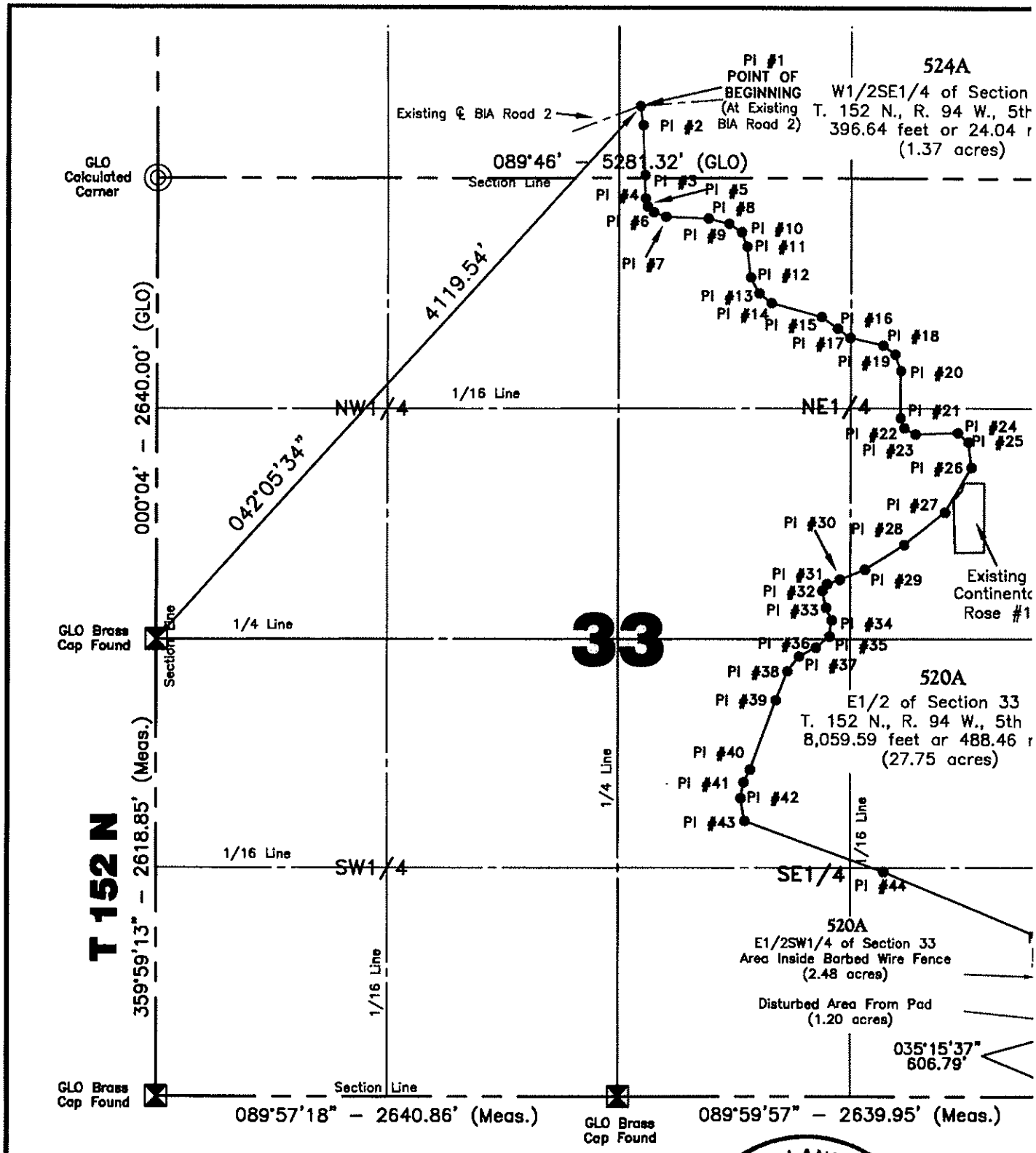
A = Active, AB = Abandoned, DRL = Drilling, Dry = Dry, EXP = Expired, IA = Inactive, LOC = Location, PA = Producer Abandoned, PNC = Permit Now Cancelled
TA = Temporarily Abandoned, TAO = Temporarily Abandoned Observation.

AGD = Acid Gas Disposal, AI = Air Injection, DF = Dump Flood, DFP = Dump Flood Producing, GASN = Nitrogen Gas Well, GASC = Gas Condensate, GASD = Gas Dry, GI = Gas Injection, GS = Gas Storage, OG = Oil or Gas Well, SWD = Salt Water Disposal, WI = Water Injection, WS = Water Supply, ST = Strat Test

Exhibit "D"
GIS Well Symbols

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Prepared by N.D.I.C. Oil and Gas Division



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Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 9/17/12
NORTH DAKOTA

Sep 15, 2012 – 12:37pm – J:\oilfield\Marathon Oil\3712531\CADD\3712531BAS04.dwg

PI #	STATIONING
1–POB	0+00.00
2	1+10.12
3–Sec. Line	3+96.64
4	5+30.05
5	5+76.53
6	6+24.32
7	6+98.46
8	9+39.09
9	10+60.36
10	11+45.96
11	12+34.50
12	14+11.74
13	15+15.41
14	16+04.24
15	19+01.21
16	20+14.13
17	21+02.91

AZIMUTH	DISTANCE
171°27'06"	110.12'
177°45'28"	286.52'
178°54'21"	133.41'
165°44'48"	46.48'
134°05'01"	47.79'
109°56'15"	74.14'
092°32'34"	240.63'
104°16'33"	121.27'
123°17'35"	85.60'
159°18'22"	88.54'
173°01'06"	177.24'
151°50'52"	103.67'
127°54'56"	88.83'
105°28'09"	296.97'
125°51'57"	112.92'
126°48'50"	88.78'
103°04'15"	192.68'

PI #	STATI
18	22+
19	23+
20	24+
21	27+
22	28+
23	28+
24	31+
25	32+
26	33+
27	36+
28	39+
29	42+
30	43+
31	44+
32	44+
33	45+
34	46+

Road, Pipeline, All Utility and Multi-Use Right-of-Way

A tract of land located in the Southwest Quarter of the Southeast Quarter (SW1/42SE1/4) of Section 28, of the Southwest Quarter (SW1/4SW1/4) of Section 34, Township 152 North, Range 94 West of the 5th being more specifically described as a strip of land one-hundred and fifty (150) feet in width, lying seven centerline:

Commencing at the southwest corner of the Northwest Quarter of said Section 33; thence on an azimuth existing BIA Road 2 and the POINT OF BEGINNING; thence on an azimuth 171°27'06", a distance of 11 286.52 feet to a point on the south line of the Southeast Quarter of said Section 28; thence continuing i distance of 133.41 feet; thence on an azimuth 165°44'48", a distance of 46.48 feet; thence on an azim azimuth 109°56'15", a distance of 74.14 feet; thence on an azimuth 092°32'34", a distance of 240.63 feet; thence on an azimuth 123°17'35", a distance of 85.60 feet; thence on an azimuth 159°18'22", a distance of 177.24 feet; thence on an azimuth 151°50'52", a distance of 103.67 feet; thence on an azi azimuth 105°28'09", a distance of 296.97 feet; thence on an azimuth 125°51'57", a distance of 112.9 feet; thence on an azimuth 103°04'15", a distance of 192.68 feet; thence on an azimuth 126°06'13", distance of 100.06 feet; thence on an azimuth 180°24'53", a distance of 269.75 feet; thence on an azi azimuth 119°33'50", a distance of 73.28 feet; thence on an azimuth 088°03'41", a distance of 238.60 feet; thence on an azimuth 173°00'44", a distance of 146.90 feet; thence on an azimuth 210°09'00", distance of 296.18 feet; thence on an azimuth 237°55'48", a distance of 267.29 feet; thence on an azi azimuth 250°47'00", a distance of 76.25 feet; thence on an azimuth 215°43'54", a distance of 47.35 feet; thence on an azimuth 156°06'41", a distance of 78.32 feet; thence on an azimuth 187°24'23", a distance of 100.51 feet; thence on an azimuth 241°59'36", a distance of 108.82 feet; thence on an azi azimuth 201°39'36", a distance of 179.60 feet; thence on an azimuth 200°24'33", a distance of 424.8 feet; thence on an azimuth 190°46'47", a distance of 92.13 feet; thence on an azimuth 170°23'50", a distance of 843.21 feet; thence on an azimuth 112°45'32", a distance of 1,226.31 feet to a point on th continuing on an azimuth 110°36'19", a distance of 459.14 feet; thence on an azimuth 171°48'41", a changes to one-hundred and thirty (130) feet in width, lying sixty five (65) feet on each side of described feet to the POINT OF ENDING; said ending point being located on an azimuth of 035°15'37", a distance Quarter of said Section 34.

Said tract contains 8,747.19 feet or 530.13 rods (30.07 acres).