Merricourt Wind Farm
6510 88th St SE
Kulm, ND 58456
701-492-1361

November 20, 2019

NDPSC
600 E Boulevard Ave.
Department 408
Bismarck, ND 58505

RE: Case No. PU-19-144

Please see enclosed local permits obtained for the construction of Merricourt Wind Farm project, I have enclosed two hard copies, and a flash drive with electronic copies of the following:

1) Wanzek SPCC plan
2) Wanzek SWPP plan
3) EPCS SWPP
4) Concrete Air Quality Exemption Letter
5) Dickey County Resolution
6) Dickey County Approach Permit, Road 54
7) Dickey County Approach Permit, Road 71
8) Dickey County Approach Permit, Road 74
9) Dickey County Approach Permit, Road 75
10) Dickey County Utility Permit 67th Ave SE
11) McIntosh County Utility Permit 62nd Ave SE North of 91st
12) McIntosh County Utility Permit 62nd Ave SE North of 91st (2)
13) McIntosh County Utility Permit 62nd Ave SE South of 88th
14) McIntosh County Utility Permit 63rd Ave SE south of 91st
15) McIntosh County Utility Permit 64th Ave Se South of 92nd
16) McIntosh County Utility Permit 65th Ave SE North of 90th
17) McIntosh County Utility Permit 65th Ave SE North of 94th
18) McIntosh County Utility Permit 65th Ave SE South of 90th
19) McIntosh County Utility Permit 65th Ave SE South of 90th (2)
20) McIntosh County Utility Permit 65th Ave SE South of 91st

21) McIntosh County Utility Permit 66th Ave SE North of 90th
22) McIntosh County Utility Permit 66th Ave SE South of 88th
23) McIntosh County Utility Permit 88th St SE West of 63rd
24) McIntosh County Utility Permit 88th St SE West of 65th
25) McIntosh County Utility Permit 89th St SE West of 65th
26) McIntosh County Utility Permit 91th St SE East of 63rd
27) Dickey County RMA
28) German Township RMA
29) McIntosh County RMA
30) Temporary Water Permit
31) 1 Flash drive

I will include any future permits with my monthly construction update that I send the first week of the month. Contact us with any questions.

Thank you,

Tammy Schwenn, Administrative Assistant

Enclosures: 31

Merricourt Wind Project

Spill Prevention, Control, and Countermeasure (SPCC) Plan

Dickey and McIntosh Counties, North Dakota

October 2, 2019



Prepared By:

Westwood

Prepared For:

WANZEK

a MasTec company

Westwood

Spill Prevention, Control, and Countermeasure (SPCC) Plan

Merricourt Wind Project

Dickey and McIntosh Counties, North Dakota

Prepared for:

Wanzek Construction, Inc.

4850 32nd Ave. South

Fargo, ND 58104

218-766-1468

Prepared by:

Westwood Professional Services

12701 Whitewater Drive, Suite 300

Minnetonka, MN 55343

(952) 937-5150

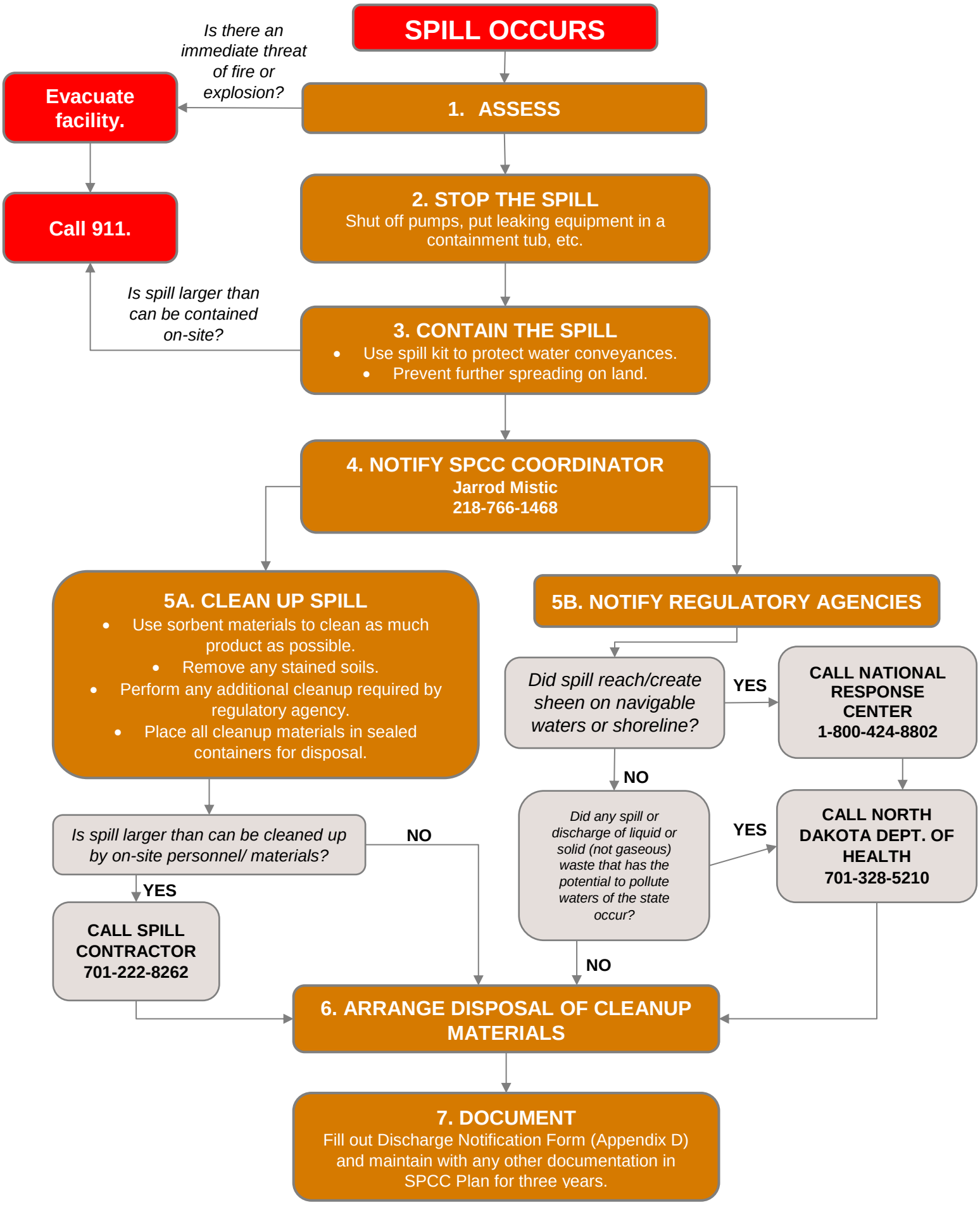
Project Number: 0004641.01

Date: October 2, 2019

TABLE OF CONTENTS

1.0 INTRODUCTION 2
1.1 Purpose 2
1.2 Professional Engineer Certification 3
1.3 Management Certification of the SPCC Plan 4
1.4 Location of the SPCC Plan 5
1.5 Plan Review 5
1.6 SPCC Provision Cross-Reference 5
2.0 GENERAL FACILITY INFORMATION 8
2.1 Description of the Facility 8
2.2 Administration of Responsibility 9
2.3 Oil Storage 10
2.4 Discharge Potential 11
3.0 DISCHARGE PREVENTION 12
3.1 Facility Layout Diagram and Remote Sites 12
3.2 Spill Reporting Procedures 12
3.3 Potential Discharge Volumes and Direction of Flow 13
3.4 Containment Drainage 13
3.5 Containment and Diversionary Structures 14
3.6 Practicability of Secondary Containment 15
3.7 Inspections, Tests, and Records 15
3.7.1 Monthly Inspections 15
3.8 Personnel, Training, and Discharge Prevention Procedures 16
3.9 Security 16
3.10 Loading/Unloading 17
3.11 Brittle Fracture Evaluation 18
3.12 Conformance with State and Local Applicable Requirements 18
4.0 DISCHARGE RESPONSE 19
4.1 Response to a Minor Discharge 20
4.2 Response to a Major Discharge 20
4.3 Waste Disposal 21
4.4 Discharge Notification 21

Appendix A: Substantial Harm Determination **30**
Appendix B: Plan Review Log **31**
Appendix C: Emergency Contacts **32**
Appendix D: Discharge Notification Form **34**
Appendix E: Record of Secondary Containment **36**
Appendix F: Calculation of Secondary Containment **37**
Appendix G: Monthly Facility Inspection **38**
Appendix H: Discharge Prevention Briefing and Training Log **40**



NOTE: This flow chart is to be used for reference only. Please refer to full SPCC Plan text for detailed response instructions.

1.0 INTRODUCTION

1.1 Purpose

This Spill Prevention, Control, and Countermeasure (SPCC) Plan has been prepared for Wanzek Construction, Inc. (Wanzek) for the construction of the Merricourt Wind Project (Project) site located in Dickey and McIntosh Counties, North Dakota ("Facility," see Facility Location Figures). The Project encompasses an area of 13,155 acres; however, construction activity and disturbed area will consist of approximately 660 acres. Construction activity should include installation of up to 75 wind turbines. Construction of the wind turbines requires, but is not limited to, the installation of meteorological towers, an operations and maintenance building, a temporary laydown yard, underground electrical collection, and 16-foot wide gravel access roads with temporary 50 foot wide disturbance due to temporary compacted shoulders (10 feet on each side) for truck transport of materials and crane walking paths. Minor construction activity will be necessary for some existing road and radii.

The purpose of this SPCC Plan is to describe the procedures, methods, equipment, and other requirements that are used to prevent the discharge of oil from non-transportation related facilities into or upon navigable waters of the United States or adjoining shorelines, or that may affect natural resources belonging to, appertaining to, or under the exclusive management of the United States, and to minimize and abate hazards to human health and the environment should such an event occur.

SPCC Plans are prepared and implemented according to United States Environmental Protection Agency (U.S. EPA) regulations contained in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112). A non-transportation related facility is subject to SPCC regulations if: the total aboveground storage capacity exceeds 1,320 gallons; or the underground oil storage capacity exceeds 42,000 gallons; and if, due to its location, the facility could reasonably expect to discharge oil into or upon the navigable waters of the United States. At this Facility, as defined in 2.1 Description of the Facility , the total aboveground oil storage capacity is more than 1,320 gallons; therefore, SPCC regulations apply.

The threat of substantial harm caused by the Facility has been evaluated and certified by Wanzek Construction, Inc. management. It has been determined that this Facility does not pose a risk for substantial harm and that preparation of a Facility Specific Response Plan, pursuant to 40 CFR 112.20, is not required. The Substantial Harm Determination certification is included as Appendix A: Substantial Harm Determination .

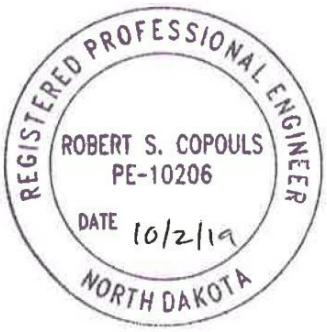
1.2 Professional Engineer Certification

I certify that I am the preparer of this SPCC Plan or it was prepared under my direct supervision.

Furthermore, I certify the following with respect to this Federal SPCC Plan:

- I am familiar with the applicable requirements of 40 CFR Part 112;
- I have visited and examined the Facility or have supervised examination of the Facility by appropriately qualified personnel;
- This SPCC Plan has been prepared in accordance with good engineering practices;
- The procedures for required inspections and testing have been established; and
- The SPCC Plan is adequate for the Facility as herein described.

This certification in no way relieves the owner or operator of the Facility of his/her duty to prepare and fully implement the SPCC Plan in accordance with the requirements of 40 CFR Part 112.



Rob Copouls
North Dakota PE #00211

952-906-7470

October 2, 2019

1.3 Management Certification of the SPCC Plan

The Owner of the Merricourt Wind Project is EDF Renewable Energy (EDF). EDF has engaged Wanzek as the General Contractor for the Project. This SPCC Plan is being managed by Wanzek and applies to the construction of the Project. EDF will prepare a separate SPCC Plan for the operation of the Project that will go into effect once construction is complete.

Wanzek is committed to preventing discharges of oil into navigable waters of the United States or adjoining shorelines, or that may affect natural resources belonging to, appertaining to, or under the exclusive management of the United States through implementation and regular review and amendment to the SPCC Plan during construction of the Merricourt Wind Project. Wanzek has committed the necessary resources to implement the measures described in this SPCC Plan.

I am the designated SPCC Emergency Coordinator and am responsible for implementation of this SPCC Plan. To the best of my knowledge, this SPCC Plan is accurate.

_____

Jarrod Mistic
Wanzek, Assistant Project Manager
218-766-1468
October 2, 2019

1.4 Location of the SPCC Plan

A complete copy of the SPCC Plan will be maintained at the Facility when the Facility is normally attended at least four (4) hours per day or at the nearest field office when the Facility is attended less than four (4) hours per day.

Table 1-1: Location of SPCC Plan

General Location of the Plan	Laydown Yard
Hours Location is Attended	8:00 AM to 5:00 PM Monday through Friday
Specific Location of the Plan	Main office area in the Wanzek construction trailer in the Laydown Yard
Location of Notices Regarding SPCC Plan	Notice of the location of the SPCC Plan will be posted on the Project information board in the Laydown Yard.

1.5 Plan Review

Review and amendments to the SPCC Plan must be made as stated in 40 CFR 112.5 under any of the following circumstances:

- Complete a review and evaluation of the SPCC Plan at least every five (5) years;
- There is a change in Facility design, construction, operation, or maintenance that materially affects the Facility's potential for discharge of oil into navigable waters of the United States or adjoining shorelines, or that may affect natural resources belonging to, appertaining to, or under the exclusive management of the United States; and
- In the event of a spill into waters of the United States or adjoining shorelines or adjoining shorelines, or that may affect natural resources belonging to, appertaining to, or under the exclusive management of the United States.

As a result of the review listed above, the SPCC Plan will be amended within six (6) months to include more effective prevention and control measures for the Facility, if applicable. Amendment will be implemented as soon as possible, but no later than six (6) months following the SPCC Plan amendment.

The review and evaluation must be documented in a Plan Review Log, the form of which is contained in the Appendix B: Plan Review Log . The Plan Review Log must state whether the SPCC Plan will be amended. Any technical revision to the SPCC Plan must be certified by a Professional Engineer in North Dakota.

1.6 SPCC Provision Cross-Reference

This SPCC Plan does not follow the exact order presented in 40 CFR Part 112. The table below presents a cross-reference of Plan sections relative to the applicable parts of 40 CFR Part 112.

Table 1-2: SPCC Cross Reference

Provision	Plan Section	Page
112.3(d)	1.2 Professional Engineer Certification	3
112.3(e)	1.4 Location of the SPCC Plan	5
112.4	4.4 Discharge Notification	21
112.5	1.5 Plan Review	5
112.7	1.3 Management Certification of the SPCC Plan	4
112.7	1.6 SPCC Provision Cross-Reference	5
112.7(a)(3)	2.0 GENERAL FACILITY INFORMATION	8
112.7(a)(3)	3.1 Facility Layout Diagram and Remote Sites	12
112.7(a)(3)	3.2 Spill Reporting Procedures	12
112.7(a)(4)	3.0 DISCHARGE PREVENTION	12
112.7(a)(5)	3.0 DISCHARGE PREVENTION	12
112.7(b)	3.3 Potential Discharge Volumes and Direction of Flow	13
112.7(c)	3.5 Containment and Diversionary Structures	14
112.7(d)	3.6 Practicability of Secondary Containment	15
112.7(e)	3.7 Inspections, Tests, and Records	15
112.7(f)	3.8 Personnel, Training, and Discharge Prevention Procedures	16
112.7(g)	3.9 Security	16
112.7(h)	3.10 Loading/Unloading	17
112.7(i)	3.11 Brittle Fracture Evaluation	18
112.7(j)	3.12 Conformance with State and Local Applicable Requirements	18
112.7(k)	3.3 Potential Discharge Volumes and Direction of Flow	13
112.8(b)	3.4 Containment Drainage	13
112.8(c)(1)	2.3 Oil Storage	10
112.8(c)(2)	3.5 Containment and Diversionary Structures	14
112.8(c)(3)	3.4 Containment Drainage	13
112.8(c)(6)	3.7 Inspections, Tests, and Records	15
112.8(c)(8)	3.5 Containment and Diversionary Structures	14
112.8(c)(10)	3.7 Inspections, Tests, and Records	15
112.8(d)	3.7 Inspections, Tests, and Records	15

Table 1-2: SPCC Cross Reference

Provision	Plan Section	Page
112.20(e)	Certification	30
112.20(f)2(i)	2.4 Discharge Potential	11

Oil Contingency Plan Cross-Reference

This SPCC Plan does not follow the exact order presented in 40 CFR Part 109.5 for Oil Contingency Plans. The table below presents a cross-reference of Plan sections relative to the applicable parts of 40 CFR Part 109.5.

Table 1-3: Oil Contingency Plan Cross-Reference

Provision	Plan Section	Page
109.5(a)	3.9 Security	0
109.5(b)(1)	2.3 Oil Storage	10
109.5(b)(2)		31
109.5(b)(3)	4.4 Discharge Notification	21
109.5(b)(4)	4.4 Discharge Notification	21
109.5(c)(1)	3.6 Practicability of Secondary Containment	15
109.5(c)(2)	3.4 Containment Drainage	13
109.5(c)(3)	3.9 Security	16
109.5(d)(1)	3.9 Security	16
109.5(d)(2)	3.9 Security	16
109.5(d)(3)	2.1 Description of the Facility	8
109.5(d)(4)	4.0 DISCHARGE RESPONSE	19
109.5(d)(5)	2.3 Oil Storage	10
109.5(e)	3.12 Conformance with State and Local Applicable Requirements	18

2.0 GENERAL FACILITY INFORMATION

2.1 Description of the Facility

Table 2-1: Facility Information

Owner Information	
Owner Legal Entity	EDF Renewable Energy
Owner Best Contact	John Papasergia
Address	15445 Innovation Drive, San Diego, CA 92128
Owner Best Contact Phone and Email	303-981-7452; john.papasergia@edf-re.com
Operator Information	
General Contractor Company	Wanzek Construction, Inc.
General Contractor On-Site Representative	Jarrod Mistic
Address	4850 32nd Avenue South, Fargo, ND 58104
General Contractor Phone; On-site Manager Email	218-766-1468; jmistic@wanzek.com
Facilities Include:	
Laydown Yard	7 Acres
Remote Sites	75 Turbines
Facility	
Facility Address	6510 88th Street SE, Kulm, ND 58456

The Facilities (Figure 1) are located in Dickey and McIntosh Counties, North Dakota and include a temporary laydown yard (Figure 4) and individual turbine sites (Remote Sites, Figure 3). Together, these areas are referred to as the "Facilities." Construction activity will disturb an area consisting of approximately 660 acres, consisting of both temporary and permanent improvements. The Drainage Map showing the direction of drainage and surface waters receiving runoff from the Facility can be referenced in Figure 2.

The majority of contaminants will be stored at the temporary construction Laydown Yard where oil products are stored in several aboveground storage tanks (ASTs) for use during construction. The tanks are used by Wanzek and its subcontractors primarily to store fuel and other vehicle fluids. A fuel truck is used to transport fuel from the Laydown Yard to the construction equipment as needed.

Hours of operation for the Facility are typically between 8:00 AM to 5:00 PM. There are construction trailers/offices at the Laydown Yard that are used by EDF, Wanzek, and other subcontractors. Access to the Laydown Yard is off 88th Street SE.

At the Remote Sites, construction will include using distinct crews for the construction of each component of the turbines. The crews move from turbine site to turbine site as the construction progresses, and may be at 2-3 sites per day. The number of active turbine construction sites varies, but typically there may be construction occurring at up to approximately fifty different sites.

Locations of all of the Facilities are shown in the Facility Location Figures.

2.2 Administration of Responsibility

To fully implement this SPCC Plan, the assistance and cooperation of multiple parties is required. The following descriptions outline key roles and responsibilities involved in the implementation of this SPCC Plan.

Owner Legal Entity

EDF is the owner of the Merricourt Wind Project. EDF has engaged Wanzek as the General Contractor for the Project. Owner's responsibilities include:

- Ensure those who work with oil on the Project are aware of and follow the requirements of this SPCC Plan;
- Follow the established policies and procedures of this SPCC Plan; and
- Enforce the requirements of the SPCC Plan and have overall responsibility of the Project and SPCC Plan requirements.

General Contractor Company

Wanzek is the General Contractor for the construction of the Merricourt Wind Project. Wanzek is responsible for the construction of wind turbines, associated access roads, meteorological towers, laydown yard, O&M facility, and electrical collection. Wanzek will engage an oil company to supply fuel for the project. Specific responsibilities include:

- Serve as SPCC Emergency Coordinator;
- Perform inspections to ensure compliance with the provisions of this SPCC Plan;
- Coordinate training and maintain training records;
- Maintain the SDS sheets;
- Maintain security of oil storage areas;
- Notify the Owner of any releases;
- Investigate oil releases;
- Provide the proper notification for environmental releases;
- Ensure corrective action is taken in the event of a release;
- Coordinate disposal of waste materials;
- Ensure that emergency response equipment is available and working properly; and
- Update the SPCC Plan as required.

Subcontractors

Subcontractors will be selected for the construction of rebar installation and turbine electrical equipment. Subcontractor responsibilities include:

- Follow the established policies and procedures of this SPCC Plan;
- Adhere to fuel transfer procedures established in the SPCC Plan;
- Ensure the personnel have appropriate training; and
- Inform Wanzek of any releases and ensure that corrective action is taken.

2.3 Oil Storage

The Contractor shall use storage containers that are compatible with the material stored within considering pressure and temperature.

Bulk oil storage at the Facility consists of numerous fixed ASTs and various fifty-five (55) gallon drums. An inventory of the products stored at the Facility is shown below. All containers with a capacity of fifty-five (55) gallons or more are included, unless otherwise exempt from the rule.

Oil tanks used at this Facility are constructed of steel or plastic. The design and construction of all bulk storage containers is compatible with the characteristics of the oil product they contain and with applicable temperature and pressure conditions.

Table 2-2: Oil Storage Inventory

Capacity (gallons)	Quantity	Content	Storage Containment	Secondary Containment	Party Responsible for Oil Storage
Laydown Yard					
2,000	2	Off-road Diesel	Aboveground Storage Tank (Single-walled)	Containment Berm	Wanzek
2,000	1	On-road Diesel	Aboveground Storage Tank (Single-walled)	Containment Berm	Wanzek
1,000	2	Unleaded Gas	Aboveground Storage Tank (Single-walled)	Containment Berm	Wanzek
Remote Sites					
100	75	Gearbox Oil	WTG Gearbox	Self-contained	Wanzek
110	75	Hydraulic Oil	WTG Gearbox	Self-contained	Wanzek
900	1	Off-road Diesel	Tank Truck	Active Containment/ Sorbent Materials	Wanzek

2.4 Discharge Potential

The overall project area is divided between five (5) major receiving waterbodies or closed basins: Schlenker Dam, Nitschke Landing Strip, Coldwater Lake, and unnamed closed basins. These receiving waterbodies or basins fall within five (5) primary watersheds: Schlenker Dam, HUC12 101600040102, HUC12 101600040101, Coldwater Lake, and Nitschke Landing Strip. The Facility has multiple discharge points to the receiving waters but the runoff directly from the disturbed areas is generally non-point discharges via overland flow. Due to the remote nature and large quantity of turbine sites, drainage patterns vary for each turbine site. However, it is unlikely that simultaneous discharges will occur at multiple turbine sites. If a discharge reaches a navigable water, the priority is to control it before it discharges downstream to other water uses. Point discharge locations are noted below and are located within the drainage areas shown on Figure 2. The named receiving watersheds are:

Schlenker Dam: This watershed receives 45,486 acres of overland drainage and ultimately drains into the Schlenker Dam closed basin. This watershed contains approximately five (5) wind turbines. Drainage from the five (5) remote wind turbine sites varies depending upon the individual locations of the turbines.

HUC12 101600040102: This watershed receives 35,772 acres of overland drainage and ultimately drains into an unnamed closed basin. This watershed contains approximately thirty-six (36) wind turbines and the project Laydown Yard. The Laydown Yard is located on relatively flat terrain and consists of a compacted gravel surface. Drainage generally flows south within the facility and drains via overland flow to an unnamed tributary approximately 2,937 feet southwest of the Laydown Yard. Drainage from the thirty-six (36) remote wind turbine sites varies depending upon the individual locations of the turbines.

HUC12 101600040101: This watershed receives 13,135 acres of overland drainage and ultimately drains into an unnamed closed basin. This watershed contains approximately twenty-five (25) wind turbines. Drainage from the twenty-five (25) remote wind turbine sites varies depending upon the individual locations of the turbines.

Coldwater Lake: This watershed receives 37,309 acres of overland drainage and ultimately drains into the Cold Lake closed basin. This watershed contains approximately two (2) wind turbines. Drainage from the two (2) remote wind turbine sites varies depending upon the individual locations of the turbines.

Nitschke Landing Strip: This watershed receives 26,765 acres of overland drainage and ultimately drains into the Nitschke Landing Strip closed basin. This watershed contains approximately seven (7) wind turbines. Drainage from the seven (7) remote wind turbine sites varies depending upon the individual locations of the turbines.

Because this is a new construction project, there is no previous history of any discharge at the Facility.

3.0 DISCHARGE PREVENTION

The following measures must be implemented to prevent oil discharges during the handling, use, or transfer of oil products at the Facility. Oil-handling employees must receive training in the proper implementation of the measures.

3.1 Facility Layout Diagram and Remote Sites

The Drainage Map is attached in the Facility Location Figures . Facility Layout Diagrams are attached for each of the facilities described above which show the location of storage tanks and general layout. As required under 40 CFR 112.7(a)(3), the Facility diagrams indicate the location and contents of ASTs, underground storage tanks (USTs), and transfer stations and connecting piping.

3.2 Spill Reporting Procedures

A list of Emergency Contacts is in Appendix C. A Discharge Notification Form, included as Appendix D, will be completed immediately upon detection of a discharge and prior to reporting a spill to the proper authorities. More detailed spill reporting procedures are contained in Section 4.4.

3.3 Potential Discharge Volumes and Direction of Flow

The table below contains expected volume, discharge rate, general direction of flow in the event of equipment failure at the Facility, and means of secondary containment.

Releases from oil-filled construction equipment could range from gradual to instantaneous depending upon the type of leak. Direction of flow will depend on the location of the operational equipment with respect to the Remote Sites.

Table 3-1: Potential Discharge Volumes and Direction of Flow

Potential Event	Maximum Volume Released (Gallons)	Maximum Discharge Rate	Direction of Flow	Secondary Containment
Laydown Yard				
Tank Overfill	90	1 gal/min*	South	Containment Dike
Hose Leak During Unloading	90	1 gal/min*	South	Containment Dike
Dispenser Hose Rupture	90	1 gal/min*	South	Containment Dike
Tank Rupture	2,000 (max tank value)	Gradual to Instantaneous	South	Containment Dike
Remote Sites				
Leaking/Rupturing Gearbox	100	Gradual to Instantaneous	Varies	Self-contained
Leaking/Rupturing Hydraulic Unit	110	Gradual to Instantaneous	Varies	Self-contained
Leaking/Rupturing Tank	900	Gradual to Instantaneous	Varies	Active Containment/ Sorbent Materials
***Assumes a maximum of 1.5 hours before discovery. In the event of a complete tank rupture, a maximum of 90 gallons could potentially be released before facility response personnel are able to mitigate the discharge. The large spill kits at the Laydown Yard (absorption capacity of 95 gallons) as well as the readily-available small spill kits in on-site vehicles (absorption capacity of 5 gallons) would be sufficient to clean up an oil spill of this size.**				

3.4 Containment Drainage

Drainage from the containment pits surrounding tanks at the Laydown Yard are controlled by the impervious sides of the tubs and pits. The areas are drained by Wanzek by both manual and

automatic pumps. The retained rainwater is inspected by Wanzek prior to draining to ensure that only oil-free water is discharged. A sorbent filter boom will be used to absorb any oils in the containment area. Drainage events are recorded in the log included in Appendix E.

3.5 Containment and Diversionary Structures

Methods of secondary containment at this Facility include a combination of prefabricated structures and land-based spill response to prevent oil from reaching navigable waters and adjoining shorelines. All secondary containment structures shall be sized to hold a minimum of 110% of the volume of the single largest tank within the containment area. Calculations for the secondary containment capacities are included in Appendix F.

Double-walled Tanks

All ASTs will be double-walled to meet EPA SPCC secondary containment requirements under 40 CFR Part 112.7(c). Any ASTs with a storage capacity of 660 gallons or more storing Class I, II, or IIIA combustible liquids is required to have vent pipe outlets located twelve (12) feet above ground level under the International Fire Code.

Tubs, Totes, Pits, and Earthen Berms

The ASTs and other storage containers may be stored within tubs, pits, or earthen berms at the Laydown Yard. The bottom and sides are impermeable to restrict the flow of oil outside the containment area. The height of the containment must be a minimum of twelve inches, which provides adequate freeboard for precipitation.

In transfer areas and other parts of the Facility, such as the Remote Sites where a discharge could occur, the following measures shall be implemented:

Drip Pans

During fueling operations outside of the secondary containment structures, drip pans may be utilized to contain small leaks from piping/hose connections. Drip pans may also be utilized during field repair and maintenance of oil-filled construction operational equipment.

Sorbent Material

Spill cleanup kits that include sorbent material, booms, or other portable barriers shall be located near the oil storage area in the Laydown Yard. Portable spill kits shall be located in lube trucks and mechanics trucks. The spill kits are located within close proximity of the oil product storage and handling areas for rapid deployment in the event of a discharge outside the containment area or at the turbine sites.

3.6 Practicability of Secondary Containment

It has been determined that secondary containment is practicable at this facility at the Laydown Yard and Remote Sites (turbine gearboxes). In lieu of providing sized secondary containment for the tank trucks at the Remote Sites, this SPCC Plan meets the requirements of an Oil Contingency Plan as an Alternative Requirement to General Secondary Containment as set forth in 40 CFR 112.7(k)(2). The additional Oil Contingency Plan establishes the procedures for preventing, detecting, and responding to equipment failure and/or discharges. The Oil Contingency Plan meets the requirements set forth in 40 CFR 109.5.

3.7 Inspections, Tests, and Records

Visual inspections of tanks and containment areas are conducted monthly. Inspection of the outside of the container for signs of deterioration, discharges, or accumulation of oil inside containment areas is conducted.

3.7.1 Monthly Inspections

The monthly inspection checklist is provided in Appendix G. The monthly inspections cover the following key elements:

- Observing the exterior of aboveground storage tanks, pipes, and other equipment for signs of deterioration, leaks, corrosion, and thinning;
- Observing the exterior of portable containers for signs of deterioration or leaks;
- Observing the tank fill and discharge pipes and hoses for signs of poor connection that could cause a discharge, and tank vent for obstructions and proper operation;
- Verifying the proper functioning of overfill prevention systems; and
- Checking the inventory of discharge response equipment and restocking as needed.

Each aboveground tank will be tested for integrity on a regular schedule and whenever material repairs are made. The regulations require visual inspections combined with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. For small, non-regulated aboveground tanks, such as those in use at the Facility, the testing can be substituted by a more detailed visual inspection in accordance with the Steel Tank Institute (STI) Standard for the Inspection of Aboveground Storage Tanks, SP-001, latest version (Appendix G). This inspection will be performed annually.

Visual inspection is considered sufficient for other bulk oil storage. The containers are visually examined on a daily basis (cursory observations) and monthly basis (written inspection) for signs of deterioration or leaks and are immediately replaced if signs of deterioration or leaks are apparent.

The tanks are not equipped with visual gauges or high level alarms. In order to provide equivalent environmental protection, the operator determines the volume of oil in the container prior to transferring oil into the tank. Additionally, trained oil-handling personnel

are present during loading/unloading activities.

Fire extinguishers will be visually inspected monthly and certified annually. Level gauge accuracy will be verified by a comparison to a stick test at least annually.

All problems regarding tanks, piping, containment, or response equipment will be immediately reported to the SPCC Emergency Coordinator listed in Section 1.3. Visible oil leaks from tank walls, piping, or other components must be repaired as soon as possible to prevent a larger spill or discharge to navigable waters or adjoining shorelines. Pooled oil shall be removed immediately upon discovery.

3.8 Personnel, Training, and Discharge Prevention Procedures

The SPCC Emergency Coordinator will be the facility designee and will be responsible for oil discharge prevention, control, and response preparedness activities at this facility. Wanzek management will instruct oil-handling facility personnel in the operation and maintenance of oil pollution prevention equipment, discharge procedure protocols, applicable pollution control laws, rules and regulations, general facility operations, and the content of this SPCC Plan. Any new Facility personnel with oil-handling responsibilities shall be provided with this same training prior to being involved in any oil operation associated with the Project. The site spill clean-up contractor designated by Wanzek is Safety Kleen. In the event of a larger spill (defined as one that cannot be safely controlled or cleaned up by facility personnel), Wanzek will contact the designated site spill clean-up contractor and/or 911 to provide emergency response services.

Annual discharge prevention briefings shall be held by the SPCC Emergency Coordinator for all Facility personnel involved in oil operations. The briefings are aimed at ensuring adequate understanding of the SPCC Plan. The briefing will highlight and describe known discharge events or failures, malfunctioning components, and any recently developed precautionary measures.

Records of the briefing and discharge prevention training shall be kept on the form contained in Appendix H and maintained with this SPCC Plan for a period of three (3) years from the briefing/ training date.

3.9 Security

Fencing is generally not provided at the Facility. Instead, environmental equivalent protection is being provided by the temporary nature of the construction, the remote locations, full-time Facility personnel at the Laydown Yard Monday through Friday 8:00 AM to 5:00 PM, security guards, and locked storage tanks at night. Pole lighting will be installed around the yard. Security will be present whenever the Contractor is not present on site (normally nights on weekdays and twenty-four (24) hours on the weekends).

Drain valves shall be locked in the closed position to prevent unauthorized opening at all times. Fill caps on the tanks are locked at all times when not in operation. The fuel dispenser is chained and locked at night so that it cannot be removed when the Facility is not attended. With the dispenser locked in place, the fuel dispensing pump shall be turned off.

3.10 Loading/Unloading

There is no dedicated loading/unloading rack at the Facility during the construction phase of the Project. Tank truck loading/unloading procedures conform to regulations established by the U.S. Department of Transportation. Wanzek will ensure that vendors understand the site layout, that they know the protocols for unloading oil products, and that they have the necessary equipment to respond to a discharge from the vehicle or fuel delivery hose. This applies to loading/unloading at both the Laydown Yard and Remote Sites.

Vehicle filling and unloading operations at the Laydown Yard shall be performed by Facility personnel trained in proper discharge prevention procedures. The truck driver or Facility personnel shall stay with and monitor the vehicle at all times while fuel is being transferred. Transfer operations shall be performed according to the procedures listed in the table below.

Table 3-2: Fuel Transfer Procedures

Prior to loading/ Unloading	
	Visually check hoses for leaks and wet spots.
	Verify the sufficient volume is available in the storage tank or truck.
	Lock, in the closed position, all drainage valves of the secondary containment structure.
	Secure the tank vehicle/set parking brakes.
	Verify proper alignment of valves and proper functioning of the pumping system.
	If filling a tank truck, inspect the lowest drain and all outlets.
	Establish adequate bonding/grounding prior to connecting to the bulk fuel transfer point.
	Turn off cell phone.
	No smoking.

During loading/ Unloading	
	Driver must stay with the vehicle at all times during loading/unloading.
	Periodically inspect all systems, hoses, and connections.
	When loading, keep internal and external valves on the receiving tank open along with the pressure relief valves.
	When making a connection, shut off the vehicle engine. When transferring flammable liquid, shut off the engine unless it is used to operate a pump.
	Maintain communication with the pumping and receiving stations.
	Monitor the liquid level in the receiving tank to prevent overflow.

	Watch for any leaks or spills. Any small leaks or spills should be immediately stopped and then absorbed and disposed of properly.

After Loading/ Unloading	
	Make sure the transfer operation is complete.
	Close all tank and loading valves before disconnecting.
	Secure all hatches.
	Disconnect all grounding/bonding wires from the bulk fuel transfer point.
	Make sure the hoses are drained to remove remaining oil before moving them away from the connection. Use a drip pan.
	Cap the end of the hose and other connecting devices before moving them to prevent uncontrolled leakage.
	Inspect the lowest drain and other outlets on tank truck prior to departure. If necessary, tighten, adjust, or replace caps, valves, or other equipment to prevent oil leaking while in transit.
	Inspect the loading/unloading point and tank to verify that no leaks have occurred or that any leaked or spilled material has been cleaned up and disposed of properly.

3.11 Brittle Fracture Evaluation

There are no field constructed tanks at the Facility.

3.12 Conformance with State and Local Applicable Requirements

Spill Reporting

Each responsible Owner or Operator at the Facility is required to get all necessary tanks approved, registered, and permitted with applicable Federal, State, and Local Agencies, including the State Fire Marshal. Any spill or discharge of liquid or solid (not gaseous) waste which may cause pollution of waters of the state must be reported immediately (NDAC 33-16-02.1-11 paragraph 4, bottom of page 22). The owner, operator, or person responsible for a spill or discharge must notify the North Dakota Department of Health as soon as possible (701-328-5210), the North Dakota Oil and Gas Division (701-328-8020), and/or the North Dakota hazardous materials emergency assistance and spill reporting number (1-800-472-2121) and provide all relevant information about the spill. Depending on the severity of the spill or accidental discharge, the department may require the owner or operator to:

- Take immediate remedial measures;
- Determine the extent of pollution to waters of the state;
- Provide alternate water sources to water users impacted by the spill or accidental

discharge; or
- Any other actions necessary to protect human health and the environment.

Non-emergency releases may be reported by filling out the online Environmental Incident Report Form: https://deq.nd.gov/eir/NonOilfield/.

Reportable Quantities

Specific minimum quantities for mandatory reporting of spills have not been established. All spills which may potentially impact human health, the environment, or waters of the state – either surface water or groundwater – must be reported. This includes all substances, not just "hazardous materials."

Emergency Response

Some releases may require immediate response by trained emergency personnel. This will be coordinated through the Department of Health, Division of Emergency Management and any other state or local emergency response agencies that may be needed.

Environmental Investigation and Cleanup

Some releases may require additional investigation beyond initial clean up to determine full impacts to the environment. This may include soil borings and samples, monitoring wells and groundwater samples, etc.

4.0 DISCHARGE RESPONSE

The steps and information below outline to respond and implement cleanup procedures in the event of an oil discharge. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by state and/or federal laws. Immediate action must be taken to control, contain, and recover discharged product.

In general, the following steps shall be taken:

- Eliminate potential spark sources;
- If possible and safe to do so, identify and shut down the source of discharge to stop the flow;
- Contain the discharge with containers, sorbents, berms, trenches, sandbags, or other material;
- Contact the SPCC Emergency Coordinator or his/her alternate;
- Collect and dispose of recovered products according to regulation;
- Contact regulatory authorities and the response organization and report the release; and
- Ensure refuse materials are hauled off by a permitted hauler to a permitted facility.

For purposes of establishing appropriate response procedures, this SPCC Plan classifies discharges as either “minor” or “major”, depending on the volume and characteristics of the material released.

A list of Emergency Contacts is provided in Appendix C. This list identifies personnel to be contacted in case of emergency and shall be posted on the information board in the Laydown Yard.

4.1 Response to a Minor Discharge

A "minor" discharge is defined as one that poses no significant harm (or threat) to human health and safety or to the environment. Minor discharges are generally those where:

- The quantity of product discharged is small;
- Discharged material is easily stopped and controlled at the time of discharge;
- Discharge is localized near the source;
- Discharged material is not likely to reach water, groundwater, or field drains;
- There is little risk to human health and safety; and
- There is little risk of fire or explosion.

Minor discharges can usually be cleaned by Facility personnel. The following procedures apply:

- Immediately notify the SPCC Emergency Coordinator;
- Under direction of the SPCC Emergency Coordinator, contain the discharge with discharge response materials and equipment. Place discharge debris in properly labeled waste containers; and
- The SPCC Emergency Coordinator will complete the discharge notification form in Appendix D and attach a copy to this SPCC Plan.

4.2 Response to a Major Discharge

A "major" discharge is defined as one that cannot be safely controlled or cleaned up by Facility personnel, such as when:

- The discharge is large enough to spread beyond the immediate discharge area;
- The discharged material enters water, groundwater, or sewer drains;
- The discharge requires special equipment or training to clean up;
- The discharge material poses a hazard to human health or safety; or
- There is a danger of fire or explosion.

In the event of a major discharge, the following guidelines apply:

- Safety of personnel is the primary concern. No countermeasures that risk the health or safety of personnel should be undertaken;
- If the SPCC Emergency Coordinator is not present at the Facility, the senior on-site person shall notify the SPCC Emergency Coordinator of the discharge and has the authority to initiate notification and response;
- No smoking, open flames, cell phones, or other spark-inducing equipment is permitted in the area of a flammable material spill;
- Facility personnel should stop the source of the leak or spill if possible by closing a valve, turning off a pump, sealing a hole, etc. Facility personnel should take the following actions to contain the spill: use absorbent pads, booms, sand, and/or speedi-dri materials to stop the spread of the spill. Contaminated soil should be placed on an impermeable liner for containment;
- Emergency medical treatment and first aid shall be administered by personnel certified

in first aid/CPR. The SPCC Emergency Coordinator (or senior on-site person) must call for medical assistance if workers are injured;
- Establish fire prevention measures in the vicinity of the spill. Divert traffic (vehicular and pedestrian) from the area. The SPCC Emergency Coordinator (or senior on-site person) must call the local Fire Department or Police Department;
- If Facility personnel are unsure of the hazards involved, the amount of the spill is too large, or a release to navigable waters or adjoining shorelines is threatened, the SPCC Emergency Coordinator (or senior on-site person) shall call for outside assistance from a spill response/cleanup contractor;
- The SPCC Emergency Coordinator (or senior on-site person) will immediately (within fifteen (15) minutes) call the National Response Center (800-424-8802), the North Dakota Department of Health (701-328-5210), the North Dakota Oil and Gas Division (701-328-8020), and/or the North Dakota hazardous materials emergency assistance and spill reporting number (1-800-472-2121);
- The SPCC Emergency Coordinator (or senior on-site person) will complete the discharge notification form in Appendix D and attach a copy to this SPCC Plan; and
- The SPCC Emergency Coordinator (or senior on-site person) will coordinate cleanup and contract a cleanup contractor as necessary.

If the SPCC Emergency Coordinator is not available at the time of the discharge, then the next highest person in seniority assumes responsibility for coordinating response activities.

4.3 Waste Disposal

Waste resulting from a minor discharge response will be contained in impervious bags, drums, or buckets. The SPCC Emergency Coordinator will characterize the waste for proper disposal and ensure it is removed from the Facility by a licensed waste hauler.

Wastes resulting from a major discharge response will be removed and disposed of by a licensed cleanup contractor. Waste materials will be disposed of in accordance with federal, state, and local regulations.

Wanzek has contracted with Safety Kleen (701-222-8262) in the event that hazardous material needs to be removed from the site.

4.4 Discharge Notification

The individual identifying the release shall immediately contact the facility SPCC Emergency Coordinator. The SPCC Emergency Coordinator or designee will be responsible for notifying the appropriate regulatory agencies and, if necessary, the spill clean-up contractor. Any size discharge that affects or threatens to affect navigable waters (i.e. one that creates an oil film, sheen, emulsion, or sludge upon navigable waters or adjoining shorelines) must be reported immediately (within fifteen (15) minutes) to the National Response Center (800-424-8802). The National Response Center is staffed twenty-four (24) hours a day.

Any size discharge that affects or threatens to affect navigable waters (i.e. one that creates an oil film, sheen, emulsion, or sludge upon navigable waters or adjoining shorelines) must be reported

immediately (within fifteen (15) minutes) to the National Response Center (800-424-8802). The National Response Center is staffed twenty-four (24) hours a day.

Any spill or discharge of liquid or solid (not gaseous) waste which may cause pollution of waters of the state must be reported immediately (NDAC 33-16-02.1-11 paragraph 4, bottom of page 22). The owner, operator, or person responsible for a spill or discharge must notify the North Dakota Department of Health as soon as possible (701-328-5210), the North Dakota Oil and Gas Division (701-328-8020), and/or the North Dakota hazardous materials emergency assistance and spill reporting number (1-800-472-2121) and provide all relevant information about the spill. Depending on the severity of the spill or accidental discharge, the department may require the owner or operator to:

- Take immediate remedial measures;
- Determine the extent of pollution to waters of the state;
- Provide alternate water sources to water users impacted by the spill or accidental discharge; or
- Any other actions necessary to protect human health and the environment.

Non-emergency releases may be reported by filling out the online Environmental Incident Report Form: https://deq.nd.gov/eir/NonOilfield/. Specific minimum quantities for mandatory reporting of spills have not been established. All spills which may potentially impact human health, the environment, or waters of the state – either surface water or groundwater – must be reported. This includes all substances, not just "hazardous materials."

In addition, 40 CFR 112.4 requires that information be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator for Region 8 (800-424-8802) and the appropriate state agency in charge of oil pollution control activities – in this case, the North Dakota Department of Health (701-328-5210) – whenever the facility discharges more than 1,000 gallons of oil to a navigable water in a single event or discharges more than forty-two (42) gallons of oil to navigable waters in each of two discharge incidents within a twelve-month (12) period.

Contact information for reporting the discharge to the appropriate authorities is listed in Appendix C and is also posted at the information board in the Laydown Yard.

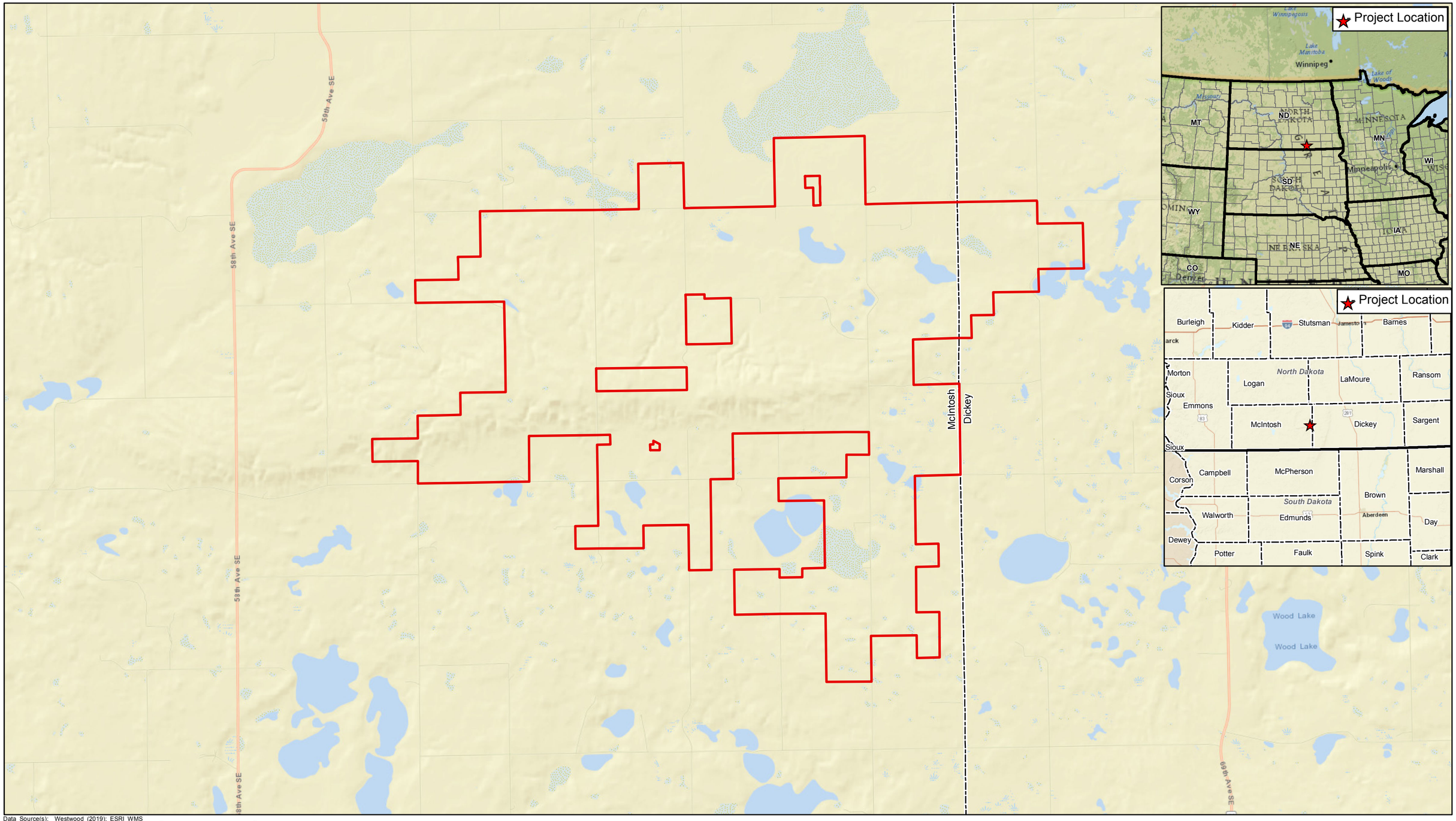
A summary sheet is included in Appendix D to facilitate the reporting. The person reporting the discharge will provide the following information:

- Name, location, organization, and telephone number;
- Name and address of the party responsible for the incident;
- Date and time of the incident;
- Source and cause of the release or discharge;
- Type of material(s) released or discharged;
- Quantity of materials released or discharged;
- Danger or threat posed by the release or discharge;
- Number and type of injuries, if any;
- Media affected or threatened by the discharge (i.e. water, land, or air);
- Action used to stop, remove, and mitigate the effects of the discharge;

- Whether an evacuation is needed;
- Names of individuals and/or organizations who have been contacted;
- Weather conditions at the incident location; and
- Any other information that may help emergency personnel respond to the incident.

FACILITY LOCATION FIGURES

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Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

N

0 1 Miles

Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

Vicinity Map

August 02, 2019

Map Document: N:\0004641.01\GIS\SPCC Exhibits\2019-08-02_Merricourt_Vicinity Map.mxd ELMickelson 8/2/2019 12:54:19 PM

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Name: Schlenker Dam
HUC 12: 101600040104
Drains To: CLOSED BASIN

Name: 101600040102
HUC 12: 101600040102
Drains To: CLOSED BASIN

Name: 101600040101
HUC 12: 101600040101
Drains To: CLOSED BASIN

Name: Nitschke Landing Strip
HUC 12: 101301060303
Drains To: CLOSED BASIN

Name: Coldwater Lake
HUC 12: 101301060304
Drains To: CLOSED BASIN

McIntosh

Dickey

Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary
- HUC 12 Boundary
- Laydown Yard
- Crane Path
- Collection Line
- NWI Wetlands
- NHD Flowline
- Access Road
- Turbine Array

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Westwood Professional Services, Inc.

Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

N

0 0.75 Miles

Drainage Map

August 02, 2019

Map Document: N:\0004641.01\GIS\SPCC Exhibits\2019-08-02_Merricourt_Drainage Map.mxd ELMickelson 8/2/2019 1:01:06 PM

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McIntosh

Dickey

Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary
- HUC 12 Boundary
- Turbine Array
- NHD Flowline

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Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

N

0 Feet 3,700

Remote Sites Map

August 02, 2019

Map Document: N:\0004641.01\GIS\SPCC Exhibits\2019-08-02_Merricourt_Remote Sites Map.mxd ELMickelson 8/2/2019 1:10:30 PM

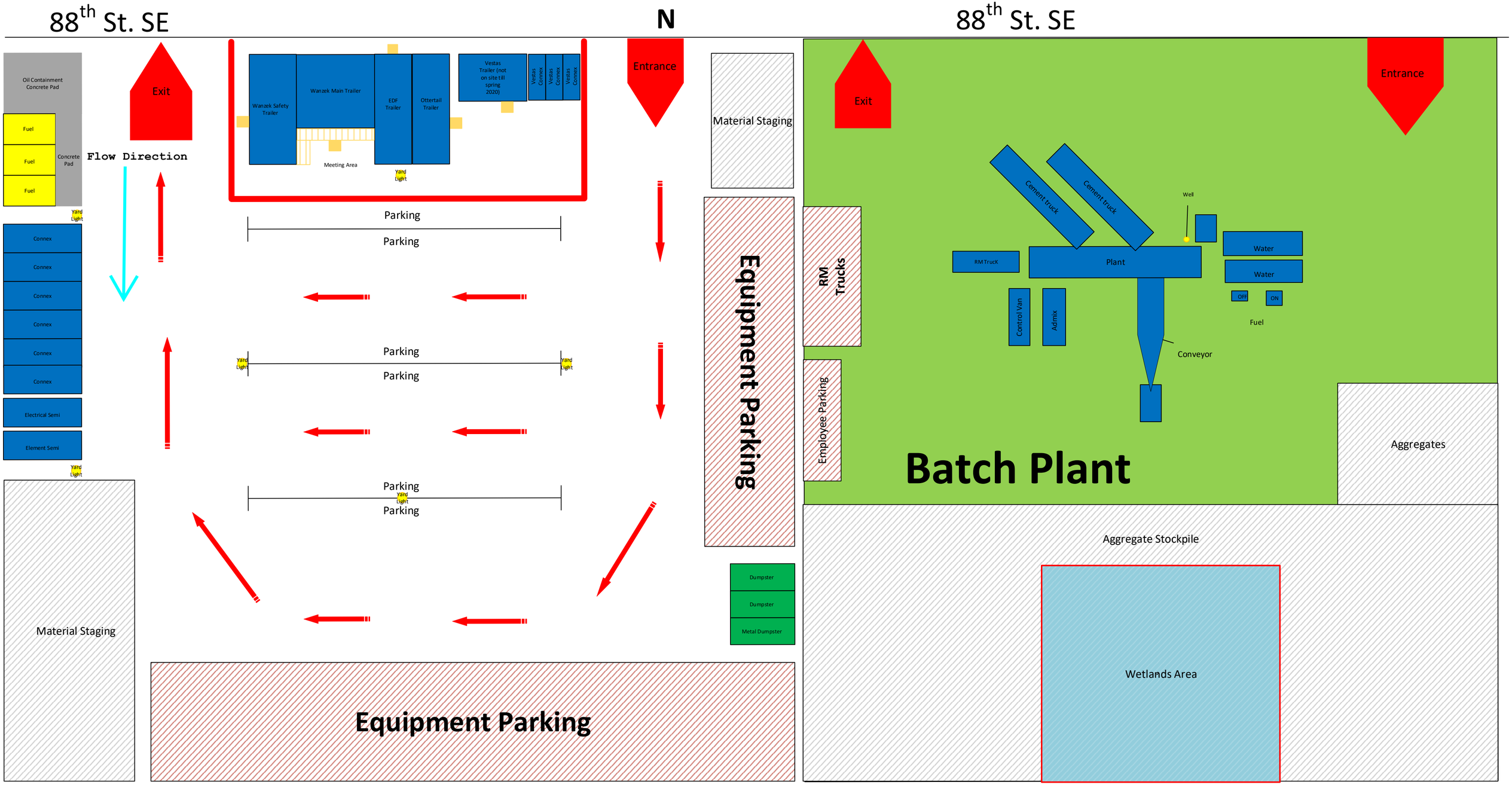


Figure 4: Laydown Layout Map

APPENDICES

APPENDIX A: SUBSTANTIAL HARM DETERMINATION

Facility Name: Merricourt Wind Project
Facility Address: 6510 88th Street SE, Kulm, ND, 58456

Substantial Harm Determination

Does the Facility transfer oil over water to or from vessels and does the Facility have a total oil storage capacity greater than or equal to 42,000 gallons?	No
Does the Facility have a total oil storage capacity greater than or equal to one million gallons and does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?	No
Does the Facility have a total oil storage capacity greater than or equal to one million gallons and is the Facility located at a distance (as calculated using the appropriate formula in 40 CFR Part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the Facility could cause injury to fish and wildlife and sensitive environments?	No
Does the Facility have a total oil storage capacity greater than or equal to one million gallons and is the Facility located at a distance (as calculated using the appropriate formula in 40 CFR Part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the Facility would shut down a public drinking water intake?	No
Does the Facility have a total oil storage capacity greater than or equal to one million gallons and has the Facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last five years?	No

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature & Date	10/9/2019
Printed Name	Jarrod Mistic
Company and Title	WANZEK APM

APPENDIX B: PLAN REVIEW LOG

Five (5) Year Review Log (not anticipated to be needed)

I have completed a review and evaluation of the SPCC Plan for this Facility and will/will not amend this SPCC Plan as a result.

Five (5) Year Review Log (not anticipated to be needed)

Review Date	SPCC Plan Amendment	Name and Signature of Person Authorized to Review This SPCC Plan

Technical Amendment Log

Any technical amendments to this SPCC Plan will be re-certified by a licensed Professional Engineer.

Technical Amendment Log

Review Date	Description of Technical Amendment	Name and Signature of Person Certifying This Technical Amendment

APPENDIX C: EMERGENCY CONTACTS

EMERGENCY CONTACTS

Person responsible for spill prevention: Jarrod Mistic, Wanzek Construction, Inc. Assistant Project Manager

EMERGENCY TELEPHONE NUMBERS

Facility:	
Jarrod Mistic, Wanzek Construction, Inc. Assistant Project Manager	218-766-1468 4850 32nd Avenue South, Fargo, ND 58104
Skye Shibley, Site Manager	406-679-2202 4850 32nd Avenue South, Fargo, ND 58104
John Papasergia, Site Manager	303-981-7452 15445 Innovation Drive, San Diego, CA 92128
Designated Spill Contractor:	
Safety Kleen	701-222-8262 3704 Saratoga Avenue, Bismarck, ND 58503
Local Emergency Response:	
Dickey County 911	911
McIntosh County 911	911
Dickey County Sheriff	701-349-3215 309 2nd Street North, Ellendale, ND 58436
McIntosh County Sheriff	701-288-5160 112 1st Street NE, Ashley, ND 58413
Ellendale Fire Department	701-349-3252 66 1st Street South, Ellendale, ND 58436
Notification:	
National Response Center	800-424-8802
U.S. Environmental Protection Agency, Region 8	800-424-8802 1595 Wynkoop Street, Denver, CO 80202-1129
North Dakota Department of Health	701-328-5210 600 E. Boulevard Avenue, Bismarck, ND 58505
North Dakota Oil and Gas Division	701-328-8020 1016 E. Calgary Avenue, Bismarck, ND 58503

North Dakota Hazardous Materials Emergency Assistance and Spill Reporting Number	1-800-472-2121

APPENDIX D: DISCHARGE NOTIFICATION FORM

Discharge Notification Form

In the event of a discharge to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center. See also the notification information provided in Section 4.4 of the SPCC Plan.

Discharge Information

Facility Name:	Merricourt Wind Project
Address:	6510 88th Street SE Kulm, ND 58456
Telephone:	218-766-1468
Operator:	Wanzek Construction, Inc.
Primary Contact:	Jarrod Mistic, Assistant Project Manager 218-766-1468
Discharge Date:	Discharge Time:
Weather Conditions and Temperature:	
Name of reporting individual:	
Type of material:	
Quantity released:	
Estimated quantity released to navigable waters:	
Cause of discharge:	
Action taken to stop, remove, and mitigate the effects of the discharge:	
Media affected:	

Damages or Injuries

Organizations and Individuals Contacted

	Fire/Police/Ambulance	911	Time:
	Ellendale Fire Department	701-349-3252	Time:
	National Response Center	800-424-8802	Time:
	U.S. Environmental Protection Agency, Region 8	800-424-8802	Time:
	North Dakota Department of Health	701-328-5210	Time:
	North Dakota Oil and Gas Division	701-328-8020	Time:
	North Dakota Hazardous Materials Emergency Assistance and Spill Reporting Number	1-800-472-2121	Time:

Signature

Signature	
Printed Name	
Company & Title	

APPENDIX E: RECORD OF SECONDARY CONTAINMENT

This record will be completed when rainwater from secondary containment is drained from or pumped out of secondary containment. The bypass valve will normally be sealed in a closed position. It will be opened and resealed following drainage under responsible supervision.

Rainwater is not to be drained if oil or an oil sheen is present.

Date	Time	Area Drained	Presence of Oil (Y/N)	Signature

APPENDIX F: CALCULATION OF SECONDARY CONTAINMENT

All secondary containment shall be sized to accommodate a minimum of 110% of the volume of the single largest container within each individual containment area. Secondary containment shall be in place prior to placing any tanks into service. Specific secondary containment capacities will be measured and included in Appendix F upon completion of the site inspection.

Location	Secondary Containment Type	Secondary Containment Capacity	Largest Container Volume	110% of Largest Container	Sufficient? (Y/N)
Laydown Yard	Containment Berm	= 20 ft. X 60 ft. X 1 ft. = 1,200 ft^3 = 8,976.6 gallons	2,000 gallons	2,200 gallons	Y

APPENDIX G: MONTHLY FACILITY INSPECTION

The following checklist is to be used for monthly inspections. Completed checklists must be signed by the inspector and maintained at the Facility, with the SPCC Plan, for at least three (3) years. Any item that receives a "yes" answer must be described and addressed immediately.

Inspection Item	Y	N	Description and Comments
Storage Tanks			
Tank surfaces show signs of leakage			
Tanks are damaged, rusted, or deteriorated			
Bolts, rivets, or seams are damaged			
Tank supports are deteriorated or buckled			
Level gauges are inoperable			
Vents are obstructed			
Containment Areas			
Secondary containment is damaged or stained			
Standing water in containment			
Drainage valve is open or not secure			
Evidence of oil release from tank			
Transformers			
Transformer surfaces show signs of leakage			
Transformer is damaged, rusted, or deteriorated			
Bolts, rivets, or seams are damaged			
Transformer supports are deteriorated or buckled			
Transformer foundations have eroded or settled			
Safety			
Safety equipment missing or inoperable			
Spill response equipment used and not replaced			
Fire extinguisher not present/operational			
Fuel tank not grounded			
Signature:			
Date:			

Appendix *G*
Steel Tank Institute SP001 Checklist

STI SP001 AST Record

OWNER INFORMATION	FACILITY INFORMATION	INSTALLER INFORMATION
Name	Name	Name
Number and Street	Number and Street	Number and Street
City, State, Zip Code	City, State, Zip Code	City, State, Zip Code

.

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____
☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: _____ Type: _____

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____ ☐ Other _____

☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____

☐ Unknown ☐ Other _____

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____

☐ Unknown ☐ Other _____

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____

☐ Unknown ☐ Other _____

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Cathodically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Remove promptly upon discovery standing water or liquid in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility must regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- Complete this checklist on an annual basis supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment structure	Check for: • Holes or cracks in containment wall or floor • Washout • Liner degradation • Corrosion • Leakage • Paint failure • Tank settling	□Yes* □No □N/A	
2.0 Tank Foundation and Supports			
2.1 Foundation	Settlement or foundation washout?	□Yes* □No	
2.2 Concrete pad or ring wall	Cracking or spalling?	□Yes* □No □N/A	

Item	Task	Status	Comments
2.3 Supports	Check for corrosion, paint failure, etc.	□Yes* □No □N/A	
2.4 Water drainage	Water drains away from tank?	□Yes □No* □N/A	
2.5 Tank grounding	Strap secured and in good condition?	□Yes □No* □N/A	
3.0 Cathodic Protection			
3.1 Gavlvanic cathodic protection system	Confirm system is functional, includes the wire connections for galvanic systems	□Yes □No* □N/A	
3.2 Impressed current system	a. Inspect the operational components (power switch, meters, and alarms).	□Yes □No* □N/A	
	b. Record hour meter, ammeter and voltmeter readings.	□Yes □No* □N/A	
4.0 Tank Shell, Heads, Roof			
4.1 Coating	Check for coating failure	□Yes* □No	
4.2 Steel condition	Check for: • Dents • Buckling • Bulging • Corrosion • Cracking	□Yes* □No	
4.3 Roof slope	Check for low points and standing water	□Yes* □No □N/A	
5.0 Tank Equipment			
5.1 Vents	Verify that components are moving freely and vent passageways are not obstructed for: • Emergency vent covers • Pressure/vacuum vent poppets • Other moving vent components	□Yes* □No	

Item	Task	Status	Comments
5.2 Valves	Check the condition of all valves for leaks, corrosion and damage.	□Yes* □No	
5.2.1 Anti-siphon, check and gate valves	Cycle the valve open and closed and check for proper operation.	□Yes □No* □N/A	
5.2.2 Pressure regulator valve	Check for proper operation. (Note that there may be small, 1/4 inch drain plugs in the bottom of the valve that are not visible by looking from above only)	□Yes □No* □N/A	
5.2.3 Expansion relief valve	Check that the valve is in the proper orientation. (Note that fuel must be discharged back to the tank via a separate pipe or tubing.)	□Yes □No* □N/A	
5.2.4 Solenoid valves	Cycle power to valve to check operation. (Electrical solenoids can be verified by listening to the plunger opening and closing. If no audible confirmation, the valve should be inspected for the presence and operation of the plunger.)	□Yes □No* □N/A	
5.2.5 Fire and shear valves	a. Manually cycle the valve to ensure components are moving freely and that the valve handle or lever has clearance to allow valve to close completely.	□Yes □No* □N/A	
	b. Valves must not be wired in open position.	□Yes □No* □N/A	

Item	Task	Status	Comments
	c. Make sure fusible element is in place and correctly positioned.	□Yes □No* □N/A	
	d. Be sure test ports are sealed with plug after testing is complete and no temporary test fixture or component remains connected to valve.	□Yes □No* □N/A	
5.3 Interstitial leak detection equipment	Check condition of equipment, including: • The window is clean and clear in sight leak gauges. • The wire connections of electronic gauges for tightness and corrosion • Activate the test button, if applicable.	□Yes □No* □N/A	
5.4 Spill containment boxes on fill pipe	a. If corrosion, damage, or wear has compromised the ability of the unit to perform spill containment functions, replace the unit.	□Yes* □No □N/A	
	b. Inspect the connections to the AST for tightness, as well as the bolts, nuts, washers for condition and replace if necessary.	□Yes* □No □N/A	
	c. Drain valves must be operable and closed	□Yes* □No □N/A	
5.5 Strainer	a. Check that the strainer is clean and in good condition.	□Yes □No* □N/A	

Item	Task	Status	Comments
5.5 Strainer	b. Access strainer basket and check cap and gasket seal as well as bolts.	□Yes □No* □N/A	
5.6 Filter	a. Check that the filter is in good condition and is within the manufacturer's expected service life. Replace, if necessary.	□Yes □No* □N/A	
	b. Check for leaks and decreased fuel flow	□Yes □No* □N/A	
5.7 Flame arrestors	Follow manufacturer's instructions. Check for corrosion and blockage of air passages.	□Yes* □ No □N/A	
5.8 Leak detector for submersible pump systems	Test according to manufacturer's instructions and authority having jurisdiction (AHJ). Verify leak detectors are suited and properly installed for aboveground use.	□Yes □No* □N/A	
5.9 Liquid level equipment	a. Has equipment been tested to ensure proper operation?	□Yes □No* □N/A	
	b. Does equipment operate as required?	□Yes □No* □N/A	
	c. Follow manufacturer's instructions	□Yes □No* □N/A	
5.10 Overfill equipment	a. Follow manufacturer's instructions and regulatory requirements for inspection and functionality verification.	□Yes □No* □N/A	
	b. Confirm device is suited for above ground use by the manufacturer	□Yes □No* □N/A	

Item	Task	Status	Comments
6.0 Insulated Tanks			
6.1 Insulation	Check condition of insulation for: • Missing sections • Areas of moisture • Mold • Damage	□Yes* □ No □N/A	
6.2 Insulation cover or jacket	Check for damage that will allow water intrusion	□Yes* No □N/A	
7.0 Miscellaneous			
7.1 Electrical wiring and boxes	Are they in good condition?	□Yes □No* □N/A	
7.2 Labels and tags	Ensure that all labels and tags are intact and readable.	□Yes □No* □N/A	

Additional Comments:

APPENDIX H: DISCHARGE PREVENTION BRIEFING AND TRAINING LOG

Annual discharge prevention briefings will be held to ensure adequate understanding of the SPCC Plan. The briefings will also highlight and describe known discharge events or failures, malfunctioning components and any recently developed precautionary measures. Oil-handling personnel shall be trained in the operation and maintenance of oil pollution prevention equipment, discharge procedure protocols, applicable pollution control laws, rules and regulations, general facility operations, and the content of the SPCC Plan.

Project Name:	
Project Location:	
Instructor's Name(s):	
Instructor's Title(s):	
Course Location:	
Date of Course:	
Course Length (hours):	

Specific Training Objectives:

Attendee Roster (attach additional pages as necessary)

No.	Name of Attendee	Company

Westwood

STORMWATER POLLUTION PREVENTION PLAN

Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

July 2019



Prepared For:

Wanzek Construction
2028 2nd Avenue NW
West Fargo, ND 58078

Storm Water Pollution Prevention Plan (SWPPP) Narrative

Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

NPDES Permit Identification #: NDR10-

Prepared for:

Wanzek Construction
2028 2nd Avenue NW
West Fargo, ND 58078

Prepared by:

Westwood Professional Services, Inc.
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Project Number: 0004641.01

July 2019

TABLE OF CONTENTS

1.0 INTRODUCTION AND PURPOSE 1
2.0 OWNER SWPPP CERTIFICATION STATEMENT 2
3.0 SWPPP AMENDMENTS 3
3.1 SWPPP Amendment Log 3
4.0 SITE INFORMATION 4
4.1 Site Location and Vicinity Map 4
4.2 Existing Conditions 4
4.2.1 Nonvegetative Cover 4
4.2.2 Vegetative Cover 4
4.2.3 Land Use 4
4.3 Soil Names and Types 4
5.0 PROJECT INFORMATION 7
5.1 Owner and Operator Information 7
5.1.1 Owner Responsibilities 7
5.1.2 Operator Responsibilities 7
5.2 Project Type and Proposed Conditions 7
5.2.1 Non-vegetative Cover 7
5.2.2 Vegetative Cover 8
5.2.3 Land Use 8
5.3 Pre and Post Project Estimates 8
5.4 Construction Activity Description 8
5.5 Project Activity Schedule 11
5.6 Project Phasing 11
5.7 Project Contacts and Chain of Responsibility 11
6.0 ADDITIONAL SITE OR PROJECT CONSIDERATIONS 13
6.1 Chemical Treatments 13
6.2 Documentation of Infeasibility 13
6.3 Environmental Review Document 13
7.0 RECEIVING WATERS 14
7.1 Impaired Waters 14
8.0 STORMWATER MANAGEMENT 15
8.1 Temporary Practices 15
8.2 Permanent Practices 15
8.2.1 Calculations 15
9.0 TEMPORARY BEST MANAGEMENT PRACTICES 16
9.1 Soil Management 16
9.2 Natural Buffers and No Disturbance Areas 16
9.2.1 Natural Buffers 16
9.2.2 No Disturbance Areas 16
9.3 Erosion Prevention Practices 16
9.4 Sediment Control Practices 18
9.5 Run-on and Runoff Controls 18

9.6 Tracking Controls 18
9.7 Dewatering and Basin Draining Practices 19
10.0 POLLUTION PREVENTION MANAGEMENT 20
10.1 Storage, Handling and Disposal of Construction Materials 20
10.2 Fueling and Maintenance of Equipment and Vehicles; Spill Response 20
10.3 Vehicle and Equipment Washing 21
10.4 Concrete Washout and Other Washout 21
10.5 Portable Sanitary Facilities 21
10.6 Potential Non-stormwater Pollutant Sources and BMPs 22
11.0 INSPECTION AND MAINTENANCE 23
11.1 Inspection Schedule 23
11.2 Maintenance Schedule 24
12.0 TRAINING AND DOCUMENTATION 25
13.0 FINAL STABLIZATION 26
14.0 NOTICE OF TERMINATION 27
15.0 RECORD RETENTION 28
15.1 During Construction 28
15.2 Post Construction / Notice of Termination (NOT) 28

TABLES

Table 1: Amendment Log 3
Table 2: Project Location 4
Table 3: Soil K Factors and Erosivity Hazards 5
Table 4: Soil Particle Sizes 5
Table 5: Project Area Estimates 8
Table 6: Project Schedule 11
Table 7: Project Contacts 11
Table 8: Flocculation Plan Summary 13
Table 9: Receiving Waters 14
Table 10: Temporary Sediment Basin Calculations 15
Table 11: Erosion Controls 17
Table 12: Sediment Controls 18
Table 13: Run-on and Runoff Controls 18
Table 14: Tracking Controls 18
Table 16: Reportable Spill Quantities 20
Table 17: Non-stormwater Discharges and Potential BMPs 22
Table 18: Inspection Schedule 23
Table 19: Maintenance Schedule 24

ATTACHMENTS

Attachment A: NDR10-0000 Construction General Permit
Attachment B: Permitting Documentation (NOI, Permit Card, Permit Letters, Blank NOT/MOD)
Attachment C: Soil Maps
Attachment D: Pre and Post Drainage Maps
Attachment E: Site Plans, Erosion and Sediment Control Plans, Details
Attachment F: Training Documentation
Attachment G: Inspection and Corrective Action Forms

1.0 INTRODUCTION AND PURPOSE

This SWPPP is prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) regulations as established by the Clean Water Act and guided by the State of North Dakota. The North Dakota Department of Health Construction General Permit NDR10-0000 (Expiration date: March 31, 2020) provides the frame work of requirements for compliance to discharge stormwater from a construction site.

This SWPPP is for implementation by the Owner and Operator, as listed in Section 5.1 of this SWPPP, at the Merricourt Wind Project, with the project location as defined in Section 4.0 of this SWPPP. This report shall be on the site at all times during construction.

The following are outlined in this site specific SWPPP:

- Control measures for storm water pollution prevention during each phase of construction,
- Control measures for storm water pollution prevention after construction,
- Sources of storm water and non-storm water pollution, and
- Inspection and maintenance procedures.

2.0 OWNER SWPPP CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

_____	_____	_____
Signature	Title	Date

_____	( ) - _____
Printed Name	Contact Number

3.0 SWPPP AMENDMENTS

This plan and the attachments must be amended to include additional requirements or modified requirements which take place during construction if one or more of the following occur:

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that significantly impacts the discharge of pollutants from the site to surface or groundwater;
2. Inspections or investigations by the site owner, operator, Environmental Protection Agency, North Dakota Department of Health officials indicate this plan is not effective in eliminating or significantly minimizing the discharge of pollutants;
3. This SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges or if this plan is not consistent with the NDR10-0000 Construction General Permit; or
4. If the NDDH notifies the Owner and / or Operator (i.e. permittees) that additional requirements are needed, requirements are not being met for TMDL or other water quality standards, or that the SWPPP did not incorporate the necessary requirements.

3.1 SWPPP Amendment Log

The following table should be completed as necessary during construction to document changes and amendments to this document. Place the Amendment Number next to all application changes, redlines and information in the document to reference back to the changes summarized below. If an additional sheet is necessary attach the additional sheet to the SWPPP.

Table 1: Amendment Log

Amend #	Date	Reason, location and brief description of change or amendment	Requested by:	Prepared by:

4.0 SITE INFORMATION

4.1 Site Location and Vicinity Map

The Merricourt Wind Project site is located in McIntosh and Dickey Counties, North Dakota. The nearest town of Kulm, North Dakota, is located approximately 12 miles north-northeast of the site. The nearest intersection is 88th Street SE and 65th Ave SE. The site is approximately bordered upon the north by 88th Street SE, upon the south by 92nd Street SE, the west by 60th Avenue SE, and the east by 66th Avenue Se. Refer to Appendix E of this SWPPP for the full vicinity map.

Table 2: Project Location

Section	Township	Range
21, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36	131N	67W
29, 30, 31	131N	66W
1	130N	68W
1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 23	130N	67W
Latitude and Longitude Points (Decimal)		
Latitude	46.14267	
Longitude	-99.02456	

4.2 Existing Conditions

The slope and terrain of the site generally consists of flat grassland and fields. The site currently has stormwater runoff flowing via overland flow and small streams in varying directions. The site area discharges to lakes and wetlands located in and around the site.

4.2.1 Nonvegetative Cover

Prior to construction, nonvergetative cover at the site included asphalt- and gravel-paved roads, residences, and buildings used for agricultural operations.

4.2.2 Vegetative Cover

Prior to construction, vegetative cover at the site included grasslands and agricultural fields used for production of soybeans, corn, wheat, hay, and alfalfa.

4.2.3 Land Use

Prior to construction the site area was primarily used for pastureland and production of agricultural crops. At the time that this SWPPP was prepared, a Phase 1 Environmental Site Assessment was not available for review.

4.3 Soil Names and Types

Soils making up more than 1% of the site area belong to Hydrologic Soil Groups (HSGs) A, B, C, and C/D. Soils in HSGs A, B, and C have low, moderately low, and moderately high runoff potential when wet, and soils n HSG C/D have a moderately high runoff potential when drained and a high potential for runoff when undrained. Source: http://websoilsurvey.nrcs.usda.gov/app/

Table 3: Soil K Factors and Erosivity Hazards

Soil Name / Type	K Factor	Erosivity Hazard				Reason(s) for Erosivity Rating
		Slight	Moderate	Severe	Very Severe	
Parnell silty clay loam, 0-1%	0.24	X				Lack of slope
Southam silty clay loam, 0-1%	0.28	X				Lack of slope
Hamerly-Vallers loams, 0-3%	0.20	X				Lack of slope
Williams-Zahl loams, 3-6%	0.24	X				Lack of slope
Zahl-Williams-Zahill complex, 6-9%	0.24	X				Lack of slope
Zahl-Williams loams, 9-15%	0.24	X				Lack of slope
Zahl-Max-Arnegard loams, 15-60%	0.24			X		Slope/erodibility (0.75)
Zahl-Max-Bowells loams, 6-35%	0.24		X			Slope/erodibility (0.50)
Williams-Bowbells Loams, 3-6%	0.24	X				Lack of slope
Hamerly loam, 0-3%	0.20	X				Lack of slope
Makoti-Sakakawea complex, 2-6%	0.28	X				Lack of slope
Sakakawea silty clay loam, 2-6%	0.32	X				Lack of slope
Makoti silty clay loam, 0-2%	0.28	X				Lack of slope
Wildrose silty clay, 0-2%	0.17	X				Lack of slope
Minot silty clay, 0-2%	0.20	X				Lack of slope
Minot silty clay, 2-6%	0.20	X				Lack of slope
Lehr-Bowdle loams, 2-6%	0.28	X				Lack of slope
Lehr-Wabek loams, 2-6%	0.28	X				Lack of slope
Wabek-Lehr-Appam complex, 9-25%	0.32		X			Lack of slope
Wabek-Appam complex, 2-6%	0.15	X				Lack of slope

Table 4: Soil Particle Sizes

Soil Type	% Sand	% Silt	% Clay	% Site Area
Parnell silty clay loam, 0-1%	17.0	49.0	34.0	1.7
Southam silty clay loam, 0-1%	15.0	51.0	34.0	5.8
Hamerly-Vallers loams, 0-3%	34.0	40.0	26.0	1.3
Williams-Zahl loams, 3-6%	38.0	40.0	22.0	11.1

Zahl-Williams-Zahill complex, 6-9%	45.0	31.0	24.0	16.6
Zahl-Williams loams, 9-15%	45.0	31.0	24.0	21.8
Zahl-Max-Arnegard loams, 15-60%	45.0	31.0	24.0	9.8
Zahl-Max-Bowells loams, 6-35%	45.0	31.0	24.0	3.3
Williams-Bowbells Loams, 3-6%	38.0	40.0	22.0	2.4
Hamerly loam, 0-3%	34.0	40.0	26.0	1.5
Makoti-Sakakawea complex, 2-6%	20.0	50.0	30.0	3.7
Sakakawea silty clay loam, 2-6%	19.0	53.0	28.0	2.0
Makoti silty clay loam, 0-2%	20.0	50.0	30.0	1.0
Wildrose silty clay, 0-2%	10.0	40.0	50.0	1.4
Minot silty clay, 0-2%	10.0	44.0	46.0	3.4
Minot silty clay, 2-6%	10.0	44.0	46.0	1.1
Lehr-Bowdle loams, 2-6%	43.0	38.0	19.0	1.4
Lehr-Wabek loams, 2-6%	43.0	38.0	19.0	1.4
Wabek-Lehr-Appam complex, 9-25%	43.0	38.0	19.0	3.7
Wabek-Appam complex, 2-6%	67.0	20.0	13.0	1.2

5.0 PROJECT INFORMATION

5.1 Owner and Operator Information

Owner Information	Operator Information
Merricourt Power Partners, LLC	Wanzek Construction, Inc.
Benoit Rigal	Chad Eken
15445 Innovation Drive San Diego, CA 92128	4850 32nd Avenue S Fargo, ND 58104
858-521-3300, benoit.rigal@edf-re.com	701-212-5731, ceken@wanzek.com

5.1.1 Owner Responsibilities

The owner responsibilities include.

- Developing a SWPPP prior to submittal of the Notice of Intent (NOI).
- Submitting a complete and accurate NOI.
- Complying with all terms and conditions of the Construction General Permit.
- Submitting the SWPPP for sites greater than fifty acres disturbed and discharging to special or impaired waters within one mile of the discharge point.
- Keeping the permit up to date (partial, whole, contractor, builders, etc.)
- Submitting the Notice of Termination (NOT) within 30 days of meeting requirement of final stabilization.
- Identifying who has long term operation and maintenance responsibility of the permanent stormwater controls.
- Developing a chain of responsibility with the operators to ensure NPDES and SWPPP compliance.
- Identifying trained personnel to oversee the SWPPP and conduct inspections.
- Identifying trained personnel to develop a SWPPP.
- Identifying trained personnel to install and maintain Best Management Practices (BMPs).

5.1.2 Operator Responsibilities

The operator responsibilities include:

- Completing an accurate NOI with the Owner.
- Complying with the permit conditions as they pertain to the construction activities delegated and where the operator has day to day supervision of the activity.
- Keeping the permit up to date with the Owner (partial, whole, contractor, builders, etc.).

5.2 Project Type and Proposed Conditions

5.2.1 Non-vegetative Cover

Following construction, new non-vegetative cover will include access roads, turbine foundations, the substation, the O&M facility.

5.2.2 Vegetative Cover

Following construction, vegetative cover will be restored to its pre-construction conditions wherever possible (grasslands or crops). Areas not returned to agricultural conditions or covered by non-vegetative cover will be restored with grass cover through seeding, as detailed in Section 9.3 of this SWPPP.

5.2.3 Land Use

Following construction, the site will continue to be used as a wind energy facility with infrastructure including turbines, access roads, electrical collection and transmission, substation and O&M facility. Existing agricultural land uses will be restored and returned to pre-construction land use conditions where the permanent wind energy infrastructure is not constructed.

5.3 Pre and Post Project Estimates

Table 5: Project Area Estimates

Project Area	Disturbed Area	Existing Impervious Area	Post Construction Impervious Area
13,155 Acres	658.8 Acres	5.1 Acres	11.1 Acres

5.4 Construction Activity Description

Construction activity will include installation of up to 75 wind turbines. Construction of the wind turbines requires, but is not limited to, the installation of the substation, the O&M building, a temporary laydown, underground electrical collection, and 16-foot wide gravel access roads with temporary 36 foot wide disturbance due to temporary compacted shoulders (10 feet on each side) for truck transport of materials and crane walking paths. Minor construction activity will be necessary for some existing road and radii. The crane paths are specifically designed to follow access roads to limit disturbance of streams and other sensitive areas such as steep slopes and will be approximately 36 feet wide where located away from access roads. All temporary crane paths should be restored to preconstruction conditions after the use of the paths. The SWPPP shall be amended to show locations and disturbance areas as necessary should locations change during construction.

Project Activity Descriptions

NOTE: All sensitive areas shall be marked prior to start of earth disturbance activities. If any subsurface and/or surface drainage features are altered during construction restore to pre-construction conditions and drainage patterns. Coordinate the work with the Land Owner.

1. Access road construction activity and phasing:
   a. Strip and stockpile top soil along one or both sides of the road in a linear berm.
   b. Apply perimeter sediment controls and temporary stabilization of ditch (erosion control blanket or turf reinforcement mat).
   c. Compact subgrade.
   d. Apply gravel base.
   e. Decompact soils following turbine erection.
   f. Apply topsoil for non-aggregate areas during final grade.
   g. Apply final gravel cap to road.
   h. Maintain pre-construction drainage patterns and runoff.
   i. If any subsurface and/or surface drainage features are altered during construction, restore to pre-construction condition and drainage patterns.
   j. Return disturbed areas not part of the final road to pre-construction condition.

2. Turning radius and temporary intersections construction activity and phasing:

a. Strip and stockpile top soil.
b. Install culvert as called for in plan; apply perimeter sediment controls and temporary stabilization of ditch and banks of road (erosion control blanket or turf reinforcement mat).
c. Fill with native material to grade.
d. Apply gravel base.
e. Following turbine component delivery or turbine erection, the turning radius should be removed by removing gravel and fill soils.
f. Remove any extra culvert lengths.
g. Reapply topsoil and final grade.
h. Apply seed and erosion control blanket, TRM, or mulch cover for restoration to pre-construction condition.

3. Turbine Area construction activity and phasing:
   a. Strip and segregate topsoil; apply topsoil in a soil berm around the down grade perimeter of the turbine pad area.
   b. Install silt fence at the perimeter as necessary and as shown on the plans.
   c. Excavate areas required for the foundation and stockpile the subsoils.
   d. Dewater accumulated ground water or stormwater via pump as necessary, dewatering bag and ensure discharged water does not contribute sedimentation to receiving waters.
   e. Provide temporary stabilization measures (mulch, erosion control blanket and turf re-enforcement mat).
   f. Temporary cover the stockpiles with hydromulch or other temporary cover BMP for water and wind erosion protection.
   g. Construct concrete washout area or use a common concrete washout during concrete work of mud mat and foundation work.
   h. Backfill subsoils and topsoil with a rough grade.
   i. Grade crane pad turbine erection.
   j. Erect the turbine.
   k. Return disturbed areas not part of the final road to pre-construction condition.

4. Temporary Crane Walk construction activity and phasing:
   a. Plan crane walks according to unique area conditions where crane walk will occur.
   b. Walk cranes across waterways/conveyances during dry conditions.
   c. Provide timber mat crossings for grass waterway crossings, swale crossings and other gradual conveyance crossings.
   d. Install down grade perimeter controls such as fiber logs or silt fence to protect conveyances as field conditions dictate.
   e. Provide temporary creek/waterway crossing BMPs according to details shown on plans and explained in this SWP3 narrative.
   f. Restore all disturbed areas to pre-construction condition following crane walk activity by tilling to agricultural condition or applying necessary mulch/erosion control blanket and seeding to areas for restoration to pre-construction condition.

5. Electrical Underground construction activity and phasing:
   a. Open trench or plow collection line across fields; if drain tile is encountered locate, repair/restore as necessary.
   b. Topsoil should be segregated from subsoils unless otherwise agreed upon by the landowner.

c. If required, dewater accumulated ground water or stormwater via pump and dewatering bag, and ensure discharged water does not contribute sedimentation to receiving waters.

d. If open trenching or plowing through a waterway or conveyance, use a perimeter control such as logs, silt fence or rock check.

e. Apply seed and erosion control blanket or mulch to restore grass waterway to pre-construction condition.

6. Laydown Yard construction activity and phasing:

a. Provide stable accesses to area; install culverts as necessary and according to the plans for the accesses.

b. Install silt fence and other sediment controls as necessary and as detailed in the plan.

c. Strip and stockpile topsoil around the up-gradient perimeter of the lay down yard for a diversion of water or downgrade perimeter of the yard for runoff control.

d. Apply rock base to designed thickness.

e. Temporarily cover the stockpiles with hydromulch or wood after seeding with temporary seed mix.

f. Provide necessary secondary containment, secure storage and maintenance activities during operation.

g. Remove rock; decompact and reapply topsoil to the area after the lay down yard is no longer needed.

h. Return disturbed areas to preconstruction condition which may include applying seed and mulch cover for restoration.

7. Collector Substation construction activity and phasing:

a. Provide stable accesses to area; install culverts as necessary and according to the plans for the accesses.

b. Install silt fence and other sediment controls as necessary and as detailed in the plan.

c. Strip and stockpile topsoil around the up-gradient perimeter for a diversion of water or downgrade perimeter of the substation for runoff control.

d. Apply rock base to designed thickness

e. Temporarily cover the stockpiles with hydromulch or wood mulch after seeding with temporary seed mix.

f. Concrete washout area needed prior to concrete work.

g. Construction of electrical components and fencing.

h. Return disturbed areas not part of the final gravel pad to agricultural condition or apply seed and mulch cover for restoration to preconstruction condition.

8. Operation and Maintenance Facility construction activity and phasing:

a. Provide stable accesses to area; install culverts as necessary and according to the plans for the accesses.

b. Install silt fence and other sediment controls as necessary and as detailed in the plan.

c. Strip and stockpile topsoil around the up-gradient perimeter for a diversion of water or downgrade perimeter of the area for runoff control.

d. Temporarily cover the stockpiles with hydromulch or straw mulch after seeding with temporary seed mix.

e. Concrete washout area needed prior to concrete work.

f. Concrete work and building construction.

g. Apply rock base to designed thickness.

h. Apply rock base for parking areas as designed.

i. Provide mulch and seed or blanket and seed following final grade.

5.5 Project Activity Schedule

Table 6: Project Schedule

Activity	Start Date	End Date
Overall Project	08/07/2019	10/30/2020
Temporary Laydown / Staging		
Access Roads and Turning Radius		
Turbine Pads / Turbine Erection		
Underground Collection (Electrical)		
Crane Walk Paths		
Interconnect / Substation		
Operation and Maintenance Facility		

5.6 Project Phasing

Erosion/sedimentation control Best Management Practices (BMP) are installed prior to or concurrent with grading activity. BMPs will be installed and maintained throughout the project as needed. After grading, installation of access and temporary roads and turning radii will occur. Turbine foundations will be excavated and constructed using onsite batch plants. Electrical gathering and communication system will be installed underground. Turbine rotors to be constructed on ground with minimal site disturbance and using large cranes on crane pads to erect the turbines. Safety and site cleanliness will be emphasized through entirety of project while site cleanup and restoration of disturbances will be ensured once construction is complete.

5.7 Project Contacts and Chain of Responsibility

Table 7: Project Contacts

Company	Name or Position	Responsibility	Contact Number
		Site Development	
		Dirt Work / Grading / Turbine / Cranes / Excavation	
		Underground Electrical	
		Substation	
		O&M Facility	
		Laydown	
		Routine SWPPP Inspections	
Westwood Professional Services	Aaron Mlynek, CPESC	SWPPP development	952-697-5710

		Restoration	
		BMP installation	

6.0 ADDITIONAL SITE OR PROJECT CONSIDERATIONS

6.1 Chemical Treatments

At the time of SWPPP completion the use of chemical additives or polymers for purposes of sediment flocculation are not anticipated for this project.

If chemical additives or polymers are to be used, the following information must be included in a request to the state 60 days prior to use:

- Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS);
- Proposed water additive discharge concentration;
- Discharge frequency (i.e., number of hours per day and number of days per year);
- Monitoring point for product discharge;
- Type of removal treatment, if any, that the water additive receives prior to discharge;
- Product function (e.g., coagulant, flocculant, etc.);
- A 48-hour LC 50 or EC 50 for a North American freshwater planktonic crustacean (Ceriodaphnia sp., Daphnia sp., or Simocephalus sp.); and
- Results for a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean).

Table 8: Flocculation Plan Summary

Flocculation Chemical	Application Location	Primary Soil Types	Settling BMPs Used	Application Method	Receiving Water	Mfr Dosing Rate

6.2 Documentation of Infeasibility

The project is able to address NDR10-0000 Part II and III(A). There is no need for documentation of infeasibility for this project.

6.3 Environmental Review Document

At the time of SWPPP completion, there are no known environmental review documents which apply to this project.

7.0 RECEIVING WATERS

The table below summarizes the immediate receiving waters from the site. Where necessary the receiving waters has been designated immediate (for the first surface water receiving drainage from the site) and ultimate (for the surface water receiving runoff from site after the immediate receiving waters). The receiving waters listed are located within a mile, and receive water from the site discharge location(s).

The northwest corner of the site is in the Schlenker Dam watershed, the eastern portion of the site drains to various wetlands and depressions within a closed basin, the very southern portion of the site drains to Coldwater Lake, and the southwest corner drains to Nitchke Landing Strip. All of the hydrologic basins are closed basins, and runoff mostly flows to wetlands or other depressions. Refer to Attachment D for drainage maps.

Table 9: Receiving Waters

Name of Waterbody	Immediate (I) or Ultimate (U)	Type (wetland, lake, stream, ditch)	Impaired? Y/N
Schlenker Dam	U	Wetland	N
Unnamed Basin HUC12 101600040102	I	Wetland	N
Unnamed Basin HUC12 101600040101	I	Wetland	N
Coldwater Lake	U	Lake	N
Nitschke Landing Strip	U	Wetland	N

7.1 Impaired Waters

There are no impaired waterbodies which receiving stormwater discharge from the site disturbed area according to the Integrated Reports from the North Dakota Department of Health website:

http://www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm

(accessed 05/29/2019).

8.0 STORMWATER MANAGEMENT

8.1 Temporary Practices

There are no anticipated temporary stormwater management practices at the time of SWPPP completion.

Calculations are not applicable to this project as there are no temporary stormwater management practices requiring calculations.

Table 10: Temporary Sediment Basin Calculations

Basin #	Storm Frequency	Rainfall Amount	Runoff Area	Runoff Volume	Capacity Needed
1	2 yr. / 24 hr.	2.39 in	Acres	ac ft.	ac ft.
2	2 yr. / 24 hr.	2.39 in	Acres	ac ft.	ac ft.
3	2 yr. / 24 hr.	2.39 in	Acres	ac ft.	ac ft.

8.2 Permanent Practices

There are no permanent stormwater practices anticipated for the project activity.

8.2.1 Calculations

Calculations are not applicable to this project as there are no permanent stormwater management practices requiring calculations.

9.0 TEMPORARY BEST MANAGEMENT PRACTICES

9.1 Soil Management

After clearing and grubbing, the grading contractor will strip and stockpile topsoil material for reapplication on all future permanent pervious surface areas. During development, grading and utility construction the subsoils will be compacted as necessary for construction using typical excavation techniques. During final grade, reapplication of top soil will be done by a wide-pad dozer and other equipment to minimize compaction of the top soil material.

9.2 Natural Buffers and No Disturbance Areas

9.2.1 Natural Buffers

An undisturbed 50-foot buffer zone will be preserved for delineated wetlands. The use of linear sediment controls will be installed upgrade to provide sediment control and delineate the 50 foot buffer. Refer to the site erosion and sediment control plans for the location of the buffer. The following activities are prohibited from taking place within the buffer area:

- Placing stockpiles;
- Disturbing vegetation;
- Placing construction material; and
- Storing gas, oils, or other potentially polluting material.

9.2.2 No Disturbance Areas

No disturbance areas include on-site wetlands, potential whooping crane habitats, and archaeological sites. Please refer to the site plan set in Attachment E for the no-disturbance areas.

9.3 Erosion Prevention Practices

The following controls are anticipated to minimize soil loss from the construction site area. The controls should help to minimize soil from being transported from water and wind as well as aide in establishment of temporary and permanent vegetation. Prior to grading and during clearing and grubbing, the areas of vegetation preservation, buffers and other areas of no disturbance should be flagged, staked or otherwise delineated.

Timing for disturbed areas and slopes

Temporary erosion prevention practices should be initiated immediately after construction activity disturbing soil in an area is temporarily or permanently ceased for a period of 14 days (7 days for slopes of 3:1 and steeper). The application of temporary erosion control management practices should be completed prior to the 14th day (7th day for slopes of 3:1 and steeper) of temporarily or permanently ceasing construction activity in an area of the project.

Timing for waterways, ditches and swales and stream diversions

Unless the temporary or permanent drainage ditch or swale is part of a designed sediment retention system, all areas within 200 linear feet of the property edge or from the point of discharge need to be stabilized prior to connection with the surface water. The remaining portion of the ditch must be stabilized within 14 calendar days from permanent or temporarily ceasing construction.

For temporary or permanent drainage ditch or trench or for stream divisions shall have stabilization controls applied and functional prior to connection with surface waters. The stabilization controls must be applied for the channels and banks to the appropriate “bank full” elevations.

Table 11: Erosion Controls

Potential BMPs	Construction Phase or Activity							Application Notes	
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Collector Substation	O&M Facility		
Construction Phasing	X	X	X	X	X	X	X	Minimize soil disturbance, as feasible, per phase. Stake/flag areas that are to be left undisturbed.	
Buffer Strips	X	X	X	X	X	X	X	See Section 9.2 for more info.	
Slope Roughing	X	X	X	X	X	X	X	Use tracked equipment perpendicular to contour on steep slopes for temp/short term erosion control.	
Straw / Hay Mulch	X	X	X	X	X	X	X	Apply at 2 tons / acre. Disc anchor to soil. Weed Free mulch should be used.	
Erosion Control Blanket	X	X	X	X	X	X	X	Straw or wood fiber erosion control blanket (double sided netting). Install per manufacturer's recommendations.	
Hydroseed	X	X	X	X	X	X	X	Apply at a minimum of 1,800 pounds per acre from 2 directions to prevent shadowing. Could use in lieu of mulch.	
Temporary Seed Mix	X	X	X	X	X	X	X	Application Rate = See below	Prepare soil prior to seeding. Broadcast and rake seed into soil prior to mulch or blanket.
Permanent Seed Mix	X	X	X	X	X	X	X	Application Rate = See below	

Agricultural areas will be restored to original conditions where possible, subject to landowner approval. Non-agricultural areas may be stabilized using the following North Dakota Department of Transportation approved seed mixes:

Seed Class Mix Requirements		
Grass Species	**Variety**	**Pounds Per Live Seed (PLS) Per Acre**
Class I		
Kentucky Blue Grass	Park	4.0
Perennial Rye Grass	-	5.4
Blue Grama	Bad River	2.4
Sideoats Grama	Killdeer, Pierre, Butte	7.2
	TOTAL	**19.0**
Class II – Early Season		
Western Wheatgrass	Rodan, Rosana, Walsh, Flintlock, W.R. Poole, Recovery	9.6
Switchgrass	Dacotah, Forestburg, or Sunburst, Summer	3.2
Green Needlegass	Lodorm, AC Mallard, Fowler	2.4
Sideoats Grama	Killdeer, Pierre, Butte	3.6
Slender Wheatgrass	Revenue, Primar, Adanac, Pryor, Firstrike	5.0
	TOTAL	**23.8**

9.4 Sediment Control Practices

The following controls are anticipated to minimize sediment discharge, capture sediment in suspension and minimize sedimentation offsite.

Table 12: Sediment Controls

Potential BMPs	Construction Phase or Activity							Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Collector Substation	O&M Facility	
Silt fence	X	X	X		X	X	X	Machine sliced install w/ wood posts at 6' spacing. Install perimeter sf prior to grading
Fiber rolls	X	X	X	X	X	X	X	Install on contour, minimum of 6" roll, wood or straw fiber. Secure with 2" posts every 2' on center.
Topsoil Berms	X		X			X	X	Side slopes of 3:1 with at least 1' height. Use temporary erosion control to stabilize berm.

9.5 Run-on and Runoff Controls

The following controls are anticipated to minimize scour, transport water across or down steep slopes or critical areas, divert clean water, and / or provide temporary conveyances to maintain drainage.

Table 13: Run-on and Runoff Controls

Potential BMPs	Construction Phase or Activity							Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Collector Substation	O&M Facility	
Riprap Apron								See detail in plans. Install within 24 hours of connection to surface waters.
Diversion Berm								See detail, use temp erosion control to stabilize berm. Install prior to disturbing down gradient areas.
Culvert Protection	X	X				X	X	See details in plan set. Install within 24 hours of installation of culverts.

9.6 Tracking Controls

The following controls are anticipated to minimize or prevent sediment track-out from construction site exits to paved surfaces or to retrieve material tracked onto paved surfaces to minimize or prevent the material from being washed into surface waters or storm water inlets.

Table 14: Tracking Controls

Potential BMPs	Construction Phase or Activity							Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Collector Substation	O&M Facility	

Rock Pad	**X**	**X**				**X**	**X**	See detail in plans. Install at all site exits prior to grading. Maintain for duration of project.
Gravel or Aggregate Road Base	**X**	**X**				**X**	**X**	See detail and notes in plans.
Street Scraping	**X**	**X**				**X**	**X**	Scrape large clumps/amounts of material with soft tracked or wheeled equipment prior to sweeping.
Street Sweeping	**X**	**X**				**X**	**X**	Sweep paved surfaces within 24 hours of discovery.

9.7 Dewatering and Basin Draining Practices

Dewatering Accumulated Water (via pump, trench, temporary ditch or grade cuts)

Dewatering of turbid water (water that is visibly cloudy or brown in color) should be discharged via pump and hose or overland flow to a temporary sediment basin for pretreatment. The use of riprap apron (energy dissipation) should be used for the discharge location. If riprap is not used, an alternative form of energy dissipation should be used to prevent scour and re-suspension of soil at the discharge point of the hose. If discharge to a temporary sediment basin is not feasible, the use of dewatering dumpsters, dewatering bags or other prefabricated product should be used. The use of rock checks, erosion control blanket and sumps or traps may be considered for overland flow. After the use of BMPs, the water could be discharged through a vegetated buffer and energy dissipation. The discharge of water from the site should be visibly clear in appearance.

The discharge of accumulated water should not:

- Contain oil, grease, a sheen, odor, or concrete washout;
- Adversely impact adjacent properties with water or sediment;
- Adversely impact waters of the state;
- Cause erosion of slopes and channels;
- Cause nuisance conditions; or
- Contribute to inundation of wetlands which negatively impact the wetlands.

10.0 POLLUTION PREVENTION MANAGEMENT

10.1 Storage, Handling and Disposal of Construction Materials

Storage and Handling

- All products shall be kept in their original container, with original labels still attached, unless the container is not re-sealable.
- Hazardous materials shall be returned to the hazardous material storage area at the end of each day.
- An effort should be made to store only enough products to do the required job.
- The contractor shall provide tanks or barrels to collect liquid byproducts that pose a pollution hazard.
- The pollutants shall be removed from the site on a weekly basis and disposed of in accordance with federal, state and local regulations.
- All spills shall be cleaned up immediately after discovery, in accordance with the manufacture's recommended methods.
- Hazardous materials shall be properly stored to prevent vandalism or unauthorized access.
- Containment units shall be installed in accordance with federal, state, and local regulations.
- No hazardous material shall be stored within 200 feet of an identified critical area.
- If building materials, chemicals, or general refuse is being used, stored, disposed of, or otherwise managed inappropriately, the contractor shall correct such defects within 24 hours of detection or notification.

Disposal (Dumpsters)

- Locate dumpsters away from watercourses, streams, creeks and other surface waters or conveyances.
- Site inspector shall regularly observe for and report excess litter and solid waste and request pickup and retrieval of wastes.
- Wastes, litter, debris shall be deposited into dumpsters in a central location and / or in various satellite locations where work is active.
- Dumpsters should be supplied by and regularly maintained, emptied and removed by a waste management company.

10.2 Fueling and Maintenance of Equipment and Vehicles; Spill Response

- Routine maintenance of vehicles shall occur in staging areas only if necessary.
- Maintenance of equipment and vehicles should be avoided and done off site where feasible.
- If fueling is done by mobile tank and dispenser, the transfer of fuel should be done under close supervision and there should be drip pans and spill containment and cleanup materials readily available.
- If fueling is done via temporary tank, the tank should be stored within a bermed area and away from surface waters.
- Spill Kits with absorbent materials shall be available on site for use in cleaning up small spills.
- In the event of a spill or discharge of hazardous material of reportable quantity, contact the Department of Health (701-328-5210) and the National Response Center within 24 hours of the spill at 800-424-8802.

Table 15: Reportable Spill Quantities

Material	Reportable Spill Quantities
Petroleum Material	Any Amount which may impact waters of the state (surface or ground)
Other Material	Quantity that causes odor, color, sheen, foam, or other obvious indicator of pollutants.

10.3 Vehicle and Equipment Washing

If necessary, the contractor shall develop a designated wash area with basin containment to prevent the untreated water from discharging from the site to surface waters. BMPs include, temporary basins, inspecting the vehicles and equipment for leaks prior to washing and prohibiting washing activity until discovered leaks are repaired and maintenance is completed of the equipment or vehicle. The area shall be noted on the site plan. The water shall be contained and pumped from the site into a truck for proper disposal at a waste water facility. No engine degreasing shall be done on site.

10.4 Concrete Washout and Other Washout

Mobile Concrete or Mortar Mixers

Implement the following BMPs with the use of mortar or concrete mixers:

- Store bags of concrete and mortar in dry storage.
- Position mixers 100 feet from the nearest watercourse or conveyance.
- If mixers must be positioned closer than 100 feet from a conveyance, install a temporary berm to prevent runoff from the mixer from flowing into the conveyance.
- Use Tarpaulins or plastic sheeting as a liner to prevent concrete or mortar from contacting the soil.
- Use buckets to contain washout / rinse water when cleaning the mobile mixer.
- Dump buckets of washout water in a designated concrete washout area.

Concrete Washout

Implement the following BMPs should be implemented for concrete washout areas:

- Contain washout water from the tools, equipment, and the chutes of concrete trucks, mobile mixers, or other containers with concrete material, and not allow it to be discharged into waters of the state or drain onto adjacent properties.
- Define the washout area with signage notifying the contactors of the location and use.
- The washout area should be a sufficient size to contain the expected washout material. 10'x10'x3' area should suffice for most activities.
- Multiple washout areas may be needed. Locations of the washouts should be shown on the construction plans by the contractor.
- When documenting the location of the concrete washout areas, include the date of install, date of last maintenance, and date of removal.
- Use of thick poly sheeting to prevent contamination of the soil and prevent infiltration of the washout material.

Once the material is hardened it can be disposed of in a dumpster. If the material is liquid or not hardened, vacuum up the material, and haul it off site to properly dispose or recycle at an approved facility. Some sites will not need the separate washout area if a truck chute washout is available from the concrete supplier.

Truck Chute Washout

Where available, all trucks with self-contained washout and water recycle systems must be used for every truck chute, tool and equipment rinse and washout. Position the truck positioned in a flat area away from inlets and surface waters where feasible.

10.5 Portable Sanitary Facilities

- Locate facilities away from watercourses, streams, creeks and other surface waters or conveyances.
- Place facilities upgradient from perimeter sediment controls, not on paved or other impervious surfaces.
- Secure facilities to the soil with stakes or tether to other non-movable structure to prevent tipping from wind or other factors.

- Schedule routine and regular cleanout and maintenance of facility from a reliable company.

10.6 Potential Non-stormwater Pollutant Sources and BMPs

Non-storm water discharges shall be eliminated or reduced to the extent feasible, with the exception of those necessary for the completion of certain construction activities. A list of allowable non-stormwater discharges include the items below.

Table 16: Non-stormwater Discharges and Potential BMPs

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Site?
Discharges from emergency fire-fighting activities	☐ YES ☒ NO
Fire hydrant flushings (uncontaminated and not hyperchlorinated)	☐ YES ☒ NO
Waters used to wash vehicles, buildings, structures and pavement (Detergents and soaps are not allowed) to remove mud, dirt or dust.	☒ YES ☐ NO
Potable water including uncontaminated waterline flushings (not hyperchlorinated)	☐ YES ☒ NO
Uncontaminated air conditioning or compressor condensate	☐ YES ☒ NO
Uncontaminated, non-turbid discharges of ground water, spring water, or foundation or footing drains	☒ YES ☐ NO
Landscape irrigation	☐ YES ☒ NO

These authorized non-storm water discharges should be conducted in accordance with the requirements of the Construction General Permit (CGP), and every effort should be made to minimize non-storm water runoff from these site activities.

The operators are responsible to implement the following BMPs and management for non-stormwater discharges.

Waters Used to Wash Vehicles, Buildings, Structures and Pavement (without detergents): Should washing be necessary to remove soil, mud, dirt and / or dust will likely be needed, the washing of components consists of using high powered sprayers with water could be used to clean off accumulated soil and earth materials. The washing should take place within a defined area. Existing BMPs and infiltration will likely control associated water and runoff due to the washing activity. If existing BMPs are overloaded or not functional maintenance or additional perimeter controls (such as silt fence) may be needed at the discretion of the inspector.

Uncontaminated Excavation Dewatering: Clean water should be discharged to a vegetated area, ditches or other conveyance via hose. Energy dissipation should be applied to the discharge location to minimize scour. Alternatively, uncontaminated water could be discharged to receiving waters as allowed by local permits and regulations or as long as positive drainage is provided, the water could be discharged into the surrounding areas and allowed to infiltrate or drain along existing drainage patterns provided that the water does not cause flooding, prolonged or damaging inundation, or vegetation damage.

11.0 INSPECTION AND MAINTENANCE

Construction activity and all support activities must be inspected (using the inspection form found in Attachment G or an alternative form) within the parameters of the schedule below. The inspector shall be a person trained and familiar with the requirements of this SWPPP and the NDR10-0000 permit. This person is delegated by the owner and listed in Section 5.7 and 12.0.

Inspection reports must be written, include the following information, and be retained in Appendix G:

- Date and time of inspections;
- Inspector's name;
- Findings of the inspection;
- Recommendations and schedule for corrective actions;
- Corrective actions taken, recording the following information;
    - Best Management Practice corrected,
    - Date and time of corrective action,
    - Name of person performing corrective action,
    - Corrective action taken,
    - Signatures on corrective action/maintenance records in accordance with Part IV(A)(6);
- Date and amount of rainfall**;
- Documentation that the SWPPP has been amended when changes are made to BMPs in response to inspections;
- Descriptions of discharges listing color, odor, floating, settled, solids, foam, oil sheen.

*All inspections should be documented within 24 hours after completing the field inspection and available in paper or electronic form on site.

**Rainfall amounts should be taken from an onsite rain gauge. If a rain gauge is not feasible, the rainfall data should be observed from the following website:

- https://forecast.weather.gov/MapClick.php?lat=46.304&lon=-98.9539#.XO7lTYhKiUk

11.1 Inspection Schedule

Table 17: Inspection Schedule

If the site is:	Then an inspection is needed:	Notes and Information
Active	Once every 14 calendar days and within 24 hours of a rainfall ≥ 0.25".	A rain gauge should be used or rain data should be taken from the link listed above. Inspections should only be conducted during normal working hours.
Inactive and stabilized areas	Once every 30 calendar days	Allowed in areas where work is completed and vegetation is established. Other/active areas must follow above.
Subject to Winter/Frozen Conditions	Not Applicable / Not Needed if no construction activity is occurring.	Inspections are not needed for inactive sites where snow cover or frozen conditions exist for an extended period of time. The inspection must continue as soon as runoff occurs from the site or within 24 hours of resuming construction.

11.2 Maintenance Schedule

Table 18: Maintenance Schedule

BMP	Observed Condition for Maintenance	Maintenance Interval
All non-functional BMPs	Sediment overtopping, under water, scoured ends, undermined, destroyed, non- functional as designed. etc.	Maintenance or replacement should be done by end of the next business day after discovery or notification or prior to the next rainfall (whichever is soonest) or as soon as field conditions allow.
Perimeter Sediment Control (silt fence, fiber logs, berms, etc.)	½ full of sediment, flattened to ½ height, driven over, undermined, scoured, moved for access etc.	Within 24 hours of discovery or notice or as field conditions allow.
Inlet protection BMPs, conveyances, surface waters	Sediment deposition, sediment deltas and accumulation of sediment material.	Removal/cleanout of accumulated sediment and deltas to be removed within 7 days. Stabilize as needed if soils are exposed during removal/cleanout.
Temp sed basins and traps; permanent sediment basins	Sediment deposition and accumulation to ½ of the storage volume.	Cleanout, remove accumulated sediment material within 72 hours of observation, or as field conditions allow access.
Site exit locations, rock exit pads, other anti-tracking practices	Accumulated sediment in rock or other anti-tracking BMP, tracking of sediment from the site onto paved surfaces	Top dress rock, maintain rock exit or other anti-tracking controls, scrap paved surfaces, and sweep paved surfaces within 24 hours of discovery.
Paved surfaces; adjacent streets	Tracked sediment and soil material from the site hauling or access	Sweep within 24 hours of discovery; additional and/or more frequent sweeping may be needed to maintain public safety or prevent washing from forecasted rains.

12.0 TRAINING AND DOCUMENTATION

Annual training should be done on site and include new employees or responsibility parties which are responsible for design, installation, maintenance and report of the stormwater controls and conduction inspections. See attachment F for the training log and records.

Training Topics:

- The purpose of the SWPPP,
- Requirements of the SWPPP,
- SWPPP implementation,
- Location of BMPs identified in the SWPPP,
- Correct BMP installation, and
- BMP function, maintenance and removal.

Inspection personnel should understand the following topics:

- When inspections should be conducted,
- What must be inspected,
- How to record findings,
- Initiating corrective actions, and
- Documenting corrective actions.

Maintenance personnel must understand the following topics:

- When to perform maintenance,
- How to maintain properly functioning BMPs, and
- What information to record for corrective actions and maintenance records.

13.0 FINAL STABLIZATION

Final stabilization is achieved for the project when all soil disturbing activities at the site have been completed and all soils have been stabilized by a uniform perennial vegetative cover with a density of 70% of the pre-existing cover over the entire pervious surface area, or other means necessary to prevent soil failures under erosive conditions. Additionally, the following conditions must be met:

- All permanent drainage ditches must be stabilized;
- All temporary erosion and sediment control BMPs must be removed; and
- All sediment must be removed from conveyances and temporary basins that will be used permanently. Removed sediment must be stabilized to prevent washing into basins, conveyances, or drainage way discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.
- For areas with average annual rainfall of less than 20 inches: permanent BMPs (such as biodegradable erosion control blanket) must be installed with an appropriate seed base to provide erosion control for at least 3 years and achieve 70 percent of the pre-existing vegetative cover within 3 years without active maintenance.

Disturbed areas of land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to final stabilization criteria. If the construction activity removed standing crops, the area must be restored in accordance with landowner approval.

14.0 NOTICE OF TERMINATION

The project permit may be terminated in one of the following scenarios.

1. All construction activity is complete, temporary synthetic BMPs are removed, accumulated sediment from construction is removed, and final stabilization is completed with vegetative and / or non-vegetative cover. The Notice of Termination form from the NDDH should be completed within 30 days of meeting the conditions above.
2. Another owner / operator / permittee has assumed control, in accordance with the transfer provisions (Part I(F) of the general permit), over all areas of the site that have not achieved final stabilization.

15.0 RECORD RETENTION

15.1 During Construction

This report, amendments and attachments, inspections, and maintenance records should be kept on site during normal business hours. The records should be kept by the owner or operator listed on the permit application. The records should be in a mailbox, in a vehicle or in an on-site office trailer or other structure.

15.2 Post Construction / Notice of Termination (NOT)

The site owner must retain all the following records for a period of at least three years after the submittal of the NOT.

- The final SWPPP with all field notes / amendments;
- Other stormwater related permits in addition to the NPDES permit from NDDH;
- Inspection and maintenance records;
- All permanent operation and maintenance agreements; and
- All required calculations for design of the temporary and permanent stormwater management systems.

Attachment A

NDR10-0000 Construction General Permit

Permit No: NDR10-0000
Effective Date: April 01, 2015
Expiration Date: March 31, 2020

AUTHORIZATION TO DISCHARGE UNDER THE

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

Facilities both qualifying for and satisfying the requirements identified in Part I of the permit

are authorized to discharge stormwater associated with **construction activity**

to waters of the state

in accordance with conditions set forth in this permit.

This permit and the authorization to discharge shall expire at midnight,

March 31, 2020.

Signed this 31 day of March, 2015.

Karl H. Rockeman, P.E.
Director
Division of Water Quality

BP 2014.06.12

Table of Contents

I. PERMIT COVERAGE AND LIMITATIONS 3
A. Discharges Covered 3
B. Discharges Not Covered 4
C. Obtaining Coverage and Authorization Effective Date 4
D. Application (Notice of Intent) Process 5
E. Notice of Termination (NOT) 6
F. Transfer of Ownership or Control 6
II. STORMWATER DISCHARGE REQUIREMENTS 7
A. Prohibition of Non-Stormwater Discharges 7
B. Releases in Excess of Reportable Quantities 7
C. Stormwater Pollution Prevention Plans 7
D. Local Requirements 13
E. Final Stabilization 13
III. SELF MONITORING AND REPORTING 14
A. Inspection and Maintenance Requirements 14
B. Records Location 16
IV. STANDARD CONDITIONS 17
A. COMPLIANCE RESPONSIBILITIES 17
B. GENERAL REQUIREMENTS 20
V. DEFINITIONS 22
Appendix 1 – Erosion and Sediment Control Requirements 25

I. PERMIT COVERAGE AND LIMITATIONS

A. Discharges Covered

1. This permit applies to all areas within the state of North Dakota, except for those areas defined as Indian Country. Construction activity located within Indian Country within the state of North Dakota must obtain a permit through the United States Environmental Protection Agency. If the construction activity is located with the jurisdiction of the state of North Dakota, and the United States Environmental Protection Agency, a permit must be obtained from both regulatory entities.

2. This permit applies to stormwater discharges associated with construction activity and small construction activity as defined in Title 40 of the Code of Federal Regulations (CFR), Parts 122.26(b)(14)(x) and (b)(15), respectively. The reference to construction activity in this permit includes both large construction activity and small construction activity as described below.

    a. Large construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five (5) acres or more.

    b. Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater that one (1) and less than five (5) acres.

    c. Discharges of stormwater from oil and gas exploration, production, processing or treatment operations, or transmission facilities composed of contaminated runoff by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

3. Stormwater discharges from support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) may be covered by this permit as part of a related construction site. The support activities may only be in association with one project. If the support activity is associated with more than one project, a separate stormwater permit (Industrial or mining, extraction or paving material preparation) is required.

4. Certain non-stormwater discharges from facilities covered by this permit and meeting the requirements specified in Part II(A).

5. Stormwater discharges from construction activity covered by the previous permit, issued October 12, 2009, where a notice has been submitted to obtain coverage under this permit.

6. Projects which have obtained coverage under this permit shall amend and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of this permit within ninety (90) days of the effective date of this permit.

7. Discharges from dewatering activities related to construction activities (discharges of uncontaminated stormwater).

8. Local Authority. This permit does not preempt or supersede the authority of local agencies or operators of municipal separate storm sewer systems to prohibit, restrict, or control discharges of stormwater to storm sewer systems or other water courses within their jurisdiction.

B. Discharges Not Covered

1. Stormwater discharges associated with industrial activity from any source other than construction activities described in Part I(A).

2. Post-construction discharges from industrial activity that originate from the site after construction activities have been completed at the site. Industrial and post-construction stormwater discharges may need to be covered by a separate stormwater permit.

3. The placement of fill into waters of the state requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits).

4. This permit does not substitute for obligations under the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Wild and Scenic Rivers Act, or National Historic Preservation Act (NHPA), it is your responsibility to ensure the project and resulting discharges comply with the respective requirements.

5. Discharges to waters for which there is a total maximum daily load (TMDL) allocation for sediment and/or parameters associated with sediment transport are not covered unless you develop a Stormwater Pollution Prevention plan (SWPPP) that is consistent with the assumptions and requirements in the approved TMDL. To be eligible for coverage under this general permit, the SWPPP must incorporate the conditions applicable to the discharge necessary for consistency with the assumptions, allocations and requirements of the TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

6. Stormwater discharges that the department determines will cause, or have the reasonable potential to cause or contribute to a violation of the standards for quality for waters of the state (North Dakota Administrative Code (N.D.A.C.) 33-16-02.1).

7. Discharges from hydrostatic testing, well points, water line disinfection and treatment of gasoline or diesel contaminated groundwater.

8. Discharges of wash water using detergents, wastewater, or sanitary waste.

C. Obtaining Coverage and Authorization Effective Date

1. To obtain authorization under this general permit for stormwater discharges you must submit a complete application and develop a SWPPP in accordance with Part II(C) of this permit. A SWPPP must be in place as a condition of the permit and a copy of the SWPPP must be retained by the permittee.

2. Permit coverage will become effective seven (7) days after you submit a complete application unless otherwise notified by the department (based on the department receipt date).

3. Upon the effective date of permit coverage you, as the permit applicant, are authorized to discharge stormwater from eligible activities under the terms and conditions of this permit.

D. Application (Notice of Intent) Process

1. You must use a Notice of Intent (NOI) to complete your application. An NOI form (or a replacement application form) is available at the following website: www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm.

2. Application Content and Conditions.

   a. The owner, or owner jointly with the operator (usually the general contractor), shall submit a completed application for this permit. The owner is responsible for compliance with all terms and conditions of this permit. The operator has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.

   b. The application (Notice of Intent) shall contain, at a minimum, the following information:

      (1) Owner name, mailing address and phone number;
      (2) Project contact name and phone number;
      (3) Project/site name;
      (4) Project/site location (street address; section, township, range; or latitude and longitude) and county;
      (5) A brief description of the construction activity;
      (6) The anticipated start date and the anticipated completion date for the project (if known);
      (7) The estimated total area of the site and the total area of disturbance in acres;
      (8) The name of receiving water(s), or the name of the municipal storm sewer system and receiving water(s);
      (9) The signature of the applicant(s), owner (and operator if co-applicants) signed in accordance with the signatory requirements in Part IV(A)(6) of this permit.

   c. A SWPPP (Part II(C)) for the project must be prepared and available for review, upon request, by the department at the time of application. A partially complete plan is acceptable when it clearly identifies the item(s) to be completed, the person(s) responsible for completing the item(s) and the deadline for completing the item(s). The SWPPP must be completed prior to the start of construction (or the applicable construction phase). You are not required to submit the SWPPP with the application unless otherwise notified by the department.

3. For residential construction activity occurring within a common plan of development (such as a subdivision) subject to the permit requirements, coverage may be obtained by the following:

   a. The owner of the lot(s) shall submit one (1) NOI for all of the owner's construction activity within the common plan of development, or

   b. The operator, such as a homebuilder who may represent one (1) or more lot owners, shall submit one (1) NOI for all of the operator's construction activity within each addition of the common plan of development.

      In addition, a SWPPP must be developed and implemented for the permittee's activities within the common plan of development. Additional phases of the common plan of development may be included under the initial application and permit coverage provided the SWPPP is amended to include the additional area or phases.

4. For oil and gas exploration, production, processing, treatment operations, or transmission facilities, which discharge contaminated stormwater, permit applications may be submitted for individual project sites or for an area of operations such as well field or by county.

5. Completed applications and any reports required by this permit shall be submitted to:

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue
Bismarck, ND 58501-1947

E. Notice of Termination (NOT)

1. Permittees wishing to terminate coverage under this permit must submit a Notice of Termination (NOT) or other written request identifying the facility, reason why the permit is no longer needed and signed in accordance with Part IV(A)(6) of this permit. Compliance with the conditions of this permit is required until a NOT is submitted to the department.

2. Permittees may only submit a NOT after one of the following conditions have been met:

   a. Final stabilization (Part II(E)) has been achieved on all portions of the site for which the permittee is responsible.

   b. Another owner/operator/permittee has assumed control, in accordance with the transfer provisions (Part I(F)), over all areas of the site that have not achieved final stabilization.

   c. For residential construction only, a NOT is not required for each lot that is sold, transferred, or has achieved final stabilization. The permittee must modify their SWPPP to indicate that permit coverage is no longer required for that lot. The SWPPP shall indicate the reason why coverage is no longer needed and the date the lot was sold, transferred, or achieved final stabilization. In order to terminate coverage, all lots under the control of the owner or operator must be sold, transferred, or achieved final stabilization (Part II(E)).

F. Transfer of Ownership or Control

1. When the owner or operator of a construction project changes, the new owner or operator must submit a written request for permit transfer/modification within fourteen (14) days of assuming control of the site or commencing work on-site, or of the legal transfer, sale or closing on the property; except as provided in Part I(F)(2). Late submittals will not be rejected; however the department reserves the right to take enforcement for any unpermitted discharges or permit noncompliance. For stormwater discharges from construction activities where the owner or operator changes, the new owner or operator can implement the original SWPPP created for the project or develop and implement their own SWPPP. Permittee(s) shall ensure either directly or through coordination with other operators that their SWPPP meets all terms and conditions of this permit and that their activities do not interfere with another party's erosion and sediment control practices.

2. A permit transfer/modification request is not required for the legal transfer, sale or closing on a property between permittees covered by this permit. Examples include the sale of a property parcel from a developer to a builder, or the transfer of an easement from a developer to a local government authority. If the new party is not covered by this permit at the time of transfer or sale, then the new owner/operator must submit a completed application/NOI within 14 days of assuming control of the site.

II. STORMWATER DISCHARGE REQUIREMENTS

A. Prohibition of Non-Stormwater Discharges

The discharge of wastewater is not authorized by this permit. The following sources of non-stormwater discharges are allowed if they are not a significant source of pollution and are identified in the SWPPP: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented. Discharges may not come into contact with oil and grease deposits or any other toxic or hazardous materials (unless cleaned up using dry clean-up methods). The SWPPP must include a description of the pollution prevention measures to be implemented while non-stormwater discharges are occurring.

If chemical treatment for sediment removal is intended to be used on-site, the permittee shall provide the department with the information outlined in Appendix 1(A)(14) of this permit for approval prior to use. This information shall be provided to the department no later than sixty (60) days prior to use.

B. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302, nor the reporting requirements found in Chapter 33-16-02.1 of the North Dakota Administrative Code. Any releases which meet any reporting requirement, must be reported to the agencies identified in Part IV(A)(7).

C. Stormwater Pollution Prevention Plans

All permittees shall implement a SWPPP for any construction activity requiring this permit until final stabilization is achieved. The SWPPP and revisions are subject to review by the department. The objectives of the SWPPP is to identify potential sources of sediment and other sources of pollution associated with construction activity, and to ensure practices are implemented and maintained to reduce the contribution of pollutants in stormwater discharges from the construction site to waters of the state and storm sewer systems. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP, or used in whole as a SWPPP if it meets the requirements of this part.

The SWPPP may identify more than one permittee and may specify the responsibilities of each permittee by task, area, and/or timing. Permittees may coordinate and prepare more than one SWPPP to accomplish this. However, in the event there is a requirement under the SWPPP for which responsibility is ambiguous or is not included in the SWPPP, each permittee shall be responsible for implementation of that requirement. Each permittee is responsible for assuring that their activities do not render another permittee's controls ineffective.

The SWPPP must incorporate the requirements provided in Appendix 1 and shall include the following information.

1. **Site Description**. Each plan shall provide a description of the construction activity and potential sources of pollution as indicated below:

    a. A description of the overall project and the type of construction activity;

b. Estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, grubbing, or other activities during the life of the project;

c. A proposed timetable/schedule, or chart, of activities that includes major phases/stages, BMP implementation, BMP removal, disturbances, and stabilization for major portions of the site;

d. A description of the soil within the disturbed area(s);

e. The name of the surface water(s) and municipal storm sewer system at or near the disturbed area that will receive stormwater runoff from the project site; and

f. A site map which indicates the following items as applicable (more than one (1) map may be needed). If an item is not applicable, provide rationale describing why the item is not applicable to the construction activity:

1) Project boundaries;
2) Areas of ground disturbance during each phase/stage of the project;
3) Areas where disturbance will not occur, such as avoidance areas (e.g. wetlands, critical habitat, Threatened and Endangered Species, etc);
4) Drainage patterns including: flow direction (run-on and runoff);
5) Dividing lines, discharge points, and storm sewer system inlets which the site drains to or may be affected by the activity;
6) Pre-existing and final grades;
7) Location of all temporary and permanent sediment and erosion controls during each particular phase;
8) Location of any stormwater conveyances such as: retention ponds, detention ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;
9) Location of potential sources of pollution (e.g. portable toilets, trash receptacles, etc.);
10) Location of soil stockpiles;
11) Identify steep slopes;
12) Surface waters, including an aerial extent of wetland acreage;
13) Location of surface water crossings;
14) Locations where stormwater is discharged to surface waters;
15) Location of dewatering discharge points;
16) Locations of where chemical treatment of stormwater will be performed, including discharge points;
17) Fueling locations, vehicle and equipment maintenance areas, designated wash water collection site, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection area;
18) Location of any impervious surfaces upon completion of construction; and
19) Where included as part of the project, the site maps for off-site concrete/asphalt batch plants, equipment staging areas, borrow sites or excavated fill material disposal sites. Site maps must show items 1 through 18 of this section.

g. Projects that discharge stormwater which flows to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids or turbidity must identify the water body and impairment in the SWPPP. The Department's 303(d) list may be found at the following website under Integrated Reports: www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm.

h. For water bodies which have a TMDL, the SWPPP must describe and conform to the Waste Load Allocations (WLA) of the water body as per Part II(C)(4)(g) of this permit. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

2. **Narrative.** The SWPPP must include a narrative description of the selected operational controls and sediment and erosion controls as outlined in Part II(C)(3), Part II(C)(4), and Appendix 1 of this permit. When applicable, a description of the requirements for any additional environmental regulations (federal) and local requirements related to the project, as it relates to waters of the state, must also be included or incorporated by reference (e.g. The Wild and Scenic Rivers Act, The National Historic Preservation Act, The Endangered Species Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Section 404 of the Clean Water Act, etc.).

   The narrative shall describe at a minimum:

   a. The installation, removal (if applicable), and maintenance requirements of selected Best Management Practices (BMPs) for each phase/stage of construction activity;
   b. The rationale for the selection of all BMPs (calculations should be included if appropriate);
   c. Whether selected BMPs are temporary or permanent;
   d. Any descriptions of infeasibility or explanations as required in Part II, Part III(A), and Appendix 1 of this permit.

3. **Operational Controls**. The SWPPP shall describe the BMPs used in day to day operations on the project site that reduce the contribution of pollutants in stormwater runoff.

   a. The SWPPP must identify a person knowledgeable and experienced in the application of erosion and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion and sediment control BMPs before and during construction, until a NOT is filed or the permit is transferred. A knowledgeable and experienced person is someone who meets the requirements of Part II(C)(3)(e) of this permit.

      The owner shall develop a chain of responsibility with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and a NOT has been submitted to the department.

   b. The SWPPP must include a description of good housekeeping practices used to maintain a clean and orderly site. The SWPPP shall describe how litter, debris, chemicals and parts will be handled to minimize exposure to stormwater. The SWPPP also shall describe what measures will be used to reduce and remove sediment tracked off-site by vehicles or equipment. In addition, the SWPPP shall describe methods which will be used to reduce the generation of dust.

   c. The SWPPP shall describe preventative maintenance practices used to ensure the proper operation of erosion and sediment control devices (e.g., fiber rolls, erosion control blankets and silt fences) and equipment used or stored on site. The SWPPP shall describe proper inspection procedures for ensuring proper operation of erosion and sediment control devices.

   d. The SWPPP shall describe spill prevention and response procedures where potential spills can occur. Specific handling procedures, storage requirements, spill containment, cleanup procedures, and disposal must be identified. Storage structures for petroleum products and other chemicals shall have adequate leak and spill protection to prevent any spilled materials from entering waters of the state or storm sewer systems.

      The potential discharge of hazardous substances in stormwater discharges shall be minimized by including measures onsite, detailed in the SWPPP to prevent and respond to releases of hazardous substances. If a reportable quantity release occurs, the SWPPP shall be revised to prevent the reoccurrence of such a release.

e. The SWPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired or as necessary to ensure compliance with the SWPPP and the general permit. Employees and responsible parties include individuals who are responsible for design, installation, maintenance and repair of stormwater controls and conducting inspections.

    1) On-site personnel must understand the requirements of this permit as it pertains to their role in implementing the SWPPP. On-site personnel must know:

        a. The purpose of the SWPPP, requirements of the SWPPP, and how the SWPPP will be implemented;

        b. The location of all BMPs identified in the SWPPP; and

        c. Correct installation, function, maintenance and removal (if applicable) of BMPs identified in the SWPPP.

    2) Personnel responsible for performing site inspections must understand when inspections must be conducted (Part III(A)), what must be inspected (Part II(C)(7), how to record findings, when to initiate corrective actions, and properly document corrective actions.

    3) Maintenance personnel must understand when maintenance must be performed on BMPs in order to maintain properly functioning BMPs and what needs to be recorded for corrective actions/maintenance records in accordance with Part III(A)(5) of this permit.

f. The SWPPP must describe how concrete grindings and slurry will be managed. Wastewater from concrete washout, cleanout or washout from: stucco, paint, joint compound, and other building materials shall not be discharged to waters of the state, storm sewer systems or curb and gutter systems.

    1) Wash water must be collected in leak-proof containers or leak-proof pits. Containers or pits must be designed and maintained so that overflows cannot occur due to inadequate sizing, precipitation events, or snowmelt.

g. The SWPPP shall describe any dewatering activities planned at the site. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the permitted activity must be managed with appropriate BMPs, such that the discharge does not adversely affect the receiving water. The following conditions apply to dewatering activities:

    1) Dewatering is limited to un-contaminated stormwater, surface water, and groundwater that may collect on-site and those sources identified in Part II(A), if they are not a significant source of pollution. A separate permit must be obtained to discharge water from other sources such as hydrostatic testing of pipes, tanks, or other similar vessels; disinfection of potable water lines; pump testing of water wells; and the treatment of gasoline or diesel contaminated groundwater or surface water.

    2) The permittee(s) must operate the discharge to minimize the release of sediment and provide adequate BMPs where necessary to minimize erosion due to the discharge. Discharges must not lead to the deposition of sediment within stormwater conveyance systems or surface waters. Discharges must not cause or potentially cause a visible plume within a surface water body.

3) When dewatering, utilize structures or BMPs which allow for draw down to occur from the surface of the water, unless infeasible. If infeasible, documentation must be provided in the SWPPP. In addition, you must describe what BMP(s) will be used in its place.

4) In addition to the inspection requirements in Part III, dewatering activities shall be inspected daily. The inspection must include the dewatering site, areas where BMPs are being implemented and the discharge location. A record shall be maintained to document the inspections of the dewatering operation and actions taken to correct any problems that may be identified.

a. Records shall contain at a minimum:

i. Date and time of the inspection,
ii. Inspector name,
iii. Approximate volume of water discharged,
iv. Findings of the inspection, including recommendations and schedule for corrective actions;
v. Corrective actions taken (including dates, times, and party completing maintenance activities); and
vi. Documentation that the SWPPP has been amended when changes are made to the dewatering activity in response to inspections.

5) Local authorities may require specific BMPs for discharges affecting their storm sewer system.

4. **Erosion and Sediment Controls**. Erosion and sediment controls and stabilization requirements must be implemented for each major phase of site activity (e.g., clearing, grading, building, and landscaping phases). A description of the erosion and sediment controls and site stabilization methods must be provided in accordance with Part II(C)(2) of this permit. Erosion and sediment controls, and site stabilization must conform to the requirements provided in Appendix 1. The description and implementation of controls shall address the following minimum components:

a. The selection of erosion and sediment controls, and site stabilization shall consider the following:

1. The expected amount, frequency, intensity, and duration of precipitation events;

2. The nature of stormwater run-on and runoff from the site as well as changes during, and as a result of, construction activity. This includes changes to impervious surfaces, slopes, seasonal changes, and drainage features on-site;

3. Channelized flow, must be handled in order to minimize erosion at outlets and to minimize impacts to downstream receiving waters;

4. Soil types (wind and water erodibility, and settling time); and

5. Seasonal conditions.

b. Sediment basins, or an appropriate combination of equivalent sediment controls such as smaller sediment basins and/or sediment traps, silt fences, fiber logs, vegetative buffer strips, berms, etc., are required for all down slope boundaries of the disturbance area and for those side slope boundaries as may be appropriate for site conditions.

c. Temporary or permanent erosion protection and stabilization (such as cover crop planting or mulching) must be initiated immediately, as described in Appendix 1(A), for all exposed soil areas where activities have been completed or temporarily ceased.

d. All control measures must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. Corrective actions must be made prior to the next anticipated rainfall event of within 24 hours of discovery (whichever comes first) or as soon as field conditions allow. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

   The permittee may deviate from the manufacturer's specifications and erosion and sediment control requirements in Appendix 1 if they provide justification for the deviation and document the rationale for the deviation in the SWPPP. Any deviation must provide equivalent erosion and sediment control.

e. If sediment escapes from the site, off-site accumulations of sediment must be removed in a manner and frequency sufficient to minimize off-site impacts as outlined in Appendix 1(B). The SWPPP must be modified to prevent further sediment deposition off-site.

f. Stormwater controls are expected to withstand and function properly during precipitation events of up to the 2-year, 24-hour storm event. Visible erosion and/or off-site sediment deposition from such storm events should be minimal. The 2-year, 24-hour rainfall event in North Dakota ranges from about 1.9 inches in the west to 2.3 inches in the east.

g. For projects that discharge stormwater which flows to a water body for which there is a TMDL allocation for sediment and/or parameters associated with sediment transport, the SWPPP must be consistent with the assumptions, allocations, and requirements in the approved TMDL. If a TMDL specifies certain BMPs or controls to meet a WLA applicable to the project's discharges, the BMPs or controls must be incorporated into the SWPPP. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

5. **Stormwater Management**. The SWPPP must identify permanent practices incorporated into the project to control pollutants in stormwater discharges occurring after construction operations have been completed.

   a. Identify stormwater ponds; flow reduction methods; infiltration of runoff on-site; sequential systems which combine several practices or other post-construction stormwater management features.

   b. Identify velocity / energy dissipation devices placed at discharge locations and appropriate erosion protection for outfall channels and ditches.

   c. Maintenance for on-site stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance.

   d. The design, installation and use of stormwater management features must comply with applicable local, state or federal requirements.

6. **Maintenance**. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. The SWPPP must indicate, as appropriate, the maintenance or clean out interval for sediment controls. If site inspections, required in Part III of this permit, identify BMPs that are not operating effectively, maintenance shall be arranged and accomplished in accordance to Appendix 1 or as soon as practicable.

7. **Inspections**. The SWPPP must provide for site inspections as outlined in Part III. The permittee shall ensure that personnel conducting site inspections are familiar with permit conditions and the proper installation and operation of control measures. Inspectors must be knowledgeable in their role of the SWPPP, as outlined in Part II(C)(3)(e) of this permit. The erosion and sediment control measures and stabilized areas identified in the SWPPP shall be observed to ensure they are operating correctly and in serviceable condition. Inspections shall include areas used for storage of materials, permanent stormwater control measures and vehicle maintenance areas. These areas shall be inspected for evidence of, or the potential for, pollutants entering a drainage system. If necessary, the plan shall be revised based on the observations and deficiencies noted during the inspection.

8. **SWPPP Review and Revisions**.

    a. The SWPPP shall be signed in accordance with the Signatory Requirements, Part IV(A)(6), and retained on-site for the duration of activity as outlined in Part III(B).

    b. The permittee shall make the SWPPP available upon request to the department, EPA, or, in the case of discharges to a municipal storm sewer system, the operator of the municipal system.

    c. The permittee shall amend the SWPPP whenever there is a change in design, construction, operation, maintenance, or BMPs. The SWPPP shall be amended if the plan is found to be ineffective in controlling pollutants present in stormwater. The SWPPP shall be amended as soon as practicable.

D. Local Requirements

All stormwater discharges must comply with the requirements, policies, or guidelines of municipalities and other local agencies as applicable to the construction site. Any discharges to a storm sewer, ditch or other water course under the jurisdiction of a municipality must comply with any specific conditions or BMPs required by the municipality or agency.

E. Final Stabilization

The permittee(s) must ensure final stabilization of the site. The permittee(s) should submit a NOT within 30 days after final stabilization has been achieved, or another owner/operator (permittee) has assumed control according to Part I(F) for all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways.

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent of the pre-existing cover over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

    a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;

b. All temporary erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization; and

c. The permittee(s) must remove all sediment from conveyances and temporary sedimentation basins that will be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed into basins, conveyances or drainage ways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

2. For areas of the state where the average annual rainfall is less than 20 inches, all soil disturbing activities at the site have been completed and erosion control measures (e.g., degradable rolled erosion control product) and stabilization methods are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years and achieve 70 percent of the pre-existing vegetative cover within three (3) years without active maintenance. Sites must meet the criteria outlined in items 1(a), (b), and (c) above.

3. Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. If the construction activity removed standing crop, the area must be restored in accordance with the landowner.

   Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance use must meet the final stabilization criteria in (1) or (2) above.

4. For residential construction only, final stabilization may be achieved when soil is stabilized (see Appendix 1(A)(3)) and down gradient perimeter control for individual lots has been implemented and the residence has been transferred to the homeowner. Additionally, the permittee must distribute a “homeowner fact sheet” to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization. The permittee also must demonstrate that the homeowner received the fact sheet.

III. SELF MONITORING AND REPORTING

A. Inspection and Maintenance Requirements

1. Inspections shall be performed by or under the direction of the permittee at least once every 14 calendar days and within 24 hours after any storm event of greater than 0.25 inches of rain per 24-hour period. Inspections are only required during normal working hours. The permittee shall use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station. Rain gauge locations or stations must be representative of the site.

   a. “Within 24 hours after any storm event greater than 0.25 inches rain per 24-hour period” means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. If there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

2. There may be times when a site inspection may not be practical at the specified time. Adverse climatic conditions, such as flooding, high winds, tornadoes, electrical storms, site access constraints, etc., may prohibit inspections. The permittee must include a description of why the inspection(s) could not be performed at the designated time in the next inspection record. If an inspection is delayed due to adverse weather conditions or rain events outside normal working hours, an inspection must be conducted during the next working day, or as conditions allow.

3. Some erosion and sediment control measures may require more frequent inspection based on location (e.g., sensitive areas or waters of the state) or as a result of recurring maintenance issues. Erosion or sediment control measures found in need of maintenance between inspections must be repaired or supplemented with appropriate measures as soon as practicable. Erosion and sediment control measures which require more frequent inspection based on location or as a result of recurring maintenance issues must be identified in the SWPPP.

4. All inspections conducted during construction must be recorded in writing and these records must be retained in accordance with Part III(B). Records of each inspection activity shall include:

    a. Date and time of inspections;

    b. Name of person(s) conducting inspections;

    c. Findings of inspections, including recommendations and schedule for corrective actions;

    d. Date and amount of all rainfall events greater than 1/4 inch (0.25 inches) in 24 hours; and

    e. Documentation that the SWPPP has been amended when changes are made to BMPs in response to inspections.

    f. All inspection reports shall be signed in accordance with Part IV(A)(6) of this permit.

5. Corrective actions (maintenance activities) performed during construction must be recorded in writing and these records must be retained in accordance with Part III(B). Records for maintenance activity shall include:

    a. Best Management Practice corrected;

    b. Date and time of corrective action;

    c. Name of person(s) performing corrective actions;

    d. Corrective actions taken; and

    e. Corrective actions/maintenance records shall be signed in accordance with Part IV(A)(6) of this permit.

6. Completed areas that have been stabilized but do not meet the 70 percent perennial vegetative cover criteria for final stabilization may be inspected once per month. Inspections may be suspended for parts of the construction site that meet final stabilization requirements of Part II(E) of this permit. The SWPPP must update to identify any areas which meet this condition.

7. Inspections may be suspended where earthwork has been suspended due to frozen ground conditions. The required inspections and maintenance must resume as soon as runoff occurs or the ground begins to thaw at the site. The permittee must record freeze/thaw and runoff dates as part of the inspection records.

B. Records Location

A copy of the completed and signed NOI, coverage letter from the department, SWPPP, site inspection records, and this general permit shall be kept at the site of the construction activity in a field office, trailer, shed, or in a vehicle that is on-site during normal working hours. If the site does not have a reasonable on-site location, then the documents must be retained at a readily available alternative location; preferably with the individual responsible for overseeing the implementation of the SWPPP. Electronic copies of records are acceptable if the records can be accessed on-site. If the site is inactive, then the documents may be stored at a local office. Permittees should avoid using personal electronic devices for storing electronic records.

IV. STANDARD CONDITIONS

A. COMPLIANCE RESPONSIBILITIES BP 2014.12.08

1. Duty to Comply
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Proper Operation and Maintenance
The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

3. Planned Changes
The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

4. Duty to Provide Information
The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

5. Records Retention
All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the department or EPA.

6. Signatory Requirements
All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the department; and

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If an authorization under 6. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:

    a. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under 8. Bypass of Treatment Facilities;

    b. Any upset which exceeds any effluent limitation in the permit under 9. Upset Conditions; or

    c. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.

2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:

    a. A description of the noncompliance and its cause;

    b. The period of noncompliance, including exact dates and times;

    c. The estimated time noncompliance is expected to continue if it has not been corrected; and

    d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    Reports shall be submitted to the address in **Part I(D) Application (Notice of Intent) Process**. The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

    All other instances of noncompliance shall be reported no later than at the time of the next Discharge Monitoring Report submittal. The report shall include the four items listed in this subsection.

8. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.

Bypass exceeding limitations-notification requirements.

a. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.

b. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under 7. Twenty-four Hour Notice of Noncompliance Reporting.

2. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under the 8(a). Anticipated Bypass subsection of this section.

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three (3) conditions listed above.

9. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with erosion and sediment or site stabilization methods if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and the permittee can identify its cause(s);

2. The permitted facility was, at the time being, properly operated;

3. The permittee submitted notice of the upset as required under 7. Twenty-four Hour Notice of Noncompliance Reporting and

4. The permittee complied with any remedial measures required under 10. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

11. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard.

12. Duty to Reapply

Any request to have this permit renewed should be made 15 days prior to its expiration date.

B. GENERAL REQUIREMENTS

1. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the construction activity and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

2. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

3. Transfers

This permit is not transferable except upon the filing of a Transfer/Modification request (Part I(F)) by the new party. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the Department of the possible change.

4. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

V. DEFINITIONS Permit Specific BP 2009.02.05

"303(d) List" or "Section 303(d) List" means a list of North Dakota's water quality-limited waters needing total maximum daily loads or TMDLs developed to comply with section 303(d) of the Clean Water Act. A copy of the latest integrated report is available on the state's web site at: www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm.

"Act" means the Clean Water Act.

"Bankfull" means the channel is filled to the top of one or both of its banks.

"BMP" or "Best Management Practices" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

"Common Plan of Development or Sale" means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

"Construction Activity" means construction activity as defined in 40 CFR part 122.26(b)(14)(x) and small construction activity as defined in 40 CFR part 122.26(b)(15). This includes a disturbance to the land that results in a change in topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

"Department" means the North Dakota Department of Health, Division of Water Quality.

"Energy Dissipation" means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

"Indian Country" means (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservations; (2) All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

"Infeasible" means not technologically possible or not economically practicable and achievable in light of best industry practices.

"Immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

“Large Construction Activity” means land disturbance of equal to or greater than five (5) acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater that five acres.

“Normal Wetted Perimeter” means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

“Non-Stormwater Discharges” means discharges other than stormwater. The term includes both process and non-process sources. Process wastewater sources that require a separate NDPDES permit include, but are not limited to industrial processes, domestic facilities and cooling water. Non-stormwater sources that may be addressed in this permit include, but are not limited to: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate.

“Operator” means the person (usually the general contractor) designated by the owner who has day to day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible and must perform those responsibilities in a workmanlike manner.

“Owner” means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

“Permanently Ceased” means clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

“Permanent Cover” means final stabilization. Examples include grass, gravel, asphalt, and concrete.

"Severe Property Damage" means substantial physical damage to property, damage to best management practices which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in construction.

"Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

"Significant Spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

“Small Construction Activity” means land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres

"Stabilized" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, or other material that prevents erosion from occurring. Grass seeding alone is not stabilization. Snow cover and frozen ground conditions are not considered stabilized.

“Steep Slopes” means slopes which are fifteen (15) percent or greater in grade.

"Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.

“Stormwater Associated with Industrial Activity” means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 CFR 122.26(b)(14).

“Stormwater Associated with Small Construction Activity” means the discharge of stormwater from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than once acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

(ii) Any other construction activity designated by EPA or the department, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the state.

“Temporarily Ceased” means clearing, grading, and excavation within any area of the site that will not include permanent structures, will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future.

"Temporary Erosion Protection" means methods employed to prevent erosion. Examples of temporary cover include; mulch, straw, erosion control blanket, wood chips, tackifiers, and erosion netting.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with permit requirements because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed erosion and sediment controls or site stabilization methods, inadequate erosion and sediment controls or site stabilization methods, lack of preventive maintenance, or careless or improper operation.

“Waters of the State” means any and all surface waters that are contained in or flow in or through the state of North Dakota as defined in NDCC 61-28-02. This definition includes all water courses, even if they are usually dry.

“You” means the owner, operator or permittee as appropriate.

Appendix 1 – Erosion and Sediment Control Requirements

Requirements for designing, implementing and maintaining erosion and sediment controls.

A. Erosion and Sediment Control Practices

1. Sites using temporary (or permanent) sediment basins must meet the following requirements:

    a. Sediment basins shall be designed for a calculated volume of runoff from a 2-year, 24-hour storm per acre drained to the basin and provides not less than 1,800 cubic feet of sediment storage below the invert of the outlet pipe from each acre drained to the basin; or

    b. Basins shall be sized to provide 3,600 cubic feet of sediment storage below the invert of the outlet pipe per acre drained to the basin if calculations are not performed.

    c. Basin outlets must be designed to avoid short-circuiting and the discharge of floating debris. Basins must be designed with the ability to allow complete basin drawdown for maintenance activities. Basins must release the storage volume in at least 24 hours. Outlet structures must be designed to withdraw water from the surface, unless not practicable. If not practicable, rationale must be provided in the SWPPP. The basin must have a stabilized emergency overflow to prevent failure of pond integrity. Energy dissipation must be provided for the basin outlet.

2. Erosion, sediment, and stabilization practices shall be provided. Erosion, sediment and stabilization practices include such things as: silt fences, fiber logs, vegetative buffer strips, erosion control blankets, mulch, hydro-seeding combined with mulch or tackifiers, etc.

3. All exposed soil areas must be stabilized (see definitions). Stabilization must be initiated immediately where activities have been permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. Stabilization must be completed as soon as practicable, but no later than fourteen (14) calendar days after the initiation of soil stabilization. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) are exempt from this requirement.

    a. For slopes with a grade of 3:1 or greater, stabilization must be initiated immediately once activities have been completed or temporarily ceased. Stabilization must be completed as soon as practicable, but no later than seven (7) calendar days after the initiation of soil stabilization.

4. Temporary soil stockpiles must have effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches.

5. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized at least 200 linear feet from the property edge, or from the point of discharge to any surface water. Stabilization shall be completed prior to connection with a surface water. Any remaining portion of the temporary or permanent drainage ditch must be stabilized within fourteen (14) calendar days for portions which construction activities have temporarily or permanently ceased.

6. If stabilization requirements cannot be met due to circumstances beyond the control of the permittee, the permittee may comply with following:

    a. If vegetative stabilization is to be used, immediately initiate, and within 14 calendars days complete, the installation of temporary non-vegetated stabilization; or

    b. Complete all methods of initiating stabilization as soon as conditions or circumstances allow.

If any conditions in parts a or b above are encountered, the permittee must document the circumstances which prevented you from meeting the stabilization requirements in the SWPPP of this paragraph and provide a schedule in the SWPPP which will be followed in order to meet the stabilization requirements.

Permittees are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

7. Stream diversions or any temporary or permanent drainage ditch or trench, which will have continuous flow, shall be stabilized with appropriate controls prior to connection with any surface water. The entire area (channel and bank) of the stream diversion or temporary or permanent drainage ditch, or trench, must be appropriately stabilized to bankfull height.

8. While working in or around surface waters, sediment and erosion controls must be used above the anticipated level of the surface water. Floating silt curtain does not satisfy the down slope and side slope boundary requirements in Part II(C)(4)(b) of this permit, unless the construction activity is on or below the elevation of the surface water. The floating silt curtain must be placed as close to shore as possible. Sediment control must be installed where exposed soils drain to the surface water immediately after construction activity along the waterline has been completed.

9. Pipe and culvert outlets must be provided with energy dissipation within 24 hours of connection to a surface water.

10. Splash pads and/or downspout extensions must be provided for roof drains to prevent erosion from roof runoff.

11. All storm drain inlets in the immediate vicinity of the construction site must be protected by appropriate BMPs during construction until all disturbed areas and stockpiles with the potential to discharge to the inlet have been stabilized. This includes storm drain inlets which may be affected by sediment tracked onto paved surfaces by vehicles or equipment.

12. Inlet protection devices are a last line of control – erosion and sediment control practices must be used on-site. Inlet protection devices must conform to local ordinances or regulations. In general, inlet protection devices need to provide for adequate drainage to prevent excessive roadway flooding. Inlet protection may be removed for a particular inlet if a specific concern (i.e., street flooding/freezing, snow removal) has been identified and documented in the SWPPP. In this situation, additional erosion and sediment control practices, or stabilization methods must be used to supplement the loss of the inlet protection device to prevent sediment from entering the storm sewer system.

13. Vegetated buffers must have a minimum width of 1 foot for every 5 feet of disturbed area that drains to the buffer. The width of the buffer shall have a slope of 5 percent or less and the area draining to the buffer shall have a slope of 6 percent or less. Concentrated flows should be minimized throughout the buffer.

    Buffers shall consist of dense grassy vegetation, 3 to 12 inches tall with uniform coverage over 90 percent of the buffer. Woody vegetation shall not be counted for the 90 percent coverage. No more than 10 percent of the overall buffer may be comprised of woody vegetation.

14. A 50 foot natural buffer or equivalent erosion and sediment controls must be provided when a project is within 50 feet of a surface water and stormwater flows to the surface water. If equivalent erosion and sediment controls are used, rationale for using equivalent controls must be provided in the SWPPP.

If working within 100 feet of a surface water listed as impaired for sediment, suspended solids or turbidity, a 100 foot natural buffer or equivalent sediment and erosion controls must be provided. If equivalent erosion and sediment controls are to be used, rationale for using equivalent controls must be provided in the SWPPP.

15. If the permittee(s) intend to use chemical treatment for sediment removal, they must be used in accordance with the manufacturer's specifications. Treatment chemicals must be selected appropriately for the anticipated soil particle size and characteristics of the stormwater (pH, turbidity, flow rate of stormwater flowing into the chemical treatment system, etc.). A description of the chemical treatment process must be included in the SWPPP.

    a. To ensure selection and management of chemicals minimize the potential for harmful effects in the discharge, the permittee shall provide a written request to the department for review and approval. Additional monitoring and reporting may be required as a condition for the approval to discharge.

       A request to discharge chemically treated water shall include all of the following information and be provided sixty (60) days prior to use:

       i. Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS);
       ii. Proposed water additive discharge concentration;
       iii. Discharge frequency (i.e., number of hours per day and number of days per year);
       iv. Monitoring point for product discharge;
       v. Type of removal treatment, if any, that the water additive receives prior to discharge;
       vi. Product function (e.g., coagulant, flocculant, etc.);
       vii. A 48-hour LC_{50} or EC_{50} for a North American freshwater planktonic crustacean (*Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); and
       viii. Results for a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean).

    b. Discharges from the chemical treatment of stormwater must not cause a violation of the standards of quality for waters of the state (N.D.A.C. § 33-16-02.1). The discharge must meet the dewatering or basin draining requirements provided in Part II(C)(3)(g) of this permit.

16. Minimize the duration of exposed soils on steep slopes.

B. Maintenance Requirements for Erosion and Sediment Controls

1. All erosion prevention and sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, maintained or supplemented with functional BMPs. If a nonfunctioning BMP is supplemented, the nonfunctional BMP shall be removed. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first), or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

   Permittee(s) must investigate and comply with the following inspection and maintenance requirements:

   a. All control devices similar to, and including, silt fence or fiber rolls must be repaired, replaced, maintained or supplemented when they become nonfunctional (torn from posts, visible tears, etc.). Collected sediment must be removed as it approaches 1/2 of the above ground capacity of the control device.

   b. Fiber rolls must be replaced when 1/2 of the original above ground height of the device when it was installed has been lost as a result of flattening or other damage.

c. Sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

d. Maintenance and cleaning of inlet protection devices must be performed when sediment accumulates, the filter becomes clogged, and/or performance is compromised.

2. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment deposited by erosion. Permittees must remove all deltas and sediment deposits in surface waters, drainage ways, catch basins, and other drainage systems. Areas where sediment removal results in exposed soil must be stabilized. Removal and stabilization must take place immediately, but no more than, seven (7) calendar days after the discovery unless precluded by legal, regulatory or physical access constraints. Permittees shall use all reasonable efforts to obtain access. If precluded, removal and stabilization shall take place immediately, but no more than, seven (7) calendar days after obtaining access. Permittees are responsible for contacting all local, regional, state, and federal authorities, and receiving any applicable permits prior to conducting any work.

3. Vehicle tracking of sediment from the site must be minimized by BMPs. This may include having a designated egress with aggregate surfacing from the site or by designating off-site parking. Permittees are responsible for (or making the arrangements for) street sweeping and/or scraping if BMPs are not adequate to prevent sediment from being tracked onto the street from the site.

   Construction site egress locations must be inspected for evidence of sediment being tracked offsite by vehicles or equipment onto paved surfaces. Accumulations of tracked and deposited sediment must be removed from all off-site paved surfaces by the end of the work day, shift or if applicable, within a shorter time specified by local authorities or the department.

4. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain event and/or pose a safety hazard to users of public streets).

5. Vegetative buffers must be inspected for proper distribution of flows, sediment accumulation and signs of rill formation. If a buffer becomes silt covered, contains rills, or is otherwise rendered ineffective, other control measures shall be implemented. Eroded areas shall be repaired and stabilized within 24 hours of discovery, or as soon as conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

C. **Operational Controls**

1. Properly handle construction debris and waste materials.

   a. Debris and waste must be handled appropriately until disposal. Litter and debris shall be collected and stored to reduce the potential for wind and water to carry the materials off-site or leachate discharging from a site. Collected material shall be taken to the appropriate facility for disposal or recycling.

   b. Liquid or soluble materials including oil, fuel, paint and any other hazardous substances must be properly stored, to prevent spills, leaks or other discharges. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of liquid or soluble material must be in compliance with applicable regulations.

2. Wash water containments must be cleaned out (solids and liquid) before 80 percent of storage capacity is attained.

3. Best management practices used in surface waters must be cleaned immediately upon removal from surface waters to prevent the transfer of aquatic nuisance species.

Attachment B

Permitting Documentation (NOI, Permit Card, Permit Letters, Blank NOT/MOD)

APPLICATION (NOTICE OF INTENT) TO OBTAIN COVERAGE UNDER NDPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19145 (08/17)

New Project

FOR DEPT. USE ONLY

Date Received

Application No.

NOI ID:
SW_NOI_20190726080648474

GENERAL INFORMATION

1. Name of Owner of Construction Project	2. Contact First Name	3. Contact Last Name	4. Contact Phone No.
Merricourt Power Partners, LLC	Benoit	Rigal	858-521-3300
5. Contact E-mail Address	6. Mailing Address		
benoit.rigal@edf-re.com	15445 Innovation Drive		
7. City	8. State/Province	9. Zip Code	
San Diego	CA	92128	

10. Name of Operator Working at Site	11. Contact First Name	12. Contact Last Name	13. Contact Phone No.
Wanzek Construction, Inc.	Chad	Eken	701-212-5731
14. Contact E-mail Address	15. Mailing Address		
ceken@wanzek.com	4850 32nd Ave S		
16. City	17. State/Province	18. Zip Code	
Fargo	ND	58104	

PROJECT INFORMATION

19. Name of Construction Project
Merricourt Wind Project

20. Brief Description of Construction Activity
The project involves construction of a wind energy facility, which will include 75 wind turbines, a substation, O&M building, underground collection, access roads and crane paths, and a temporary laydown yard.

21. Project Start Date	22. Estimated Completion Date	23. Estimated Total Acres of Site	24. Estimated Acres of Disturbance
08/07/2019	10/30/2020	13,155	659

Project Location	25. Physical Address			26. City		
	88th Street SE and 65th Avenue SE			Kulm		
	27. Township	28. Range	29. Section	30. Quarter Section (ABCD Format)		31. County
	See					McIntosh/Dicke
	32. Latitude (Decimal Degrees)			33. Longitude (Decimal Degrees)		
	46.14267			-099.02456		
Receiving Waters	34. Name of Municipal Storm Sewer System or Description of Receiving Water					
	Schlenker Dam Wetland, 2 unnamed wetlands, Coldwater Lake, Nitschke Landing Strip Wetlan					

35. A SWPPP must be prepared and available for review at the time of application. You are not required to submit the SWPPP with the application unless otherwise notified by the department. The SWPPP must be completed prior to the start of construction (or the applicable construction phase). Please refer to Part I(D)(2)(c) of the permit.

Submit by E-mail

AFTER SUBMITTING BY E-MAIL PRINT AND SEND COMPLETED APPLICATION WITH "WET" INK SIGNATURE TO:

North Dakota Department of Health
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: (701) 328-5210

Print Form

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

36. Printed Name of Owner(s)	37. Title
Benoit Rigal	Vice President, Engineering & Construct
38. Signature of Owner(s)	39. Date
40. Printed Name of Operator(s)	41. Title
Chad Eken	Director of Construction
42. Signature of Operator(s)	43. Date

Merricourt Wind Project
McIntosh/Dickey Counties, ND

Project Location – Township, Range, Sections

Section	Township	Range
21, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36	131N	67W
29, 30, 31	131N	66W
1	130N	68W
1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 23	130N	67W

Instructions

Submission of this application is notice that the owner(s) and operator(s) identified on the application intend to discharge stormwater associated from construction activity to waters of the state in accordance with conditions set forth in North Dakota Pollution Discharge Elimination System general permit NDR10-0000.

Permit coverage becomes effective seven (7) days after a complete application is submitted (refer to the **Submittal Process** section) unless otherwise notified by the department.

General Information

1. **Name of Owner of Construction Project.** Enter the individual, company, organization or state who owns the property where the construction project is to take place. "Owner" means the person or party possessing the title of the land on which the construction activities will occur; or for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

2-3. **Contact Person.** Provide the contact person for the owner. If the contact person is an agent of the owner, such as a consultant, provide this information on a separate page.

4. **Contact Phone No.** Provide a valid phone number for the contact person.

5. **E-mail Address.** Provide a valid e-mail address for the contact.

6-9. **Mailing Address.** Provide a valid mailing address for the owner.

10. **Name of Operator Working at Site (attach additional, if needed).** List the operator(s) who will be responsible for the construction activities at the site. The operator is someone who has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.

11-12. **Contact Person Name.** State the contact person who will be responsible for overseeing construction activities at the site for the operator.

13. **Contact Phone No.** Provide a valid phone number for the contact person.

14. **E-mail Address.** Provide a valid e-mail address for the contact.

15-18. **Mailing Address.** Provide a valid mailing address for the operator.

Project Information

19. **Name of Construction Project.** Provide a descriptive, but brief, name of the construction project. Limit the name to 75 characters.

20. **Brief Description of Construction Activity.** Provide a brief description of the scope of work for the construction project.

21. **Project Start Date.** Provide the estimated project start date.

22. **Project Completion Date.** Provide the estimated project end date, if known. The date provided does not imply that the permit will expire on the projected end date. The permit will be terminated only after a notice of termination is submitted to the department.

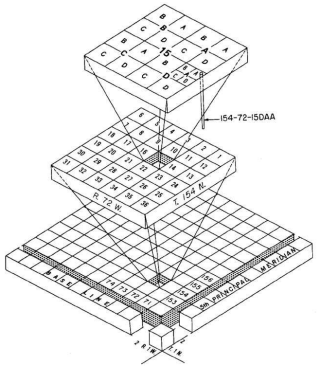
23. **Estimated Total Area of Site.** Enter the estimated acreage of the site/property in acres.

24. **Estimated Area of Disturbance.** Enter the estimated total acreage of land to be disturbed by construction activity.

25. **Physical Address.** Enter a physical address if one is available. For residential construction, do not use a recorded plat survey, such as lot and block number. If a street address it not available, please use an alternative project location description (boxes 27 through 33).

26. **City.** Enter city in which project is located. If the project is located in a rural area, enter the nearest city.

27-30. **Township, Range, Section, Quarter Section.** Provide the numerical township, range and section of the construction project. Provide the quarter section in the ABCD format. See image in next column.



31. **County.** Provide the county in which the project is occurring.

32-33. **Latitude and Longitude.** Provide the latitude and longitude in decimal degrees at the center of the site.

34. **Municipal Storm Sewer System or Description of Receiving Water.** If the project is located within city limits, enter the name of the city along with receiving water of the city storm sewer. Provide the name of the receiving body of water if outside city limits (e.g. Red River, unnamed tributary to Cherry Creek, wetlands, etc.).

Stormwater Pollution Prevention Plan (SWPPP) Requirements

35. As part of the permit, a SWPPP must be developed and available for review at the time of application. You are not required to submit the SWPPP with the application unless otherwise notified by the department. The SWPPP must be completed prior to the start of construction (or the applicable construction phase). Please refer to Part I(D)(2)(c) of the permit.

Signature Information

36-39. **Owner Information.** The signatory must be a responsible corporate officer, general partner, principal executive officer, or ranking elected official as required in Part IV(6)(a) of the permit number NDR10-0000.

40-43. **Operator Information.** The signatory must be a responsible corporate officer, general partner, principal executive officer, or ranking elected official as required in Part IV(6)(a) of the permit number NDR10-0000.

Submittal Process

Once the data fields are filled out, click the "Submit by E-mail" button. This will create an email and attach a xml document to the email. The xml document contains the information entered into each field of the application. To assist with faster processing, please copy and paste the NOI ID into the email subject line of your email.

After the e-mail has been sent, print a paper copy of the application, sign and **submit the original copy with the "wet" signature** to the department. Failure to do so is considered a violation.

THE ELECTRONIC APPLICATION MUST BE SUBMITTED FIRST. Paper applications which are received prior to the electronic application being received will be returned. Permit coverage will not be obtained until the electronic application can be paired with a paper application utilizing the NOI ID on the top right of the form. **Note: <u>THE NOI ID IS NOT THE PERMIT COVERAGE NUMBER.</u>**

A copy of the NOI may be saved and the NOI ID will remain the same as the submitted NOI. To submit an NOI for a new project, click on the new NOI ID button, update the project information and save as a new file name.

<u>Please Note:</u> Some internet browsers may not display the form properly and some features of the form may not be available or displayed. If you experience issues viewing the form, please read the following options for possible solutions:

In Firefox® browser: Go to the tools menu>options>applications. Under the actions column for Portable Document Format, change to Use Adobe® Reader in the drop down menu.

In Google Chrome™Browser: Go to the address bar and type in chrome://plugins/ and click enter. Once in the plugin menu, go to the Chrome pdf viewer and click disable. Then go to the Adobe® Reader viewer and click enable. Once these changes are made, refresh the document.

In Microsoft Edge browser: Save a copy of the application to your local computer and open in Adobe® Reader.

NOTICE OF TRANSFER/MODIFICATION OF COVERAGE UNDER (NDPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 54242 (05/15)

For Dept. Use Only

Date Received:___/___/___

This form may be used to modify existing permit information for a permitted site. The form also may be used when an owner or operator of a construction project changes (see Part I.F of NDR10-0000). The new owner or operator may implement the original SWPP plan or develop a new SWPP plan. New permittees must ensure either directly or through coordination with others that their SWPP plan will meet the terms and conditions of the permit and will not interfere with another party's SWPP plan.

PERMIT ID NUMBER: NDR10- ____

REASON FOR MODIFICATION :

☐ Add Owner ☐ Add Contractor ☐ Remove Contractor

☐ Change from Sole-Permittee to Co-Permittee

MODIFICATION INFORMATION

Company Name	Contact Person		Phone Number
Mailing Address	**City**	**State/Province**	**Zip Code**

OR:

☐ New Owner ☐ New Contractor ☐ Address Change ☐ Company Name Change

OLD INFORMATION

Company Name	Contact Person		Phone Number
Mailing Address	**City**	**State/Province**	**Zip Code**

NEW INFORMATION

Company Name	Contact Person		Phone Number
Mailing Address	**City**	**State/Province**	**Zip Code**

OTHER:

☐ New Project Name

☐ Other

CERTIFICATION STATEMENT

Return Completed Form to:

North Dakota Department of Health
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: 701.328.5210
Fax: 701.328.5200

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Owner	Title
Signature of Owner	**Date**

(Attach additional pages if needed)

NOTICE OF TERMINATION TO CANCEL COVERAGE UNDER NDPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19146 (04/15)

FOR DEPT. USE ONLY

Date Received: ____/____/_____

GENERAL INFORMATION

Name of Construction Project		Permit ID Number **NDR10-**	
Name of Owner of Construction Project	Contact Person Name (Mr / Ms)	Contact Phone No.	
Mailing Address	City	State/Province	Zip Code

Please indicate which condition has been met before submitting the NOT.

☐ The site has achieved final stabilization. In order to achieve final stabilization, one of the following conditions must be met. Please indictate which condition has been met.

☐ All soil disturbing activities are complete and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of the pre-existing cover over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

i. All drainage ditches which drain water from the site have been stabilized;

ii. All temporary erosion prevention and sediment control BMPs (e.g., silt fence) have been removed; and

iii. All sediment has been removed from conveyances and temporary sediment basins used for permanent water quality management, and the sediment has been stabilized. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

☐ For areas with an average annual rainfall of less than 20 inches, all soil disturbing activities at the site have been completed and erosion control measures and stabilization methods have been selected, designed and installed along with an appropriate seed base to provided erosion control for three years and achieve 70 percent vegetative coverage within three (3) years without active maintenance. Sites must meet the conditions above.

☐ Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. If the construction activity removed standing crop, the area must be restored in accordance with the landowner.

Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance use must mee the final stablization criteria above.

☐ For residential construction, all lots have been sold with temporary erosion protection and down gradient perimeter controls installed; a homeowner fact sheet has been given to the homeowner(s); and all other lots have achieved final stabilization.

If another operator/permittee has assumed control in accordance with the transfer provision (Part I(F) of the permit over all areas of the site that have not achieved final stabilization please file a Notice of Transfer/Modification Form (SFN 54242).

CERTIFICATION STATEMENT

Return Completed Form to:

North Dakota Department of Health
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: 701.328.5210
Fax: 701.328.5200

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

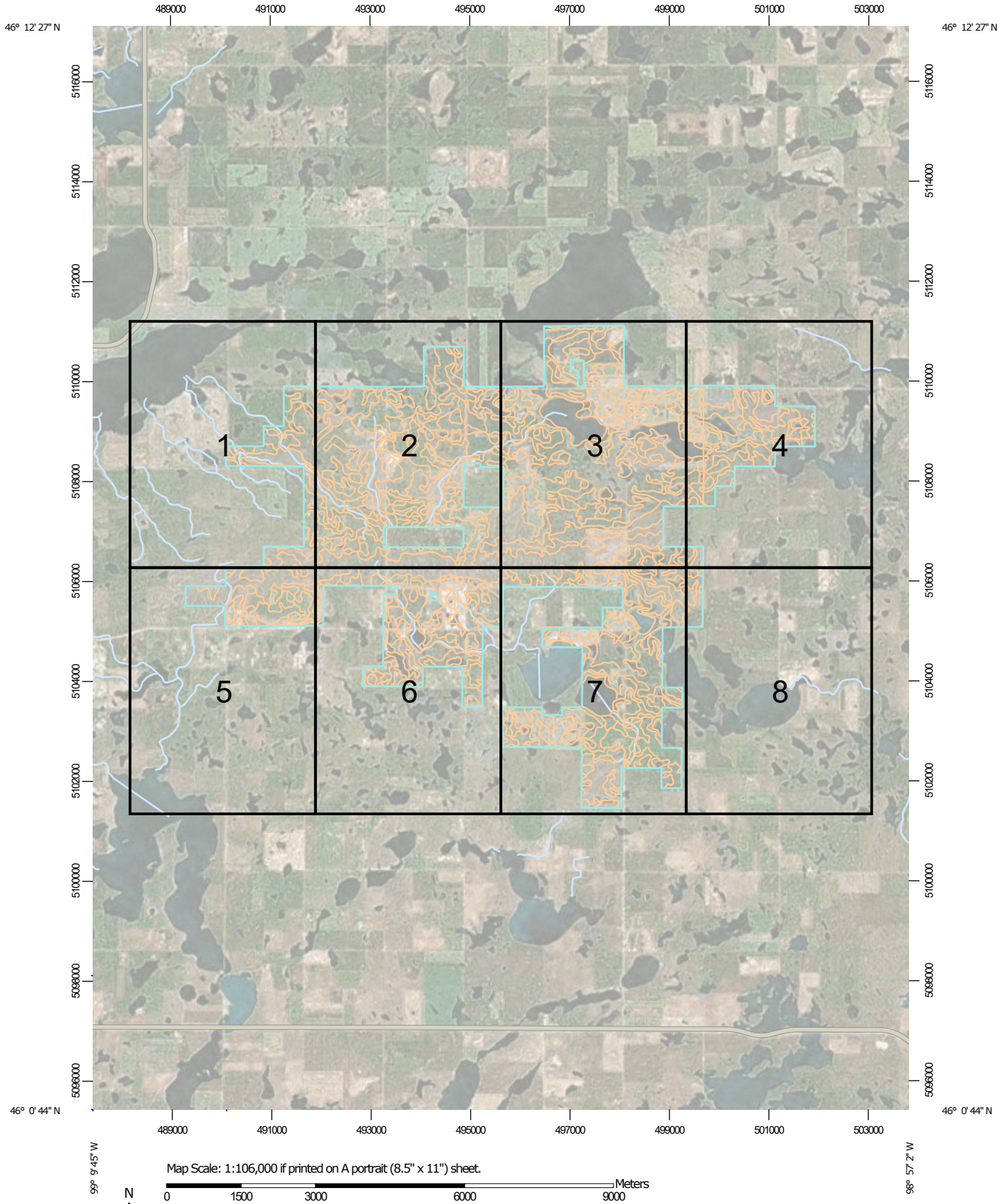
Printed Name of Owner	Title
Signature of Owner	Date

(Attach additional pages if needed)

Attachment C

Soil Maps

Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Index Sheet



Map Scale: 1:106,000 if printed on A portrait (8.5" x 11") sheet.

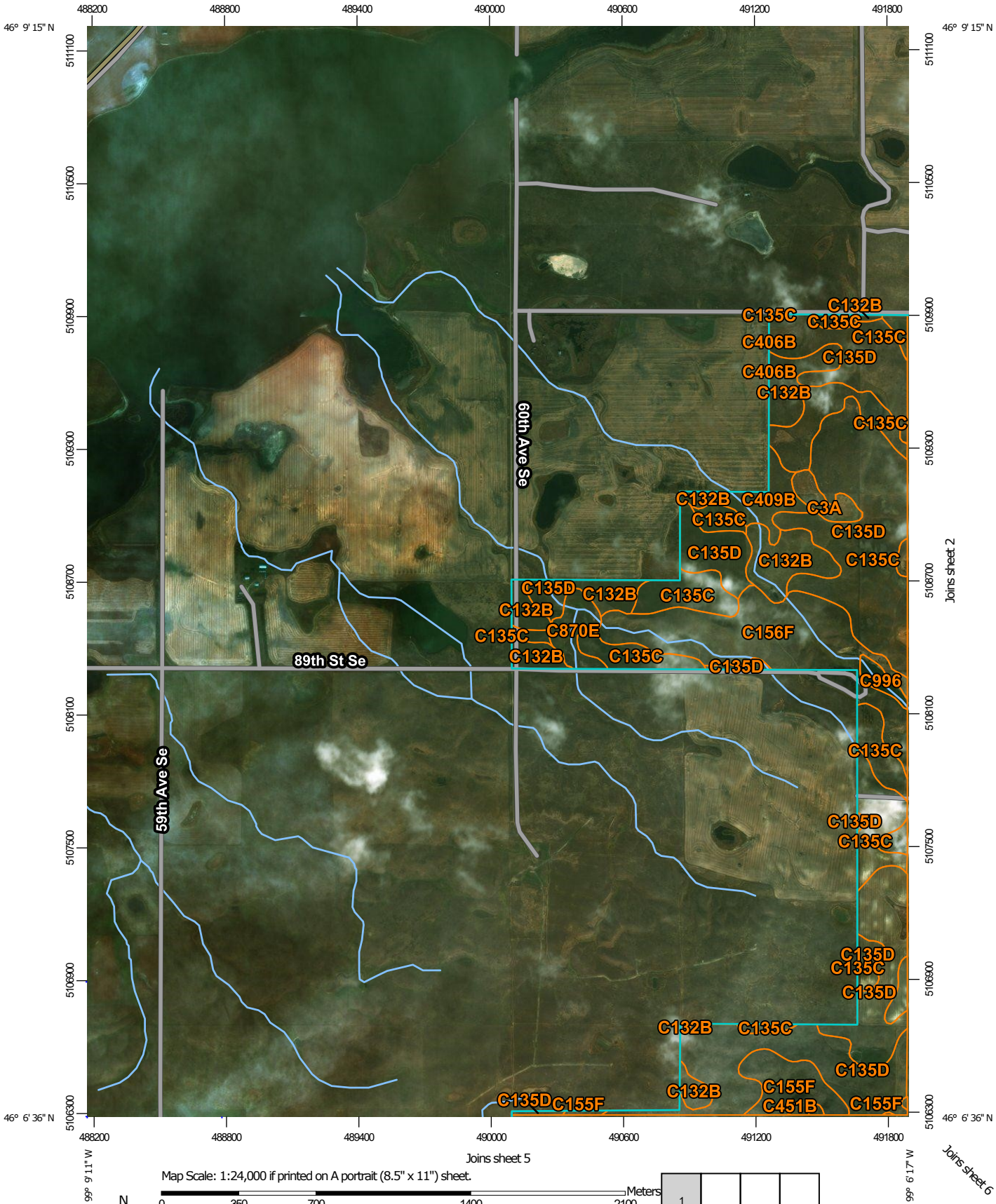
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Meters
0 1500 3000 6000 9000

Feet
0 5000 10000 20000 30000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 1 of 8



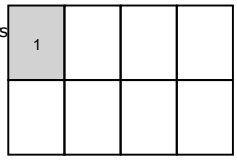
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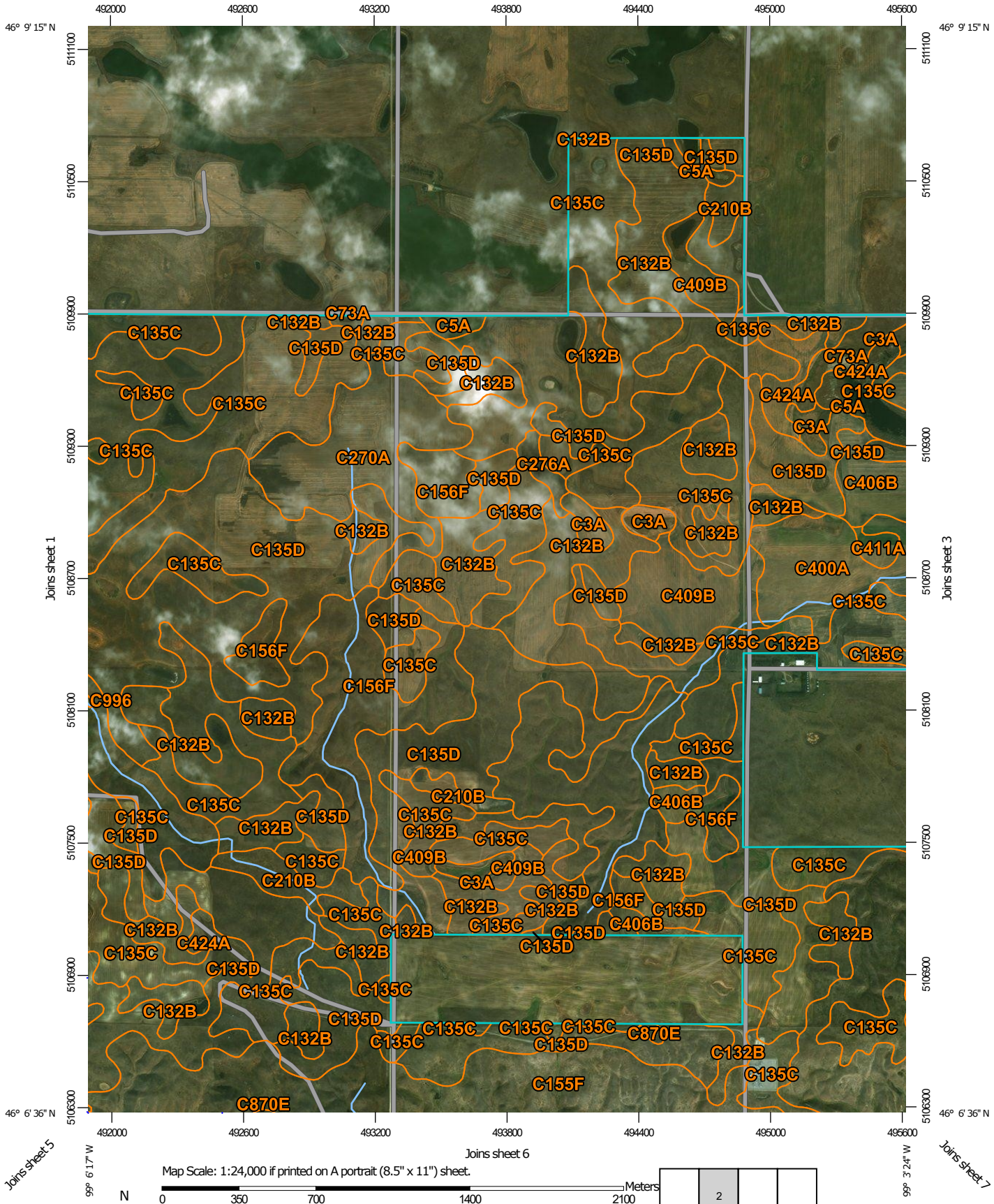
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location

Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 2 of 8



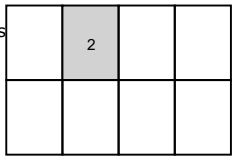
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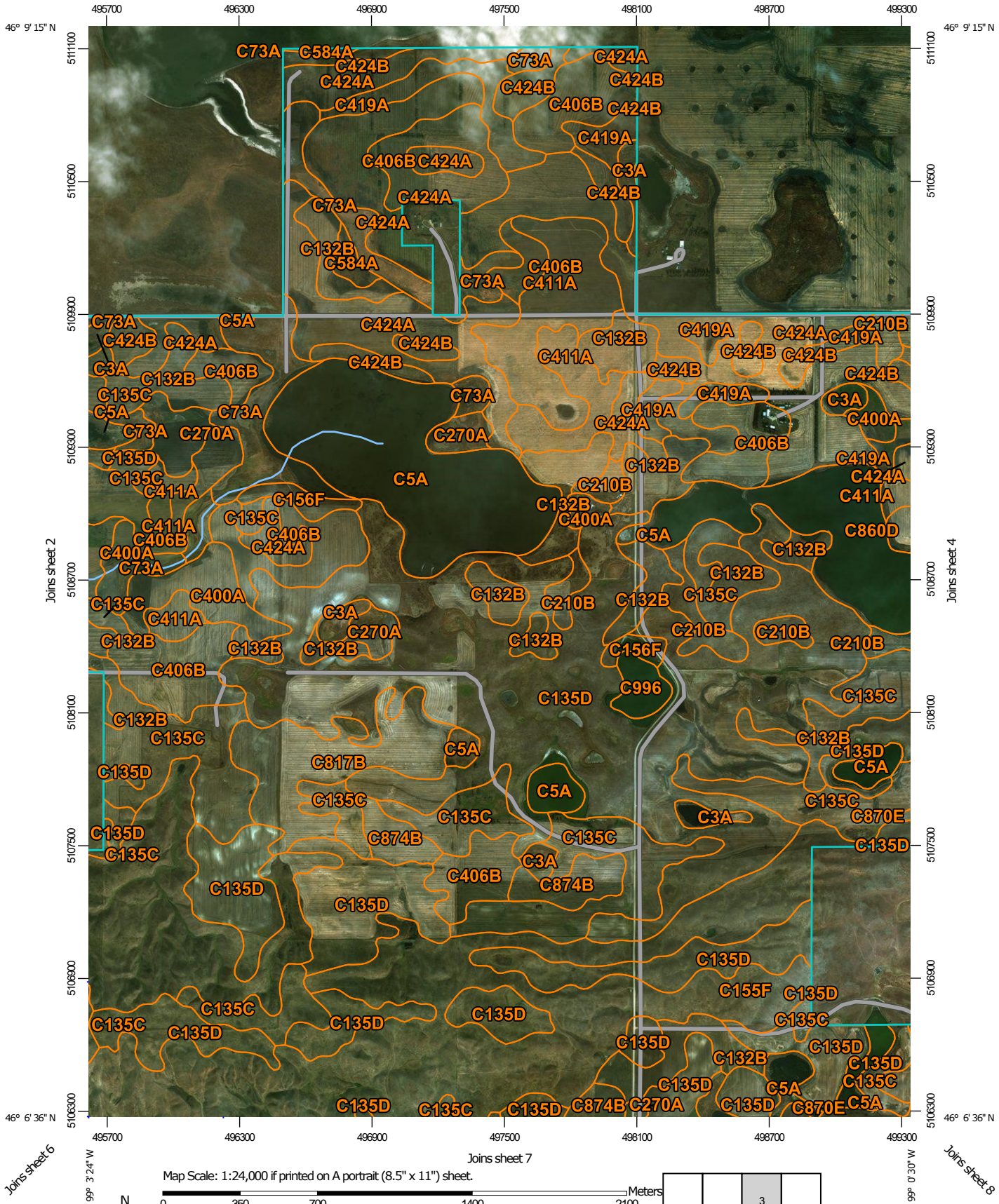
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

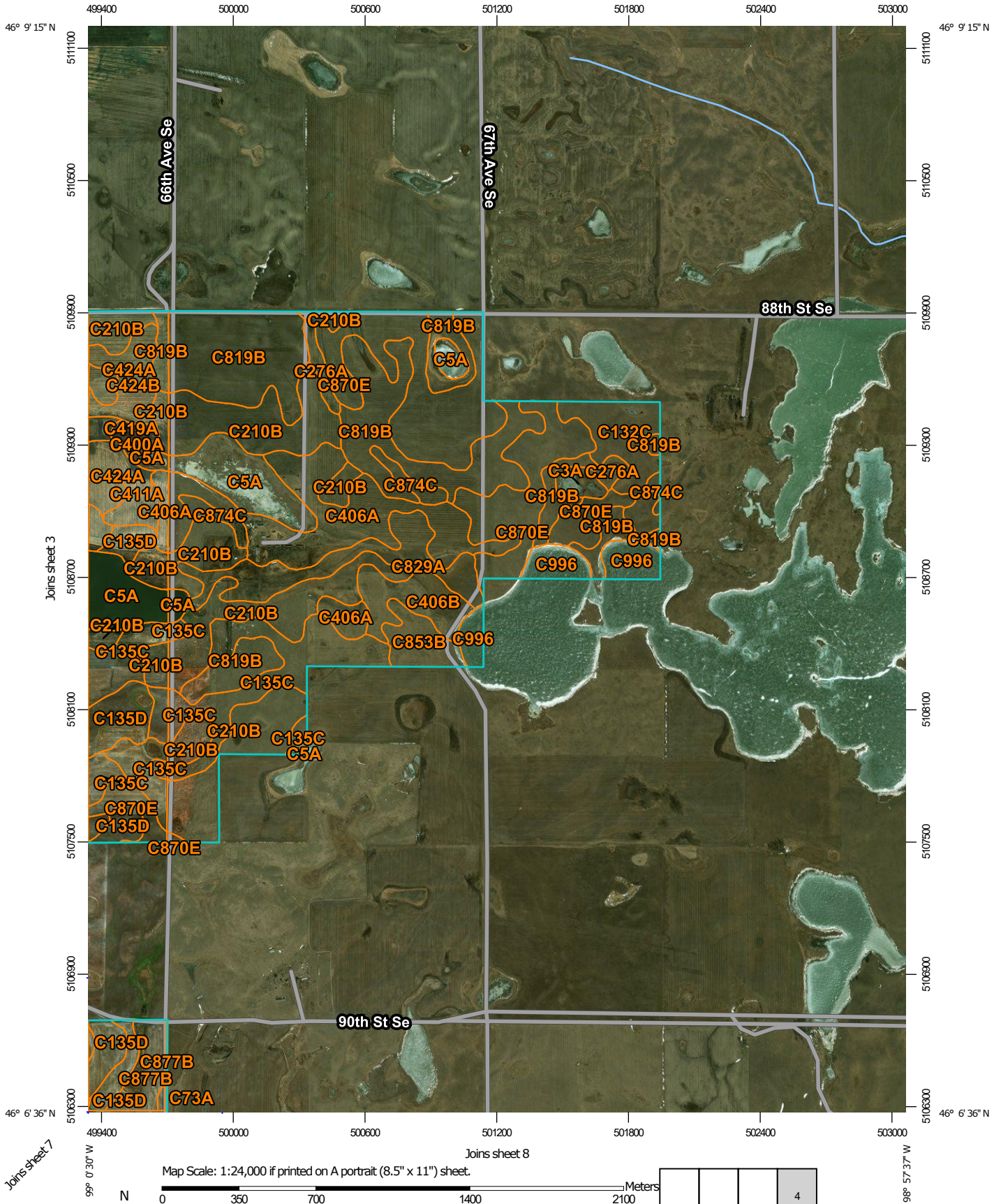


Map Sheet Location

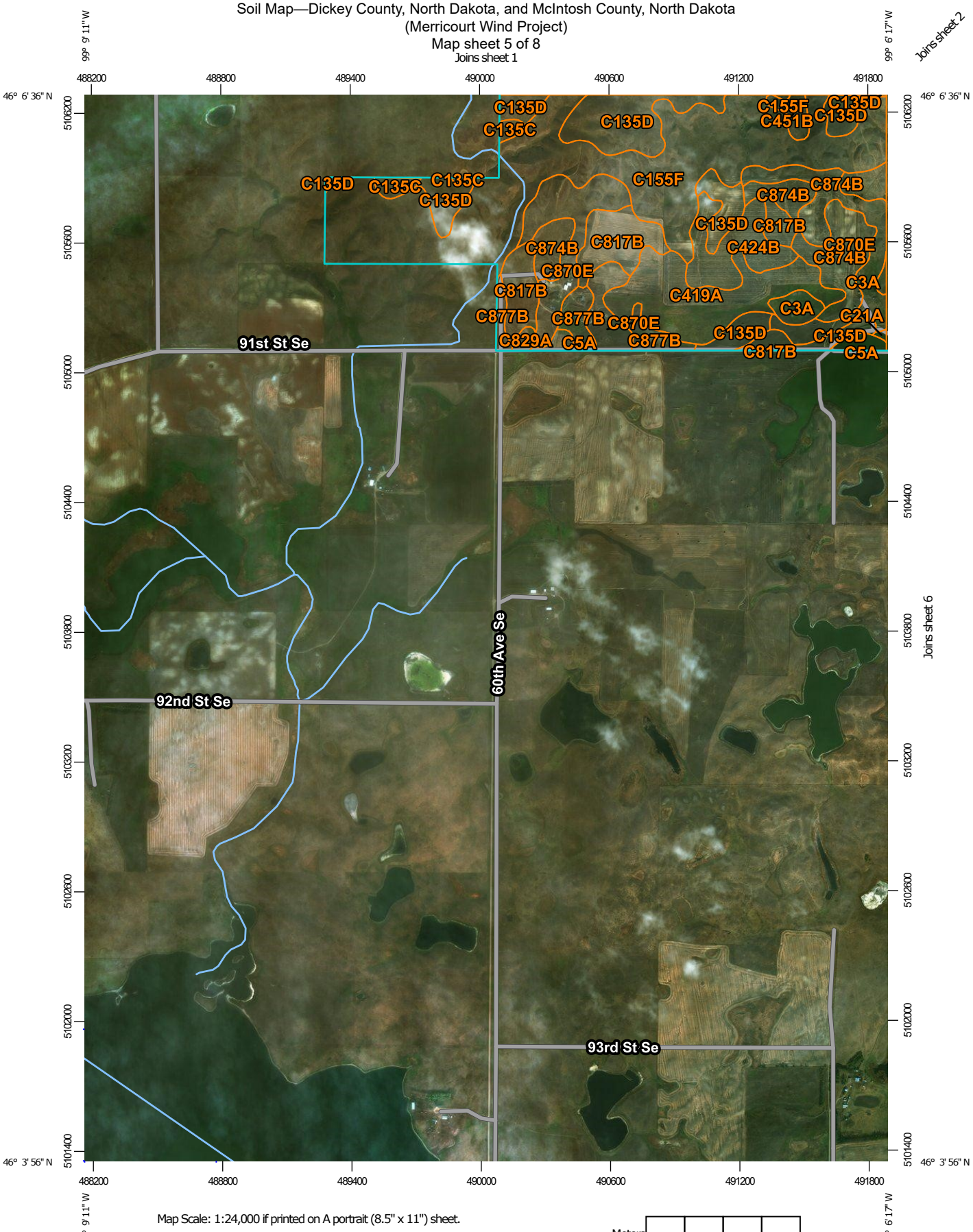
Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 3 of 8



Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 4 of 8



Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 5 of 8



Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.

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Meters: 0 350 700 1400 2100

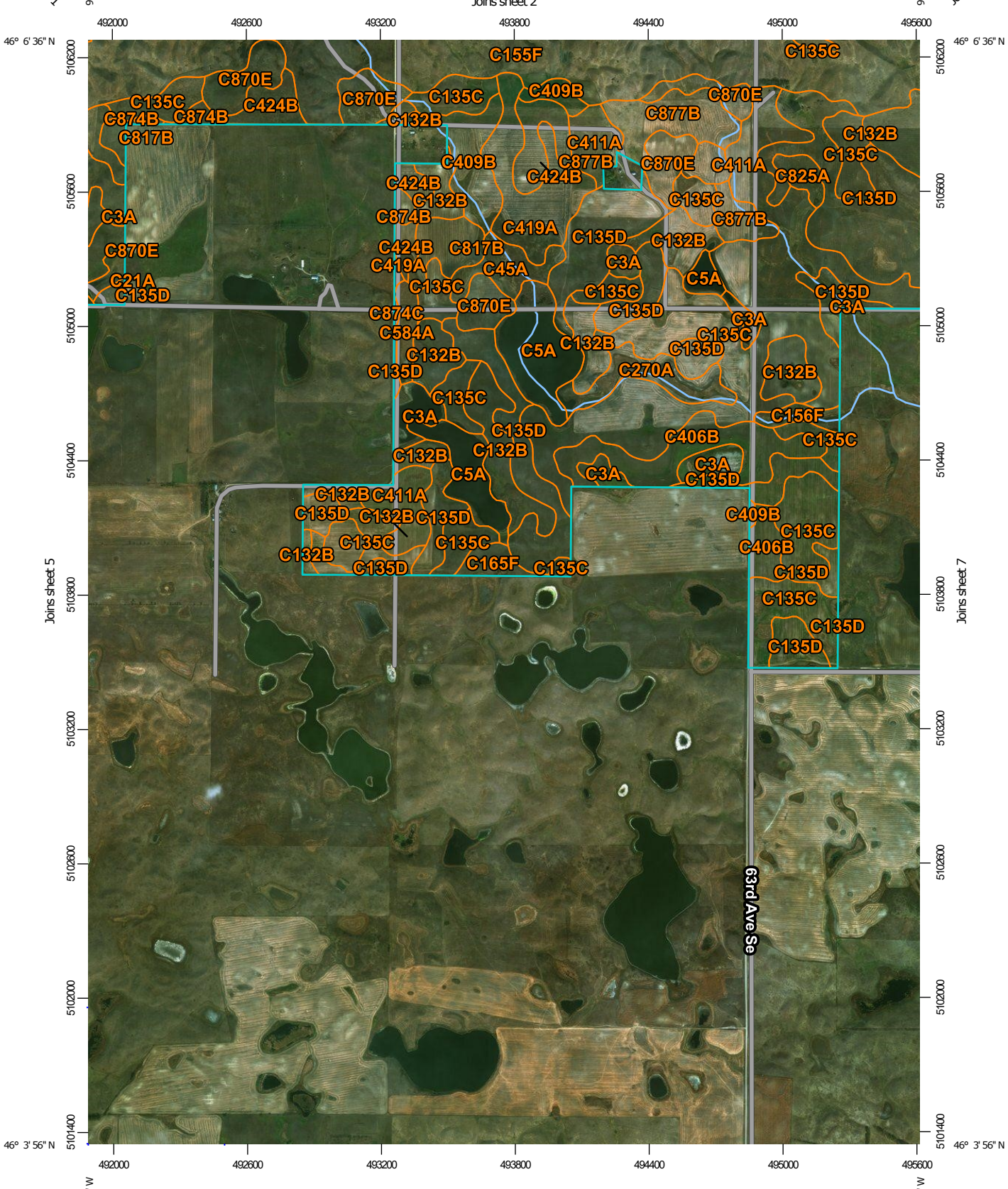
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location

Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 6 of 8



Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.

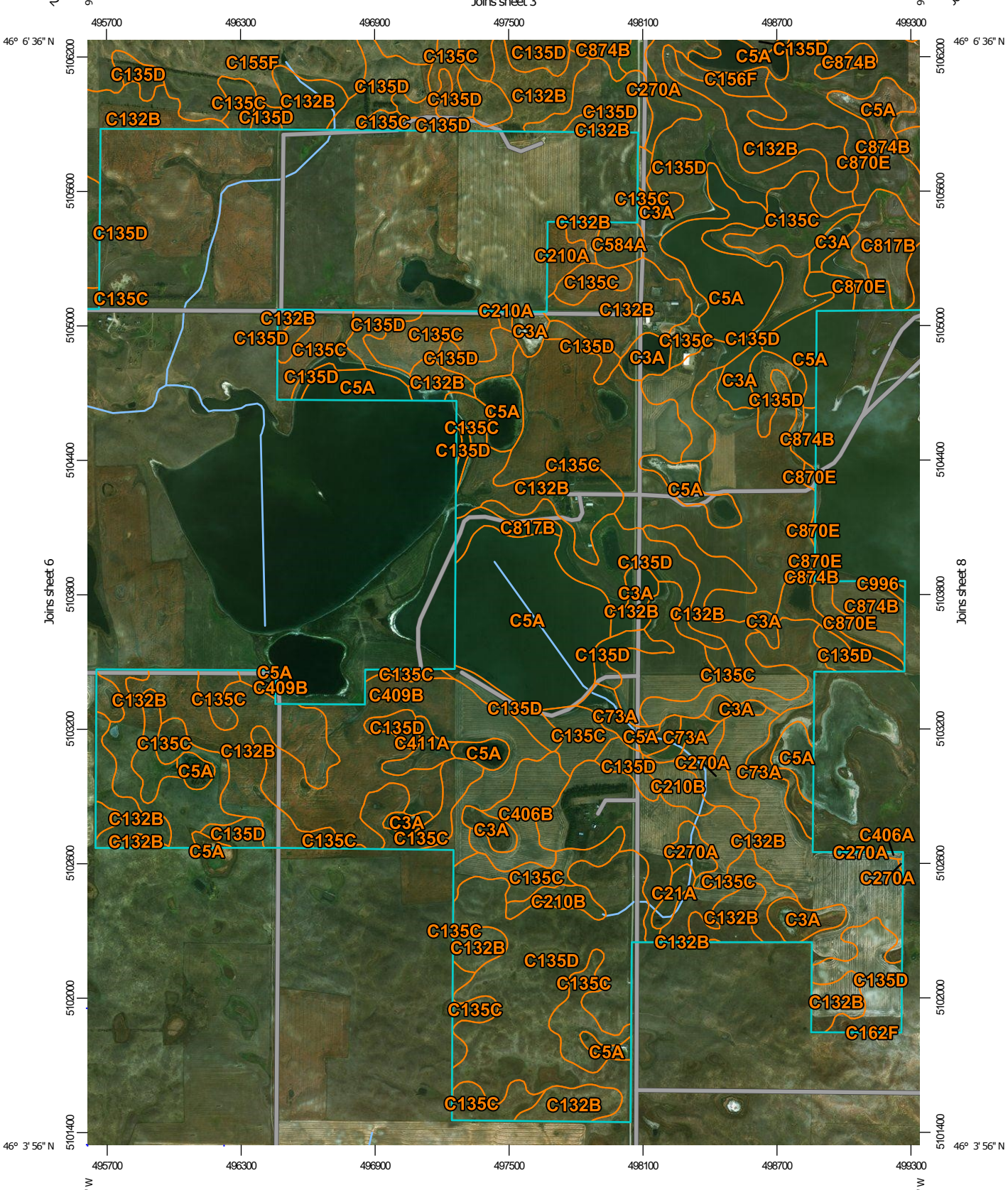
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Map Sheet Location: 6

Soil Map—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 7 of 8



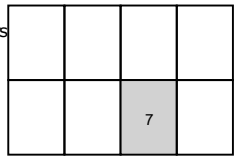
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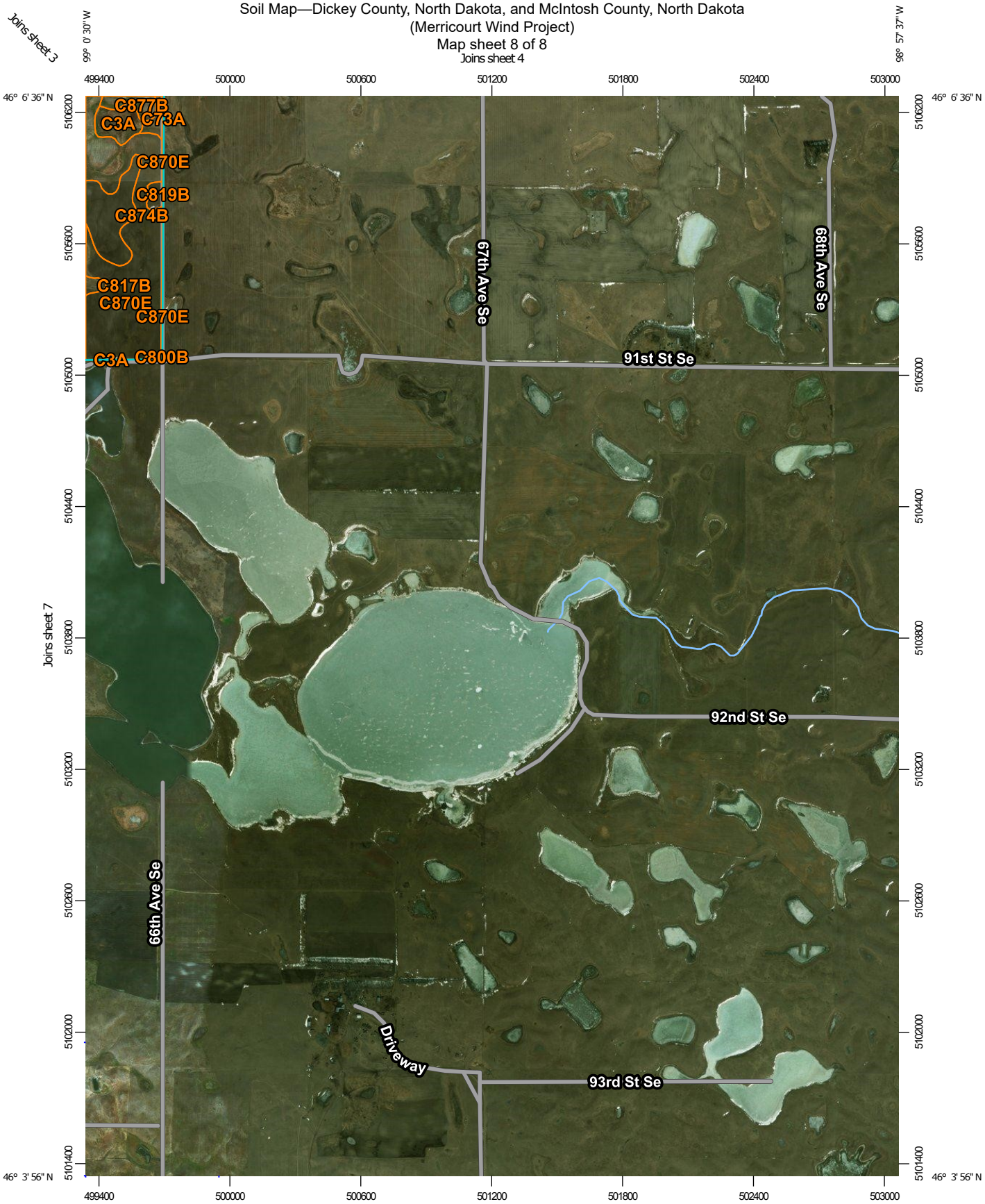
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location



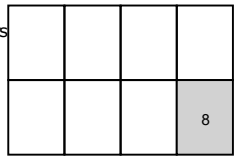
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N

0 350 700 1400 2100 Meters

0 1000 2000 4000 6000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dickey County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

Soil Survey Area: McIntosh County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 22, 2012—Feb 23, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

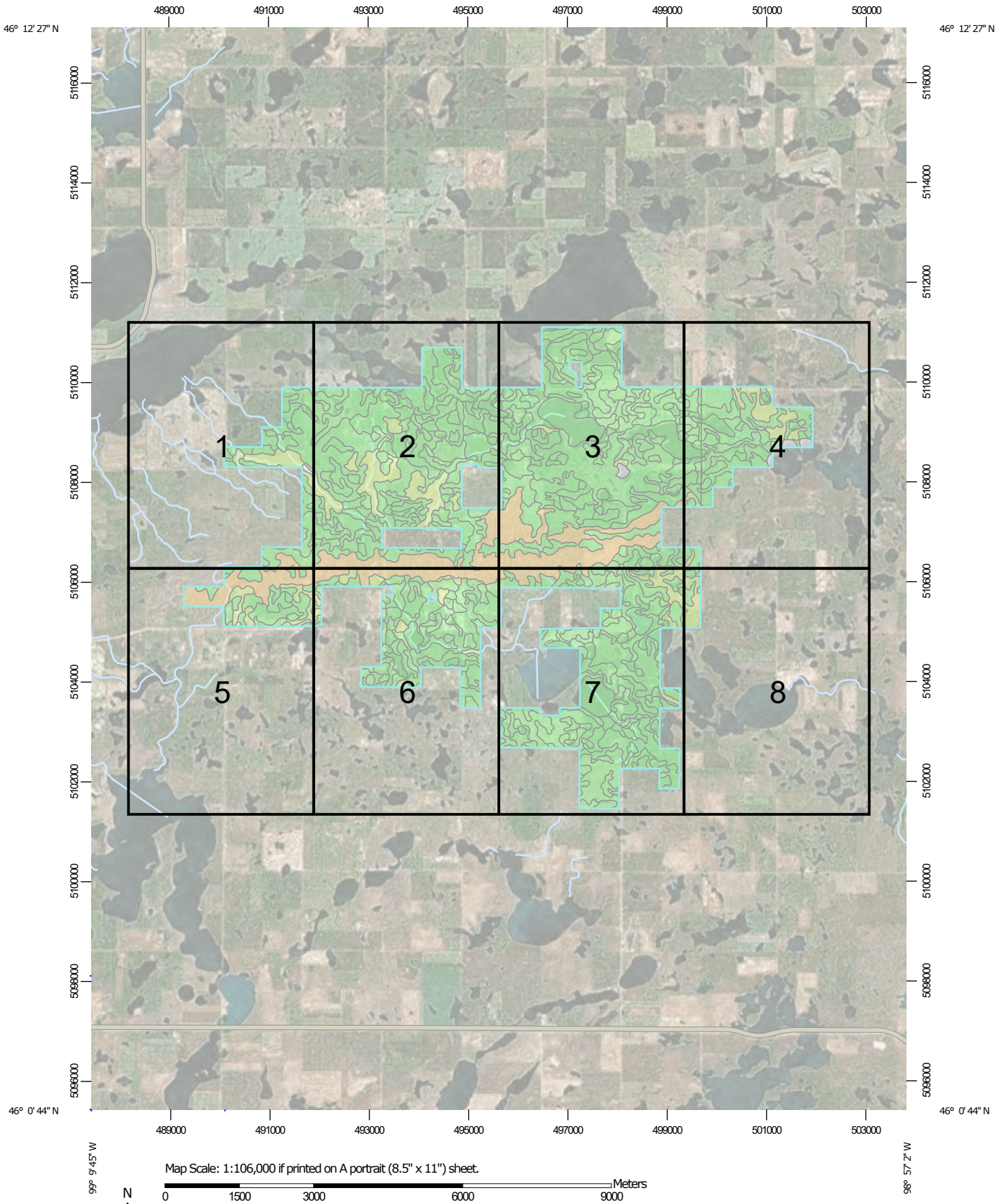
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
C3A	Parnell silty clay loam, 0 to 1 percent slopes	7.1	0.1%
C5A	Southam silty clay loam, 0 to 1 percent slopes	41.4	0.3%
C73A	Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes	0.5	0.0%
C132C	Williams-Zahl-Zahill complex, 6 to 9 percent slopes	33.9	0.3%
C135C	Zahl-Williams-Zahill complex, 6 to 9 percent slopes	55.1	0.4%
C210B	Williams-Bowbells loams, 3 to 6 percent slopes	157.1	1.2%
C276A	Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes	9.0	0.1%
C406A	Makoti-Sakakawea complex, 0 to 2 percent slopes	87.0	0.7%
C406B	Makoti-Sakakawea complex, 2 to 6 percent slopes	25.0	0.2%
C800B	Appam sandy loam, 2 to 6 percent slopes	0.0	0.0%
C819B	Lehr-Wabek loams, 2 to 6 percent slopes	171.4	1.3%
C829A	Marysland loam, 0 to 1 percent slopes	42.2	0.3%
C853B	Ruso-Appam complex, 2 to 6 percent slopes	17.1	0.1%
C870E	Wabek-Lehr-Appam complex, 9 to 25 percent slopes	134.1	1.0%
C874C	Wabek-Appam complex, 6 to 9 percent slopes	12.9	0.1%
C877B	Wabek-Lehr complex, 2 to 6 percent slopes	0.4	0.0%
C996	Water	27.2	0.2%
Subtotals for Soil Survey Area		**821.5**	**6.2%**
Totals for Area of Interest		**13,153.5**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
C3A	Parnell silty clay loam, 0 to 1 percent slopes	208.7	1.6%
C5A	Southam silty clay loam, 0 to 1 percent slopes	727.2	5.5%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
C21A	Vallers loam, 0 to 1 percent slopes	10.5	0.1%
C45A	Colvin silt loam, 0 to 2 percent slopes	17.5	0.1%
C73A	Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes	170.6	1.3%
C132B	Williams-Zahl loams, 3 to 6 percent slopes	1,464.4	11.1%
C135C	Zahl-Williams-Zahill complex, 6 to 9 percent slopes	2,149.4	16.3%
C135D	Zahl-Williams loams, 9 to 15 percent slopes	2,872.4	21.8%
C155F	Zahl-Max-Arnegard loams, 15 to 60 percent slopes	1,283.5	9.8%
C156F	Zahl-Max-Bowbells loams, 6 to 35 percent slopes	430.5	3.3%
C162F	Max-Zahl-Arnegard complex, 9 to 35 percent slopes, very stony	0.0	0.0%
C165F	Zahl-Max-Parnell complex, 0 to 35 percent slopes	8.3	0.1%
C210A	Williams-Bowbells loams, 0 to 3 percent slopes	9.9	0.1%
C210B	Williams-Bowbells loams, 3 to 6 percent slopes	157.2	1.2%
C270A	Hamerly loam, 0 to 3 percent slopes	201.6	1.5%
C276A	Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes	7.7	0.1%
C400A	Bearden silt loam, 0 to 2 percent slopes	122.7	0.9%
C406A	Makoti-Sakakawea complex, 0 to 2 percent slopes	5.2	0.0%
C406B	Makoti-Sakakawea complex, 2 to 6 percent slopes	458.9	3.5%
C409B	Sakakawea silty clay loam, 2 to 6 percent slopes	256.6	2.0%
C411A	Makoti silty clay loam, 0 to 2 percent slopes	132.0	1.0%
C419A	Wildrose silty clay, 0 to 2 percent slopes	181.8	1.4%
C424A	Minot silty clay, 0 to 2 percent slopes	445.0	3.4%
C424B	Minot silty clay, 2 to 6 percent slopes	147.3	1.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
C451B	Arnegard loam, 2 to 6 percent slopes	6.5	0.0%
C584A	Harriet loam, 0 to 2 percent slopes	26.8	0.2%
C800B	Appam sandy loam, 2 to 6 percent slopes	0.4	0.0%
C817B	Lehr-Bowdle loams, 2 to 6 percent slopes	184.9	1.4%
C819B	Lehr-Wabek loams, 2 to 6 percent slopes	7.5	0.1%
C825A	Divide loam, 0 to 2 percent slopes	7.5	0.1%
C829A	Marysland loam, 0 to 1 percent slopes	2.2	0.0%
C860D	Schaller loamy sand, 6 to 15 percent slopes	8.3	0.1%
C870E	Wabek-Lehr-Appam complex, 9 to 25 percent slopes	359.8	2.7%
C874B	Wabek-Appam complex, 2 to 6 percent slopes	160.1	1.2%
C874C	Wabek-Appam complex, 6 to 9 percent slopes	0.6	0.0%
C877B	Wabek-Lehr complex, 2 to 6 percent slopes	79.9	0.6%
C996	Water	18.5	0.1%
Subtotals for Soil Survey Area		**12,332.1**	**93.8%**
Totals for Area of Interest		**13,153.5**	**100.0%**

Erosion Hazard (Off-Road, Off-Trail)—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Index Sheet



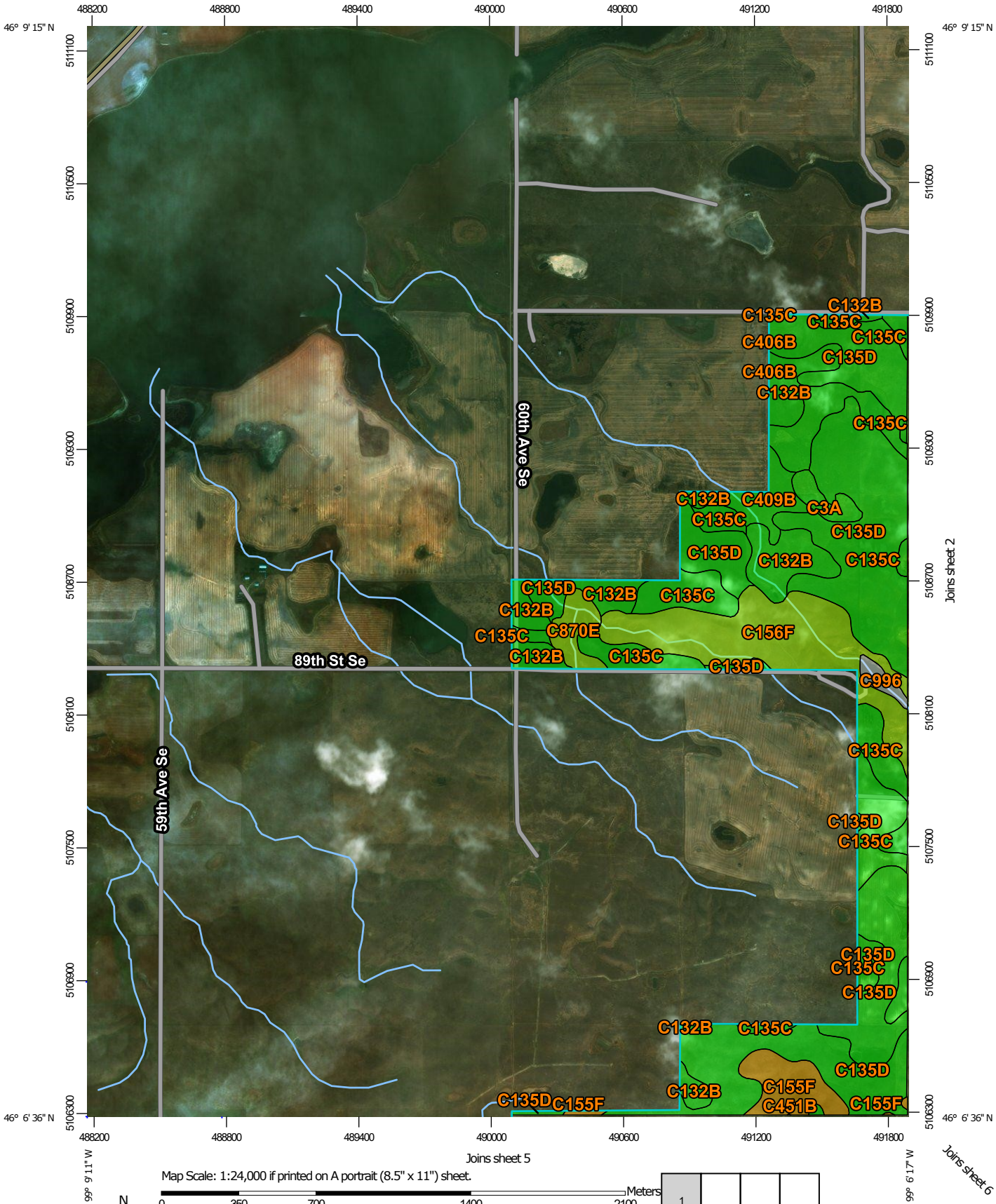
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Meters
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Feet
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.

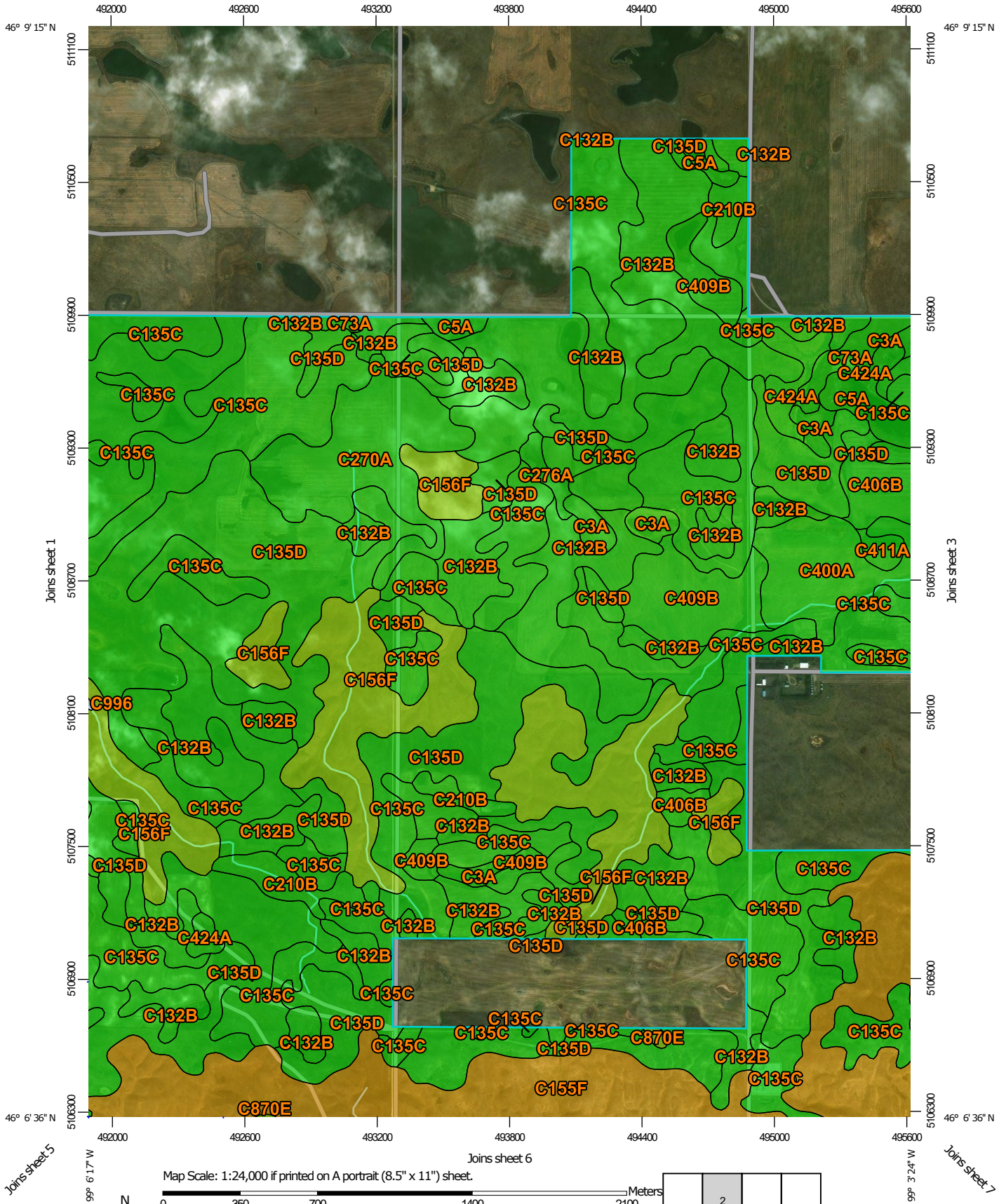
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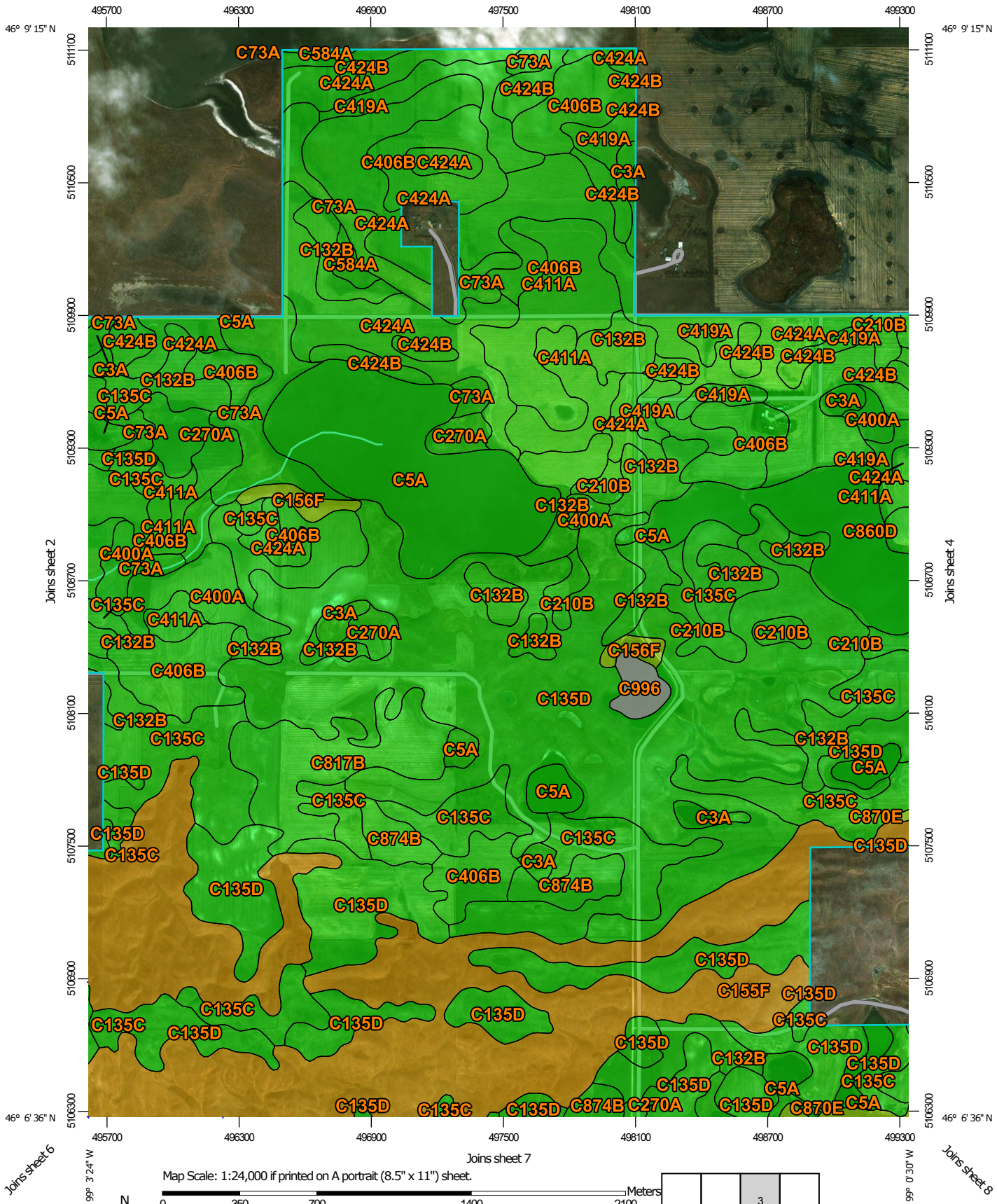
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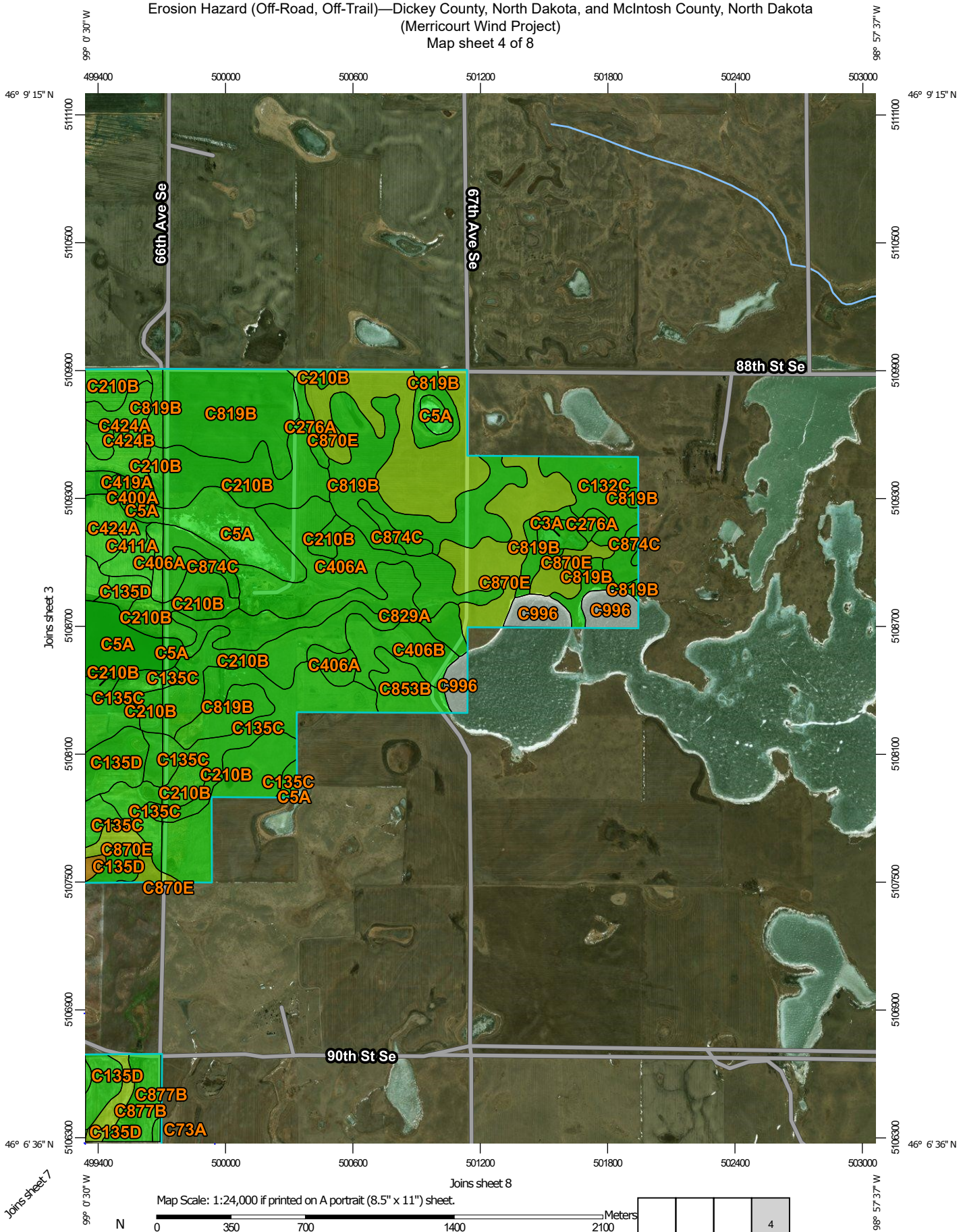
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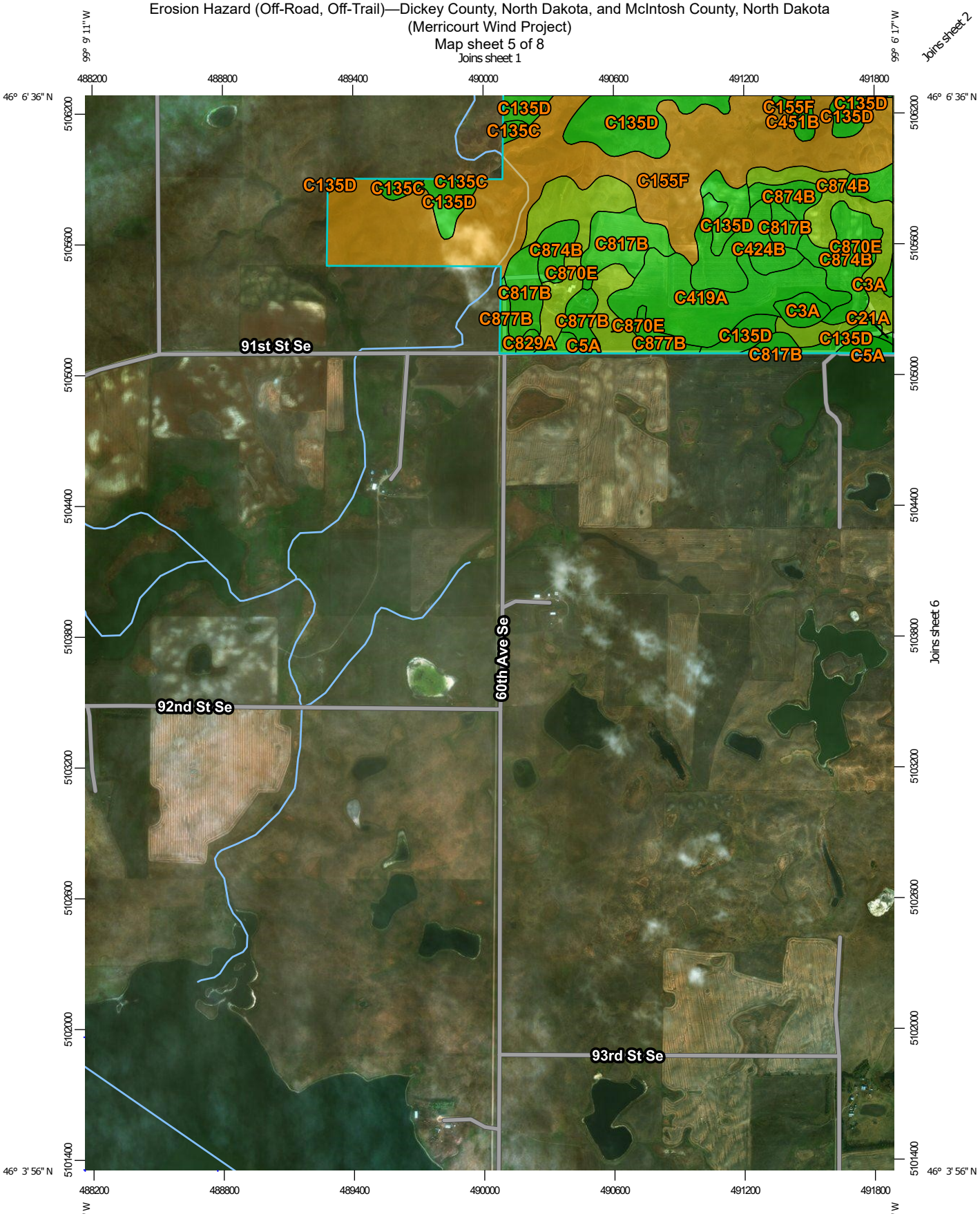
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99° 3' 24" W
46° 9' 15" N
46° 6' 36" N
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493800
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495000
495600
5111100
5110500
5109900
5109300
5108700
5108100
5107500
5106900
5106300
Joins sheet 1
Joins sheet 3
Joins sheet 5
Joins sheet 6
Joins sheet 7
C132B
C135D
C5A
C135C
C210B
C409B
C132B C73A
C3A
C73A
C424A
C270A
C276A
C156F
C406B
C411A
C400A
C996
C870E
C155F
Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.
N
0 350 700 1400 2100 Meters
0 1000 2000 4000 6000 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84
2
Map Sheet Location


99° 3' 24" W
99° 0' 30" W
46° 9' 15" N
46° 6' 36" N
495700
496300
496900
497500
498100
498700
499300
5111100
5110500
5109900
5109300
5108700
5108100
5107500
5106900
5106300
Joins sheet 2
Joins sheet 4
Joins sheet 6
Joins sheet 7
Joins sheet 8
C73A
C584A
C424B
C424A
C419A
C406B
C3A
C132B
C5A
C411A
C135C
C135D
C270A
C156F
C400A
C210B
C860D
C817B
C874B
C996
C155F
C870E
Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.
Meters
0 350 700 1400 2100
Feet
0 1000 2000 4000 6000
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84
3
Map Sheet Location

Erosion Hazard (Off-Road, Off-Trail)—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 4 of 8





Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.

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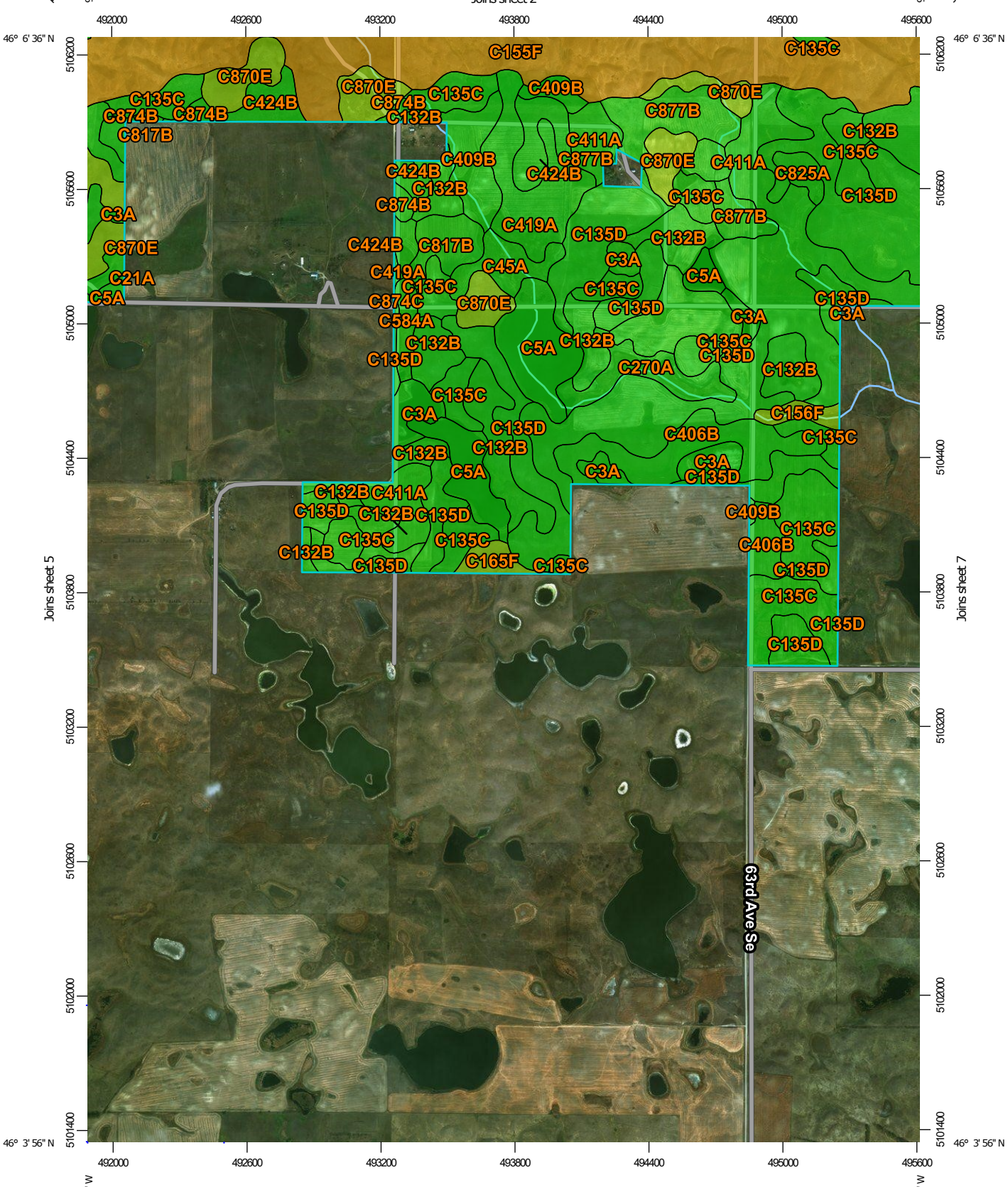
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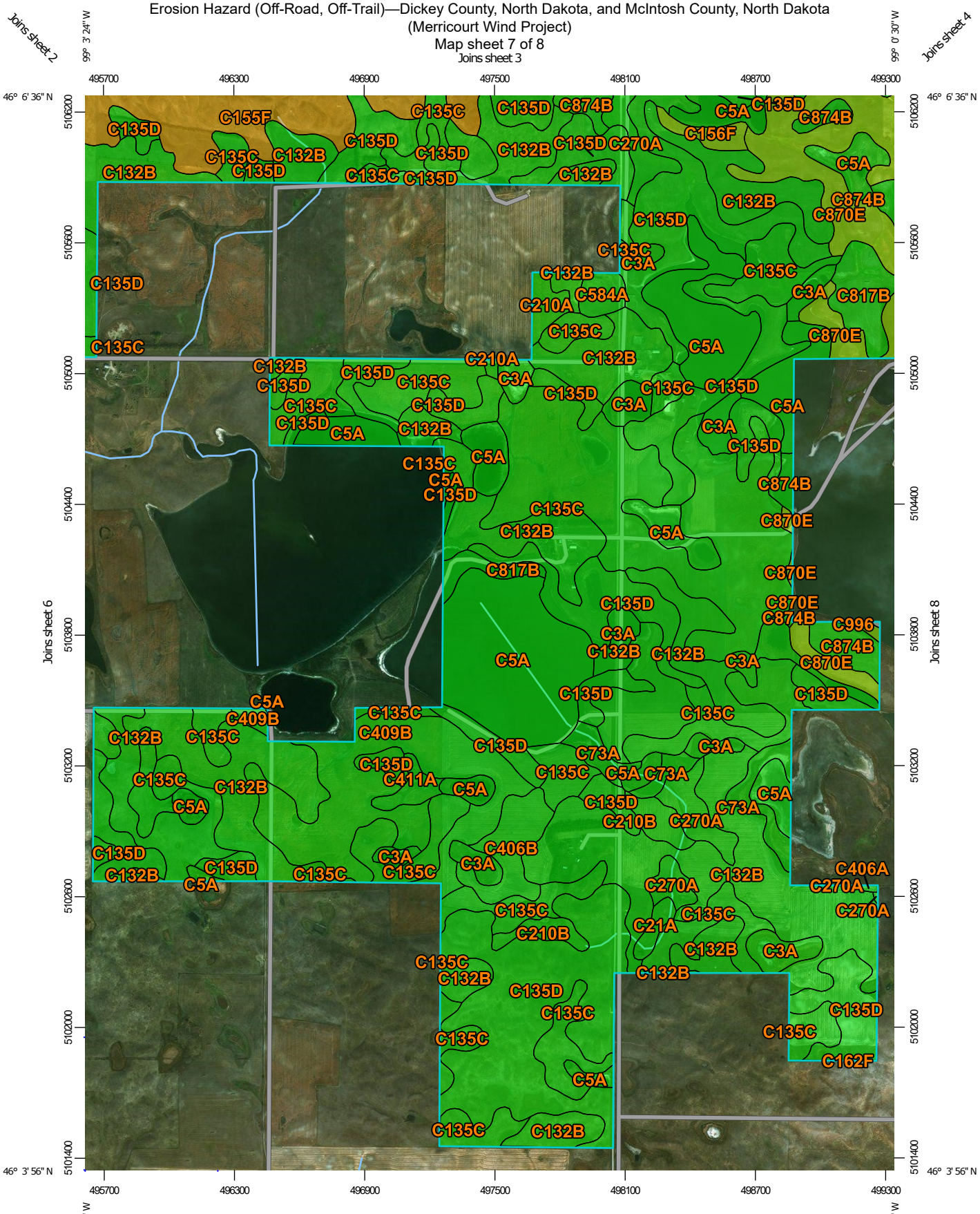
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

5

Map Sheet Location


Joins sheet 1
Joins sheet 2
Joins sheet 3
Joins sheet 5
Joins sheet 7
99° 6' 17" W
99° 3' 24" W
46° 6' 36" N
46° 3' 56" N
492000
492600
493200
493800
494400
495000
495600
5106200
5105600
5105000
5104400
5103800
5103200
5102600
5102000
5101400
63rd Ave Se
C155F
C135C
C870E
C424B
C874B
C132B
C817B
C409B
C411A
C877B
C825A
C135D
C3A
C419A
C45A
C21A
C5A
C874C
C584A
C270A
C156F
C406B
C165F
C409B
C411A
C424B
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C135C
C874C
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C132B
C135D
C5A
C3A
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C3A
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C132B
C135D
C3A
C5A
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C135D
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C5A
C132B
C135D
C135C
C132B



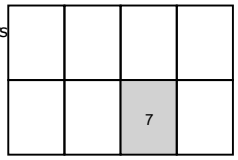
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N

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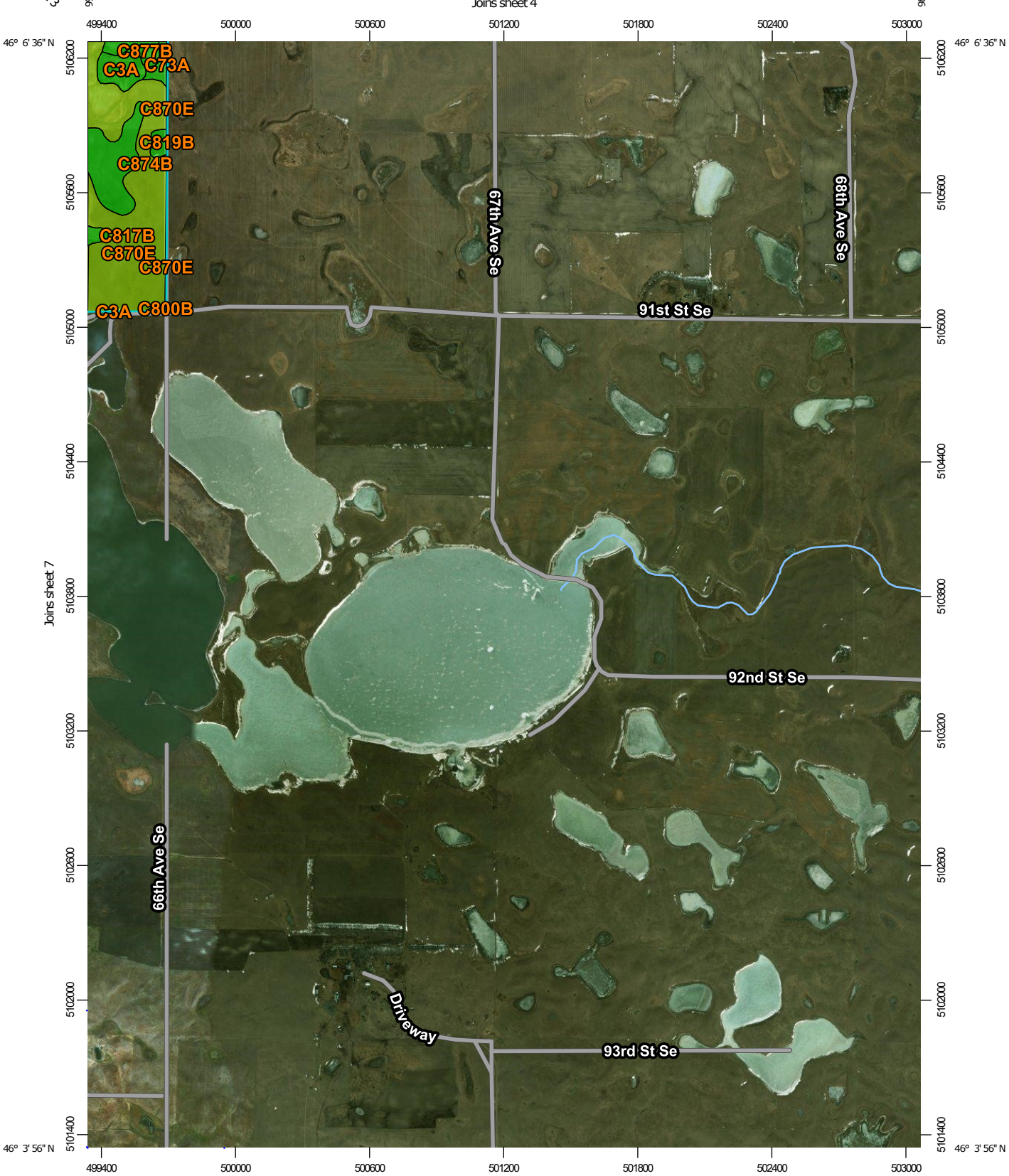
0 1000 2000 4000 6000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location

Erosion Hazard (Off-Road, Off-Trail)—Dickey County, North Dakota, and McIntosh County, North Dakota
(Merricourt Wind Project)
Map sheet 8 of 8



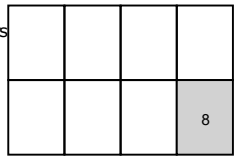
Map Scale: 1:24,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 350 700 1400 2100

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84



Map Sheet Location

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very severe
- Severe
- Moderate
- Slight
- Not rated or not available

Soil Rating Lines
- Very severe
- Severe
- Moderate
- Slight
- Not rated or not available

Soil Rating Points
- Very severe
- Severe
- Moderate
- Slight
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
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Soil Survey Area: Dickey County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

Soil Survey Area: McIntosh County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

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Date(s) aerial images were photographed: Sep 22, 2012—Feb 23, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Erosion Hazard (Off-Road, Off-Trail)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
C3A	Parnell silty clay loam, 0 to 1 percent slopes	Slight	Parnell (86%)		7.1	0.1%
			Vallers, moderately saline (4%)			
			Southam (3%)			
			Tonka (3%)			
			Marysland, very poorly drained (2%)			
			Heil (2%)			
C5A	Southam silty clay loam, 0 to 1 percent slopes	Slight	Southam (78%)		41.4	0.3%
			Parnell (6%)			
			Vallers (5%)			
			Marysland (3%)			
			Minnewaukan (3%)			
C73A	Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes	Slight	Hamerly, moderately saline (55%)		0.5	0.0%
			Vallers, moderately saline (30%)			
			Balaton (5%)			
			Heil (4%)			
			Divide, moderately saline (2%)			
			Parnell (2%)			
			Noonan (2%)			
C132C	Williams-Zahl-Zahill complex, 6 to 9 percent slopes	Slight	Williams (50%)		33.9	0.3%
			Zahl (20%)			
			Zahill (15%)			
			Bowbells (9%)			
			Hamerly (3%)			
			Parnell (2%)			
			Noonan (1%)			
C135C	Zahl-Williams-Zahill complex, 6 to	Slight	Zahl (41%)		55.1	0.4%
			Williams (30%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
	9 percent slopes		Zahill (15%)			
			Bowbells (8%)			
			Tonka (3%)			
			Hamerly (2%)			
			Niobell (1%)			
C210B	Williams-Bowbells loams, 3 to 6 percent slopes	Slight	Williams (45%)		157.1	1.2%
			Bowbells (36%)			
			Hamerly (5%)			
			Zahill (5%)			
			Zahl (3%)			
			Tonka (2%)			
			Noonan (2%)			
			Lehr (1%)			
			Parnell (1%)			
C276A	Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes	Slight	Hamerly (39%)		9.0	0.1%
			Tonka (27%)			
			Parnell (16%)			
			Vallers, moderately saline (7%)			
			Williams (5%)			
			Wyard (3%)			
			Noonan (3%)			
C406A	Makoti-Sakakawea complex, 0 to 2 percent slopes	Slight	Makoti (62%)		87.0	0.7%
			Sakakawea (30%)			
			Colvin (3%)			
			Wildrose (3%)			
			Alkabo, clayey substratum (2%)			
C406B	Makoti-Sakakawea complex, 2 to 6 percent slopes	Slight	Makoti (55%)		25.0	0.2%
			Sakakawea (35%)			
			Nutley (5%)			
			Alkabo, clayey substratum (3%)			
			Colvin (2%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
C800B	Appam sandy loam, 2 to 6 percent slopes	Slight	Appam (81%)		0.0	0.0%
			Wabek (7%)			
			Bowdle (4%)			
			Lihen (4%)			
			Divide (2%)			
			Lehr (1%)			
			Arveson (1%)			
C819B	Lehr-Wabek loams, 2 to 6 percent slopes	Slight	Lehr (47%)		171.4	1.3%
			Wabek (35%)			
			Bowdle (10%)			
			Appam (5%)			
			Parshall (1%)			
			Tonka (1%)			
			Divide (1%)			
C829A	Marysland loam, 0 to 1 percent slopes	Slight	Marysland (75%)		42.2	0.3%
			Divide (7%)			
			Harriet, occasionally flooded (6%)			
			Wyrene (4%)			
			Lowe, occasionally flooded (4%)			
			Hamerly (4%)			
C853B	Ruso-Appam complex, 2 to 6 percent slopes	Slight	Ruso (65%)		17.1	0.1%
			Appam (24%)			
			Livona (3%)			
			Schaller (3%)			
			Bowdle (3%)			
			Marysland, undrained (2%)			
C870E	Wabek-Lehr-Appam complex, 9 to 25 percent slopes	Moderate	Wabek (50%)	Slope/erodibility (0.50)	134.1	1.0%
			Lehr (19%)	Slope/erodibility (0.50)		
C874C	Wabek-Appam complex, 6 to 9 percent slopes	Slight	Wabek (59%)		12.9	0.1%
			Appam (25%)			
			Lehr (6%)			
			Bowdle (5%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Ruso (2%)			
			Divide (2%)			
			Marysland, undrained (1%)			
C877B	Wabek-Lehr complex, 2 to 6 percent slopes	Slight	Wabek (54%)		0.4	0.0%
			Lehr (28%)			
			Bowdle (10%)			
			Appam (5%)			
			Divide (2%)			
			Marysland, undrained (1%)			
C996	Water	Not rated	Water (100%)		27.2	0.2%
Subtotals for Soil Survey Area					**821.5**	**6.2%**
Totals for Area of Interest					**13,153.5**	**100.0%**

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
C3A	Parnell silty clay loam, 0 to 1 percent slopes	Slight	Parnell (86%)		208.7	1.6%
			Vallers, moderately saline (4%)			
			Southam (3%)			
			Tonka (3%)			
			Marysland, very poorly drained (2%)			
			Heil (2%)			
C5A	Southam silty clay loam, 0 to 1 percent slopes	Slight	Southam (78%)		727.2	5.5%
			Parnell (6%)			
			Vallers (5%)			
			Marysland (3%)			
			Minnewaukan (3%)			
C21A	Vallers loam, 0 to 1 percent slopes	Slight	Vallers (69%)		10.5	0.1%
			Hamerly (13%)			
			Vallers, moderately saline (7%)			
			Tonka (5%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Parnell (3%)			
			Balaton (2%)			
			Noonan (1%)			
C45A	Colvin silt loam, 0 to 2 percent slopes	Slight	Colvin (87%)		17.5	0.1%
			Colvin, very poorly drained (5%)			
			Marysland, undrained (4%)			
			Bearden (1%)			
			Makoti (1%)			
			Divide, moderately saline (1%)			
			Wildrose (1%)			
C73A	Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes	Slight	Hamerly, moderately saline (55%)		170.6	1.3%
			Vallers, moderately saline (30%)			
			Balaton (5%)			
			Heil (4%)			
			Divide, moderately saline (2%)			
			Parnell (2%)			
			Noonan (2%)			
C132B	Williams-Zahl loams, 3 to 6 percent slopes	Slight	Williams (54%)		1,464.4	11.1%
			Zahl (20%)			
			Bowbells (11%)			
			Zahill (8%)			
			Hamerly (4%)			
			Tonka (2%)			
			Noonan (1%)			
C135C	Zahl-Williams-Zahill complex, 6 to 9 percent slopes	Slight	Zahl (41%)		2,149.4	16.3%
			Williams (30%)			
			Zahill (15%)			
			Bowbells (8%)			
			Tonka (3%)			
			Hamerly (2%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Niobell (1%)			
C135D	Zahl-Williams loams, 9 to 15 percent slopes	Slight	Zahl (41%)		2,872.4	21.8%
			Williams (30%)			
			Zahill (9%)			
			Bowbells (9%)			
			Parnell (3%)			
			Wabek (3%)			
			Niobell (3%)			
			Hamerly (2%)			
C155F	Zahl-Max-Arnegard loams, 15 to 60 percent slopes	Severe	Zahl (40%)	Slope/erodibility (0.75)	1,283.5	9.8%
			Max (30%)	Slope/erodibility (0.75)		
C156F	Zahl-Max-Bowbells loams, 6 to 35 percent slopes	Moderate	Zahl (54%)	Slope/erodibility (0.50)	430.5	3.3%
			Max (22%)	Slope/erodibility (0.50)		
			Wabek (1%)	Slope/erodibility (0.50)		
C162F	Max-Zahl-Arnegard complex, 9 to 35 percent slopes, very stony	Moderate	Max, very stony (43%)	Slope/erodibility (0.50)	0.0	0.0%
			Zahl, very stony (40%)	Slope/erodibility (0.50)		
			Arnegard (15%)	Slope/erodibility (0.50)		
			Wabek, very stony (2%)	Slope/erodibility (0.50)		
C165F	Zahl-Max-Parnell complex, 0 to 35 percent slopes	Moderate	Zahl (33%)	Slope/erodibility (0.50)	8.3	0.1%
			Max (26%)	Slope/erodibility (0.50)		
			Wabek (3%)	Slope/erodibility (0.50)		
C210A	Williams-Bowbells loams, 0 to 3 percent slopes	Slight	Williams (60%)		9.9	0.1%
			Bowbells (21%)			
			Zahl (8%)			
			Hamerly (5%)			
			Noonan (2%)			
			Tonka (2%)			
			Lehr (1%)			
			Parnell (1%)			
C210B	Williams-Bowbells	Slight	Williams (45%)		157.2	1.2%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
	loams, 3 to 6 percent slopes		Bowbells (36%)			
			Hamerly (5%)			
			Zahill (5%)			
			Zahl (3%)			
			Noonan (2%)			
			Tonka (2%)			
			Lehr (1%)			
			Parnell (1%)			
C270A	Hamerly loam, 0 to 3 percent slopes	Slight	Hamerly (70%)		201.6	1.5%
			Bowbells (8%)			
			Hamerly, moderately saline (7%)			
			Vallers (6%)			
			Tonka (4%)			
			Parnell (3%)			
			Noonan (2%)			
C276A	Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes	Slight	Hamerly (39%)		7.7	0.1%
			Tonka (27%)			
			Parnell (16%)			
			Vallers, moderately saline (7%)			
			Williams (5%)			
			Wyard (3%)			
			Noonan (3%)			
C400A	Bearden silt loam, 0 to 2 percent slopes	Slight	Bearden (73%)		122.7	0.9%
			Colvin (9%)			
			Makoti (7%)			
			Wildrose (4%)			
			Hegne (3%)			
			Sakakawea (3%)			
			Divide, moderately saline (1%)			
C406A	Makoti-Sakakawea complex, 0 to 2 percent slopes	Slight	Makoti (62%)		5.2	0.0%
			Sakakawea (30%)			
			Colvin (3%)			
			Wildrose (3%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Alkabo, clayey substratum (2%)			
C406B	Makoti-Sakakawea complex, 2 to 6 percent slopes	Slight	Makoti (55%)		458.9	3.5%
			Sakakawea (35%)			
			Nutley (5%)			
			Alkabo, clayey substratum (3%)			
			Colvin (2%)			
C409B	Sakakawea silty clay loam, 2 to 6 percent slopes	Slight	Sakakawea (78%)		256.6	2.0%
			Makoti (8%)			
			Tansem (4%)			
			Williams (3%)			
			Parnell (3%)			
			Nutley (2%)			
			Appam (2%)			
C411A	Makoti silty clay loam, 0 to 2 percent slopes	Slight	Makoti (73%)		132.0	1.0%
			Tansem (13%)			
			Roseglen (6%)			
			Sakakawea (5%)			
			Nutley (2%)			
			Tonka (1%)			
C419A	Wildrose silty clay, 0 to 2 percent slopes	Slight	Wildrose (70%)		181.8	1.4%
			Nutley (13%)			
			Makoti (6%)			
			Alkabo, clayey substratum (4%)			
			Hegne (3%)			
			Tonka (2%)			
			Williams (2%)			
C424A	Minot silty clay, 0 to 2 percent slopes	Slight	Minot (65%)		445.0	3.4%
			Wildrose (13%)			
			Tansem (11%)			
			Makoti (5%)			
			Sakakawea (4%)			
			Tonka (2%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
C424B	Minot silty clay, 2 to 6 percent slopes	Slight	Minot (74%)		147.3	1.1%
			Wildrose (12%)			
			Sakakawea (6%)			
			Tansem (5%)			
			Tonka (2%)			
			Williams (1%)			
C451B	Arnegard loam, 2 to 6 percent slopes	Slight	Arnegard (82%)		6.5	0.0%
			Williams (5%)			
			Falkirk (4%)			
			Grail (4%)			
			Belfield (2%)			
			Shambo (2%)			
			Tonka (1%)			
C584A	Harriet loam, 0 to 2 percent slopes	Slight	Harriet, occasionally flooded (76%)		26.8	0.2%
			Ranslo, occasionally flooded (7%)			
			Fluvaquents, channeled, frequently flooded (5%)			
			Lowe, occasionally flooded (5%)			
			Marysland (3%)			
			Stirum, occasionally flooded (2%)			
			Straw, occasionally flooded (2%)			
C800B	Appam sandy loam, 2 to 6 percent slopes	Slight	Appam (81%)		0.4	0.0%
			Wabek (7%)			
			Bowdle (4%)			
			Lihen (4%)			
			Divide (2%)			
			Lehr (1%)			
			Arveson (1%)			
C817B	Lehr-Bowdle loams, 2 to 6 percent slopes	Slight	Lehr (57%)		184.9	1.4%
			Bowdle (28%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Wabek (6%)			
			Arnegard (5%)			
			Parshall (4%)			
C819B	Lehr-Wabek loams, 2 to 6 percent slopes	Slight	Lehr (47%)		7.5	0.1%
			Wabek (35%)			
			Bowdle (10%)			
			Appam (5%)			
			Tonka (1%)			
			Divide (1%)			
			Parshall (1%)			
C825A	Divide loam, 0 to 2 percent slopes	Slight	Divide (65%)		7.5	0.1%
			Wyrene (12%)			
			Marysland (6%)			
			Hamerly (6%)			
			Bowdle (5%)			
			Lowe, occasionally flooded (4%)			
			Lehr (2%)			
C829A	Marysland loam, 0 to 1 percent slopes	Slight	Marysland (75%)		2.2	0.0%
			Divide (7%)			
			Harriet, occasionally flooded (6%)			
			Wyrene (4%)			
			Lowe, occasionally flooded (4%)			
			Hamerly (4%)			
C860D	Schaller loamy sand, 6 to 15 percent slopes	Slight	Schaller (68%)		8.3	0.1%
			Seroco (14%)			
			Wabek (12%)			
			Karlsruhe (6%)			
C870E	Wabek-Lehr-Appam complex, 9 to 25 percent slopes	Moderate	Wabek (50%)	Slope/erodibility (0.50)	359.8	2.7%
			Lehr (19%)	Slope/erodibility (0.50)		
C874B	Wabek-Appam complex, 2 to 6 percent slopes	Slight	Wabek (60%)		160.1	1.2%
			Appam (21%)			
			Bowdle (8%)			

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Lehr (4%)			
			Divide (3%)			
			Marysland, undrained (2%)			
			Ruso (2%)			
C874C	Wabek-Appam complex, 6 to 9 percent slopes	Slight	Wabek (59%)		0.6	0.0%
			Appam (25%)			
			Lehr (6%)			
			Bowdle (5%)			
			Ruso (2%)			
			Divide (2%)			
			Marysland, undrained (1%)			
C877B	Wabek-Lehr complex, 2 to 6 percent slopes	Slight	Wabek (54%)		79.9	0.6%
			Lehr (28%)			
			Bowdle (10%)			
			Appam (5%)			
			Divide (2%)			
			Marysland, undrained (1%)			
C996	Water	Not rated	Water (100%)		18.5	0.1%
Subtotals for Soil Survey Area					**12,332.1**	**93.8%**
Totals for Area of Interest					**13,153.5**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Slight	10,891.7	82.8%
Severe	1,283.5	9.8%
Moderate	932.6	7.1%
Null or Not Rated	45.7	0.3%
Totals for Area of Interest	**13,153.5**	**100.0%**

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. .

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

RUSLE2 Related Attributes–Dickey County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C3A—Parnell silty clay loam, 0 to 1 percent slopes								
Parnell	86	115	C/D	.24	5	17.0	49.0	34.0
C5A—Southam silty clay loam, 0 to 1 percent slopes								
Southam	78	108	C/D	.28	5	15.0	51.0	34.0
C73A—Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes								
Hamerly, moderately saline	55	108	C	.20	5	34.0	40.0	26.0
Vallers, moderately saline	30	—	B/D	.20	5	30.0	44.0	26.0
C132C—Williams-Zahl-Zahill complex, 6 to 9 percent slopes								
Williams	50	148	B	.24	5	38.0	40.0	22.0
Zahl	20	—	B	.24	5	45.0	31.0	24.0
Zahill	15	—	B	.24	5	36.0	35.0	29.0
C135C—Zahl-Williams-Zahill complex, 6 to 9 percent slopes								
Zahl	41	144	B	.24	5	45.0	31.0	24.0
Williams	30	—	B	.24	5	38.0	40.0	22.0
Zahill	15	—	B	.24	5	36.0	35.0	29.0

RUSLE2 Related Attributes–Dickey County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C210B—Williams-Bowbells loams, 3 to 6 percent slopes								
Williams	45	154	B	.24	5	38.0	40.0	22.0
Bowbells	36	—	B	.28	5	28.0	48.0	24.0
C276A—Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes								
Hamerly	39	108	C	.20	5	34.0	40.0	26.0
Tonka	27	—	C/D	.32	5	24.0	53.0	23.0
Parnell	16	—	C/D	.24	5	17.0	49.0	34.0
C406A—Makoti-Sakakawea complex, 0 to 2 percent slopes								
Makoti	62	167	B	.28	5	20.0	50.0	30.0
Sakakawea	30	—	B	.32	5	19.0	53.0	28.0
C406B—Makoti-Sakakawea complex, 2 to 6 percent slopes								
Makoti	55	138	B	.28	5	20.0	50.0	30.0
Sakakawea	35	—	B	.32	5	19.0	53.0	28.0
C800B—Appam sandy loam, 2 to 6 percent slopes								
Appam	81	115	A	.15	2	68.0	20.0	12.0
C819B—Lehr-Wabek loams, 2 to 6 percent slopes								
Lehr	47	115	B	.28	2	43.0	38.0	19.0
Wabek	35	—	B	.32	2	43.0	38.0	19.0
C829A—Marysland loam, 0 to 1 percent slopes								
Marysland	75	134	B/D	.20	3	40.0	37.0	23.0
C853B—Ruso-Appam complex, 2 to 6 percent slopes								
Ruso	65	112	A	.10	4	68.0	19.0	13.0
Appam	24	—	A	.15	2	68.0	20.0	12.0
C870E—Wabek-Lehr-Appam complex, 9 to 25 percent slopes								
Wabek	50	138	B	.32	2	43.0	38.0	19.0
Lehr	19	—	B	.28	2	43.0	38.0	19.0
Appam	17	—	A	.15	2	68.0	20.0	12.0

RUSLE2 Related Attributes–Dickey County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C874C—Wabek-Appam complex, 6 to 9 percent slopes								
Wabek	59	161	A	.15	2	67.0	20.0	13.0
Appam	25	—	A	.15	2	68.0	20.0	12.0
C877B—Wabek-Lehr complex, 2 to 6 percent slopes								
Wabek	54	161	B	.32	2	43.0	38.0	19.0
Lehr	28	—	B	.28	2	43.0	38.0	19.0

RUSLE2 Related Attributes–McIntosh County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C3A—Parnell silty clay loam, 0 to 1 percent slopes								
Parnell	86	115	C/D	.24	5	17.0	49.0	34.0
C5A—Southam silty clay loam, 0 to 1 percent slopes								
Southam	78	108	C/D	.28	5	15.0	51.0	34.0
C21A—Vallers loam, 0 to 1 percent slopes								
Vallers	69	69	B/D	.20	5	30.0	44.0	26.0
C45A—Colvin silt loam, 0 to 2 percent slopes								
Colvin	87	187	C/D	.32	5	11.0	67.0	22.0
C73A—Hamerly-Vallers loams, moderately saline, 0 to 3 percent slopes								
Hamerly, moderately saline	55	108	C	.20	5	34.0	40.0	26.0
Vallers, moderately saline	30	—	B/D	.20	5	30.0	44.0	26.0
C132B—Williams-Zahl loams, 3 to 6 percent slopes								
Williams	54	154	B	.24	5	38.0	40.0	22.0
Zahl	20	—	B	.24	5	45.0	31.0	24.0
C135C—Zahl-Williams-Zahill complex, 6 to 9 percent slopes								
Zahl	41	144	B	.24	5	45.0	31.0	24.0
Williams	30	—	B	.24	5	38.0	40.0	22.0
Zahill	15	—	B	.24	5	36.0	35.0	29.0

RUSLE2 Related Attributes–McIntosh County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C135D—Zahl-Williams loams, 9 to 15 percent slopes								
Zahl	41	157	B	.24	5	45.0	31.0	24.0
Williams	30	—	B	.24	5	38.0	40.0	22.0
C155F—Zahl-Max-Arnegard loams, 15 to 60 percent slopes								
Zahl	40	174	B	.24	5	45.0	31.0	24.0
Max	30	—	B	.17	5	41.0	36.0	23.0
Arnegard	19	—	B	.20	5	41.0	36.0	23.0
C156F—Zahl-Max-Bowbells loams, 6 to 35 percent slopes								
Zahl	54	174	B	.24	5	45.0	31.0	24.0
Max	22	—	B	.17	5	41.0	36.0	23.0
Bowbells	18	—	B	.28	5	28.0	48.0	24.0
C162F—Max-Zahl-Arnegard complex, 9 to 35 percent slopes, very stony								
Max, very stony	43	125	B	.17	5	41.0	36.0	23.0
Zahl, very stony	40	—	B	.24	5	45.0	31.0	24.0
Arnegard	15	—	B	.20	5	41.0	36.0	23.0
C165F—Zahl-Max-Parnell complex, 0 to 35 percent slopes								
Zahl	33	174	B	.24	5	45.0	31.0	24.0
Max	26	—	B	.17	5	41.0	36.0	23.0
Parnell	22	—	C/D	.24	5	17.0	49.0	34.0
C210A—Williams-Bowbells loams, 0 to 3 percent slopes								
Williams	60	180	B	.24	5	38.0	40.0	22.0
Bowbells	21	—	B	.28	5	28.0	48.0	24.0
C210B—Williams-Bowbells loams, 3 to 6 percent slopes								
Williams	45	154	B	.24	5	38.0	40.0	22.0
Bowbells	36	—	B	.28	5	28.0	48.0	24.0
C270A—Hamerly loam, 0 to 3 percent slopes								
Hamerly	70	108	C	.20	5	34.0	40.0	26.0

RUSLE2 Related Attributes–McIntosh County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C276A—Hamerly-Tonka-Parnell complex, 0 to 3 percent slopes								
Hamerly	39	108	C	.20	5	34.0	40.0	26.0
Tonka	27	—	C/D	.32	5	24.0	53.0	23.0
Parnell	16	—	C/D	.24	5	17.0	49.0	34.0
C400A—Bearden silt loam, 0 to 2 percent slopes								
Bearden	73	125	C	.32	5	15.0	62.0	23.0
C406A—Makoti-Sakakawea complex, 0 to 2 percent slopes								
Makoti	62	167	B	.28	5	20.0	50.0	30.0
Sakakawea	30	—	B	.32	5	19.0	53.0	28.0
C406B—Makoti-Sakakawea complex, 2 to 6 percent slopes								
Makoti	55	138	B	.28	5	20.0	50.0	30.0
Sakakawea	35	—	B	.32	5	19.0	53.0	28.0
C409B—Sakakawea silty clay loam, 2 to 6 percent slopes								
Sakakawea	78	121	B	.32	5	19.0	53.0	28.0
C411A—Makoti silty clay loam, 0 to 2 percent slopes								
Makoti	73	167	B	.28	5	20.0	50.0	30.0
C419A—Wildrose silty clay, 0 to 2 percent slopes								
Wildrose	70	210	C	.17	5	10.0	40.0	50.0
C424A—Minot silty clay, 0 to 2 percent slopes								
Minot	65	210	C	.20	5	10.0	44.0	46.0
C424B—Minot silty clay, 2 to 6 percent slopes								
Minot	74	161	C	.20	5	10.0	44.0	46.0
C451B—Arnegard loam, 2 to 6 percent slopes								
Arnegard	82	197	B	.20	5	41.0	36.0	23.0
C584A—Harriet loam, 0 to 2 percent slopes								
Harriet, occasionally flooded	76	144	C/D	.37	2	28.0	46.0	26.0

RUSLE2 Related Attributes–McIntosh County, North Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
C800B—Appam sandy loam, 2 to 6 percent slopes								
Appam	81	115	A	.15	2	68.0	20.0	12.0
C817B—Lehr-Bowdle loams, 2 to 6 percent slopes								
Lehr	57	115	B	.28	2	43.0	38.0	19.0
Bowdle	28	—	B	.28	3	41.0	40.0	19.0
C819B—Lehr-Wabek loams, 2 to 6 percent slopes								
Lehr	47	115	B	.28	2	43.0	38.0	19.0
Wabek	35	—	B	.32	2	43.0	38.0	19.0
C825A—Divide loam, 0 to 2 percent slopes								
Divide	65	118	C	.24	3	40.0	37.0	23.0
C829A—Marysland loam, 0 to 1 percent slopes								
Marysland	75	134	B/D	.20	3	40.0	37.0	23.0
C860D—Schaller loamy sand, 6 to 15 percent slopes								
Schaller	68	144	A	.10	5	81.0	9.0	10.0
C870E—Wabek-Lehr-Appam complex, 9 to 25 percent slopes								
Wabek	50	138	B	.32	2	43.0	38.0	19.0
Lehr	19	—	B	.28	2	43.0	38.0	19.0
Appam	17	—	A	.15	2	68.0	20.0	12.0
C874B—Wabek-Appam complex, 2 to 6 percent slopes								
Wabek	60	161	A	.15	2	67.0	20.0	13.0
Appam	21	—	A	.15	2	68.0	20.0	12.0
C874C—Wabek-Appam complex, 6 to 9 percent slopes								
Wabek	59	161	A	.15	2	67.0	20.0	13.0
Appam	25	—	A	.15	2	68.0	20.0	12.0
C877B—Wabek-Lehr complex, 2 to 6 percent slopes								
Wabek	54	161	B	.32	2	43.0	38.0	19.0
Lehr	28	—	B	.28	2	43.0	38.0	19.0

Data Source Information

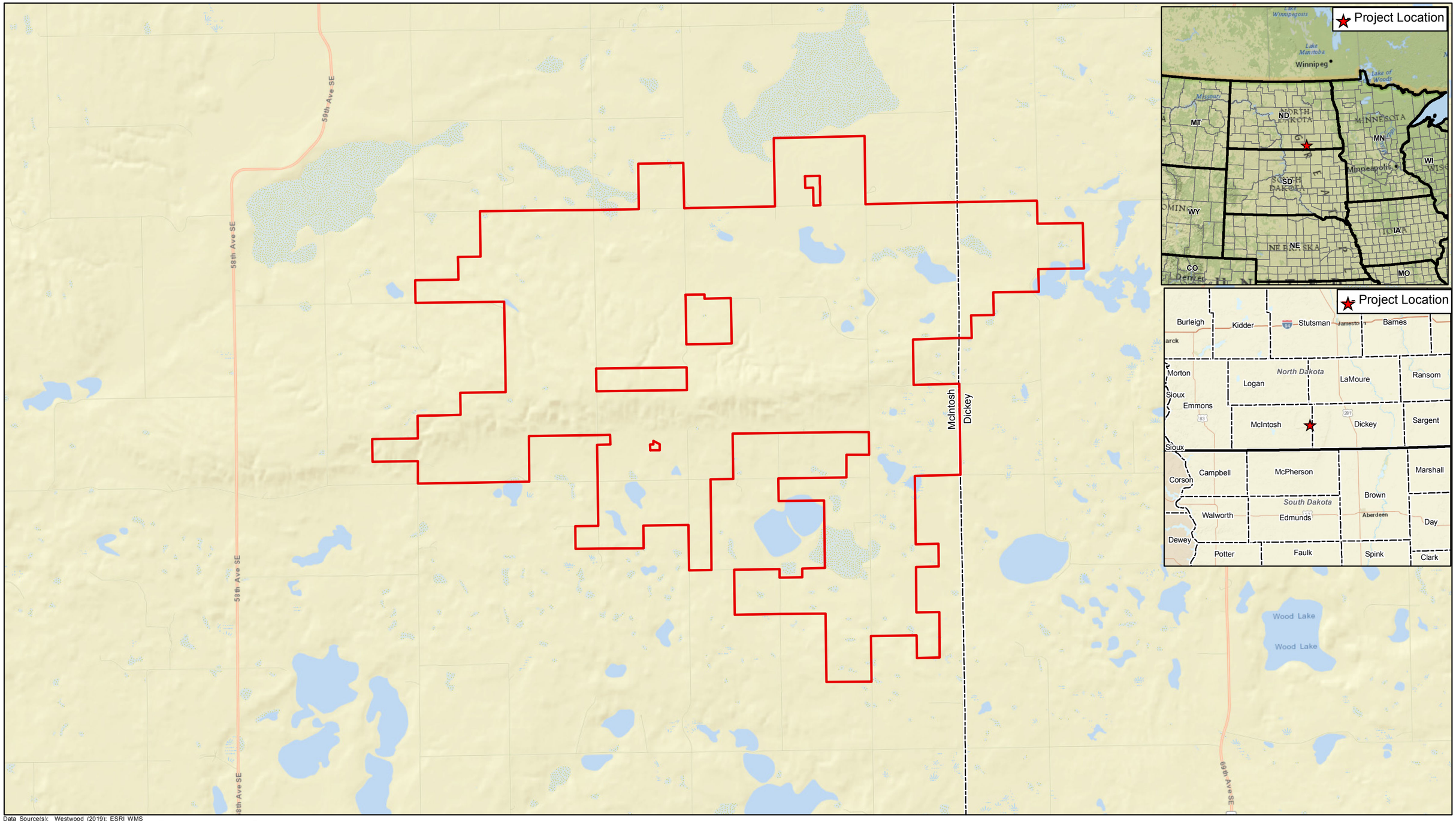
Soil Survey Area: Dickey County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

Soil Survey Area: McIntosh County, North Dakota
Survey Area Data: Version 21, Sep 13, 2018

Attachment D

Pre and Post Drainage Maps

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Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary

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N

0 1 Miles

Merricourt Wind Project

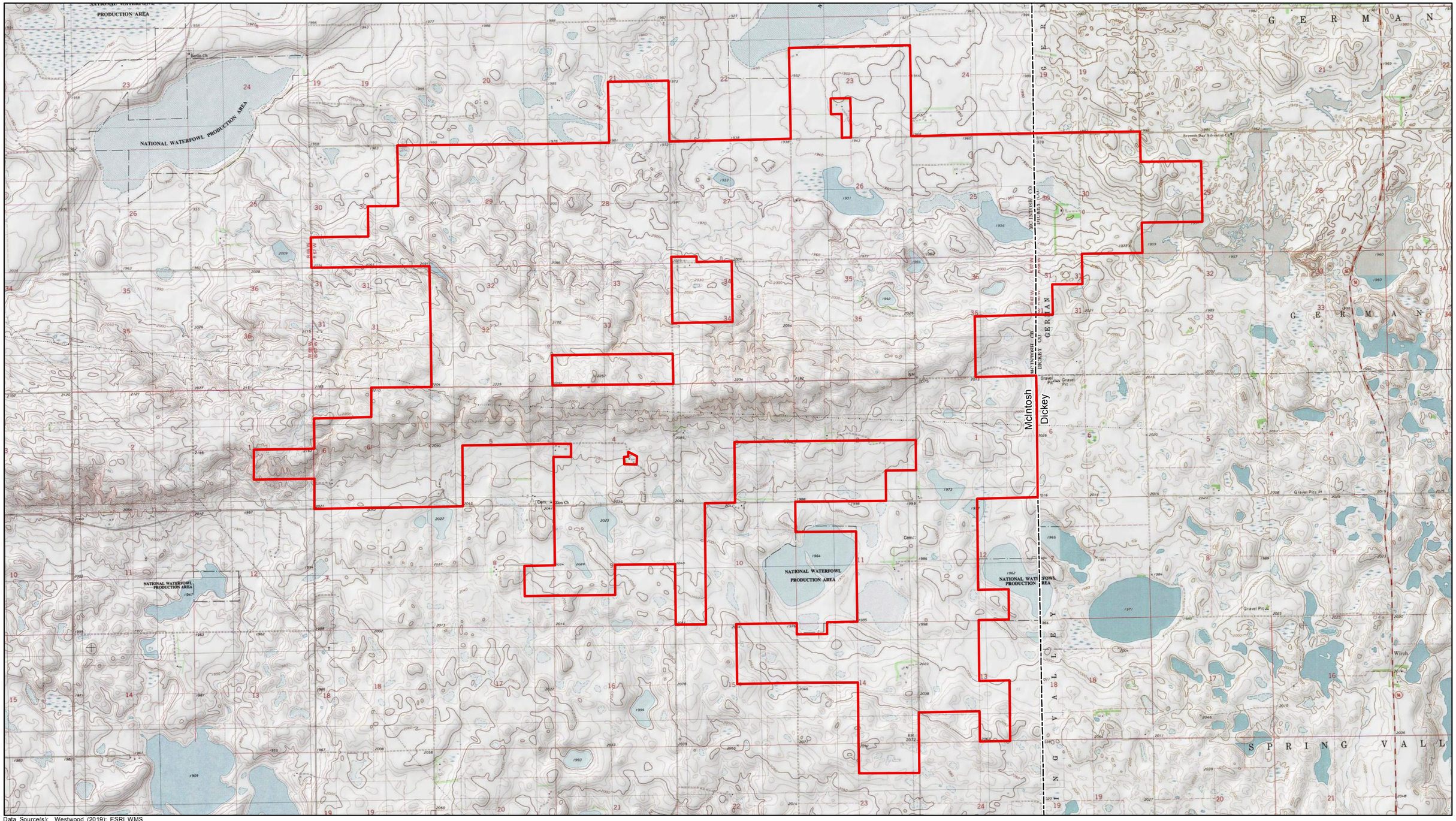
McIntosh and Dickey Counties, North Dakota

Vicinity Map

May 17, 2019

Map Document: N:\0004641.01\GIS\SWPPP Exhibits\2019-05-17_MerricourtWind_Ex1_SWPPP_VicinityMap.mxd MJHildreth 5/17/2019 11:01:28 AM

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Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary

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N

0 0.75 Miles

Merricourt Wind Project

McIntosh and Dickey Counties, North Dakota

USGS Topographic Map

May 17, 2019

Map Document: N:\0004641.01\GIS\SWPPP Exhibits\2019-05-17_MerricourtWind_Ex2_SWPPP_USGSTopoMap.mxd MJHildreth 5/17/2019 11:09:37 AM

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Discharge ID	Latitude	Longitude
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2	46.139185	-99.095767
3	46.142797	-99.070281
4	46.142465	-99.055049
5	46.140554	-99.045467
6	46.140258	-99.038920
7	46.140681	-99.019993
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30	46.107549	-99.056418
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34	46.109771	-99.024470
35	46.108751	-99.021578
36	46.108341	-99.016469
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38	46.109956	-99.010077
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Name: Schlenker Dam
HUC 12: 101600040104
Drains To: CLOSED BASIN

Name: 101600040102
HUC 12: 101600040102
Drains To: CLOSED BASIN

Name: 101600040101
HUC 12: 101600040101
Drains To: CLOSED BASIN

Name: Nitschke Landing Strip
HUC 12: 101301060303
Drains To: CLOSED BASIN

Name: Coldwater Lake
HUC 12: 101301060304
Drains To: CLOSED BASIN

McIntosh

Dickey

Data Source(s): Westwood (2019); ESRI WMS World Streets Basemap Imagery (Accessed 2019).

Legend

- Project Boundary
- County Boundary
- HUC 12 Boundary
- Laydown Yard
- O & M Building
- Substation
- NWI Wetlands
- NHD Flowline
- Access Road
- Crane Path
- Collection Line
- Turbine Array
- Discharge Location

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McIntosh and Dickey Counties, North Dakota

N

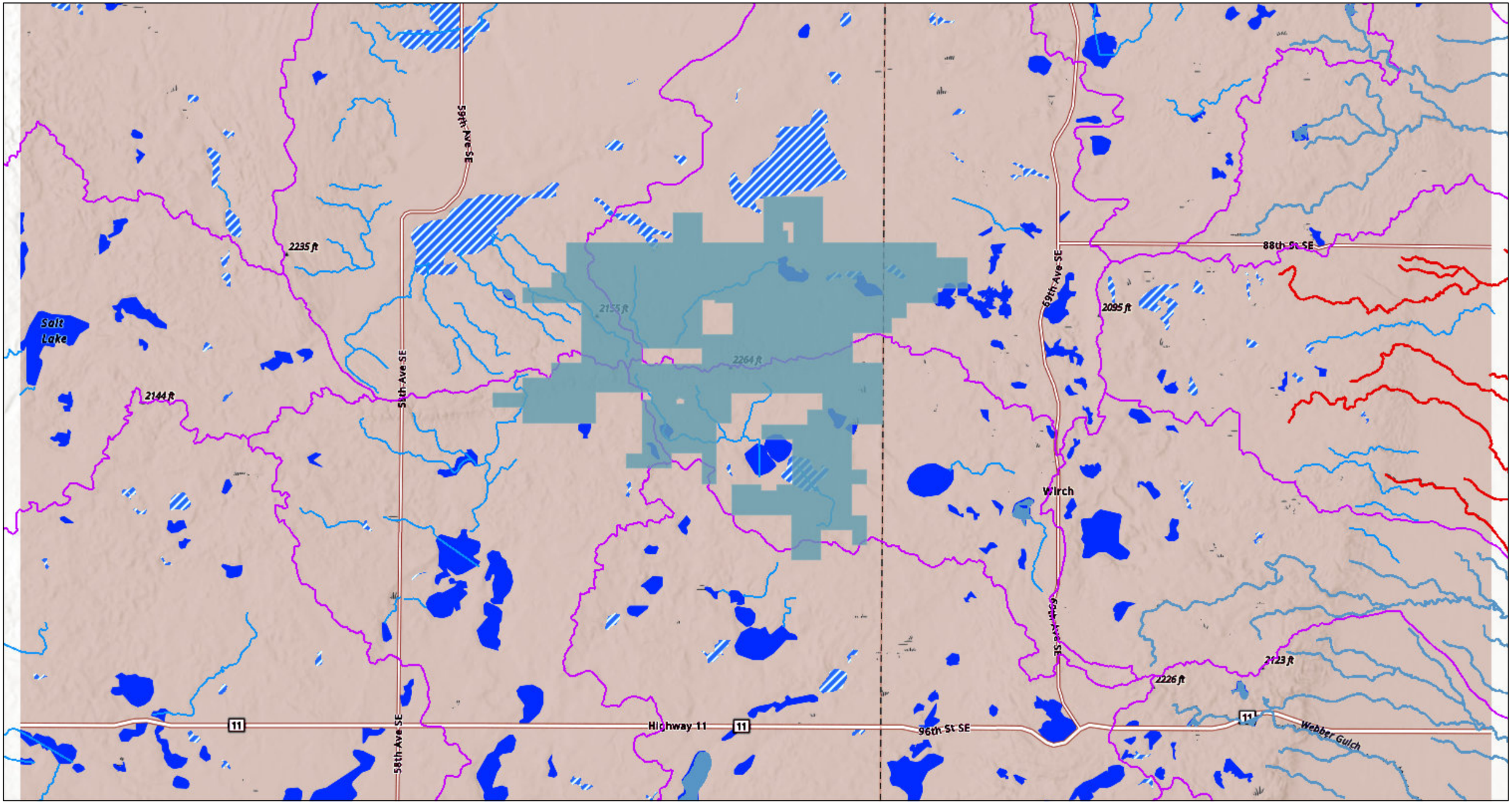
0 Miles 0.75

Drainage Map

May 17, 2019

Map Document: N:\0004641.01\GIS\SWPPP Exhibits\2019-05-17_MerricourtWind_Ex3_SWPPP_DrainageMap.mxd MJHildreth 5/17/2019 1:32:10 PM

WATERS GeoViewer Map Image Layer



May 29, 2019

1:144,448

0 1.75 3.5 7 mi

0 2.75 5.5 11 km

MW_Project_Boundary_Polygon_190430

- Override 1
- 303(d) Point
- 303(d) Line
- 303(d) Area
- 305(b) Point
- 305(b) Line
- 305(b) Area
- Streams
- Subwatersheds

US EPA

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Brad Cooper

Esri, NASA, NGA, USGS | State of North Dakota, Esri, HERE, Garmin, METI/NASA, USGS, EPA, NPS, USDA | US EPA

Attachment E

Site Plans, Erosion and Sediment Control Plans, Details

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Civil Construction Plans

for

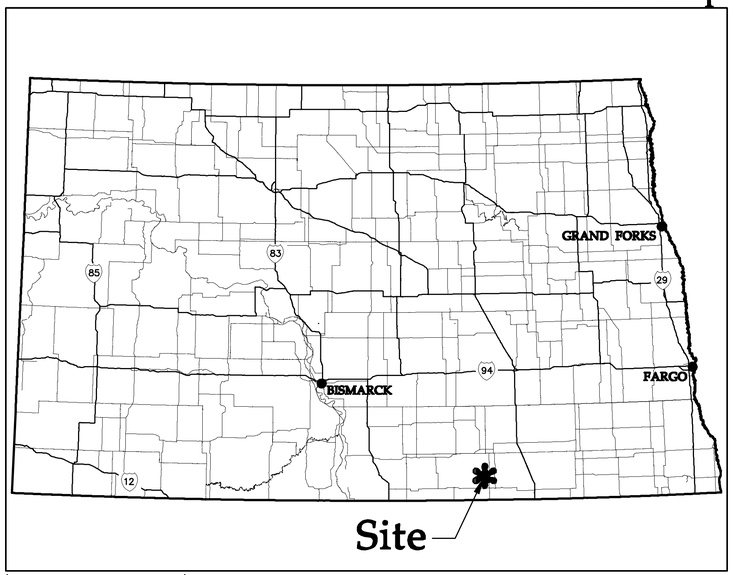
Wind Turbines, Access Roads, Drainage and Erosion Control

for

Merricourt Wind Project

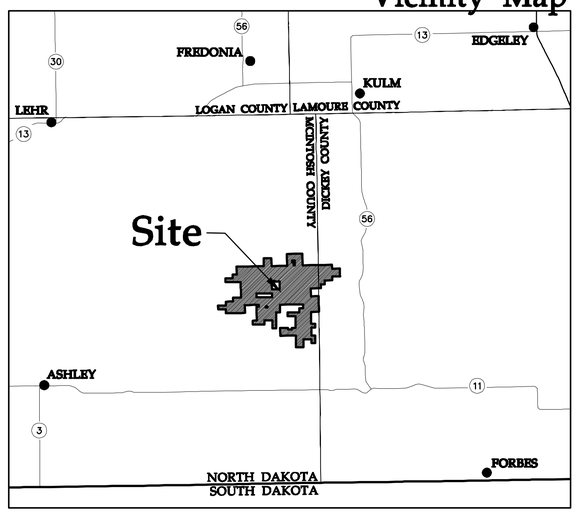
McIntosh County, North Dakota

State Map



(NOT TO SCALE)

Vicinity Map



(NOT TO SCALE)

Sheet List Table

Sheet Number	Sheet Title
1	Cover
2	Overall Site Plan
3	Delivery Flow Plan
4	Construction Details
5	Construction Details
6	Construction Details
7	Construction Details
8	Construction Details
9	Construction Details
10	Construction Notes
11	Civil Site Plan T–26
12	Civil Site Plan T–32
13	Civil Site Plan T–1 – T–2, T–5
14	Civil Site Plan T–14 – T–15, T–27 – T–28
15	Civil Site Plan T–29, ALT–33, ALT–76, T–77
16	Civil Site Plan T–30 – T–31, T–34, T–80
17	Civil Site Plan T–54, T–56, ALT–79
18	Civil Site Plan T–55, T–70 – T–71, ALT–78
19	Civil Site Plan T–75
20	Civil Site Plan T–3–T–4, T–6–T–7, T–10–T–11
21	Civil Site Plan T–16 – T–18
22	Civil Site Plan T–22 – T–24, T–35
23	Civil Site Plan T–36 – T–38, T–81
24	Civil Site Plan T–57 – T–58, T–73 – T–74
25	Civil Site Plan T–72
26	Civil Site Plan ALT–12 – ALT–13
27	Civil Site Plan T–8 – T–9
28	Civil Site Plan T–19 – T–21
29	Civil Site Plan T–25, ALT–44
30	Civil Site Plan T–39
31	Civil Site Plan T–59 – T–62
32	Civil Site Plan T–40 – T–43
33	Civil Site Plan T–45
34	Civil Site Plan T–46
35	Civil Site Plan T–63 – T–64, T–66
36	Civil Site Plan T–49 – T–50
37	Civil Site Plan T–47 – T–48, T–51 – T–52
38	Civil Site Plan T–65, T–67 – T–69
39	Civil Site Plan T–53
40–118	Access Road Plan & Profiles
119	O&M Grading Plan

DATA SET INFORMATION

BASE FILE	FILE NAME / NOTES	PROVIDER	DATE
AERIAL IMAGE	World_IMG_DL_2014_09_17.jp2	World Imagery	9/17/2014
LAND CONTROL	Layout_v91b_Merricourt_20170425.kmz	Wanzek	4/1/2019
ALTA SURVEY	Merricourt2019_BASE.dwg	KLJ	6/20/2019
TOPOGRAPHY	ND_Lidar_With_10meter_data_exproted_at_10ftgrid.xyz	ND Lidar	11/1/2016
TURBINE ARRAY	Turbines_v94_Merricourt.xlsx	Wanzek	7/29/2019
UNDERGROUND COLLECTION	MCW-COL-KMZ-RD.kmz	Wanzek	5/27/2019
STREAMS/WETLANDS	Wetlands_Delineations_v16_Merricourt_fromKLJ.shp	Wanzek	7/29/2019
CULTURAL RESOURCES	ArcheologicalSites_v15_Merricourt_AVOID.shp, ArcheologicalSites_v15_Merricourt_NoAvoidanceNecessary.shp	Wanzek	7/29/2019

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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

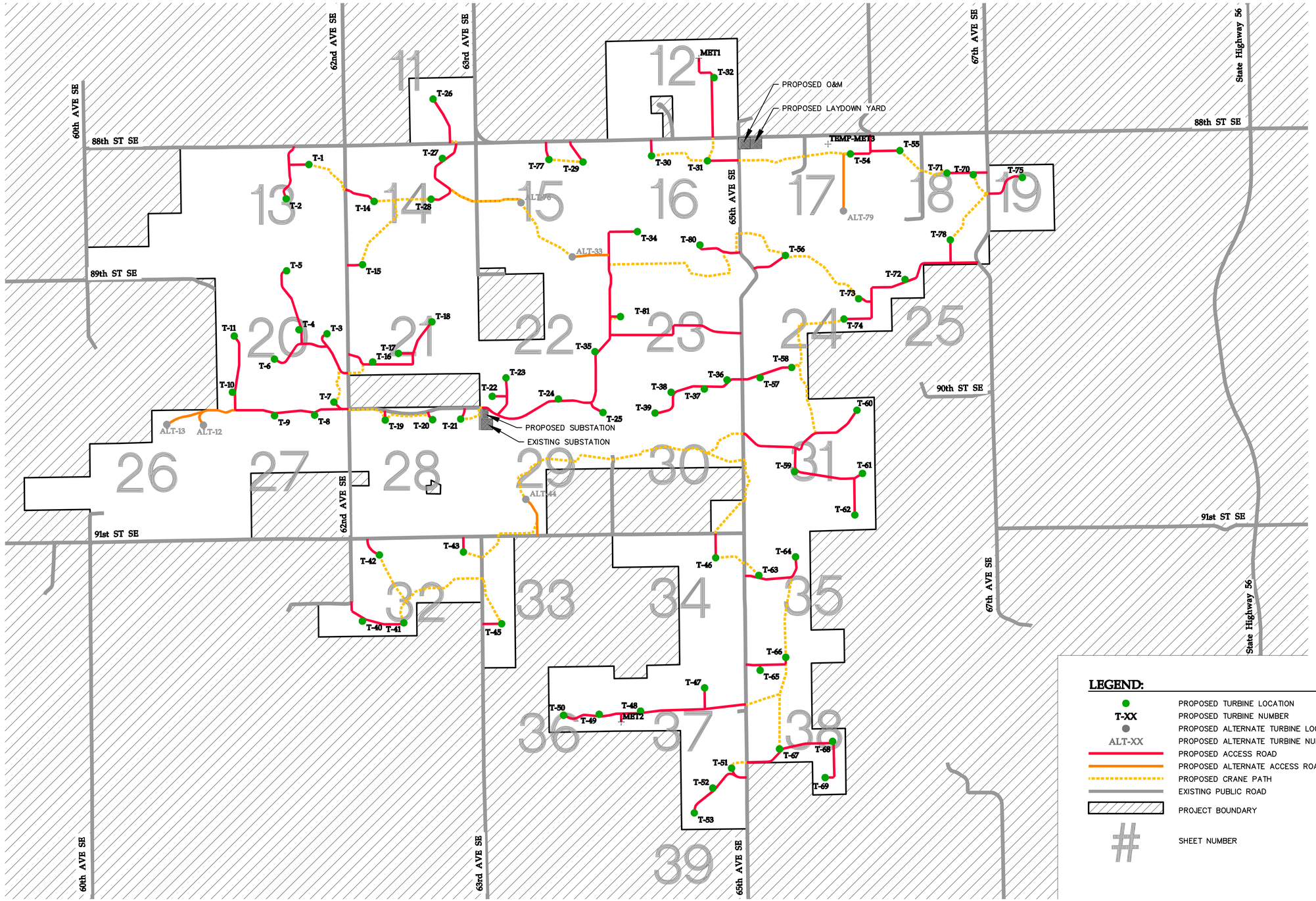
McIntosh County, North Dakota

Cover

Issued for Construction

Date: 08/01/19
Sheet: 1 OF 118

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LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ALTERNATE TURBINE LOCATION
- ALT-XX — PROPOSED ALTERNATE TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED ALTERNATE ACCESS ROAD
- PROPOSED CRANE PATH
- EXISTING PUBLIC ROAD
- PROJECT BOUNDARY
- # — SHEET NUMBER

ITEM	LENGTH
PROPOSED ACCESS ROADS	23.7 mi
PROPOSED CRANE PATH	18.7 mi

* LENGTH OF CRANE PATH ONLY INCLUDES SEGMENTS THAT DO NOT FOLLOW ACCESS ROADS.

0' 2000' 4000' 6000'

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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

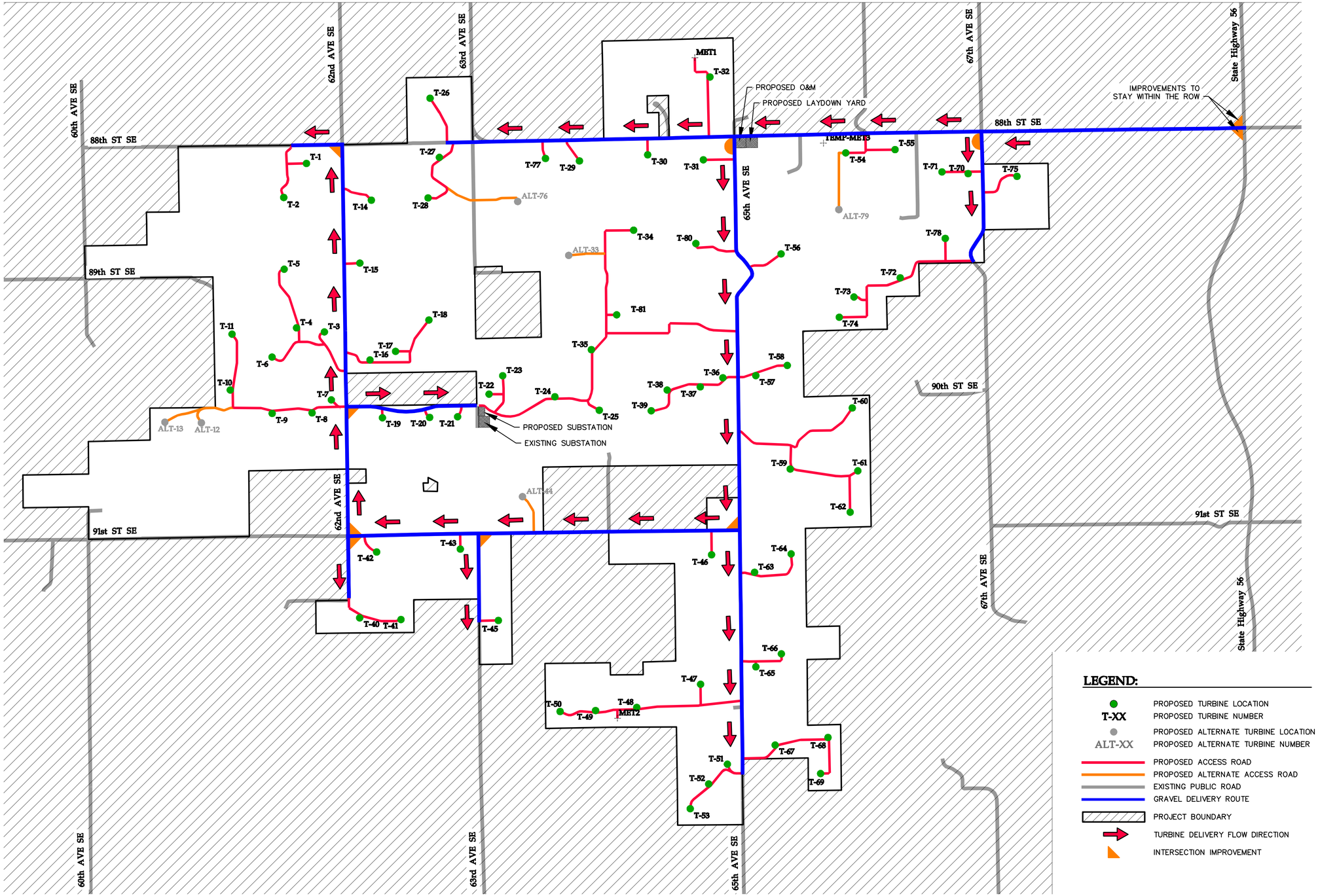
McIntosh County, North Dakota

Overall Site Plan

Issued for Construction

Date: 08/01/19
Sheet: 2 OF 118

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LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ALTERNATE TURBINE LOCATION
- ALT-XX — PROPOSED ALTERNATE TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED ALTERNATE ACCESS ROAD
- EXISTING PUBLIC ROAD
- GRAVEL DELIVERY ROUTE
- PROJECT BOUNDARY
- TURBINE DELIVERY FLOW DIRECTION
- INTERSECTION IMPROVEMENT

ITEM	LENGTH
GRAVEL DELIVERY ROUTE	21.50 mi

N

0' 2000' 4000' 6000'

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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

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West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

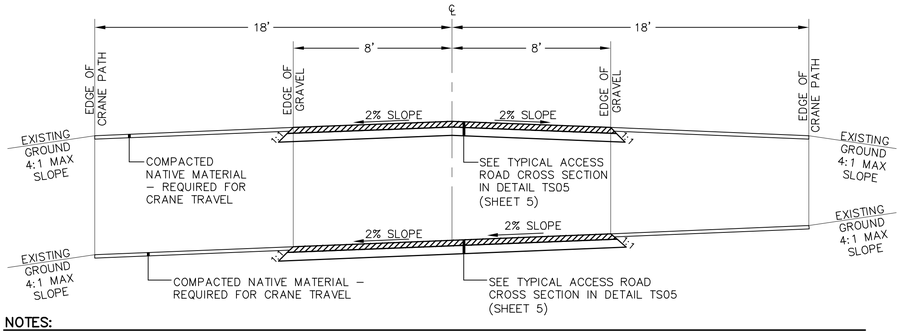
Delivery Flow Plan

Issued for Construction

Date: 08/01/19
Sheet: 3 OF 118

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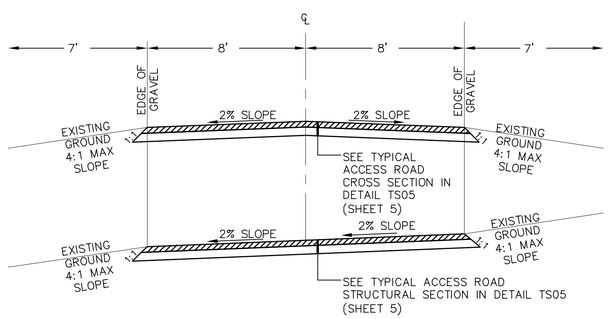
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NOTES:

1. CONTRACTOR SHALL CONSTRUCT CROSS–SLOPE ROAD SECTION WHERE ACCESS ROADS ARE CONSTRUCTED ON A SIDE SLOPE, AND WHERE OTHERWISE NOTED ON PLANS, TO ENSURE THAT ROADS AND SHOULDERS REMAIN WELL DRAINED AT ALL TIMES.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 2.0%
3. WHEN CRANE PATH IS NOT NEEDED, MATCH THE ACCESS ROAD DIRECTLY INTO EXISTING GROUND SURFACE
4. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS EXCEPT IF GRADES EXCEED TURBINE DELIVERY VEHICLE CAPABILITIES, IF THIS OCCURS GENERAL CONTRACTOR MAY MODIFY GRADES BUT NOT EXCEED CLEARED LIMITS

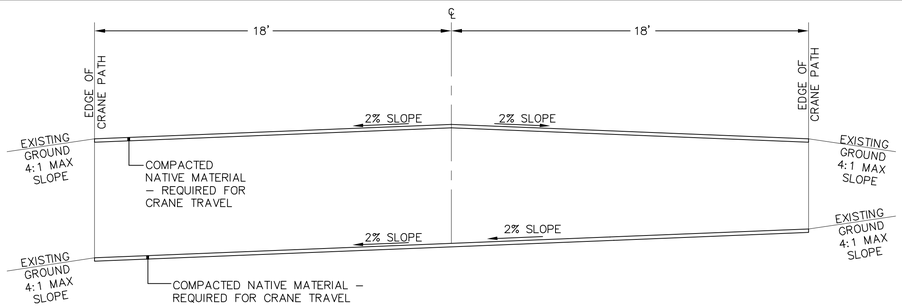
Westwood	TYPICAL TURBINE ACCESS ROAD AND CRANE PATH	LAST REVISED: 04/20/11 RD01–A



NOTES:

1. CONTRACTOR SHALL CONSTRUCT CROSS–SLOPE ROAD SECTION WHERE ACCESS ROADS ARE CONSTRUCTED ON A SIDE SLOPE, AND WHERE OTHERWISE NOTED ON PLANS, TO ENSURE THAT ROADS AND SHOULDERS REMAIN WELL DRAINED AT ALL TIMES.
2. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS EXCEPT IF GRADES EXCEED TURBINE DELIVERY VEHICLE CAPABILITIES, IF THIS OCCURS GENERAL CONTRACTOR MAY MODIFY GRADES BUT NOT EXCEED CLEARED LIMITS

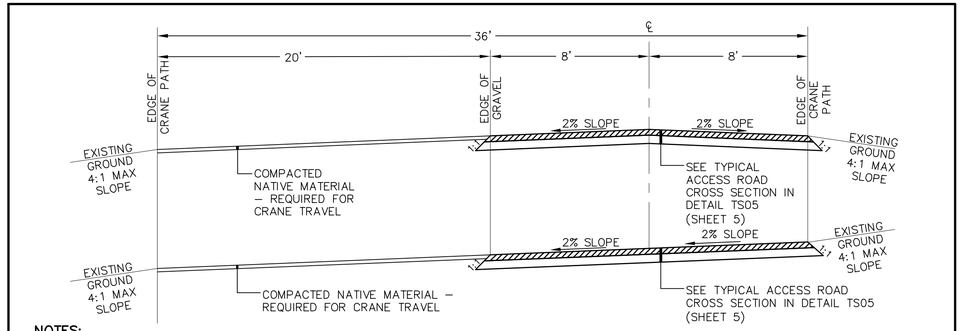
Westwood	TYPICAL TURBINE ACCESS ROAD SECTION	LAST REVISED: 3/19/12 RD01–B



NOTES:

1. CONTRACTOR SHALL CONSTRUCT CROSS–SLOPE WHERE CRANE PATHS ARE CONSTRUCTED ON A SIDE SLOPE, AND WHERE OTHERWISE NOTED ON PLANS, TO ENSURE THAT CRANE PATH REMAINS WELL DRAINED AT ALL TIMES.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 2.0%.

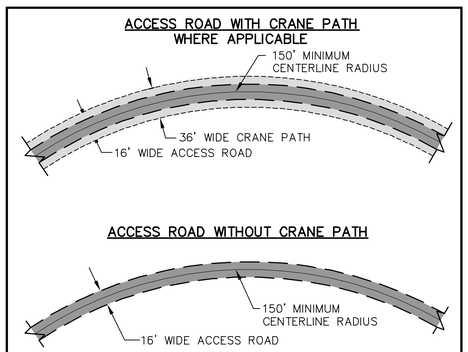
Westwood	TYPICAL CRANE PATH	LAST REVISED: 04/20/11 RD01–C



NOTES:

1. CONTRACTOR SHALL CONSTRUCT CROSS–SLOPE ROAD SECTION WHERE ACCESS ROADS ARE CONSTRUCTED ON A SIDE SLOPE, AND WHERE OTHERWISE NOTED ON PLANS, TO ENSURE THAT ROADS AND SHOULDERS REMAIN WELL DRAINED AT ALL TIMES.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 2.0%
3. WHEN CRANE PATH IS NOT NEEDED, MATCH THE EDGE OF COMPACTED SHOULDER DIRECTLY INTO EXISTING GROUND SURFACE
4. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS EXCEPT IF GRADES EXCEED TURBINE DELIVERY VEHICLE CAPABILITIES, IF THIS OCCURS GENERAL CONTRACTOR MAY MODIFY GRADES BUT NOT EXCEED CLEARED LIMITS

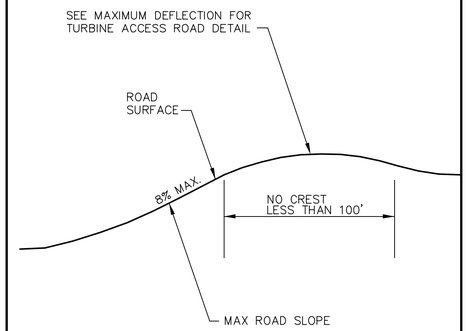
Westwood	TYPICAL TURBINE ACCESS ROAD AND OFFSET CRANE PATH	LAST REVISED: 04/29/11 RD01–D



NOTE:

1. SOME RADII MAY REQUIRE ADDITIONAL SOIL COMPACTION OR GRAVEL OUTSIDE OF THE WIDTH SHOWN ABOVE TO ACCOMMODATE TRACTORS OR TRAILERS TRACKING OFF THE ACCESS ROAD.

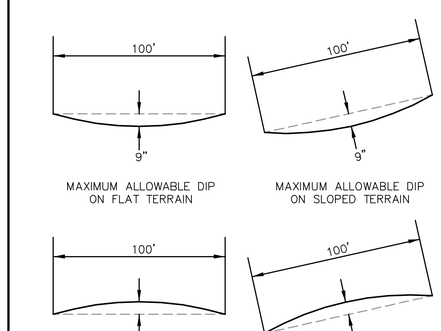
Westwood	MINIMUM RADIUS FOR TURBINE ACCESS ROAD	LAST REVISED: 04/20/11 RD02



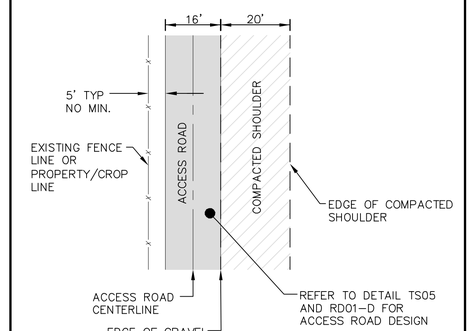
NOTES:

1. ROAD SLOPE SHALL NOT EXCEED 8% WITHOUT OWNER APPROVAL

Westwood	MAXIMUM VERT. SLOPE FOR TURBINE ACCESS ROAD/CRANE TRAVEL PATH	LAST REVISED: 3/19/12 RD03



Westwood	MAXIMUM DEFLECTION FOR TURBINE ACCESS ROAD	LAST REVISED: 01/02/08 RD04



NOTE:

1. COMPACTED SHOULDER SHALL BE RETURNED TO NATIVE CONDITION FOLLOWING TURBINE GENERATOR CONSTRUCTION.
2. THE ACCESS ROAD MAY NEED TO BE CONSTRUCTED FARTHER FROM THE PROPERTY LINE IF OBSTRUCTIONS SUCH AS TREES FOLLOW THE PROPERTY LINE.

Westwood	TURBINE ACCESS ROAD ALONG FENCE/PROPERTY/CROP LINE	LAST REVISED: 3/19/12 RD05

Westwood

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
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Westwood Professional Services, Inc.

Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

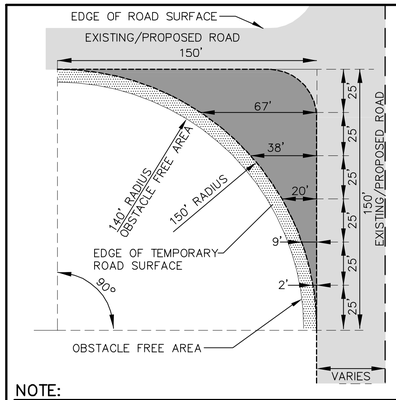
Construction Details

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Date: 08/01/19
Sheet: 4 OF 118

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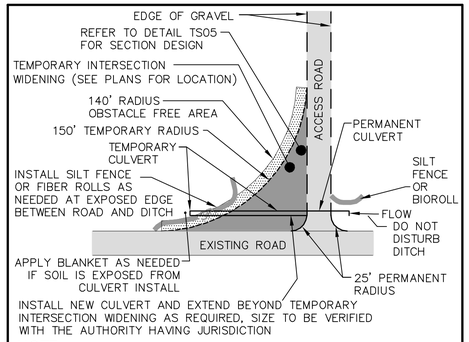
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NOTE:

1. UPON DELIVERY VEHICLE COMPLETION, TEMPORARY INTERSECTION WIDENING TO BE REMOVED AND ALL DISTURBED AREA RESTORED.

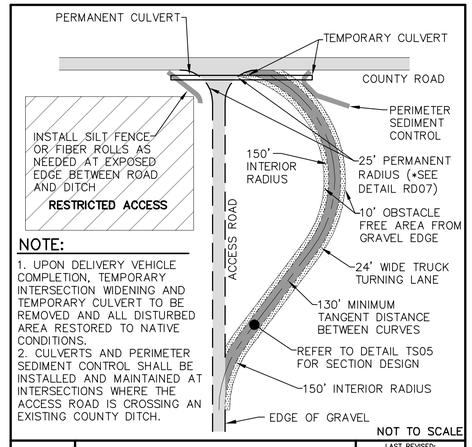
Westwood	INTERSECTION WIDENING DIMENSIONS	LAST REVISED: 3/19/12
		RD06



NOTE:

1. UPON DELIVERY VEHICLE COMPLETION, TEMPORARY INTERSECTION WIDENING AND TEMPORARY CULVERT TO BE REMOVED AND ALL DISTURBED AREA RESTORED TO NATIVE CONDITIONS.
2. CULVERTS AND SILT FENCE SHALL BE INSTALLED AND MAINTAINED AT INTERSECTIONS WHERE THE ACCESS ROAD IS CROSSING AN EXISTING COUNTY DITCH.

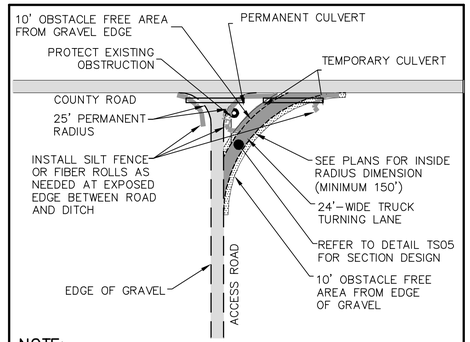
Westwood	TURBINE ACCESS ROAD TYPICAL INTERSECTION WIDENING	LAST REVISED: 3/19/12
		RD07



NOTE:

1. UPON DELIVERY VEHICLE COMPLETION, TEMPORARY INTERSECTION WIDENING AND TEMPORARY CULVERT TO BE REMOVED AND ALL DISTURBED AREA RESTORED TO NATIVE CONDITIONS.
2. CULVERTS AND PERIMETER SEDIMENT CONTROL SHALL BE INSTALLED AND MAINTAINED AT INTERSECTIONS WHERE THE ACCESS ROAD IS CROSSING AN EXISTING COUNTY DITCH.

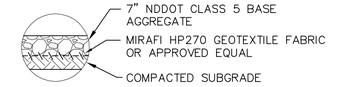
Westwood	TRUCK TRAFFIC TURNING LANE A	LAST REVISED: 11/18/14
		RD08–A



NOTE:

1. UPON DELIVERY VEHICLE COMPLETION, TEMPORARY INTERSECTION WIDENING AND TEMPORARY CULVERT TO BE REMOVED AND ALL DISTURBED AREA RESTORED TO NATIVE CONDITIONS.
2. CULVERTS AND SILT FENCE SHALL BE INSTALLED AND MAINTAINED AT INTERSECTIONS WHERE THE ACCESS ROAD IS CROSSING AN EXISTING COUNTY DITCH.

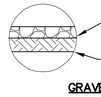
Westwood	TRUCK TRAFFIC TURNING LANE B	LAST REVISED: 3/19/12
		RD08–B



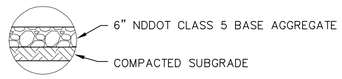
TURBINE ACCESS ROAD AND TEMPORARY ACCESS ROAD CROSS SECTION* (MIN CBR=3.0)

*MUST PASS THE FOLLOWING:

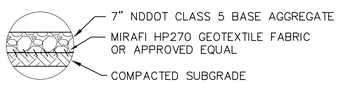
- SUBGRADE DCP VALUES EQUAL TO OR EXCEEDING 4 BLOWS PER 6 INCHES TO A TOTAL DEPTH OF 2 FEET (FOLLOW TESTING FREQUENCY SPECIFIED IN TABLE 2 ON SHEET 10)
- SUBGRADE PASSES PROOF ROLL



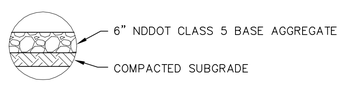
GRAVEL RING CROSS SECTION



TEMPORARY TURNING IMPROVEMENTS



MET/SPUR ROAD CROSS SECTION

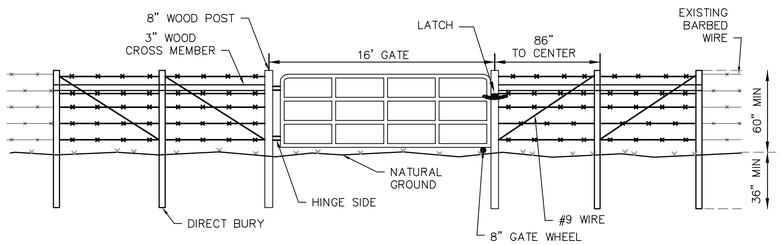


LAYDOWN YARD CROSS SECTION

NOTE:

STRUCTURAL SECTIONS SHOWN ARE THE MINIMUM THICKNESS REQUIREMENTS DURING NORMAL FIELD CONDITIONS. THE SECTIONS MAY NEED TO BE INCREASED BASED ON ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION. CONDITIONS INCLUDE BUT ARE NOT LIMITED TO CONSTRUCTION DURING THE FREEZE/THAW CYCLE, UNUSUALLY WET PERIODS, OR IN LOW/WET AREAS. SEE SHEET 10 FOR TESTING REQUIREMENTS AND SPECIFICATIONS.

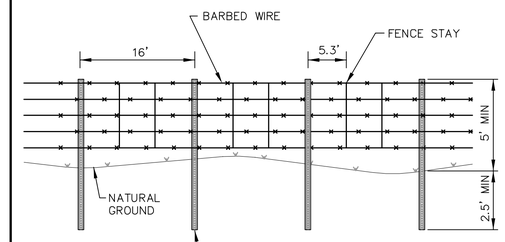
Westwood	TYPICAL STRUCTURAL CROSS SECTIONS	LAST REVISED: 10/02/18
		TS05



NOTE:

1. DOUBLE H–BRACING SHALL BE CONSTRUCTED ON EACH END OF THE GATE.
2. GATES ARE ONLY REQUIRED TO CONTAIN LIVESTOCK.

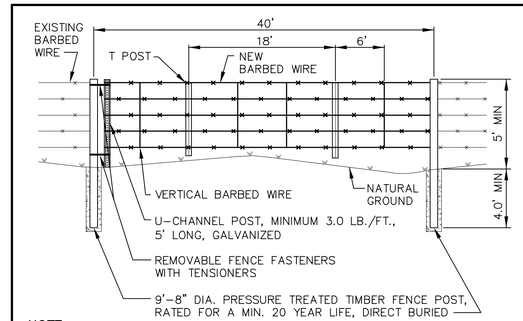
Westwood	TYPICAL SINGLE GATE	LAST REVISED: 04/08/09
		GA04



NOTE:

1. BARBED WIRE SHALL BE 3, 4, 5 OR 6 STRAND WIRE FENCE. MATCH EXISTING IF APPLICABLE.
2. ALL FENCES SHALL BE TIED BACK TO MAINTAIN TENSION ON EXISTING FENCE PRIOR TO CUTTING OF THE EXISTING FENCE.
3. CONTRACTOR SHALL VERIFY ELECTRIC FENCE CROSSING LOCATIONS PRIOR TO CONSTRUCTION AND REPLACE ANY DISTURBED ELECTRIC FENCE TO MATCH EXISTING CONDITIONS.

Westwood	PERMANENT FENCE	LAST REVISED: 05/14/09
		FN02



NOTE:

1. TO BE USED AT CROSS COUNTRY CRANE PATH AND ELECTRICAL FENCE CROSSINGS.
2. ALL FITTINGS, HARDWARE AND OTHER APPURTENANCES SHALL BE FABRICATED AND FITTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. ALL DIRECT BURIED POSTS SHALL BE BACKFILLED WITH TWO BAGS OF UNMIXED, NO WATER ADDED, QUICKRETE®, OR APPROVED EQUAL, FOLLOWED BY NATIVE SOIL.
4. BARBED WIRE SHALL MATCH EXISTING 4, 5, OR 6 WIRE FENCE.

Westwood	TEMPORARY FENCE CROSSING	LAST REVISED: 05/14/09
		FN04

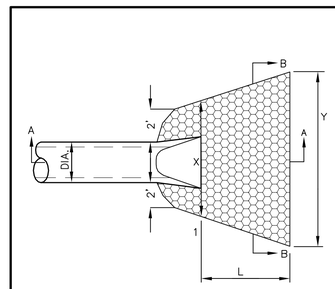
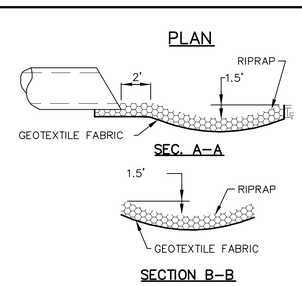


TABLE OF QUANITIES
RIPRAP AT OUTLETS

Dia. Round Pipe (in.)	L (Ft.)	X (Ft.)	Y (Ft.)	D_{50}(in)	Rock Depth (Ft.)
24	8	4.0	11	9	2.0
30	10	4.5	14	9	2.0
36	15	5.0	19	12	2.5
42	18	5.5	22	12	2.5
48	20	6.0	25	12	2.5
54	27	6.5	31.5	12	2.5
60	30	7.0	35	12	2.5



NOTE:

1. THE CONTRACTOR SHALL PLACE RIP RAP, PULVERIZED TOPSOIL, SEED AND WOODFIBER BLANKET IMMEDIATELY AFTER PIPE IS INSTALLED, EXTEND AREA TO MATCH UNDISTURBED SOIL.
2. CULVERTS LARGER THAN 60" SHALL HAVE STILLING BASINS INSTALLED.
3. RIP RAP NOT REQUIRED FOR CULVERTS 24" OR SMALLER IF CULVERTS DRAIN INTO AN UNDISTURBED VEGETATED AREA.
4. CULVERTS WITHIN THE ROW SHALL BE INSTALLED PER THE COUNTY REQUIREMENTS.
5. THE OUTLET PROTECTION SIZING RECOMMENDATION WAS TAKEN FROM HEC–14 CHAPTER 10.2 ISSUED BY THE US DEPARTMENT OF TRANSPORTATION.

Westwood	PERMANENT RIP RAP OUTLETS	LAST REVISED: 05/01/17
		ER05

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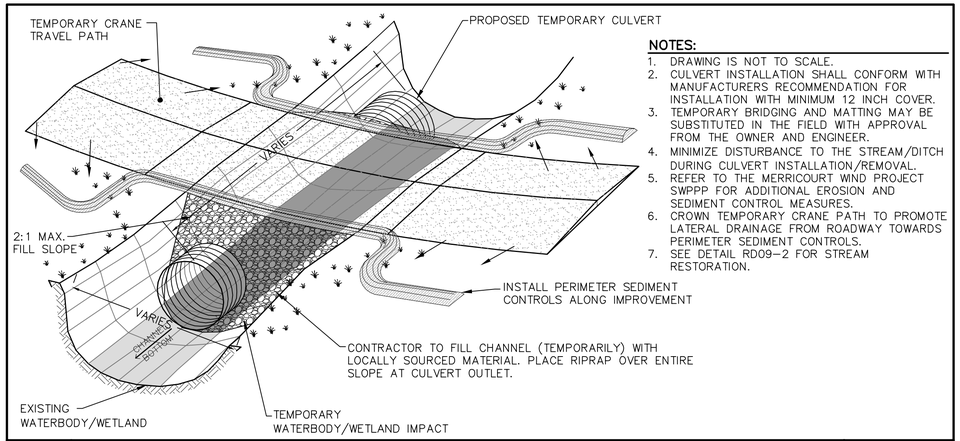
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Sheet: 5 OF 118

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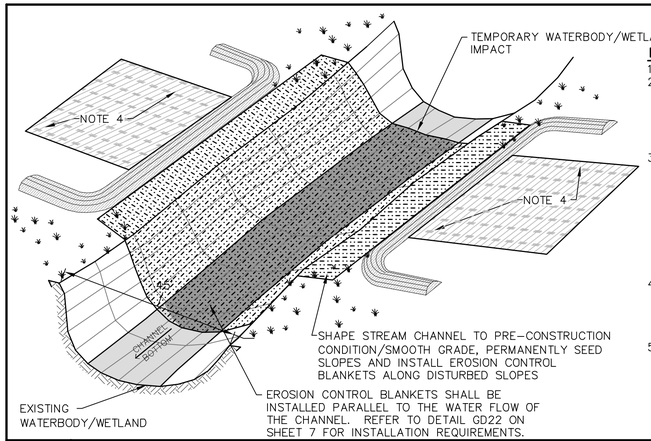
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NOTES:

1. DRAWING IS NOT TO SCALE.
2. CULVERT INSTALLATION SHALL CONFORM WITH MANUFACTURERS RECOMMENDATION FOR INSTALLATION WITH MINIMUM 12 INCH COVER.
3. TEMPORARY BRIDGING AND MATTING MAY BE SUBSTITUTED IN THE FIELD WITH APPROVAL FROM THE OWNER AND ENGINEER.
4. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING CULVERT INSTALLATION/REMOVAL.
5. REFER TO THE MERRICOURT WIND PROJECT SWPPP FOR ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
6. CROWN TEMPORARY CRANE PATH TO PROMOTE LATERAL DRAINAGE FROM ROADWAY TOWARDS PERIMETER SEDIMENT CONTROLS.
7. SEE DETAIL RD09–2 FOR STREAM RESTORATION.

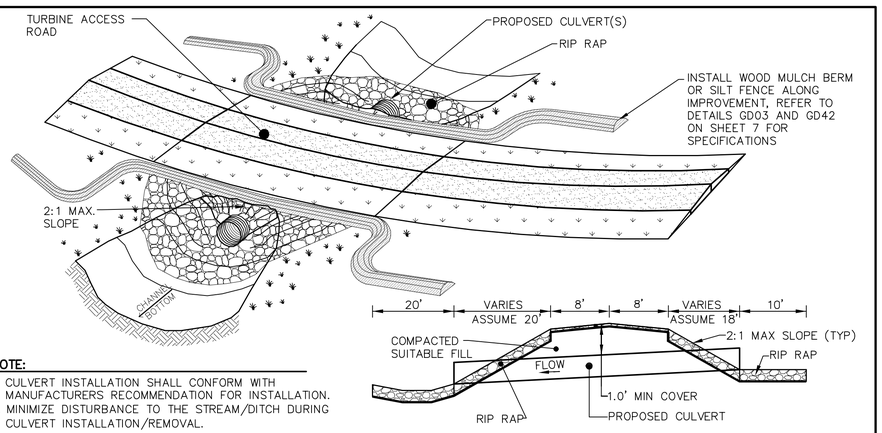
Westwood	TYPICAL TEMPORARY STREAM CROSSING WITH CULVERT – CRANE CROSSING	LAST REVISED: 11/30/17 RD09–1



NOTES:

1. DRAWING IS NOT TO SCALE.
2. UPON REMOVAL OF TEMPORARY STREAM CROSSING, THE DISTURBED AREA SHALL BE RESTORED TO PRE–CONSTRUCTION CONDITIONS. REFER TO THE MERRICOURT WIND PROJECT CIVIL PLAN SET SWPPP FOR RESTORATION AND SEEDING SPECIFICATIONS.
3. REMOVE RIP RAP, FILL MATERIAL AND SHAPE CHANNEL TO PRE–CONSTRUCTION CONDITION. PERMANENTLY SEED ALL DISTURBED SLOPES IN CONFORMANCE WITH THE MERRICOURT WIND PROJECT CIVIL PLAN SET SWPPP. INSTALL EROSION CONTROL BLANKETS, ADEQUATE FOR FLOW CONDITIONS, ON ALL DISTURBED SLOPES GREATER THAN 4:1, WHERE ANY FLOWS ARE CONCENTRATED AND WITHIN THE DITCHES WETTED PERIMETER.
4. DECOMPACT, REAPPLY TOPSOIL AND TILL DISTURBED AREA TO RESTORE TO PRE–CONSTRUCTION AGRICULTURAL CONDITION AND RESTORE ANY VEGETATED BUFFER THAT EXISTED PRE–CONSTRUCTION.
5. REMOVE WOOD MULCH BERM OR SILT FENCE ONCE FINAL STABILIZATION HAS OCCURRED WITH A MINIMUM OF 70% VEGETATION UPSTREAM OF SILT FENCE.

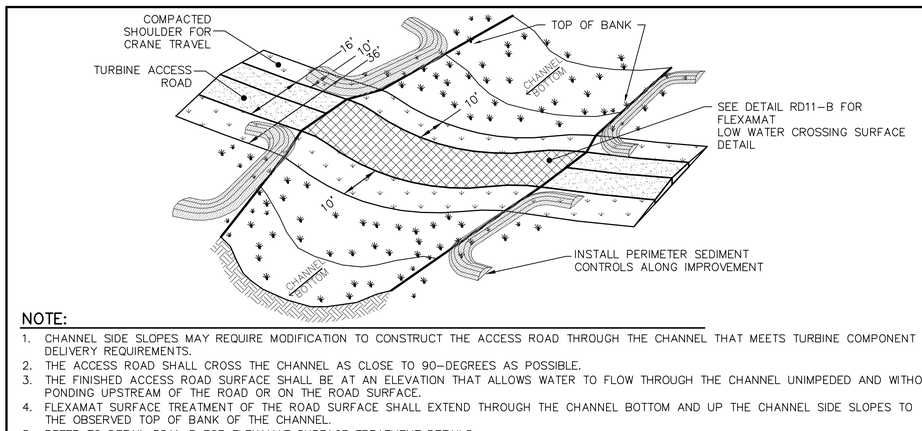
Westwood	TYPICAL TEMPORARY STREAM CROSSING RESTORATION	LAST REVISED: 3/19/12 RD09–2



NOTE:

1. CULVERT INSTALLATION SHALL CONFORM WITH MANUFACTURERS RECOMMENDATION FOR INSTALLATION.
2. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING CULVERT INSTALLATION/REMOVAL.

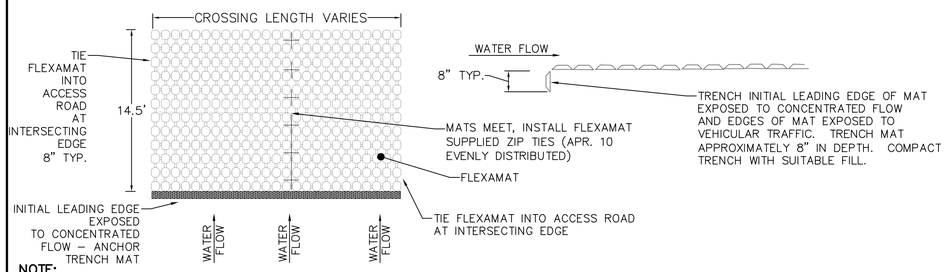
Westwood	TYPICAL PERMANENT TURBINE ACCESS ROAD STREAM CROSSING	LAST REVISED: 3/19/12 RD10



NOTE:

1. CHANNEL SIDE SLOPES MAY REQUIRE MODIFICATION TO CONSTRUCT THE ACCESS ROAD THROUGH THE CHANNEL THAT MEETS TURBINE COMPONENT DELIVERY REQUIREMENTS.
2. THE ACCESS ROAD SHALL CROSS THE CHANNEL AS CLOSE TO 90–DEGREES AS POSSIBLE.
3. THE FINISHED ACCESS ROAD SURFACE SHALL BE AT AN ELEVATION THAT ALLOWS WATER TO FLOW THROUGH THE CHANNEL UNIMPEDED AND WITHOUT PONDING UPSTREAM OF THE ROAD OR ON THE ROAD SURFACE.
4. FLEXAMAT SURFACE TREATMENT OF THE ROAD SURFACE SHALL EXTEND THROUGH THE CHANNEL BOTTOM AND UP THE CHANNEL SIDE SLOPES TO THE OBSERVED TOP OF BANK OF THE CHANNEL.
5. REFER TO DETAIL RD11–B FOR FLEXAMAT SURFACE TREATMENT DETAILS.

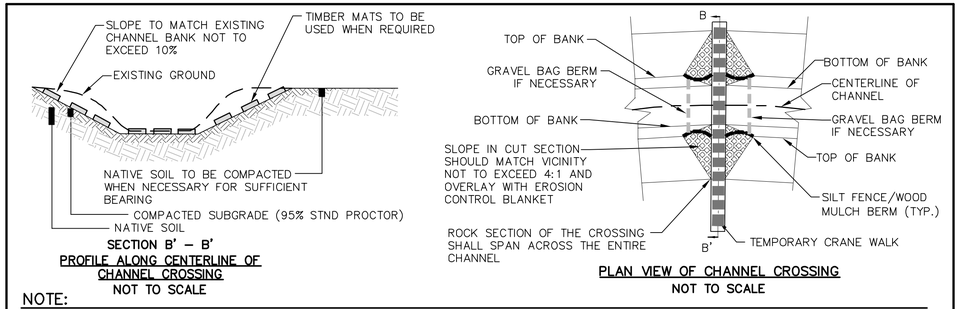
Westwood	PERMANENT TURBINE ACCESS ROAD LOW WATER CROSSING	LAST REVISED: 03/09/17 RD11–A



NOTE:

1. PREPARE THE SUB GRADE OF THE LOW WATER CROSSING SO THAT FLOW WILL BE DIRECTED TO THE CENTER OF THE CROSSING. ALL SUB GRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND PROVIDE A FIRM UNYIELDING FOUNDATION FOR THE MATS.
2. THE INITIAL LEADING EDGE OF FLEXAMAT EXPOSED TO CONCENTRATED FLOWS AND EDGES OF MAT EXPOSED TO VEHICULAR TRAFFIC SHALL BE EMBEDDED VERTICALLY INTO THE SUB GRADE TO SERVE AS AN ANCHOR TRENCH. THE TRENCH SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL.
3. FOR ADDITIONAL SECTIONS OF MAT, ABUT MATS TIGHTLY.
4. INSTALL FLEXAMAT SUPPLIED ZIP TIES (APPROXIMATELY 10 EVENLY SPACED) ALONG INTERSECTING FLEXAMAT SEAMS.

Westwood	TURBINE ACCESS ROAD LOW WATER CROSSING – FLEXAMAT	LAST REVISED: 03/07/17 RD11–B



NOTE:

1. CHANNEL SLOPES TO BE MODIFIED TEMPORARILY (NON JURISDICTIONAL WATERS/WETLANDS ONLY) DURING CONSTRUCTION TO ALLOW FOR CRANE CROSSING AND RESTORE TO ORIGINAL CONDITIONS UPON SITE RESTORATION.
2. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING CONDITIONS.
2. CROSSINGS SHALL HAVE THE TOP–MOST SURFACE LAYER A MINIMUM OF 2.5 INCHES BELOW THE STREAM CHANNEL BOTTOM.
3. THE CRANE WALK SHALL CROSS THE DITCH AT 90° ANGLE.
4. THE TOP BED OF THE CHANNEL CROSSING SHALL CONFORM TO THE EXISTING DITCH CROSS SECTIONAL SLOPES.
5. COMPACTION MAY BE FIELD ADJUSTED TO ACHIEVE SUFFICIENT BEARING CAPACITIES AS ARE NECESSARY FOR ANTICIPATED ROAD USE AS FIELD DETERMINED BY THE CRANE SUPERINTENDENT.
6. GRAVEL BAG BERMS MAY BE NECESSARY IF FLOWS AND DRAINAGE AREAS REQUIRE. SEE DETAIL RD13 FOR GRAVEL BAG BERM INSTALLATION.

Westwood	STREAM/WATERBODY/DRAINAGE SWALE TIMBER MAT CRANE CROSSING	LAST REVISED: 11/30/17 RD12

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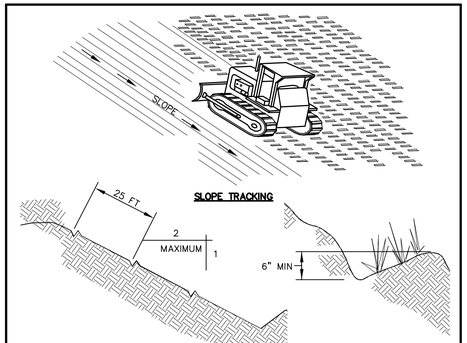
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Sheet: 6 OF 118

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SLOPE TRACKING

TEMPORARY CONTOUR FURROWS

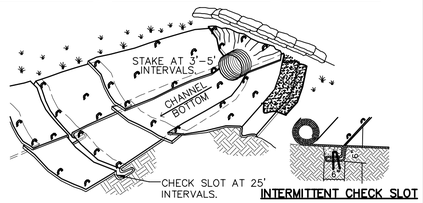
NOTE:

1. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF RATE.
2. USE SLOPE TRACKING FOR SLOPES 4:1 AND 50 FEET LONG OR STEEPER/LONGER.
3. USE TEMPORARY CONTOUR FURROWS FOR SLOPES 3:1 AND 75 FEET LONG OR STEEPER/LONGER.

Westwood	SURFACE ROUGHENING FOR ALL SLOPES GREATER THAN 4:1	LAST REVISED: 03/03/08 GD09



LONGITUDINAL ANCHOR TRENCH | **TERMINAL SLOPE AND CHANNEL ANCHOR TRENCH** | **INITIAL CHANNEL ANCHOR TRENCH**

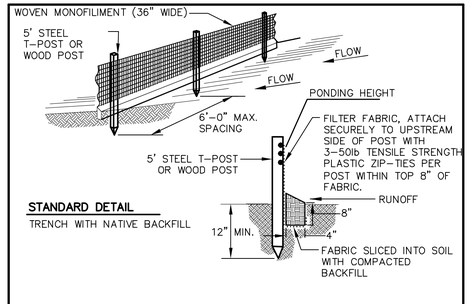


INTERMITTENT CHECK SLOT

NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. CHECK SLOTS TO BE CONSTRUCTED PER MANUFACTURERS SPECIFICATIONS.
3. STAKING OR STAPLING LAYOUT PER MANUFACTURERS SPECIFICATIONS.
4. MINIMUM OF 3.5 STAPLES/YARD.
5. BLANKET TYPE AND WEIGHT MUST BE CHOSEN BASED ON SITE CONDITIONS AND MANUFACTURERS RECOMMENDATIONS.
6. STAPLE LENGTHS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.
7. EROSION CONTROL BLANKETS SHALL EXTEND TO THE EDGE OF THE DISTURBANCE LIMITS.

Westwood	TEMPORARY EROSION BLANKETS TURF REINFORCEMENT MATS FOR CHANNELS	LAST REVISED: 03/03/08 GD22



STANDARD DETAIL

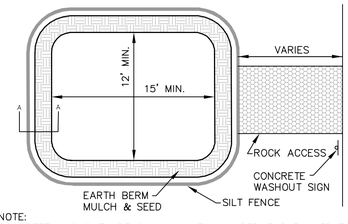
TRENCH WITH NATIVE BACKFILL

NOTE:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".
5. FIBER ROLLS MAY BE SUBSTITUTED FOR SILT FENCE, SEE DETAIL GD42.

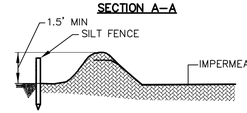
Westwood	SILT FENCE	LAST REVISED: 11/24/08 GD03

AN APPROVED ALTERNATE MAY BE USED

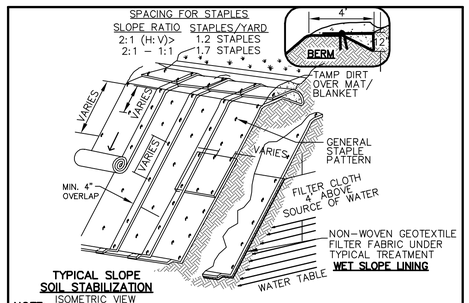


NOTE:
CONCRETE WASHOUT AREAS WILL HAVE AN IMPERMEABLE LINER TO PREVENT CONCRETE WASHOUT WATER FROM INFILTRATING/CONTACTING WITH SOIL. IMPERMEABLE LINER INCLUDES 10 MIL POLYLINER OR COMPACTED CLAY LINER. WASHOUT SYSTEMS CAN BE USED AS ALTERNATE WASHOUT AREAS.

SECTION A-A



Westwood	CONCRETE WASHOUT AREA	LAST REVISED: 11/24/08 GD08

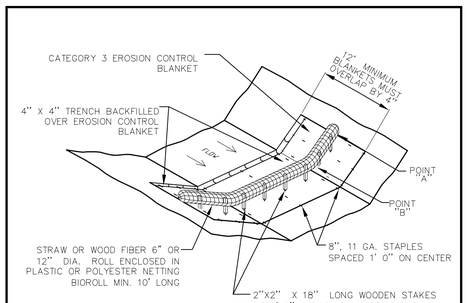


TYPICAL SLOPE SOIL STABILIZATION
ISOMETRIC VIEW

NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICK AND GRASS.
4. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
5. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL.
6. DO NOT STRETCH.
7. BLANKET TYPE AND WEIGHT MUST BE CHOSEN BASED ON SITE CONDITIONS, NDDOT PERFORMANCE FACTORS AND MANUFACTURERS RECOMMENDATIONS.
8. STAPLE LENGTHS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.

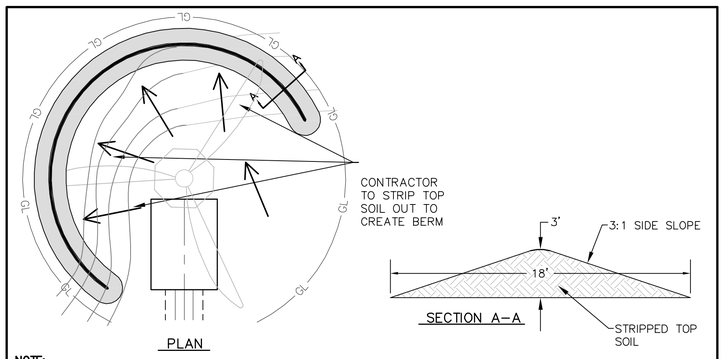
Westwood	TYPICAL SLOPE STABILIZATION – TEMPORARY EROSION BLANKETS TURF REINFORCEMENT MATS FOR SLOPES	LAST REVISED: 5/22/13 GD21



NOTE:

1. POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

Westwood	TEMPORARY BIOROLL BLANKET SYSTEM (DITCH APPLICATION)	LAST REVISED: 03/03/08 GD23



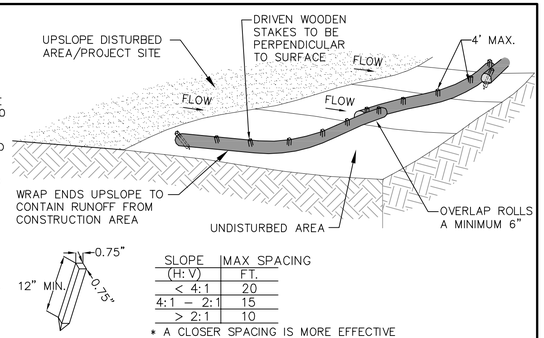
NOTE:

1. BERMS SHOULD BE PLACED AROUND DOWN GRADE PERIMETER OF PAD AREA TO PROVIDE PERIMETER SEDIMENT CONTROL.
2. TERMINAL ENDS OF BERM SHOULD BE HIGHER IN ELEVATION THAN THE TOP OF BERM.
3. TEMPORARY STABILIZATION OF TOP SOIL BERM COULD CONSIST OF HYDROMULCH OR STRAW MULCH (WEED FREE) AS NECESSARY.

Westwood	TYPICAL SOIL STOCKPILE BERM	LAST REVISED: 7/2/18 GD24

NOTES:

1. FIBER ROLLS SHALL BE INSTALLED PRIOR TO UPSLOPE DISTURBANCE ACTIVITIES COMMENCE.
2. FIBER ROLLS SHALL BE PREFABRICATED AND MADE FROM WEED FREE RICE STRAW, FLAX, OR A SIMILAR AGRICULTURAL MATERIAL BOUND INTO A TIGHT TUBULAR ROLL BY NETTING. USE A 6" OR 12" DIA. ROLL.
3. TRENCHES SHALL BE CREATED ALONG THE SLOPE OF THE PERIMETER. THE TRENCH DEPTH SHOULD BE 1/4 TO 1/3 OF THE THICKNESS OF THE ROLL, AND THE WIDTH SHOULD EQUAL THE ROLL DIAMETER, IN ORDER TO PROVIDE AREA TO BACKFILL THE TRENCH.
4. STAKE FIBER ROLLS INTO THE TRENCH. DRIVE STAKES AT THE END OF EACH FIBER ROLL AND SPACED 4 FEET MAXIMUM ON CENTER. USE WOOD STAKES WITH NOMINAL CLASSIFICATION OF 0.75 IN BY 0.75 IN. AND A MINIMUM LENGTH OF 24 IN.
5. ROLLS SHALL BE INSTALLED PERPENDICULAR TO WATER MOVEMENT, AND PARALLEL TO THE SLOPE CONTOUR.
6. TURN THE ENDS OF THE FIBER ROLLS UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL. THE UPSLOPE POINT SHOULD BE A MINIMUM 6" HIGHER IN ELEVATION THAN THE LOW POINT.
7. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 6 INCHES, NOT ABUTTED.
8. FIBER ROLLS ENCASED WITH PLASTIC NETTING ARE USED FOR A TEMPORARY APPLICATION ONLY AND SHOULD BE REMOVED FOLLOWING STABILIZATION. FIBER ROLLS USED IN A PERMANENT APPLICATION SHALL BE ENCASED WITH A BIODEGRADABLE MATERIAL AND MAY BE LEFT IN.
9. TEMPORARY INSTALLATIONS SHOULD ONLY BE REMOVED WHEN UP GRADIENT AREAS ARE STABILIZED PER GENERAL PERMIT REQUIREMENTS, AND/OR POLLUTANT SOURCES NO LONGER PRESENT A HAZARD. BUT, THEY SHOULD ALSO BE REMOVED BEFORE VEGETATION BECOMES TOO MATURE SO THAT THE REMOVAL PROCESS DOES NOT DISTURB MORE SOIL AND VEGETATION THAN IS NECESSARY
10. FIBER ROLLS MUST BE INSPECTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS FOR THE ASSOCIATED PROJECT TYPE AND RISK LEVEL. IT IS RECOMMENDED THAT AT A MINIMUM, THE BMPS BE INSPECTED WEEKLY, PRIOR TO FORECASTED RAIN EVENTS, DAILY DURING EXTENDED RAIN EVENTS, AND AFTER THE CONCLUSION OF RAIN EVENTS.

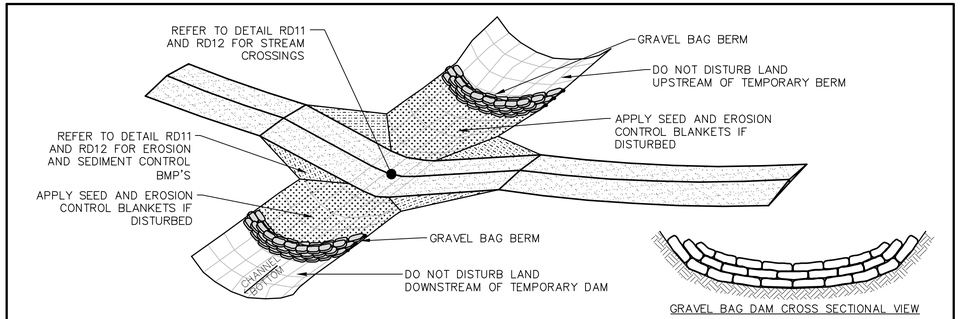


SLOPE (H:V)	MAX SPACING FT.
< 4:1	20
4:1 – 2:1	15
> 2:1	10

* A CLOSER SPACING IS MORE EFFECTIVE

12. REPAIR OR REPLACE SPLIT, TORN, UNRAVELING, OR SLUMPING FIBER ROLLS.
13. SEDIMENT THAT ACCUMULATES UPSLOPE OF THE BMP SHOULD BE PERIODICALLY REMOVED IN ORDER TO MAINTAIN BMP EFFECTIVENESS. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-THIRD THE DESIGNATED SEDIMENT STORAGE DEPTH.
14. RILLS OR GULLIES MAY BEGIN TO FORM FOLLOWING MAJOR STORM EVENTS WHERE RUNOFF HAS OVERTOPPED THE FIBER ROLLS. THESE RILLS OR GULLIES SHOULD BE PROMPTLY REPAIRED.

Westwood	TYPICAL FIBER ROLLS FOR PERIMETER CONTROL OF CONSTRUCTION AREA LIMIT	LAST REVISED: 09/09/13 GD42



GRAVEL BAG DAM CROSS SECTIONAL VIEW

NOTE:

1. REFER TO DETAIL RD11 AND RD12 FOR STREAM CROSSINGS.
2. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING GRAVEL BAG BERM INSTALLATION.
3. GRAVEL USED WITHIN THE BAGS SHALL BE PEA ROCK.
4. GRAVEL BAG BERMS SHALL SPAN LATERALLY ACROSS THE STREAM FROM TOP OF BANK TO TOP OF BANK.
5. UPON CRANE TRAVEL COMPLETION, REMOVE GRAVEL BAG BERM AND RESTORE TO ORIGINAL CONDITION.
6. GRAVEL BAG BERMS MAY BE NECESSARY IF FLOWS AND DRAINAGE AREAS REQUIRE.

Westwood	TEMPORARY GRAVEL BAG BERM AT DRAINAGE CROSSING LOCATIONS	LAST REVISED: 3/19/12 RD13

Westwood

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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

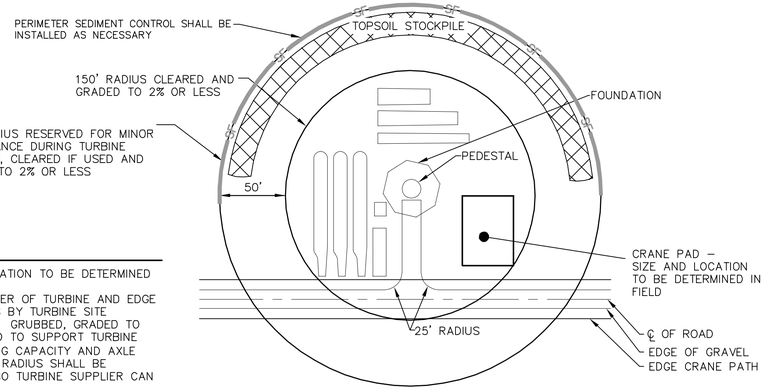
Construction Details

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Date: 08/01/19
Sheet: 7 OF 118

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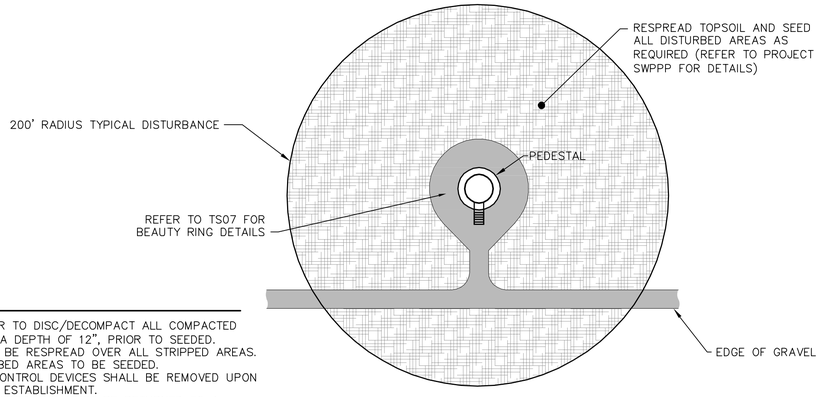
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NOTE:

1. ACTUAL CRANE PAD LOCATION TO BE DETERMINED BY CONTRACTOR.
2. DISTANCE BETWEEN CENTER OF TURBINE AND EDGE OF GRAVEL ROAD VARIES BY TURBINE SITE
3. RADIUS TO BE CLEARED, GRUBBED, GRADED TO 2% MAX AND COMPACTED TO SUPPORT TURBINE MANUFACTURER'S BEARING CAPACITY AND AXLE LOADING REQUIREMENTS. RADIUS SHALL BE GRUBBED AND GRADED SO TURBINE SUPPLIER CAN UNLOAD AND DRIVE OUT.
4. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AS DETERMINED IN THE FIELD

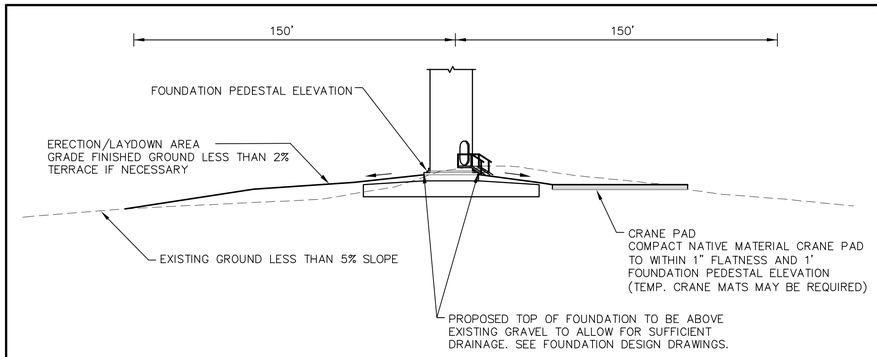
Westwood	TYPICAL WTG ERECTION AREA – PLAN VIEW	LAST REVISED: 11/30/17 TS01



NOTES:

1. CONTRACTOR TO DISC/DECOMPACT ALL COMPACTED AREAS, TO A DEPTH OF 12", PRIOR TO SEEDED.
2. TOPSOIL TO BE RESPREAD OVER ALL STRIPPED AREAS.
3. ALL DISTURBED AREAS TO BE SEEDED.
4. SEDIMENT CONTROL DEVICES SHALL BE REMOVED UPON FINAL TURF ESTABLISHMENT.
5. DISTURBED CROPLAND MUST BE RETURNED TO A FARMABLE CONDITION.

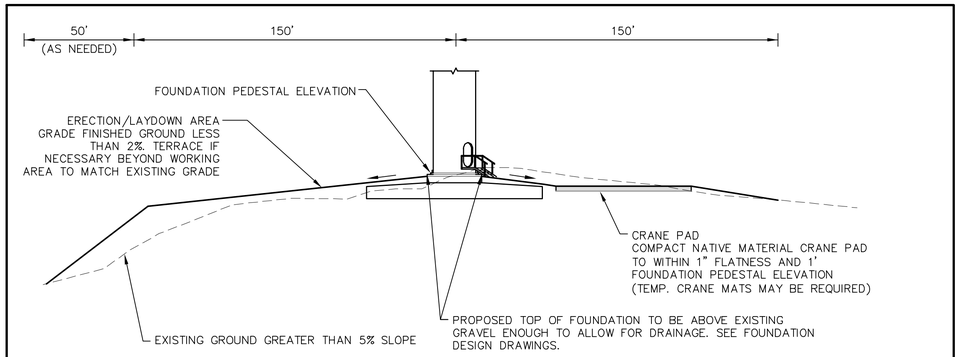
Westwood	POST–CONSTRUCTION WTG ERECTION AREA – RESTORATION	LAST REVISED: 05/23/18 TS02



NOTE:

1. RADIUS TO BE CLEARED, GRUBBED, GRADED TO 2% MAX AND COMPACTED TO SUPPORT TURBINE MANUFACTURER'S BEARING CAPACITY AND AXLE LOADING REQUIREMENTS.
2. PROVISIONS MAY BE MADE FOR DEAD–END TURNAROUNDS AT TURBINE SITES TO ACCOMMODATE DELIVERY VEHICLES. REFER TO THE VESTAS CIVIL WORKS SPECIFICATIONS.

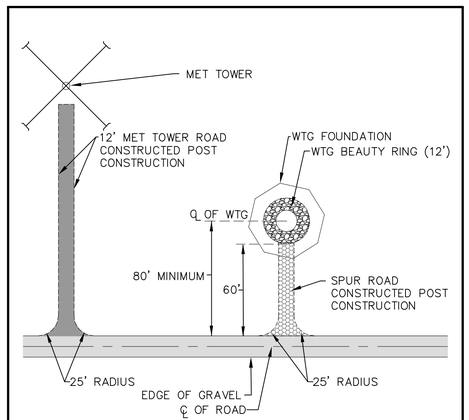
Westwood	TYPICAL WTG ERECTION AREA – PROFILE VIEW	LAST REVISED: 07/24/18 TS03



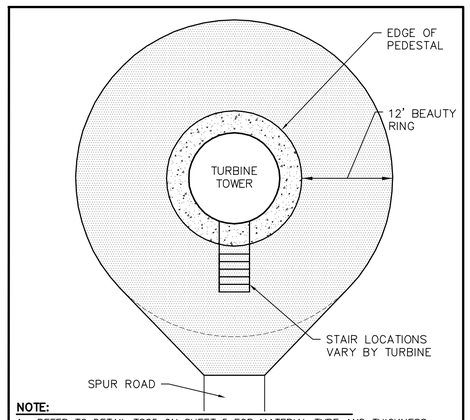
NOTE:

1. RADIUS TO BE CLEARED, GRUBBED, GRADED TO 2% MAX AND COMPACTED TO SUPPORT TURBINE MANUFACTURER'S BEARING CAPACITY AND AXLE LOADING REQUIREMENTS.
2. PROVISIONS MAY BE MADE FOR DEAD–END TURNAROUNDS AT TURBINE SITES TO ACCOMMODATE DELIVERY VEHICLES. REFER TO THE VESTAS CIVIL WORKS SPECIFICATIONS.

Westwood	TYPICAL WTG ERECTION AREA, EXISTING GROUND GREATER THAN 5% – PROFILE VIEW	LAST REVISED: 07/24/18 TS04



Westwood	TYPICAL SPUR ROAD	LAST REVISED: 11/30/17 TS06



NOTE:

1. REFER TO DETAIL TS05 ON SHEET 5 FOR MATERIAL TYPE AND THICKNESS.

Westwood	BEAUTY RING DETAIL	LAST REVISED: 06/23/15 TS07

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Prepared for:

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a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

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Sheet: 8 OF 118

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TURBINE COORDINATES

(HARN/NORTH DAKOTA STATE PLANE - SOUTH ZONE, US FOOT)

Turbine Number	Northing	Easting	Turbine Number	Northing	Easting
T-1	176009.494050	2325243.059225	T-43	160453.274931	2331448.075756
T-2	174636.729120	2324328.552896	ALT-44	162568.558496	2333952.921972
T-3	169213.468847	2325967.630779	T-45	157574.104142	2332980.666479
T-4	169377.593518	2324843.497461	T-46	160223.851450	2341576.566359
T-5	171743.735290	2324345.834119	T-47	155000.791637	2341133.074715
T-6	168199.201101	2323857.002807	T-48	154065.903150	2338560.085529
T-7	166472.499991	2326246.190246	T-49	153940.457047	2336898.957312
T-8	165947.278846	2325471.877306	T-50	153902.063874	2335469.708136
T-9	165925.926046	2323862.013118	T-51	151775.976721	2342213.782661
T-10	166870.065418	2322171.795067	T-52	150978.291324	2341459.894001
T-11	169124.036931	2322243.721727	T-53	149980.264839	2340717.613312
ALT-12	165546.358807	2321007.734627	T-54	176436.711598	2346986.188078
ALT-13	165572.726068	2319535.500371	T-55	176568.731121	2348972.825740
T-14	174527.609465	2327860.731911	T-56	172360.419748	2344378.461264
T-15	171990.433179	2327397.020135	T-57	167451.947748	2343359.327799
T-16	168083.770412	2327804.669909	T-58	167862.701609	2344628.382685
T-17	168428.946910	2328837.470728	T-59	163682.728821	2344748.119119
T-18	169693.902218	2330180.373523	T-60	166146.681933	2347250.228298
T-19	165750.043476	2328307.510445	T-61	163609.881503	2347472.774474
T-20	165765.180085	2330210.012826	T-62	161941.916500	2347164.687303
T-21	165791.017571	2331337.849662	T-63	159517.043511	2343309.922815
T-22	166703.765053	2332603.932236	T-64	160259.738545	2344784.531594
T-23	167446.382566	2333155.313877	T-65	155704.755939	2343362.023001
T-24	166597.025868	2335259.535057	T-66	156227.472723	2344390.840984
T-25	166053.964518	2337050.103721	T-67	152547.388021	2344140.080936
T-26	178640.119996	2330228.057833	T-68	152853.290698	2346271.077205
T-27	176254.934824	2330602.928663	T-69	151397.970343	2345971.941532
T-28	174618.682242	2330147.520197	T-70	175600.065517	2351918.705336
T-29	176110.980914	2336249.030756	T-71	175667.161213	2350865.658976
T-30	176357.621228	2339000.681618	T-72	171395.740608	2349182.249138
T-31	176156.843931	2341245.400111	T-73	170622.245814	2347316.870051
T-32	179497.289251	2341512.383935	T-74	169806.683816	2346725.857732
ALT-33	172301.046695	2335817.200632	T-75	175489.255025	2353890.208280
T-34	173317.066451	2338433.116397	ALT-76	174475.575241	2333760.142953
T-35	168497.886965	2336729.746213	T-77	176210.921037	2334880.494860
T-36	167363.231134	2342032.480220	T-78	172985.825375	2350997.820961
T-37	166996.913241	2341120.969981	ALT-79	174148.645125	2346708.002231
T-38	166869.238630	2339786.103248	T-80	172779.671717	2340943.500800
T-39	166032.955640	2339143.135282	T-81	169903.615032	2337751.037291
T-40	157678.126149	2327388.912994	MET1	180276.378896	2340900.632976
T-41	157611.874800	2329053.931479	MET2	153629.462863	2337781.805320
T-42	160335.232551	2328073.230221	TEMP-MET3	176829.991476	2346087.552181

ENTRANCE CULVERT SCHEDULE

Entrance Culvert Number	10-year Culvert Sizing	Access Road	Site Plan Sheet	Plan & Profile Sheet
EC-1	1-18"	Road 26	11	61
EC-2	1-18"	Road 32	12	67
EC-3	1-18"	Road 2	13	41
EC-4	1-18"	Road 14	14	52
EC-5	1-18"	Road 15	14	53
EC-6	1-24"	Road 77	15	112
EC-7	1-18"	Road 30	16	65
EC-8	1-18"	Road 31	16	66
EC-9	1-18"	Road 74	18	108
EC-10	1-36", 2-30", 3-24"	Road 18	21	55
EC-11	1-18"	Road 39	23	74
EC-12	1-18"	Road 58	24	93
EC-13	1-18"	Road 60	31	94
EC-14	1-18"	Road 42	32	78
EC-15	1-18"	Road 43	32	79
EC-16	1-18"	Road 45	33	80
EC-17	1-18"	Road 46	34	81
EC-18	1-18"	Road 50	37	83
EC-19	1-18"	Road 69	38	103

NOTES:
1. ENTRANCE CULVERTS HAVE BEEN SIZED TO A 10-YEAR HYDRAULIC ANALYSIS.
2. CULVERTS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE VERIFIED WITH THE LOCAL JURISDICTION PRIOR TO INSTALLATION.

DRAINAGE CROSSING SCHEDULE

Crossing Number	Recommended Crossing Type	Size	Min. CMP Length	Alternate Design	Road	Station	Site Plan Sheet	Plan & Profile Sheet	Crossing Facility	Notes
1	CMP	2-18"	35'	LWC - FLEXAMAT	Road 2	4+00	13	41	Access Road	LWC acceptable if crossing at grade
2	CMP	1-18"	55'		Road 2	11+00	13	41	Access Road, Crane Path	
3	CMP	1-18"	55'		Road 2	13+40	13	41	Access Road, Crane Path	
4	CMP	1-18"	60'		Road 2	21+50	13	41	Access Road, Crane Path	
5	CMP	1-18"	60'		Road 5	29+60	13	44	Access Road, Crane Path	
6	CMP	1-18"	50'		Road 14	7+70	14	52	Access Road, Crane Path	
7	CMP	1-18"	35'		Road 15	4+00	14	53	Access Road	
8	CMP	1-18"	35'		Road 30	0+70	16	65	Access Road	
9	CMP	1-18"	65'		Road 34	113+50	16	72	Access Road, Crane Path	
10	CMP	1-18"	55'		Road 80	9+10	16	114	Access Road, Crane Path	
11	CMP	1-18"	55'		Road 80	15+00	16	114	Access Road, Crane Path (offset)	
12	CMP	1-18"	40'		Road 56	10+20	17	92	Access Road	
13	CMP	1-18"	45'		Road 54	0+75	17	90	Access Road	
14	CMP	1-18"	35'		Road 71	0+40	18	106	Access Road	
15	CMP	1-18"	50'		Road 75	11+40	19	111	Access Road, Crane Path	
16	CMP	1-18"	55'		Road 75	13+80	19	111	Access Road, Crane Path	
17	CMP	1-18"	55'		Road 3	19+90	20	42	Access Road, Crane Path	
18	CMP	2-30"	60'		Road 6	14+40	20	46	Access Road, Crane Path	
19	CMP	1-18"	55'		Road 6	20+60	20	46	Access Road, Crane Path	
20	CMP	1-18"	75'	LWC - FLEXAMAT	Road 11	3+20	20	48	Access Road, Crane Path	LWC acceptable if crossing at grade
21	CMP	1-18"	85'		Road 11	6+80	20	48	Access Road, Crane Path	
22	CMP	1-18"	60'		Road 11	17+40	20	48	Access Road, Crane Path	
23	CMP	1-18"	65'	LWC - FLEXAMAT	Road 11	29+50	20	49	Access Road, Crane Path	LWC acceptable if crossing at grade
24	LWC	FLEXAMAT	45'	CMP - 1-18"	Road 11	62+50	20	50	Access Road, Crane Path	Culvert needed if filled
25	CMP	1-24" or 2-18"	50'	LWC - FLEXAMAT	Road 11	68+10	20	51	Access Road, Crane Path	LWC acceptable if crossing at grade
26	CMP	1-18"	50'		Road 18	15+70	21	55	Access Road, Crane Path	
27	CMP	1-18"	60'	LWC - FLEXAMAT	Road 18	19+85	21	55	Access Road, Crane Path	LWC acceptable if crossing at grade
28	CMP	1-18"	60'	LWC - FLEXAMAT	Road 18	21+65	21	55	Access Road, Crane Path	LWC acceptable if crossing at grade
29	CMP	1-18"	70'		Road 18	31+45	21	56	Access Road, Crane Path	
30	CMP	1-18"	60'		Road 18	33+30	21	56	Access Road, Crane Path	
31	CMP	1-24" or 2-18"	60'		Road 18	36+25	21	56	Access Road, Crane Path	
32	CMP	1-18"	70'		Road 18	37+85	21	56	Access Road, Crane Path	
33	CMP	1-18"	55'		Road 18	41+20	21	56	Access Road, Crane Path	
34	CMP	1-18"	80'		Road 18	45+60	21	56	Access Road, Crane Path	
35	CMP	1-18"	60'		Road 17	5+25	21	54	Access Road, Crane Path	
36	CMP	1-18"	65'	LWC - FLEXAMAT	Road 23	5+20	22	59	Access Road, Crane Path	
37	CMP	1-18"	75'		Road 23	6+40	22	59	Access Road, Crane Path	
38	CMP	1-18"	50'		Road 34	30+00	22	69	Access Road, Crane Path	
39	CMP	1-18"	55'		Road 34	31+50	22	69	Access Road, Crane Path	
40	CMP	1-18"	60'		Road 34	34+70	22	69	Access Road, Crane Path	
41	CMP	1-18"	55'		Road 34	41+40	22	69	Access Road, Crane Path	
42	CMP	1-18"	55'		Road 34	53+85	22	70	Access Road, Crane Path	
43	CMP	1-36" or 2-30" or 3-24"	45'		Road 34	76+00	22	71	Access Road, Crane Path	
44	LWC	FLEXAMAT	50'	CMP - 1-18"	Road 34	78+00	22	71	Access Road, Crane Path	Culvert needed if filled
45	CMP	1-18"	55'		Road 39	10+20	23	74	Access Road, Crane Path	
46	CMP	1-18"	60'		Road 39	12+35	23	74	Access Road, Crane Path	
47	CMP	1-18"	65'		Road 39	17+25	23	74	Access Road, Crane Path	
48	CMP	1-18"	55'		Road 39	26+25	23	75	Access Road, Crane Path	
49	CMP	1-18"	55'		Road 39	28+25	23	75	Access Road, Crane Path	
50	CMP	1-18"	65'		Road 58	4+05	24	93	Access Road, Crane Path	
51	CMP	1-18"	55'		Road 58	9+20	24	93	Access Road, Crane Path	
52	CMP	1-18"	70'		Road 58	15+30	24	93	Access Road, Crane Path	
53	CMP	1-18"	50'	LWC - FLEXAMAT	Road 73	0+55	24	107	Access Road, Crane Path	LWC acceptable if crossing at grade
54	CMP	1-18"	50'		Road 74	29+60	25	109	Access Road, Crane Path	
55	CMP	1-18"	60'		Road 74	40+20	25	109	Access Road, Crane Path	
56	LWC	FLEXAMAT	50'	CMP - 1-18"	Road 74	43+20	25	109	Access Road, Crane Path	Culvert needed if filled
57	CMP	1-18"	70'		Road 34	11+65	29	68	Access Road, Crane Path	
58	CMP	1-18"	80'		Road 34	13+20	29	68	Access Road, Crane Path	
59	CMP	1-18"	60'		Road 34	15+25	29	68	Access Road, Crane Path	
60	CMP	1-18"	75'		Road 34	18+40	29	68	Access Road, Crane Path	
61	CMP	1-18"	70'		Road 25	5+55	29	60	Access Road, Crane Path	
62	CMP	1-18"	60'		Road 39	36+65	30	75	Access Road, Crane Path	
63	CMP	1-24" or 2-18"	65'		Road 60	1+20	31	94	Access Road, Crane Path	
64	CMP	1-18"	60'	LWC - FLEXAMAT	Road 60	19+90	31	94	Access Road, Crane Path	LWC acceptable if crossing at grade
65	CMP	1-18"	50'		Road 60	25+80	31	95	Access Road, Crane Path	
66	CMP	1-18"	60'		Road 60	41+00	31	95	Access Road, Crane Path	
67	LWC	FLEXAMAT	45'	CMP - 1-18"	Road 60	50+20	31	96	Access Road, Crane Path	Culvert needed if filled
68	CMP	1-24" or 2-18"	75'	LWC - FLEXAMAT	Road 61	28+55	31	98	Access Road, Crane Path	LWC acceptable if crossing at grade
69	CMP	1-18"	60'		Road 61	31+30	31	98	Access Road, Crane Path	
70	LWC	FLEXAMAT	45'	CMP - 1-18"	Road 62	4+15	31	99	Access Road, Crane Path	Culvert needed if filled
71	CMP	1-18"	60'		Road 62	12+60	31	99	Access Road, Crane Path	
72	CMP	1-24"or 2-18"	55'		Road 41	5+65	32	76	Access Road	
73	CMP	1-18"	45'		Road 41	12+75	32	76	Access Road, Crane Path	
74	CMP	1-18"	35'		Road 42	7+00	32	78	Access Road	
75	CMP	1-18"	35'		Road 43	4+35	32	79	Access Road	
76	CMP	1-18"	40'		Road 46	0+85	34	81	Access Road, Crane Path	
77	CMP	1-18"	55'		Road 64	12+70	35	100	Access Road, Crane Path	
78	CMP	1-18"	65'		Road 50	60+25	36	85	Access Road, Crane Path	
79	CMP	1-18"	50'		Road 50	22+30	37	84	Access Road, Crane Path	
80	CMP	1-18"	55'		Road 50	25+60	37	84	Access Road, Crane Path	
81	CMP	1-24" or 2-18"	60'	LWC - FLEXAMAT	Road 50	32+35	37	84	Access Road, Crane Path	LWC acceptable if crossing at grade
82	LWC	FLEXAMAT	45'	CMP - 1-18"	Road 50	46+80	37	85	Access Road, Crane Path	Culvert needed if filled
83	CMP	1-24" or 2-18"	55'		Road 50	51+60	37	85	Access Road, Crane Path	
84	CMP	1-18"	55'		Road 69	3+40	38	103	Access Road, Crane Path	
85	CMP	1-18"	40'		Road 69	13+20	38	103	Access Road, Crane Path	
86	CMP	1-18"	55'		Road 69	21+80	38	104	Access Road, Crane Path	
87	LWC	FLEXAMAT	60'	CMP - 1-18"	Road 69	39+20	38	104	Access Road, Crane Path (offset)	Culvert needed if filled
88	CMP	1-18"	60'	LWC - FLEXAMAT	Road 69	45+40	38	105	Access Road, Crane Path	LWC acceptable if crossing at grade
89	CMP	EXISTING	20'		Temp Road A	6+75	23	116	Access Road	Extend or replace as necessary
90	LWC	FLEXAMAT	20'	CMP - 1-18"	Temp Road A	22+85	23	116	Access Road	Culvert needed if filled
91	CMP	1-42" or 2-30" or 3-24"	40'		Temp Road A	44+40	23	117	Access Road	
92	CMP	1-36" or 2-30" or 3-24"	40'		Temp Road A	56+70	23	118	Access Road	

NOTES:
1. A 10-YEAR HYDRAULIC ANALYSIS WAS USED FOR CULVERT SIZING AND A 50-YEAR HYDRAULIC ANALYSIS WAS USED FOR LOW WATER CROSSINGS.
2. WHERE MULTIPLE CULVERT SIZES ARE CALLED OUT, CONTRACTOR MAY CHOOSE THE BEST FIT BASED OFF FIELD CONDITION. EITHER SIZING IS ACCEPTABLE.
3. EITHER CULVERT OR LWC IS ACCEPTABLE WHERE NOTED IN THE DRAINAGE CROSSING SCHEDULE.

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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

Construction Details

Issued for Construction

Date: 08/01/19

Sheet: 9 OF 118

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ROAD DESIGN PARAMETERS

1. ACCESS ROADS HAVE BEEN DESIGNED TO ACCOMMODATE LIGHT DUTY TRUCKS (PICKUP TRUCKS AND MAINTENANCE VEHICLES) FOR LOW VOLUME USE IN NORMAL OPERATING CONDITIONS AS WELL AS HEAVY DUTY CONSTRUCTION TRAFFIC UNDER DRY CONDITIONS . THE ROAD DESIGN SPECIFIED IS NOT INTENDED FOR ALL WEATHER USE FOR HEAVY DUTY CONSTRUCTION LOADS.
2. ROAD MAINTENANCE CAN BE EXPECTED OVER THE LIFE OF THE PERMANENT FACILITY.

PRODUCTS

1. AGGREGATE BASE SHALL CONSIST OF NDDOT SPECIFICATION 302 AND 816 (AND IN CONFORMANCE WITH THE GRADATION TABLE 1), AGGREGATE MAY BE CRUSHER RUN UPON ENGINEERS APPROVAL. AGGREGATE GRADATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.
2. ROAD SHOULDERS AND CRANE PADS SHALL CONSIST OF COMPACTED NATIVE SOILS.
3. CULVERTS: ACCESS ROAD CULVERTS SHALL MEET THE MINIMUM SPECIFICATIONS SET FORTH BY THE NORTH DAKOTA DEPARTMENT OF TRANSPORTATION AND/OR MCINTOSH COUNTY. ALL CULVERTS ARE PLANNED TO BE A MINIMUM 18" DIAMETER AND MANUFACTURED OF 16–GAGE CORRUGATED METAL PIPE WITH NO END TREATMENTS UNLESS NOTED OTHERWISE.
4. GEOTEXTILE FABRIC: MIRAFI HP270 OR APPROVED EQUAL.
5. FILL PLACEMENT: NATIVE SOIL USED TO CONSTRUCT FILL PLACEMENT BELOW ROADS, CRANE WALKS, TEMPORARY TURNING IMPROVEMENTS, LAYDOWN YARD AND WTG ERECTION AREAS.

EXECUTION

1. CLEARING AND GRUBBING
   A. THE CONTRACTOR SHALL BE REQUIRED TO GRUB ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING AREAS SHOWN ON THE PLANS. GRUBBING INCLUDES REMOVAL OF ALL PLANT MATERIAL GREATER THAN 2" INCLUDING STUMPS, BRANCHES, ROOTS, ETC. TO A DEPTH BELOW THE FINAL SUBGRADE. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
2. TOPSOIL STRIPPING
   A. TOPSOIL, INCLUDING ROOTS LARGER THAN 2" AND LARGE ROOT MASSES, SHALL BE STRIPPED FROM ALL ROADWAY AND FOUNDATION AREAS UP TO 8". TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
   B. ANY TOPSOIL THAT HAS BEEN STRIPPED SHALL BE STOCKPILED FOR POST CONSTRUCTION REVEGETATION. ALL TOPSOIL SHALL BE REDISTRIBUTED TO THE LAND OWNER'S PROPERTY OF WHERE IT ORIGINATED FROM.
3. FILL PLACEMENT
   A. FILL PLACEMENT SHALL CONSIST OF THE PLACING OF SUITABLE FILL MATERIAL, AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE. GENERALLY, SIDE SLOPES SHALL BE CONSTRUCTED AT FOUR FOOT HORIZONTAL TO ONE FOOT VERTICAL, WITH SOME LOCATIONS THROUGHOUT THE PROJECT WITH SLOPES OF TWO FEET HORIZONTAL TO ONE FOOT VERTICAL. THE MATERIAL FOR FILL CONSTRUCTION SHALL BE OBTAINED FROM THE ACCESS ROAD/TURBINE EXCAVATION (SEE GEOTECHNICAL REPORT FOR RESTRICTIONS), OR ANY SUITABLE, APPROVED SOIL OBTAINED ONSITE/OFFSITE BY CONTRACTOR, AS DIRECTED OR APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" AND CONSTRUCTED TO 95% OF THE MAXIMUM DRY DENSITY AND WITHIN 3% OF OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE STANDARD PROCTOR (AASHTO T99).
   B. SIDE SLOPES GREATER THAN 4:1 WILL NOT BE PERMITTED, UNLESS OTHERWISE NOTED ON THE PLAN.
   C. FILL SLOPES SHALL BE BENCHED INTO THE EXISTING SLOPE TO PREVENT MOVEMENT BETWEEN THE FILL AND NATIVE SOILS. BENCHES SHOULD BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO FILL PLACEMENT. POSITIVE DRAINAGE IS REQUIRED AT BENCHED AREAS AND AT THE TOE OF FILL SLOPES TO REMOVE SURFACE WATER.
4. SUBGRADE
   A. SUBGRADE PREPARED AT GRADE OR IN CUT REQUIRES SCARIFICATION AND RECOMPACTION TO A DEPTH OF 12" OR MORE.
   B. ACCESS ROAD CROSS SLOPES SHOWN IN THE PLANS ARE MEANT AS A GUIDE. ACCESS ROAD CROSS SLOPES MAY RANGE FROM 1% – 2%, CHECK WITH THE ENGINEER IF THE CROSS SLOPE FALLS OUTSIDE OF THIS RANGE. ACCESS ROADS BEING UTILIZED FOR CRANE TRAVEL SHOULD HAVE A MAX CROSS SLOPE OF 2%

STORM WATER DESIGN PARAMETERS

1. SEE SHEET 9 FOR CULVERT SIZING AND DESIGN PARAMETERS. CULVERTS SHALL BE MINIMUM 18" CORRUGATED METAL PIPE. ALL TEMPORARY PORTIONS OF THE INSTALLED CULVERTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
2. IT IS EXPECTED THAT CULVERTS WILL BE OVERTOPPED DURING SOME STORMS AND MAINTENANCE WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT.
3. WHEN INSTALLING DRAINAGE CULVERTS THE CONTRACTOR SHALL USE JUDGMENT IN SETTING THE FLOW LINE ELEVATIONS AND CULVERT LONGITUDINAL SLOPE. TYPICALLY THE FLOW LINE ELEVATIONS AND LONGITUDINAL SLOPE OF THE CULVERT SHOULD MATCH THE NATURAL GROUND ELEVATIONS AND SLOPE TO ENSURE POSITIVE DRAINAGE. WHEN POSSIBLE, ALL CULVERTS SHOULD BE PLACED AT A MINIMUM 0.5% GRADE.
4. ANTICIPATED CULVERT CROSSINGS ARE SHOWN ON THE CONSTRUCTION PLAN, ADDITIONAL CULVERTS MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED DUE TO CONSTRUCTION ACTIVITIES.
5. CONSTRUCTION DRAINAGE CROSSINGS TO MAINTAIN EXISTING FLOW CHARACTERISTICS OF THE FEATURES. FEATURES SHALL BE GRADED TO PRECONSTRUCTION CONTOURS.

TABLE 1: NDDOT CLASS 5 BASE AGGREGATE – LOCALLY SOURCED

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	90–100
NO. 4	35–70
NO. 30	16–40
NO. 200	4–10

MEET FOLLOWING REQUIREMENTS FOR NDDOT CLASS 5 BASE AGGREGATE:

AT LEAST 10 PERCENT BY WEIGHT OF THE AGGREGATE RETAINED ON THE NO. 4 SIEVE HAS AT LEAST ONE MECHANICALLY FRACTURED FACE FOR CLASS 5.

SHALE (MAX %) = 12.0%
L.A ABRASION (% MAX) = 50%

MAXIMUM PI = 10 – ((% PASSING NO. 40)/10)

GRADATION HAS BEEN OBTAINED FROM THE 2014 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION BOOK, SECTION 816.02

TESTING:

1. TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
2. SUBMIT ONE SET OF TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD.

DEFINITIONS:

1. PROOF ROLLING:
   SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDEM AXLE DUMP TRUCK OR WATER TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OR A FULLY LOADED BELLY DUMP WITH AN EQUIVALENT AXLE LOADING. PROOF–ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 1.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK.
2. SIEVE ANALYSIS:
   SHALL BE CONDUCTED IN ACCORDANCE WITH AASHTO T27
3. PROCTORS:
   SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T99
4. ATTERBERG LIMITS:
   SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T89 AND T90
5. MOISTURE DENSITY (NUCLEAR DENSITY):
   SHALL BE DONE IN ACCORDANCE WITH AASHTO T310
6. DYNAMIC CONE PENETROMETER (DCP) TESTING:
   SHALL BE DONE IN ACCORDANCE WITH ASTM D6951–03

REQUIREMENTS:

1. FILL PLACEMENT:
   A. SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR MOISTURE CONTENT, AND PROCTOR TESTS.
   B. WHERE FILL CONSTRUCTION REQUIRES MORE THAN 12 INCHES OF FILL PLACEMENT, COMPACT EACH LIFT TO A MINIMUM OF 95 PERCENT OF THE MATERIAL'S MAXIMUM STANDARD PROCTOR DRY DENSITY.
2. COMPACTED SUBGRADE:
   A. THE ENTIRE SUBGRADE SHALL BE PROOF–ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE
   B. PERFORM A MINIMUM OF 3 DYNAMIC CONE PENETROMETER (DCP) TESTS PER ACCESS ROAD, OR ONE FOR EVERY 1,000 L.F. OF ROAD, WHICHEVER IS GREATER. ADDITIONAL DCP TESTING MAY BE REQUIRED IN AREAS OF FAILING PROOF ROLL. PRIMARY ACCESS ROAD CROSS SECTION REQUIRES A MINIMUM DCP OF 4 BLOWS PER 6" TO A TOTAL DEPTH OF 2' (MINIMUM CBR=2.5).
   C. IF EITHER THE PROOF ROLL OR DCP REQUIREMENTS CANNOT BE ACHIEVED THE FOLLOWING ALTERNATIVES MAY BE IMPLEMENTED:
      a. SCARIFY, DRY, AND RECOMPACT SUBGRADE AND PERFORM ADDITIONAL PROOF ROLL AND DCP.
      b. REMOVE UNSUITABLE MATERIAL AND REPLACE WITH 3 INCH MINUS CRUSHED AGGREGATE BASE.
3. AGGREGATE BASE:
   A. AGGREGATE BASE SHALL BE PROOF–ROLLED OVER THE ENTIRE LENGTH. IF PROOF ROLLING DETERMINES THAT THE ROAD IS UNSTABLE, ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL.
   B. PROVIDE 1 SIEVE ANALYSIS PER 2500 CY OF ROAD BASE PLACED AND LA ABRASION TEST.
4. CRANE PADS AND CRANE PATHS:
   A. TESTING REQUIREMENTS ARE PENDING BASED ON CANE PICK PLANS PROVIDED BY THE CONTRACTOR.

TABLE 2: TESTING SCHEDULE SUMMARY

LOCATION	TEST	FREQUENCY
FILL PLACEMENT	PROCTOR	1 PER MAJOR SOIL TYPE
	MOISTURE DENSITY	PER LIFT PER 5,000 SF OF FILL PLACED OR 1 PER LIFT PER 500 LF OF ROAD OR CRANE WALK
COMPACTED SUBGRADE	PROOF–ROLL	ENTIRE LENGTH
	DCP	1 PER 1000 FT OR MIN. 3 PER ROAD
AGGREGATE BASE	PROOF–ROLL	ENTIRE AREA
	SIEVE ANALYSIS, LL, PL, AND LA ABRASION	1 PER 2,500 CY

GENERAL NOTES:

1. THE GROUND SURFACE CONTOURS (AT TWO–FOOT VERTICAL INTERVALS) AND ELEVATIONS ARE BASED ON LIDAR DATA OBTAINED FROM THE STATE OF NORTH DAKOTA. THE ELEVATIONS AND CONTOURS BASED ON THE LIDAR DATA WERE PREPARED FROM AERIAL PHOTOGRAPHY DATA, AND NOT ACTUAL FIELD SURVEYING. AS SUCH, THE ACCURACY OF THE ELEVATIONS AND CONTOURS IS NOT AS HIGH AS INFORMATION GATHERED USING CONVENTIONAL FIELD SURVEYING PROCEDURES. THE CONTRACTOR MAY FIND THAT GROUND ELEVATIONS DETERMINED DURING FIELD STAKING WILL VARY FROM THE GROUND ELEVATIONS SHOWN ON THE DRAWINGS. IF MAJOR DISCREPANCIES ARE FOUND, THE OWNER AND ENGINEER SHALL BE NOTIFIED.
2. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
3. EFFORTS SHALL BE MADE TO MINIMIZE SOIL DISTURBANCE TO AREAS OUTSIDE OF THE ROAD GRADING LIMITS, CRANE PATHS, AND TURBINE SITES. TYPICAL DISTURBANCE SHALL BE LIMITED TO 10 LF FROM THE EDGE OF PROPOSED GRADING.
4. FINALIZE GRADING AROUND THE BASE OF TURBINES IN ACCORDANCE WITH DETAIL TS–03 AND TS–04.
5. GRADE ALL PROPOSED ROADS TO A MAXIMUM SLOPE OF 8%. IF 8% SLOPE CANNOT BE ACHIEVED, THE CONTRACTOR MAY UTILIZE ASSIST VEHICLES FOR THE PURPOSE OF DELIVERIES. GRADE ALL PROPOSED CRANE PATHS TO A MAXIMUM OF 8% UNLESS OTHERWISE NOTED IN PLAN SHEETS.
6. ANY FACILITIES REMOVED TO ALLOW FOR CONSTRUCTION (MAILBOXES, SIGNS, FENCES, ETC.) SHALL BE REPLACED BY THE CONTRACTOR IN A CONDITION AS GOOD AS EXISTING.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL OR MANMADE CREEKS OR DRAINAGE SWALES CAUSING RAINWATER TO POND. DEPENDING ON FIELD CONDITIONS, ADDITIONAL CULVERTS IN EXCESS OF THOSE ON THE PLANS MAY BE REQUIRED.
8. WHILE BUILDING THE ROADS AND EXCAVATING THE TURBINE FOUNDATIONS, EXCESS SOIL WILL RESULT. THE CONTRACTOR SHALL DISPOSE OF THIS EXCESS SOIL IN AN APPROVED MANNER. EXCESS TOPSOIL SHALL BE DISTRIBUTED INTO A THIN LAYER ON LAND IMMEDIATELY ADJACENT TO WHERE THE TOPSOIL ORIGINATED. ALL EXCESS TOPSOIL TO BE WASTED ONSITE. WHILE DOING SO THE CONTRACTOR SHALL AVOID CAUSING RIDGES OR MOUNDS THAT WOULD MAKE IT DIFFICULT FOR STORM WATER RUNOFF TO DRAIN. THE FINAL SURFACE OF THE DISTURBED TOPSOIL SHALL BE SMOOTH AND FOLLOW THE NATURAL CONTOUR OF THE LAND.
9. THE CONTRACTOR SHALL NOTIFY NORTH DAKOTA 811 AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
10. TEMPORARY INTERSECTION WIDENING SHALL, UPON COMPLETION OF ALL PROJECT CONSTRUCTION OR UPON NOTIFICATION OF THE ENGINEER, BE REMOVED AND THE AREA RESTORED TO ITS ORIGINAL LINES AND GRADES WITH TOPSOIL REPLACED, EXCEPT WHERE REQUESTED BY THE TOWNSHIP OR COUNTY TO PERMANENTLY REMAIN. DISTURBED AREAS OUTSIDE OF THE FINAL ROADWAY SHALL BE SEEDED AND MULCHED.
11. TURBINE SETBACKS ARE NOT IDENTIFIED ON THE CONSTRUCTION PLANS. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND CONTRACTOR TO ENSURE THAT ALL TURBINE SETBACKS MEET PROJECT REQUIREMENTS.
12. GEOTECHNICAL REPORTS WITH RECOMMENDATIONS HAVE BEEN PROVIDED BY THE OWNER. ALL GRADING SHALL CONFORM TO THE GEOTECHNICAL ENGINEERING REPORT AND RECOMMENDATIONS.
13. FIELD SURVEY WETLAND INFORMATION HAS BEEN PROVIDED BY THE OWNER. ALL WETLAND DELINEATIONS AND PERMITTING SHALL BE THE RESPONSIBILITY OF OTHERS AND BE COMPLETED PRIOR TO CONSTRUCTION COMMENCING. THE OWNER AND GENERAL CONTRACTOR SHALL VERIFY THAT ALL WETLAND PERMITS HAVE BEEN SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.
14. CULTURAL RESOURCE REPORTS HAS BEEN PROVIDED BY THE OWNER. CULTURAL RESOURCE LOCATIONS ARE SHOWN ON THE PLANS. INFORMATION WILL BE THE RESPONSIBILITY OF THE OWNER AND GENERAL CONTRACTOR. THE LOCATIONS OF CULTURAL RESOURCE SITES MAY BE CONFIDENTIAL AND PROTECTED BY STATE OR FEDERAL LAW. PUBLIC RELEASE OF SPECIFIC INFORMATION REGARDING THESE RESOURCES MAY BE RESTRICTED.
15. AN ENVIRONMENTAL ASSESSMENT HAS NOT BEEN PROVIDED. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REPORT AND REVIEW ALL RECOMMENDATIONS.
16. ELECTRICAL INFORMATION SHOWN ON THE PLANS IS FOR REFERENCE ONLY. REFER TO ELECTRICAL CONSULTANT'S PLANS FOR SPECIFIC LOCATIONS AND CONSTRUCTION DETAILS FOR THE UNDERGROUND POWER COLLECTION SYSTEM AND SUBSTATION.
17. CRANE PATHS ARE SHOWN ON THE CONSTRUCTION PLANS. IF THE CONTRACTOR PROPOSES ALTERNATE CRANE PATHS, THEY SHALL ENSURE THAT WETLAND AND CULTURAL RESOURCE CORRIDORS ARE NOT DISTURBED. FINAL CRANE PATH ALIGNMENTS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON FIELD CONDITIONS WITHIN THE WETLAND AND CULTURAL RESOURCE CORRIDORS, SPECIAL LANDOWNER AGREEMENTS AND THE PROJECT BOUNDARY.
18. EFFORTS SHALL BE MADE TO MINIMIZE SOIL DISTURBANCE TO AREAS OUTSIDE OF THE ROAD GRADING LIMITS, CRANE PATHS, AND TURBINE SITES. DISTURBANCE SHALL BE LIMITED TO 100 LF WIDTH FOR PROPOSED ACCESS ROADS AND 100 LF FOR CRANE PATHS, AND SHALL BE LIMITED TO A 200 LF RADIUS FOR PROPOSED WIND TURBINE GENERATORS. THE GRADING LIMITS SHALL BE CENTERED ON THE ROADWAYS AND WIND TURBINES. THE CONTRACTOR SHALL MAKE ALL EFFORTS TO KEEP ACTIVITIES WITHIN THE ERECTION AREAS SHOWN ON THE PLANS BUT IT IS UNDERSTOOD THAT SOME ACTIVITIES THAT WILL NOT REQUIRE GRADING OR SOIL DISTURBANCE MAY EXTEND BEYOND THE DEFINED LIMITS. DURING ERECTION OF THE ROTOR, TRUCKS AND/OR FORKLIFTS MAY EXTEND BEYOND THESE LIMITS. SEE DETAIL TS01 FOR TYPICAL ERECTION AREAS.
19. TRUCK TURNAROUNDS ARE NOT SHOWN ON THE PLANS. GENERAL CONTRACTOR TO COORDINATE AND ASSIST WITH TRUCK TURNAROUNDS WHERE NECESSARY.
20. AN ALTA SURVEY HAS BEEN PROVIDED BY THE OWNER. CONTRACTOR AND OWNER ARE RESPONSIBLE FOR LOCATING ALL UTILITIES AND VERIFYING LOCATION OF CONSTRUCTION ACTIVITIES PRIOR TO COMMENCING WORK. PARCEL LINES, LAND OWNER INFORMATION AND OVERALL PROJECT BOUNDARY WAS NOT PROVIDED IN THE ALTA.
21. OFF SITE TEMPORARY INTERSECTION IMPROVEMENTS ARE NOT SHOWN ON THE PLANS.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

1. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES AS OUTLINED BY THE NORTH DAKOTA DEPARTMENT OF HEALTH AND BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT.
2. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE MERRICOURT WIND PROJECT, PREPARED BY WESTWOOD PROFESSIONAL SERVICES, FOR EROSION CONTROL AND RESTORATION SPECIFICATIONS, SEDIMENT AND EROSION CONTROL PROCEDURES, LOCATIONS OF BMPs, DETAILS, AND INSPECTION INFORMATION.
3. ALL PASTURES AND DRAINAGE SWALES DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS, SHALL BE SEEDED IN ACCORDANCE WITH THE SWPP PLAN.
4. TEMPORARY EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TEMPORARY EROSION CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE NORTH DAKOTA DEPARTMENT OF HEALTH AND THE MERRICOURT WIND PROJECT STORMWATER POLLUTION PREVENTION PLAN ON FILE.

PROJECT CONTACT INFORMATION:

TITLE	COMPANY	NAME	CONTACT NUMBER
OWNER (PRIMARY)	EDF	CRAIG MOLLER	774–270–1198
PROJECT MANAGER	WESTWOOD	DANI NYGREN	952–906–7493
ENGINEER OF RECORD	WESTWOOD	ROB COPOULS	952–906–7470
CONTRACTOR	WANZEK	TJ BIRD	701–492–1311
NDDOH			701–328–5150

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Drawn: SNK
As-Built Drawing:

Revisions:

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a MasTec company

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West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

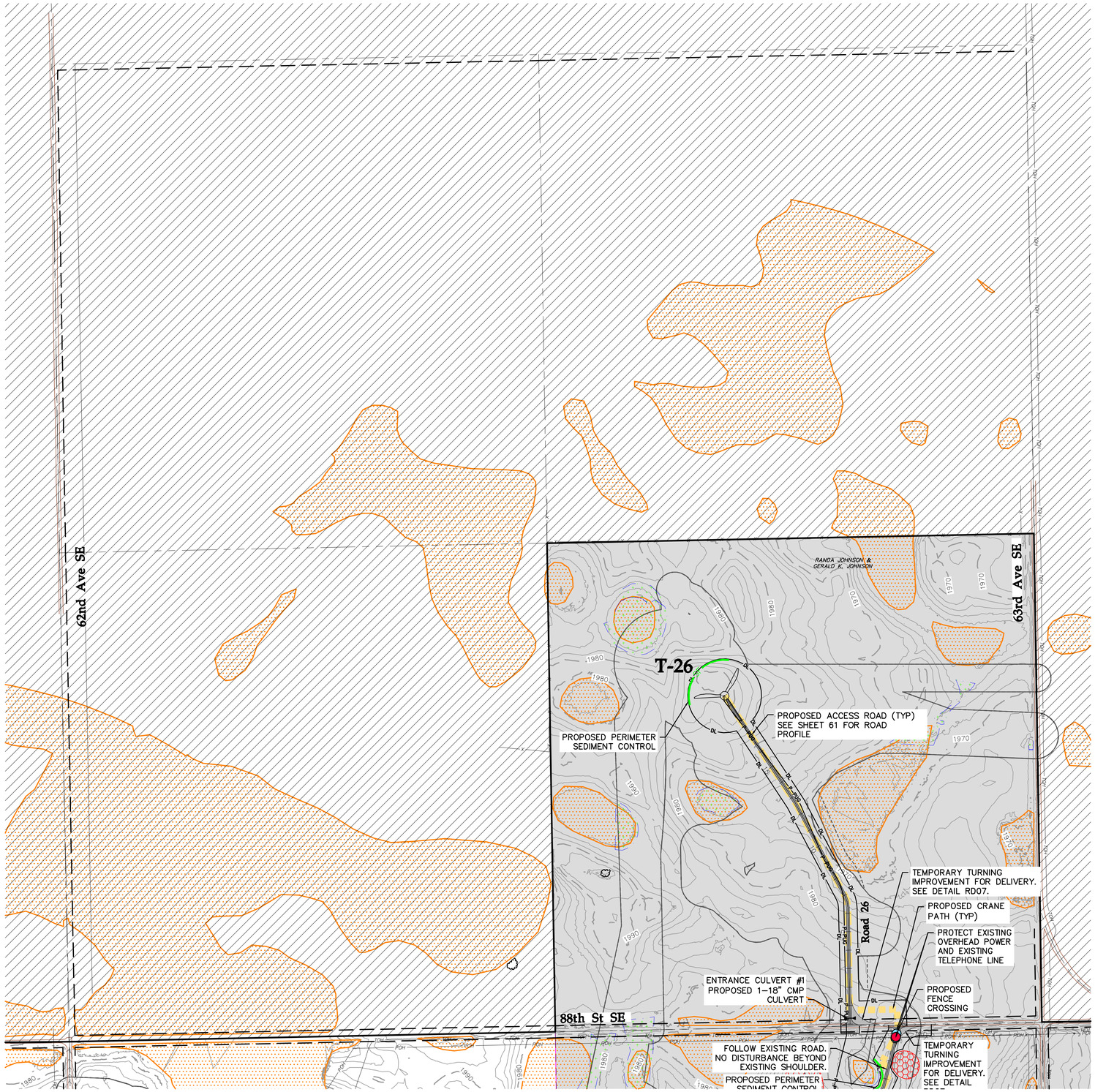
Construction Notes

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Sheet: 10 OF 118

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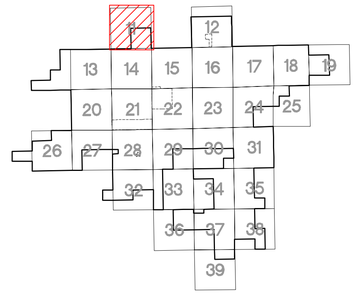
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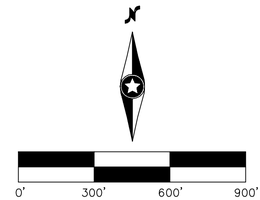
SEE SHEET 14

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ALTERNATE TURBINE LOCATION
- ALT-XX — PROPOSED ALTERNATE TURBINE NUMBER
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Civil Site Plan T-26

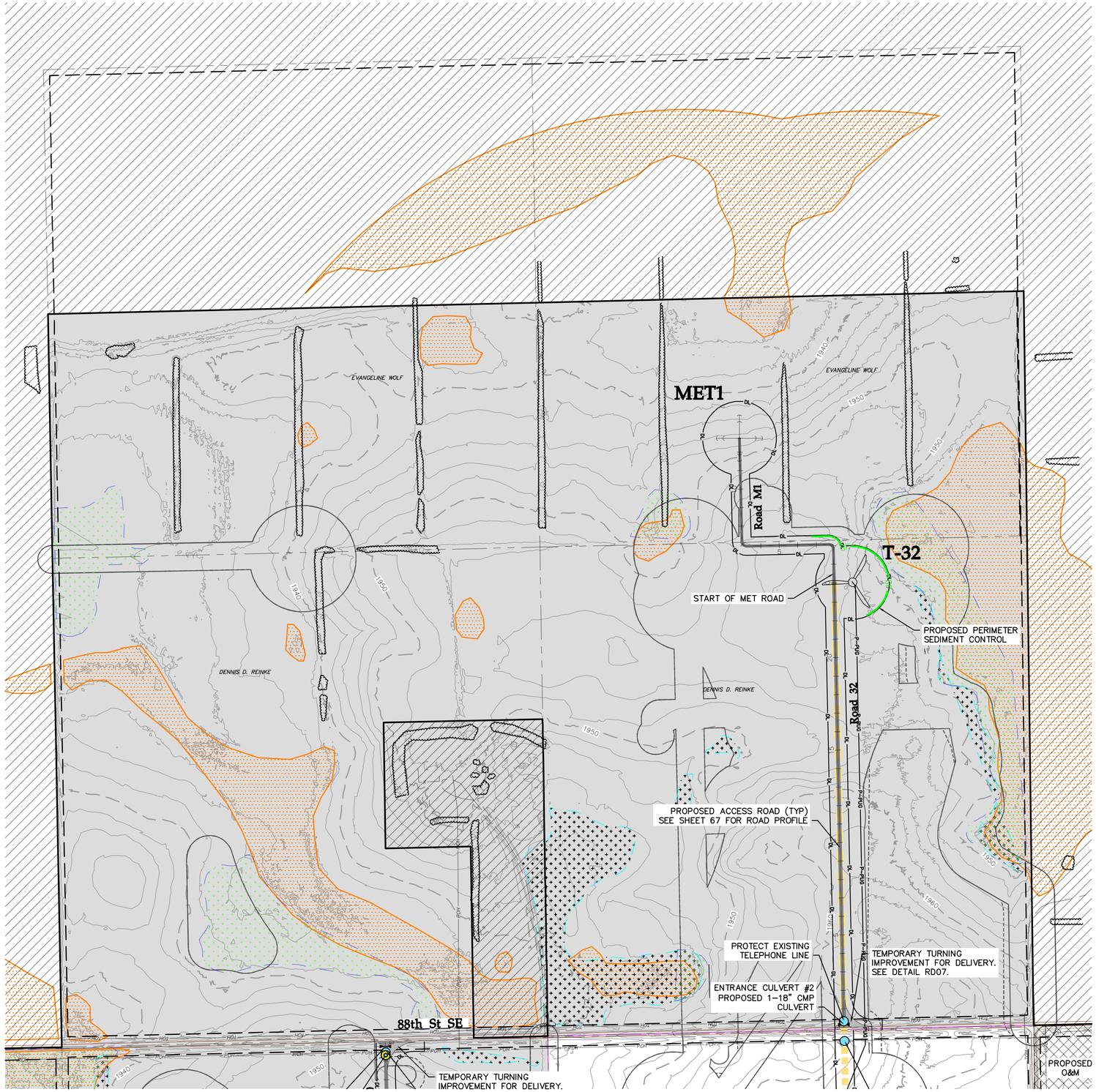
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Sheet: 11 OF 118

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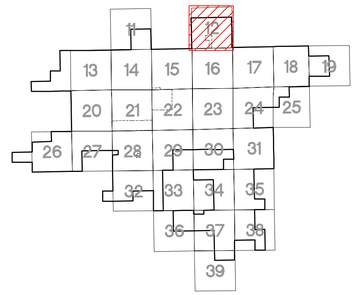
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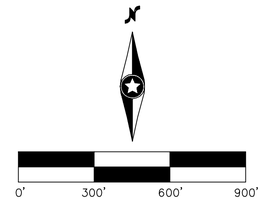
SEE SHEET 16

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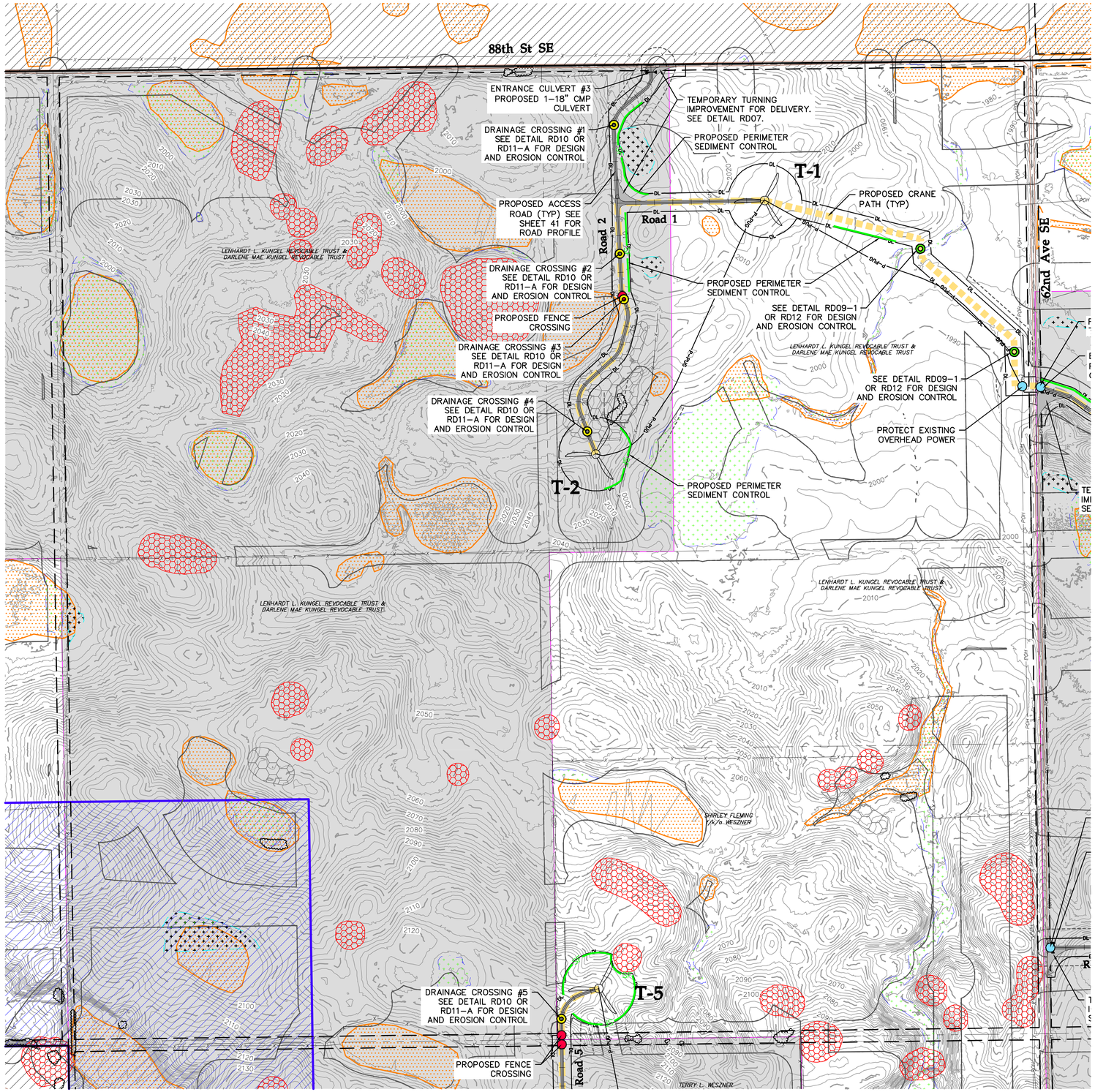
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Sheet: 12 OF 118

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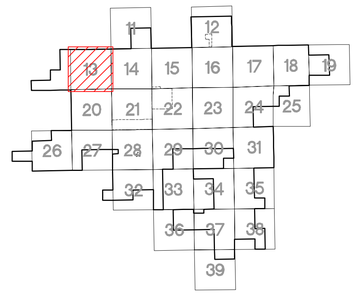
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0' 300' 600' 900'



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McIntosh County, North Dakota

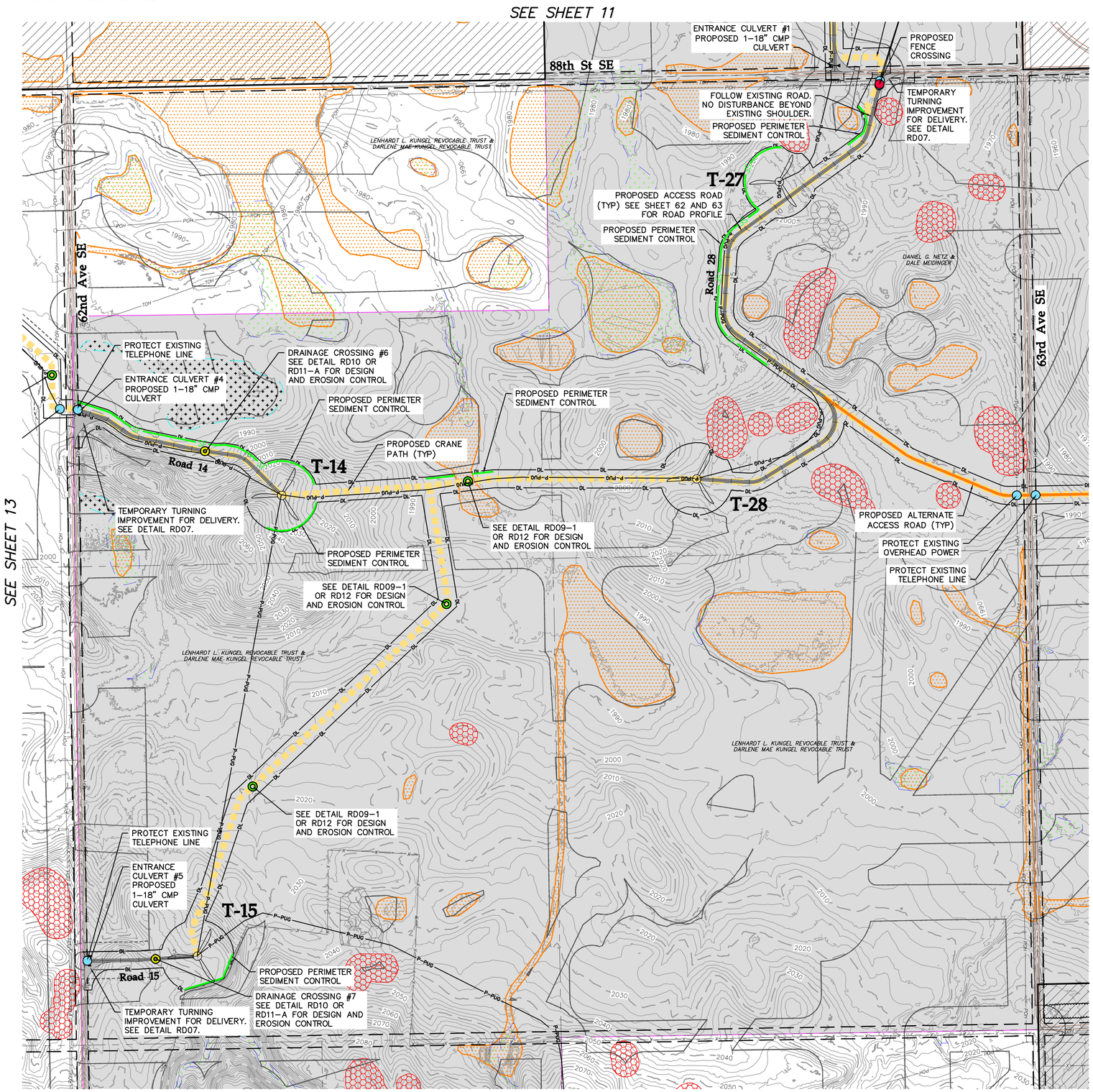
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Sheet: 13 OF 118

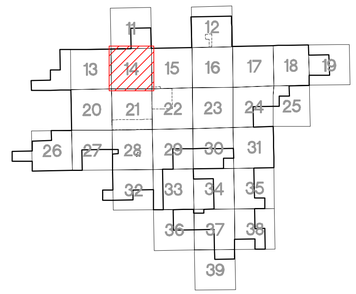
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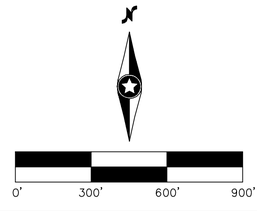


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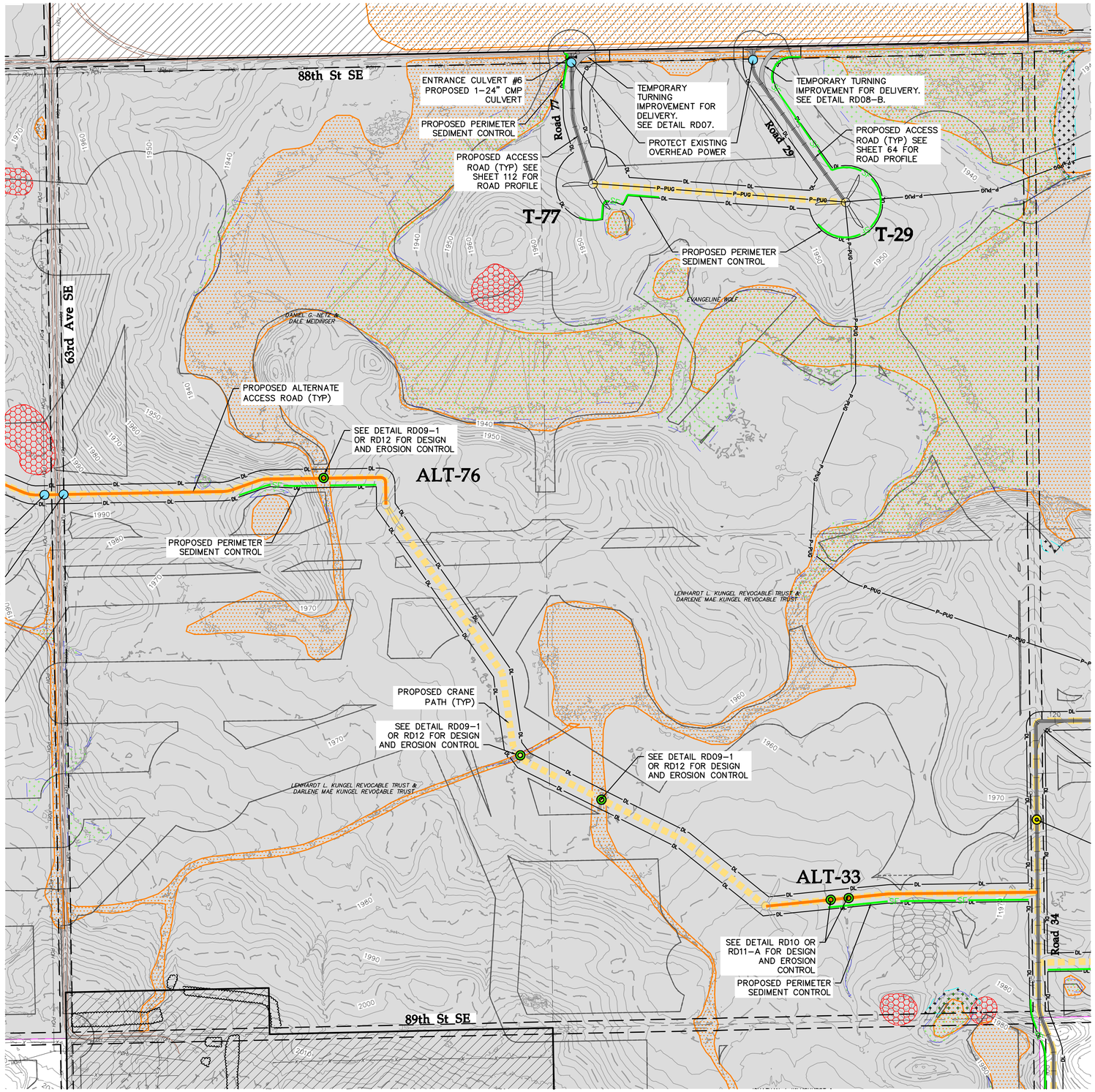
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Sheet: 14 OF 118

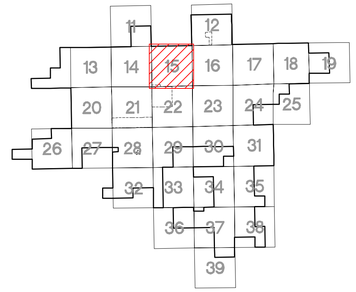
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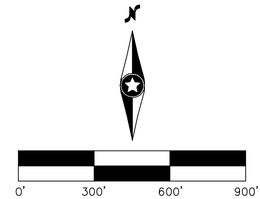


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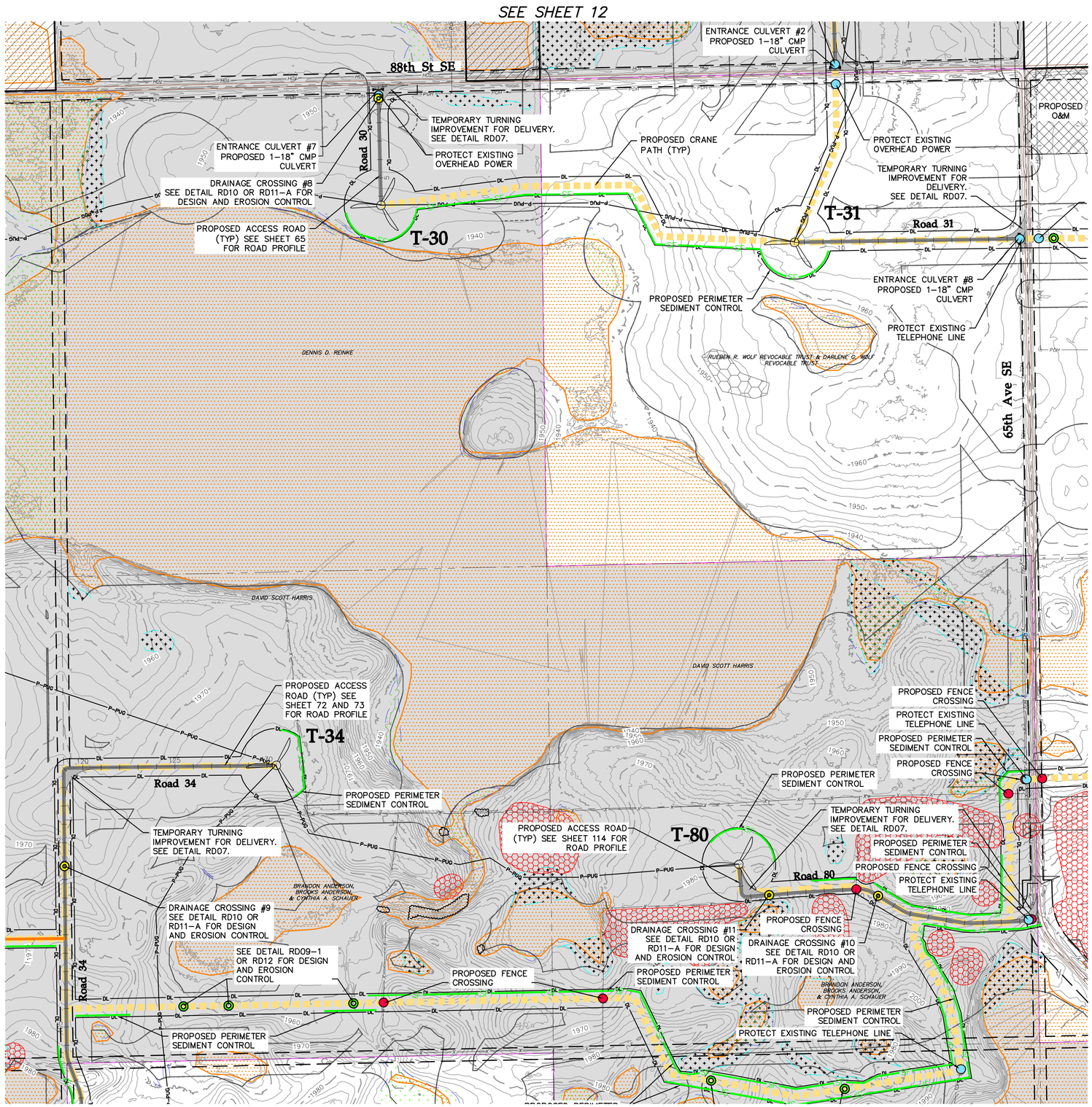
Civil Site Plan T-29, ALT-33, ALT-76, T-77

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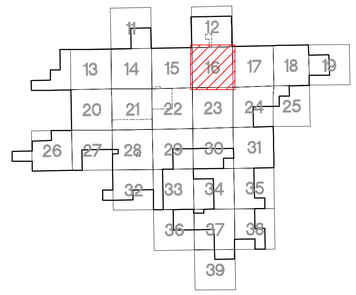
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0' 300' 600' 900'

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McIntosh County, North Dakota

Civil Site Plan T-30 - T-31, T-34, T-80



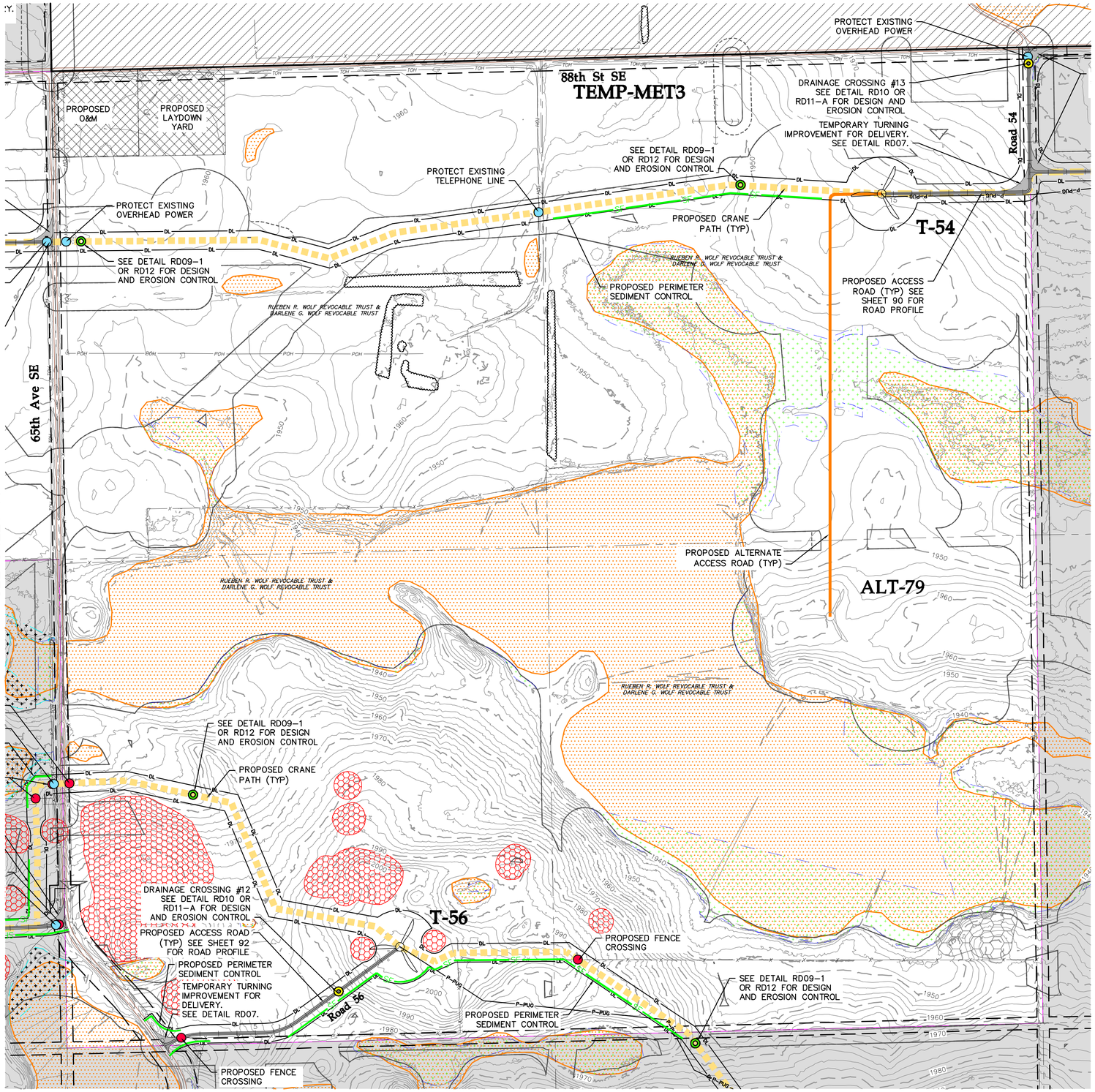
KEY MAP

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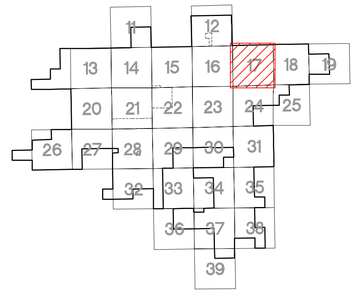
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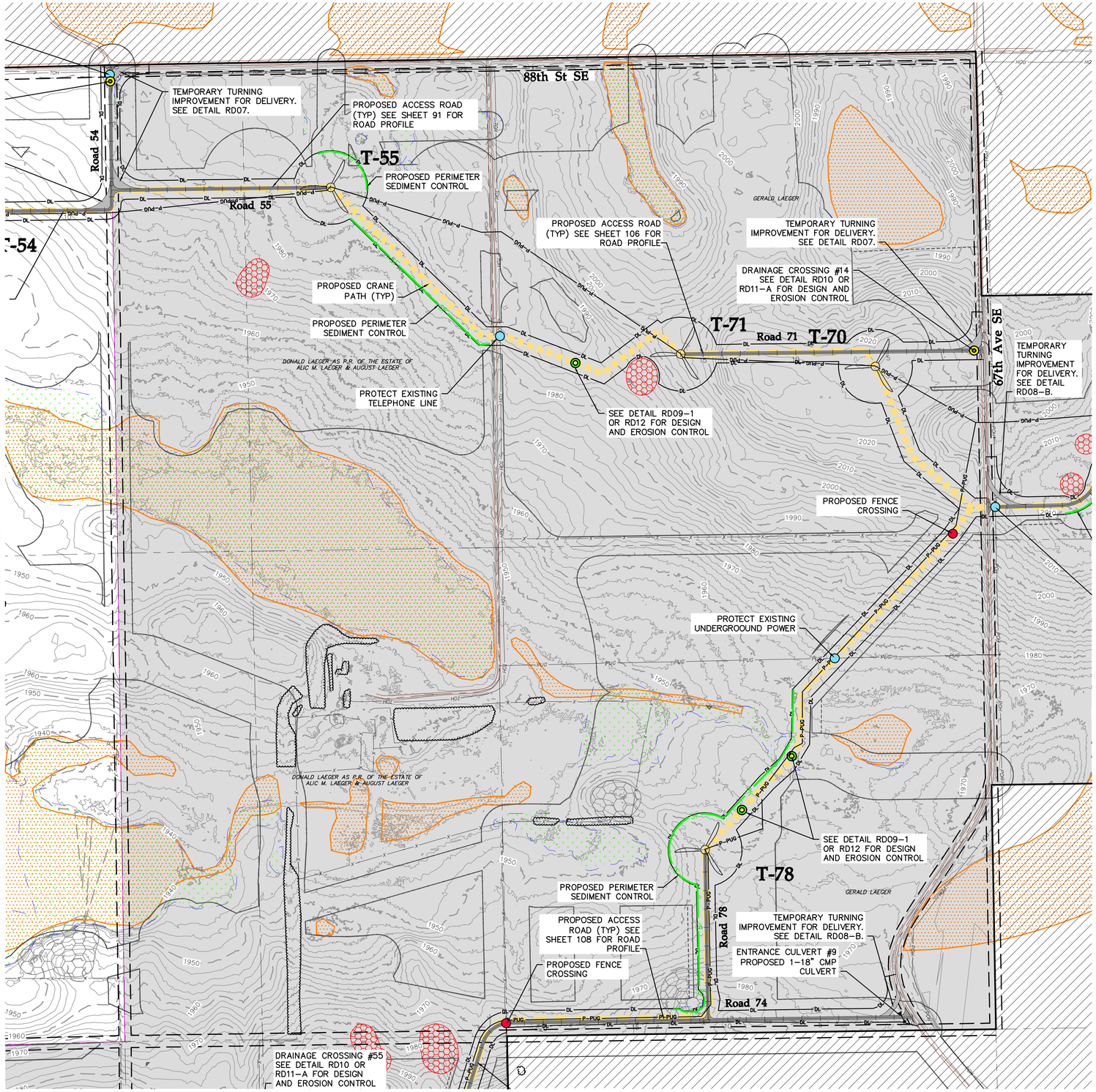
Civil Site Plan T-54, T-56, ALT-79

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LEGEND:

- PROPOSED TURBINE LOCATION
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Prepared for:

WANZEK
a MasTec company

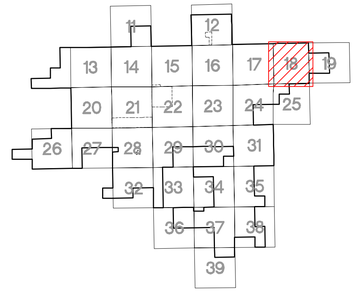
2028 2nd Avenue NW
West Fargo, ND 58078

0' 300' 600' 900'

Merricourt Wind Project

McIntosh County, North Dakota

Civil Site Plan T-55, T-70 - T-71, ALT-78



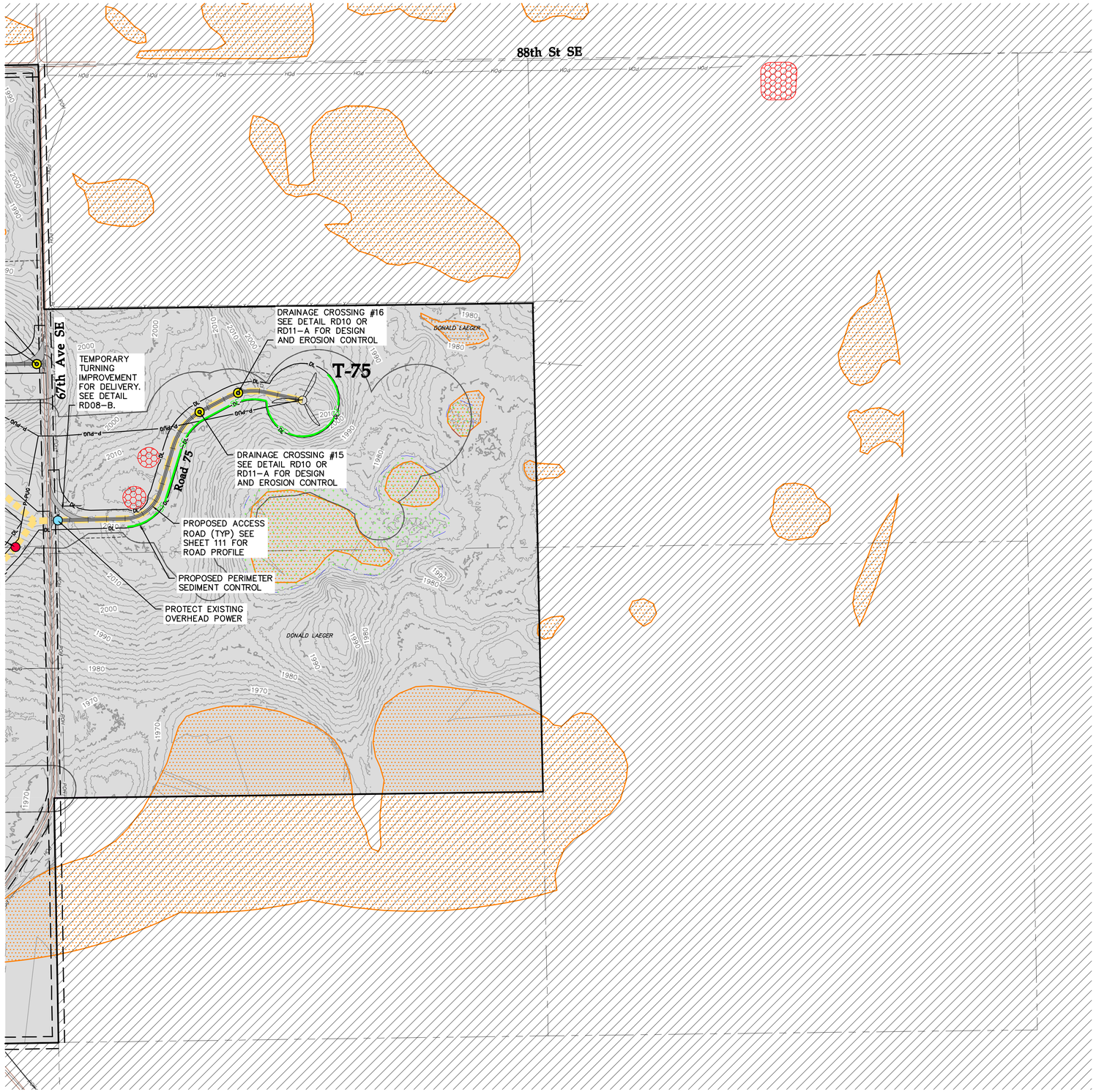
KEY MAP

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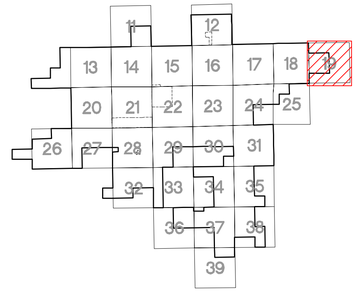
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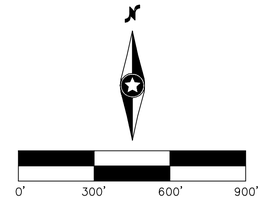


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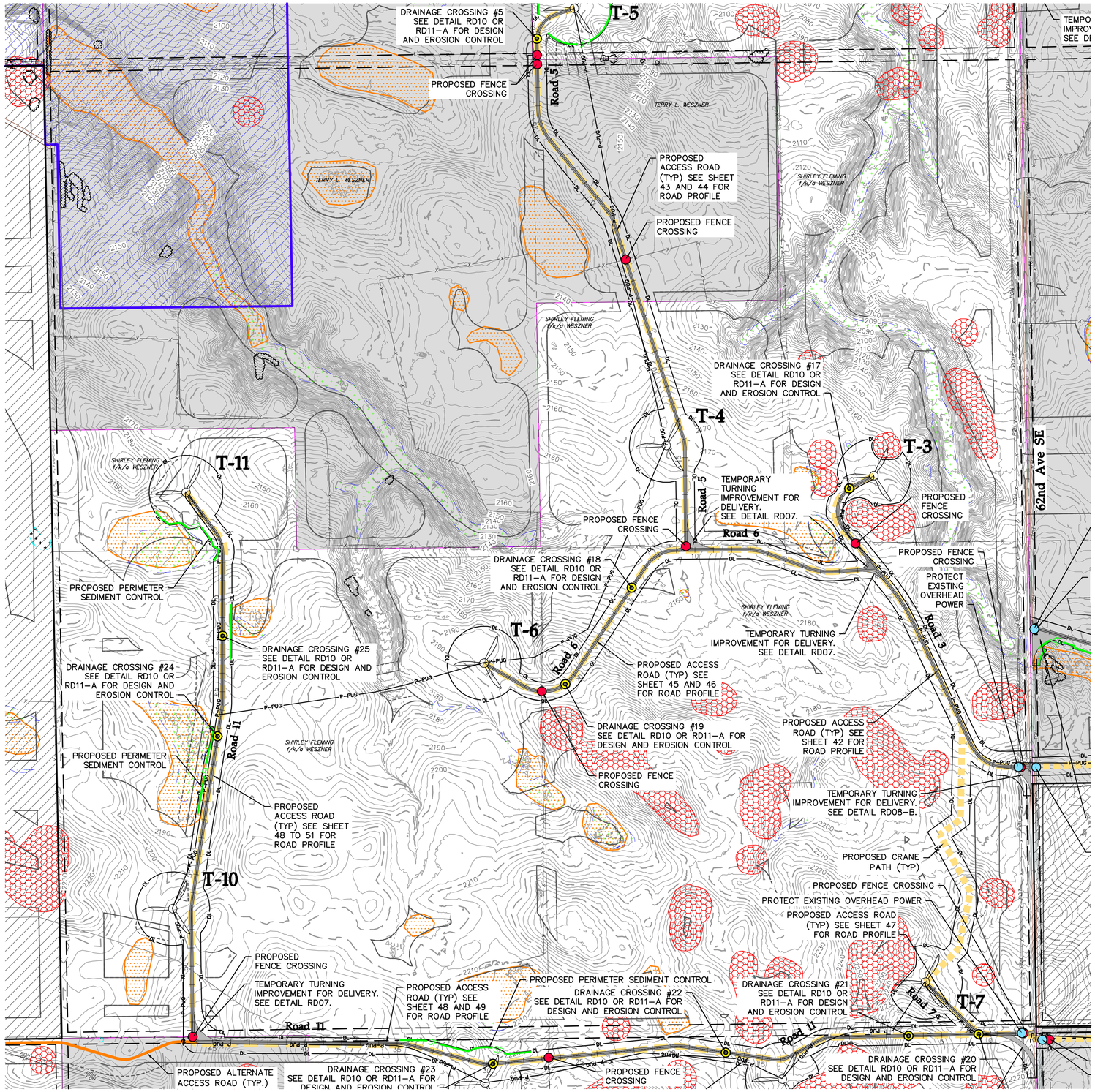
Civil Site Plan T-75

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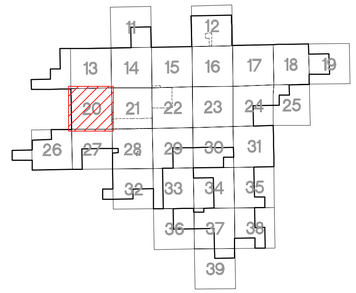
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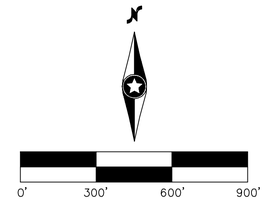


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McIntosh County, North Dakota

Civil Site Plan T-3 - T-4, T-6 - T-7, T-10 - T-11

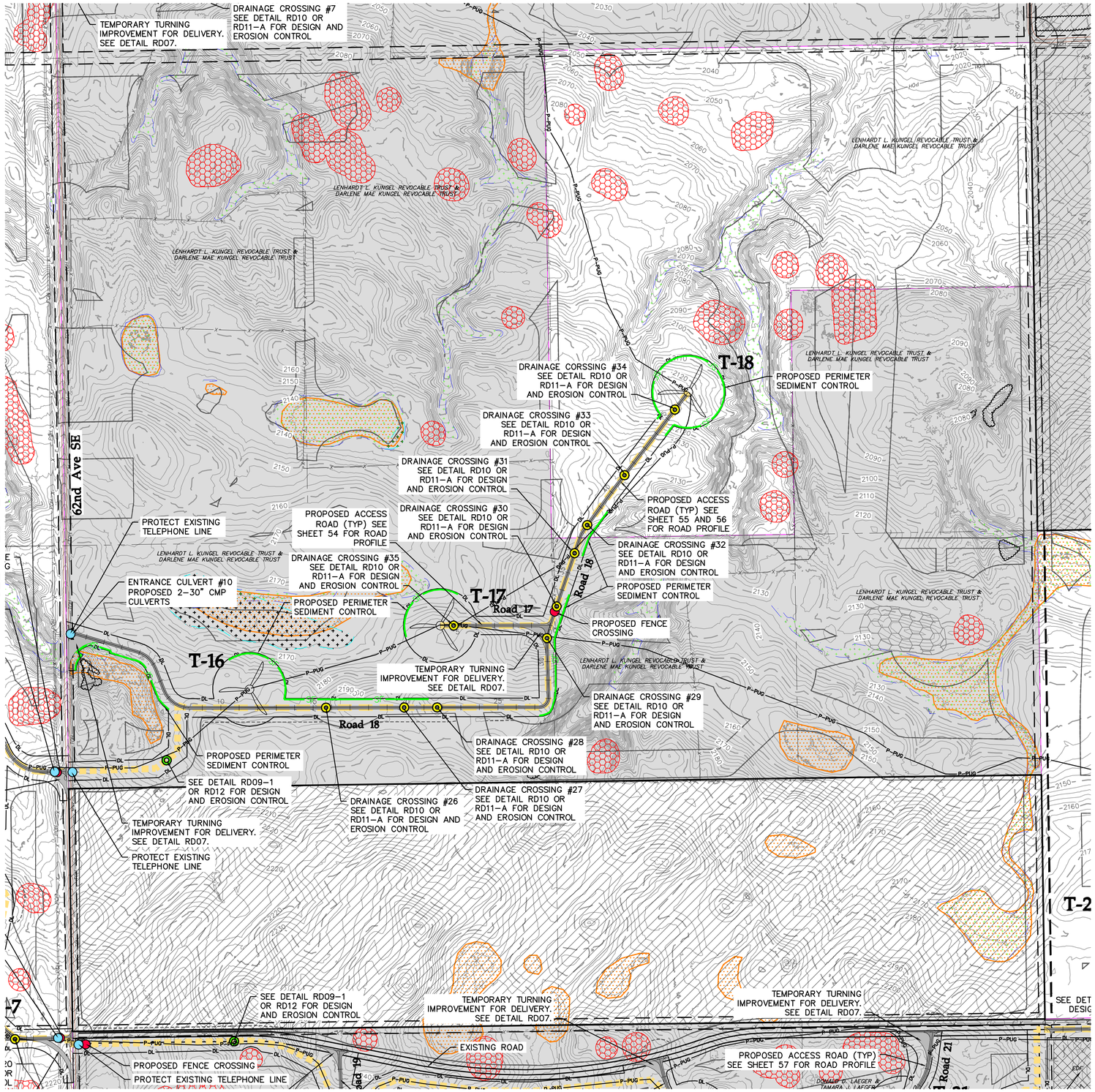
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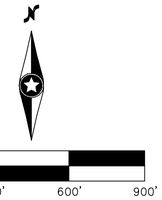
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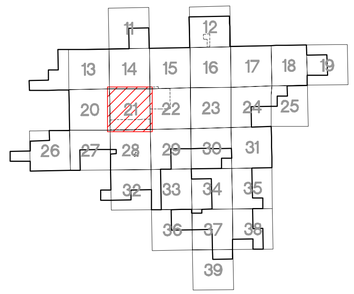
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Civil Site Plan T-16 - T-18

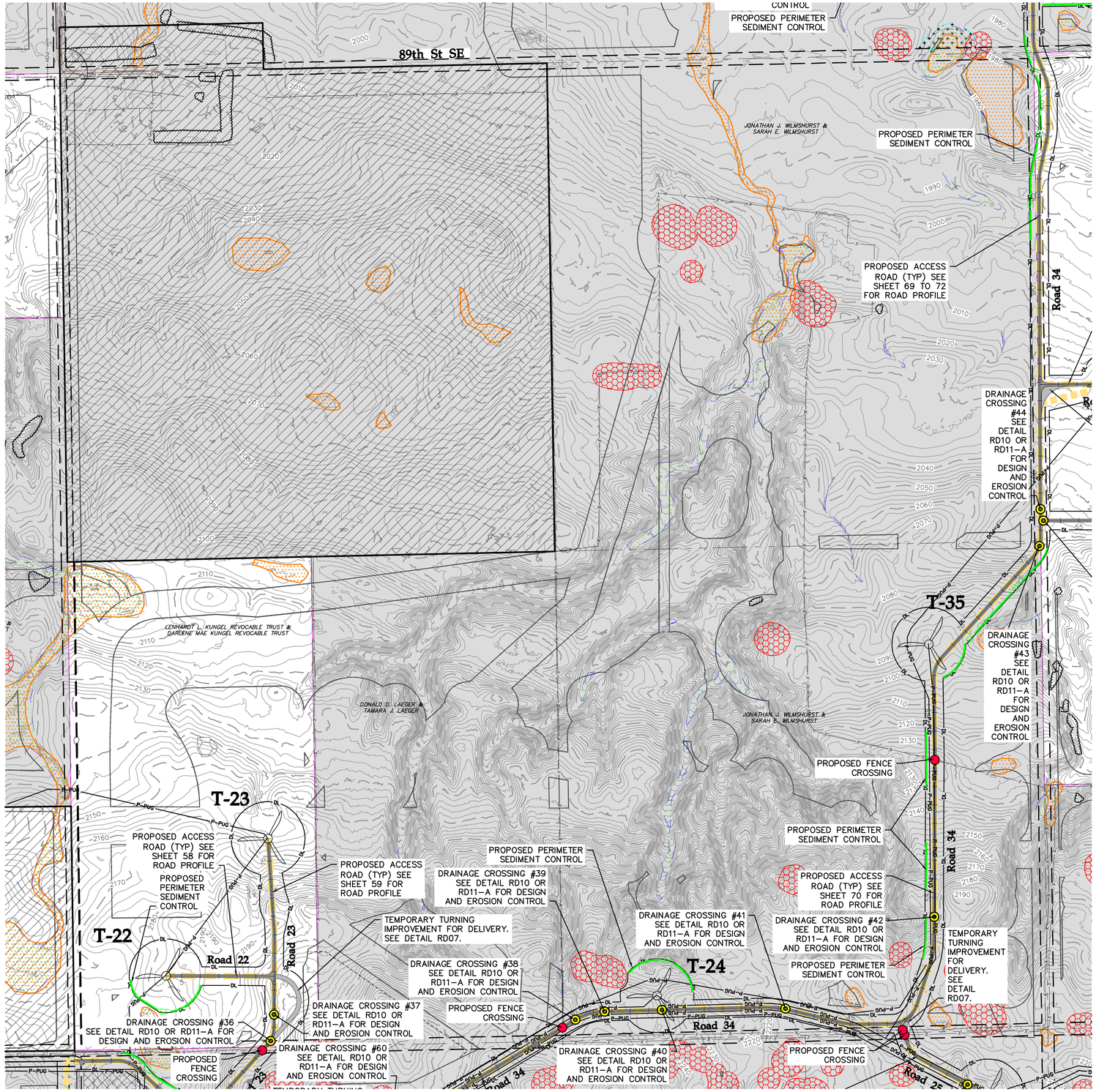
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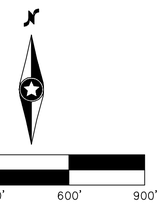
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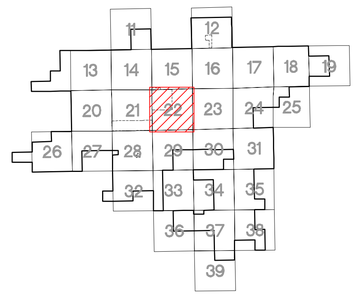
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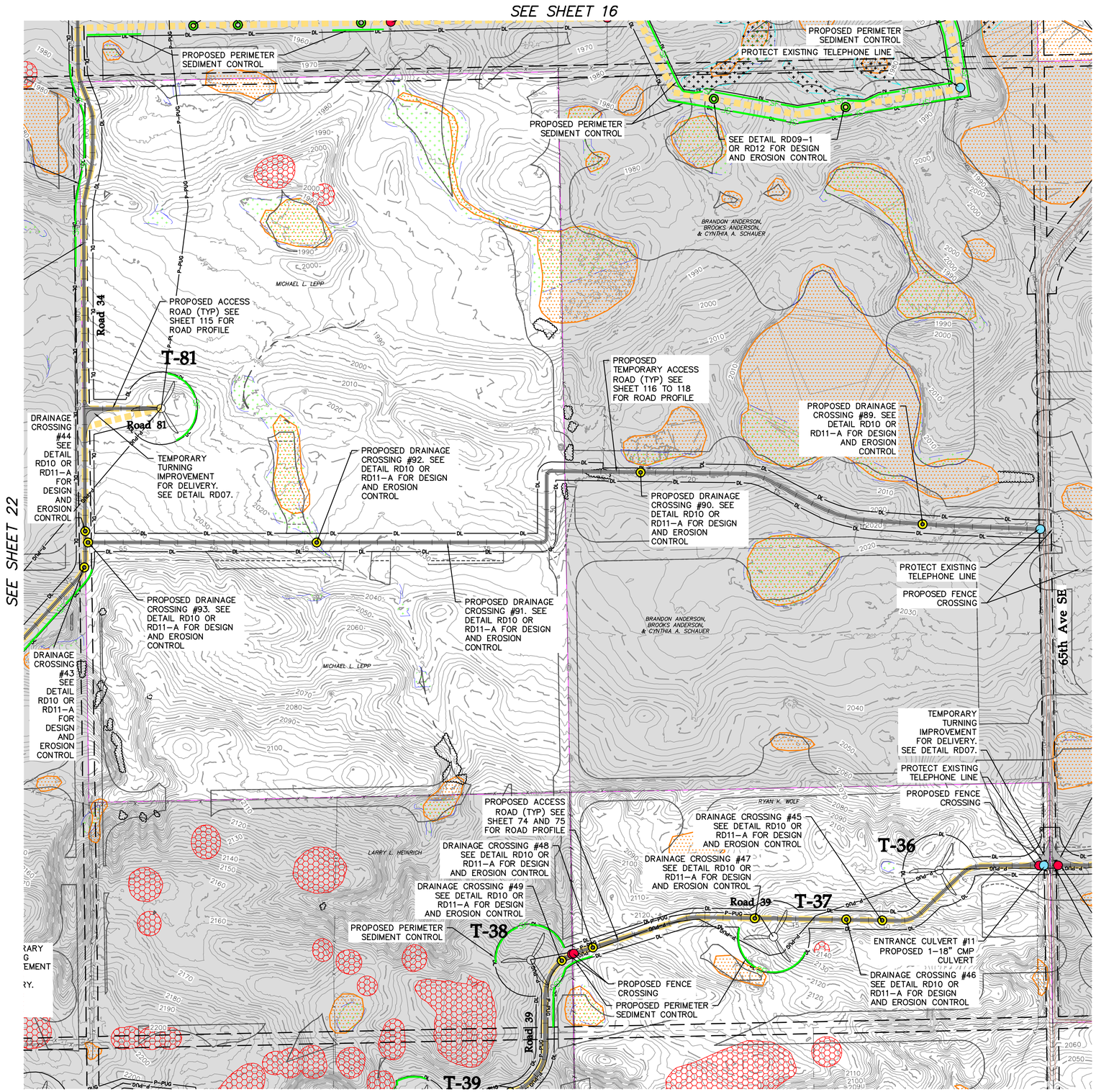
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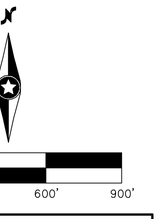
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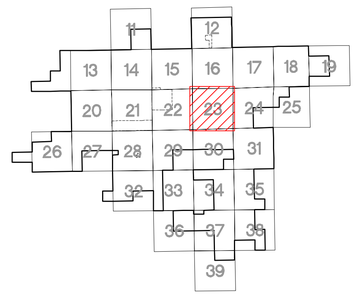
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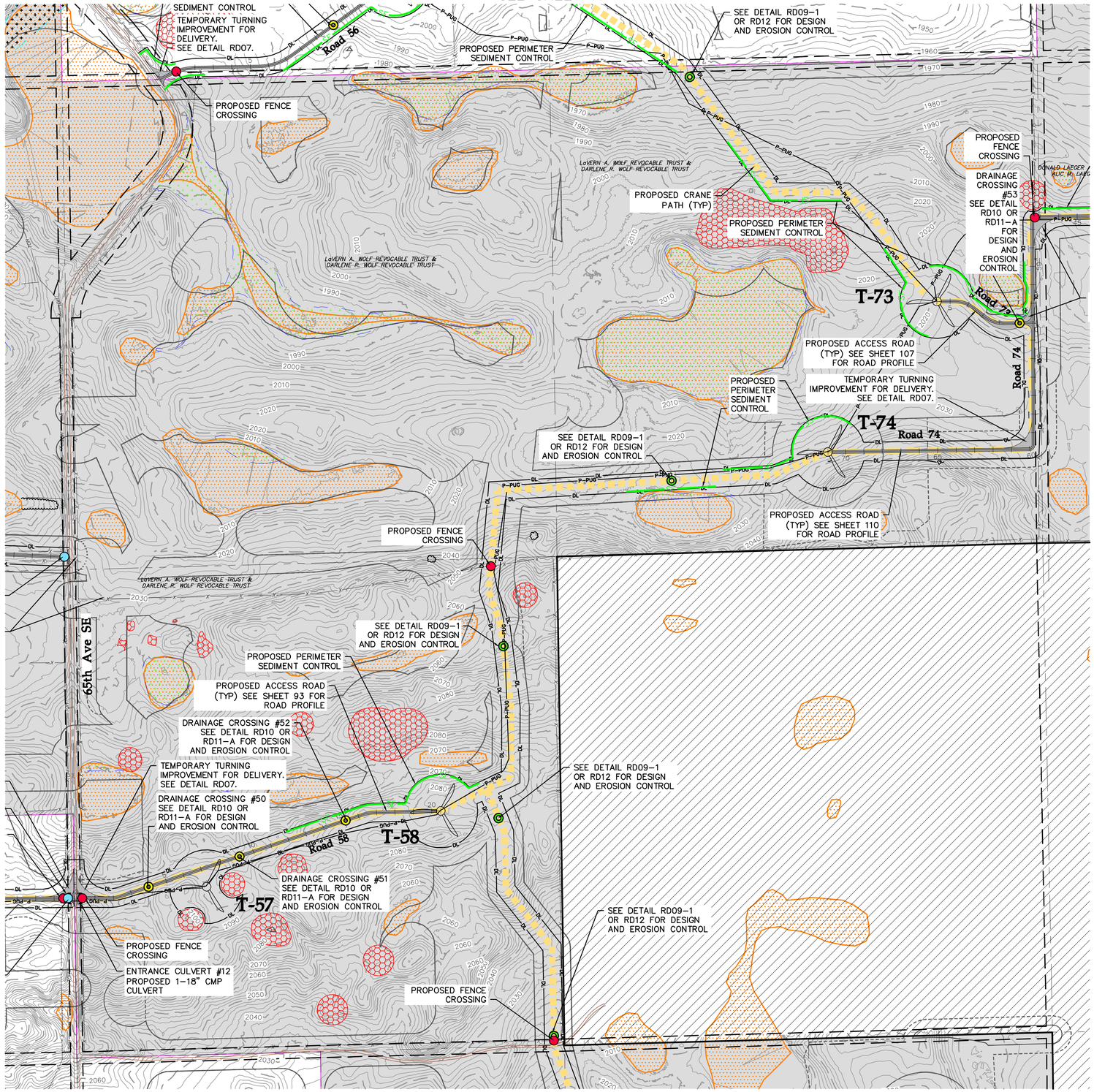
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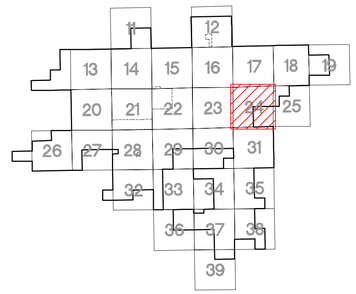
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0' 300' 600' 900'



KEY MAP

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McIntosh County, North Dakota

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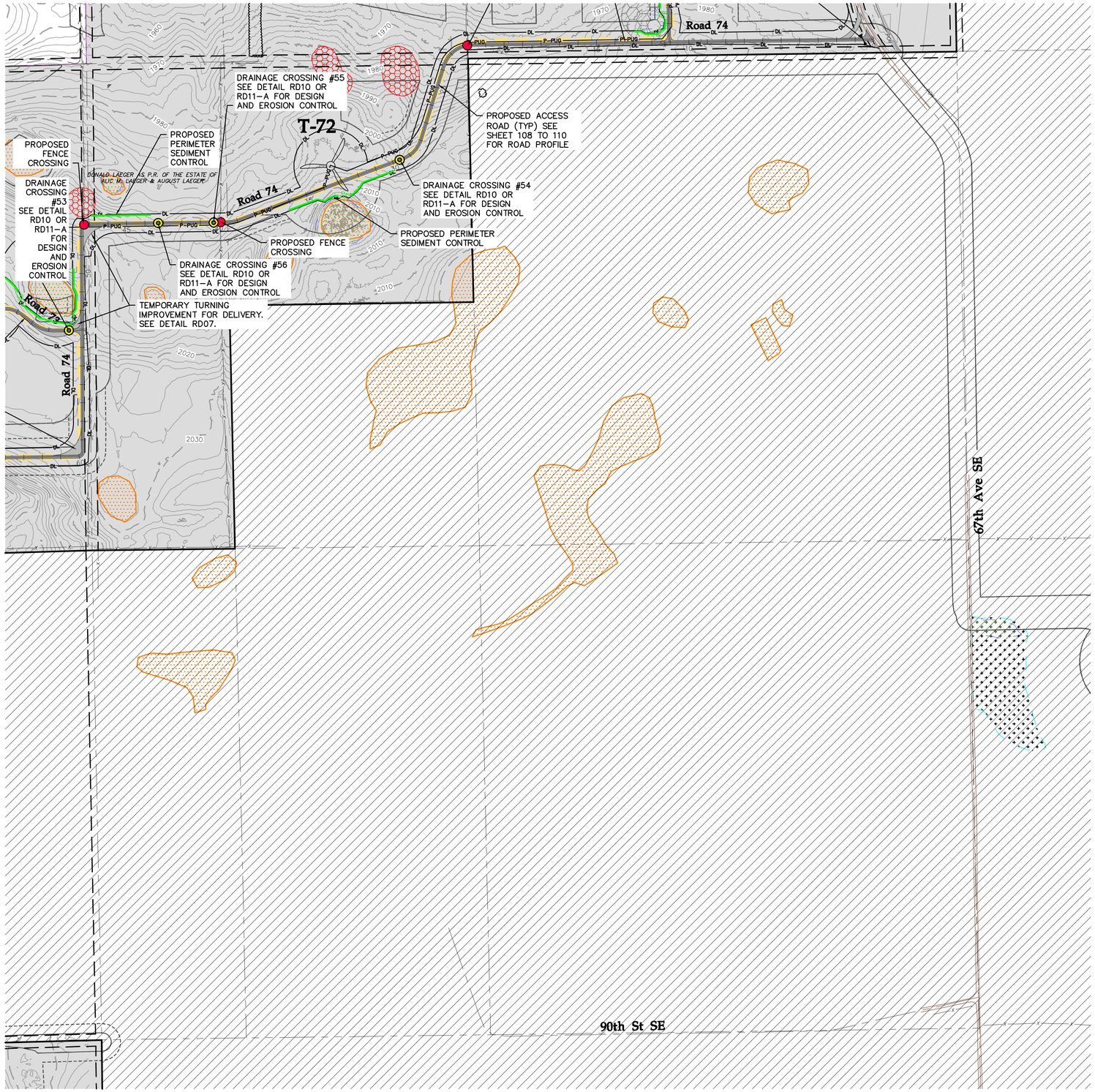
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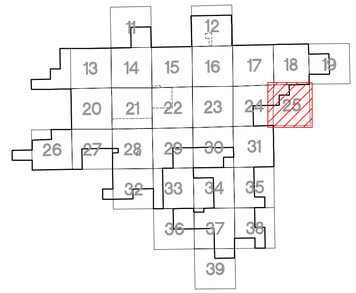
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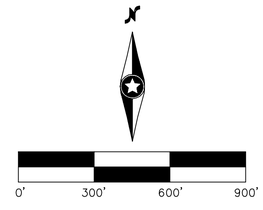


LEGEND:

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KEY MAP



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McIntosh County, North Dakota

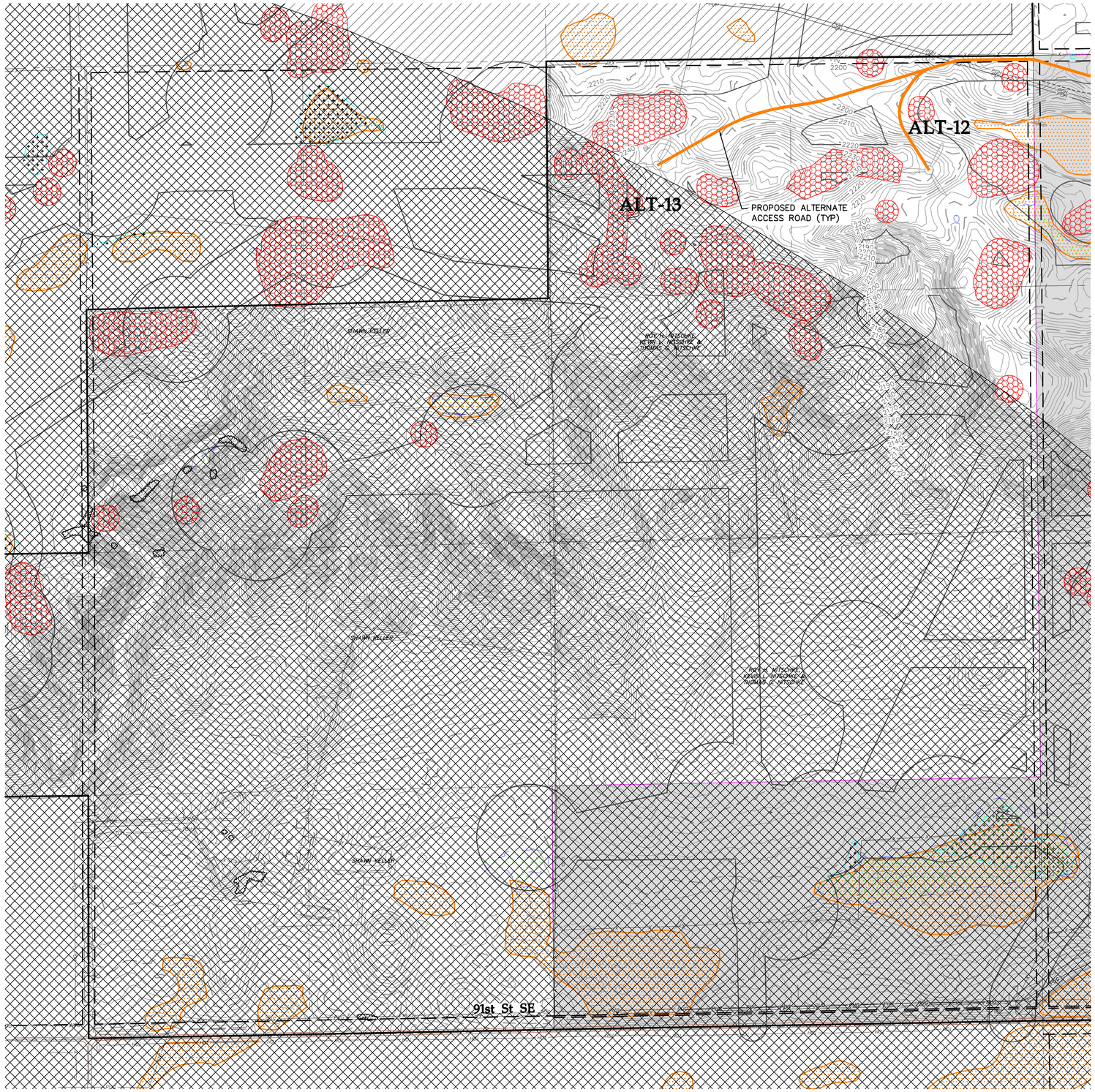
Civil Site Plan T-72

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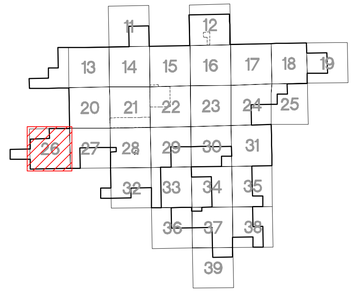
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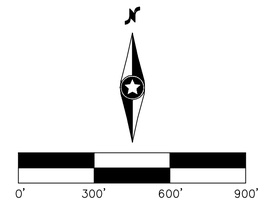


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Civil Site Plan ALT-12 - ALT-13

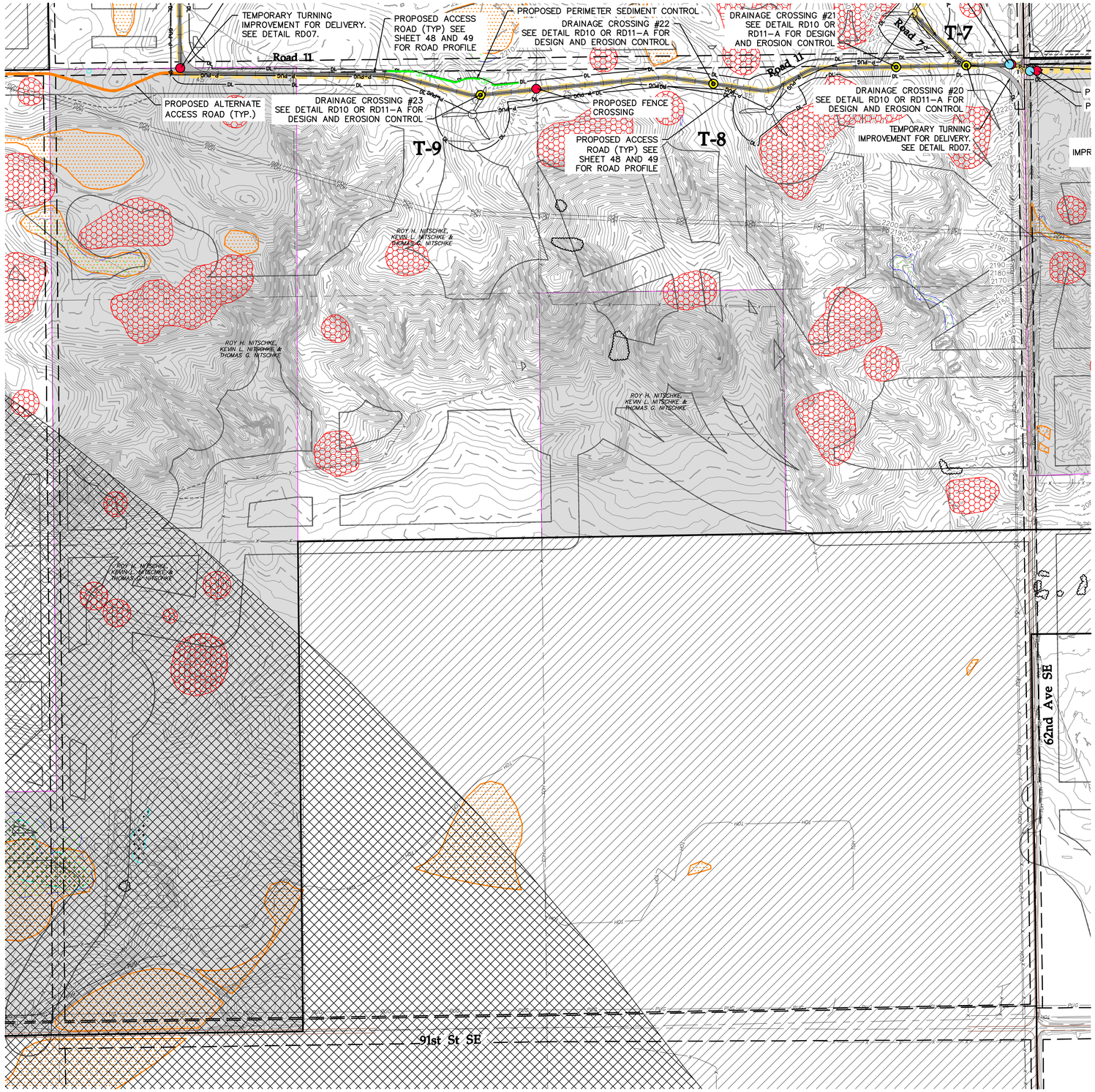
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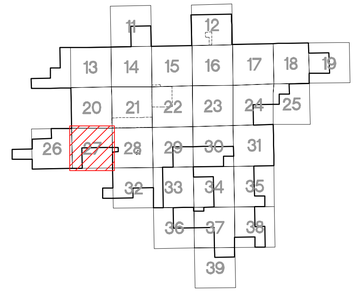
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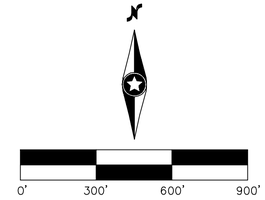


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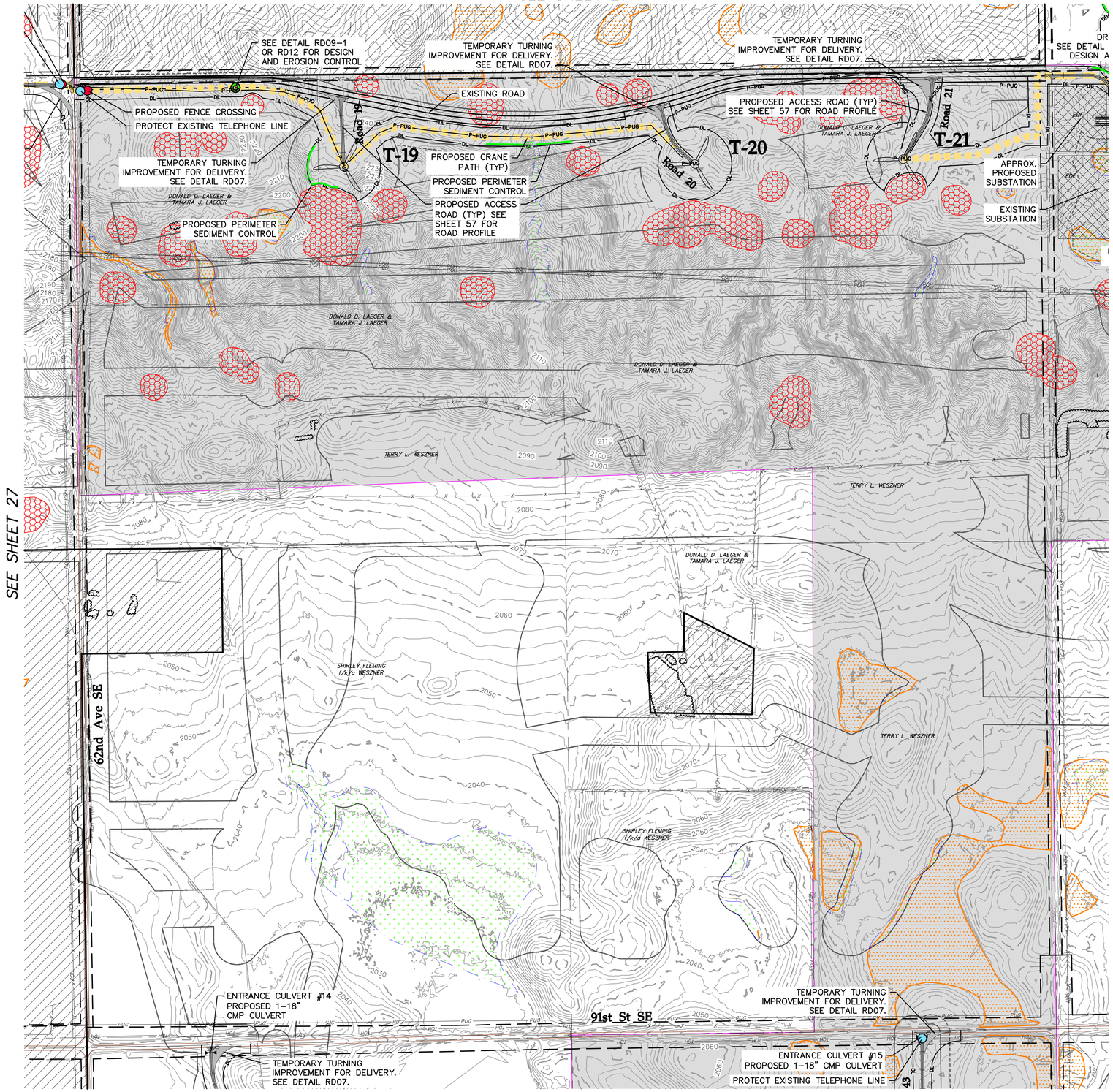
Civil Site Plan T-8 - T-9

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Sheet: 27 OF 118

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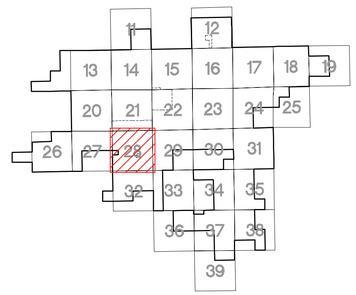
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0' 300' 600' 900'



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Merricourt Wind Project

McIntosh County, North Dakota

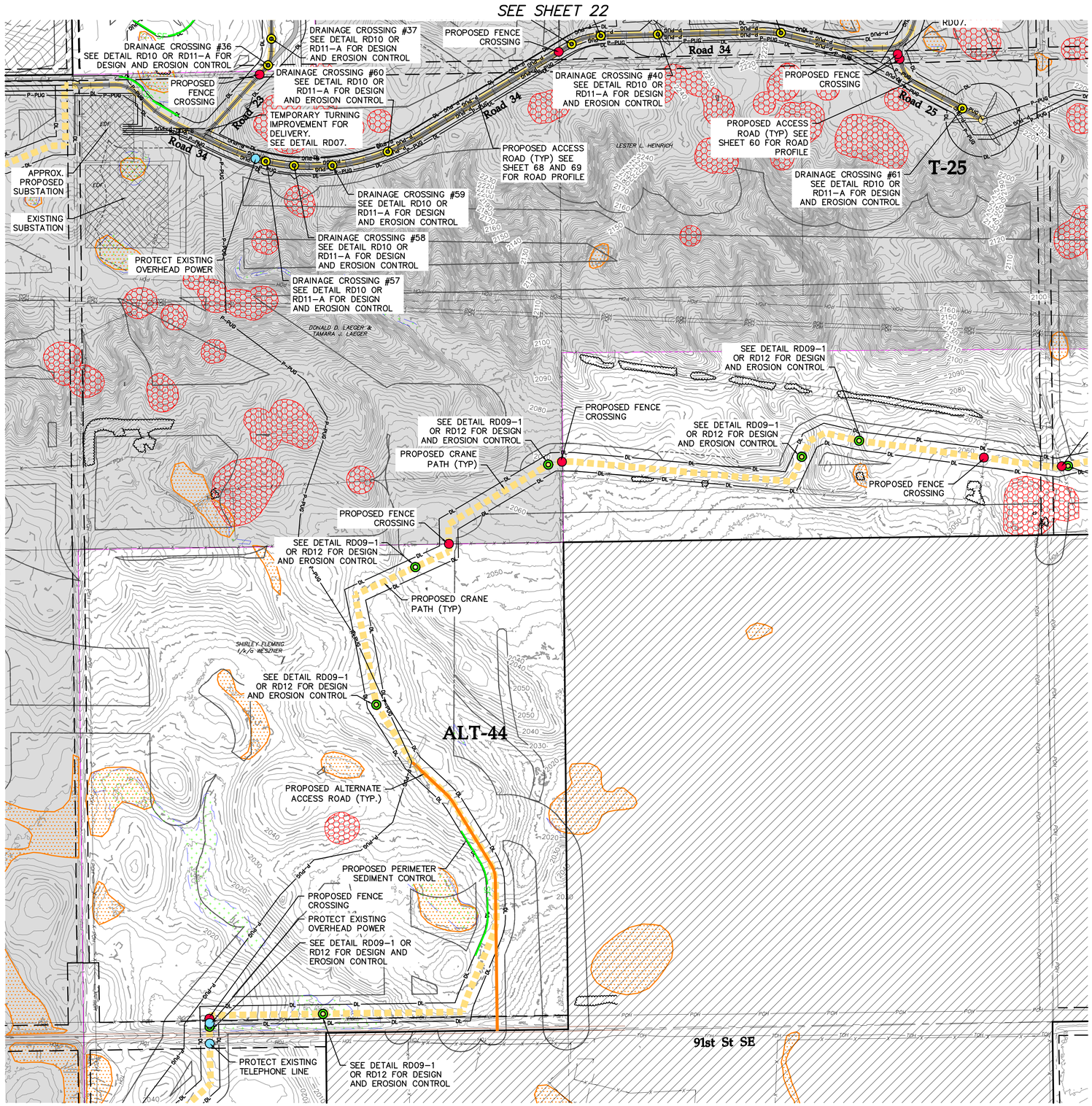
Civil Site Plan T-19 - T-21

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Sheet: 28 OF 118

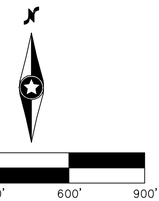
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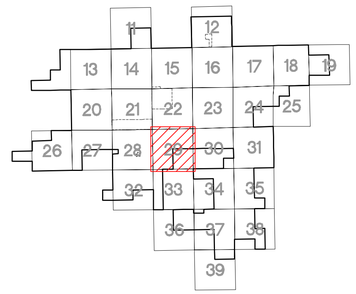
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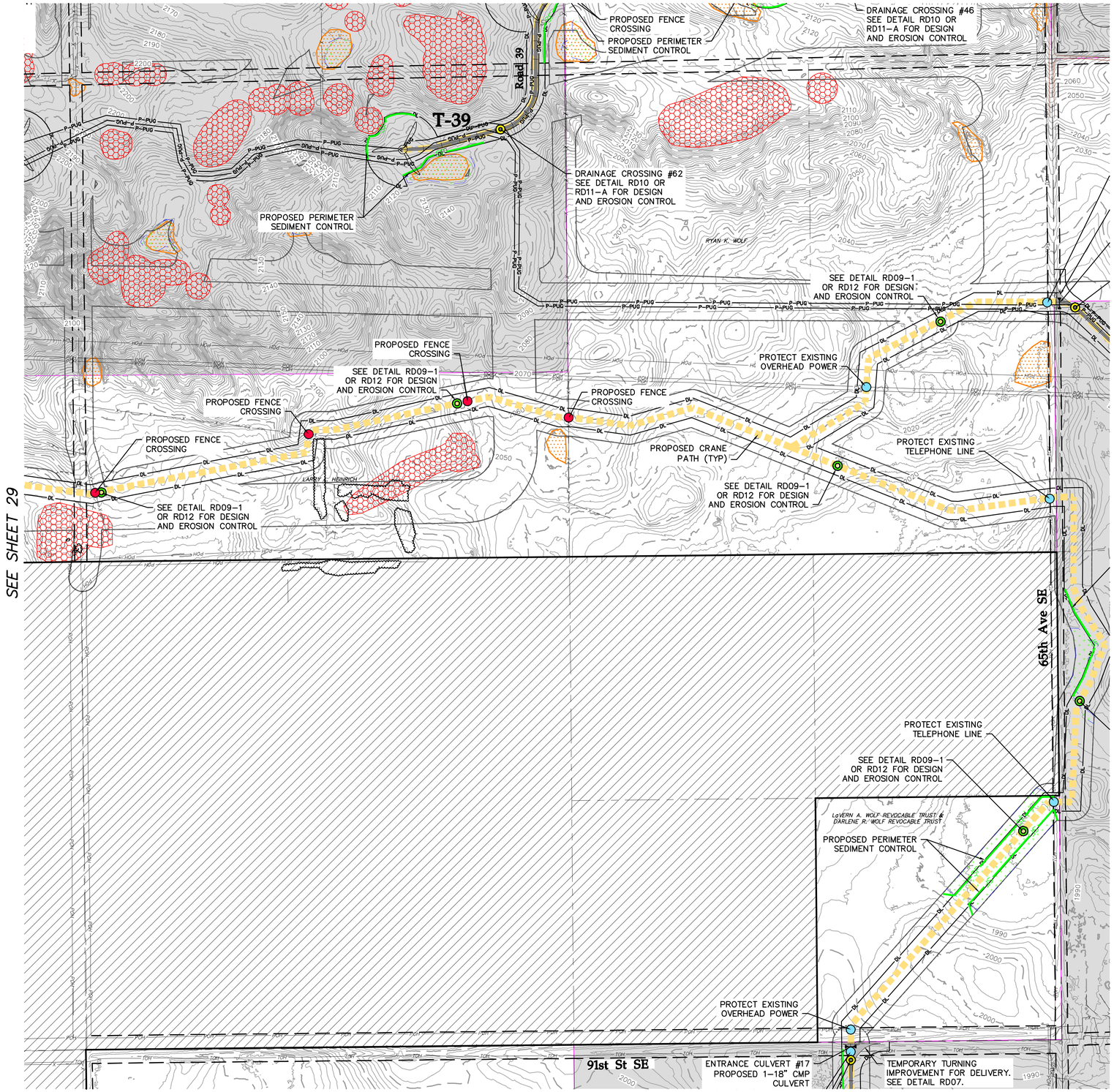
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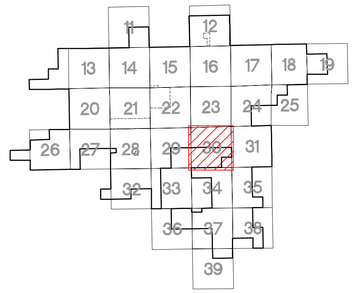
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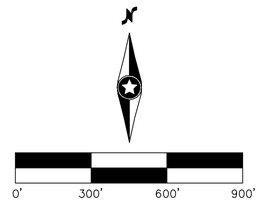


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Civil Site Plan T-39

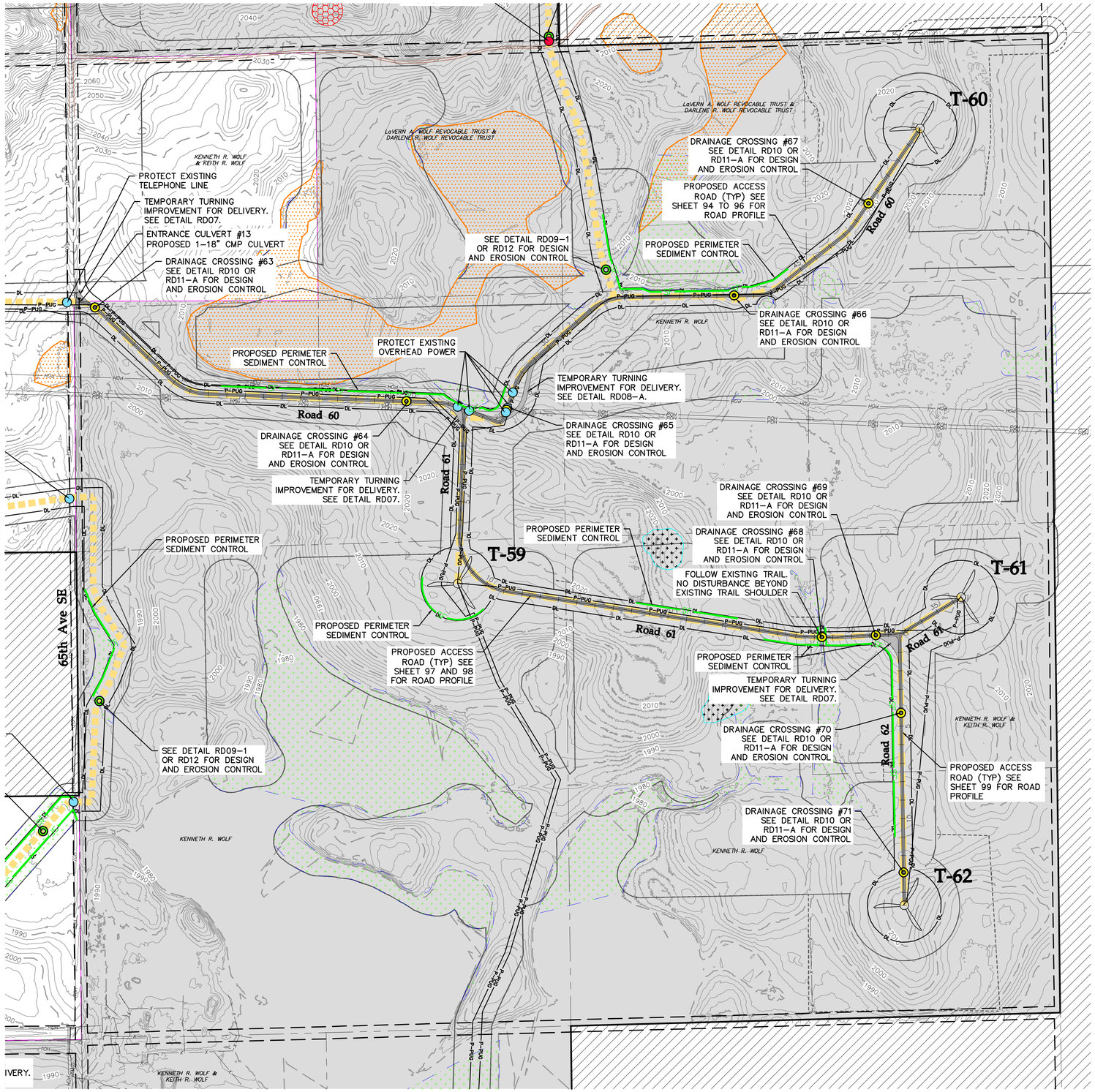
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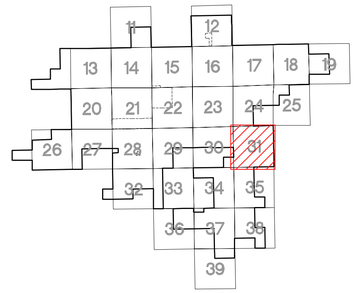
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Civil Site Plan T-59 - T-62

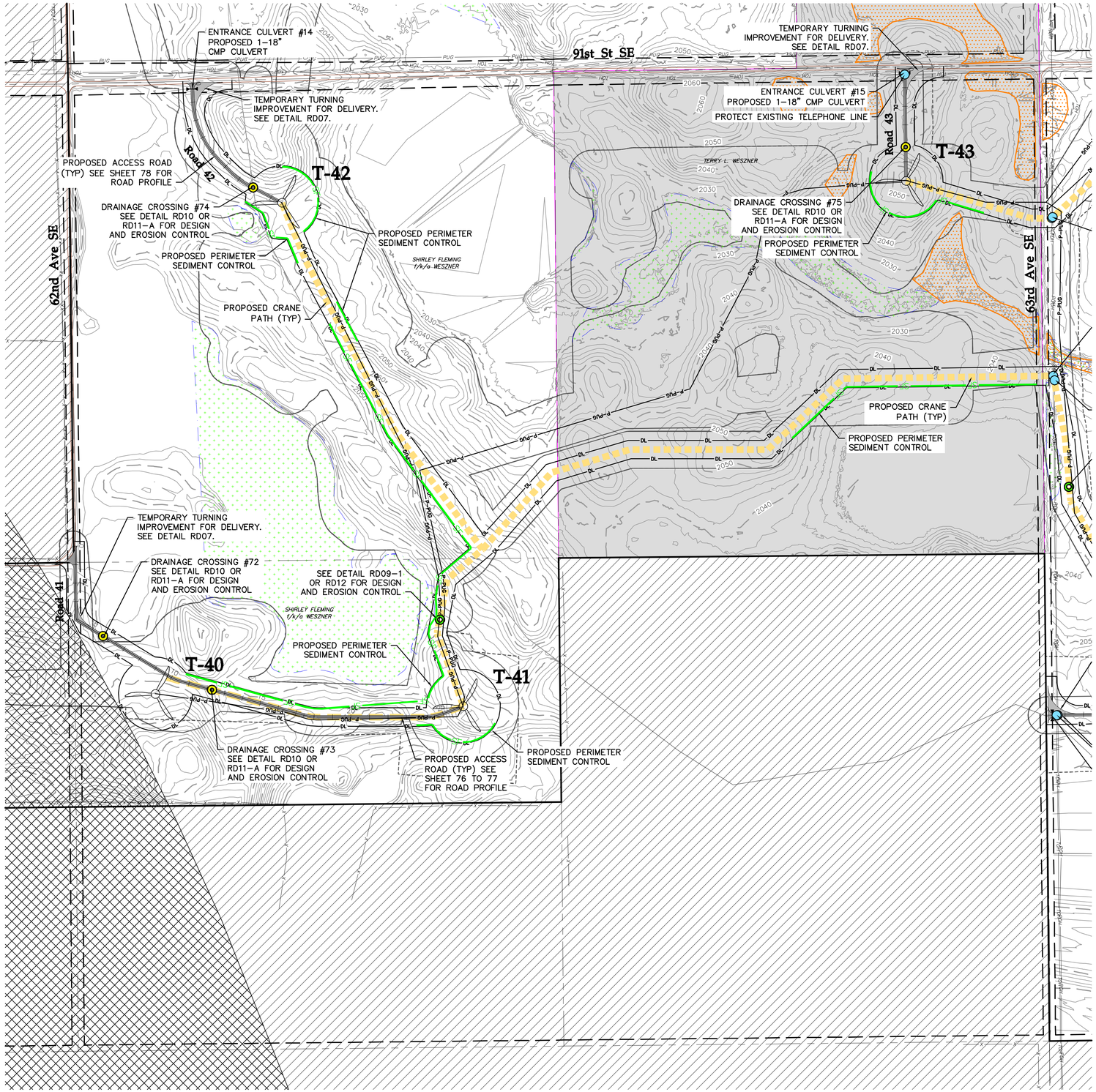
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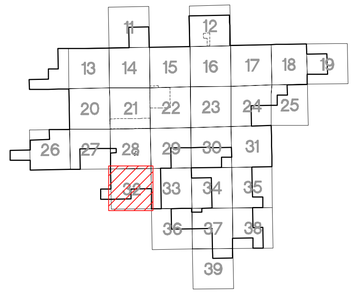
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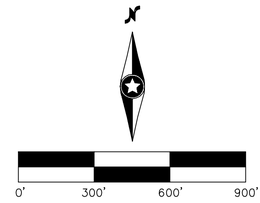


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- ARCHEOLOGICAL SITE – NO IMPACTS
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- PROPOSED FENCE CROSSING
- PROPOSED DRAINAGE CROSSING
- PROPOSED TEMPORARY DRAINAGE CROSSING
- PROPOSED CULVERT



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a MasTec company

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Merricourt Wind Project

McIntosh County, North Dakota

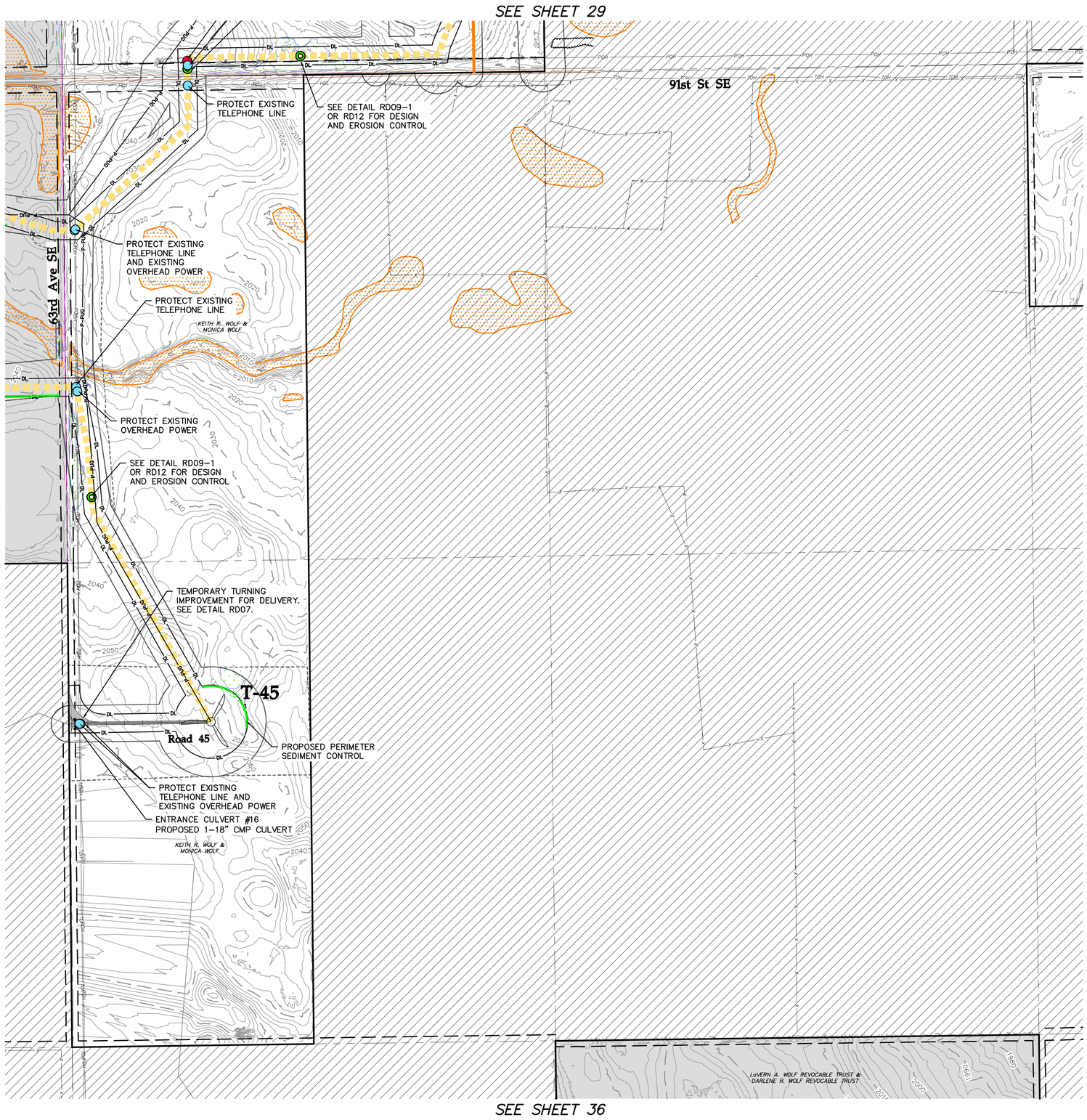
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Sheet: 32 OF 118

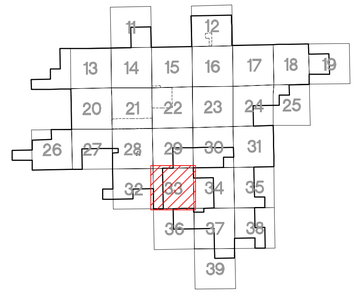
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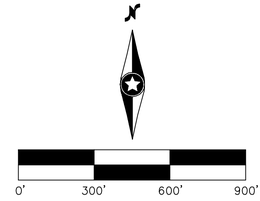


LEGEND:

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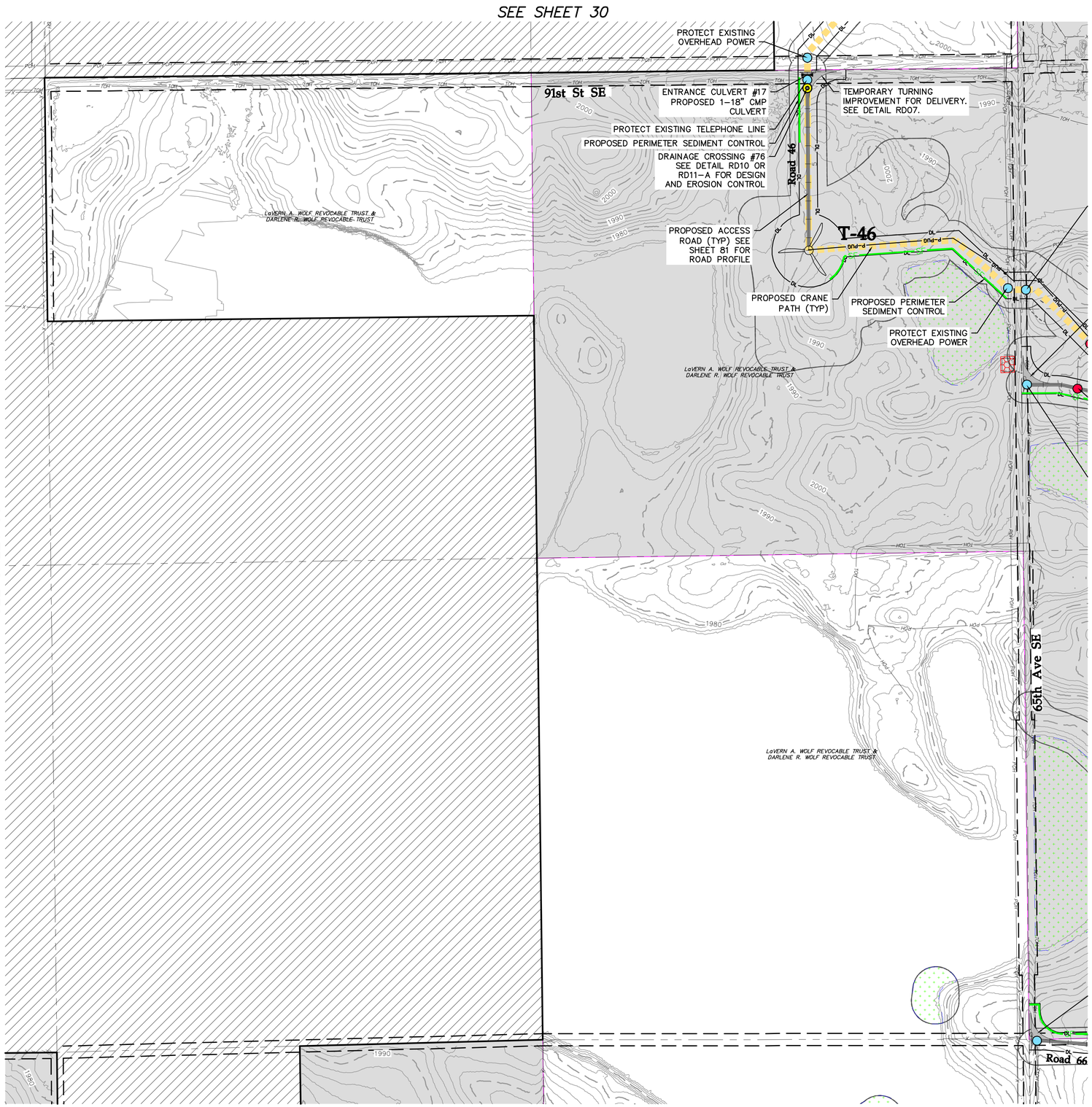
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Sheet: 33 OF 118

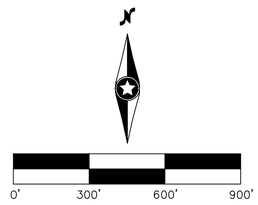
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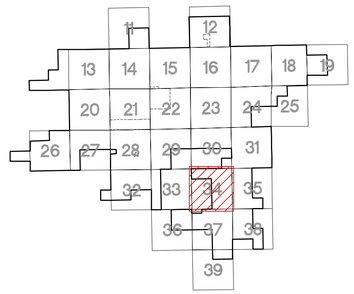
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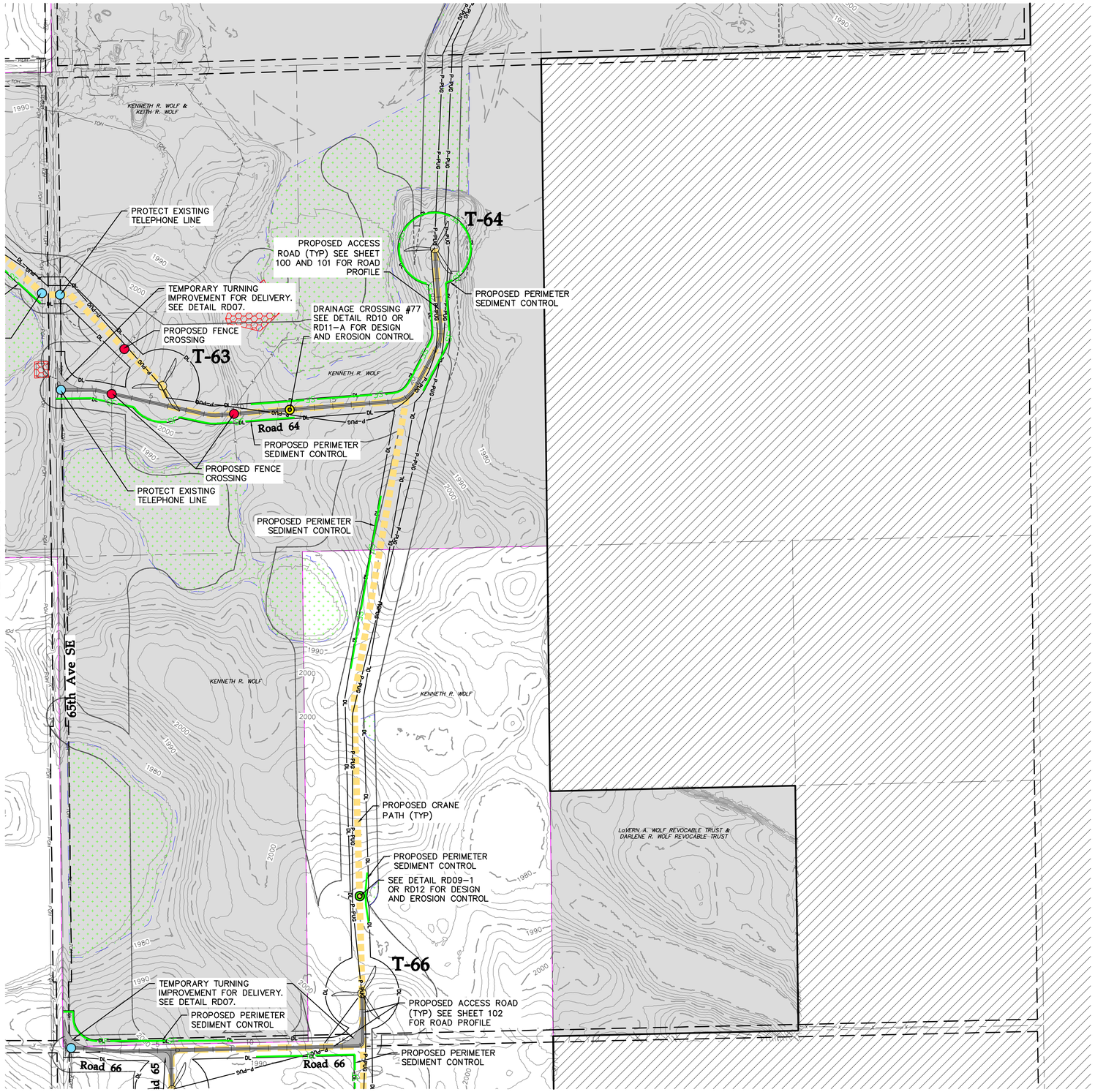
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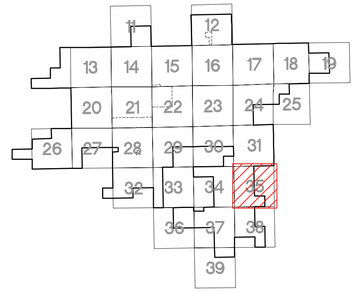


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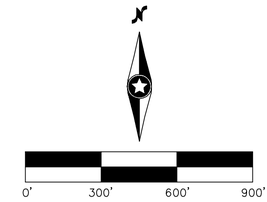
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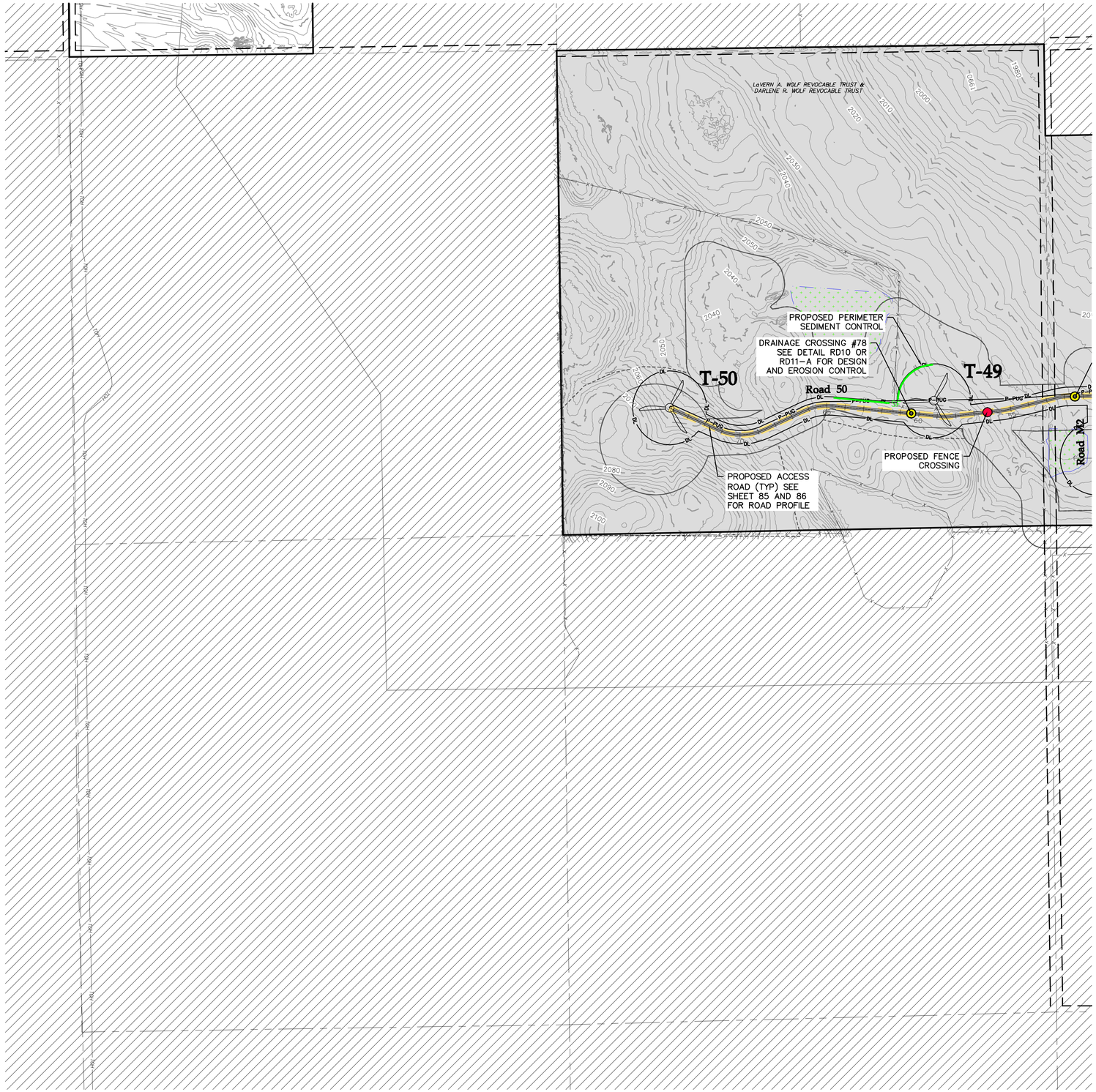
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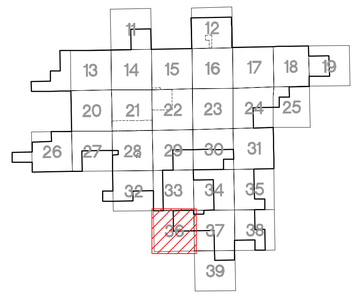
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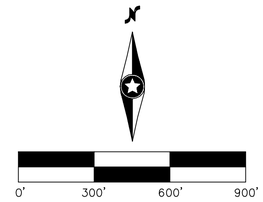


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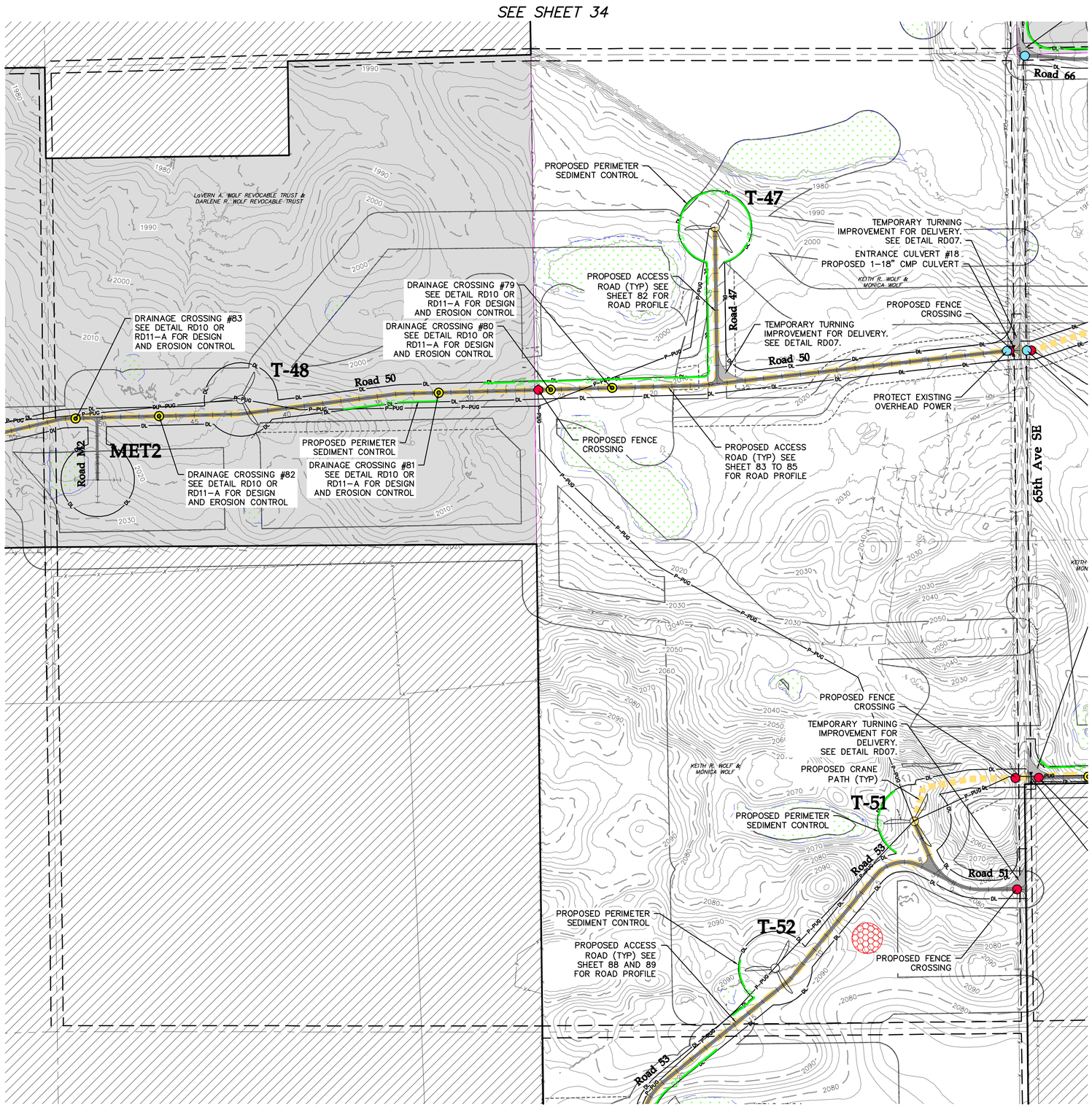
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Sheet: 36 OF 118

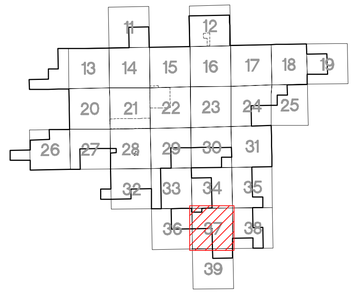
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KEY MAP

0' 300' 600' 900'

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McIntosh County, North Dakota

Civil Site Plan T-47 - T-48, T-51 - T-52

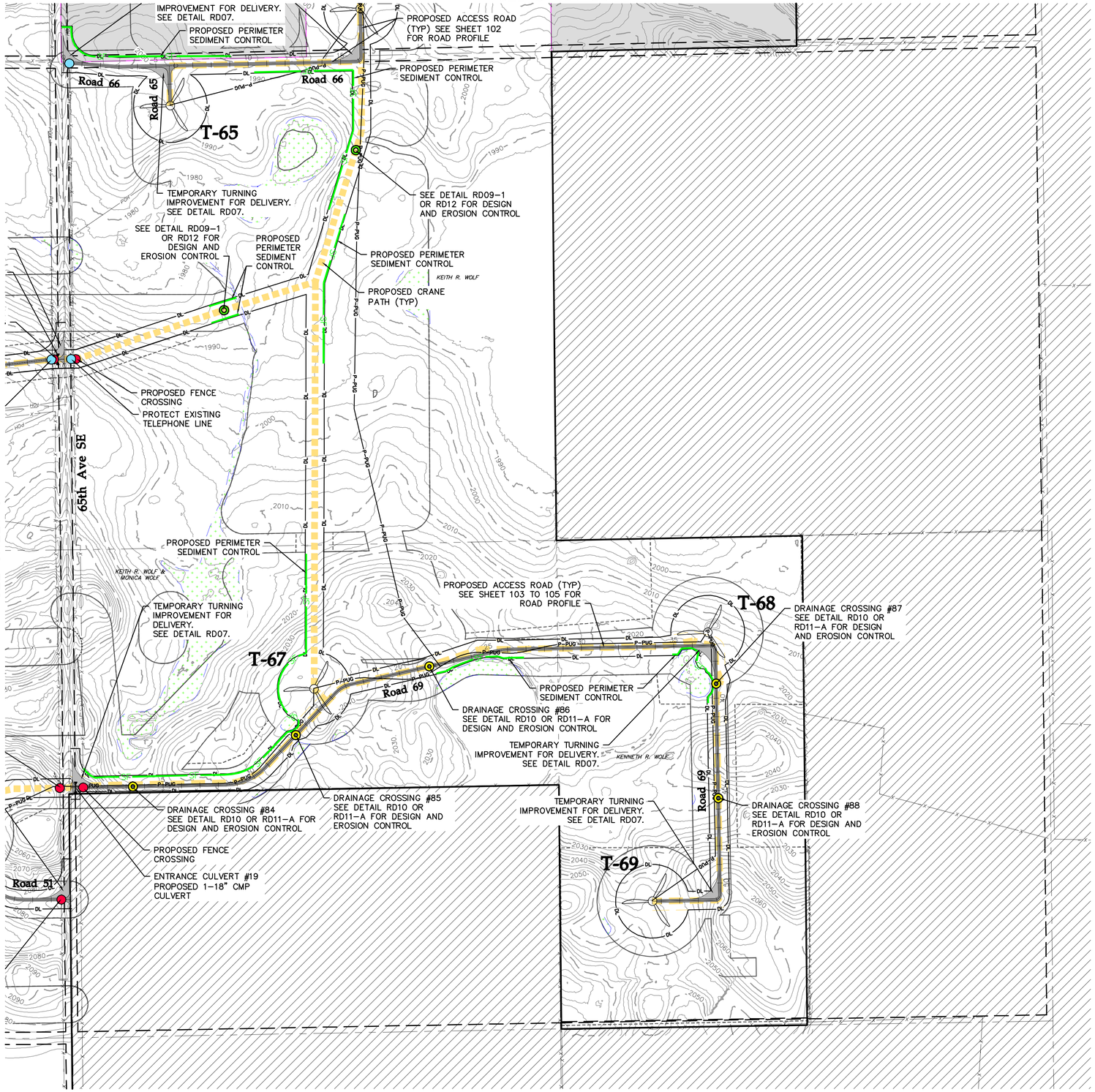
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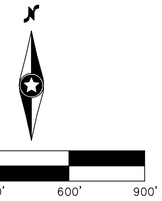
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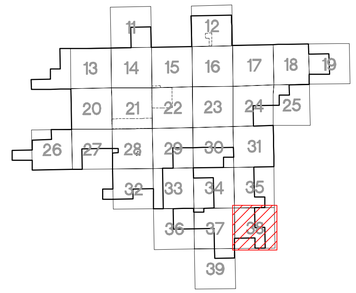
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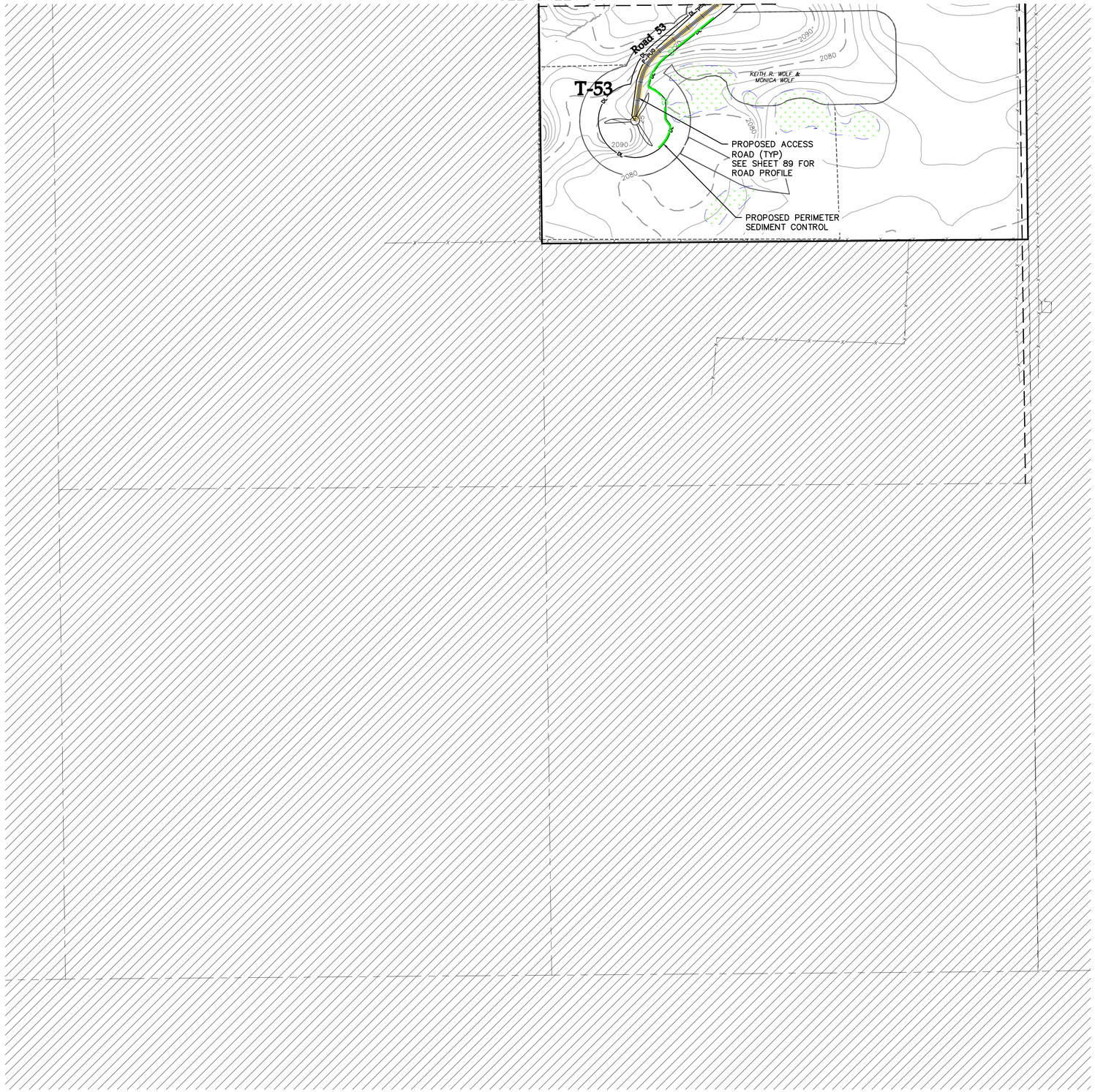
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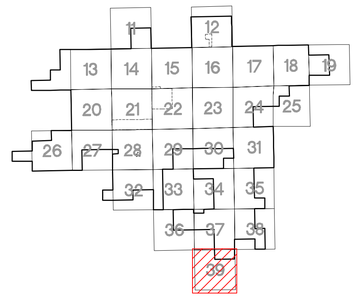
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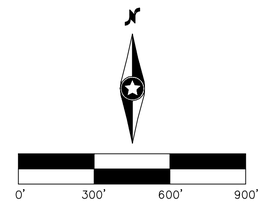


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Merricourt Wind Project

McIntosh County, North Dakota

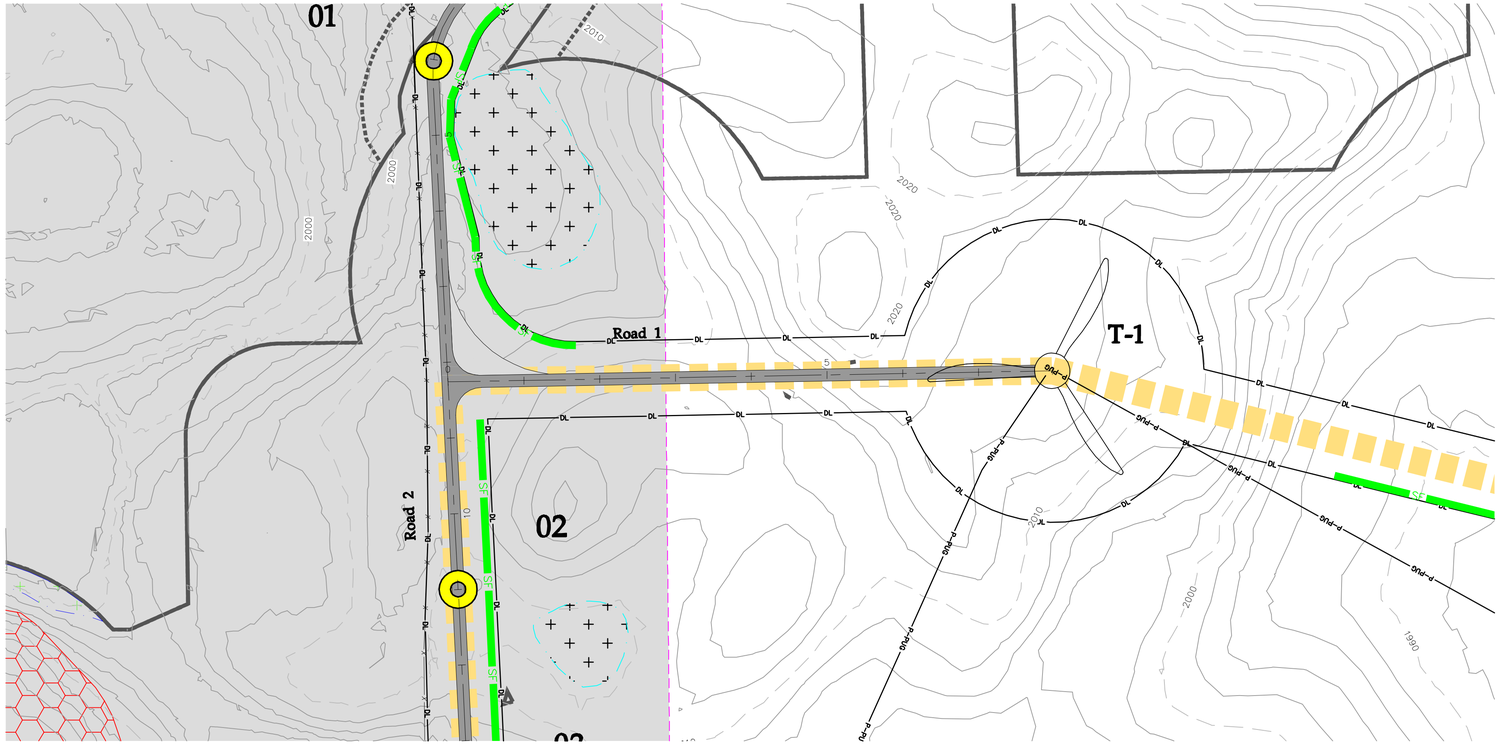
Civil Site Plan T-53

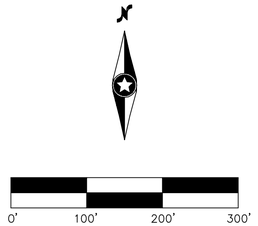
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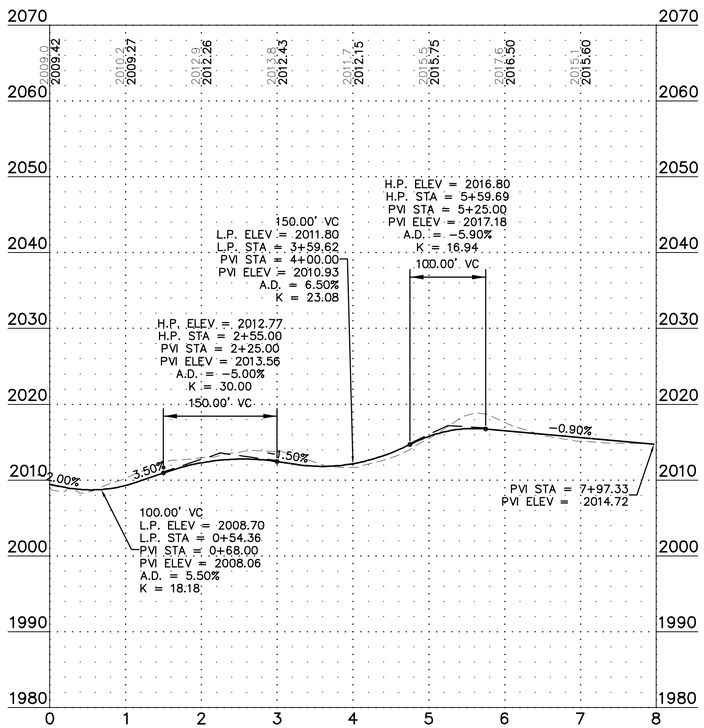
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Designed:	SNK
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As-Built Drawing:	

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
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- PROPOSED CRANE PATH
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- DELINEATED WETLAND – KLJ
- ARCHEOLOGICAL SITE – NO IMPACTS
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- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

Road 1 - Sta. 0+00 to End

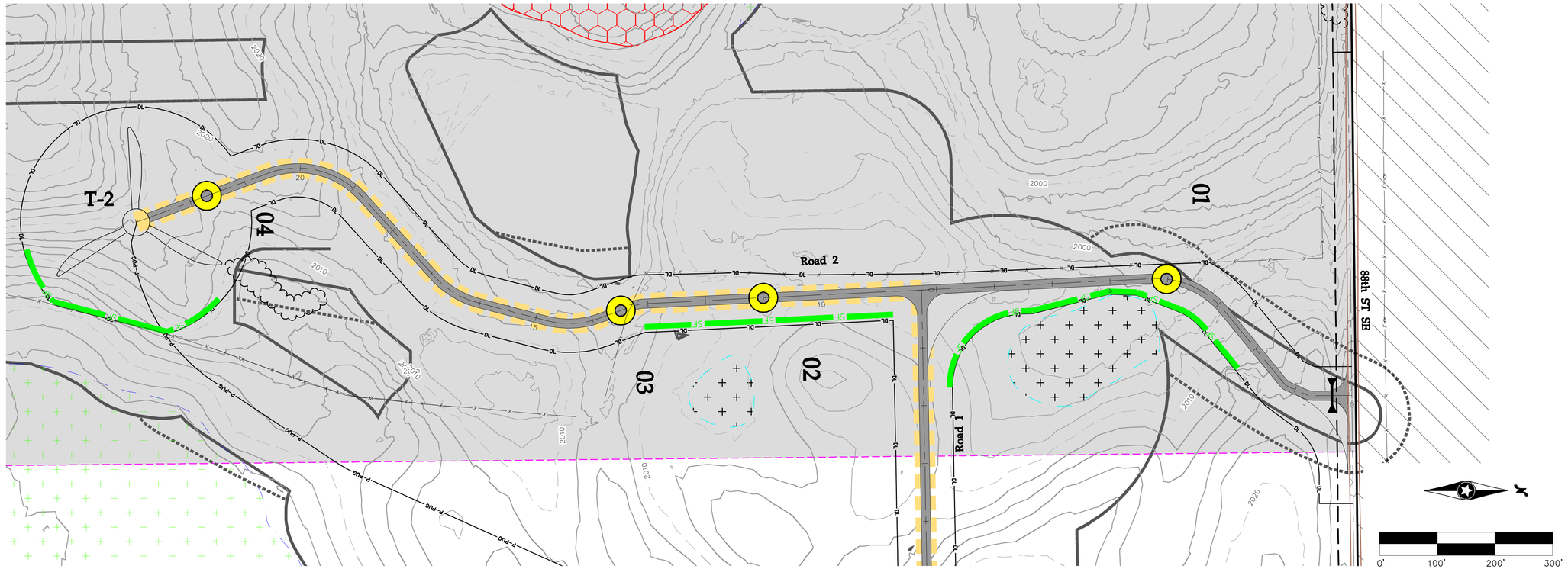
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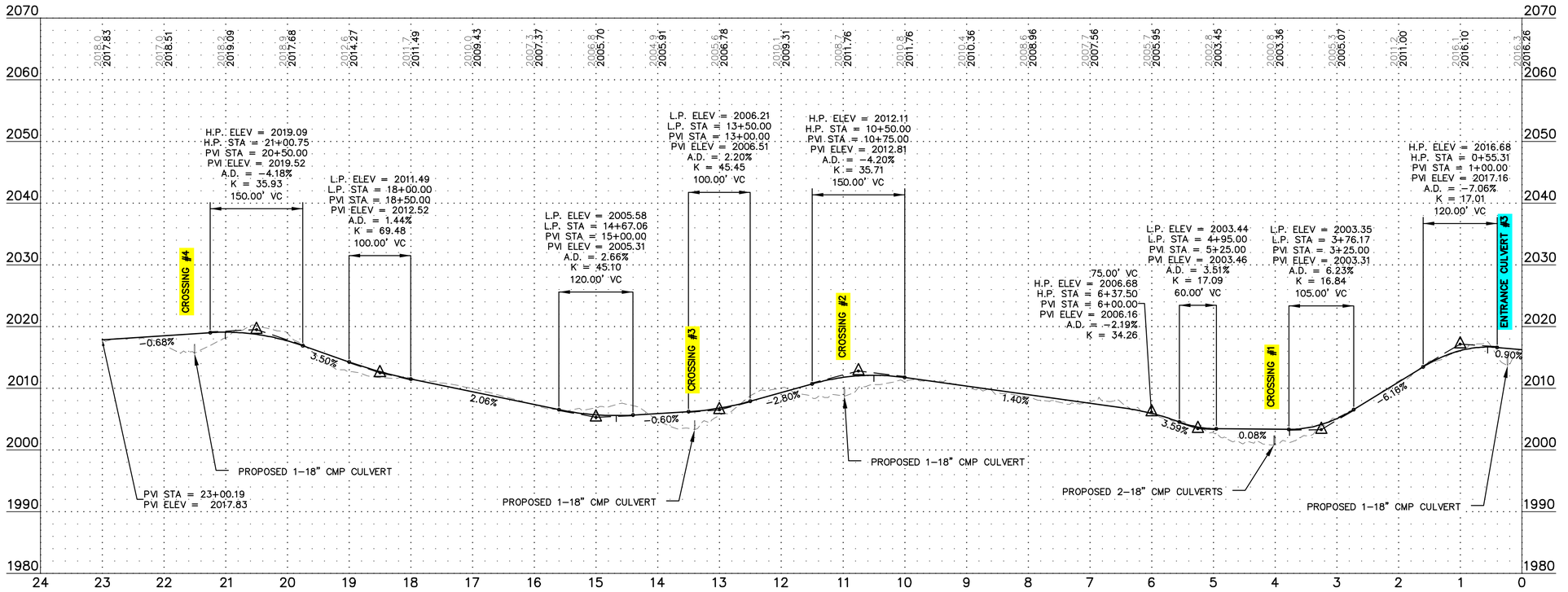
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Merricourt Wind Project

McIntosh County, North Dakota

Road 2 - Sta. 0+00 to End

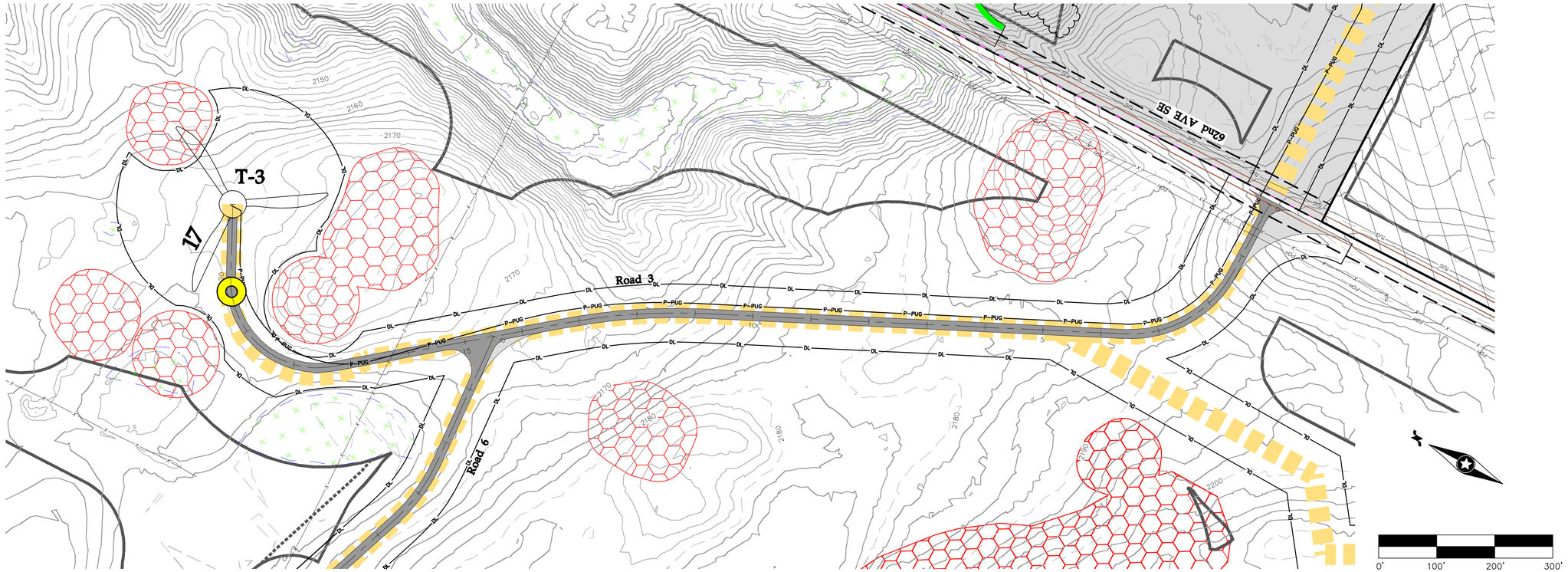
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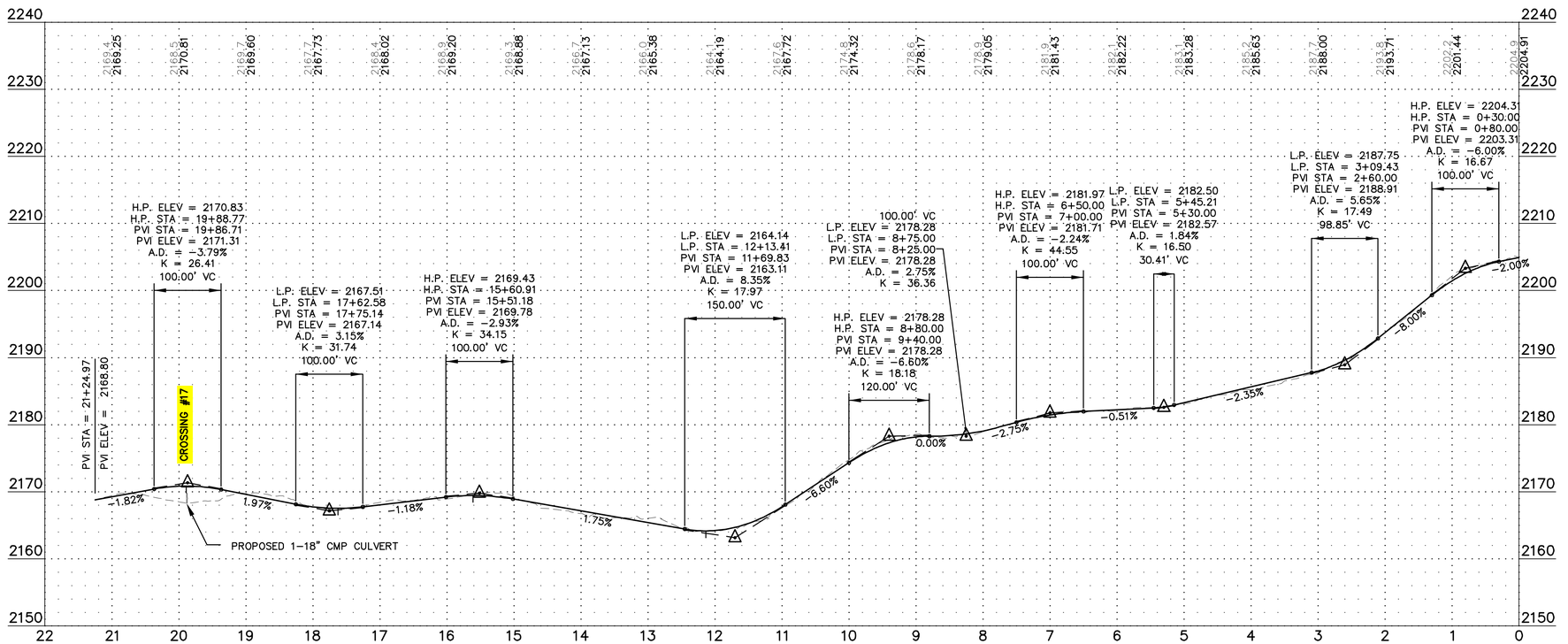
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Merricourt Wind Project

McIntosh County, North Dakota

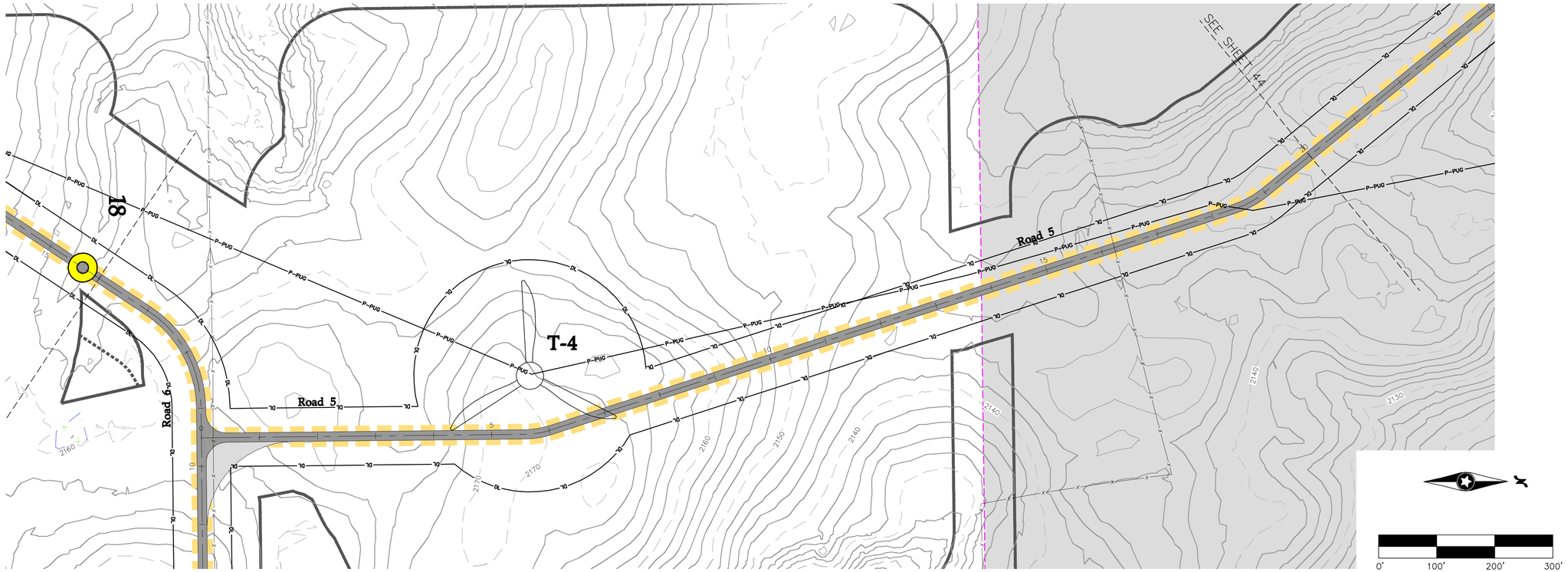
Road 3 - Sta. 0+00 to End

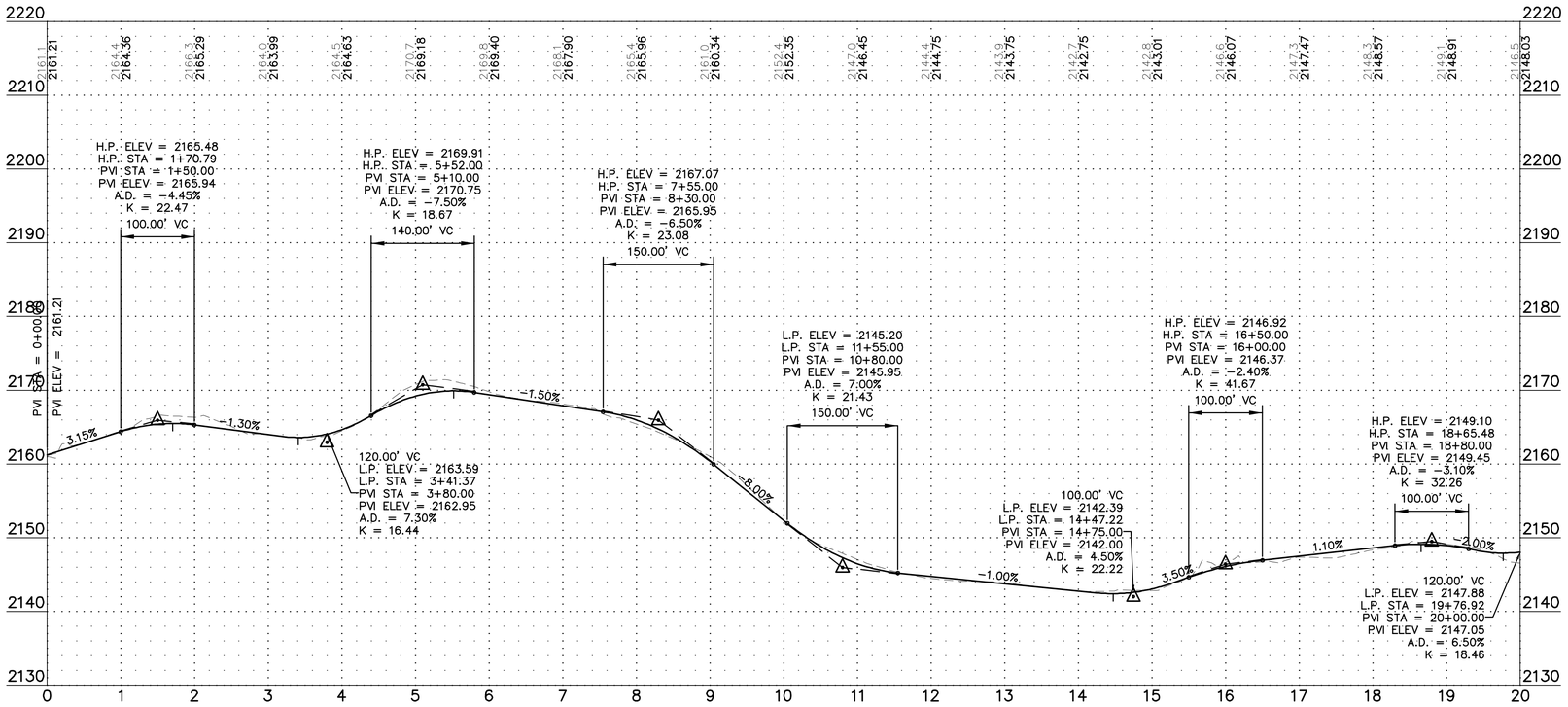
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Merricourt Wind Project

McIntosh County, North Dakota

Road 5 - Sta. 0+00 to 20+00

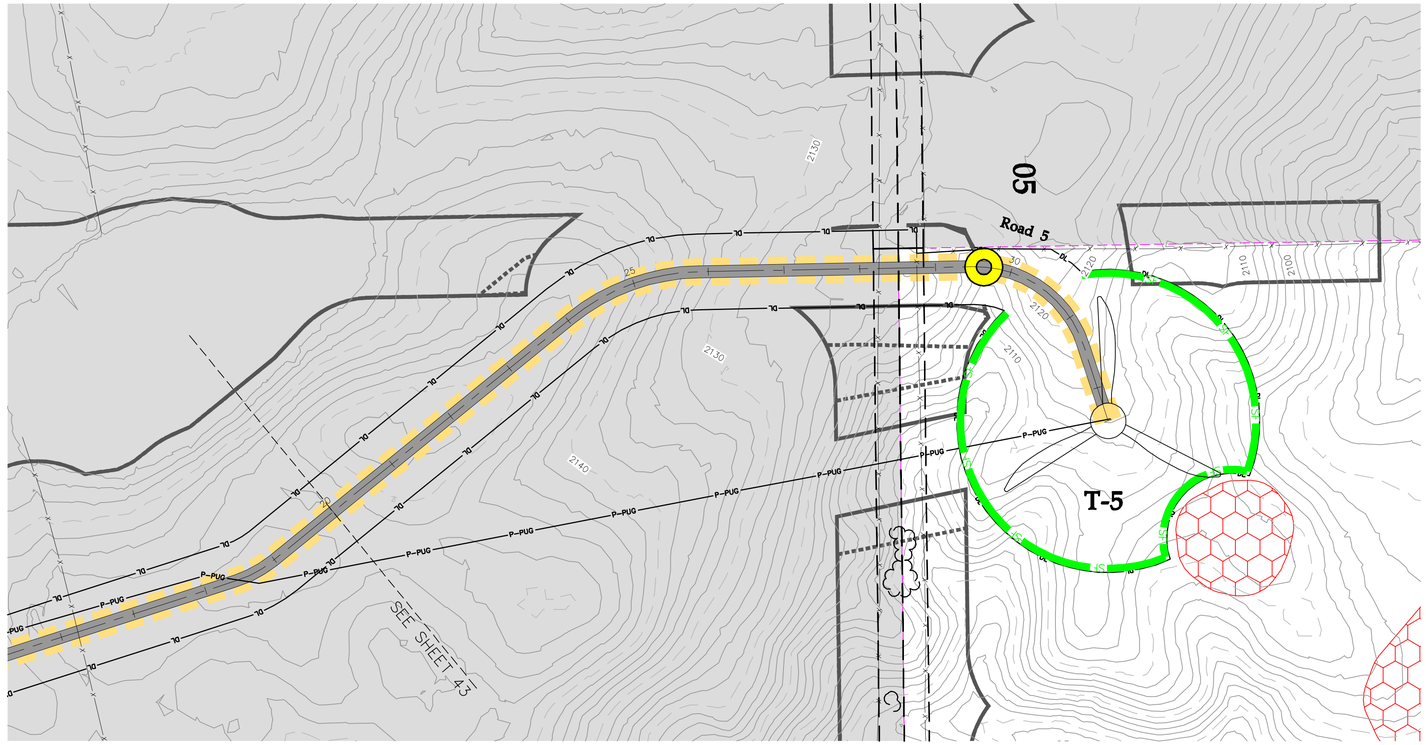
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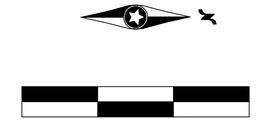
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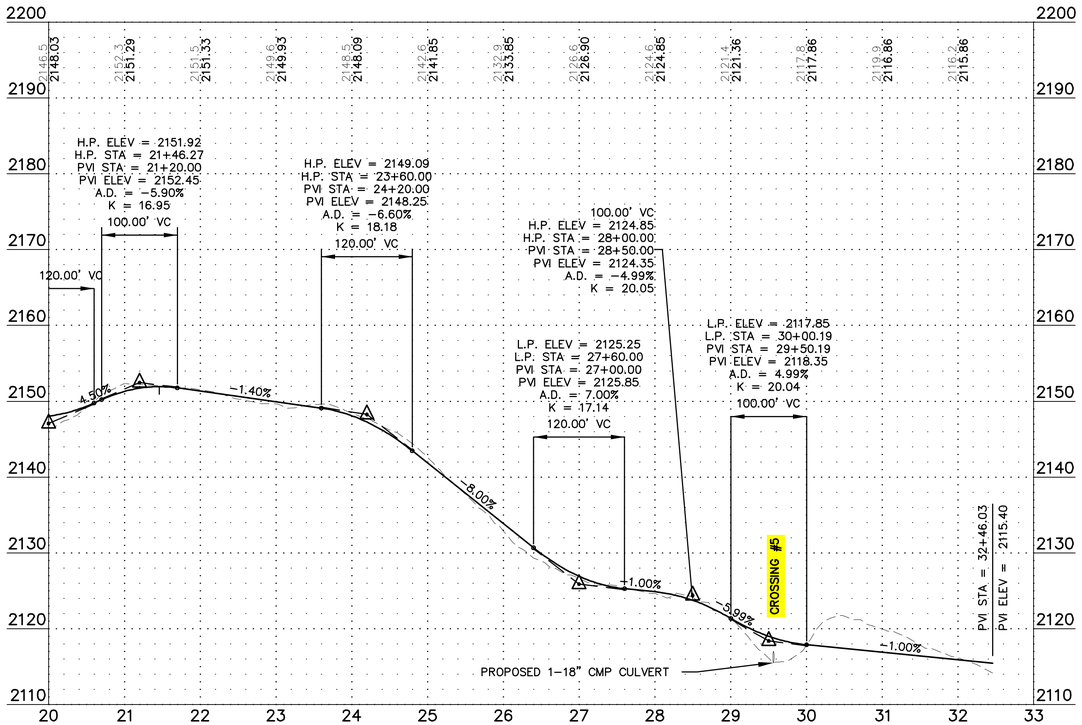
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Merricourt Wind Project

McIntosh County, North Dakota

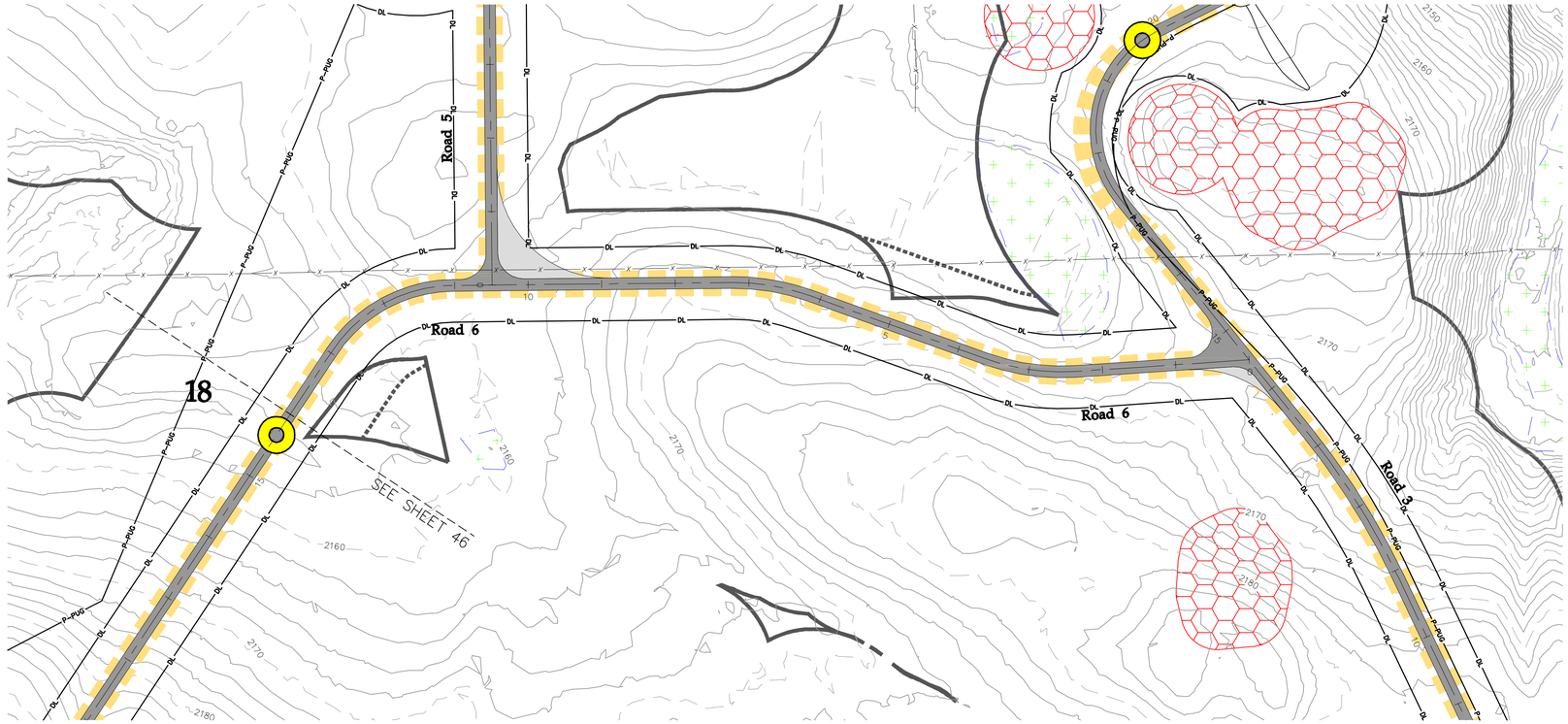
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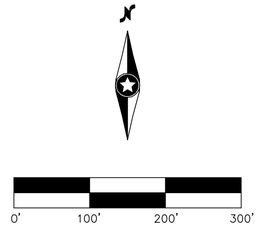
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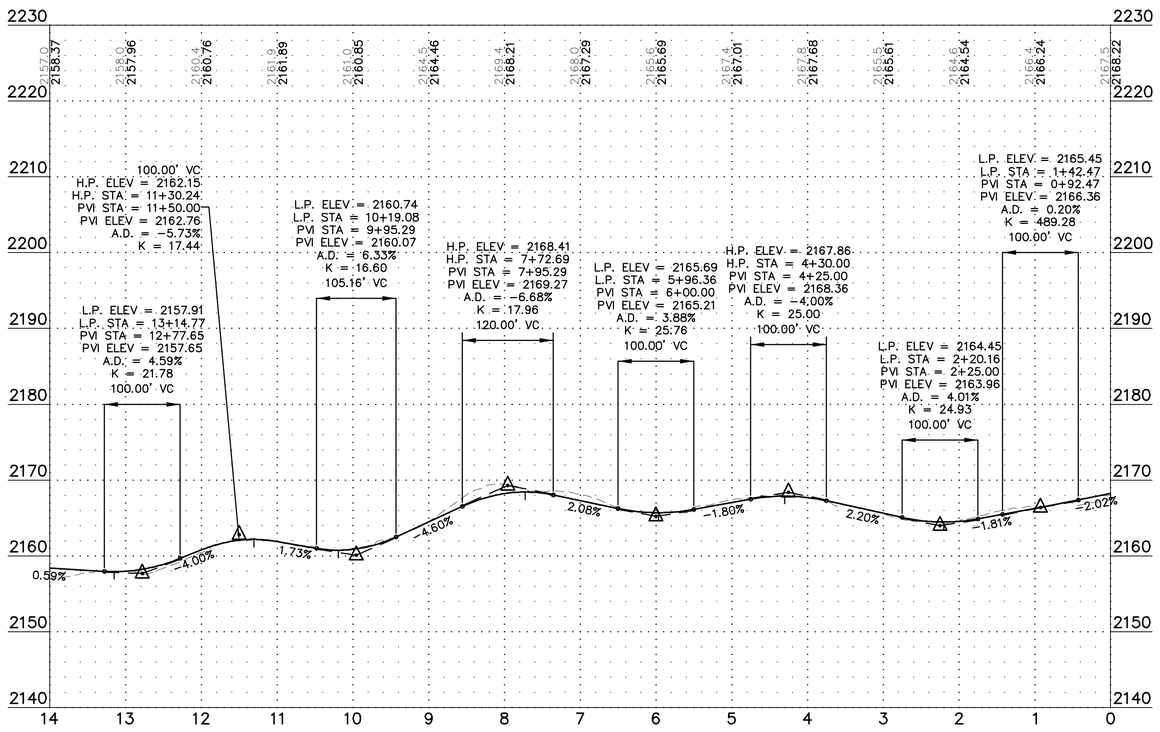
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Merricourt Wind Project

McIntosh County, North Dakota

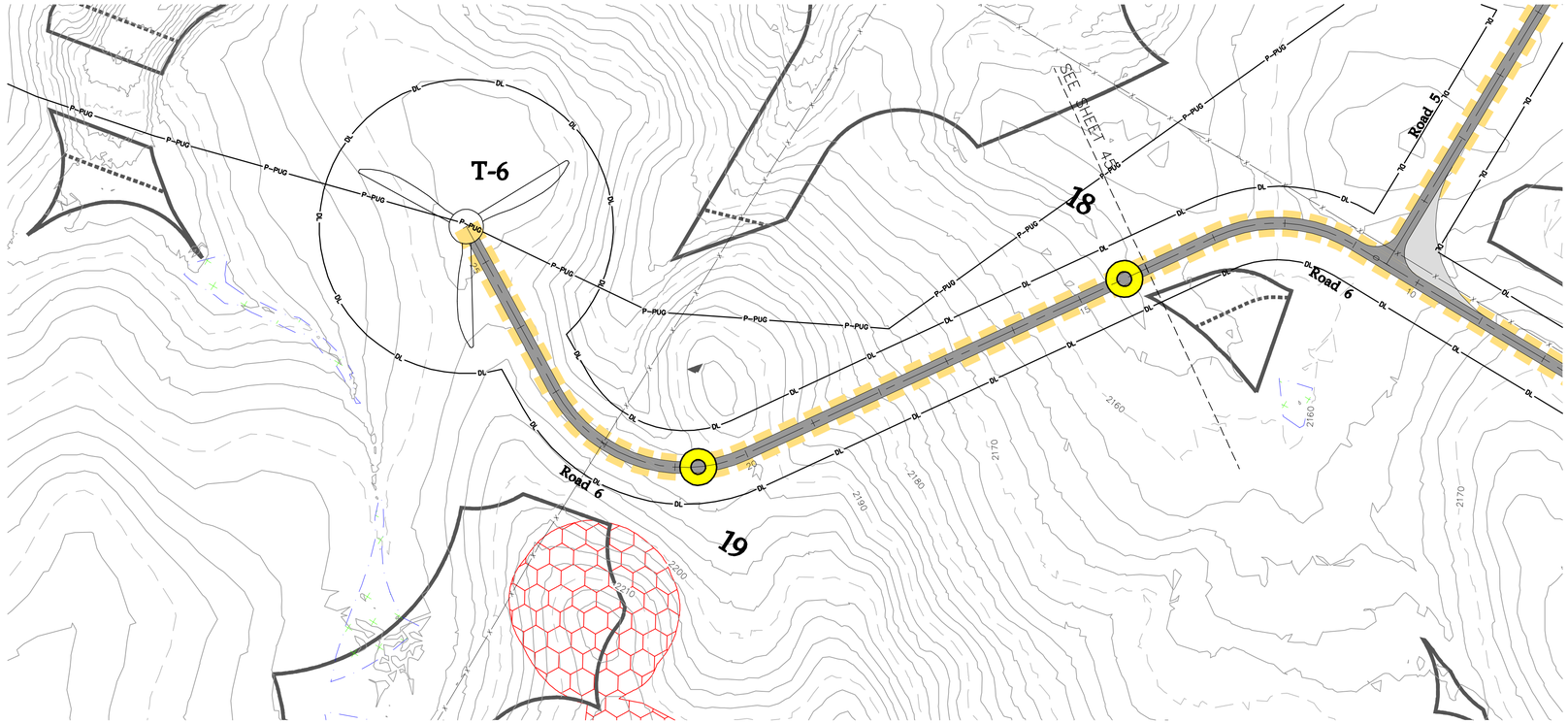
Road 6 - Sta. 0+00 to 14+00

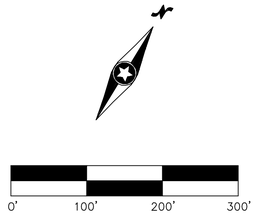
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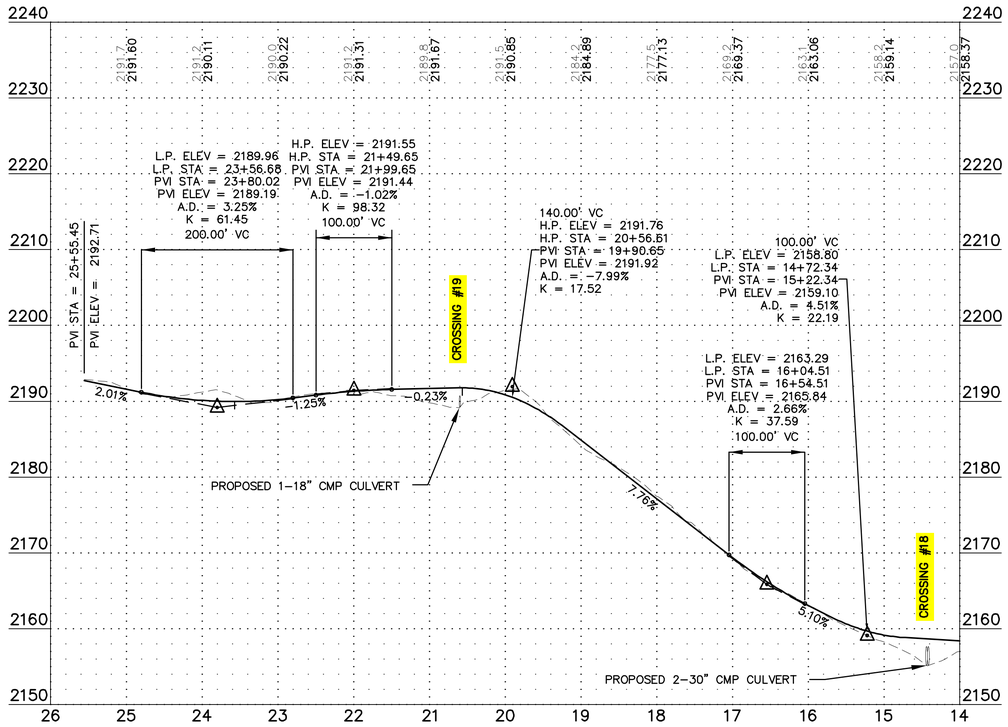
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McIntosh County, North Dakota

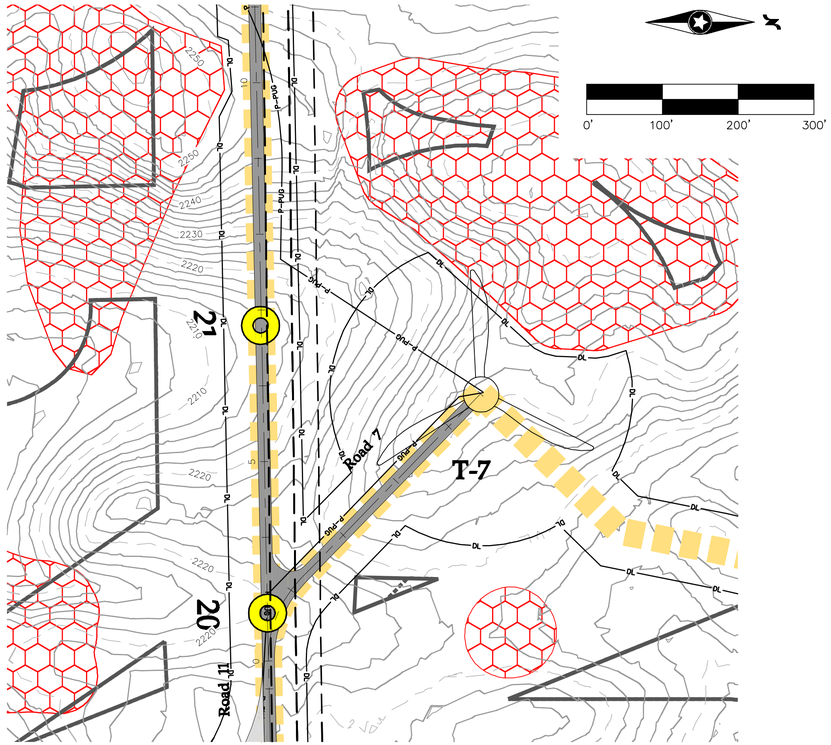
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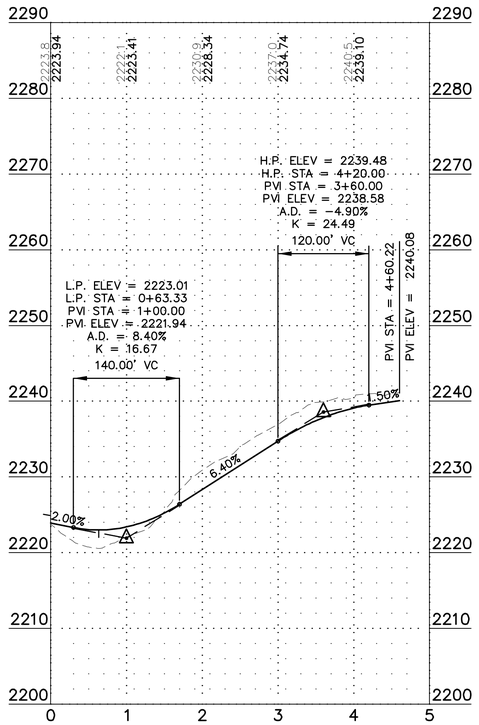
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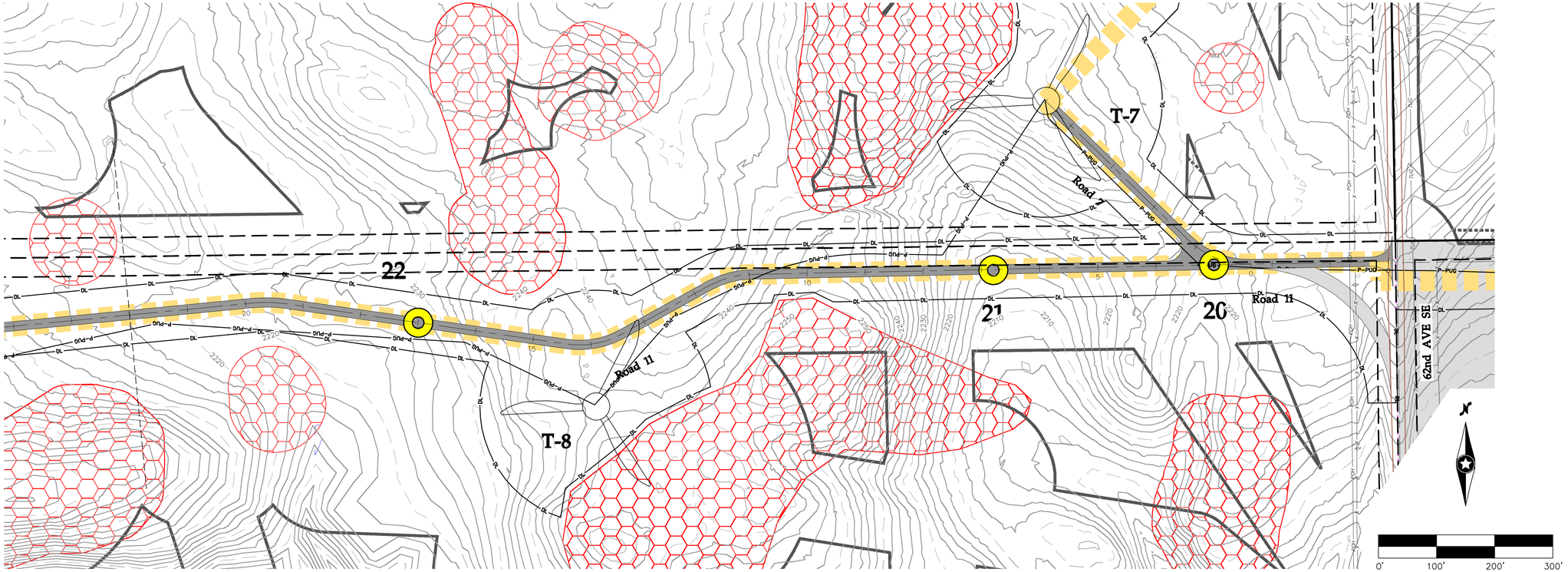
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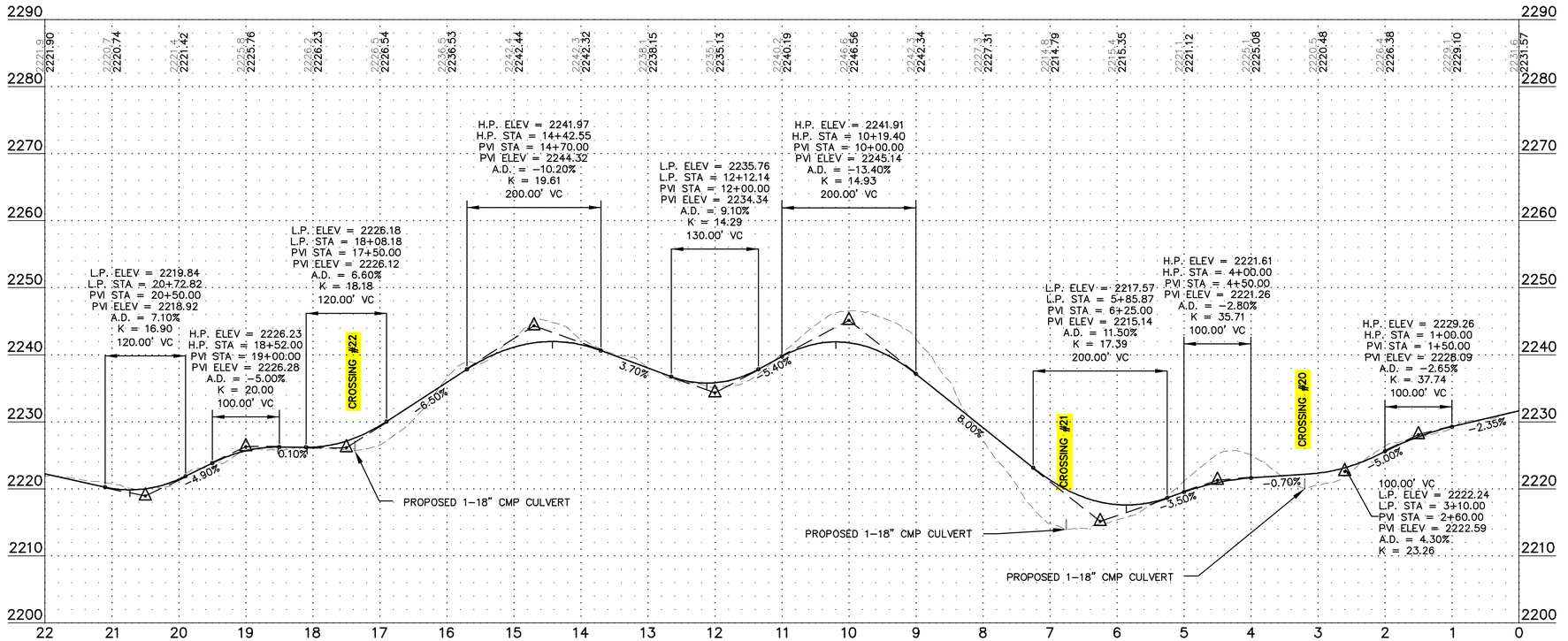
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Merricourt Wind Project

McIntosh County, North Dakota

Road 11 - Sta. 0+00 to 22+00.00

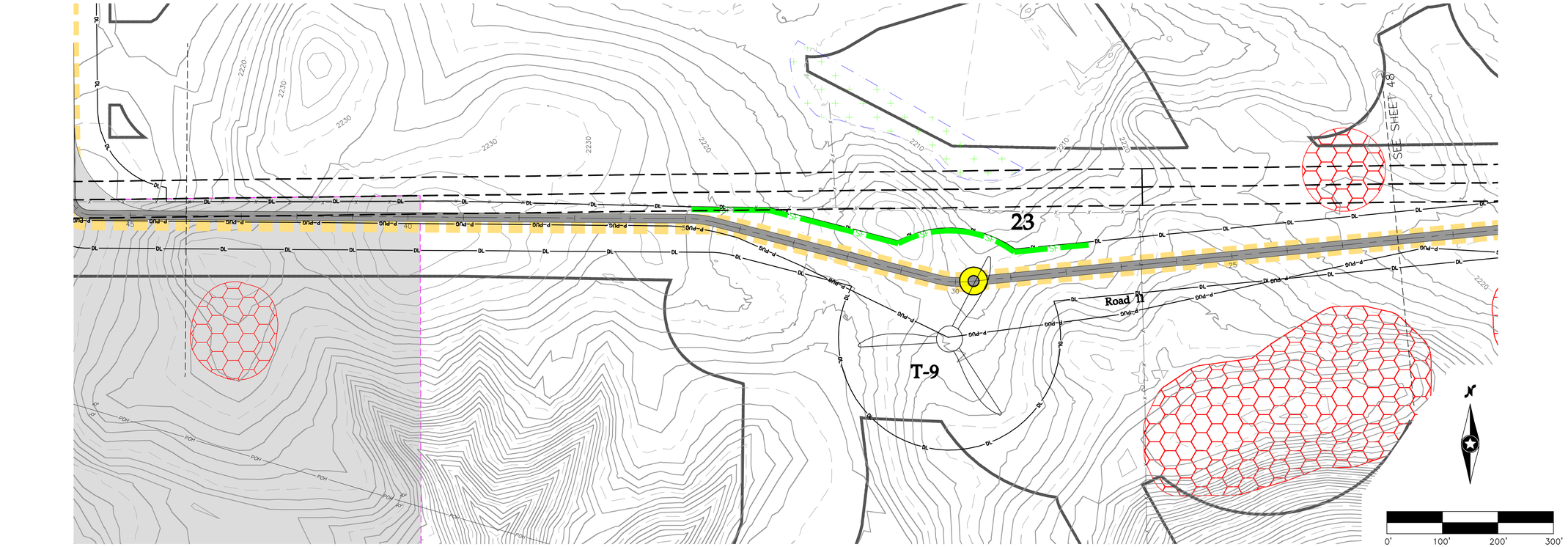
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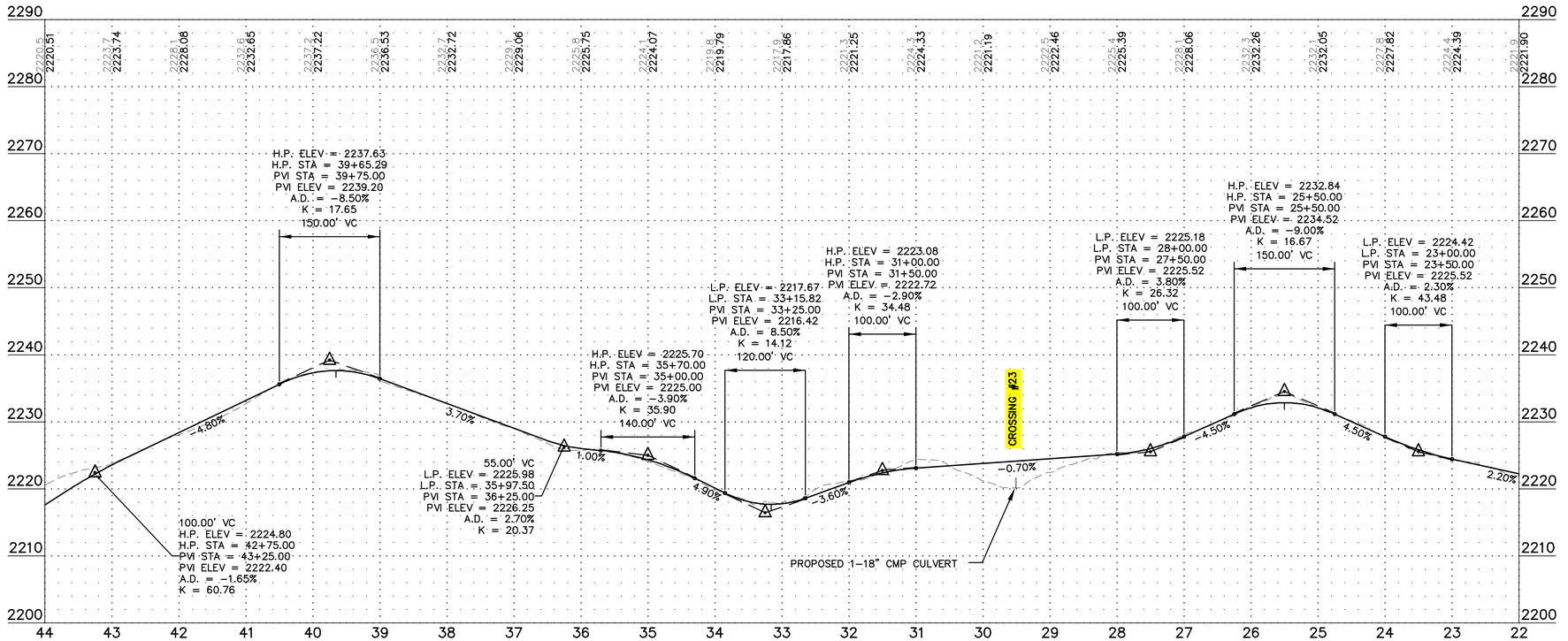
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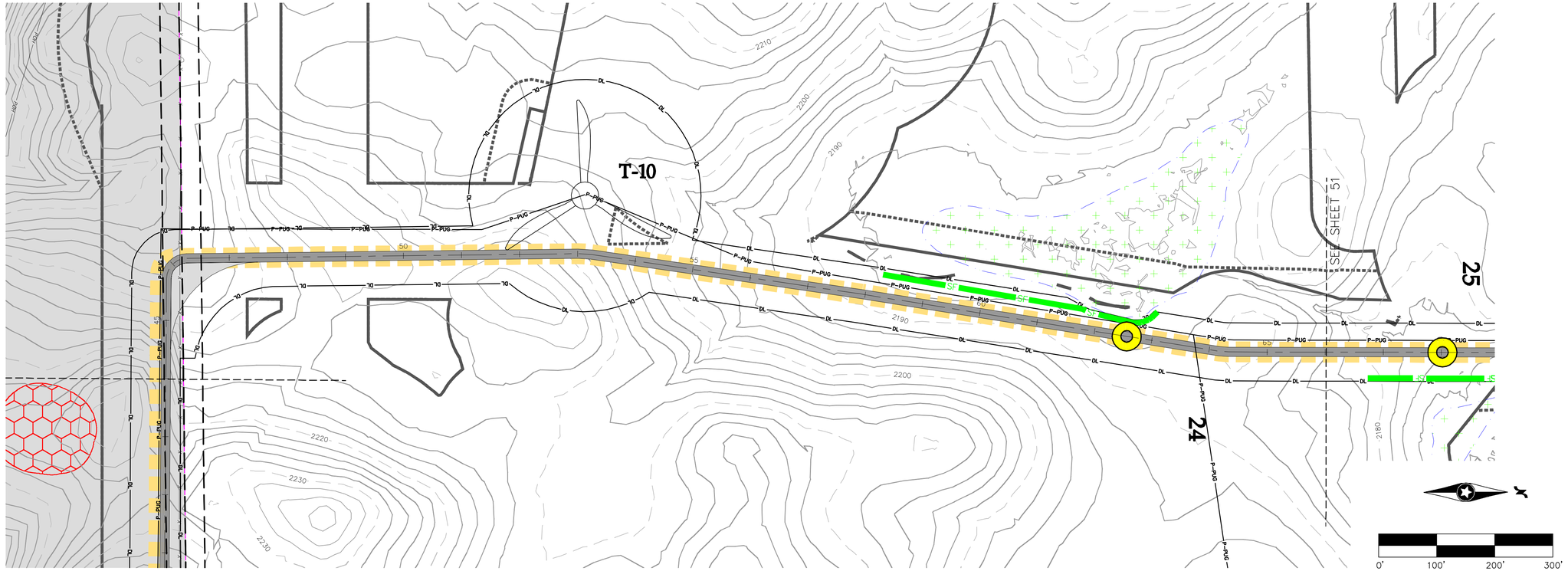
Road 11 - Sta. 22+00 to 44+00

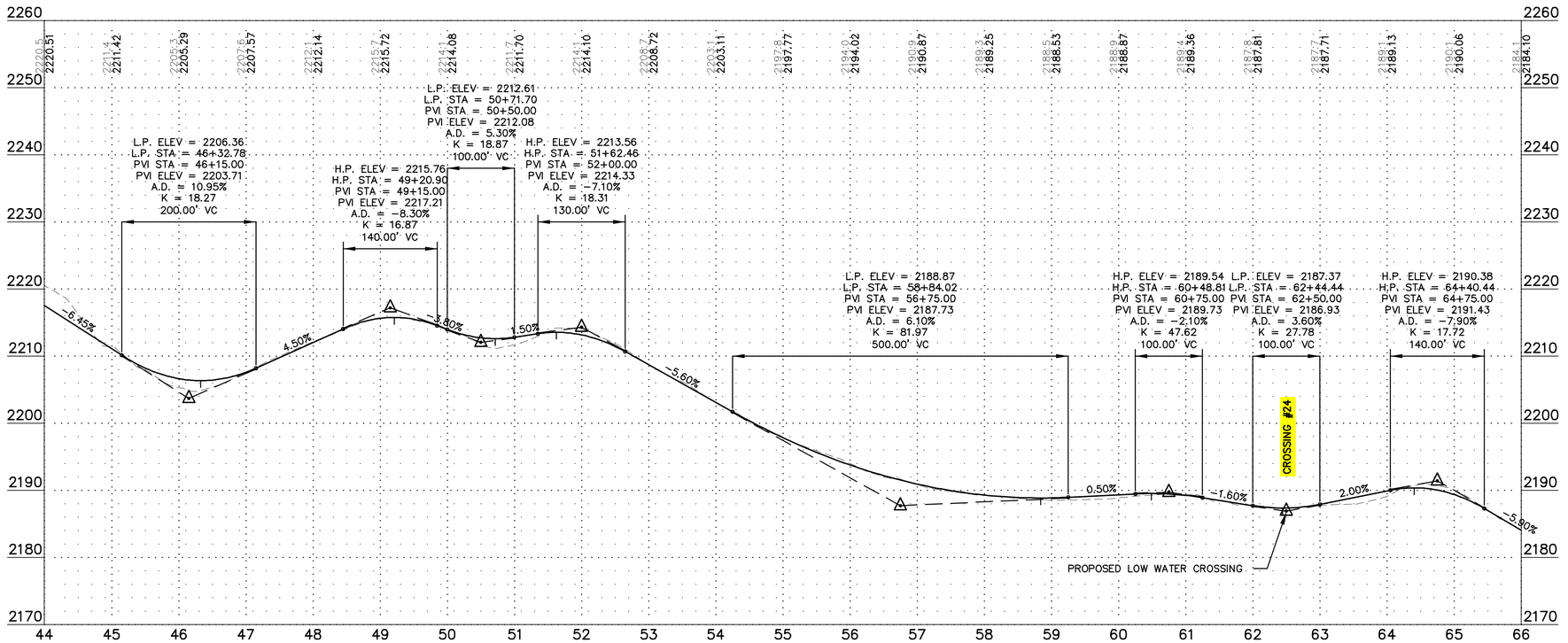
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Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX PROPOSED TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED CRANE PATH
- DL PROPOSED DISTURBANCE LIMIT
- P-PUG PROPOSED COLLECTION
- 980 EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- SF PROPOSED PERIMETER SEDIMENT CONTROL
- SURVEY CORRIDOR
- WETLAND SURVEY CORRIDOR
- USFWS PROTECTED BASINS
- DELINEATED WETLAND – KLJ
- ARCHEOLOGICAL SITE – NO IMPACTS
- USFWS EASMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

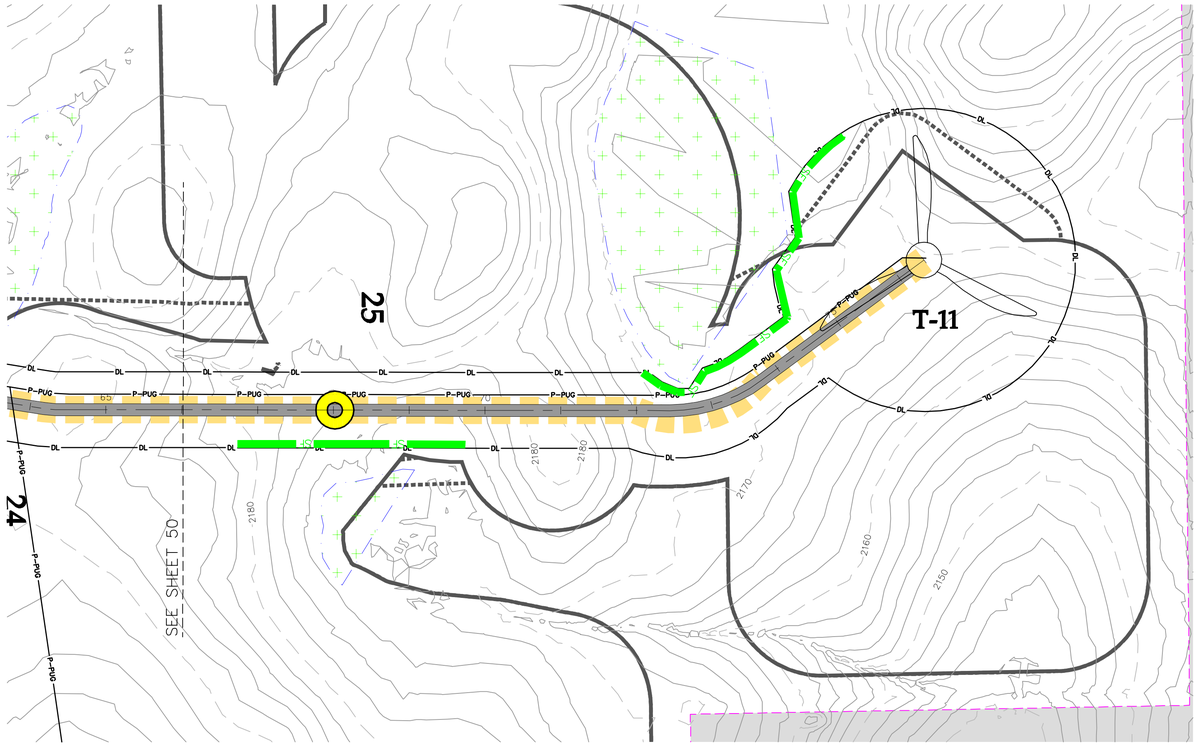
Road 11 - Sta. 44+00 to 66+00

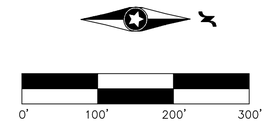
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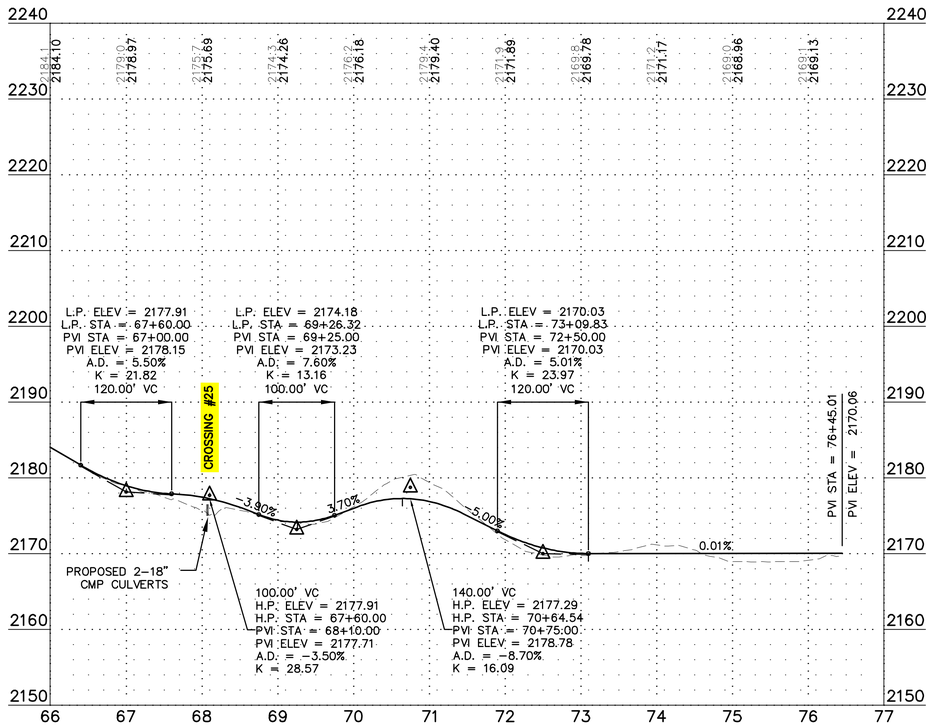
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Merricourt Wind Project

McIntosh County, North Dakota

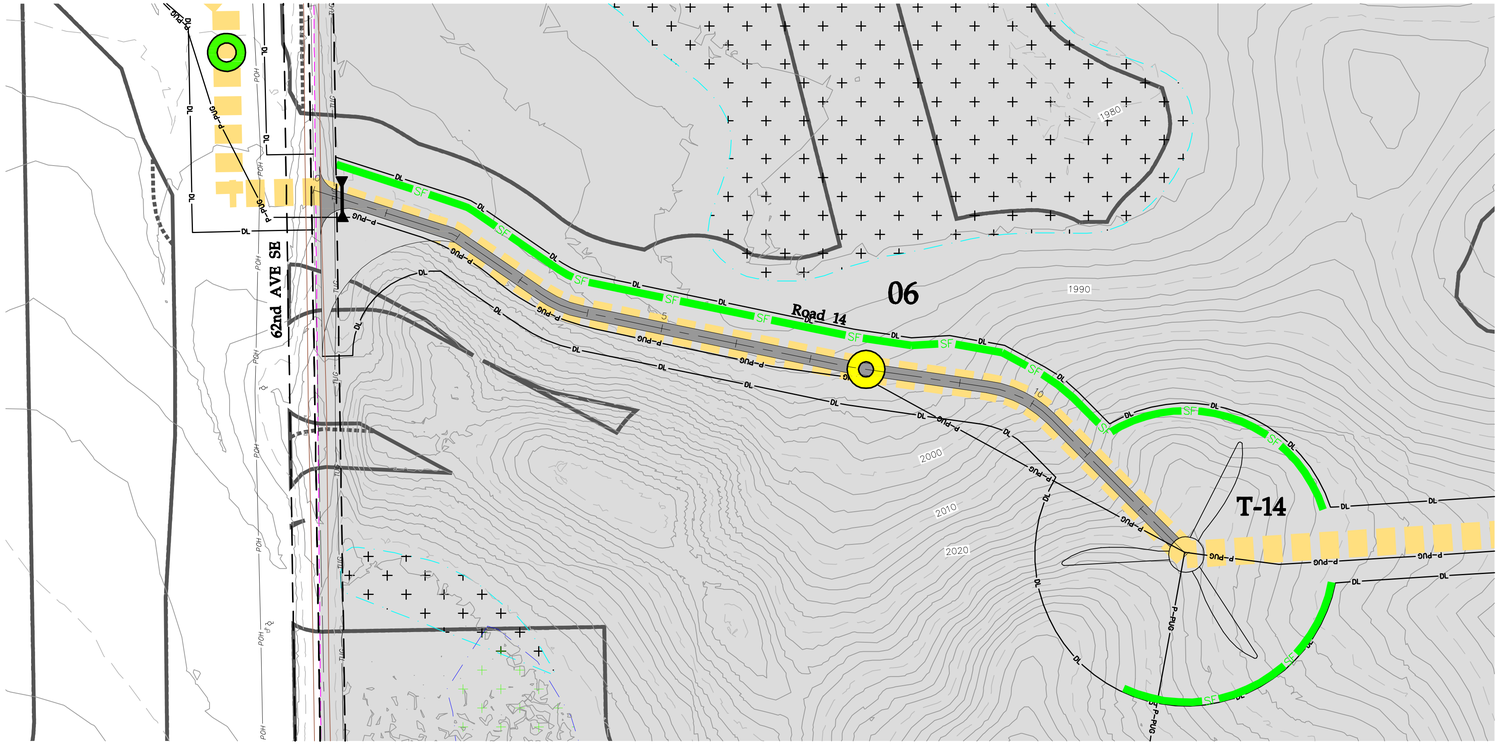
Road 11 - Sta. 66+00 to End

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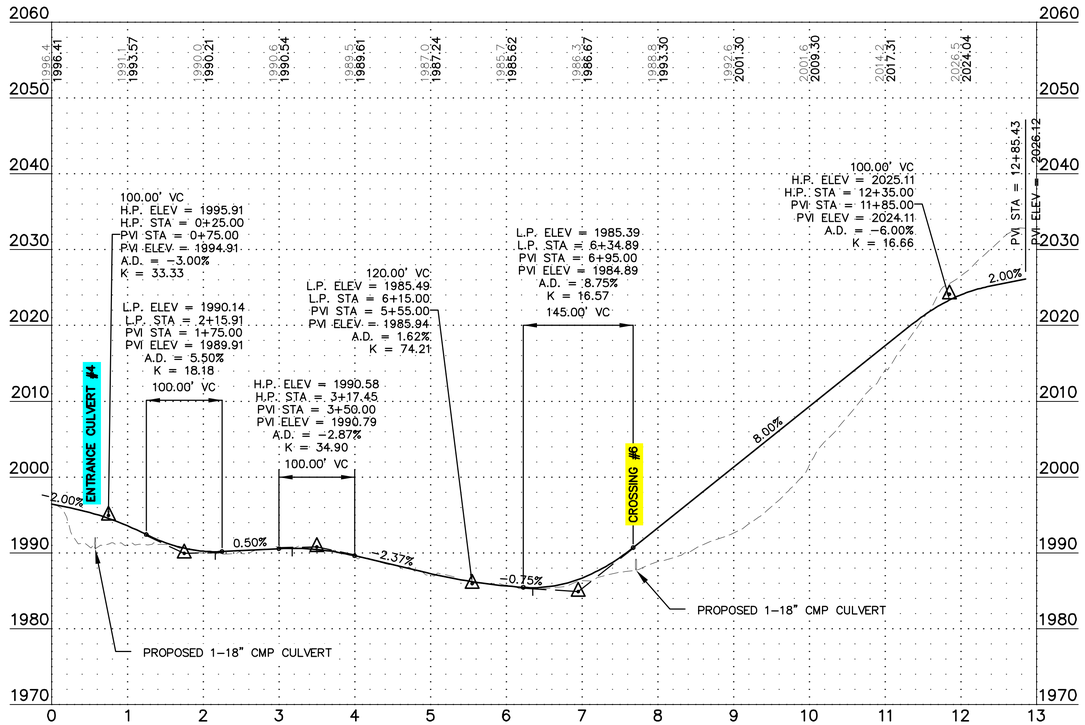
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Merricourt Wind Project

McIntosh County, North Dakota

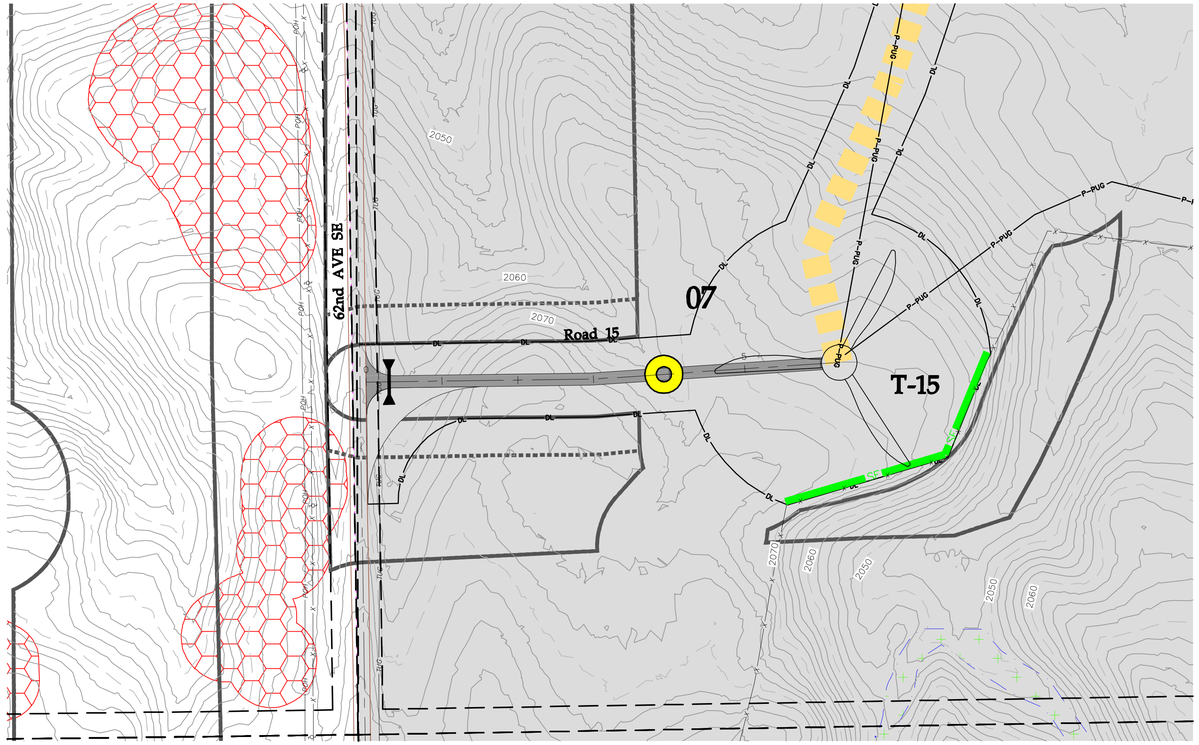
Road 14 - Sta. 0+00 to End

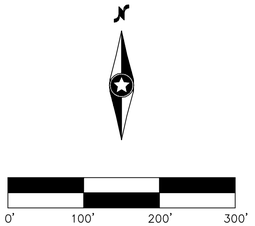
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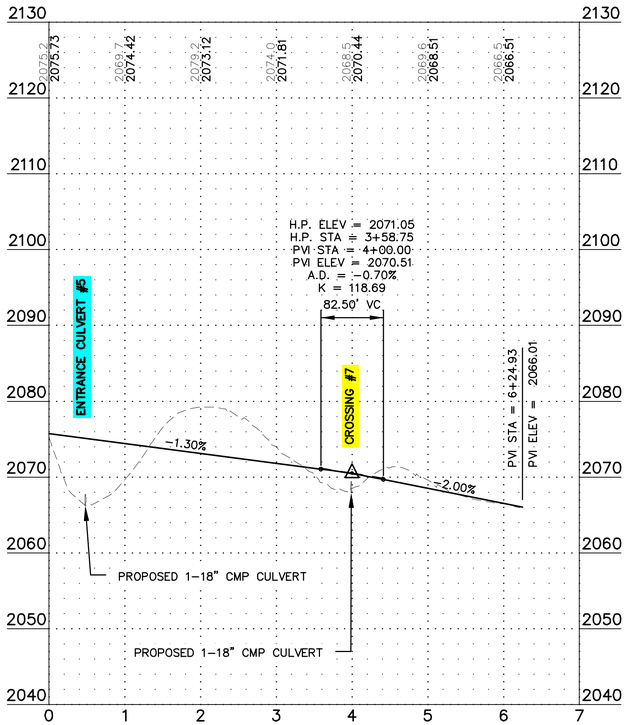
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Merricourt Wind Project

McIntosh County, North Dakota

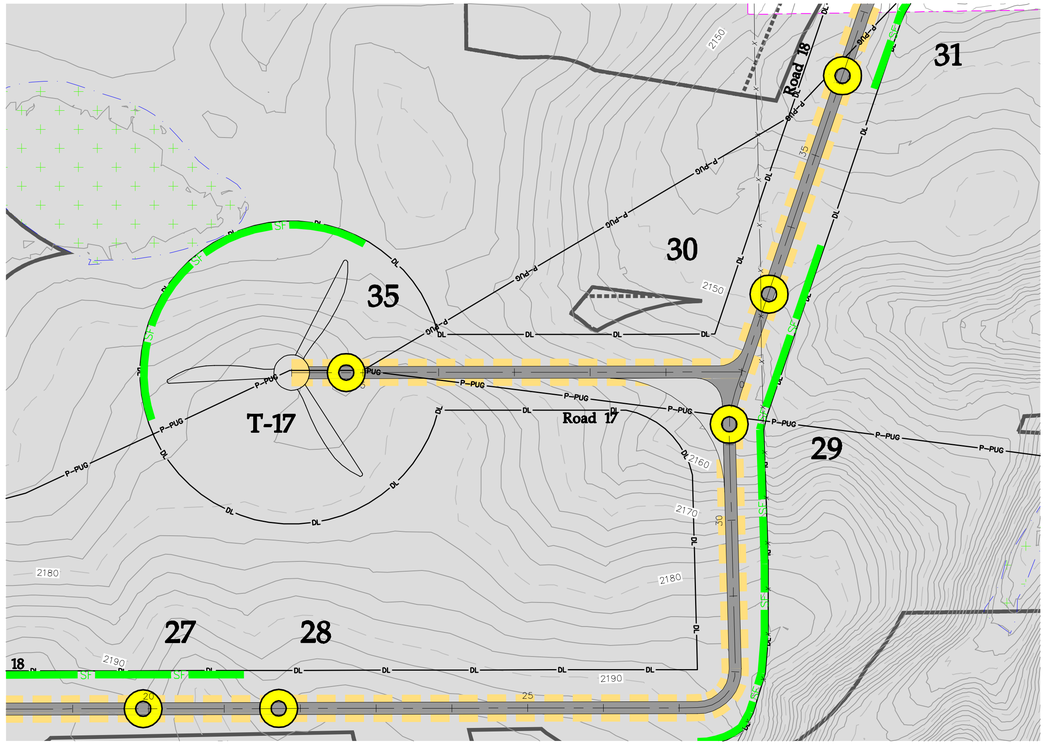
Road 15 - Sta. 0+00 to End

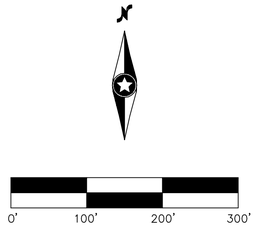
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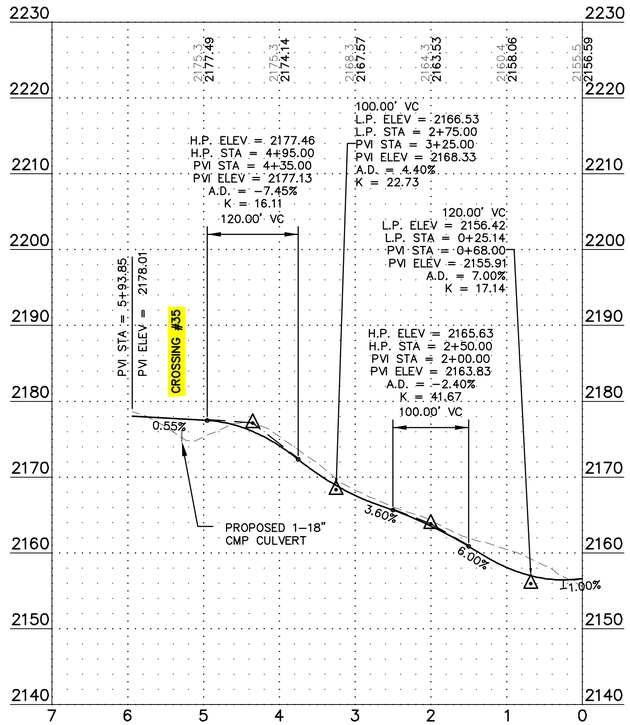
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Merricourt Wind Project

McIntosh County, North Dakota

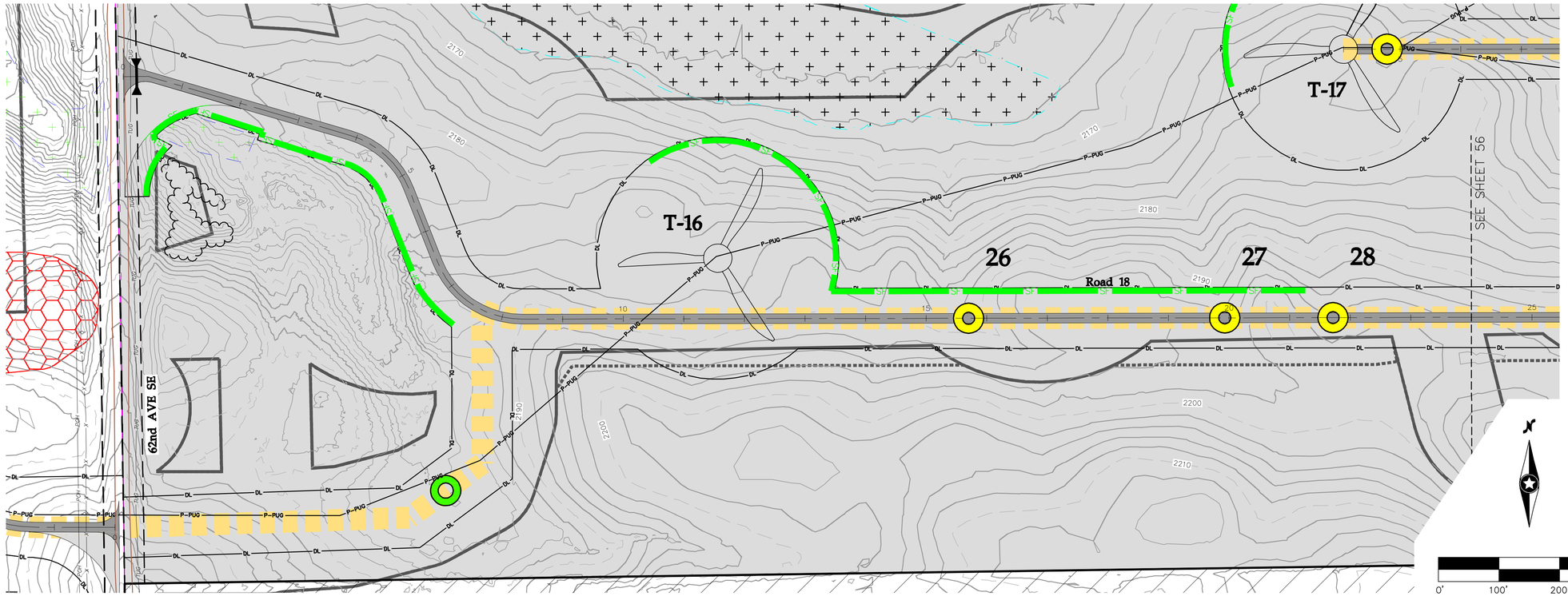
Road 17 - Sta. 0+00 to End

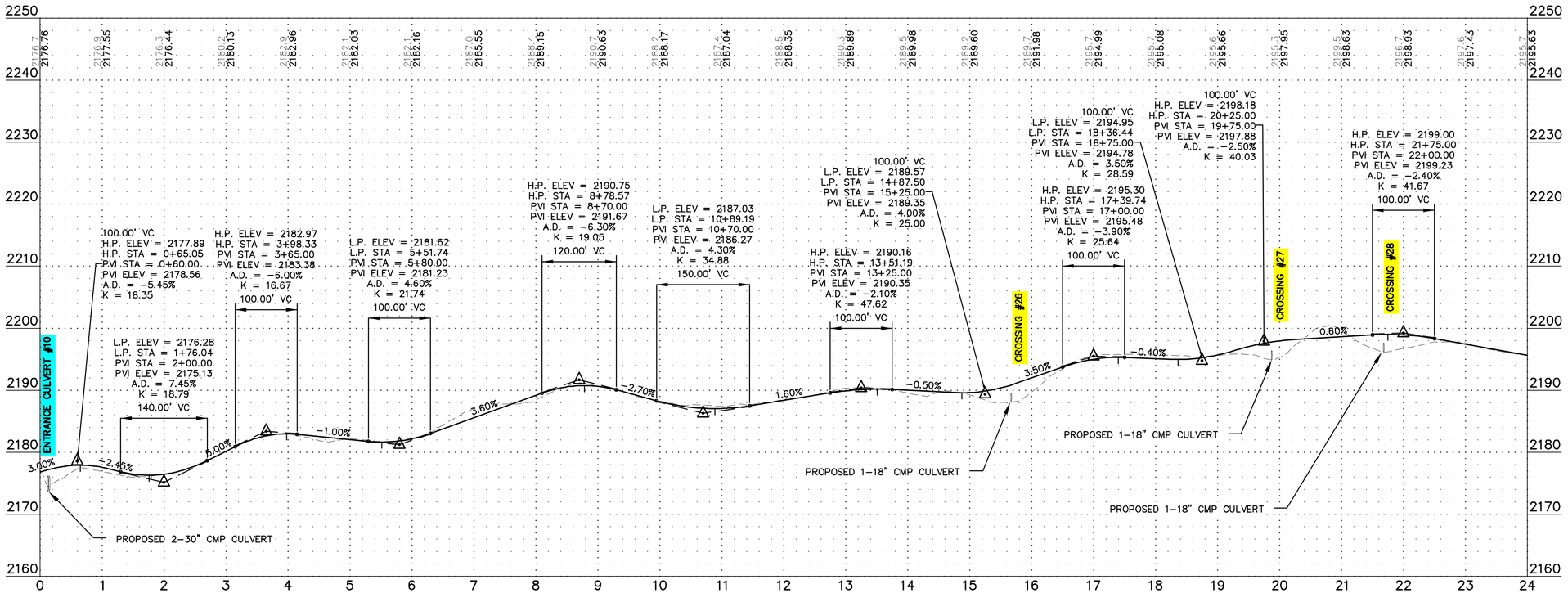
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Merricourt Wind Project

McIntosh County, North Dakota

Road 18 - Sta. 0+00 to 24+00

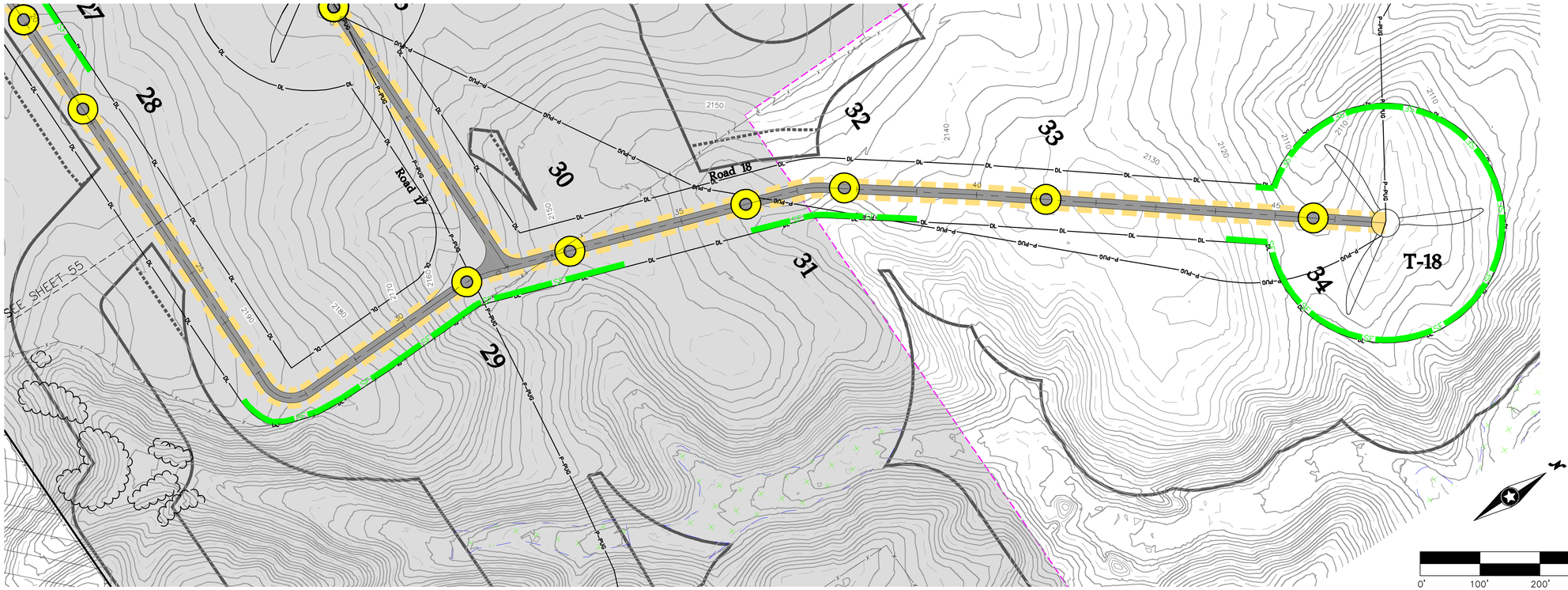
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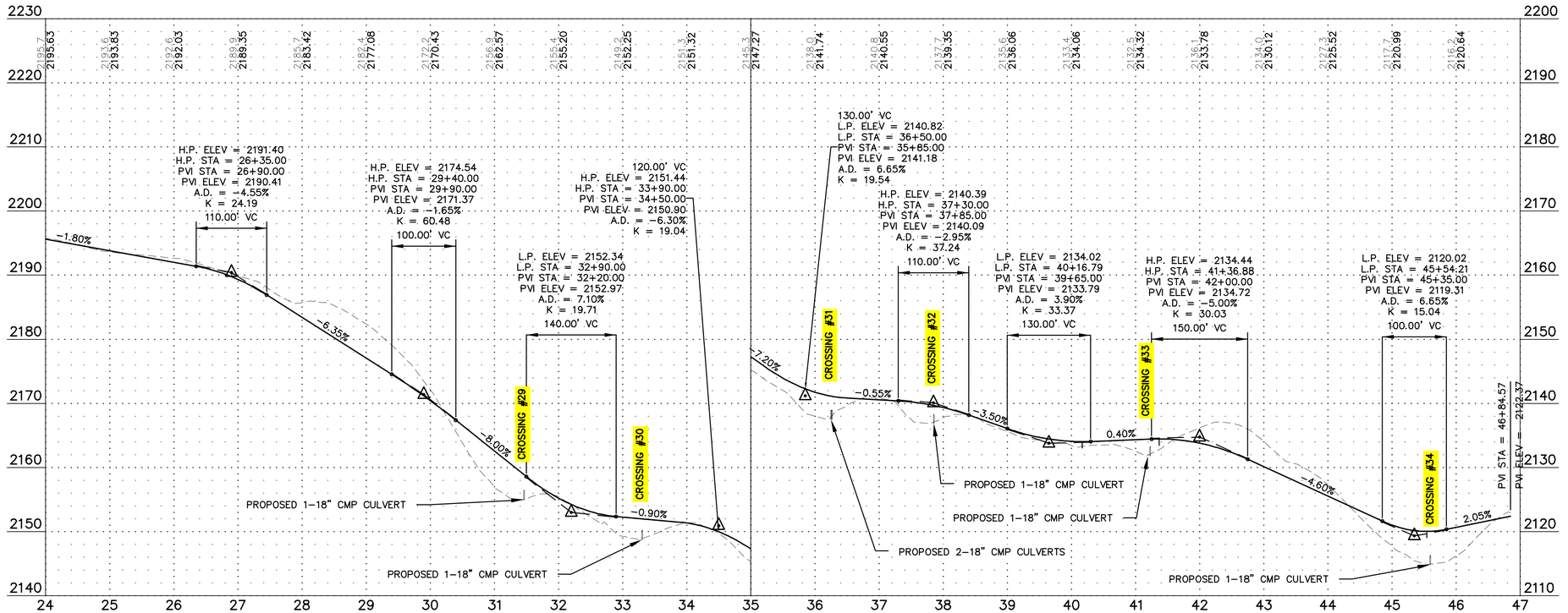
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Merricourt Wind Project

McIntosh County, North Dakota

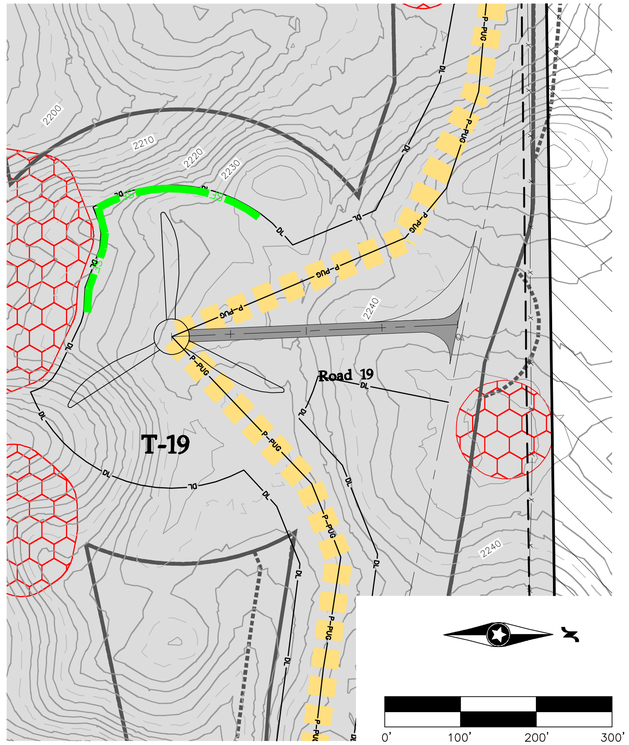
Road 18 - Sta. 24+00 to End

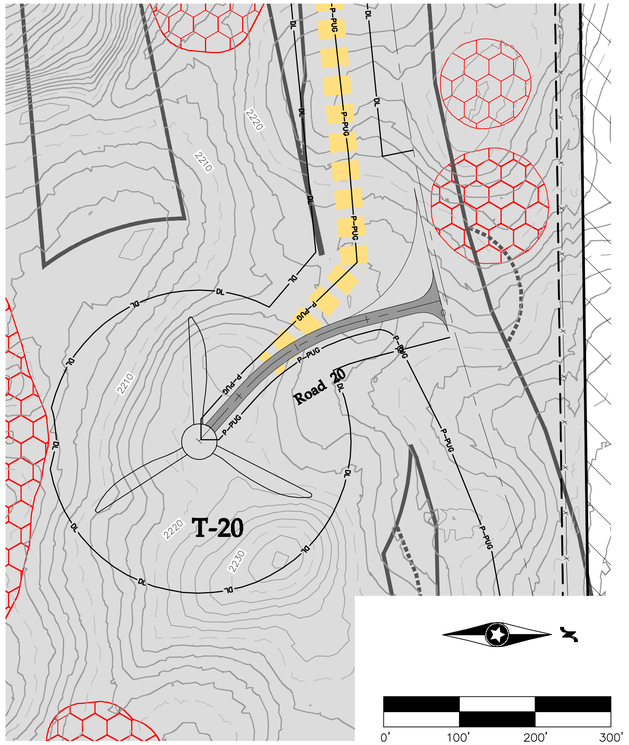
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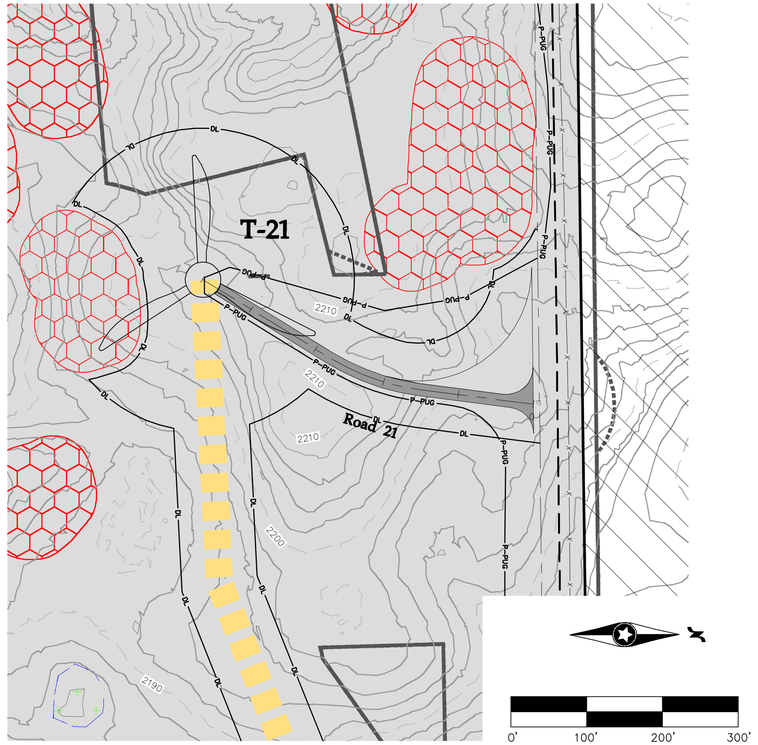
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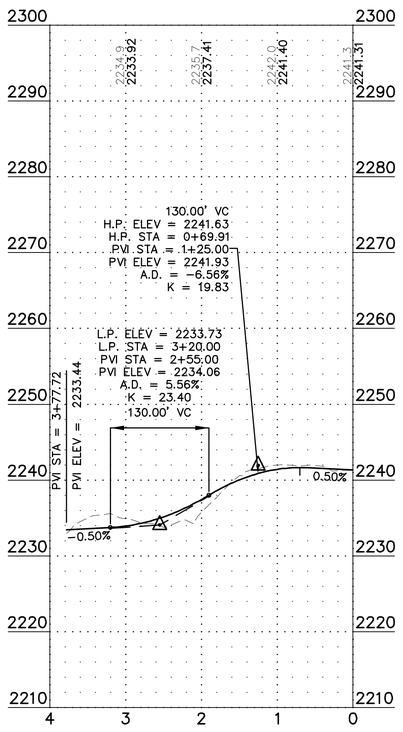
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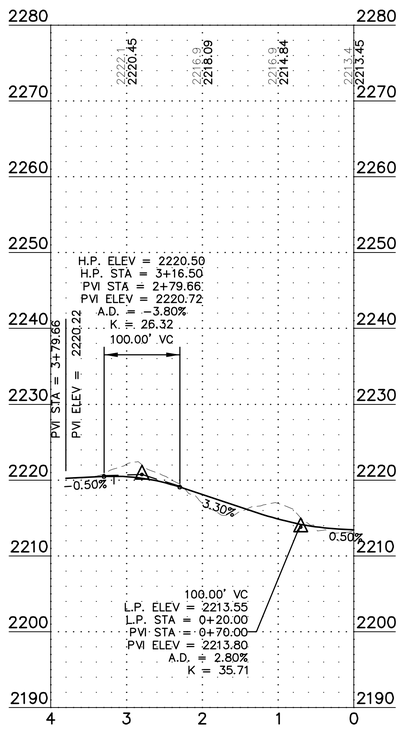
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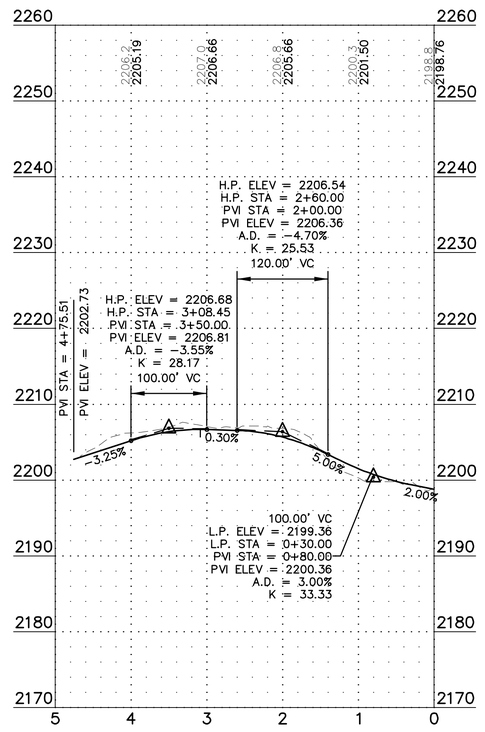












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Merricourt Wind Project

McIntosh County, North Dakota

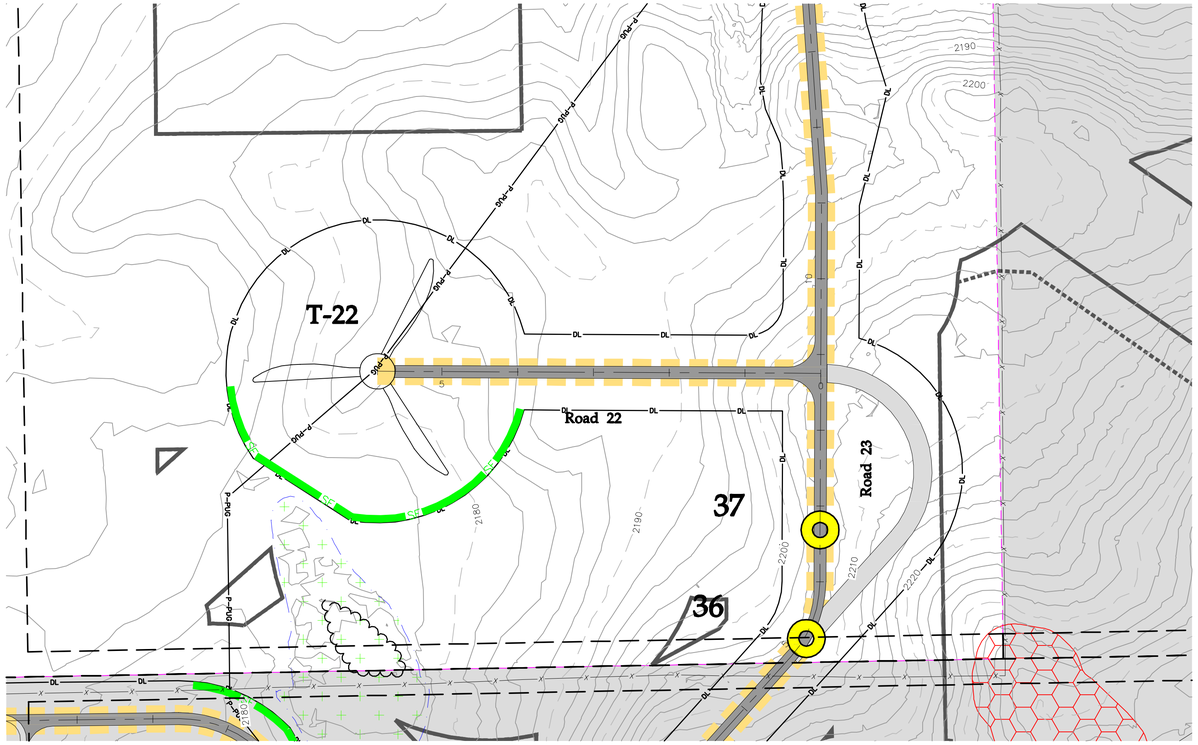
Roads 19, 20 & 21
- Sta. 0+00 to End

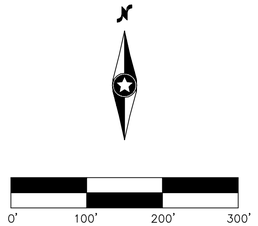
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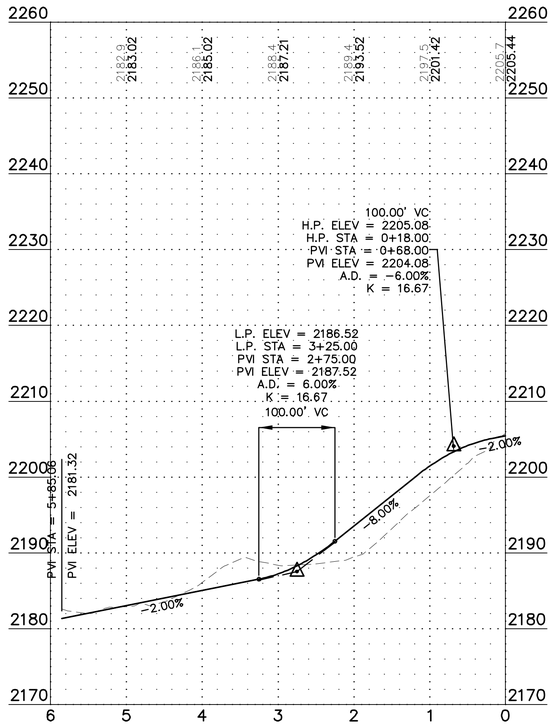
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Merricourt Wind Project

McIntosh County, North Dakota

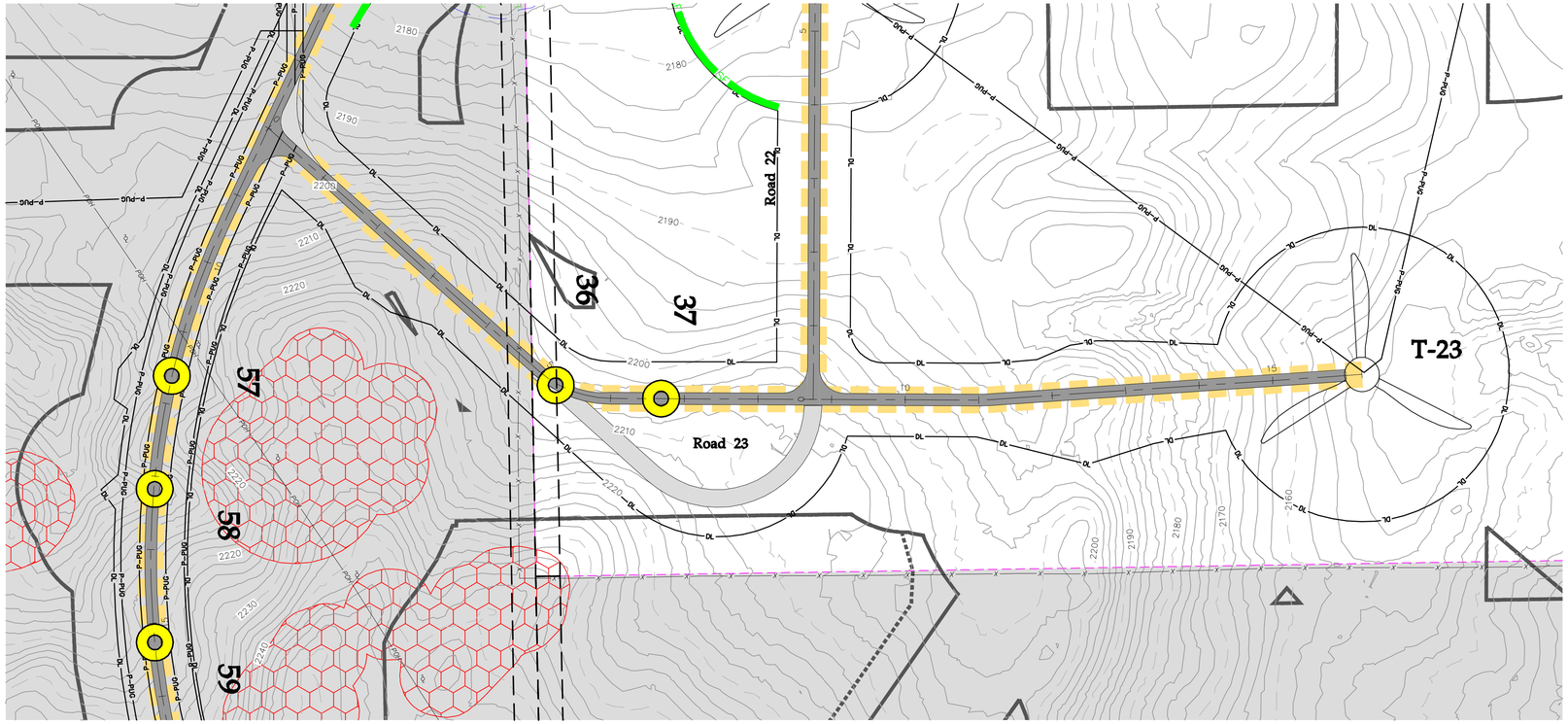
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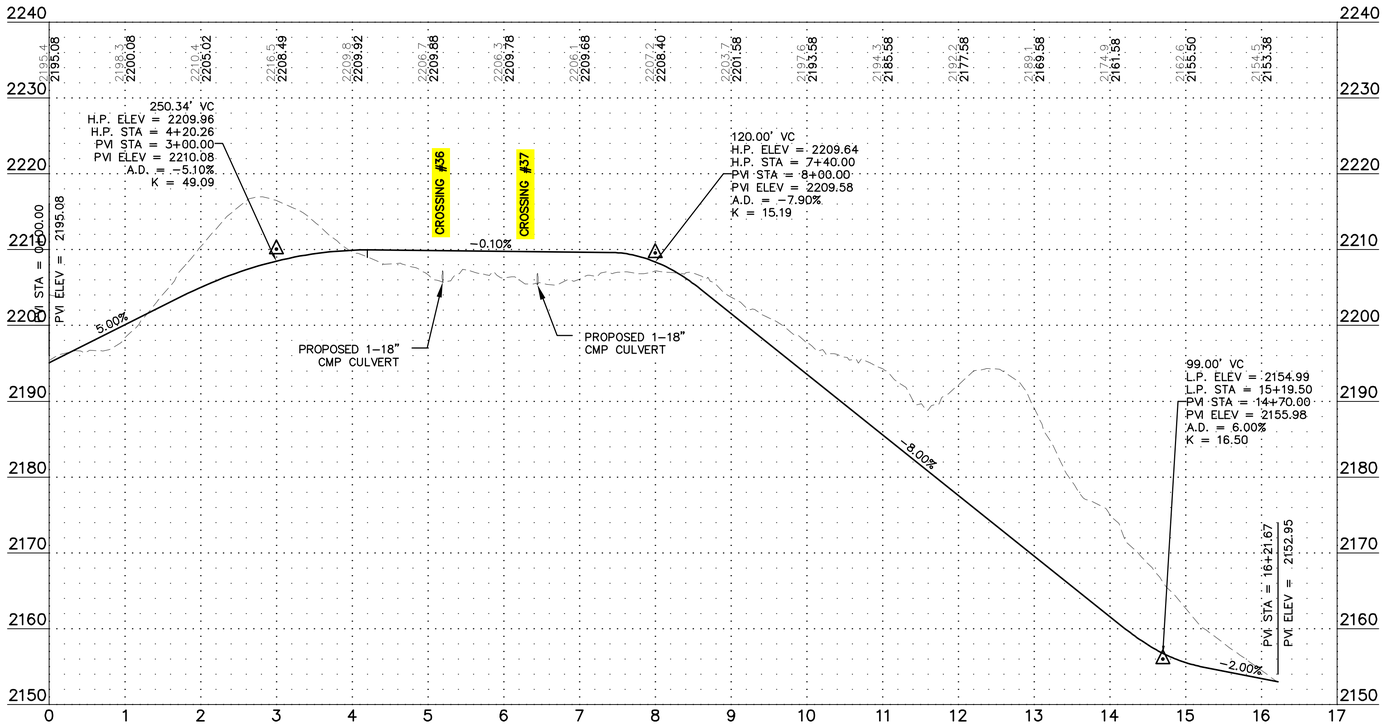
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Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
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- P-PUG PROPOSED COLLECTION
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- ARCHEOLOGICAL SITE – NO IMPACTS
- USFWS EASMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

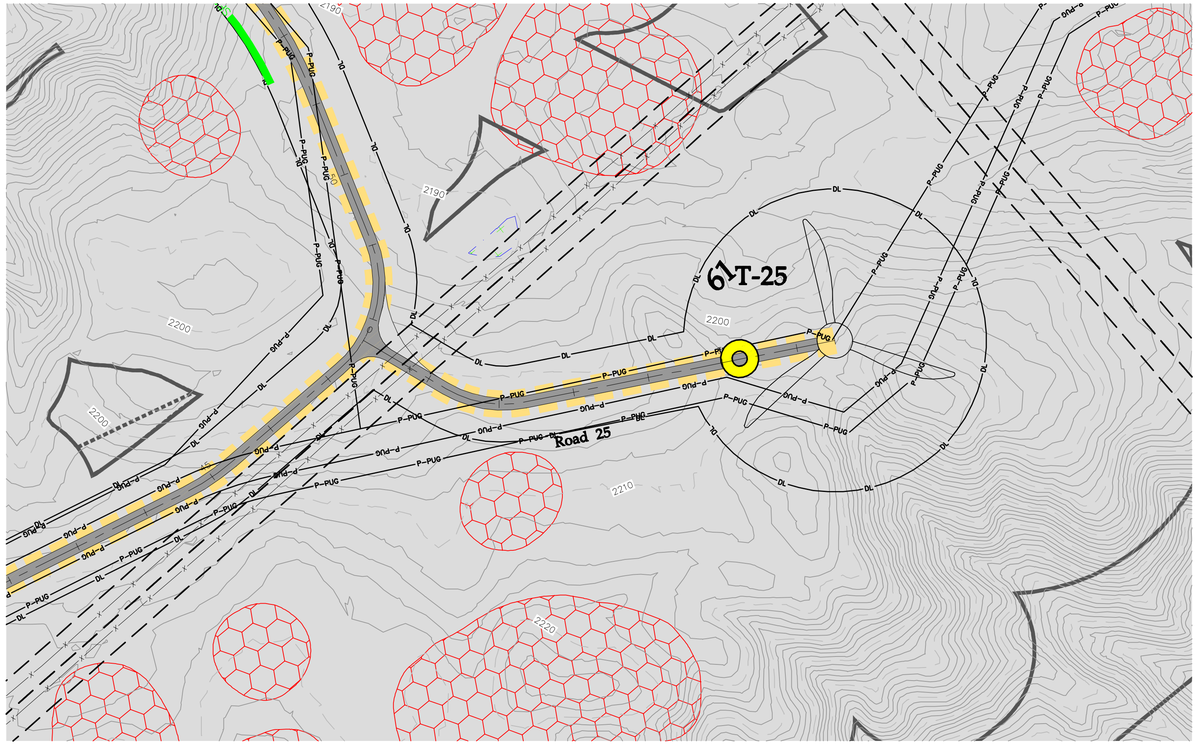
Road 23 - Sta. 0+00 to End

Issued for Construction

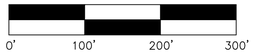
Date: 08/01/19
Sheet: 59 OF 118

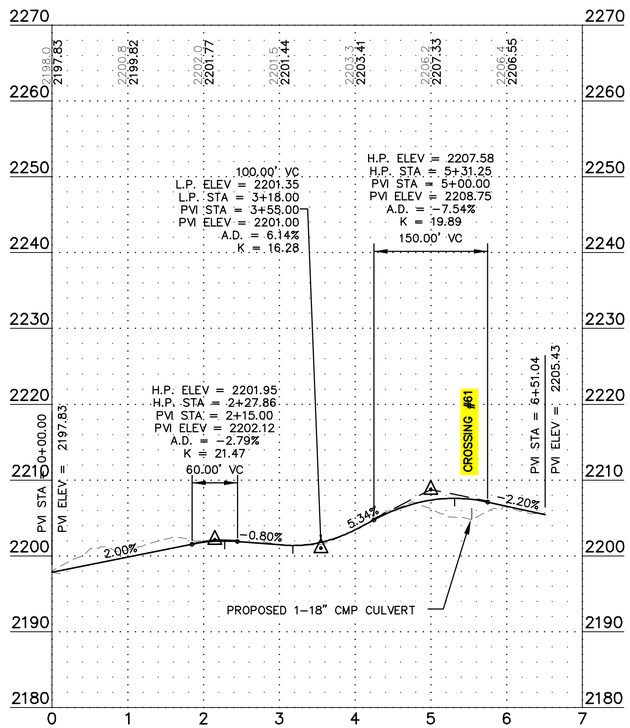
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Merricourt Wind Project

McIntosh County, North Dakota

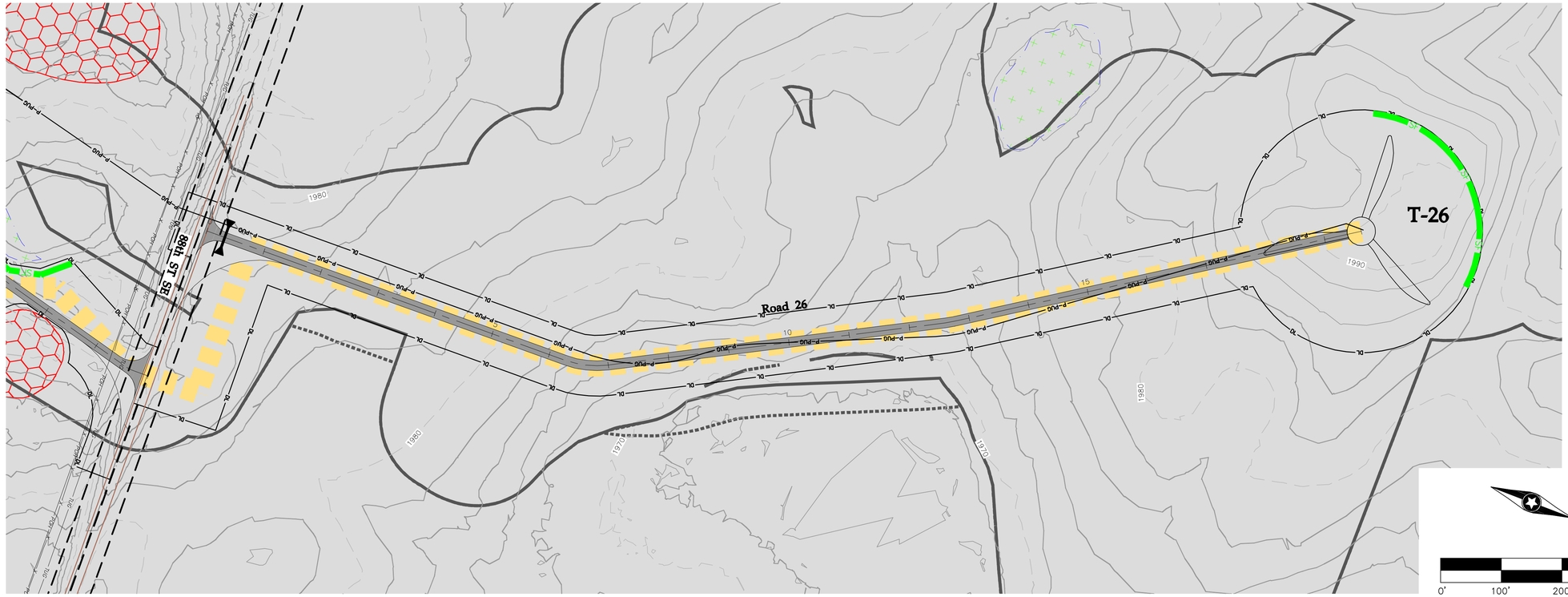
Road 25 - Sta. 0+00 to End

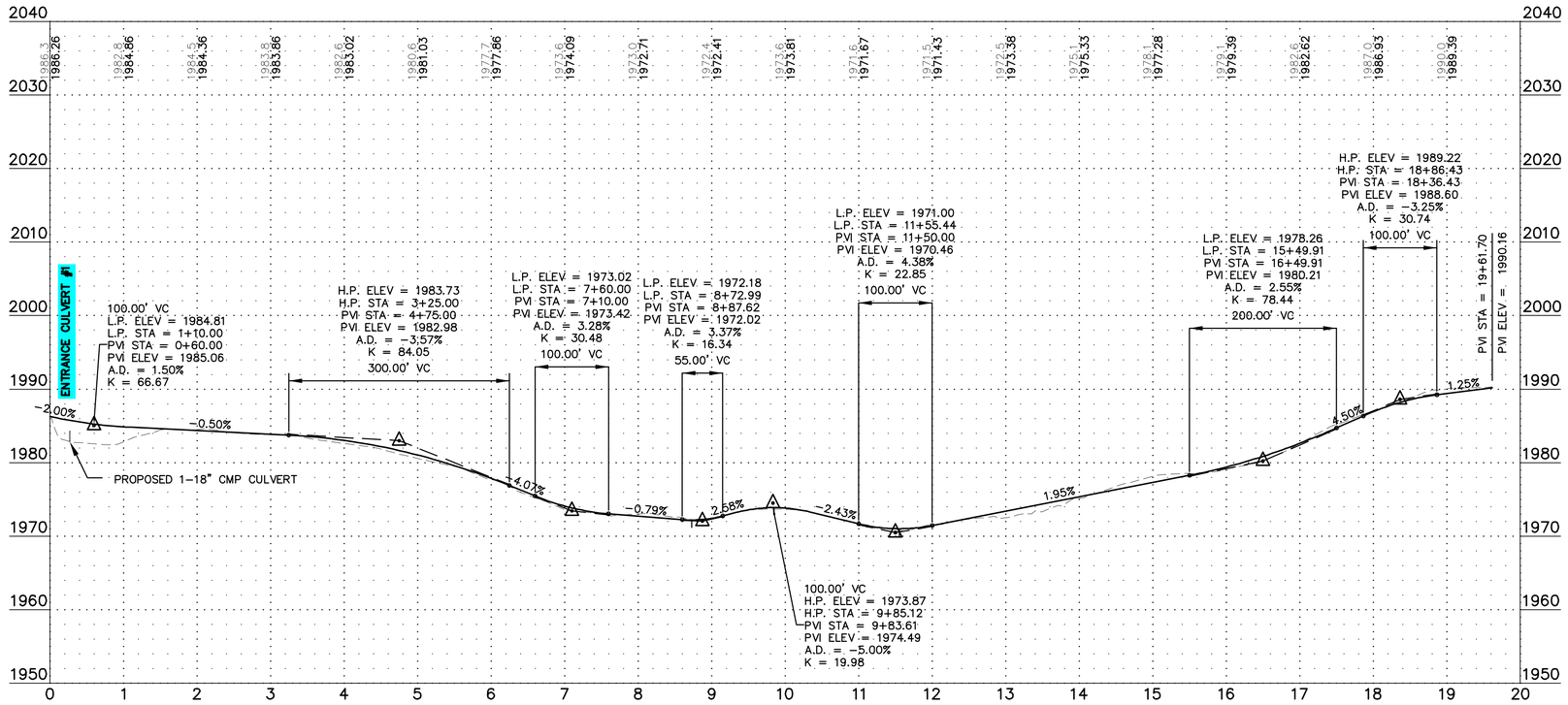
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Merricourt Wind Project

McIntosh County, North Dakota

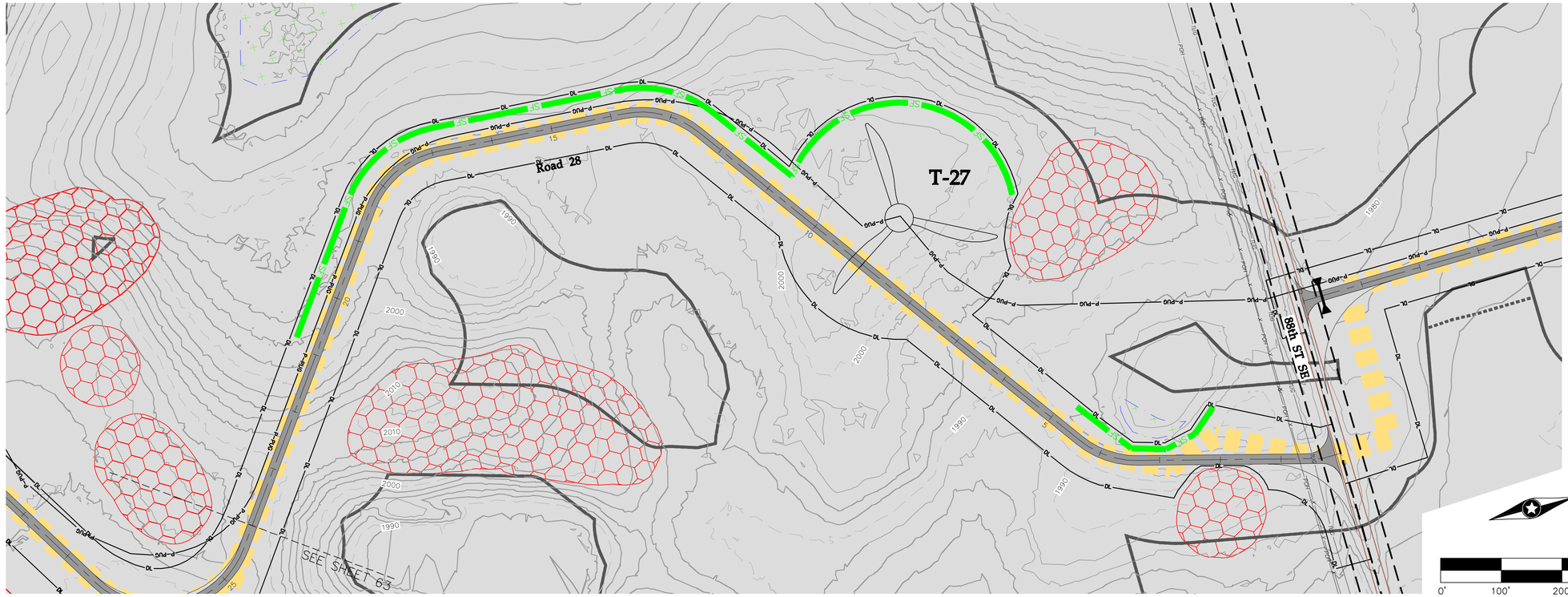
Road 26 - Sta. 0+00 to End

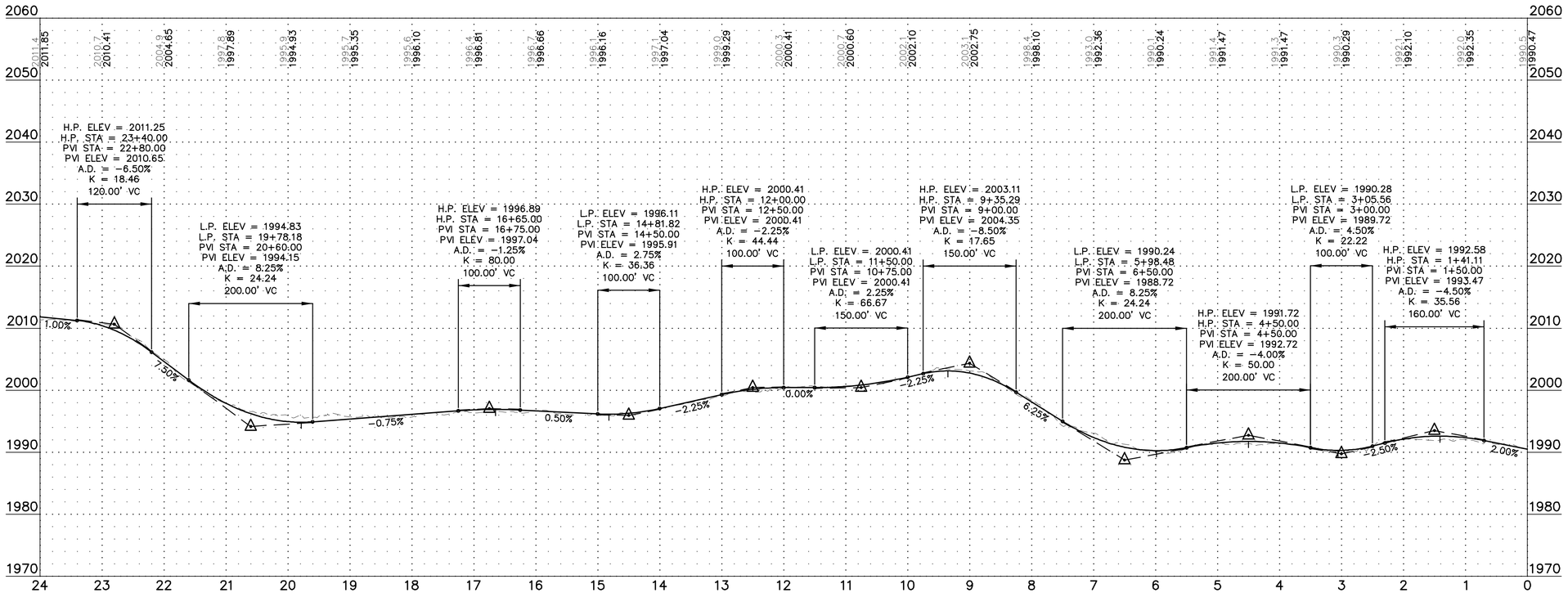
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McIntosh County, North Dakota

Road 28 - Sta. 0+00 to 24+00

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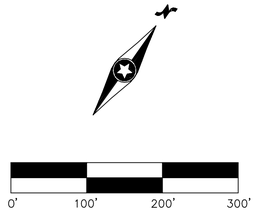
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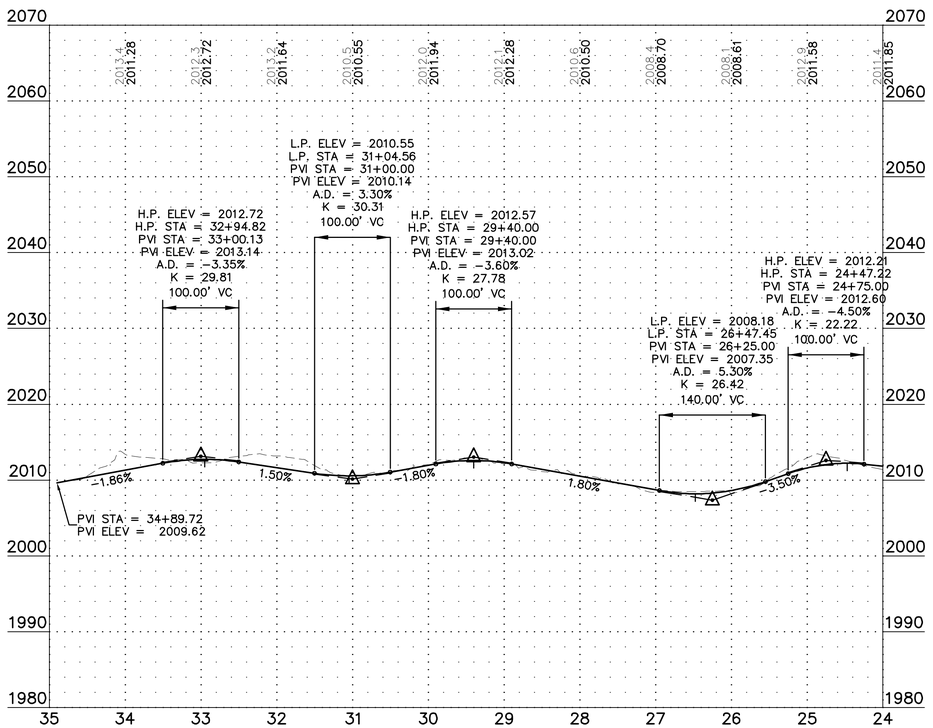
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McIntosh County, North Dakota

Road 28 - Sta. 24+00 to End

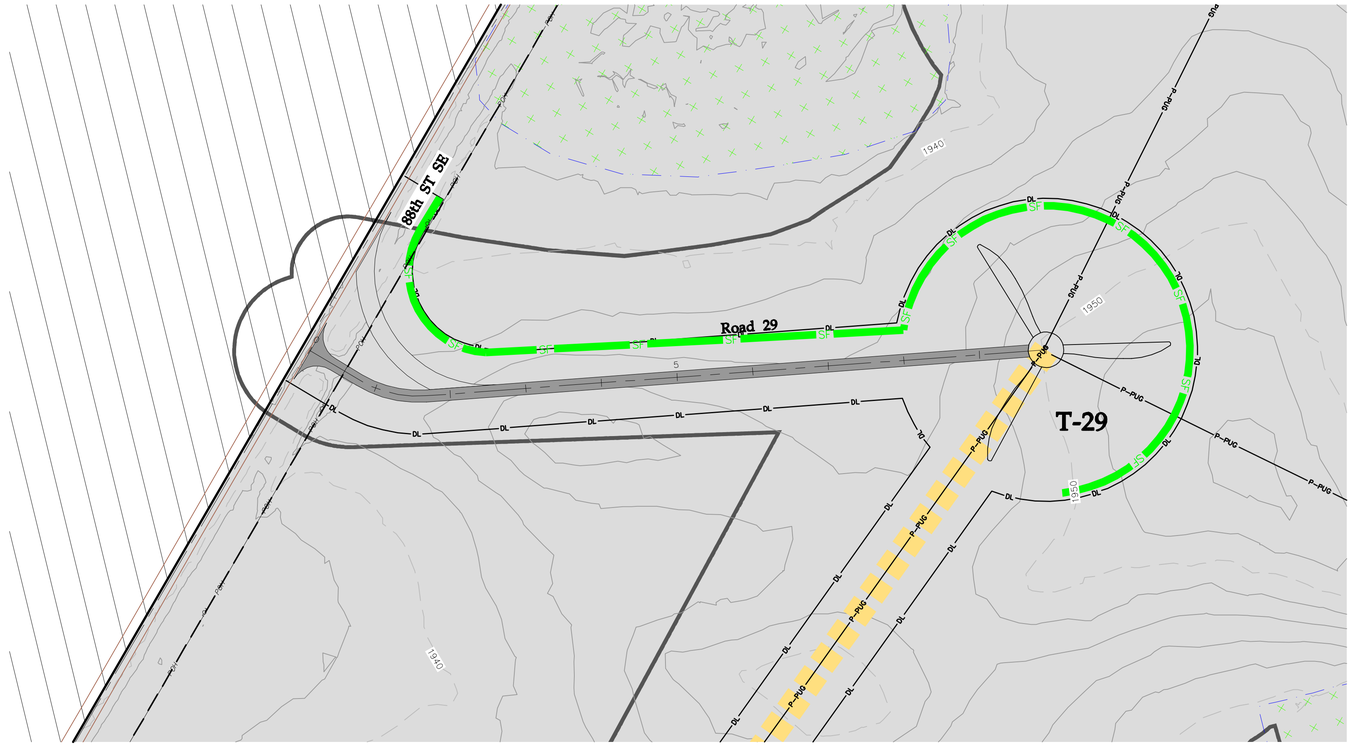
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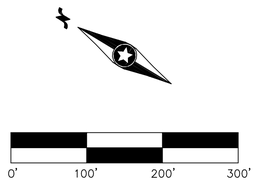
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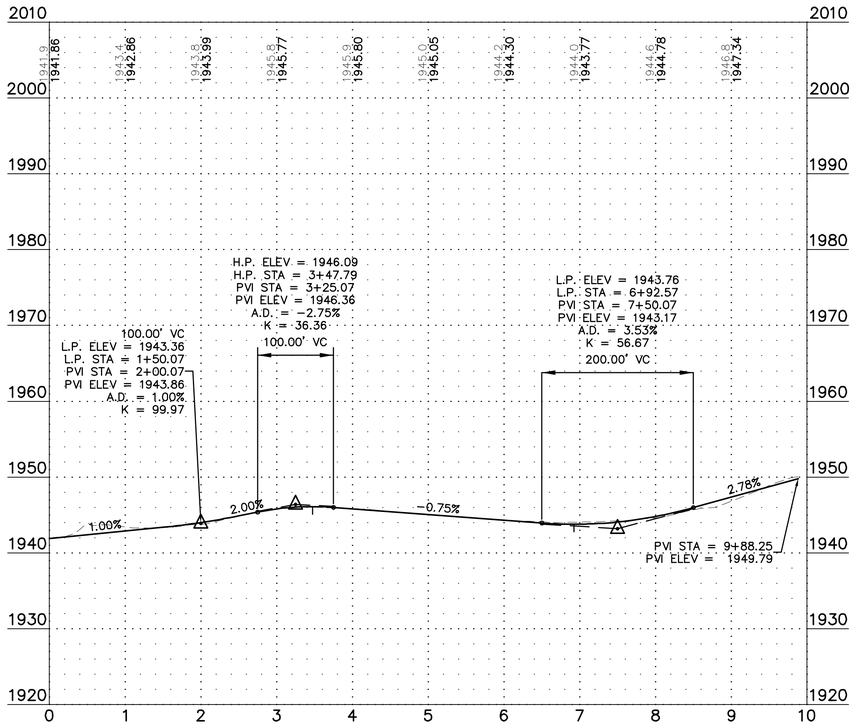
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Merricourt Wind Project

McIntosh County, North Dakota

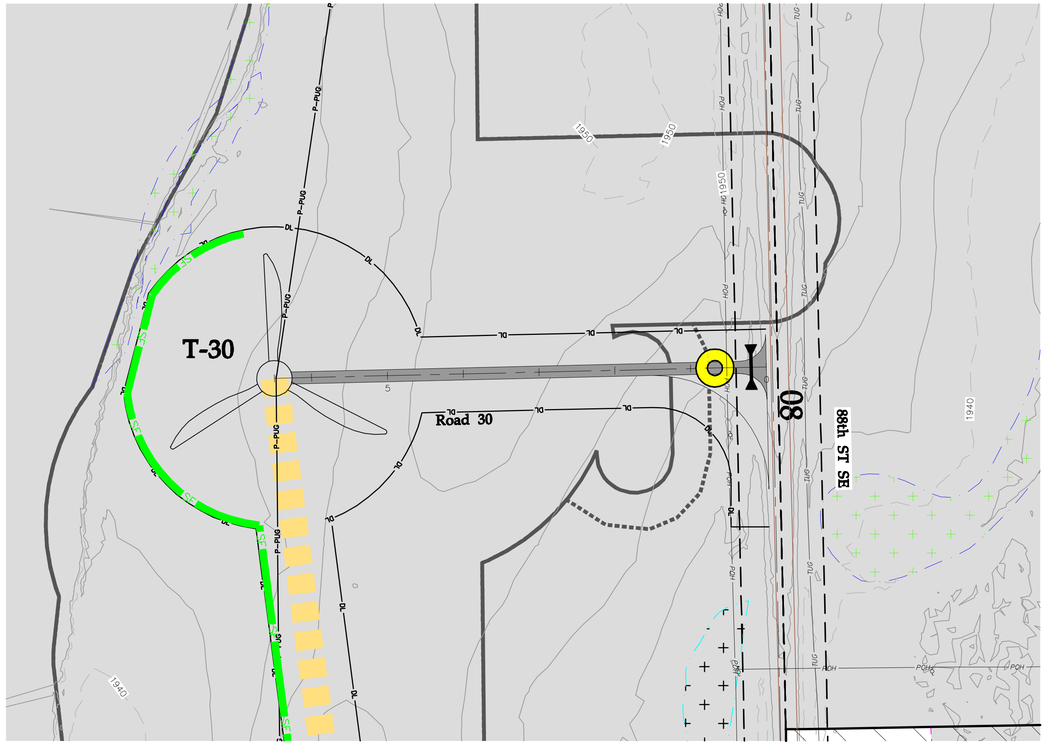
Road 29 - Sta. 0+00 to End

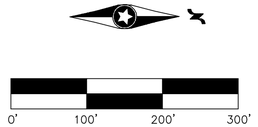
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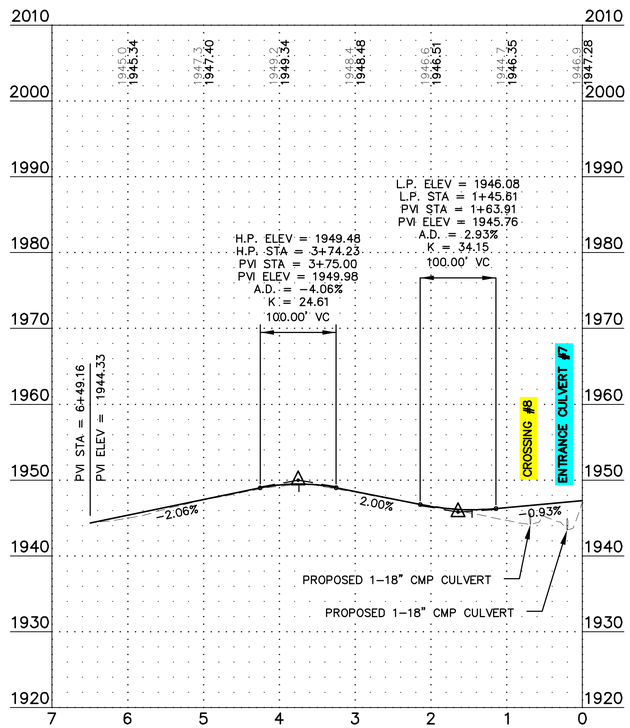
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Merricourt Wind Project

McIntosh County, North Dakota

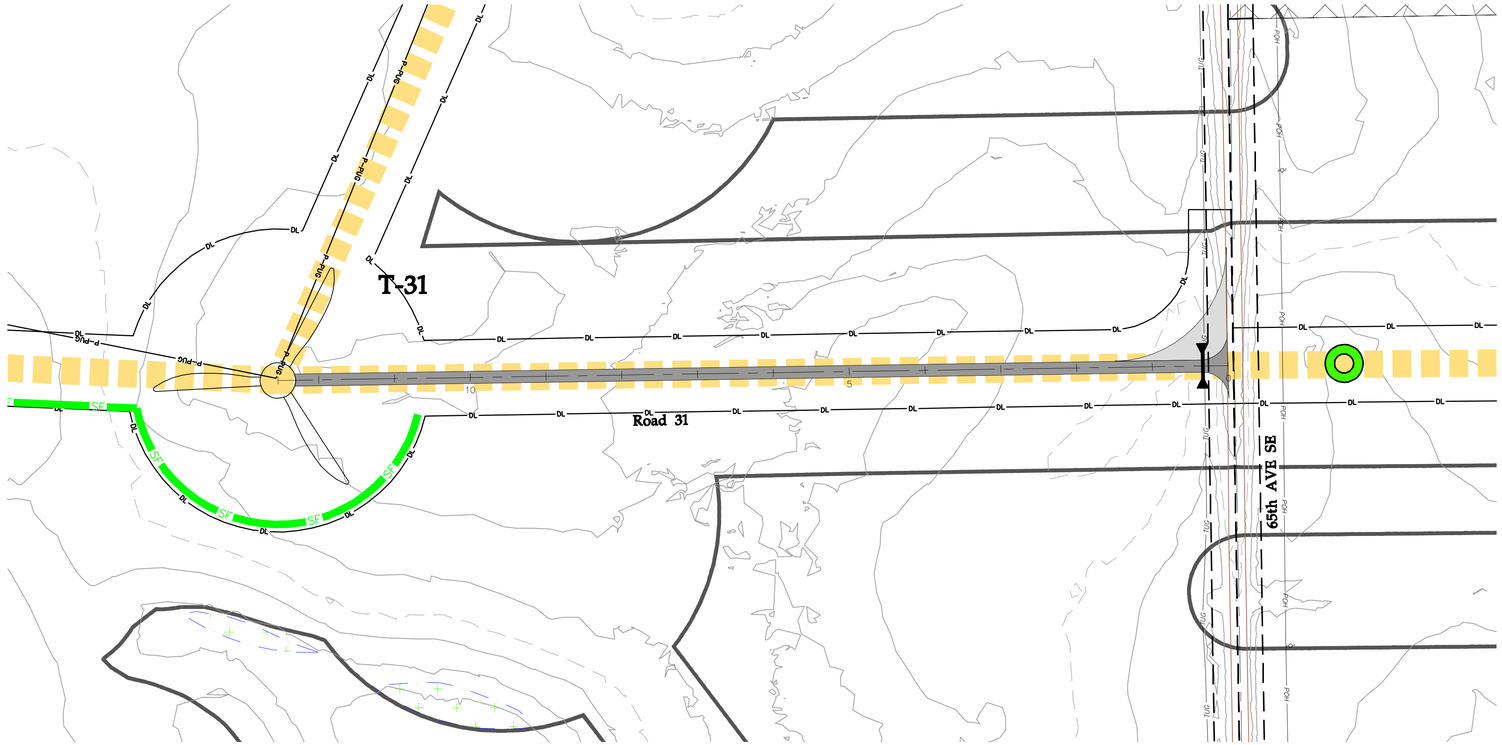
Road 30 - Sta. 0+00 to End

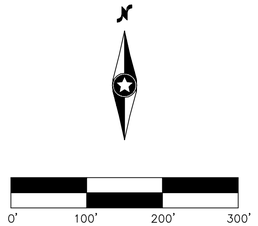
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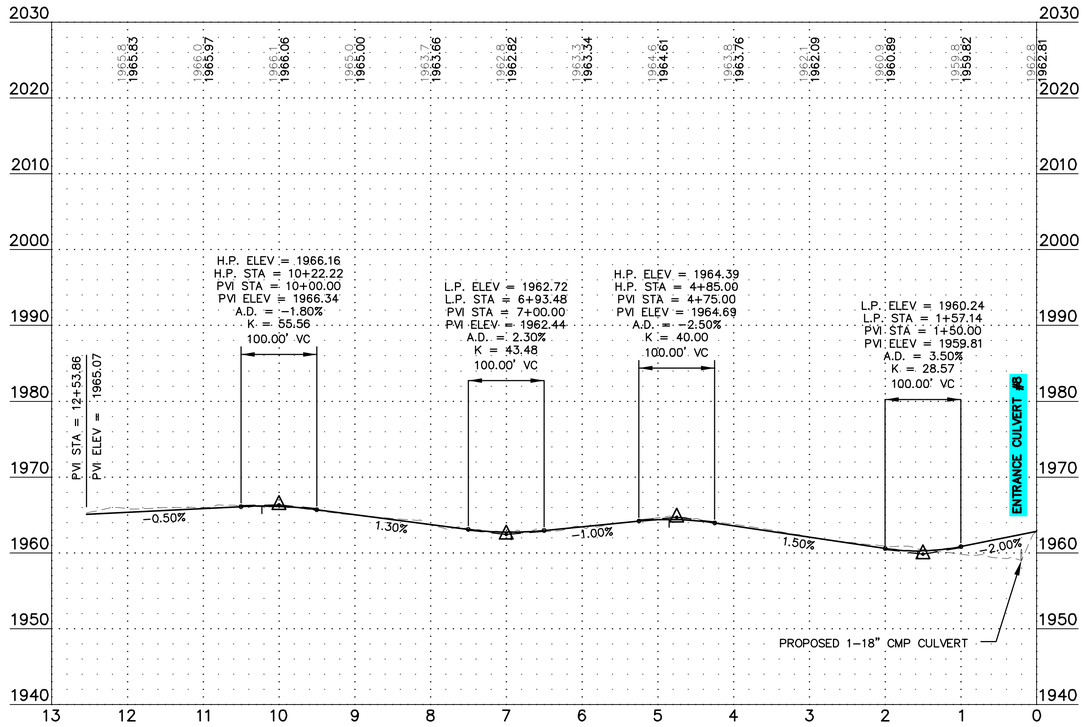
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Merricourt Wind Project

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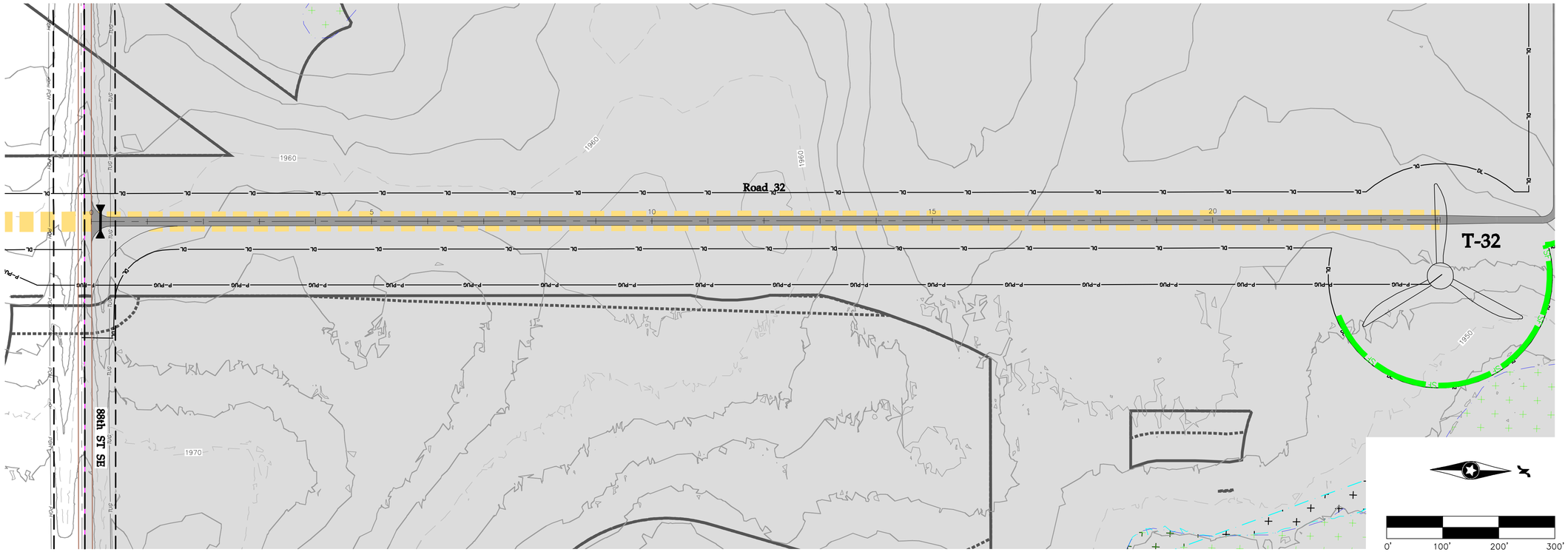
Road 31 - Sta. 0+00 to End

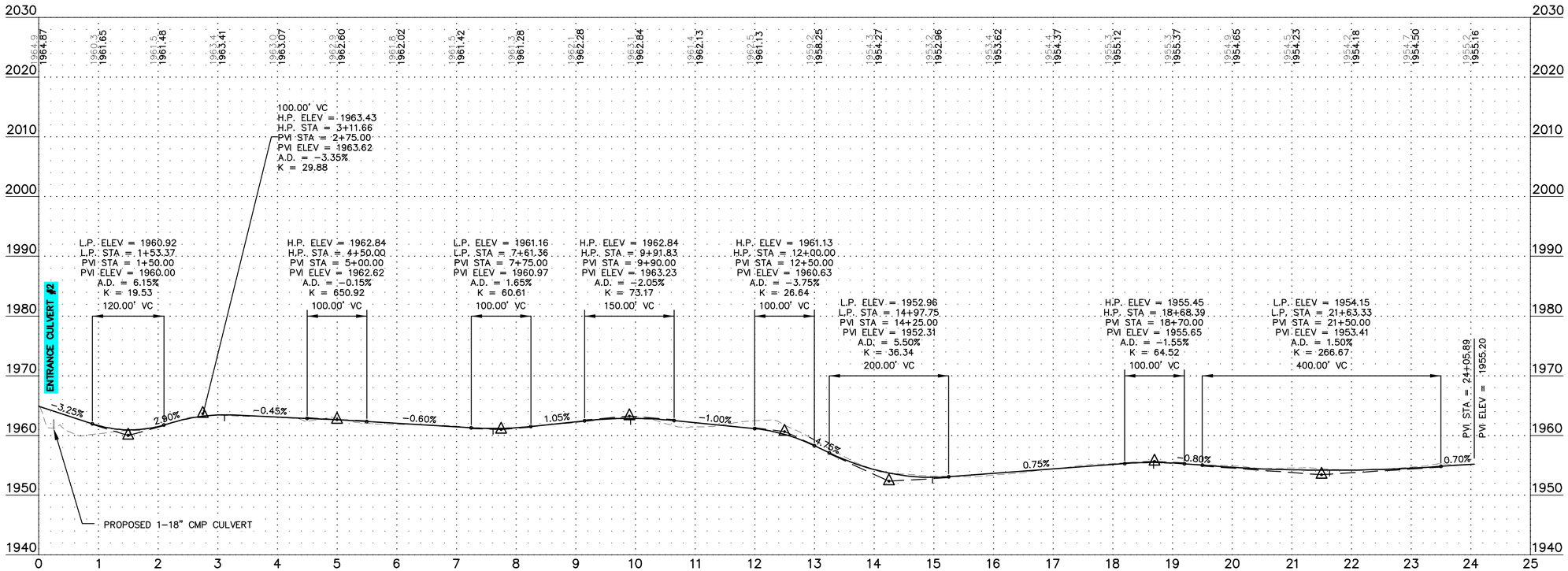
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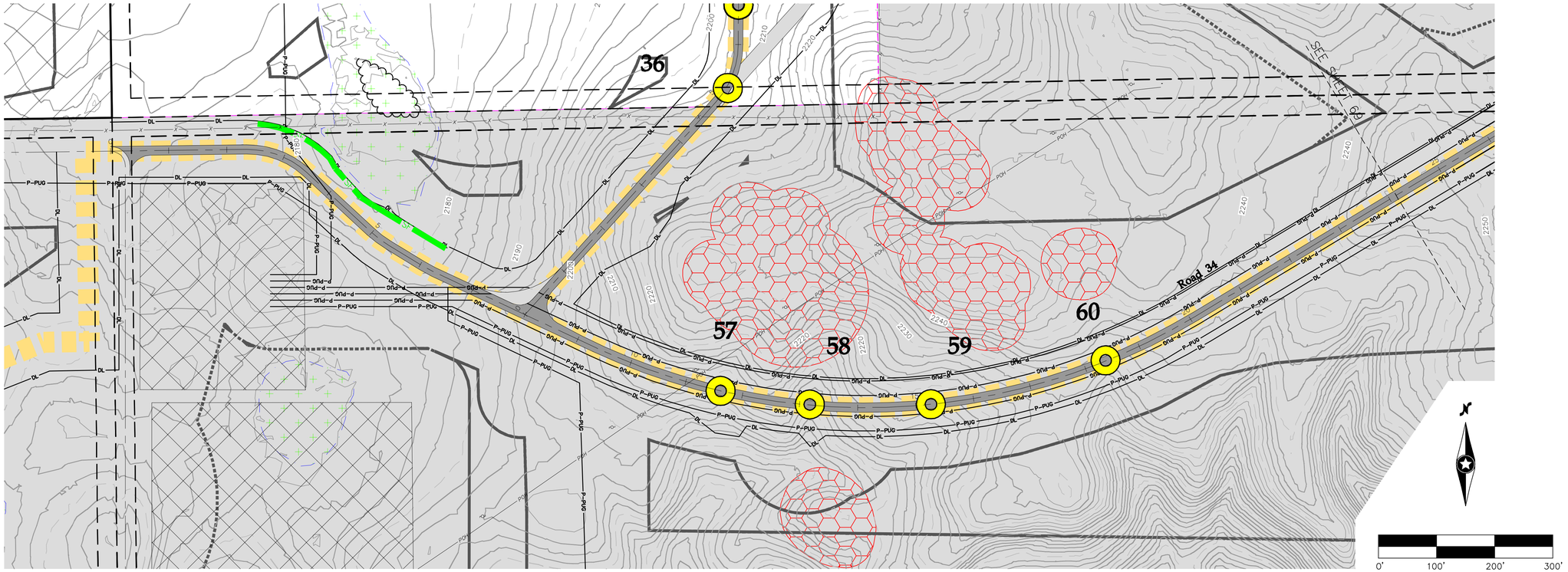
Road 32 - Sta. 0+00 to End

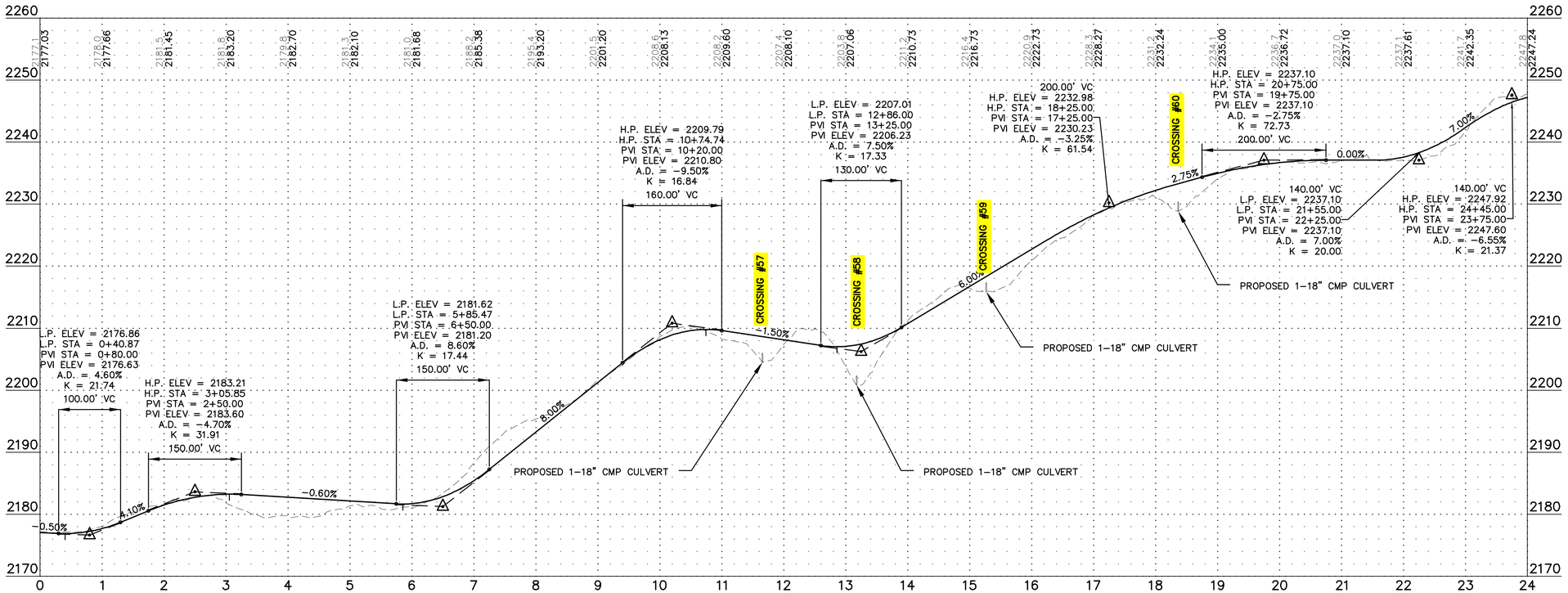
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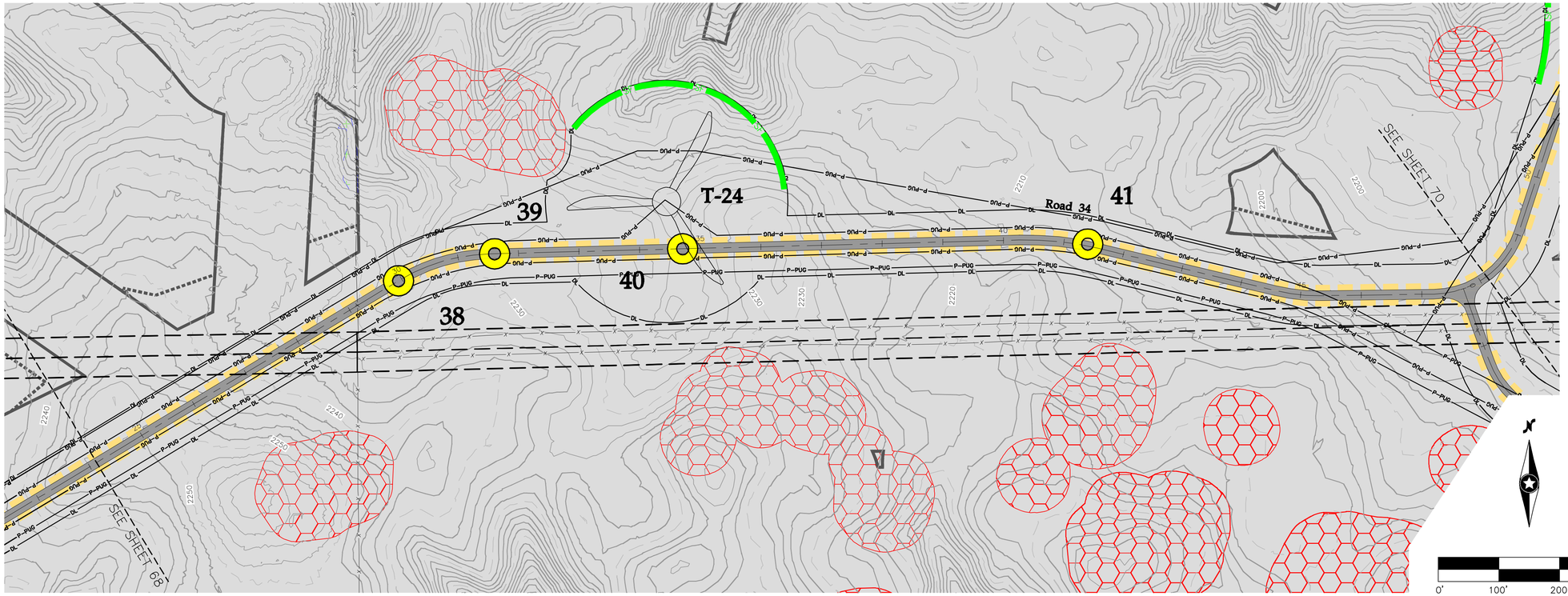
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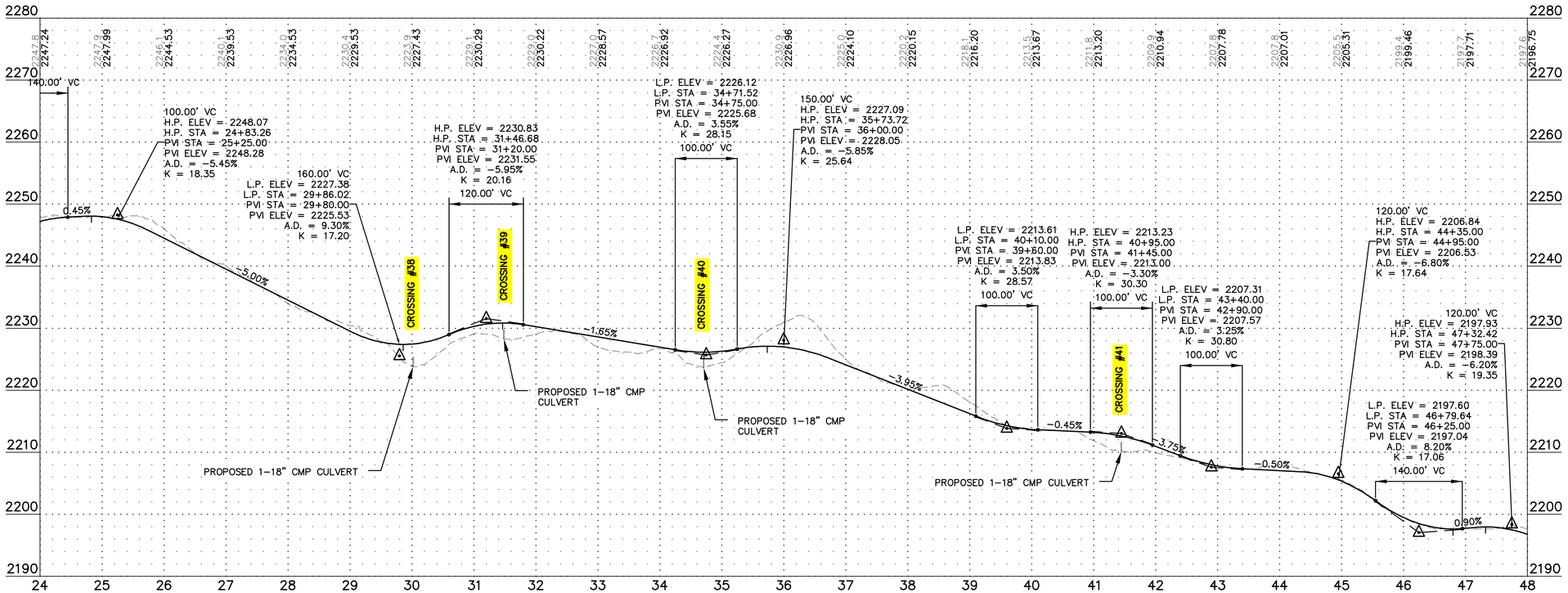
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- WETLAND SURVEY CORRIDOR
- USFWS PROTECTED BASINS
- DELINEATED WETLAND – KLJ
- ARCHEOLOGICAL SITE – NO IMPACTS
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- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

Road 34 - Sta. 24+00 to 48+00

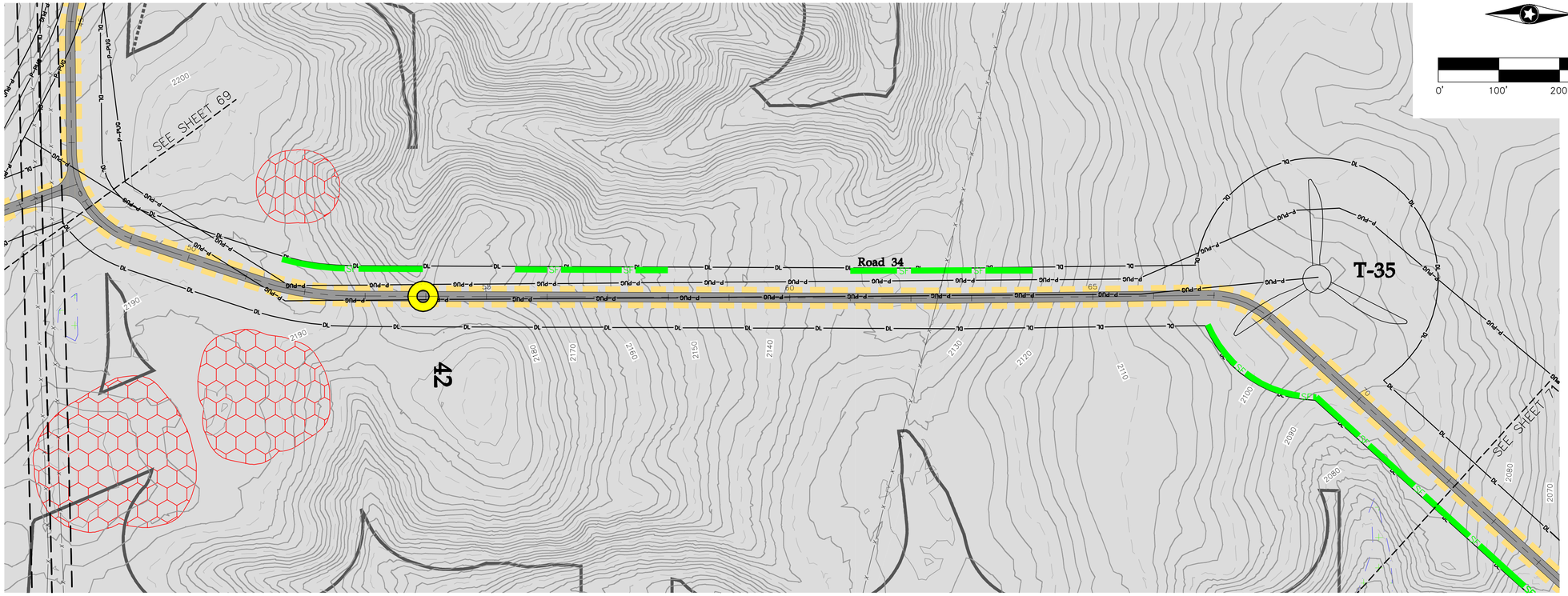
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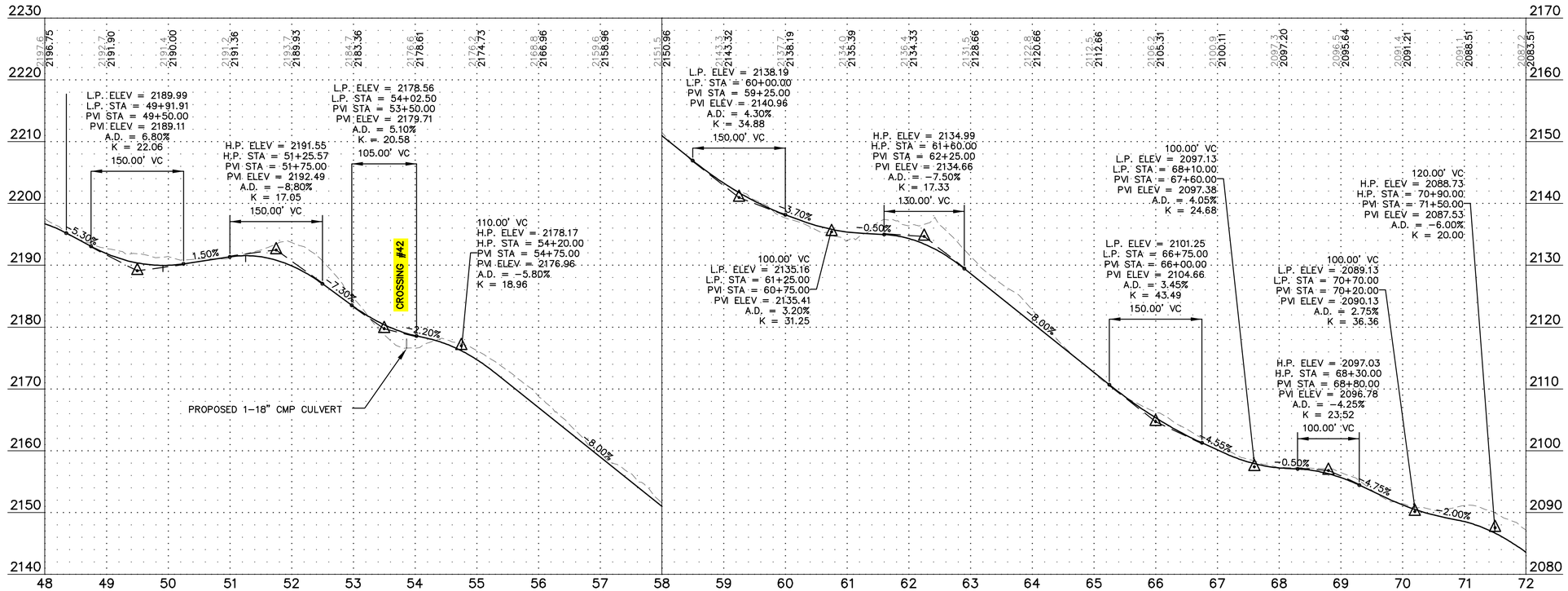
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Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
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Merricourt Wind Project

McIntosh County, North Dakota

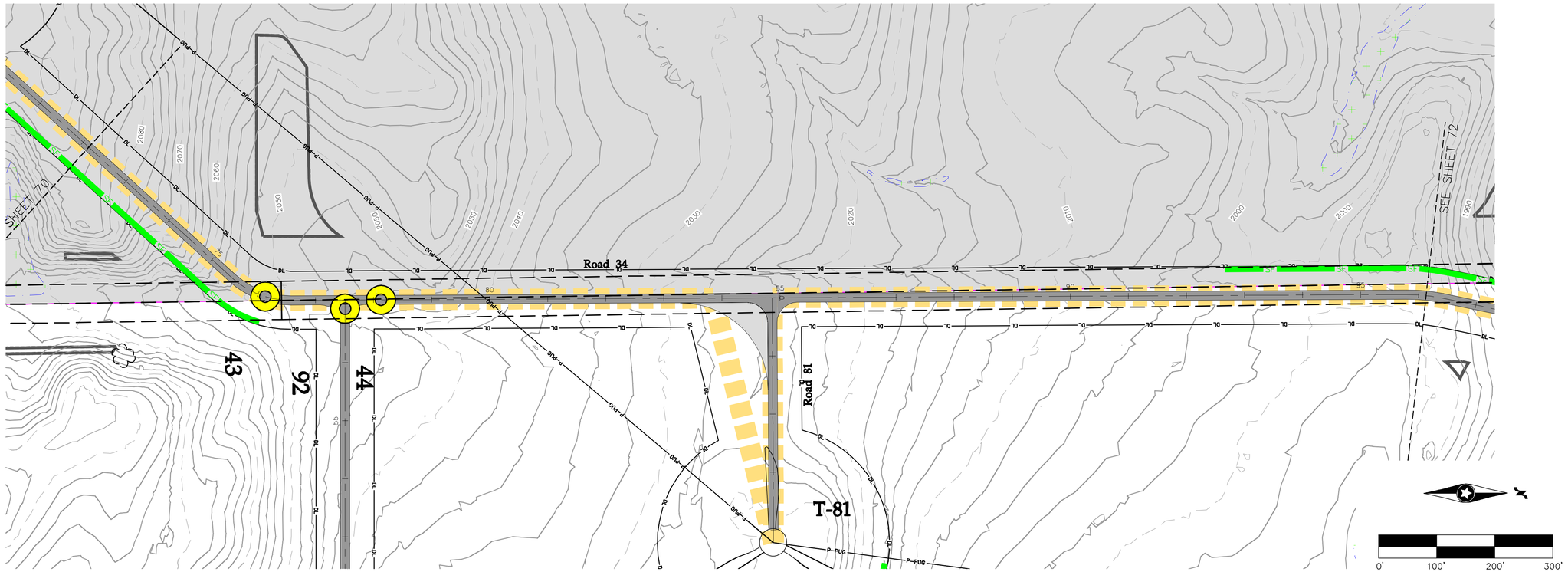
Road 34 - Sta. 48+00 to 72+00

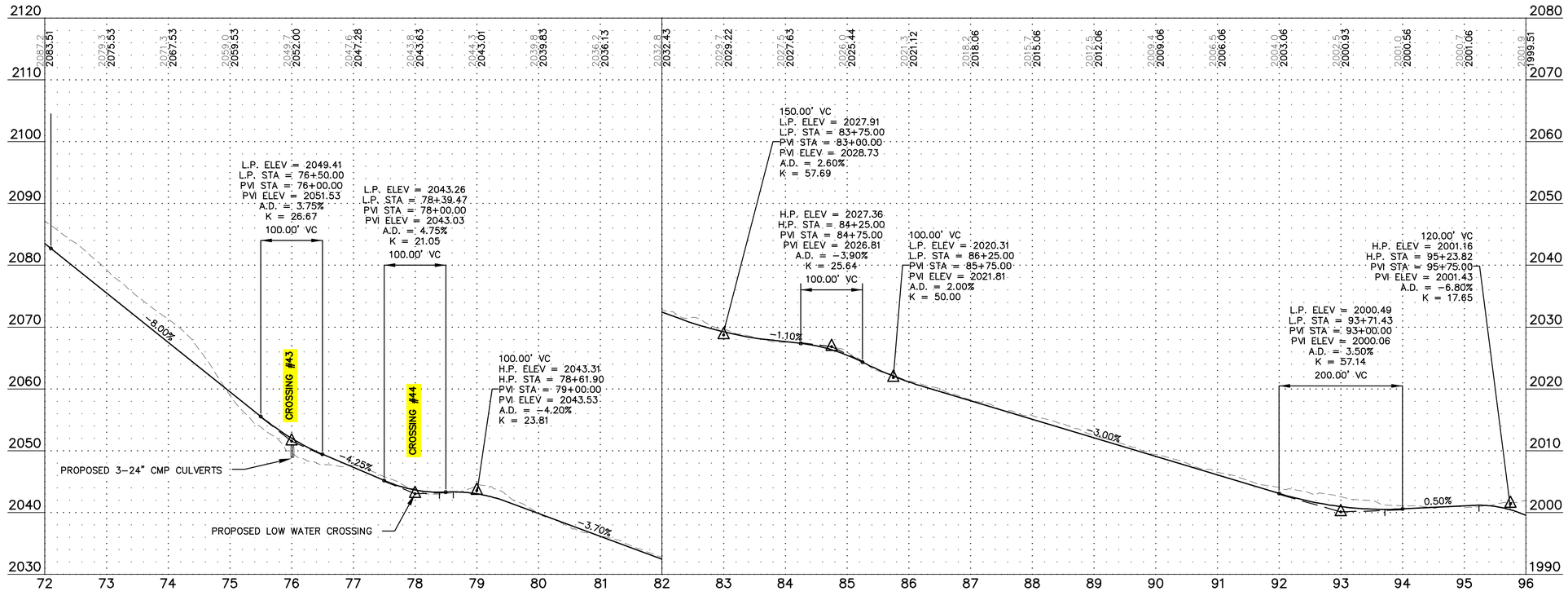
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Merricourt Wind Project

McIntosh County, North Dakota

Road 34 - Sta. 72+00 to 96+00

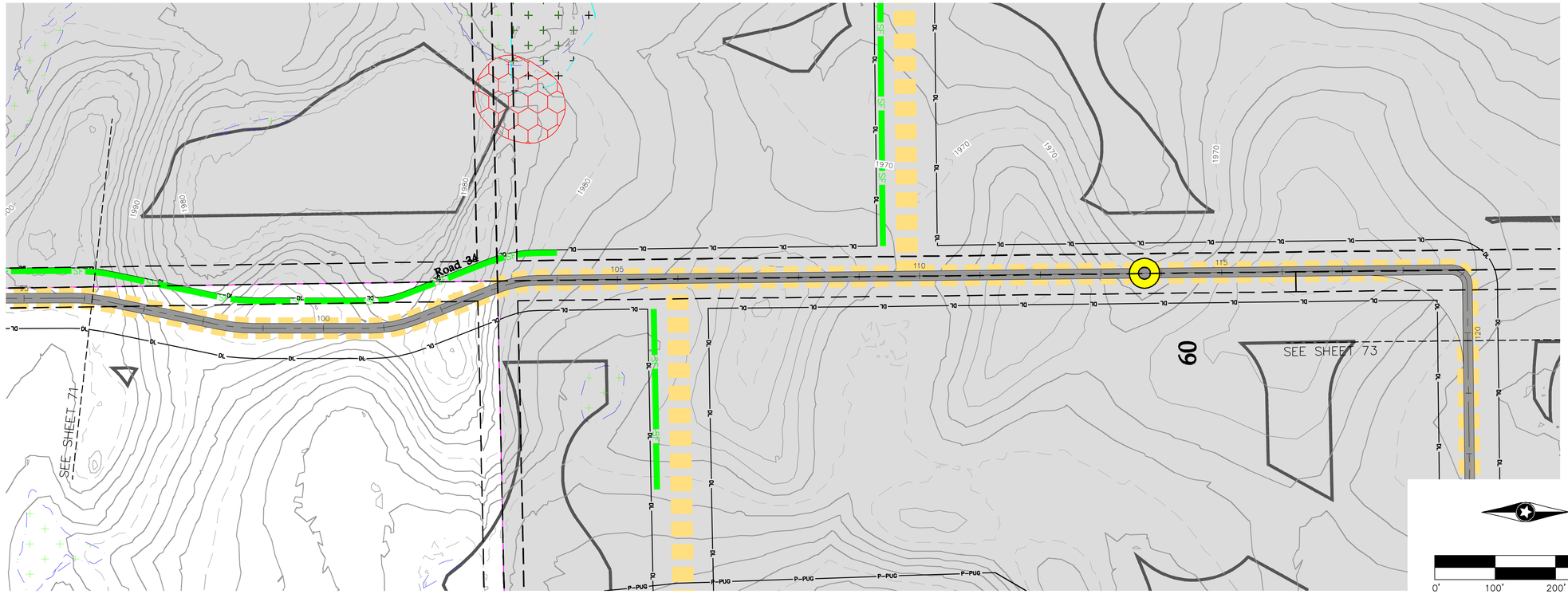
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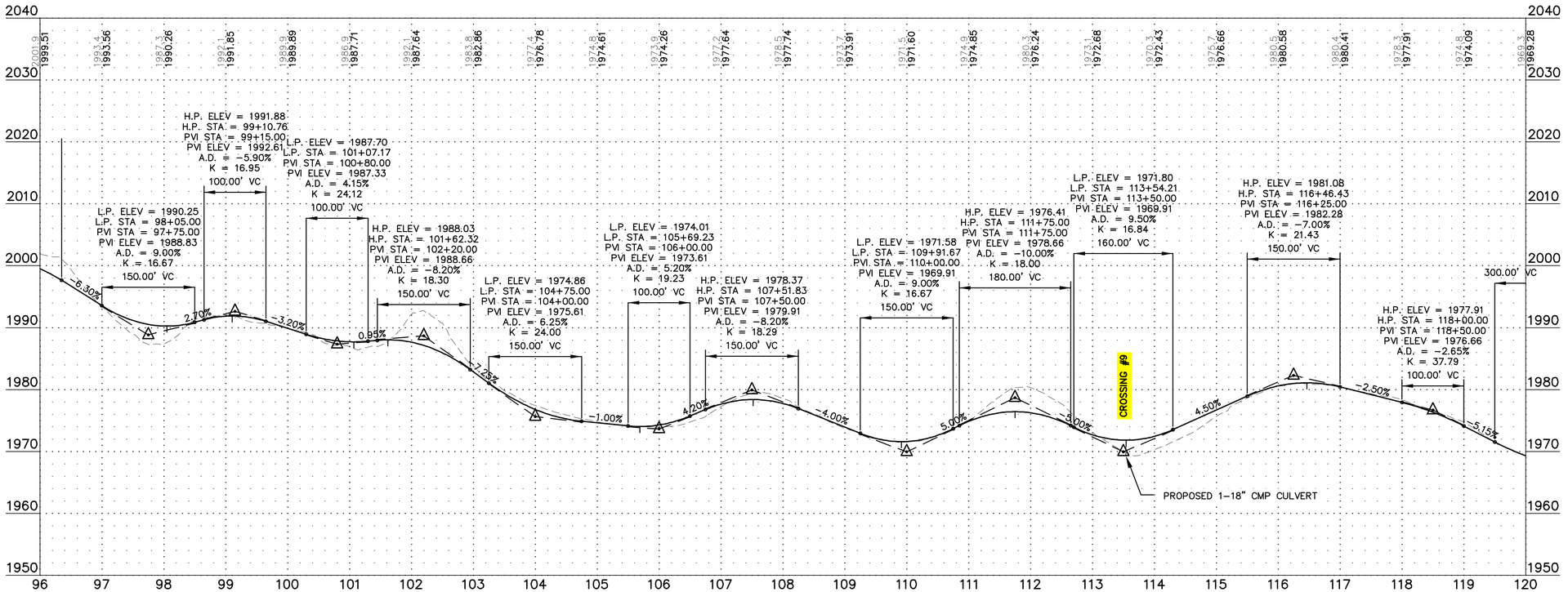
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Merricourt Wind Project

McIntosh County, North Dakota

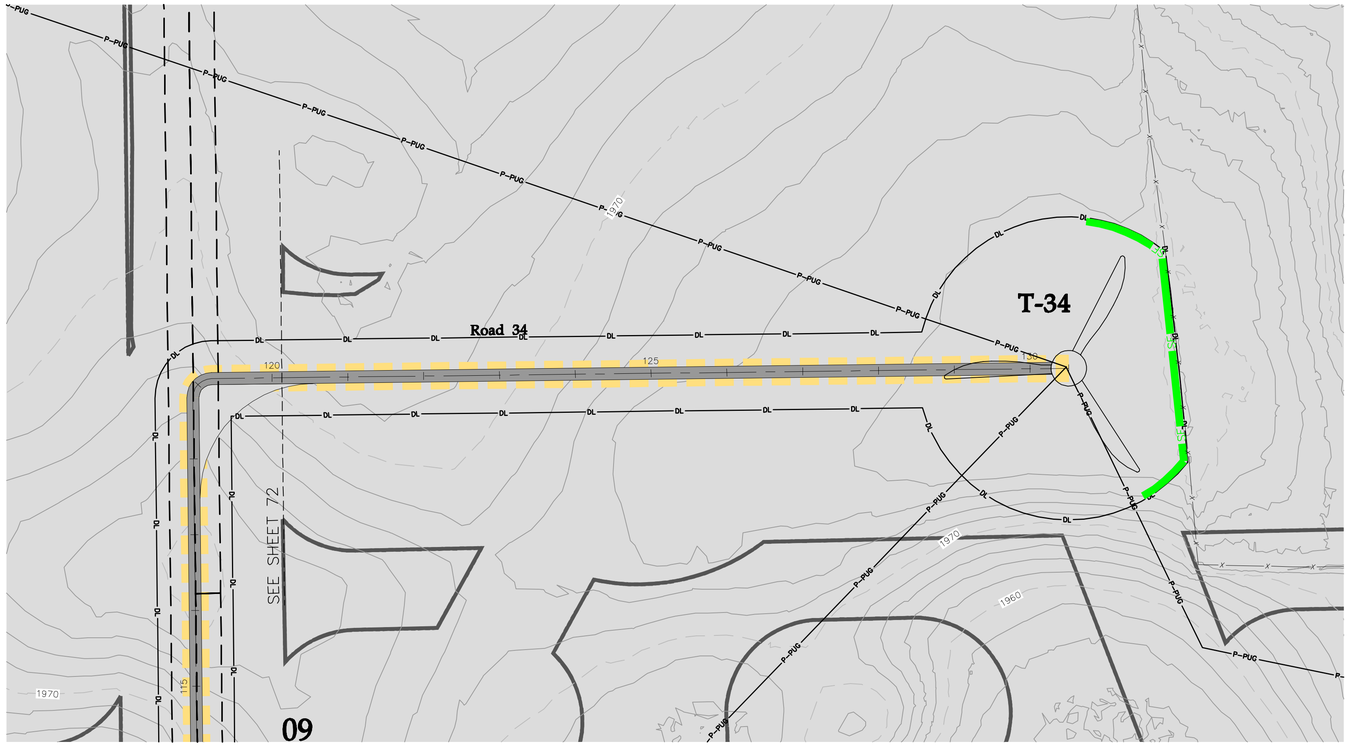
Road 34 - Sta. 96+00 to 120+00

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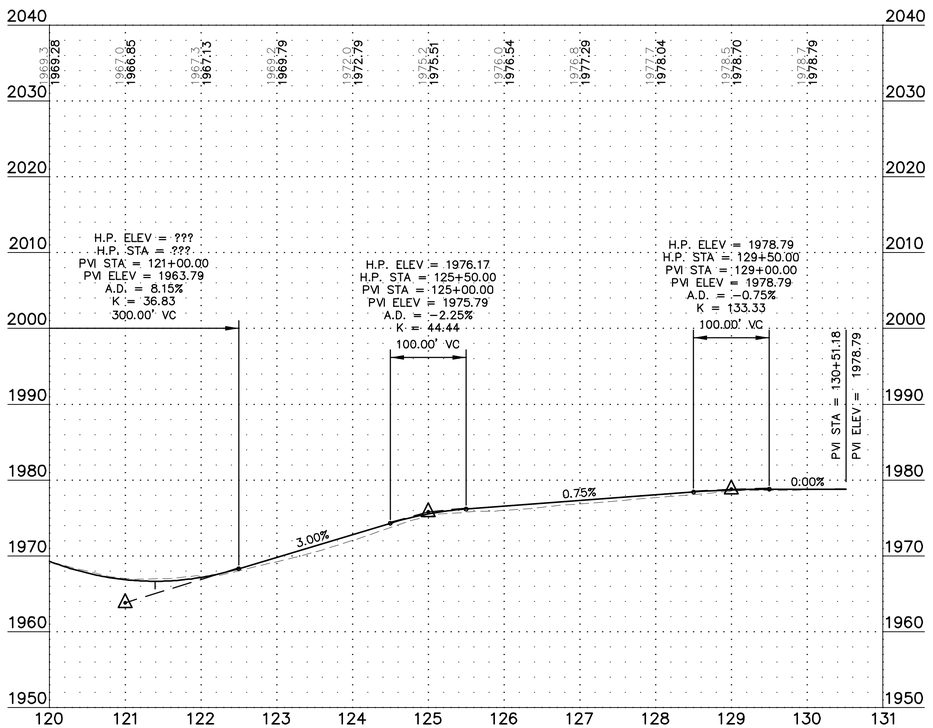
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Merricourt Wind Project

McIntosh County, North Dakota

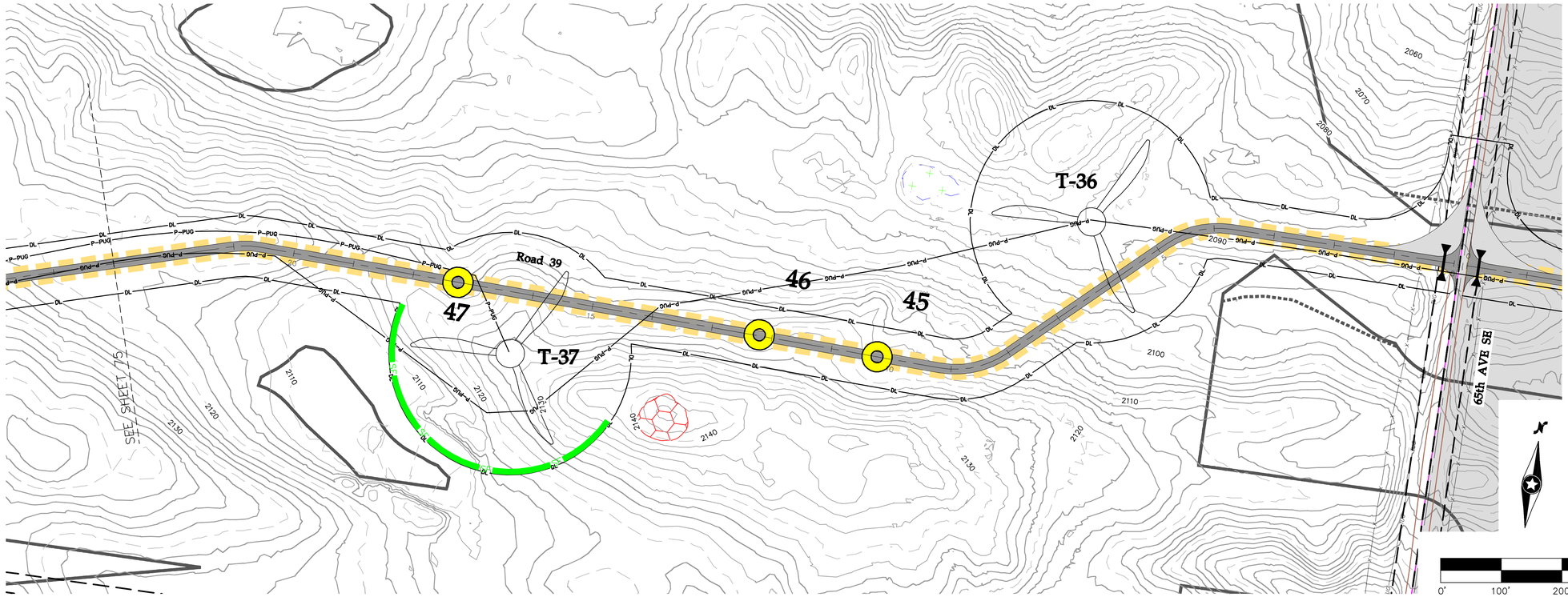
Road 34 - Sta. 120+00 to End

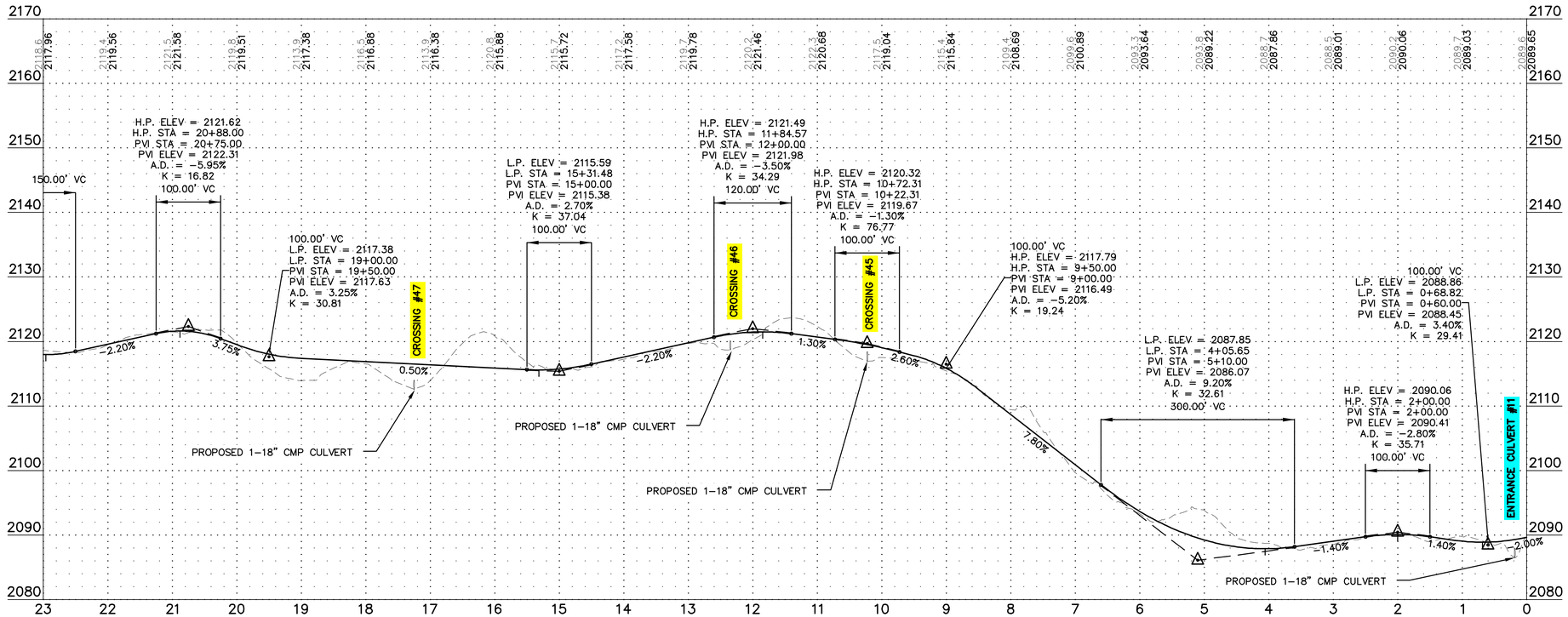
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Merricourt Wind Project

McIntosh County, North Dakota

Road 39 - Sta. 0+00 to 23+00

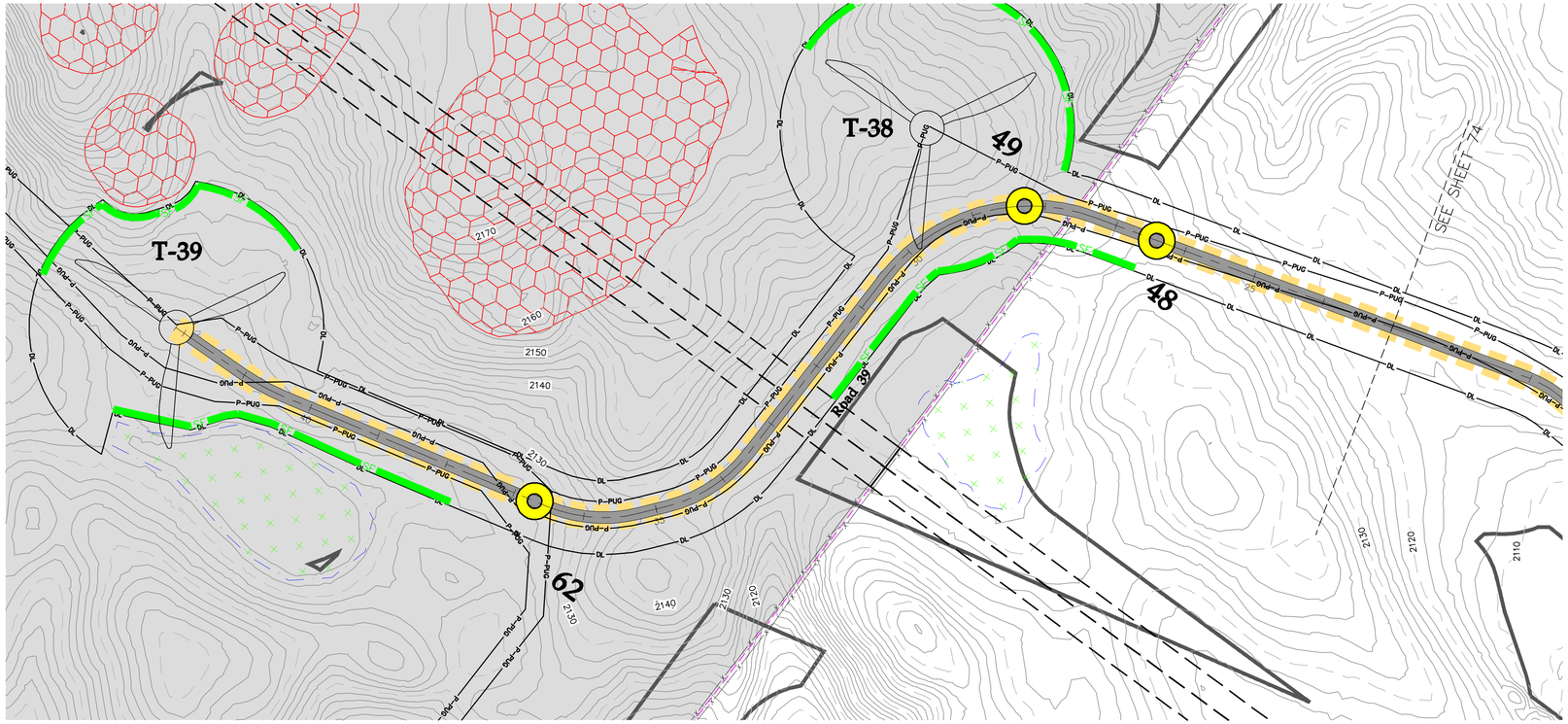
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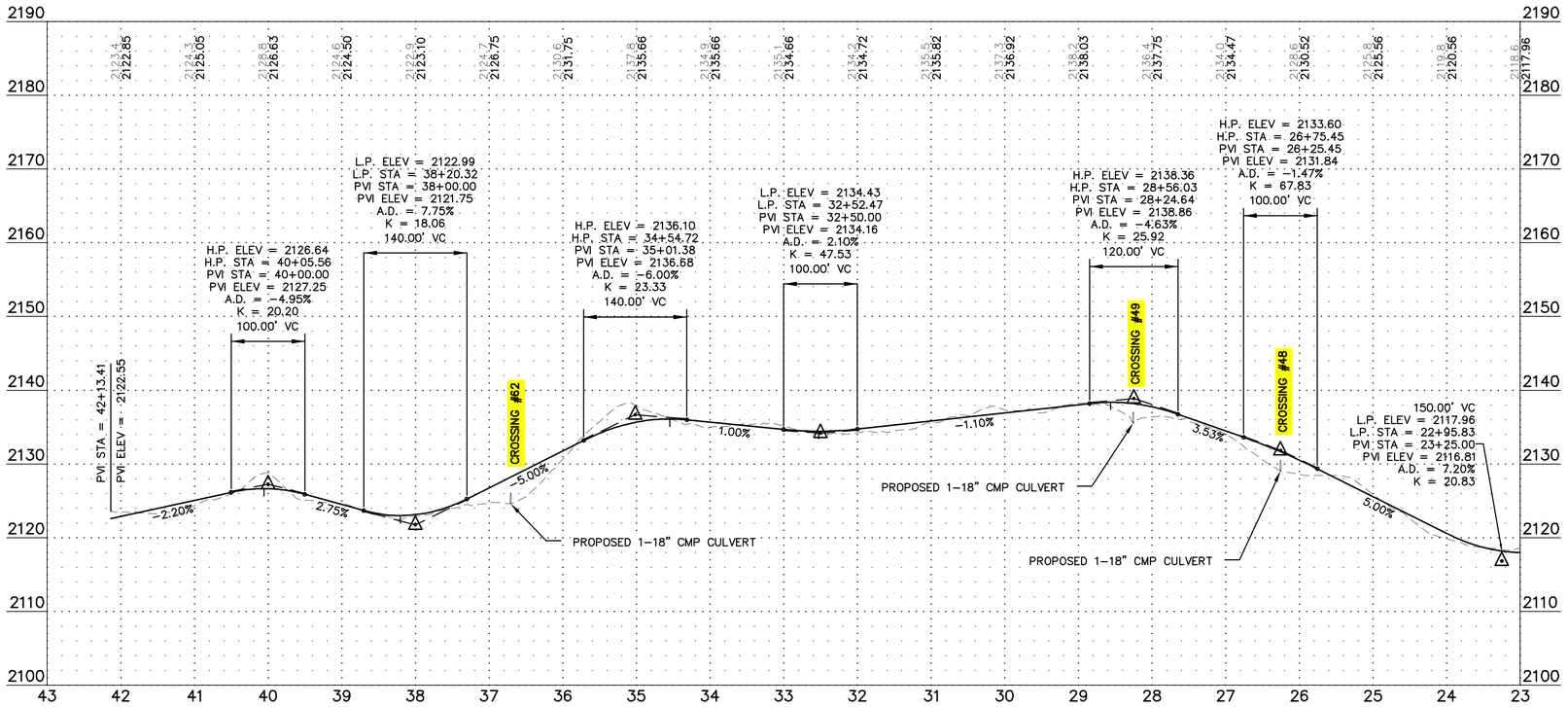
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0' 100' 200' 300'



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Merricourt Wind Project

McIntosh County, North Dakota

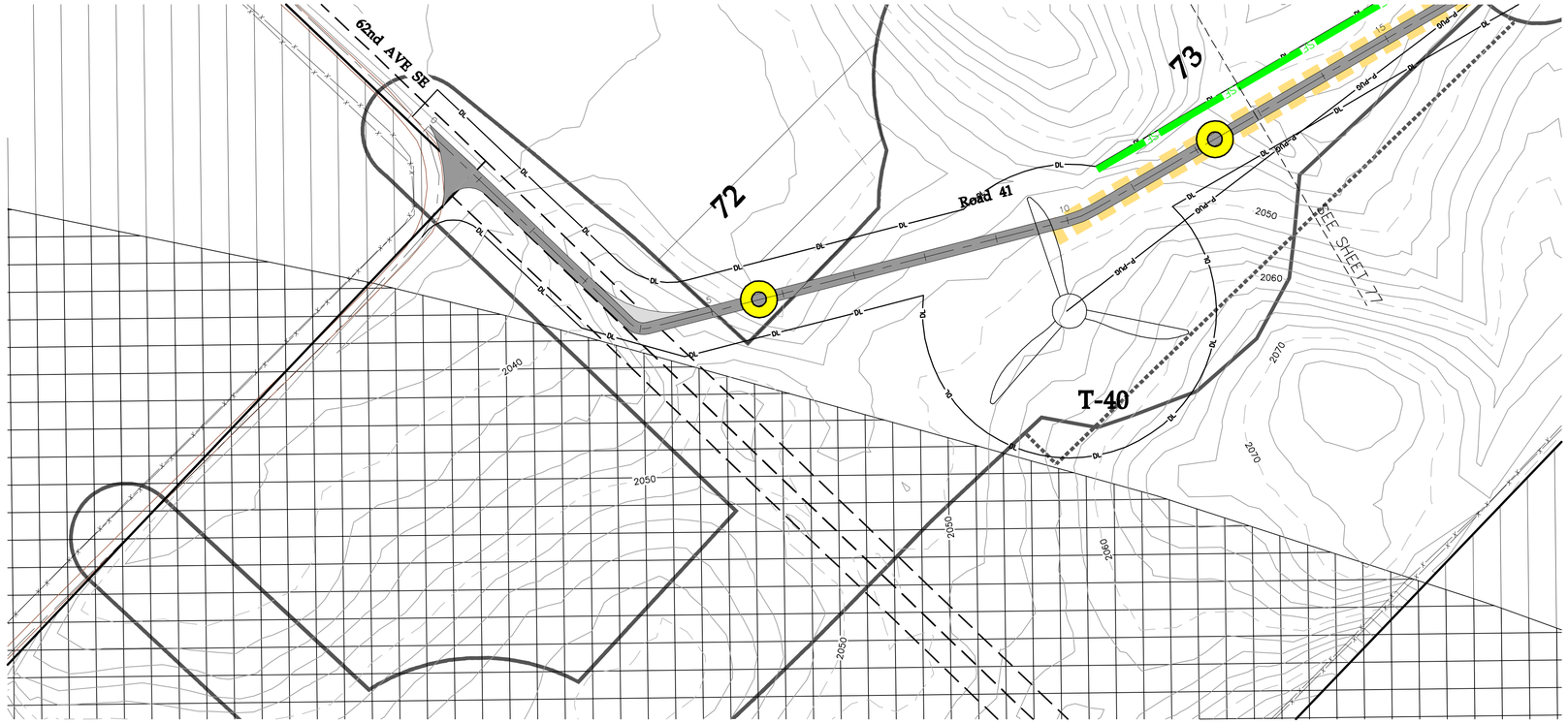
Road 39 - Sta. 23+00 to End

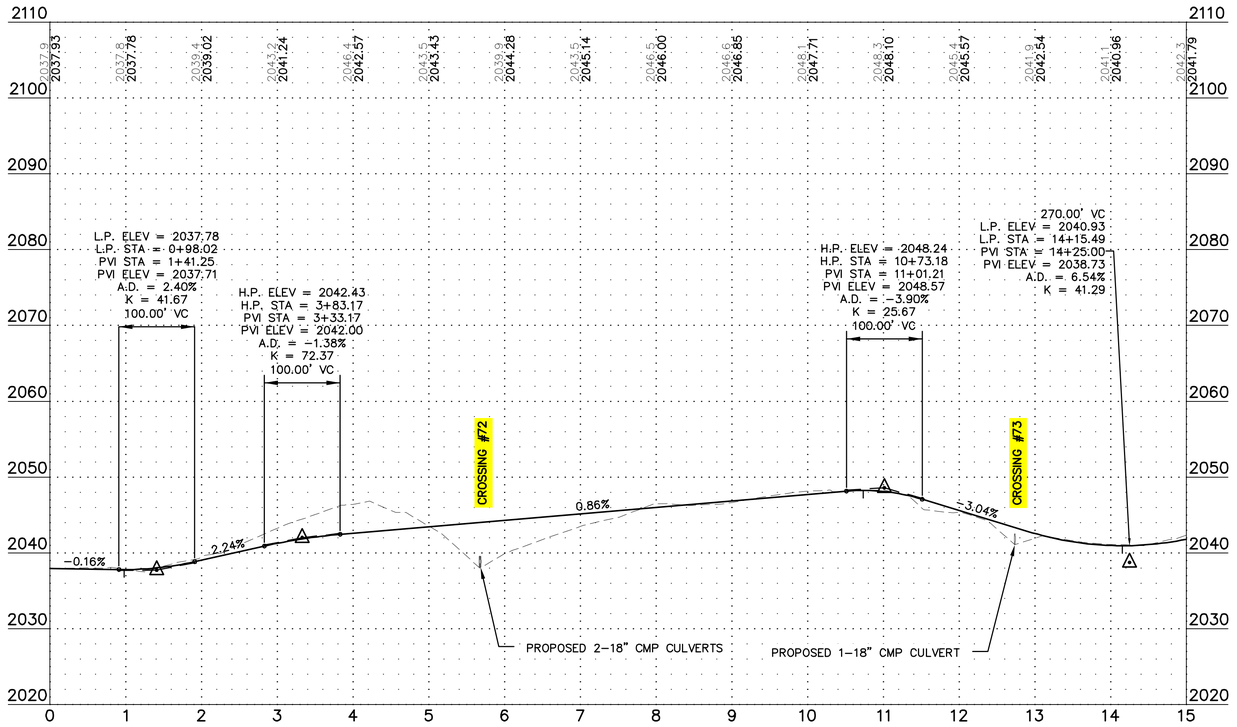
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Merricourt Wind Project

McIntosh County, North Dakota

Road 41 - Sta. 0+00 to 15+00

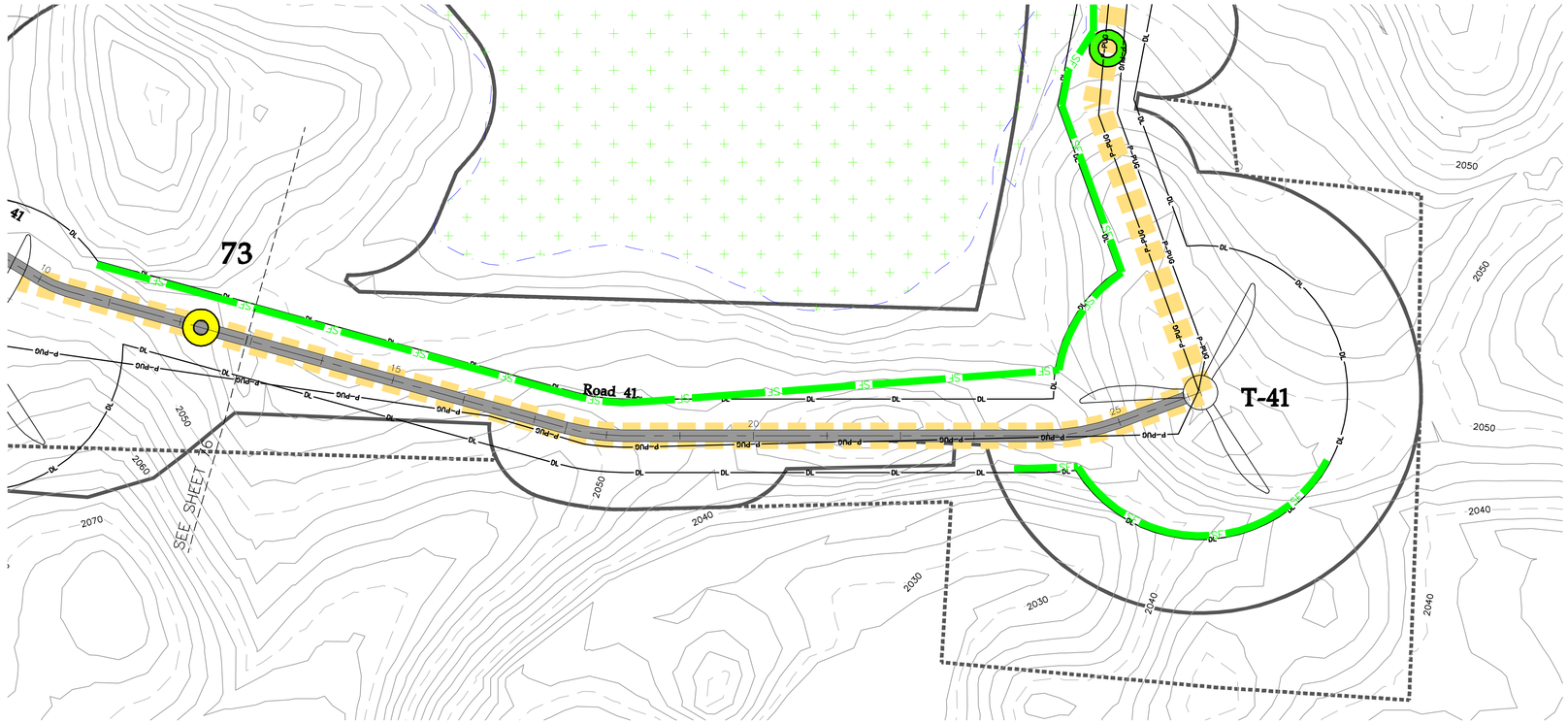
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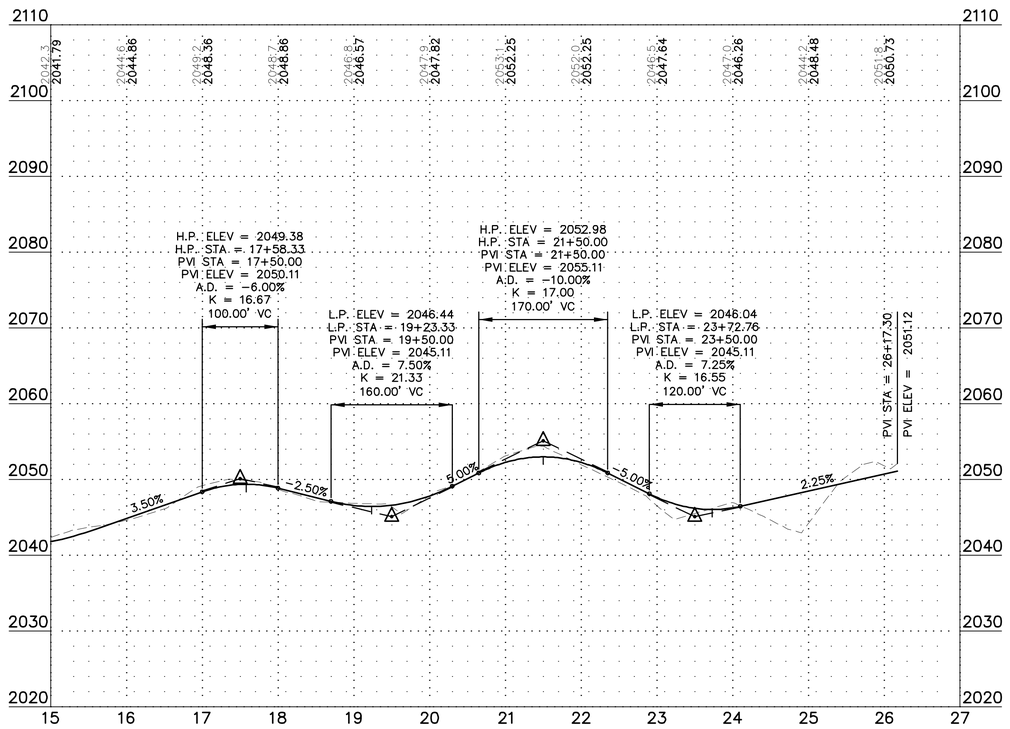
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Merricourt Wind Project

McIntosh County, North Dakota

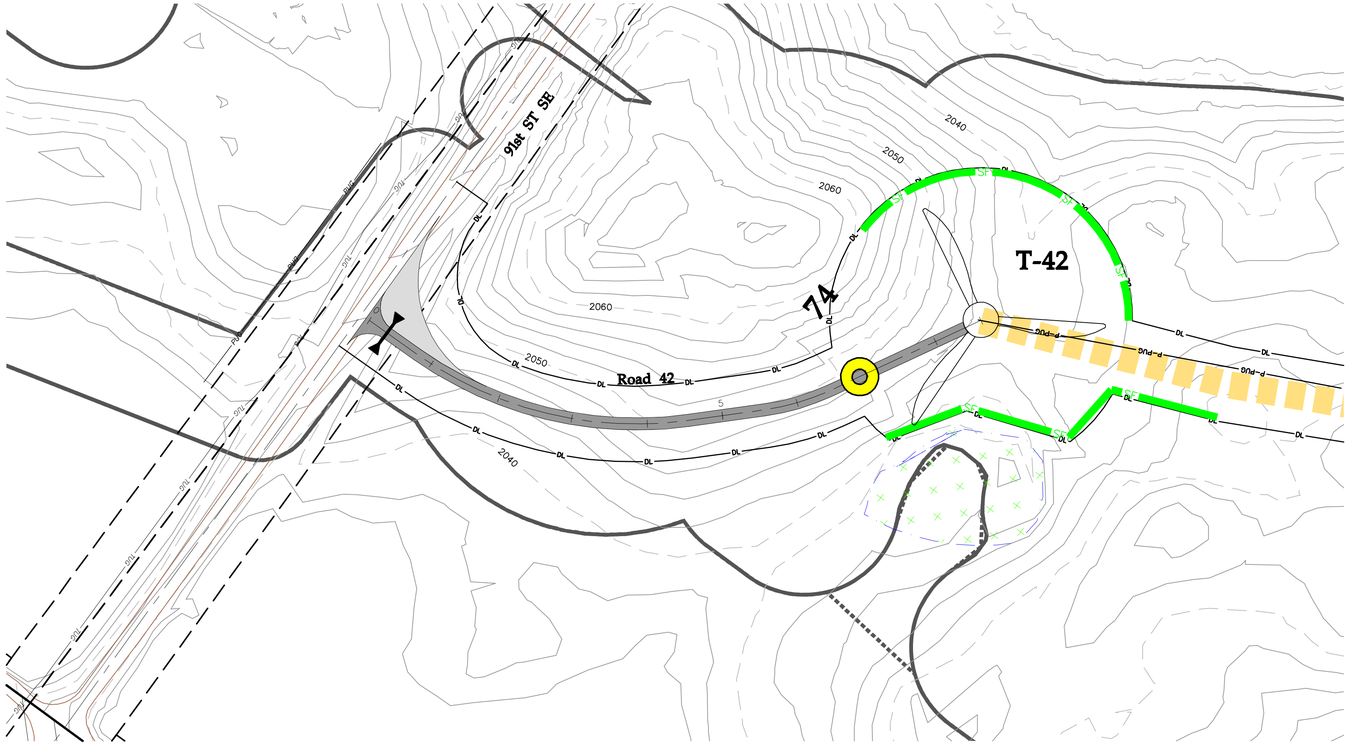
Road 41 - Sta. 15+00 to End

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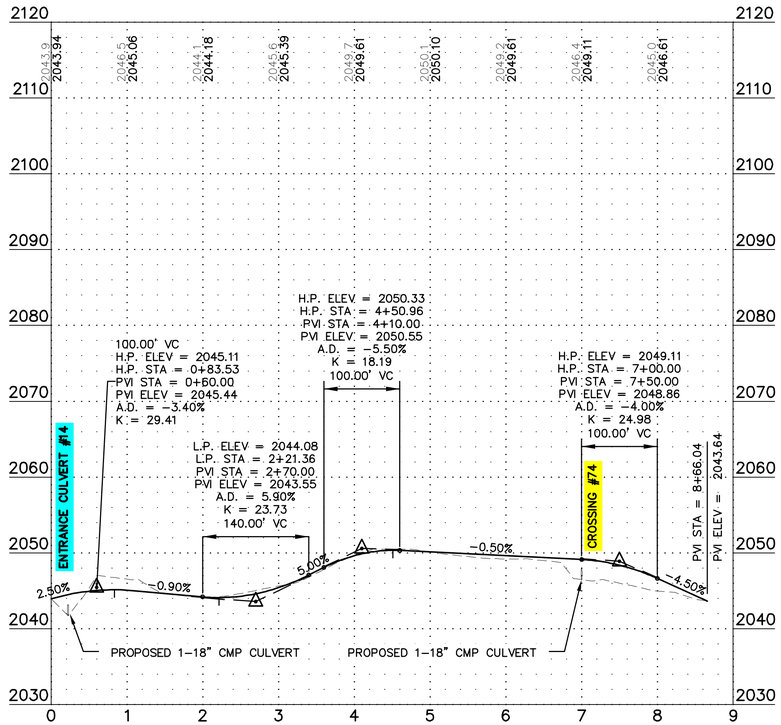
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McIntosh County, North Dakota

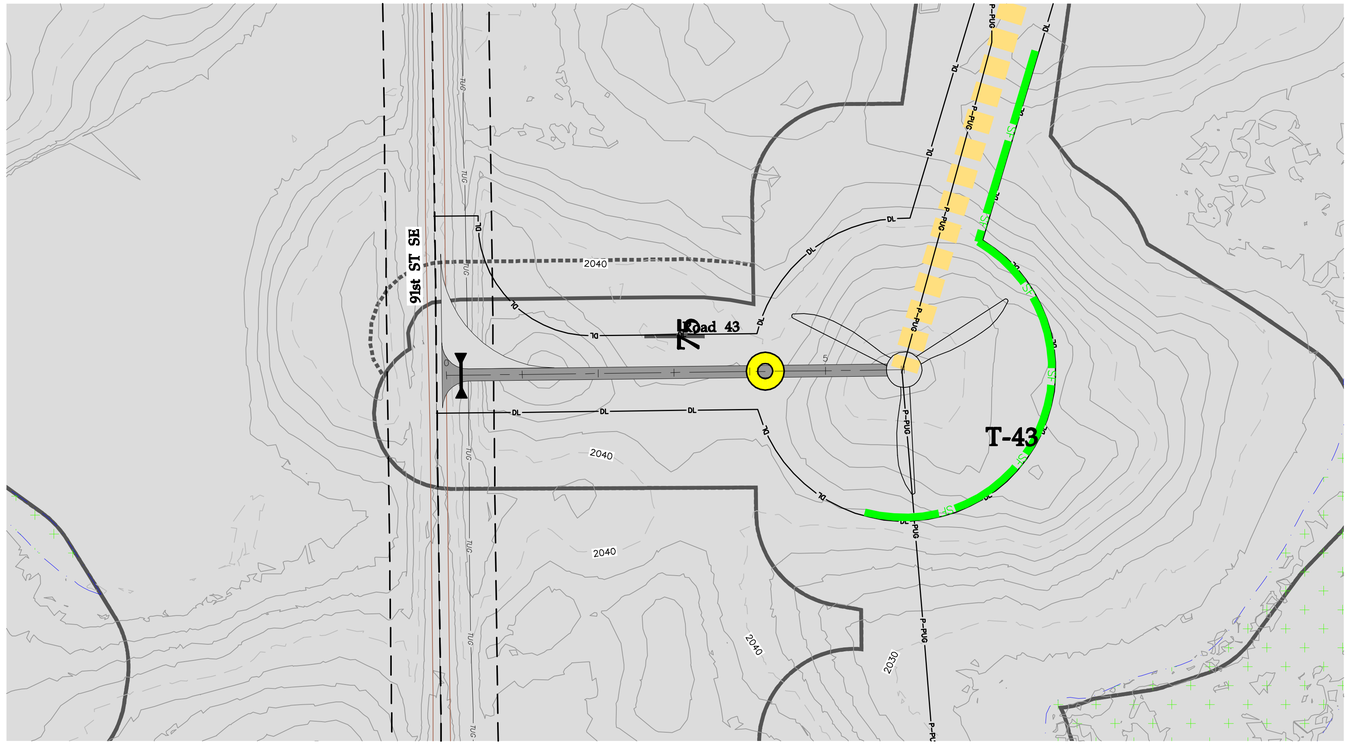
Road 42 - Sta. 0+00 to End

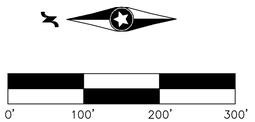
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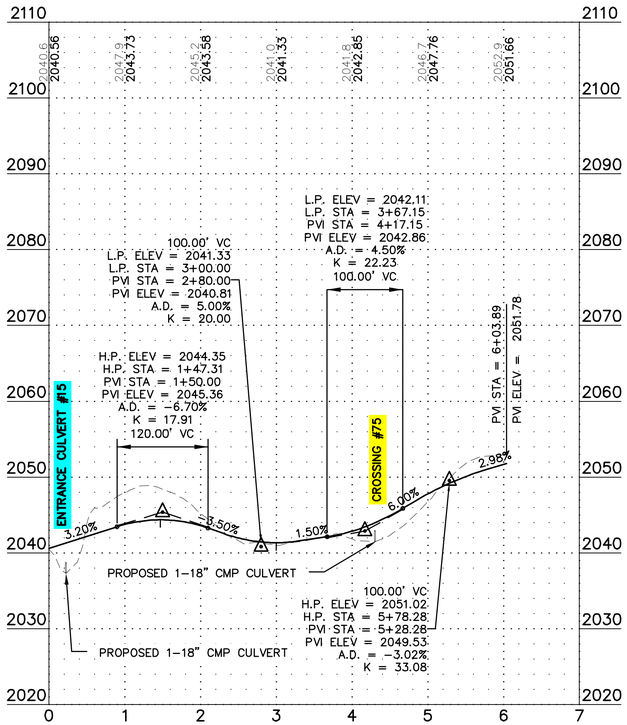
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Merricourt Wind Project

McIntosh County, North Dakota

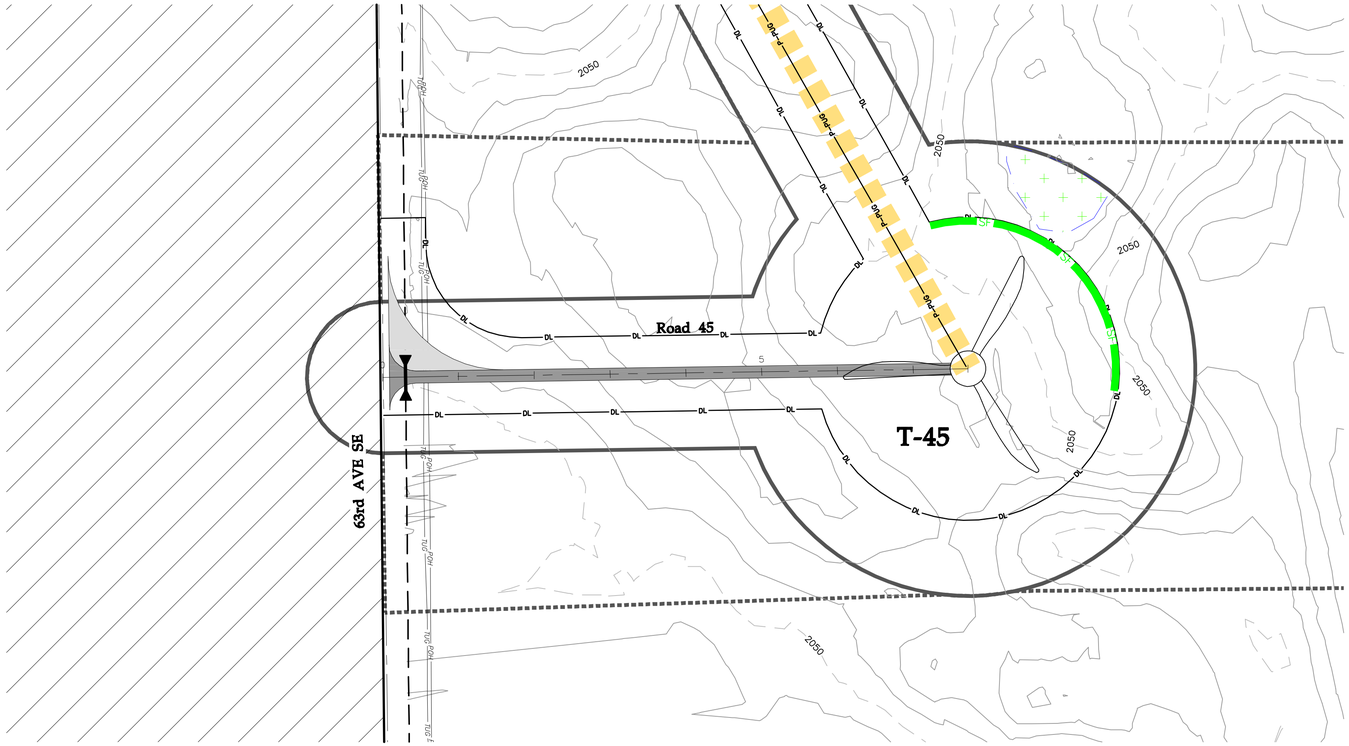
Road 43 - Sta. 0+00 to End

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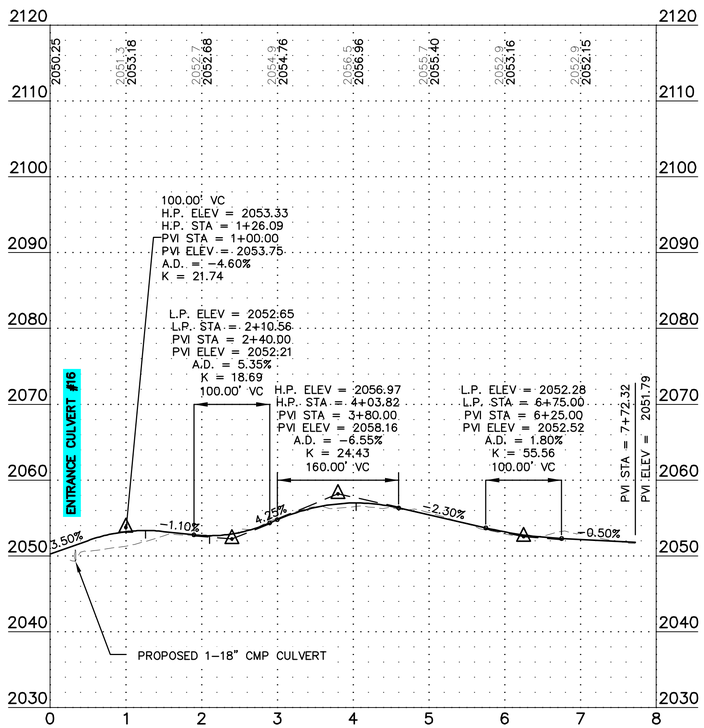
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Drawn: SNK
As-Built Drawing:

Revisions:

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0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

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- USFWS EASMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

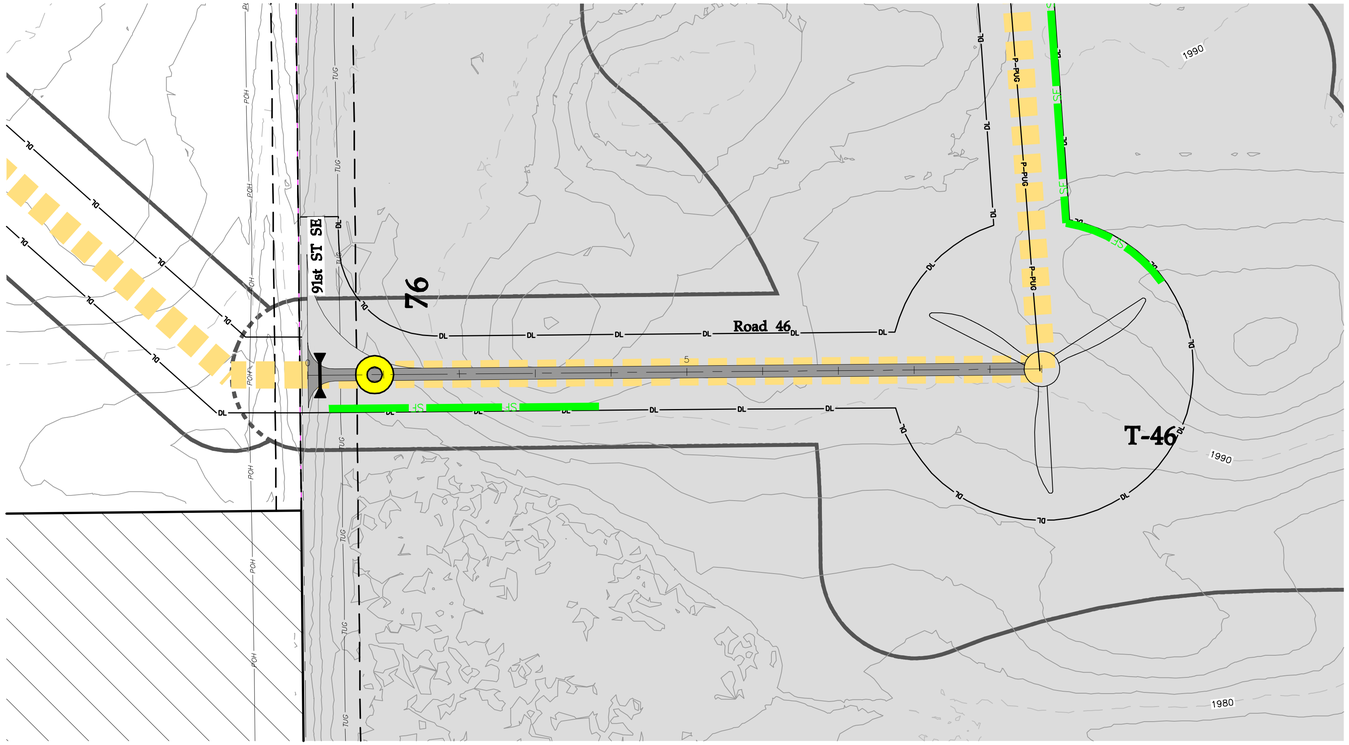
Road 45 - Sta. 0+00 to 800

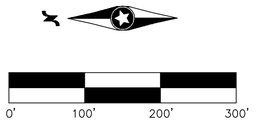
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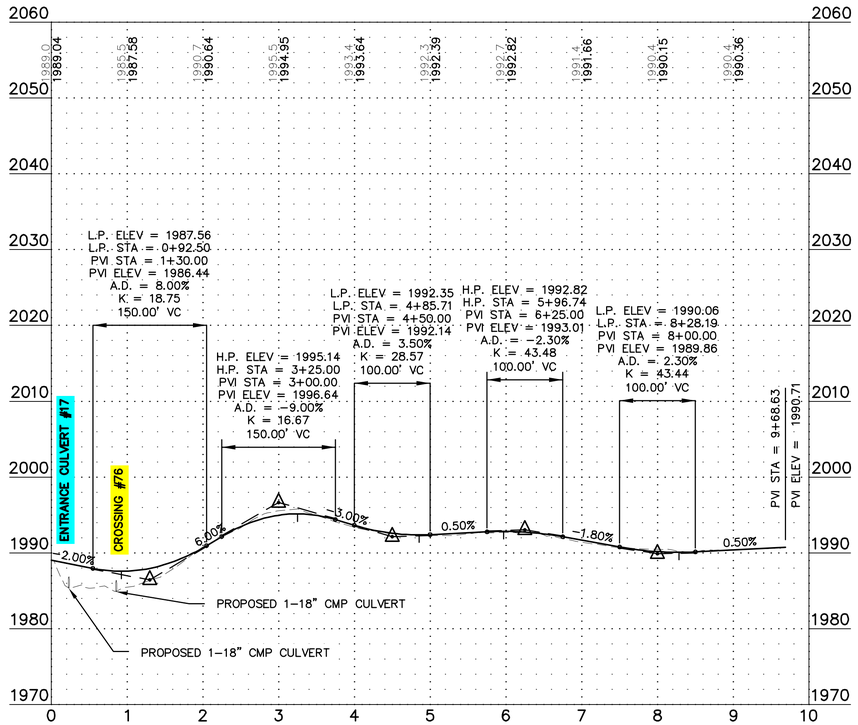
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Merricourt Wind Project

McIntosh County, North Dakota

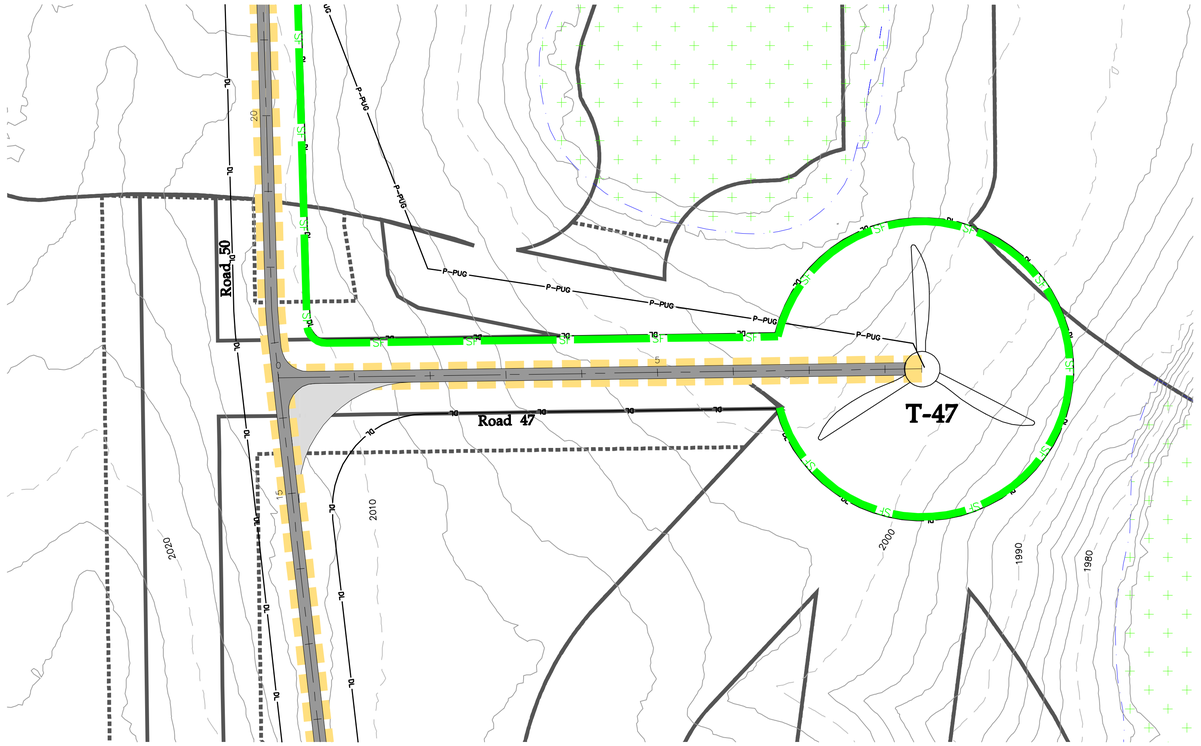
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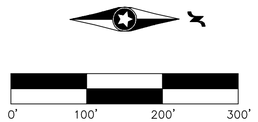
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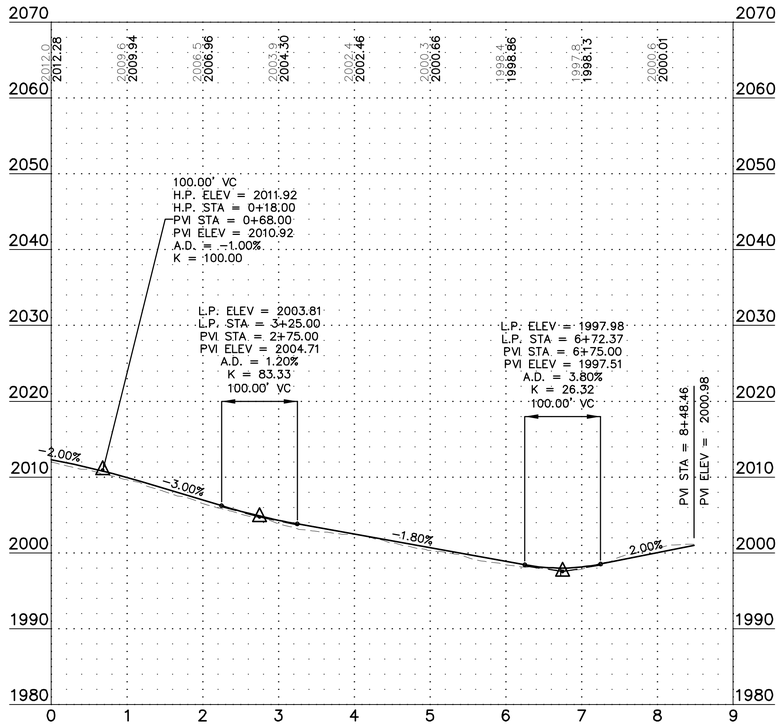
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Merricourt Wind Project

McIntosh County, North Dakota

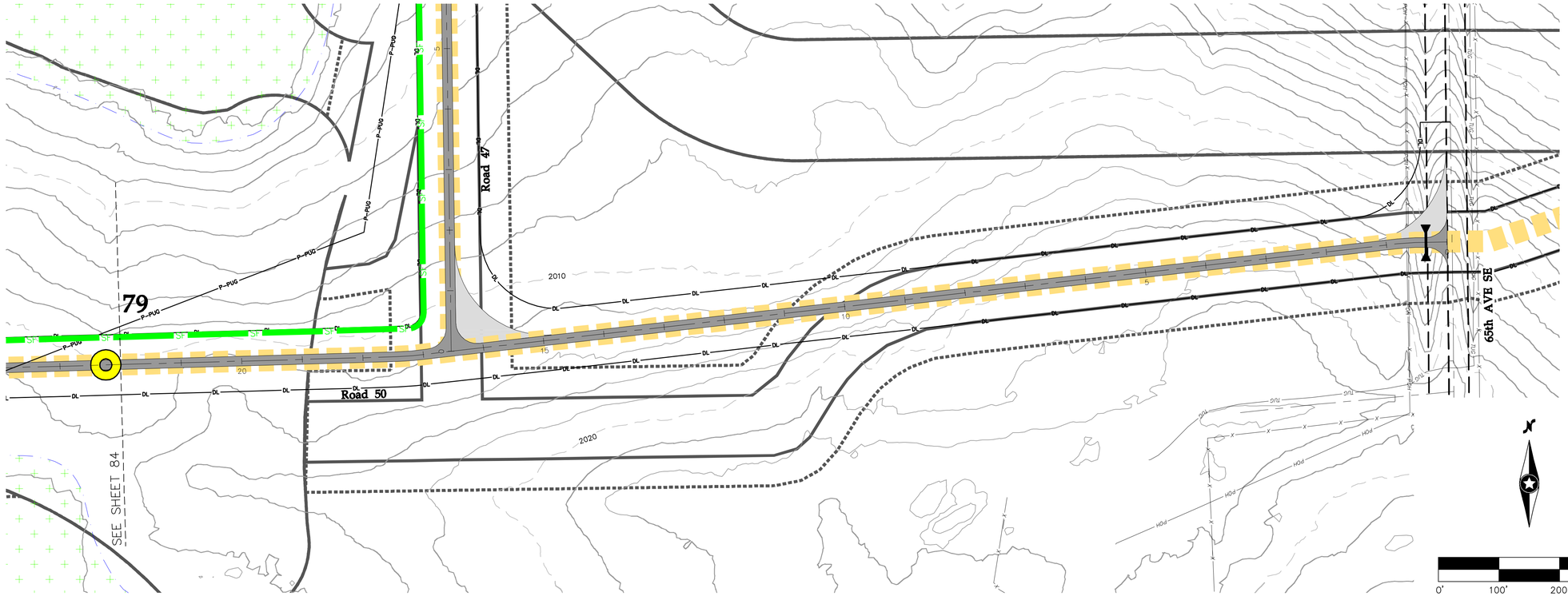
Road 47 - Sta. 0+00 to End

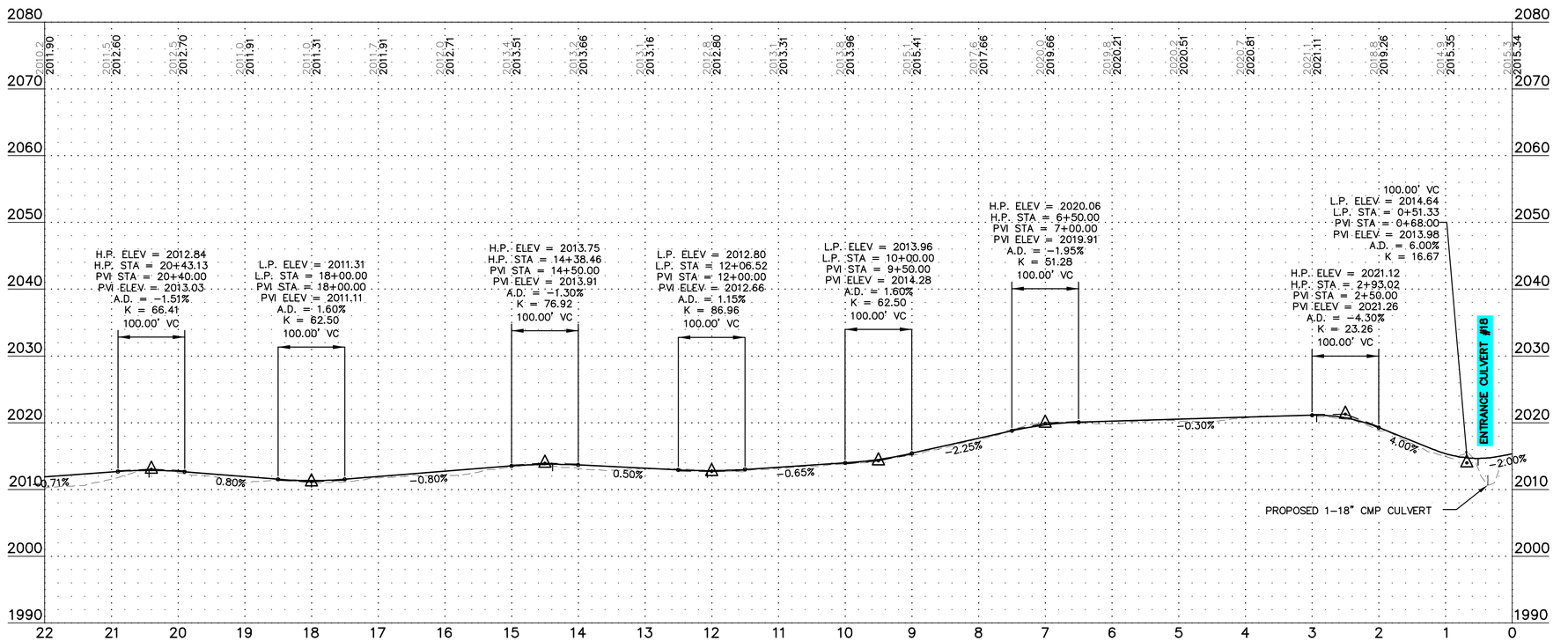
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Merricourt Wind Project

McIntosh County, North Dakota

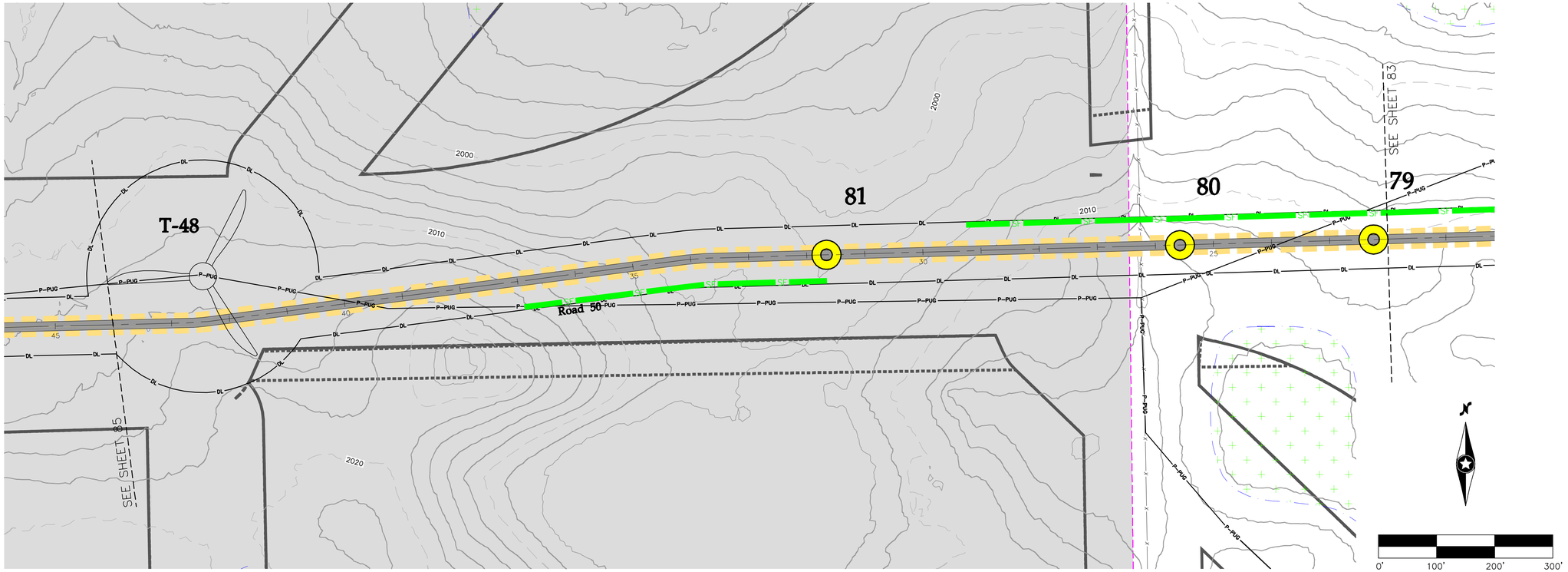
Road 50 - Sta. 0+00 to 22+00

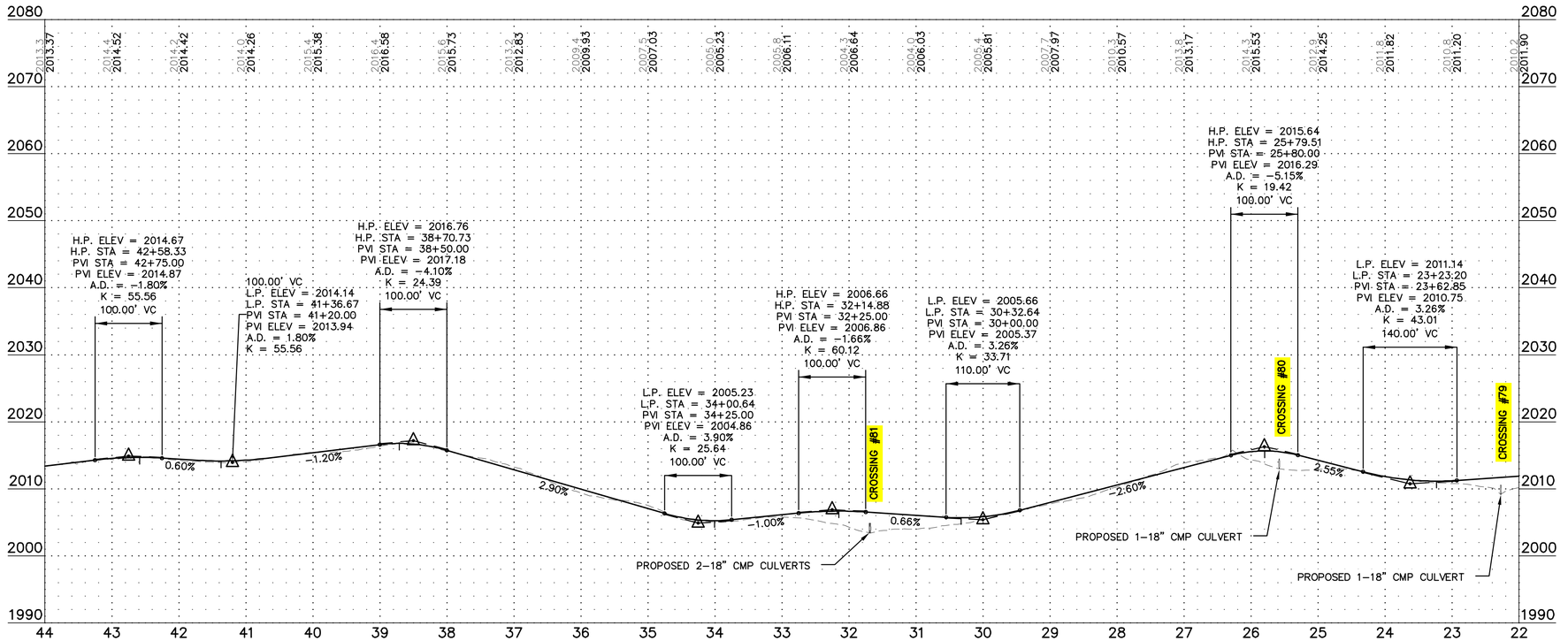
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McIntosh County, North Dakota

Road 50 - Sta. 22+00 to 44+00

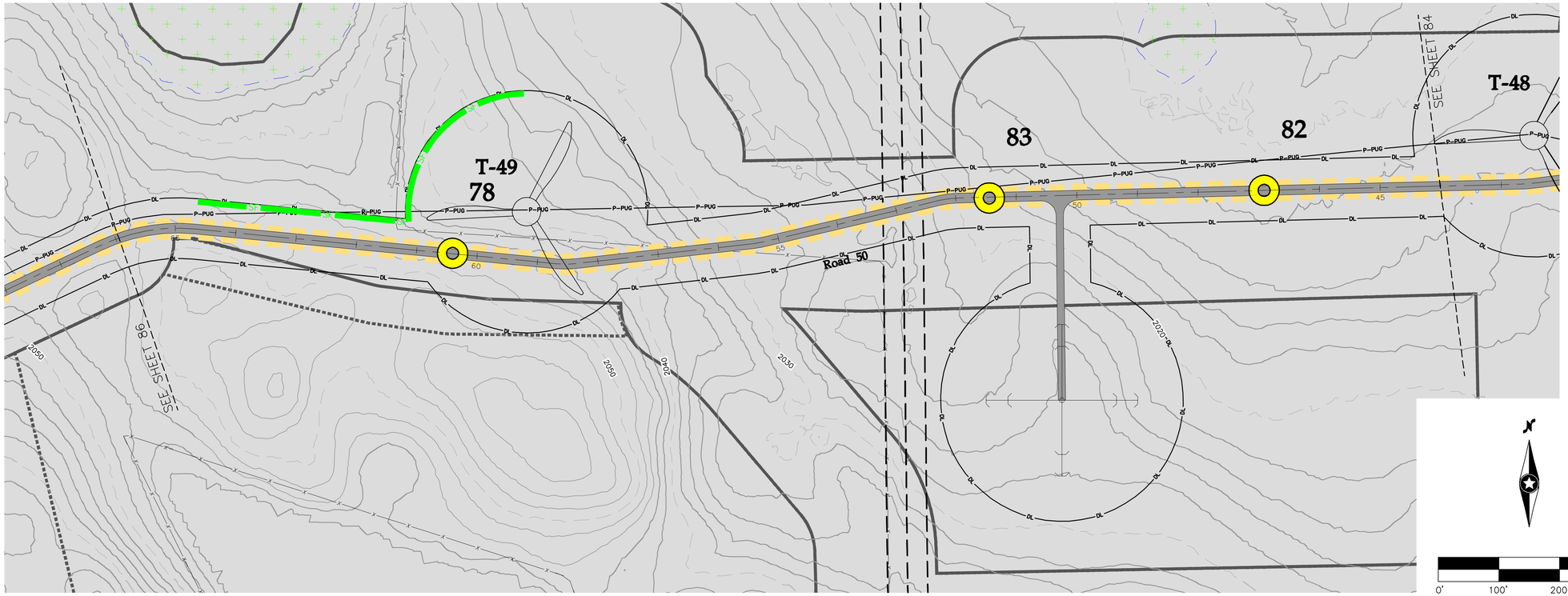
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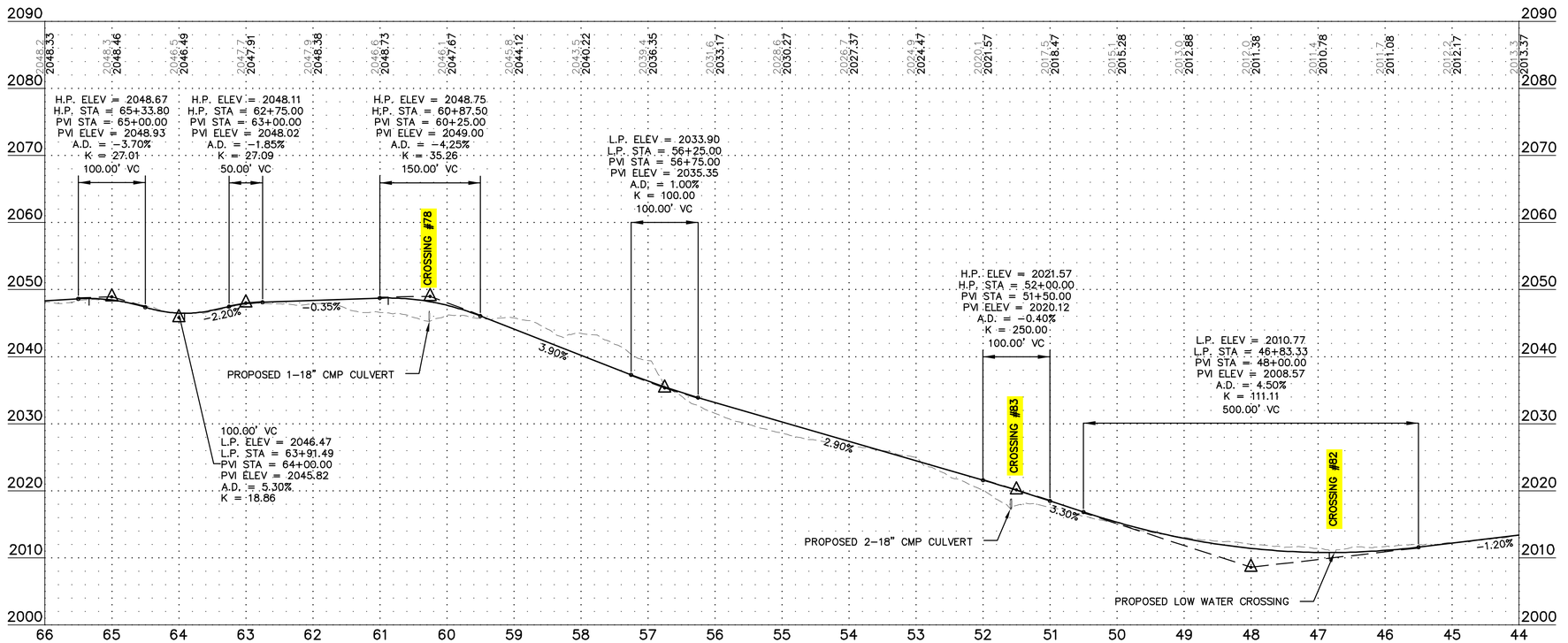
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Merricourt Wind Project

McIntosh County, North Dakota

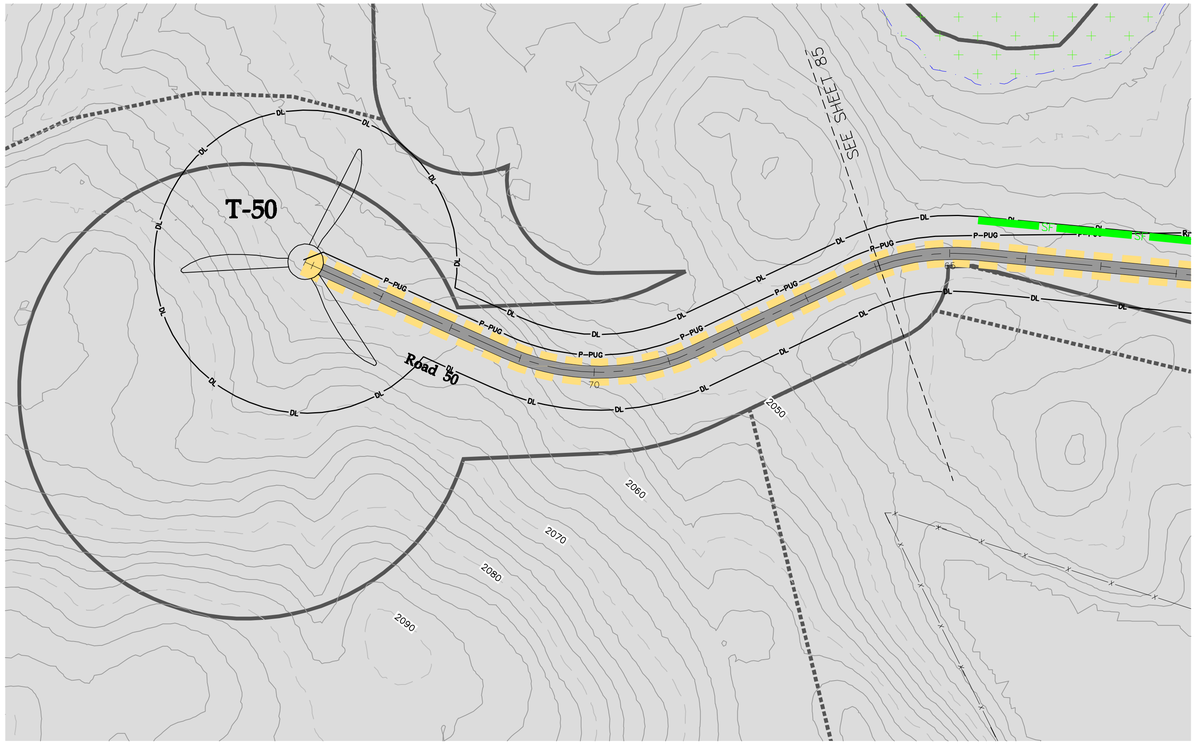
Road 50 - Sta. 44+00 to 66+00

Issued for Construction

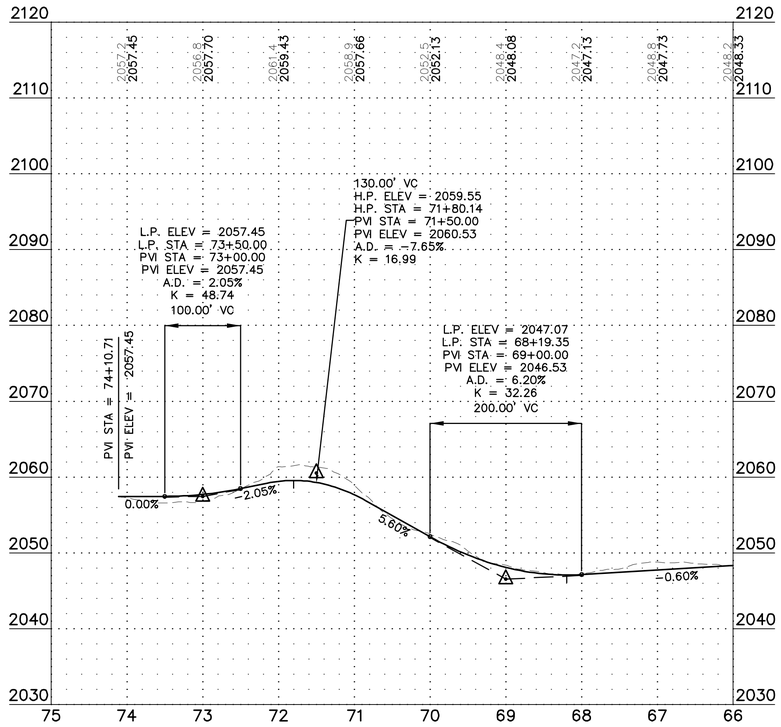
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Merricourt Wind Project

McIntosh County, North Dakota

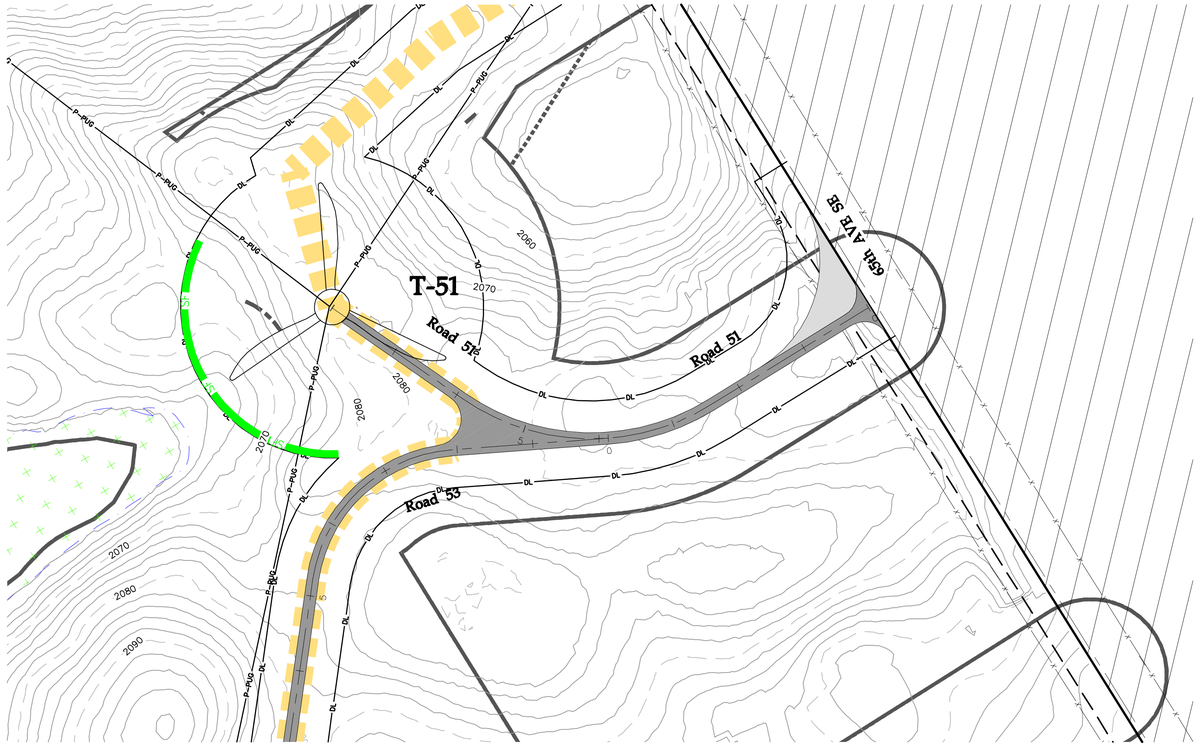
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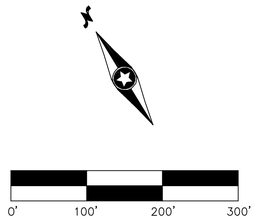
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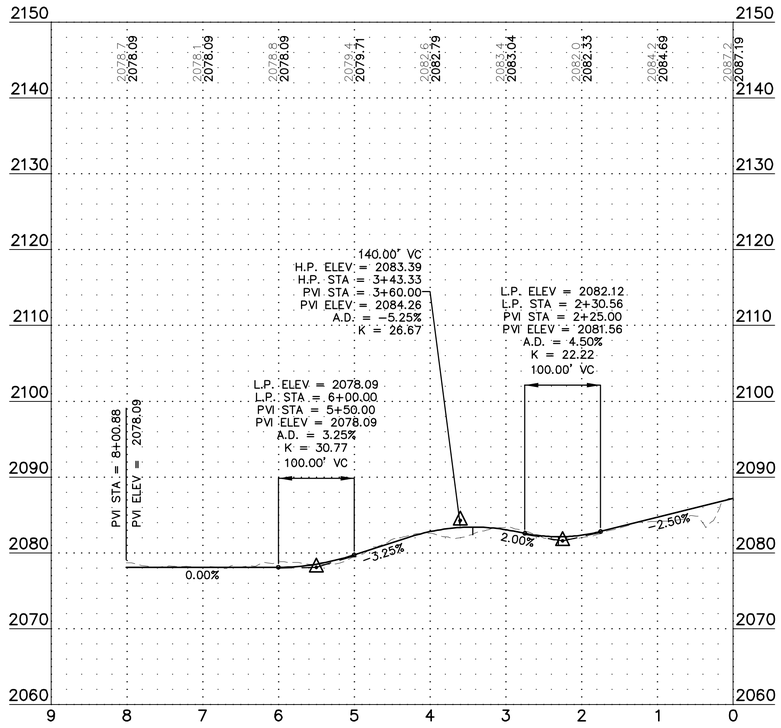
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Sheet: 86 OF 118

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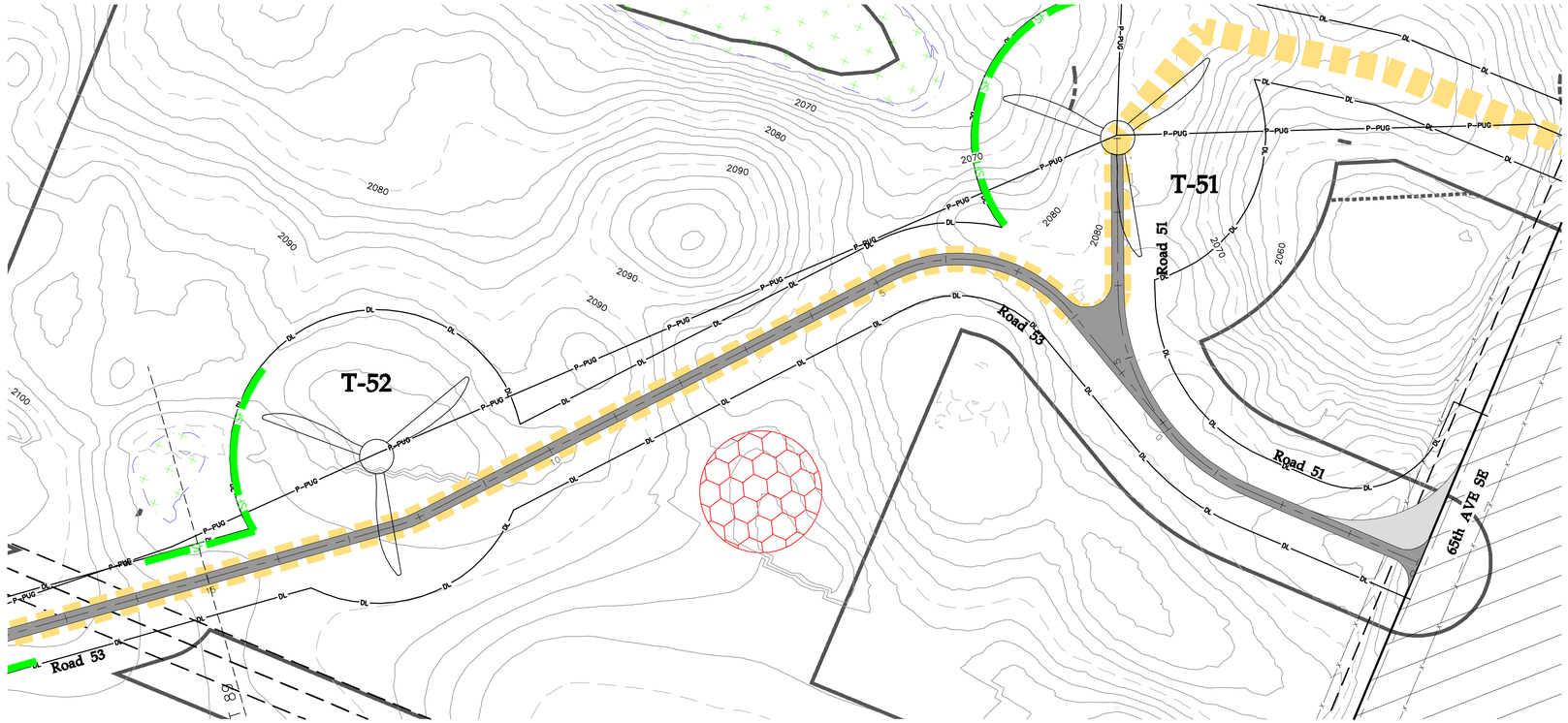
Road 51 - Sta. 0+00 to End

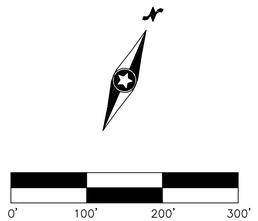
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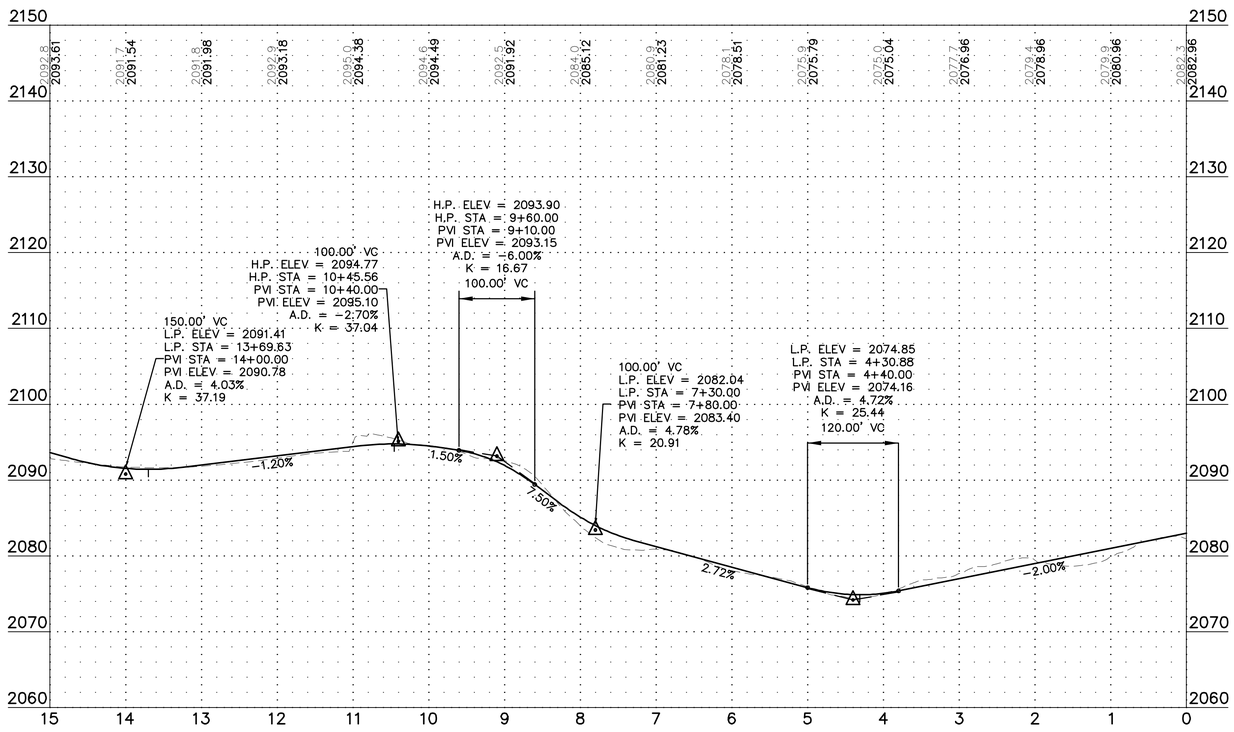
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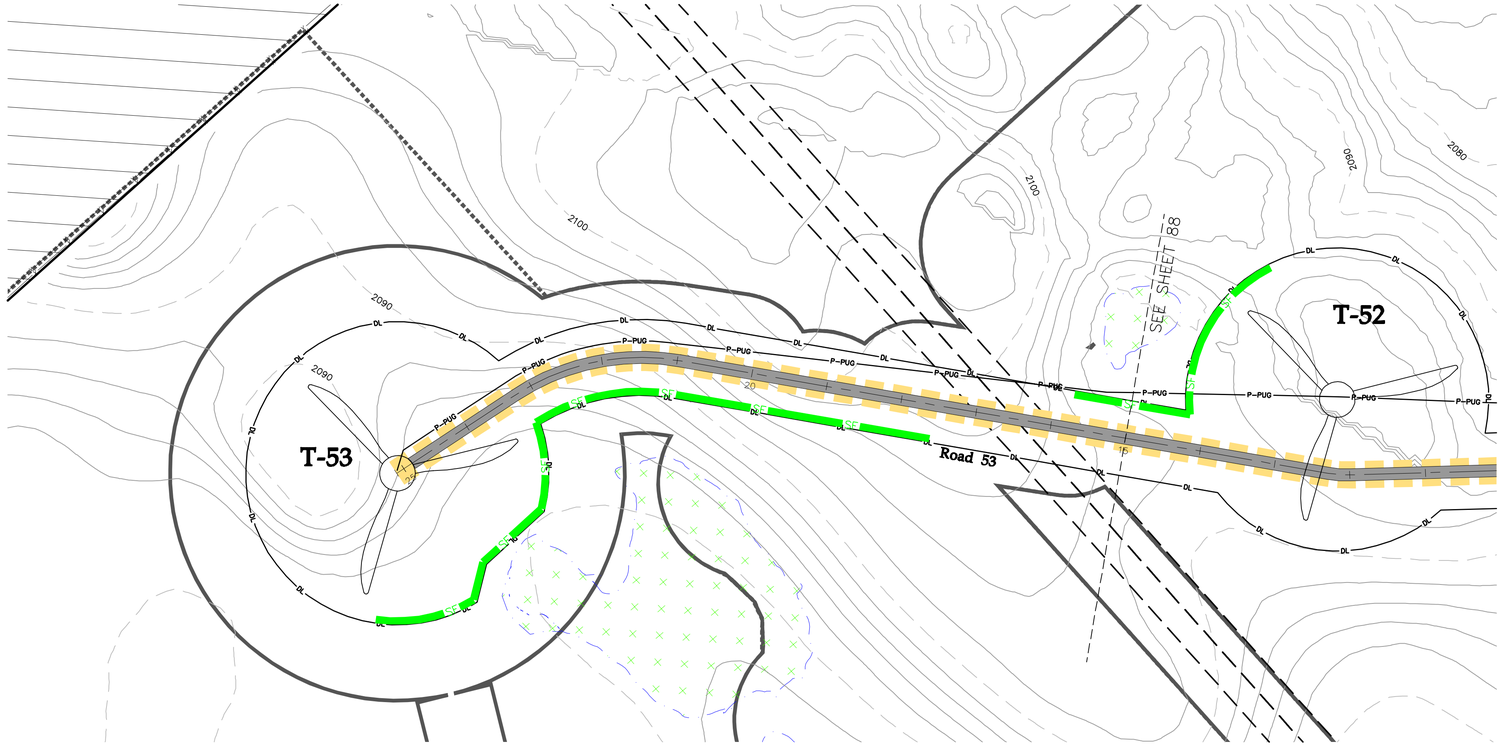
Road 53 - Sta. 0+00 to 15+00

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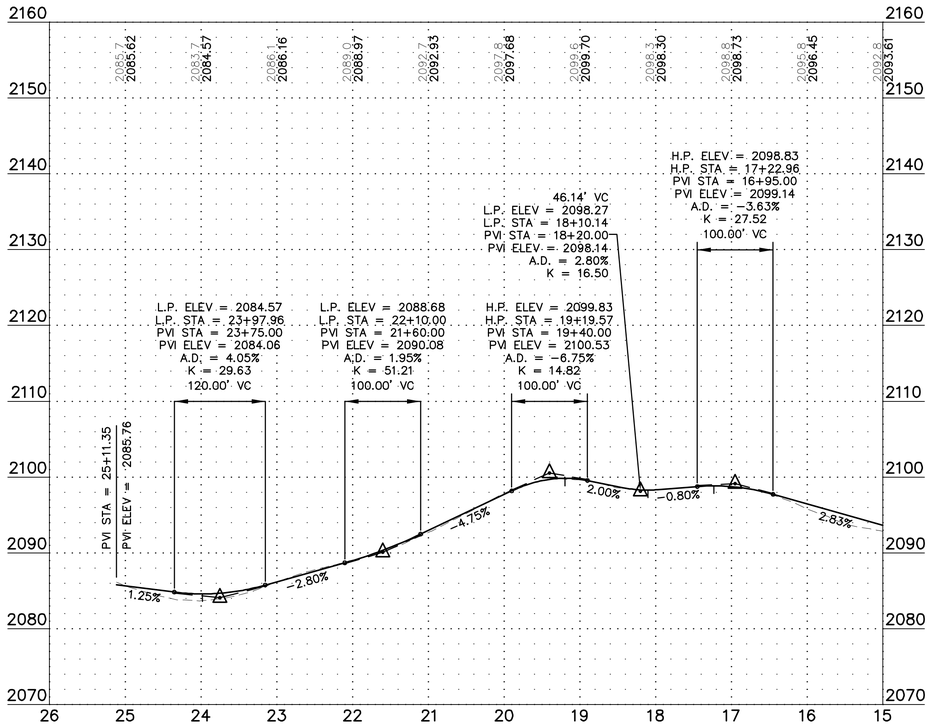
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McIntosh County, North Dakota

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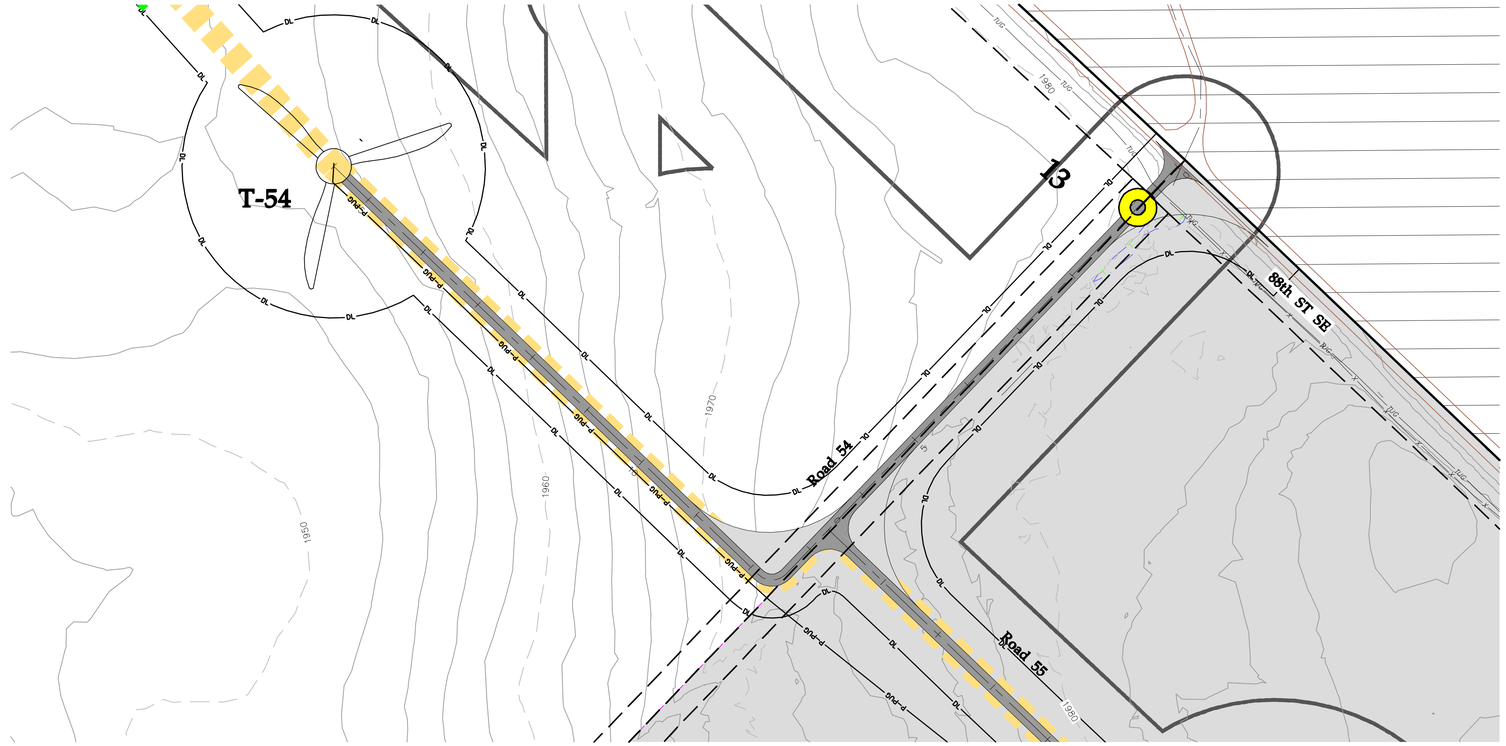
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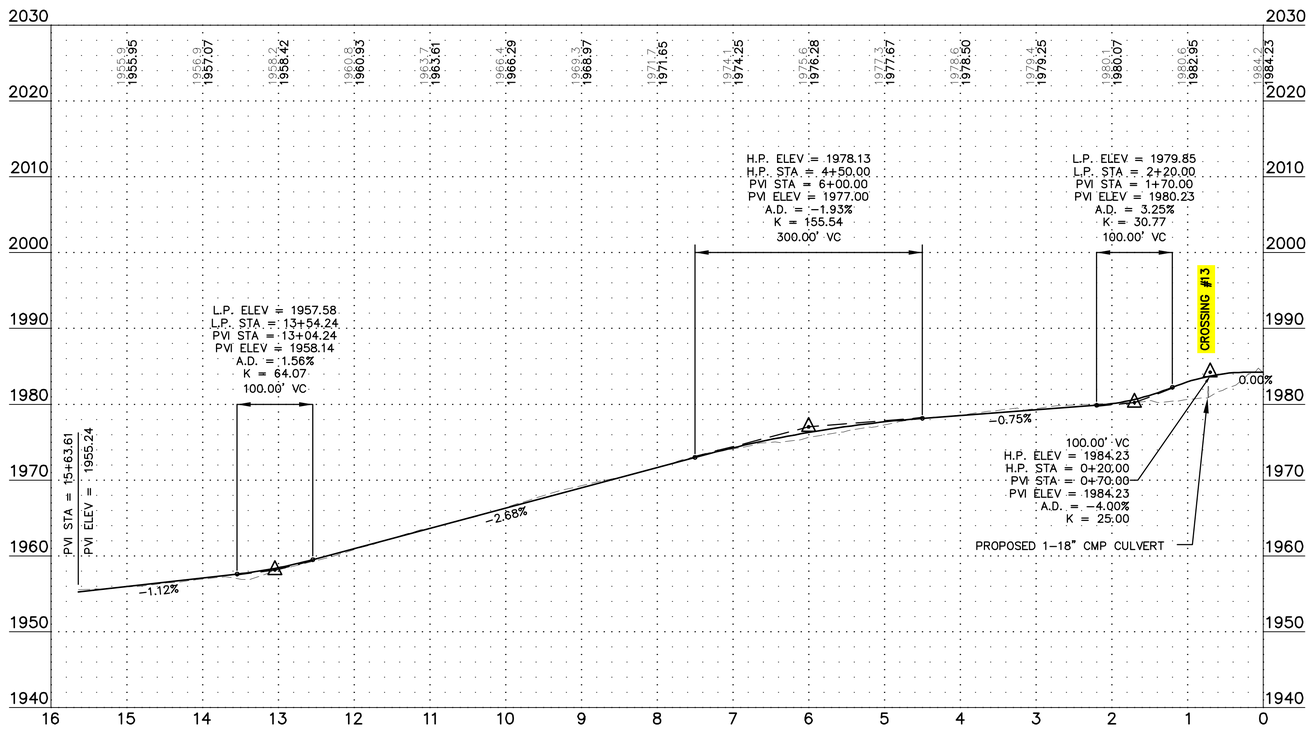
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- SF — PROPOSED PERIMETER SEDIMENT CONTROL
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- WETLAND SURVEY CORRIDOR
- USFWS PROTECTED BASINS
- DELINEATED WETLAND – KLJ
- ARCHEOLOGICAL SITE – NO IMPACTS
- USFWS EASEMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

Road 54 - Sta. 0+00 to End

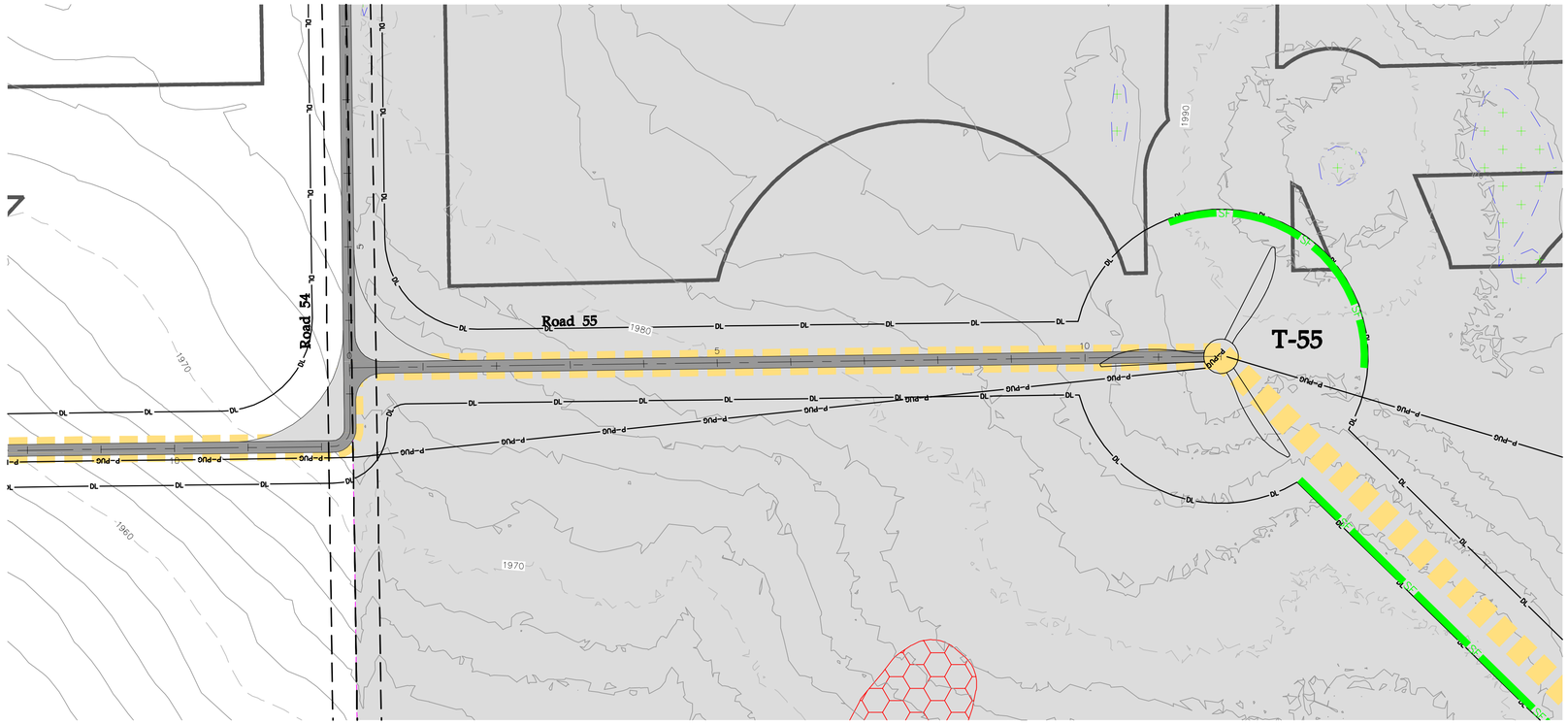
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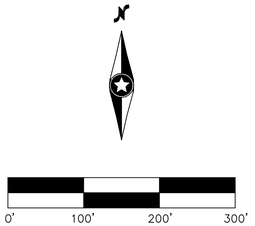
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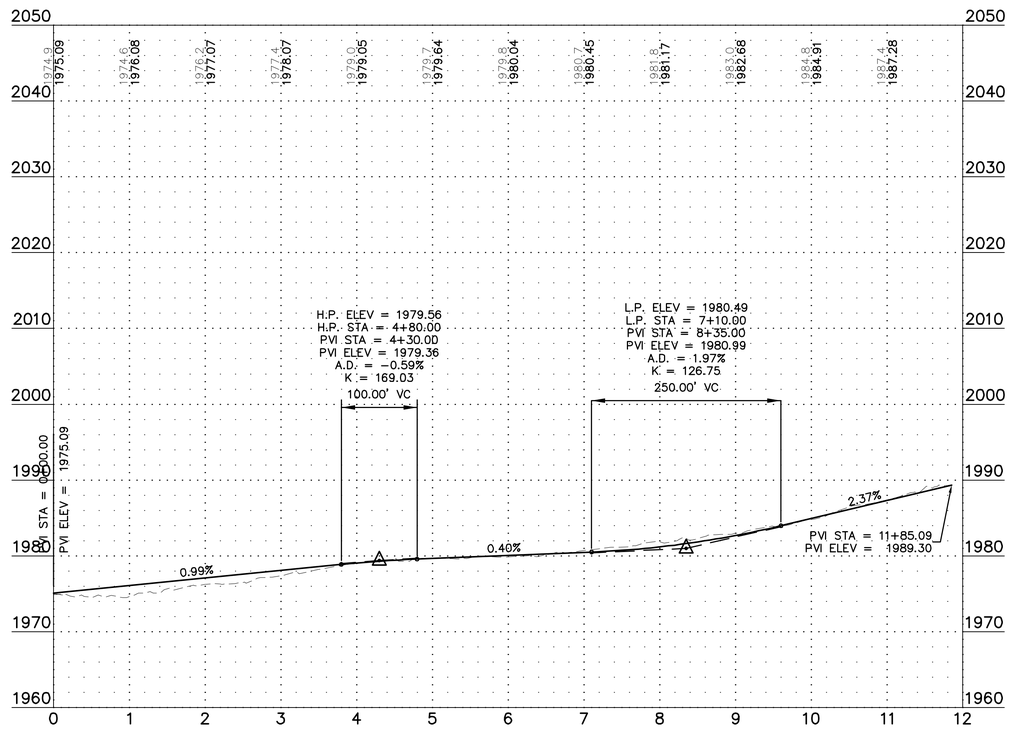
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Checked: DJN
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Revisions:

#	DATE	DESCRIPTION
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Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
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- PROPOSED CRANE PATH
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Merricourt Wind Project

McIntosh County, North Dakota

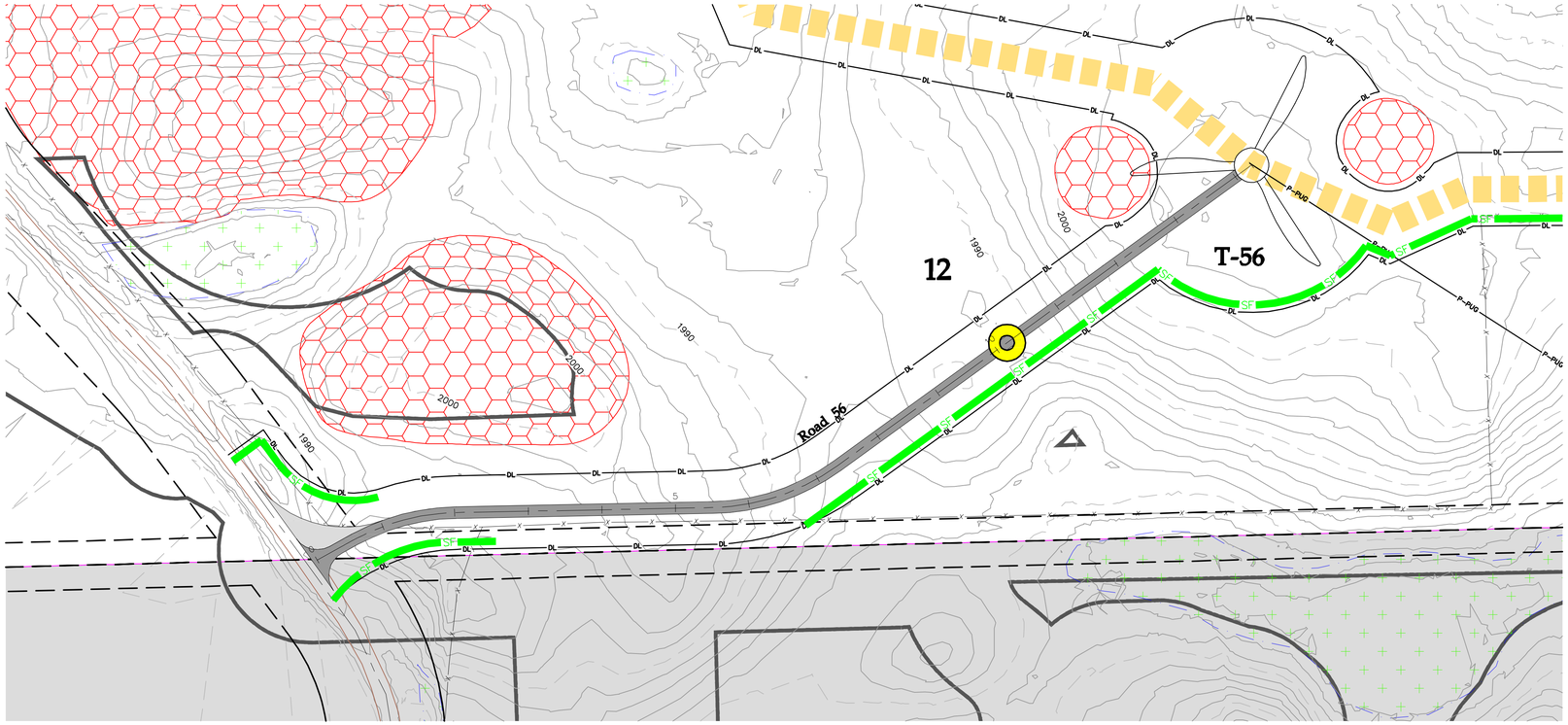
Road 55 - Sta. 0+00 to End

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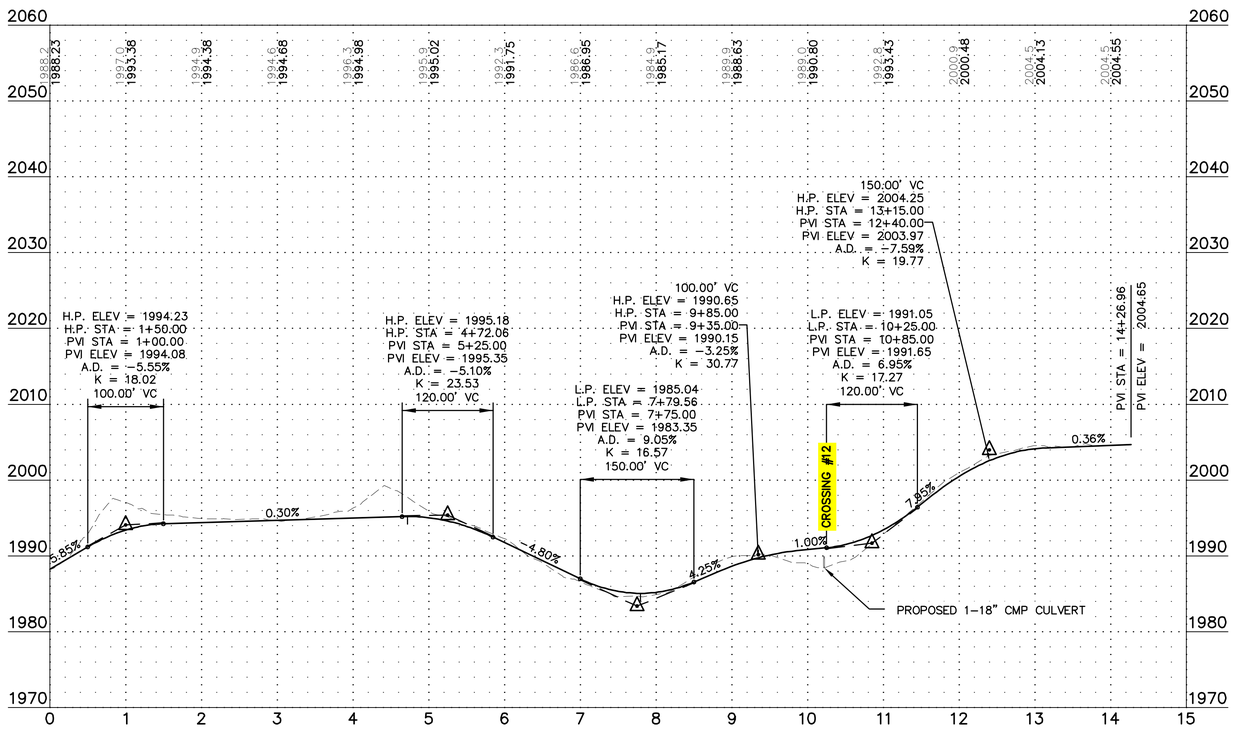
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Merricourt Wind Project

McIntosh County, North Dakota

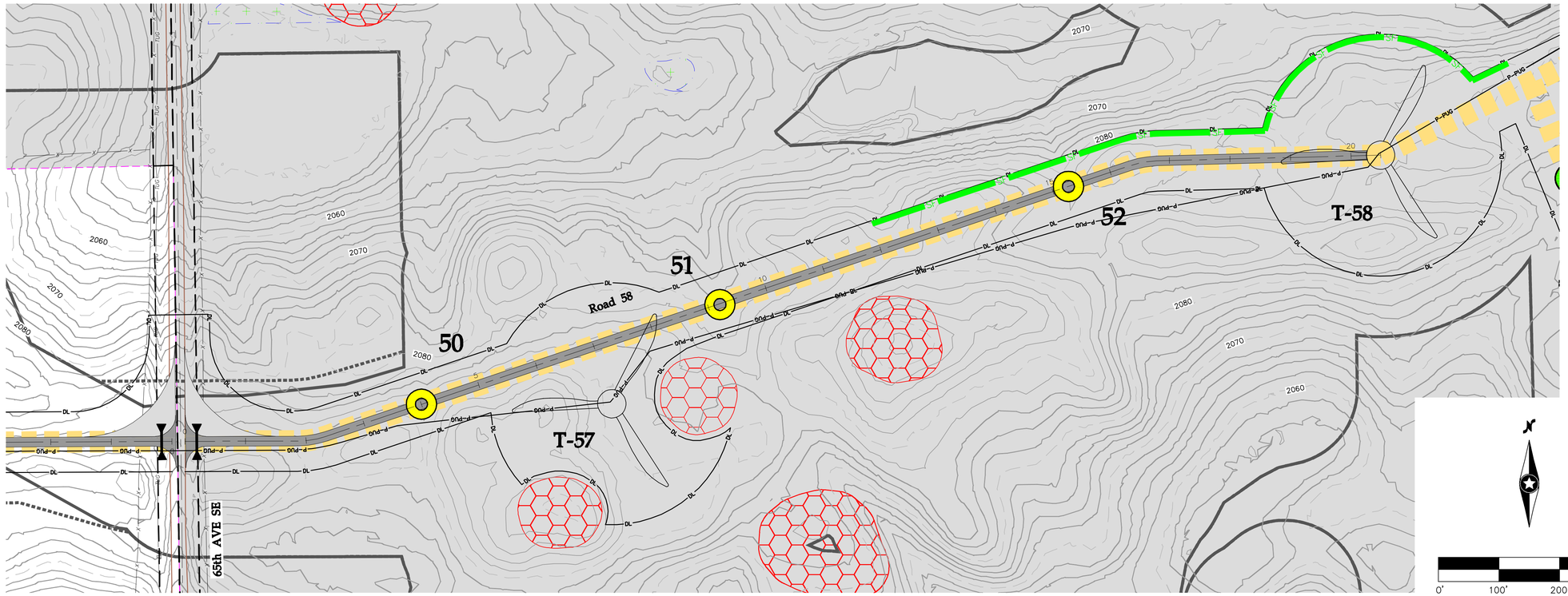
Road 56 - Sta. 0+00 to End

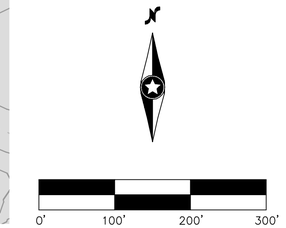
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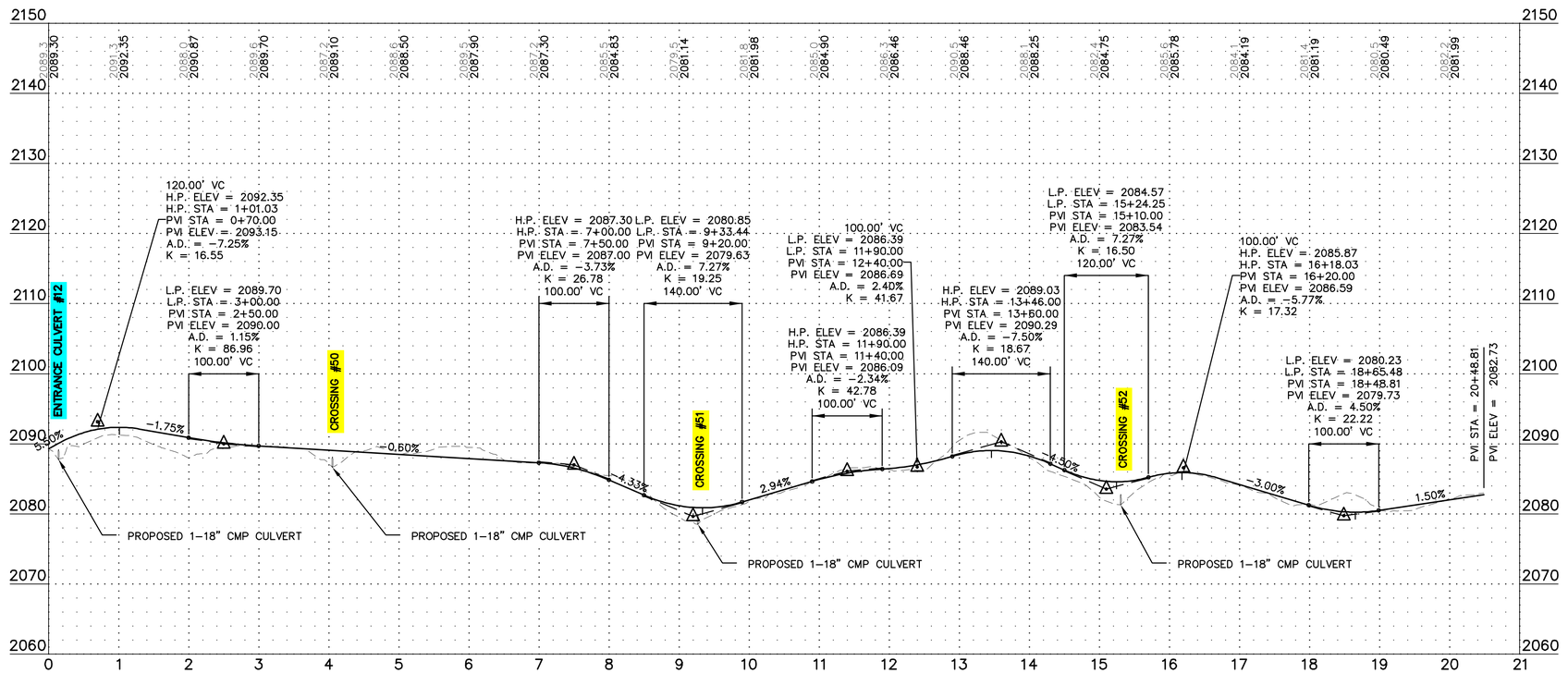
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Merricourt Wind Project

McIntosh County, North Dakota

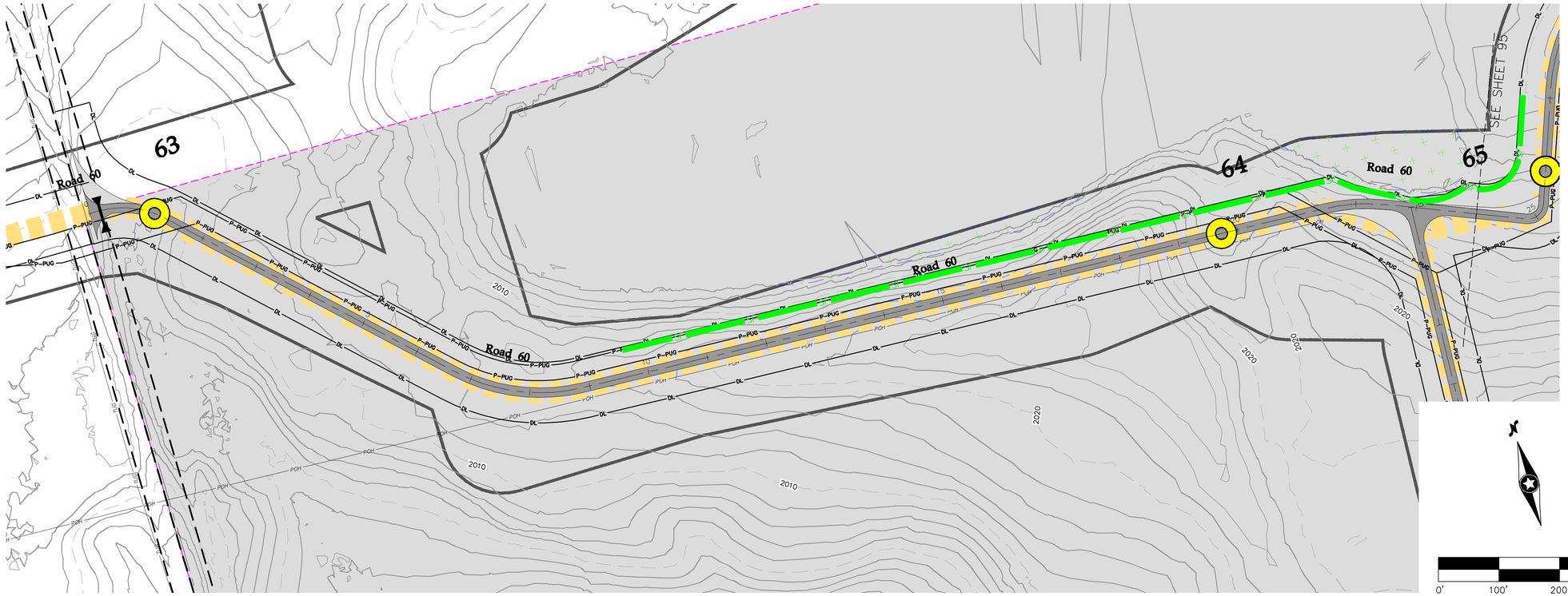
Road 58 - Sta. 0+00 to End

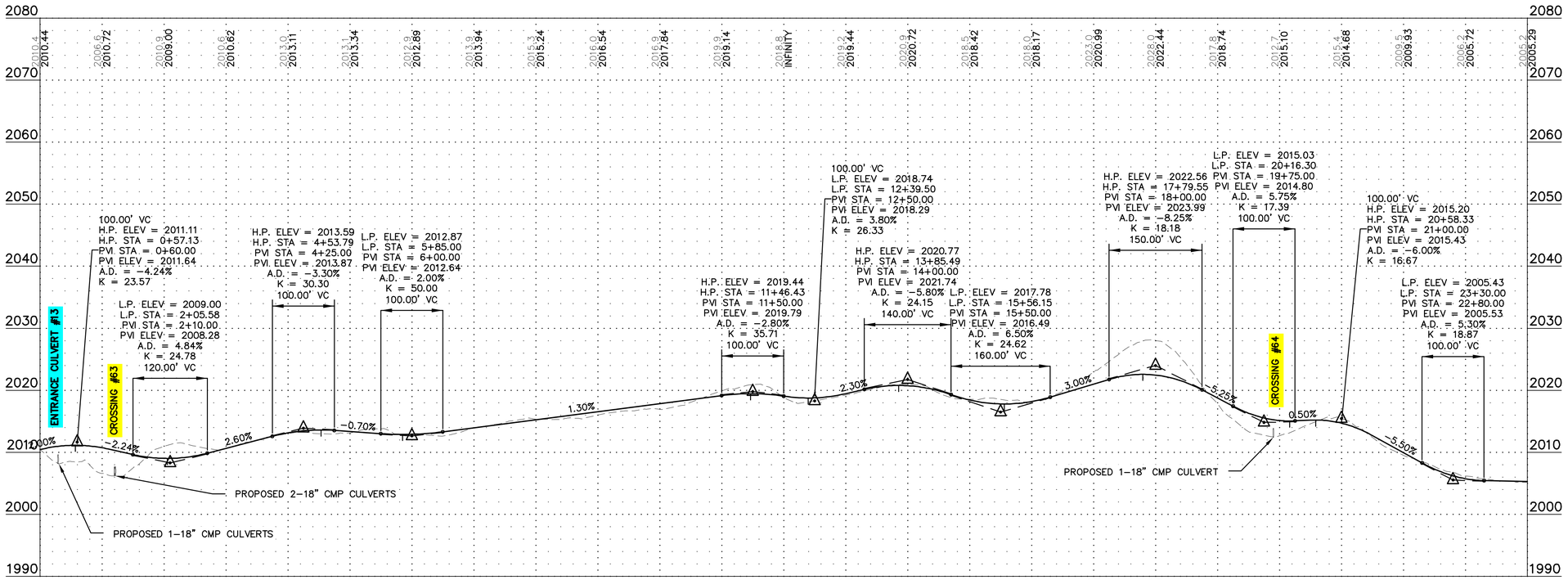
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Merricourt Wind Project

McIntosh County, North Dakota

Road 60 - Sta. 0+00 to 24+00

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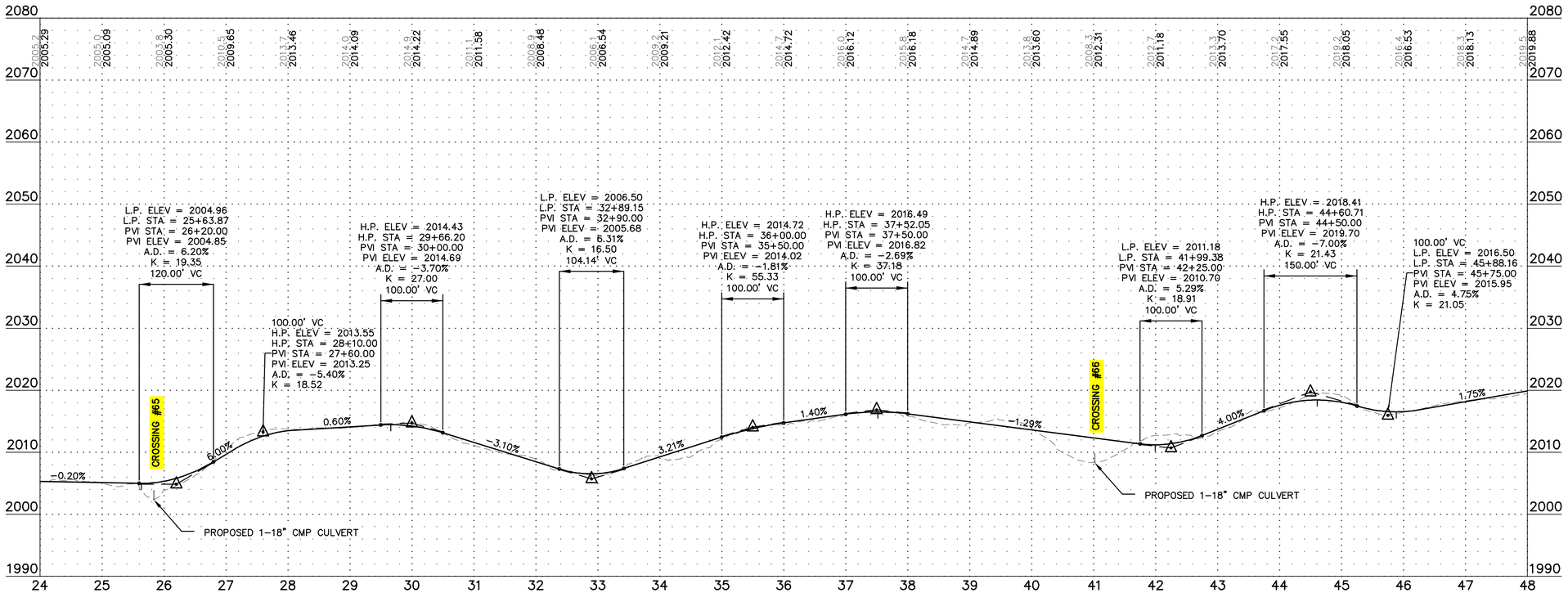
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West Fargo, ND 58078

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Merricourt Wind Project

McIntosh County, North Dakota

Road 60 - Sta. 24+00 to 48+00

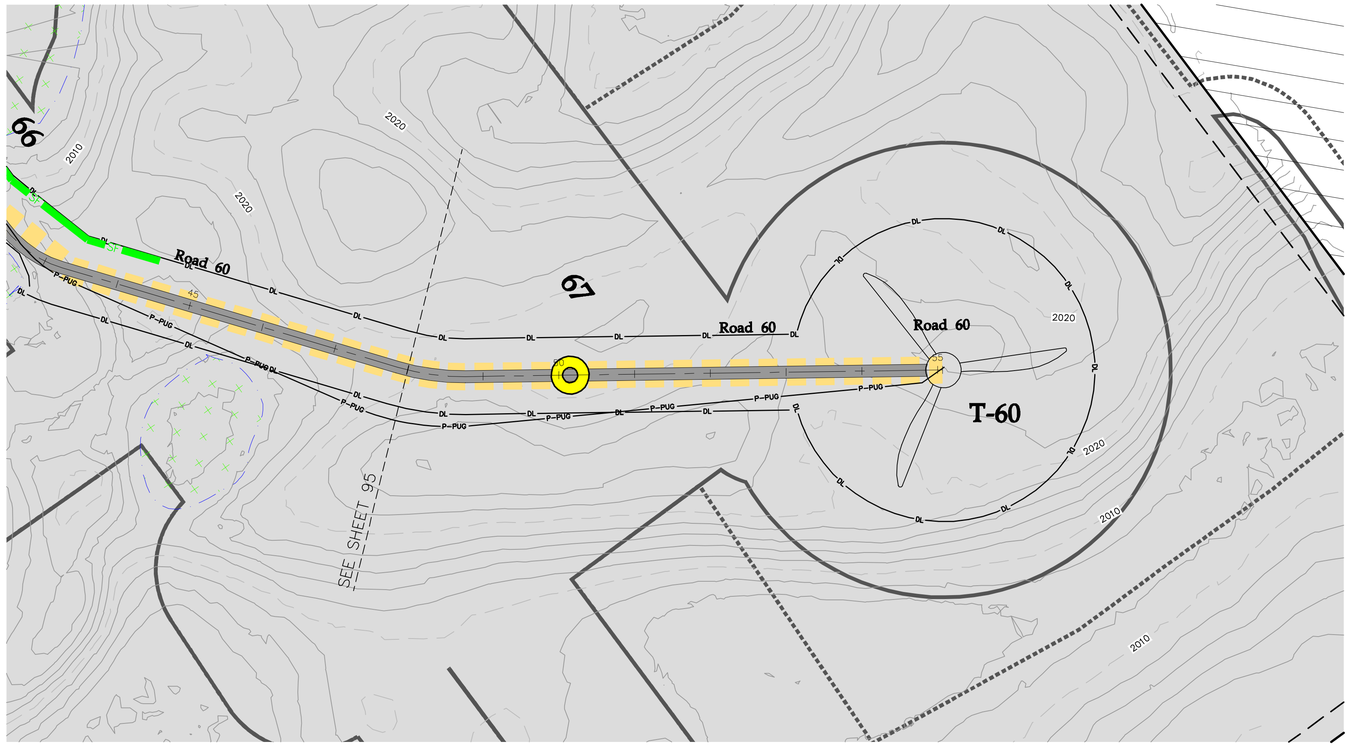
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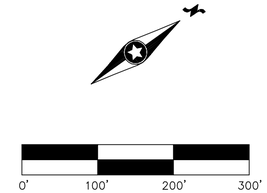
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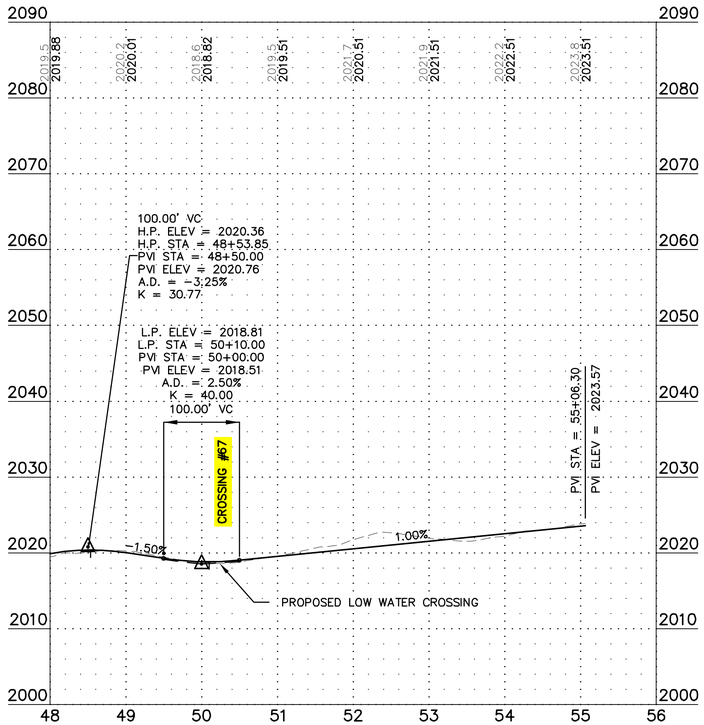
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Merricourt Wind Project

McIntosh County, North Dakota

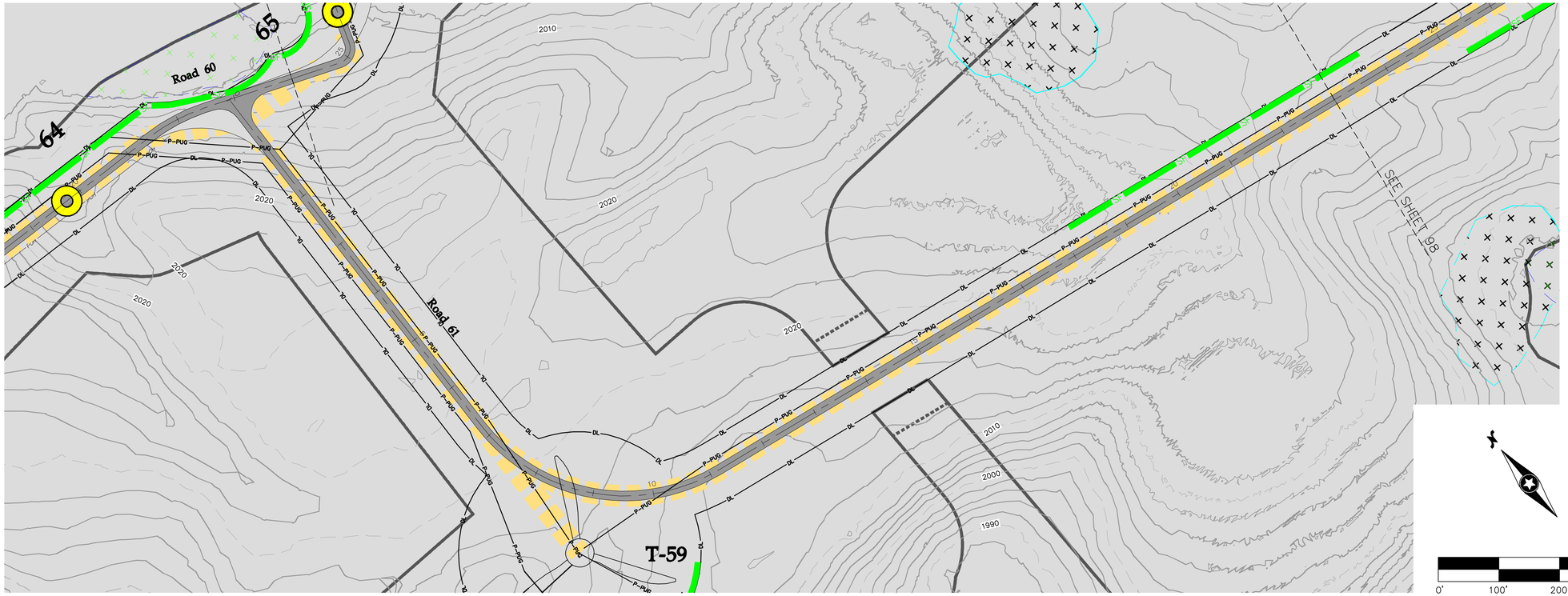
Road 60 - Sta. 48+00 to End

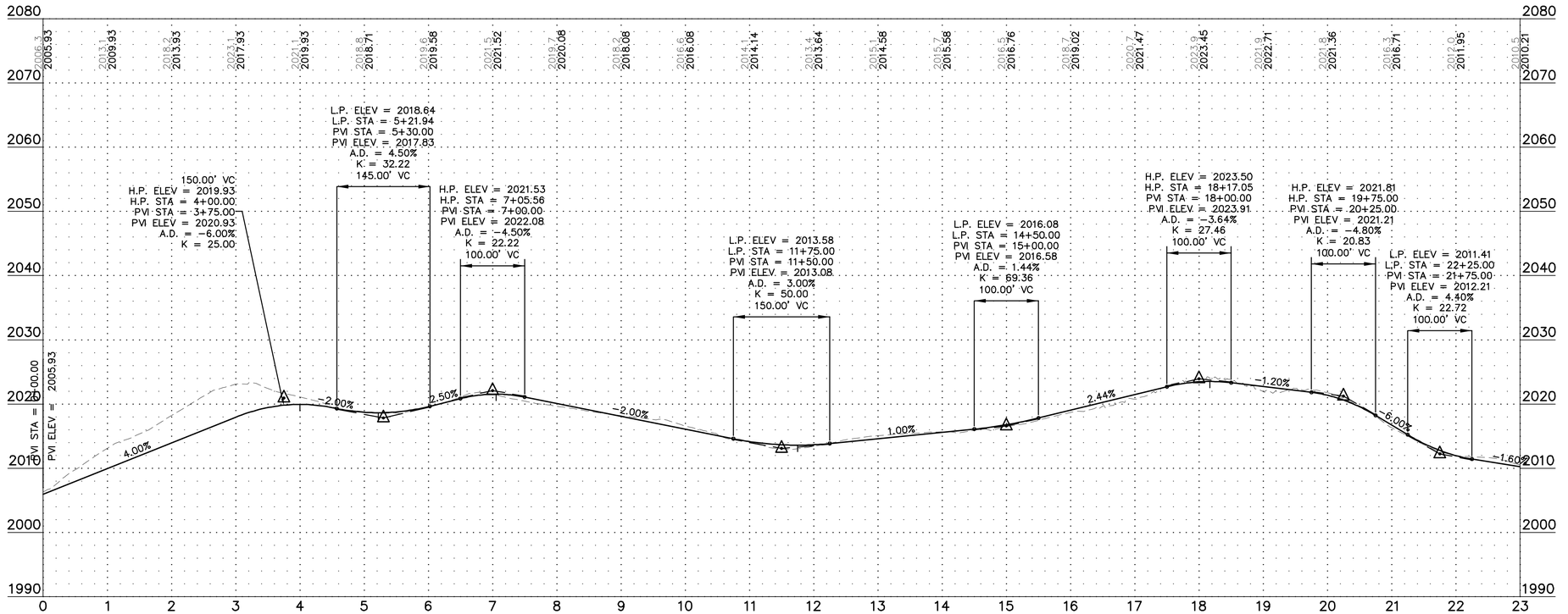
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Merricourt Wind Project

McIntosh County, North Dakota

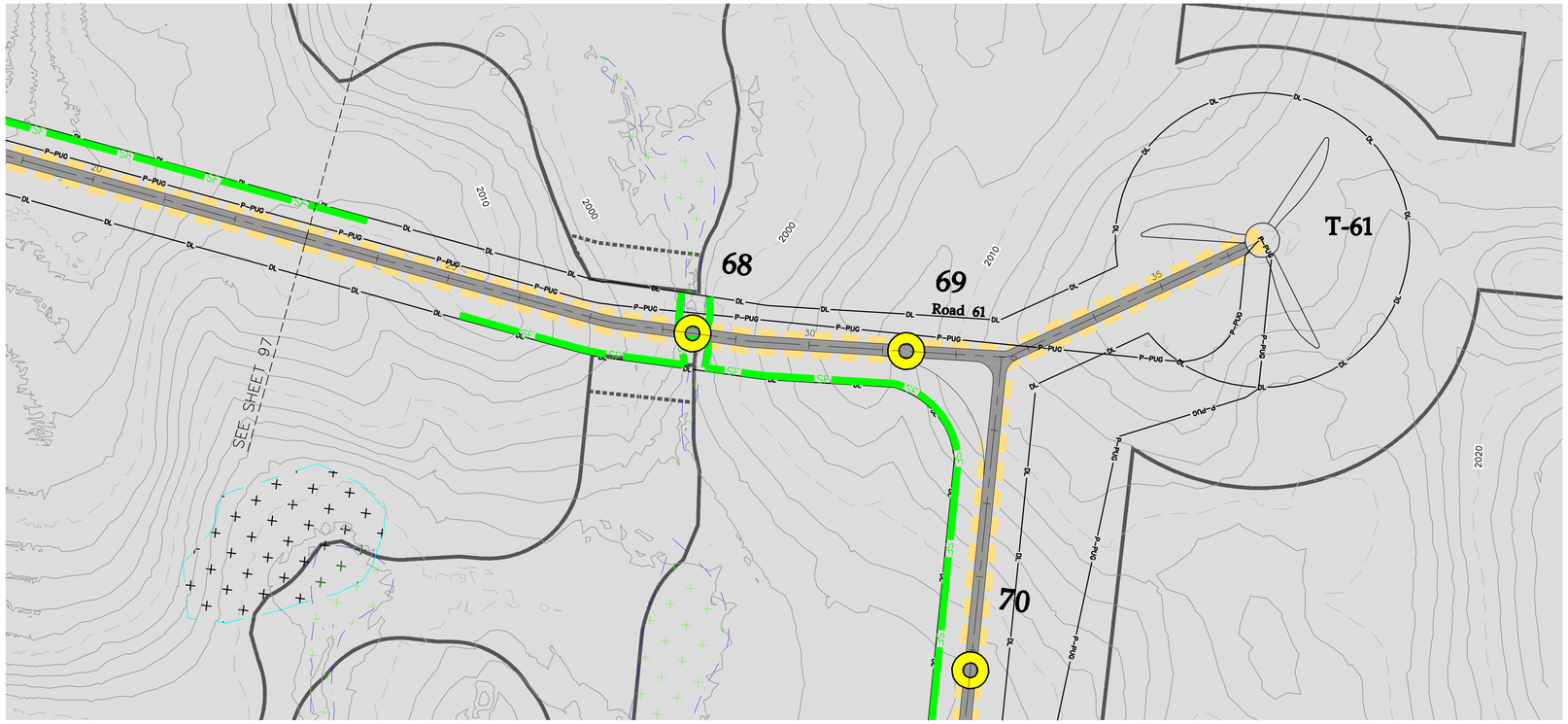
Road 61 - Sta. 0+00 to 23+00

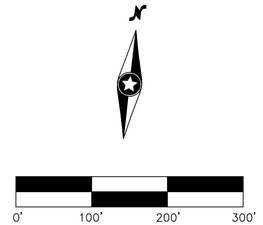
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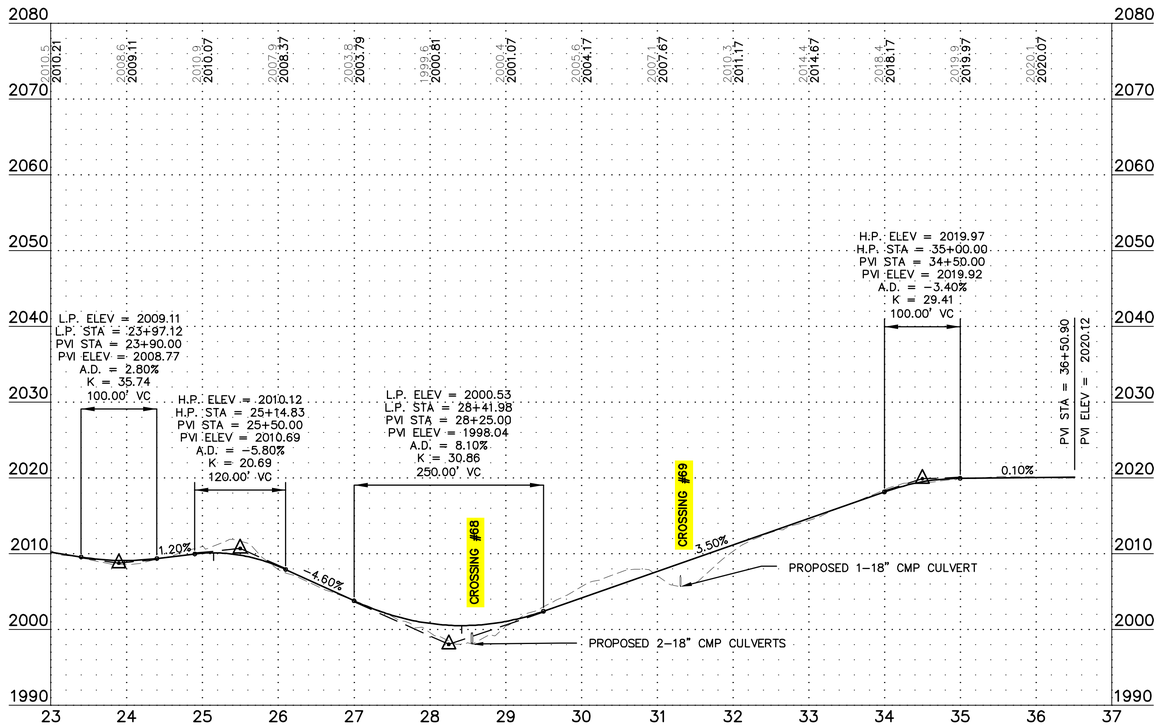
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Merricourt Wind Project

McIntosh County, North Dakota

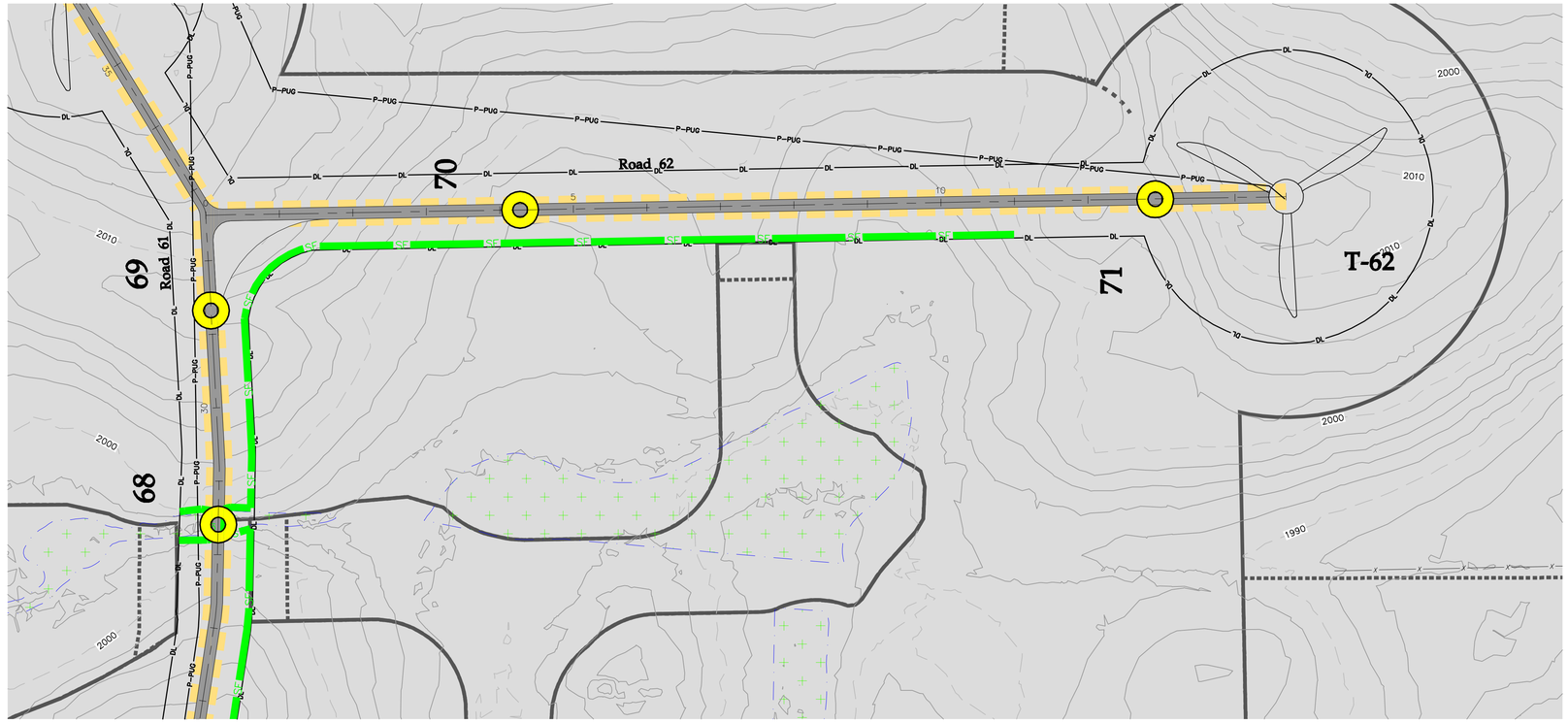
Road 61 - Sta. 23+00 to End

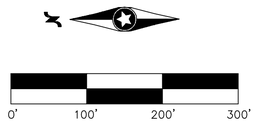
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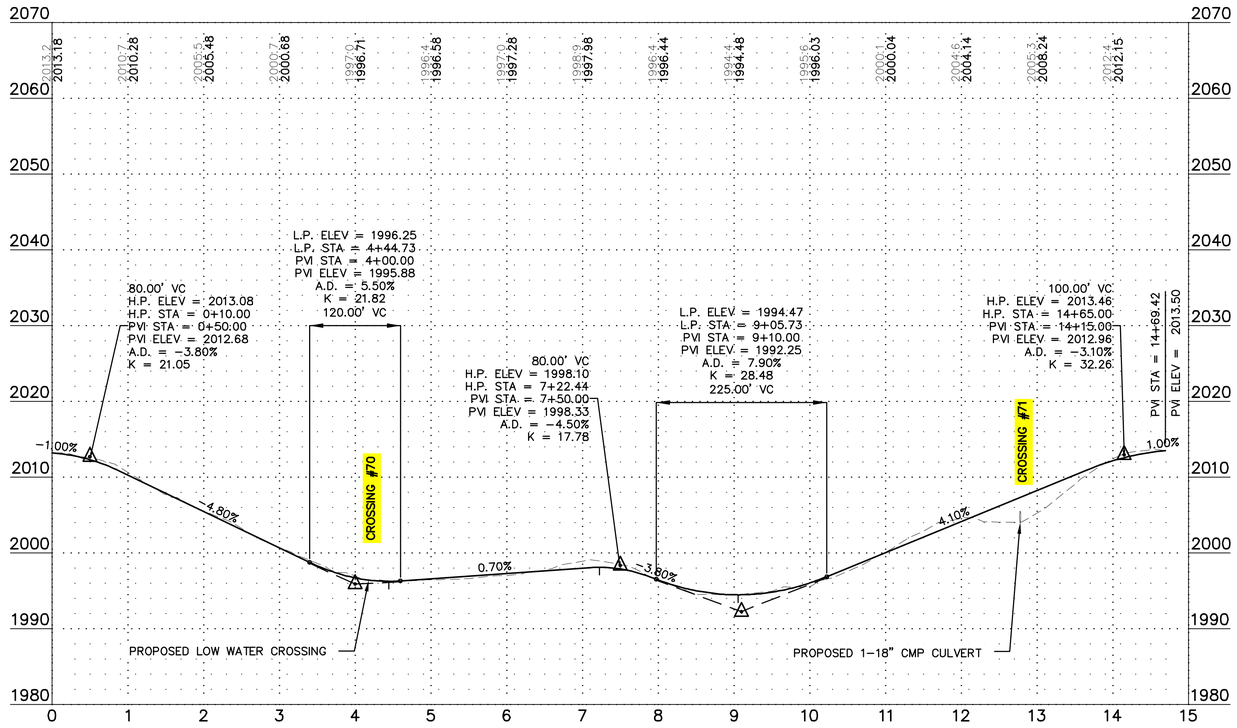
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Merricourt Wind Project

McIntosh County, North Dakota

Road 62 - Sta. 0+00 to End

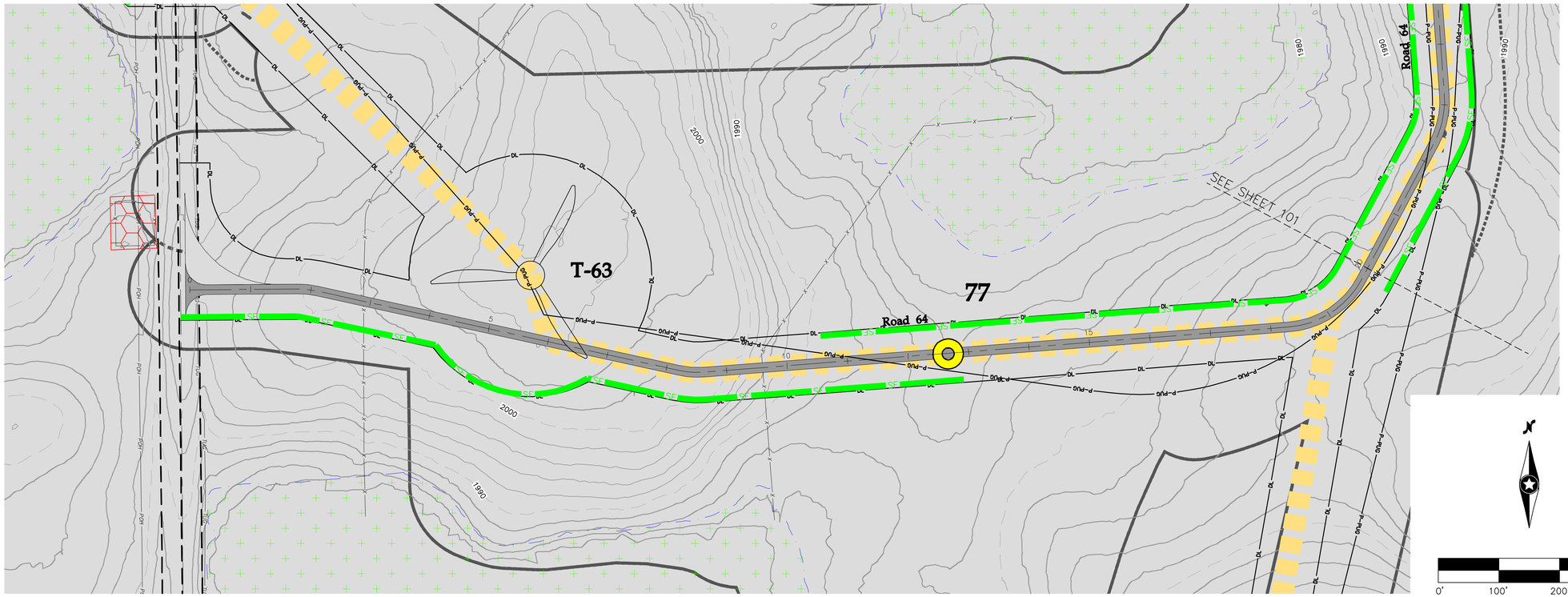
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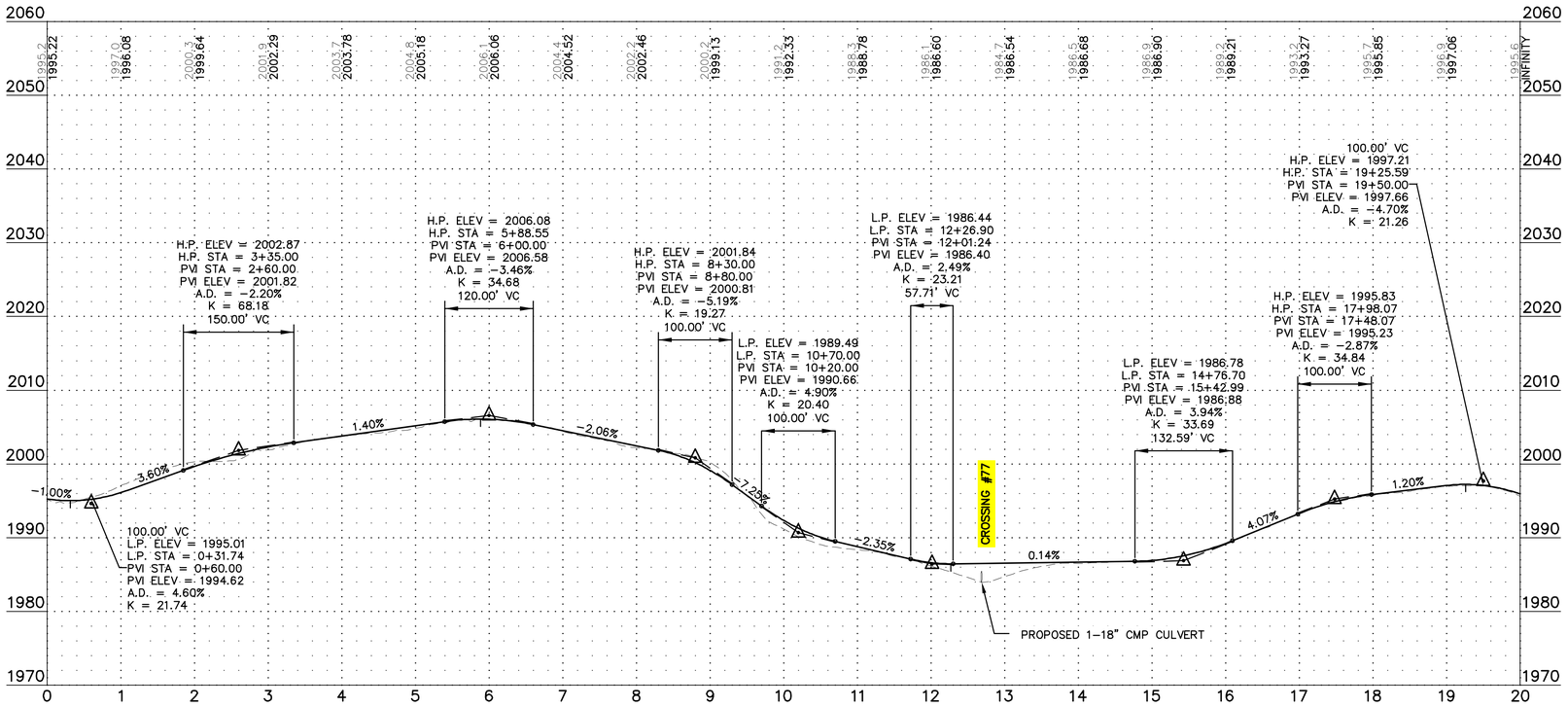
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Merricourt Wind Project

McIntosh County, North Dakota

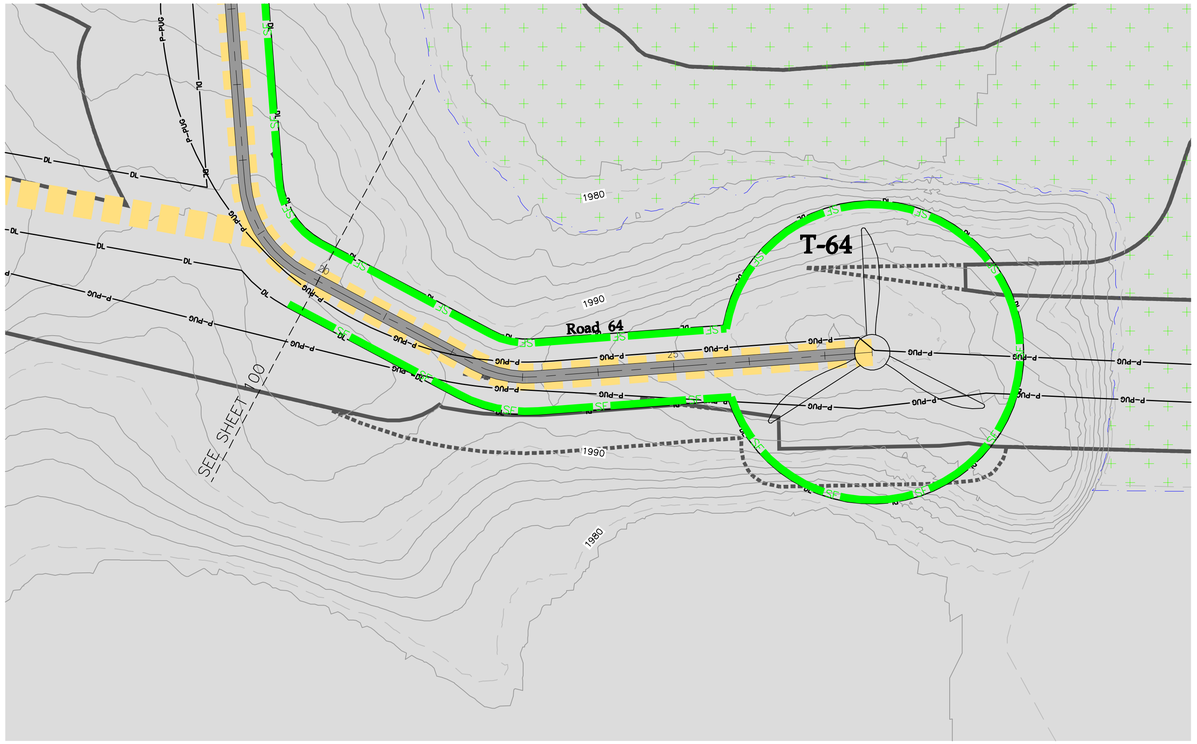
Road 64 - Sta. 0+00 to 20+00

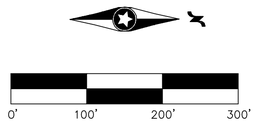
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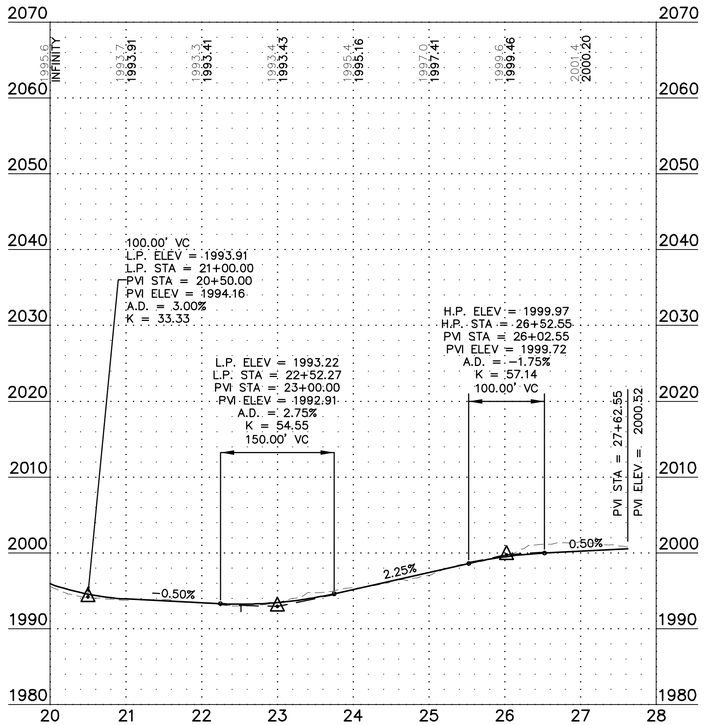
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Westwood Professional Services, Inc.

Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED CRANE PATH
- DL — PROPOSED DISTURBANCE LIMIT
- P-PUG — PROPOSED COLLECTION
- 980 — EXISTING 10' CONTOURS
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- WETLAND SURVEY CORRIDOR
- USFWS PROTECTED BASINS
- DELINEATED WETLAND – KLJ
- ARCHEOLOGICAL SITE – NO IMPACTS
- USFWS EASMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

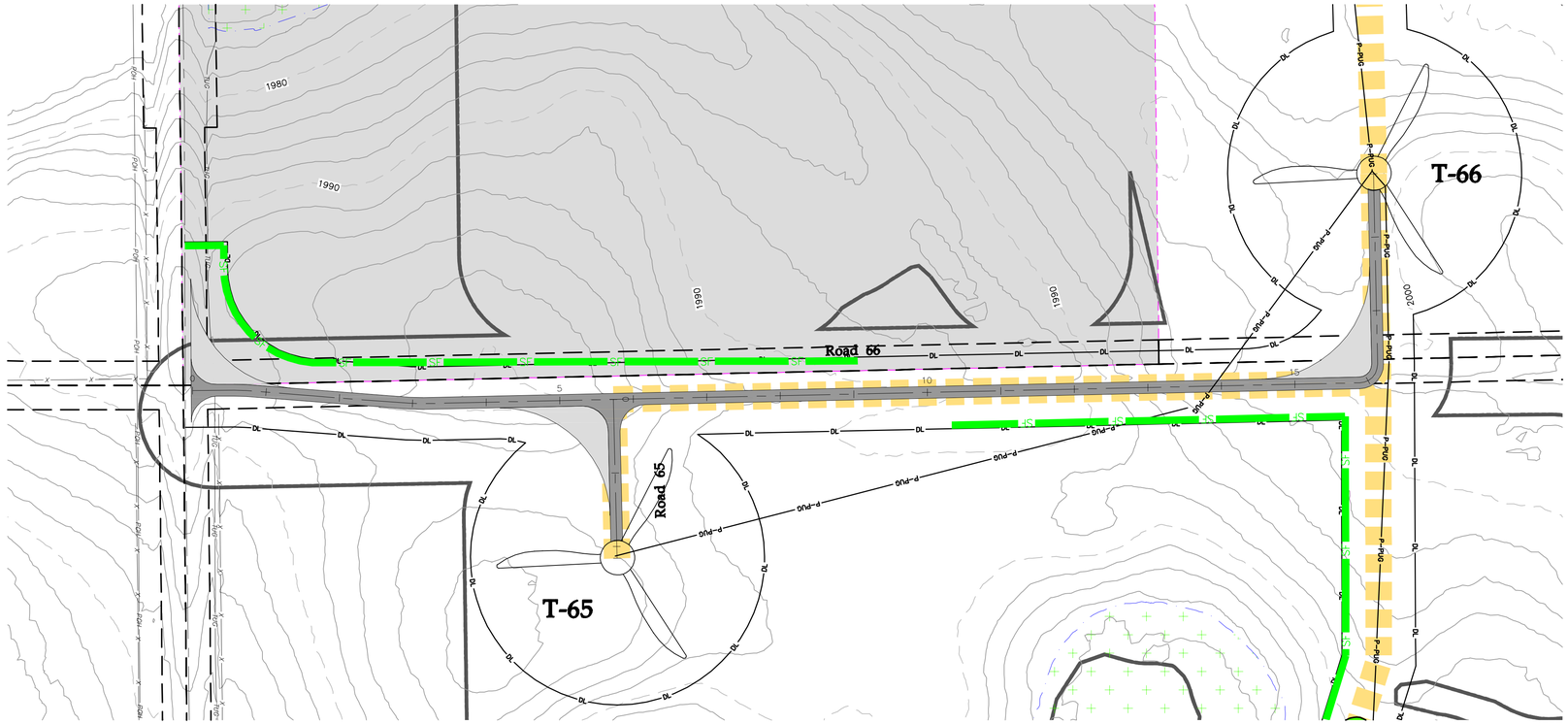
Road 64 - Sta. 20+00 to End

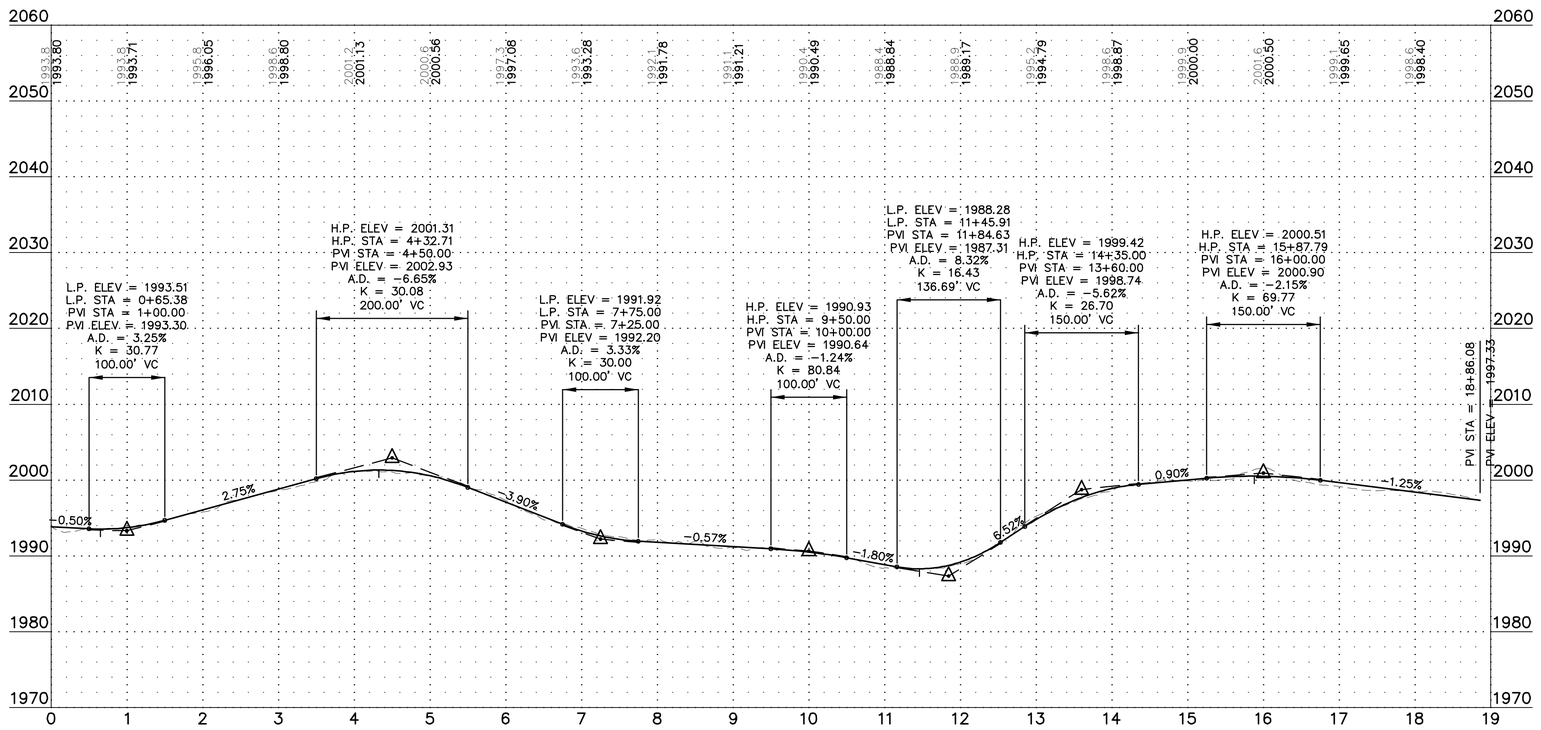
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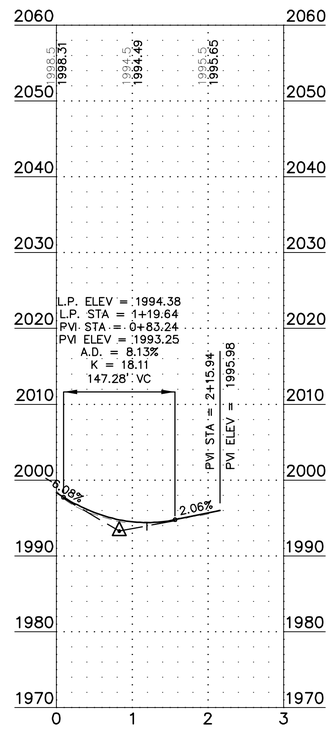
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Merricourt Wind Project

McIntosh County, North Dakota

Road 66 & 65 - Sta. 0+00 to End

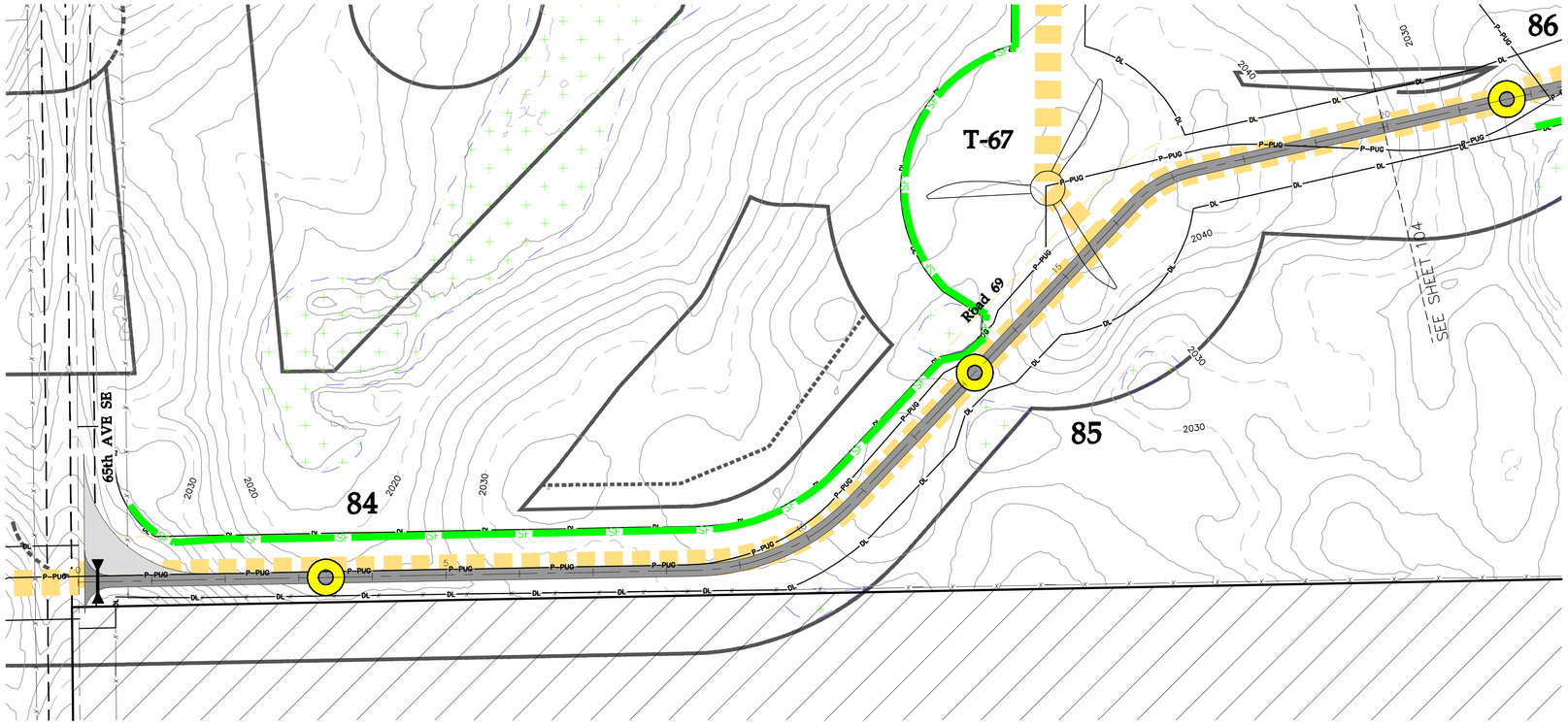
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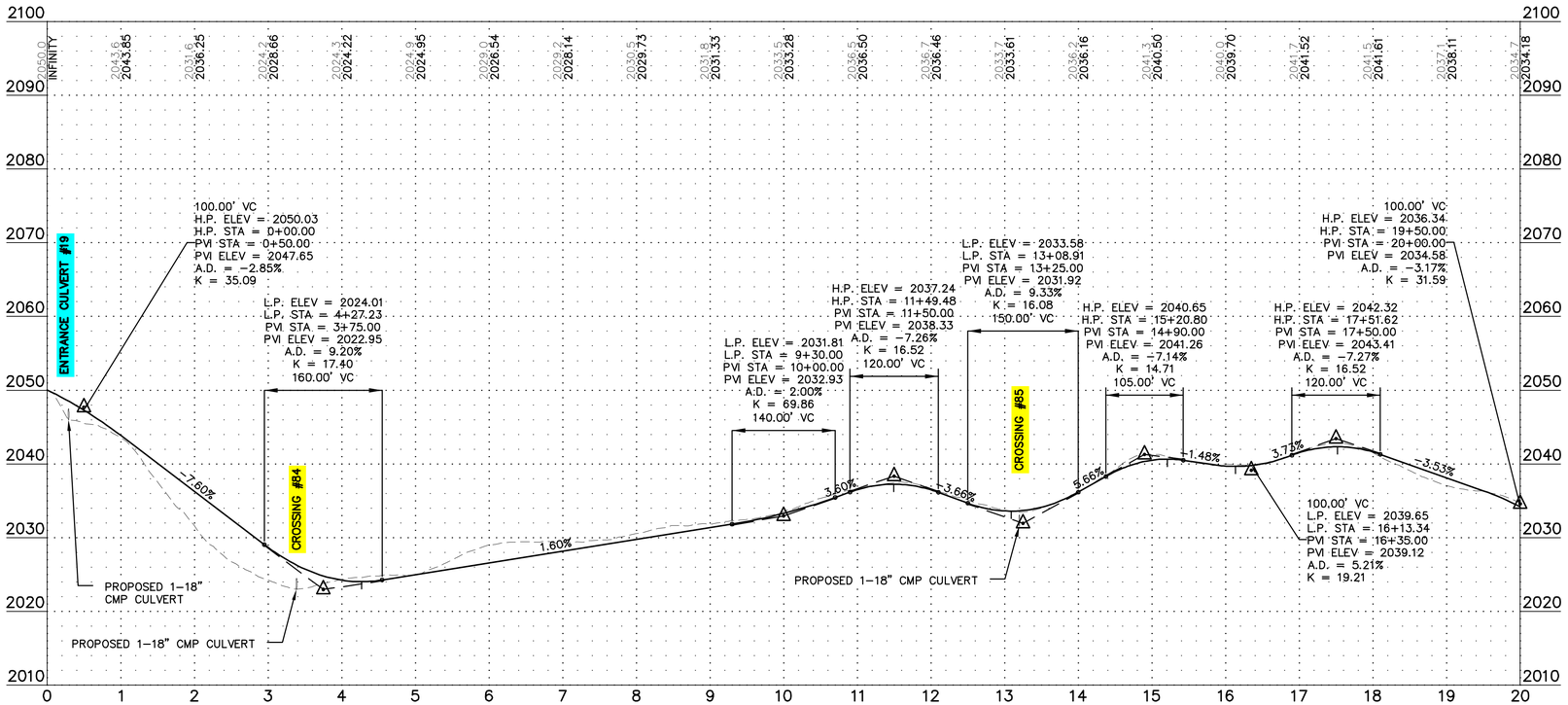
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Merricourt Wind Project

McIntosh County, North Dakota

Road 69 - Sta. 0+00 to 20+00

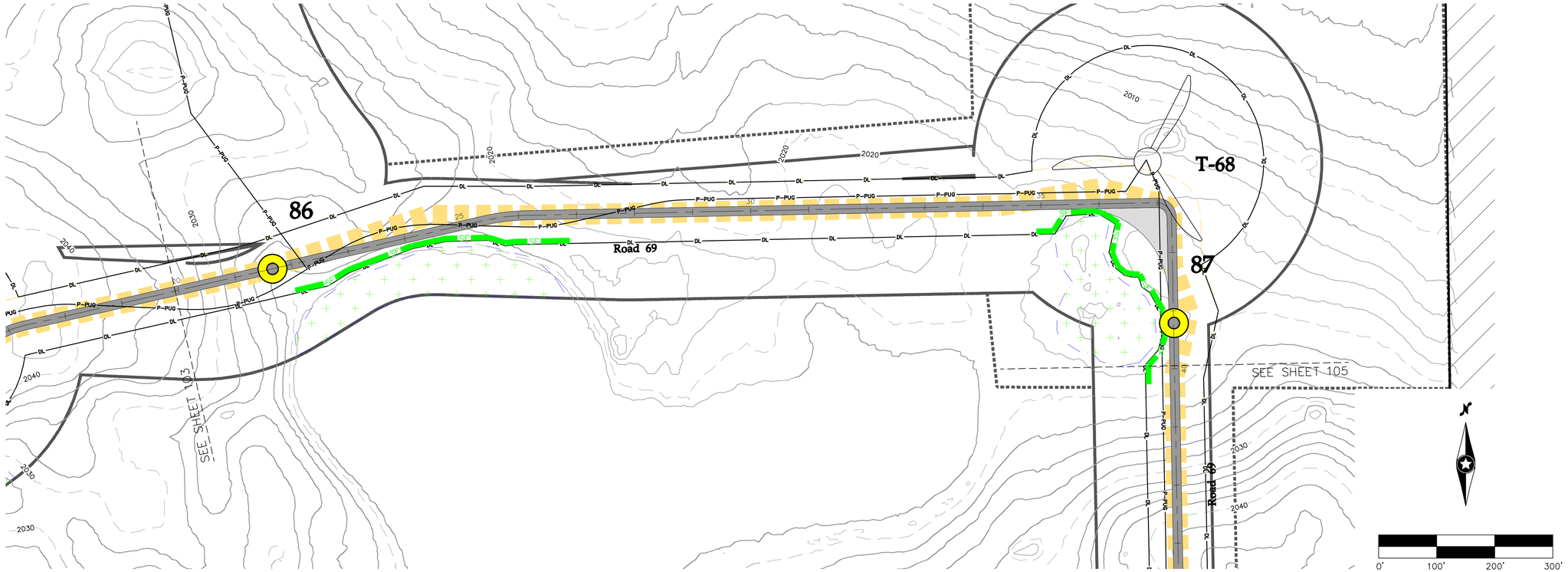
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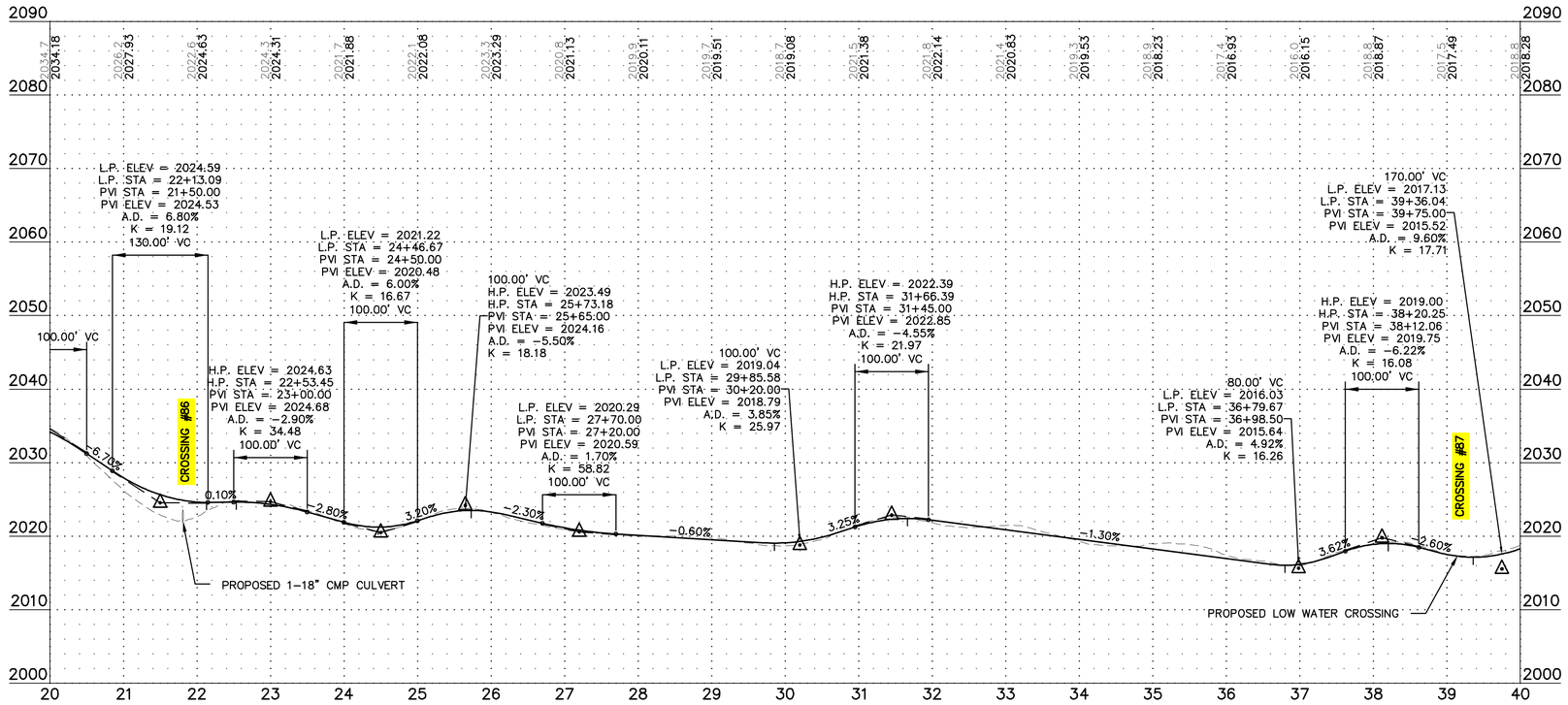
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Merricourt Wind Project

McIntosh County, North Dakota

Road 69 - Sta. 20+00 to 40+00

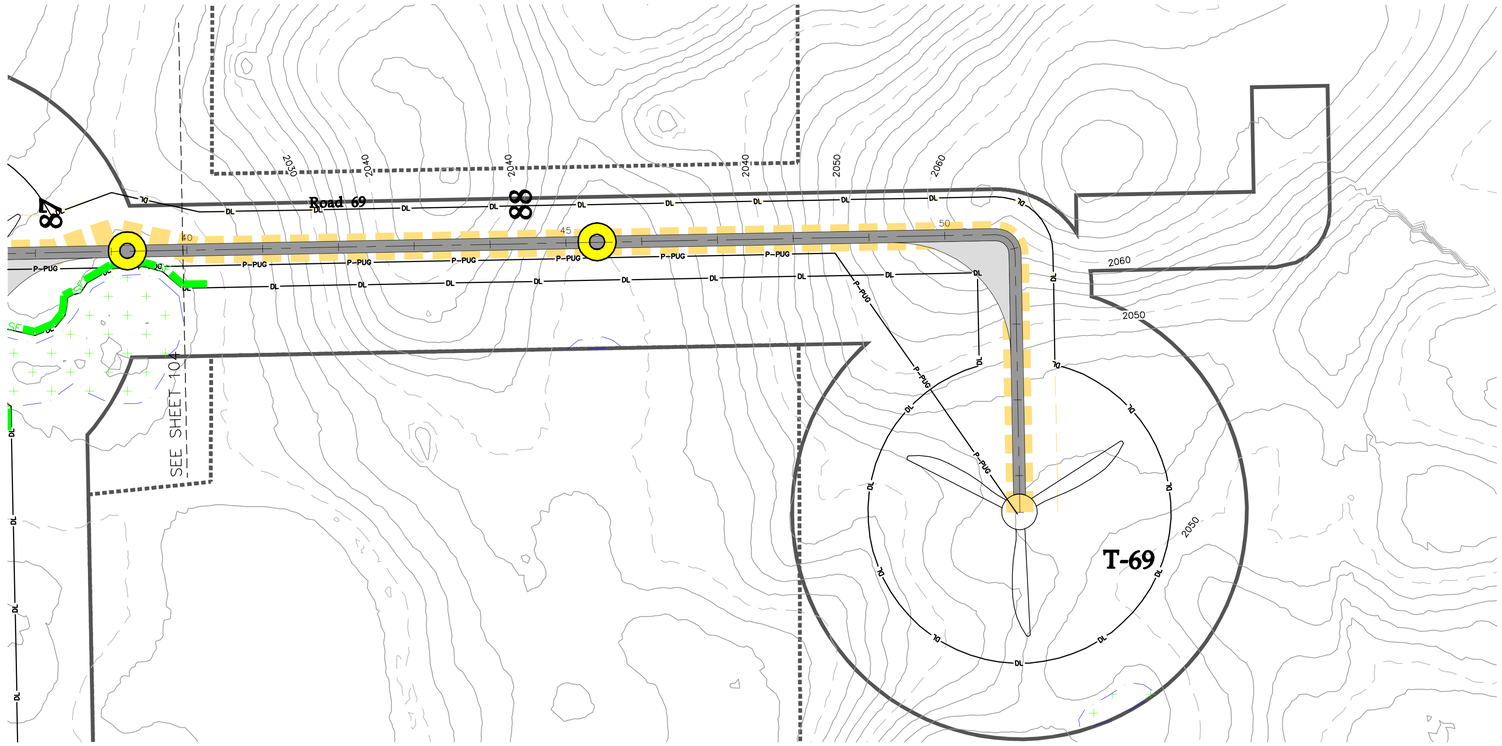
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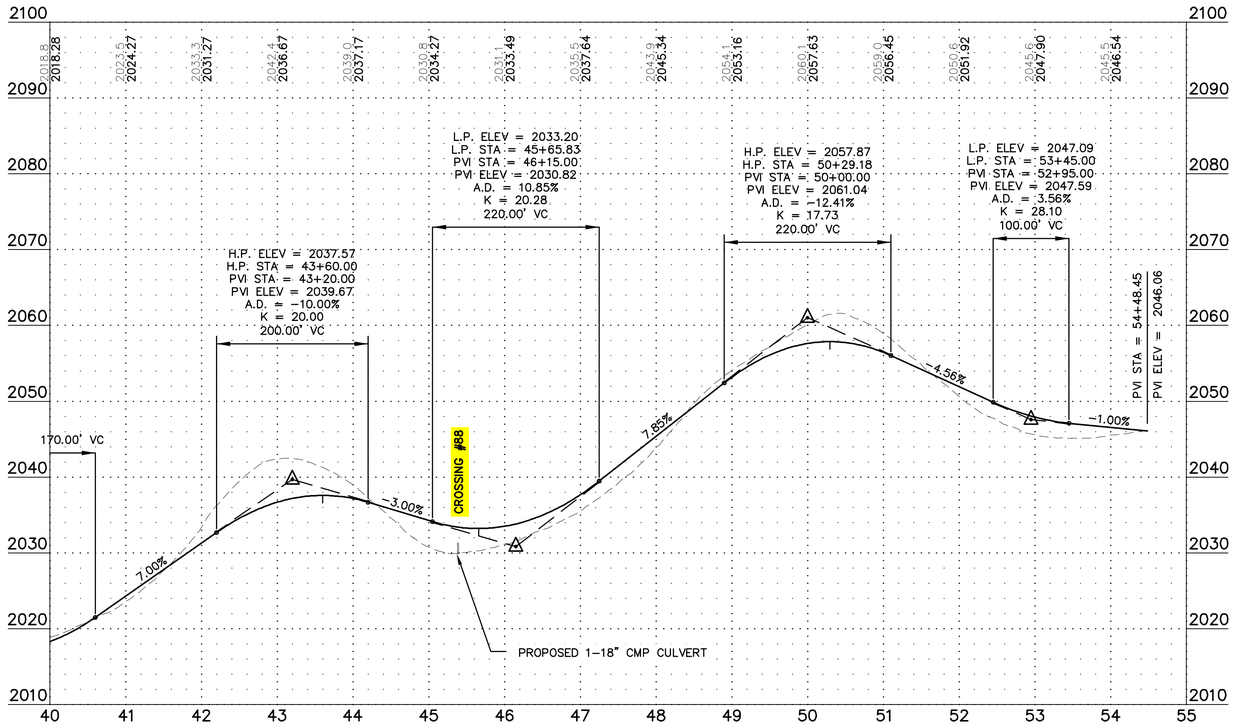
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West Fargo, ND 58078

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Merricourt Wind Project

McIntosh County, North Dakota

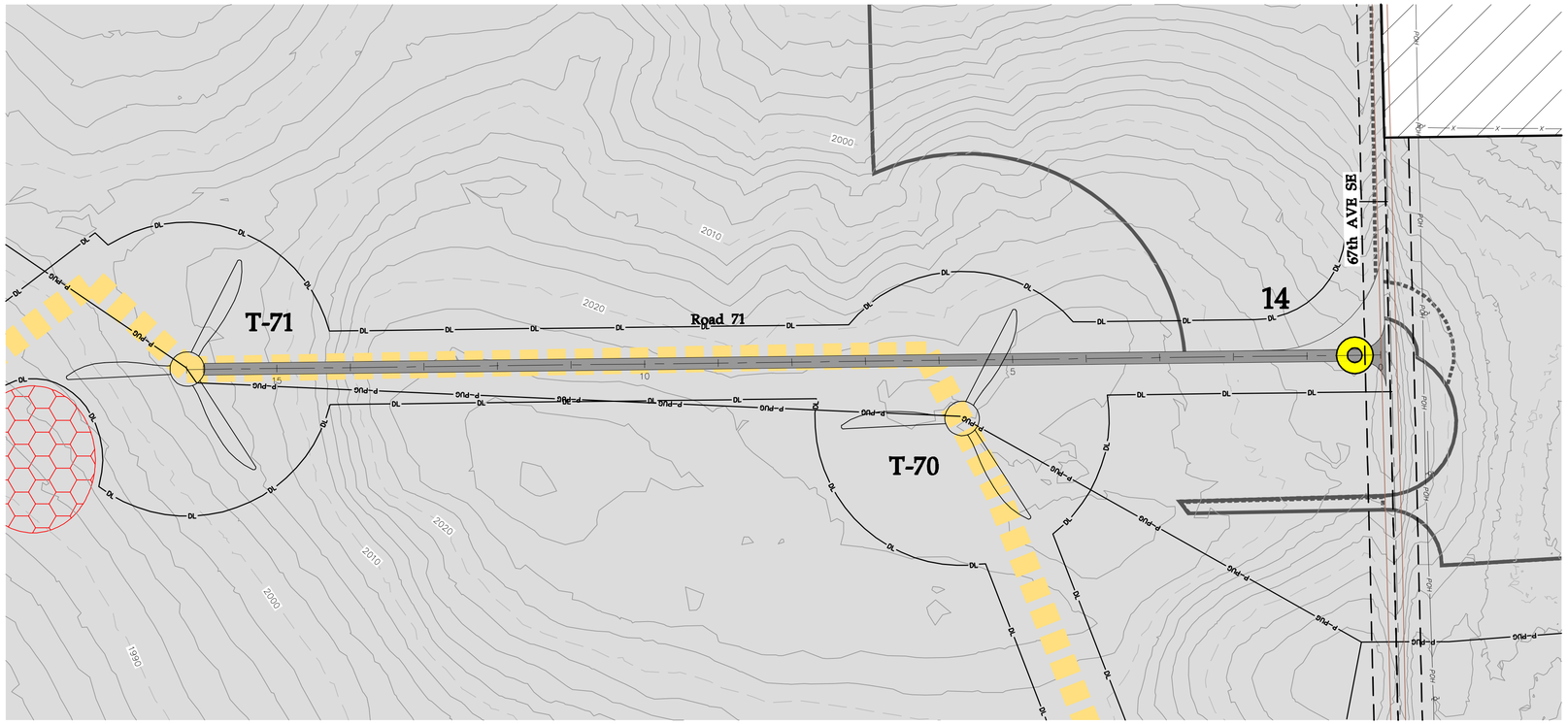
Road 69 - Sta. 40+00 to End

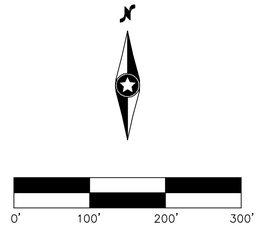
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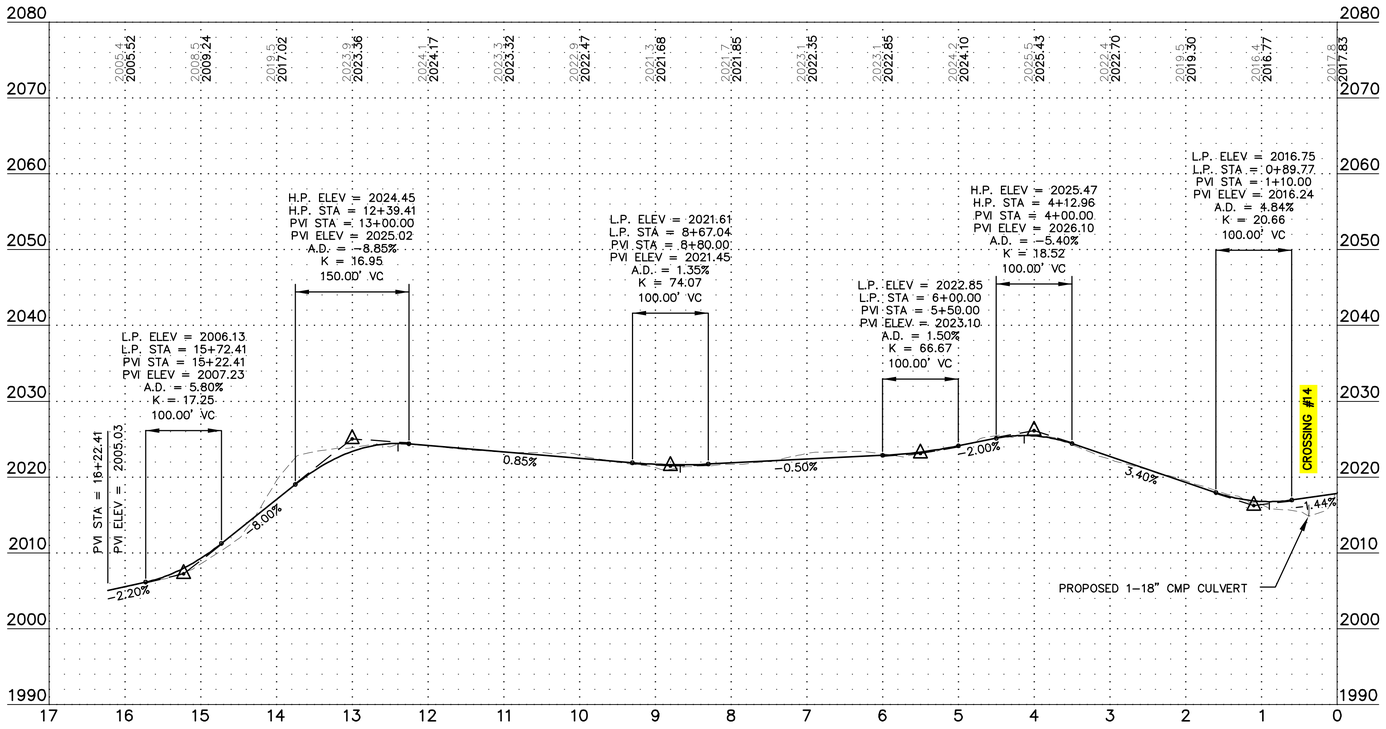
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Merricourt Wind Project

McIntosh County, North Dakota

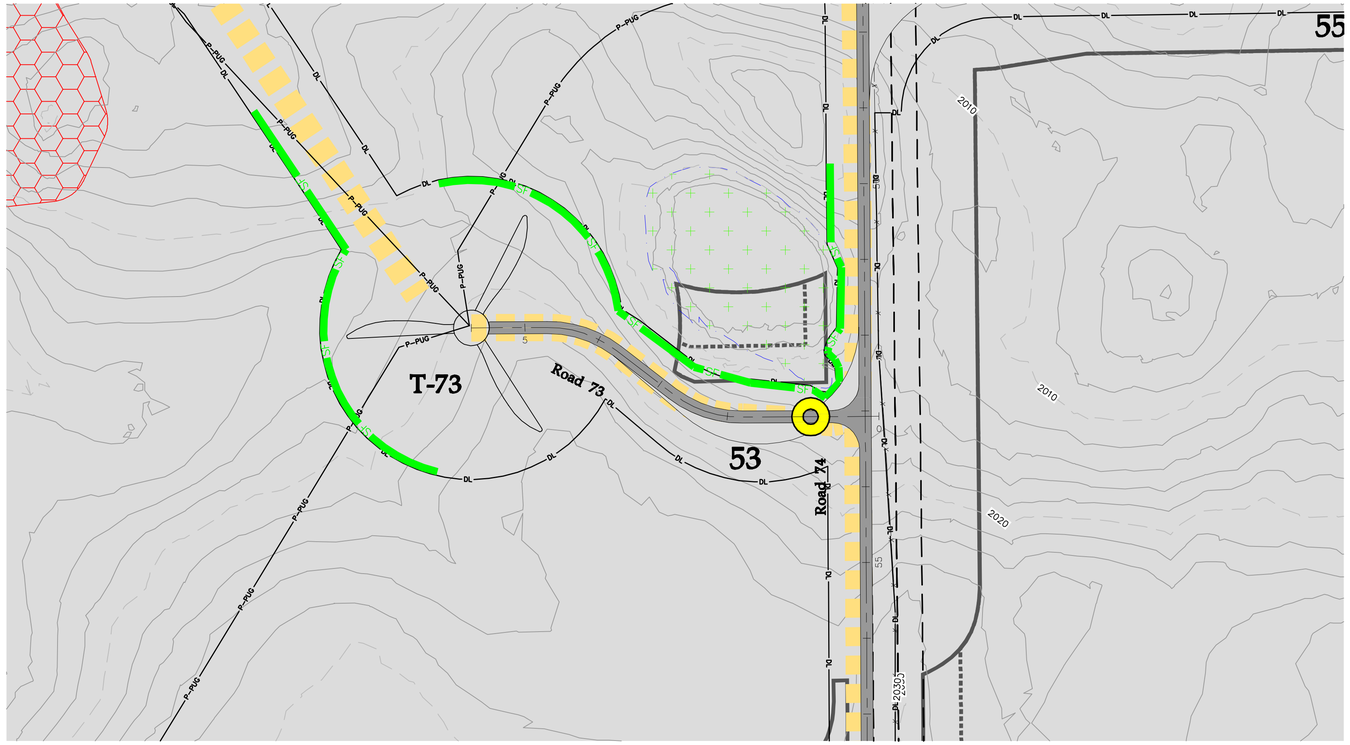
Road 71 - Sta. 0+00 to End

Issued for Construction

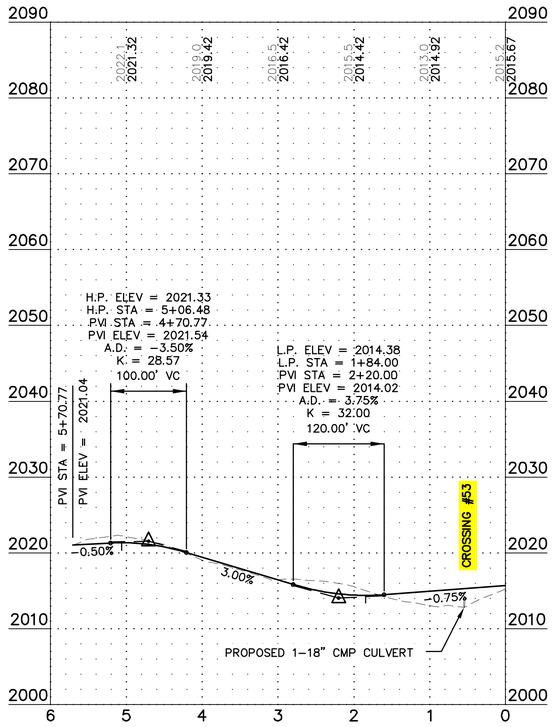
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Merricourt Wind Project

McIntosh County, North Dakota

Road 73 - Sta. 0+00 to End

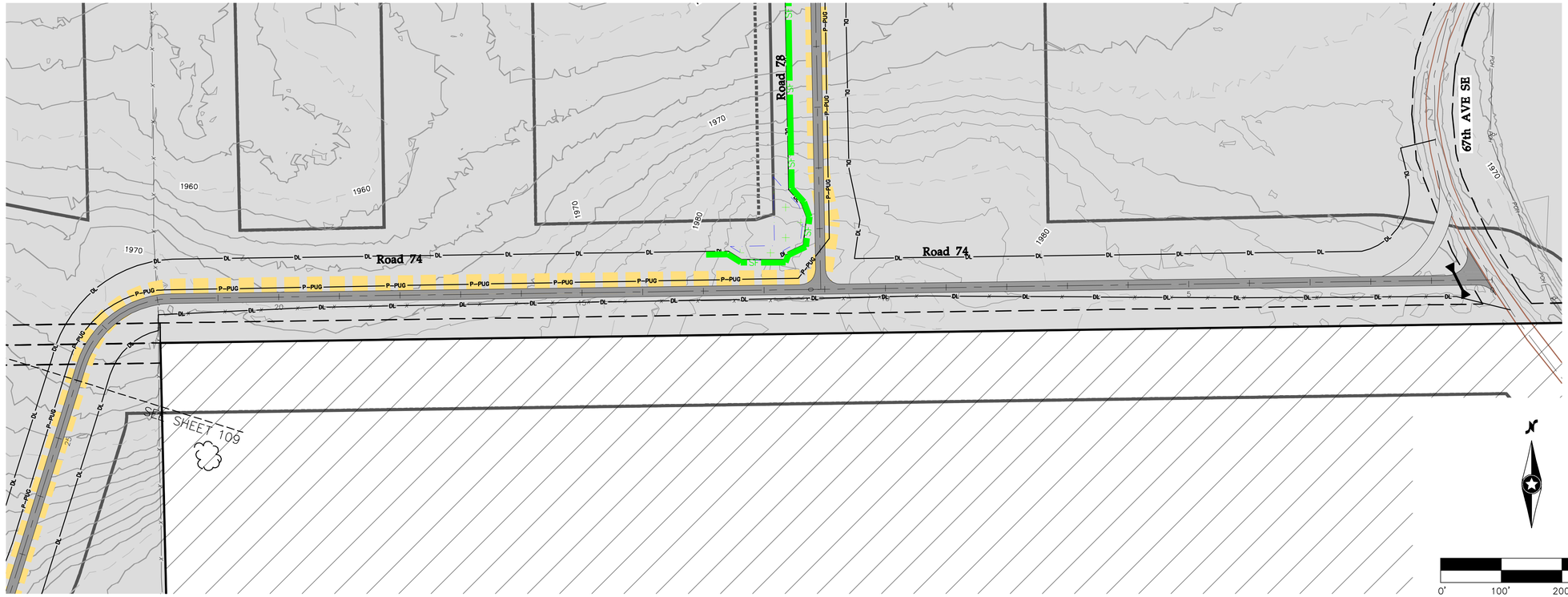
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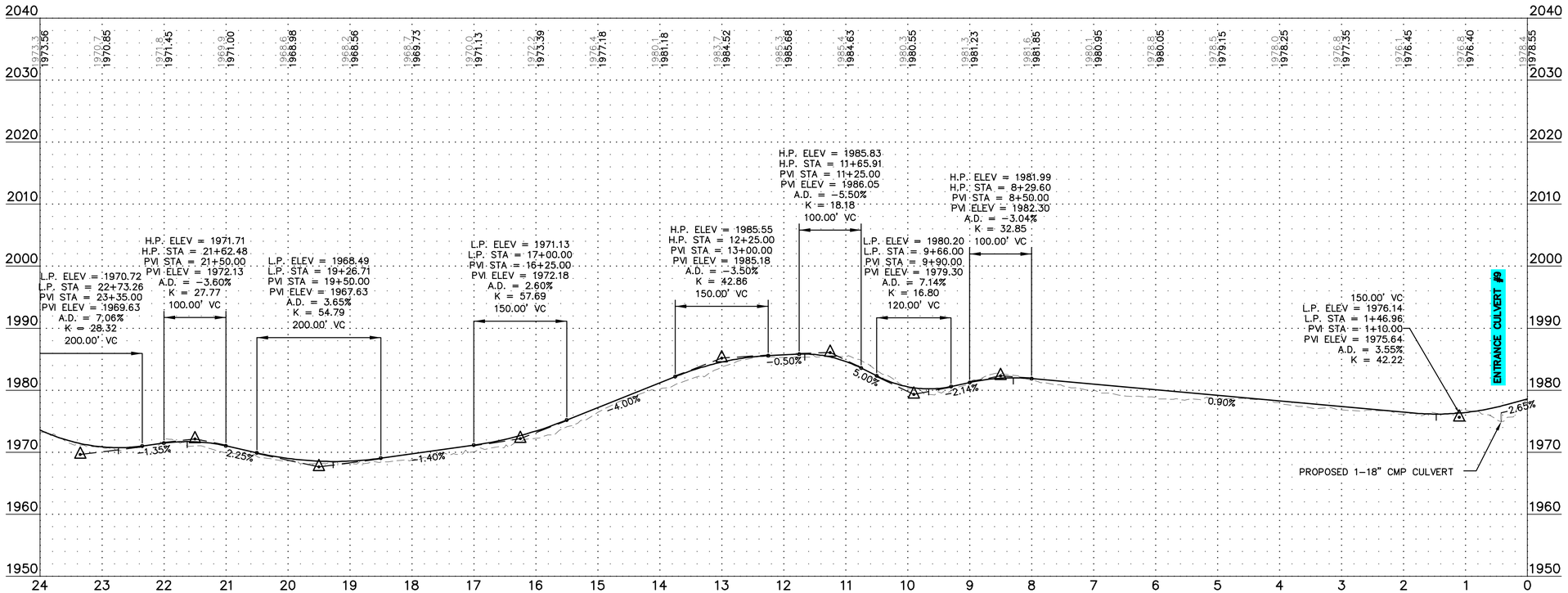
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Merricourt Wind Project

McIntosh County, North Dakota

Road 74 - Sta. 0+00 to 24+00

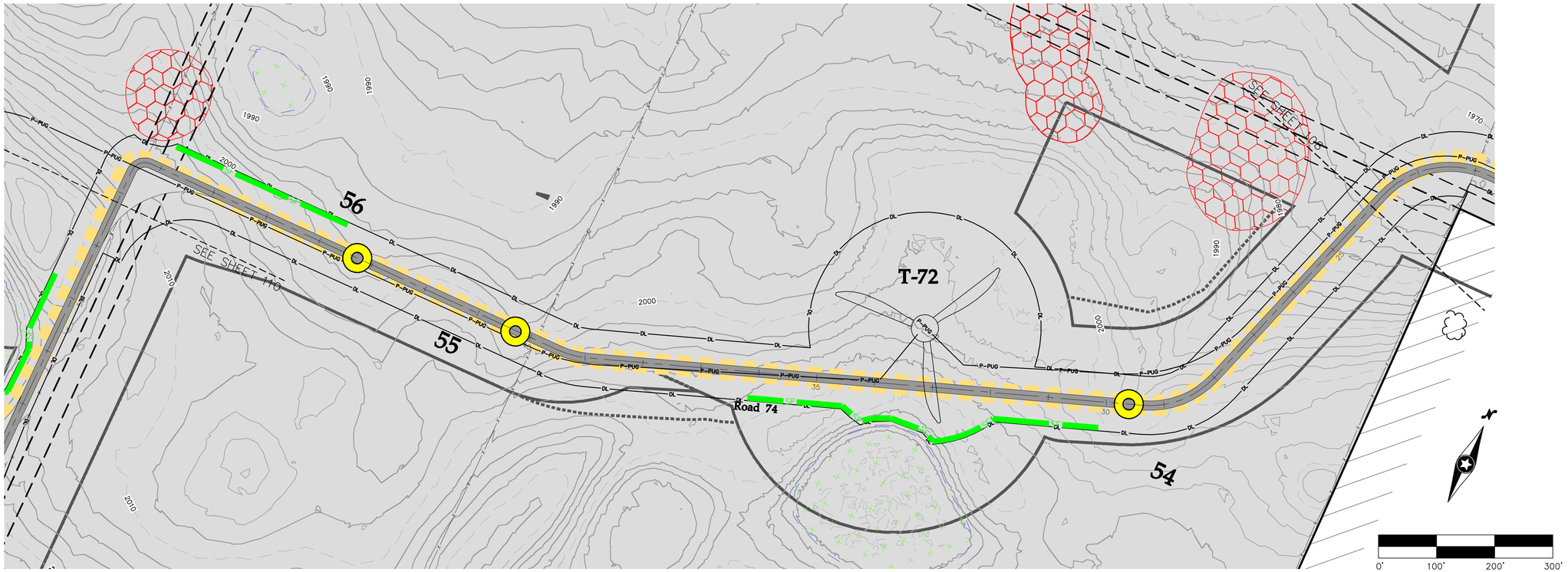
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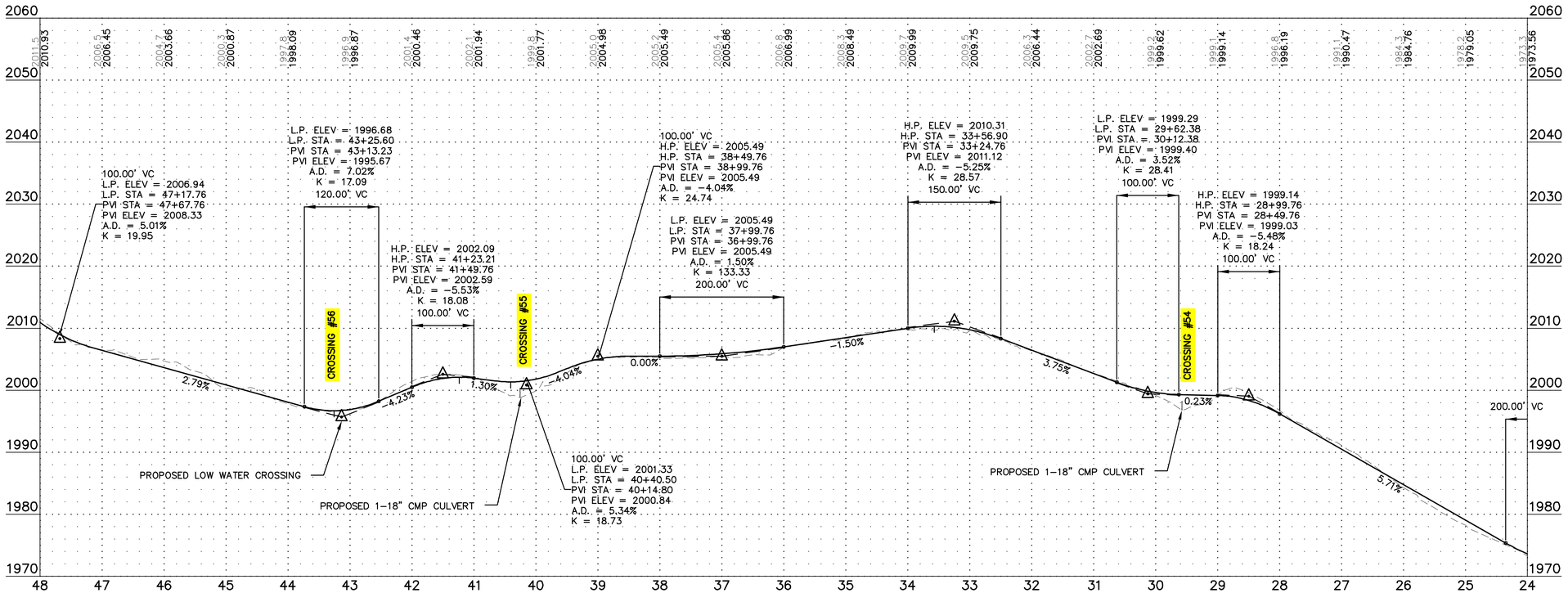
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Merricourt Wind Project

McIntosh County, North Dakota

Road 74 - Sta. 24+00 to 48+00

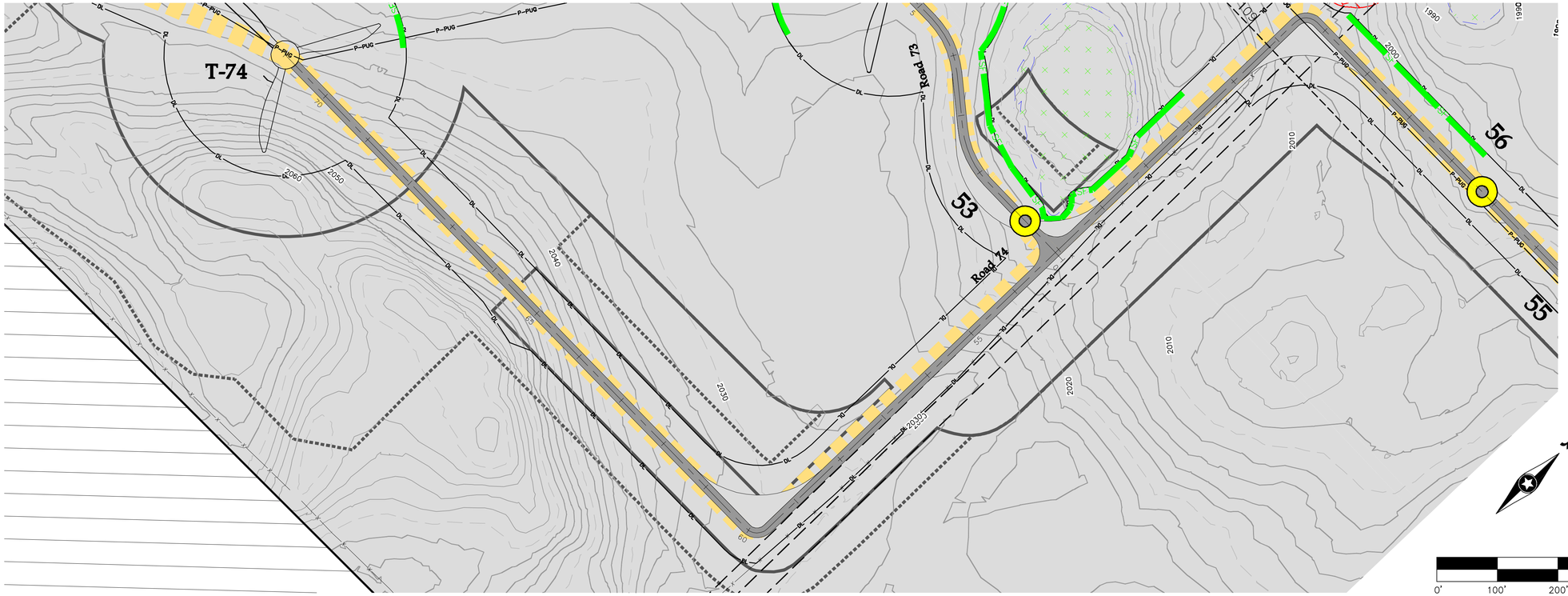
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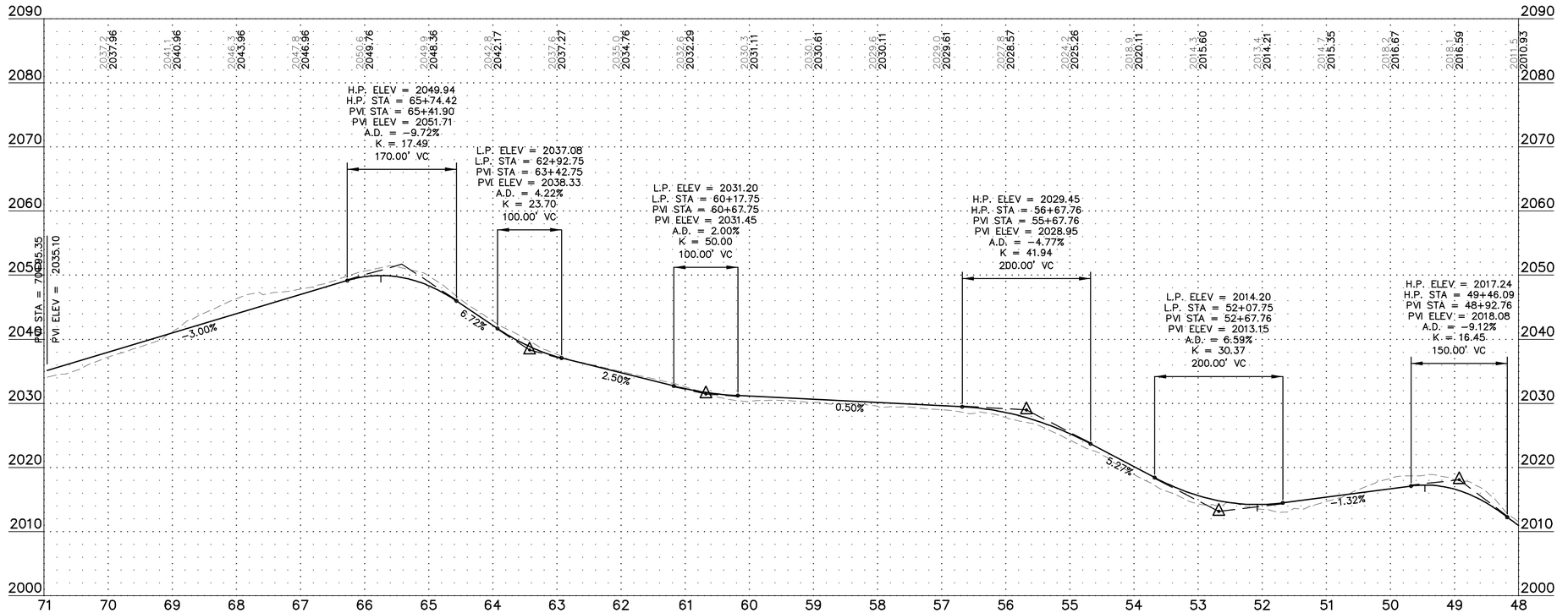
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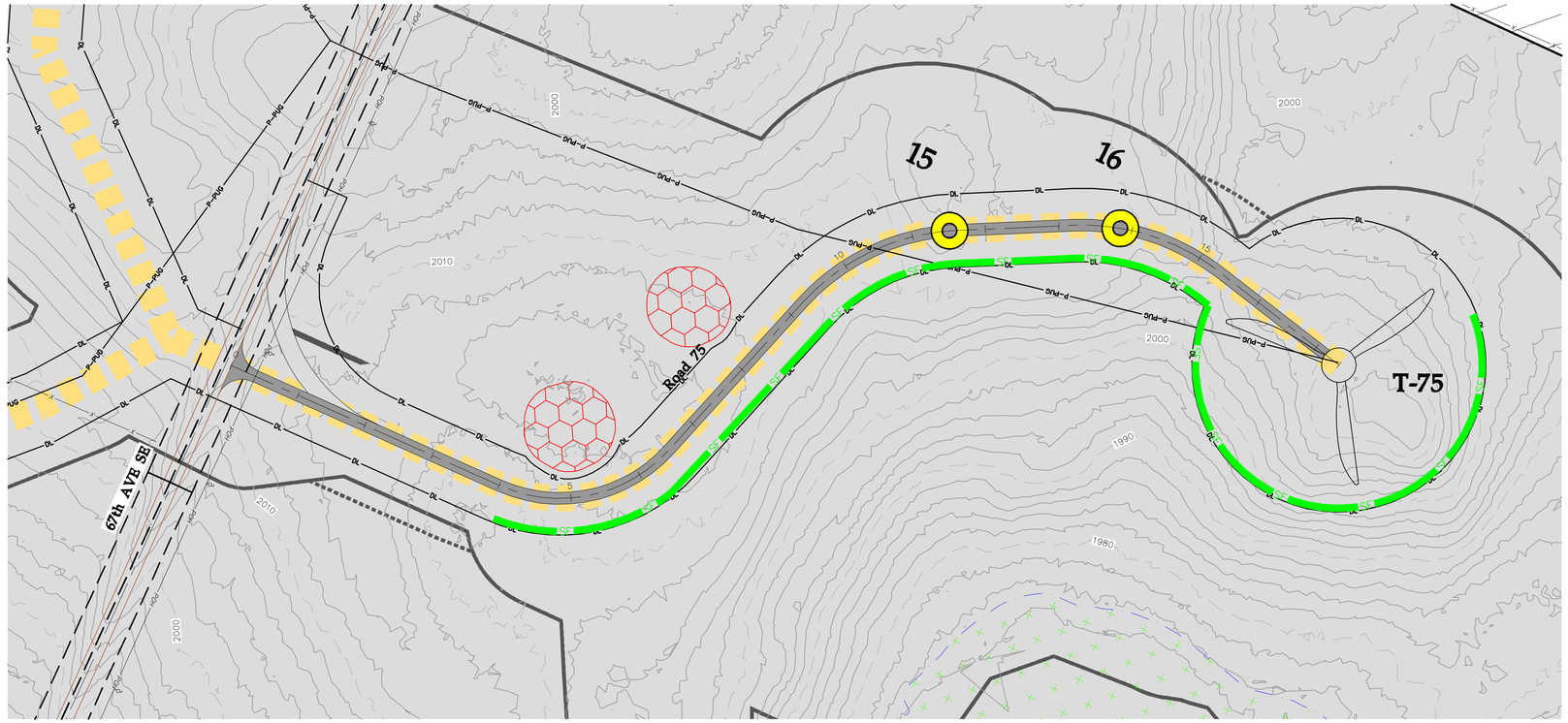
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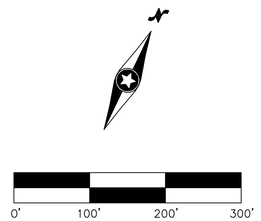
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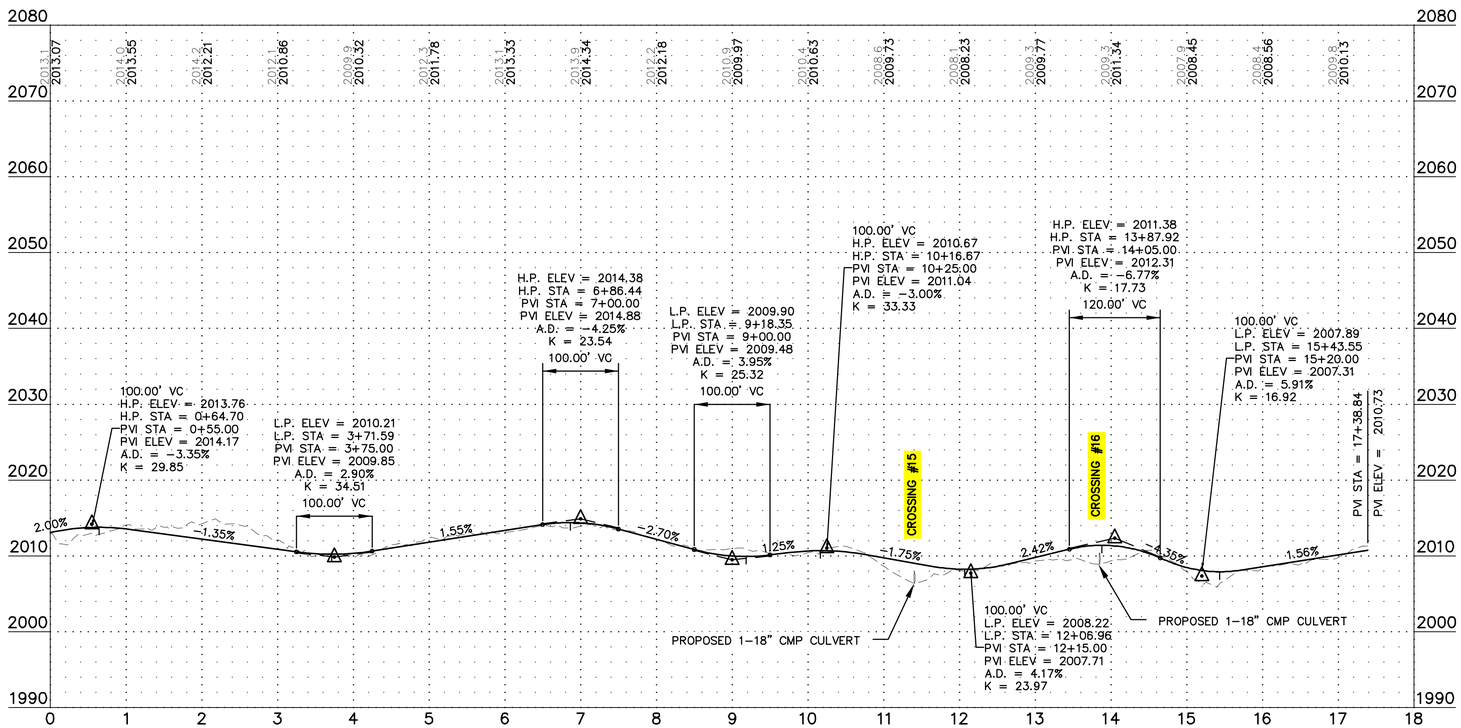
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Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED CRANE PATH
- DL — PROPOSED DISTURBANCE LIMIT
- P-PUG — PROPOSED COLLECTION
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- WETLAND SURVEY CORRIDOR
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- ARCHEOLOGICAL SITE – NO IMPACTS
- USFWS EASMENT
- OUT OF PROJECT BOUNDARY
- PROPOSED DRAINAGE CROSSING
- PROPOSED CULVERT

Merricourt Wind Project

McIntosh County, North Dakota

Road 75 - Sta. 0+00 to End

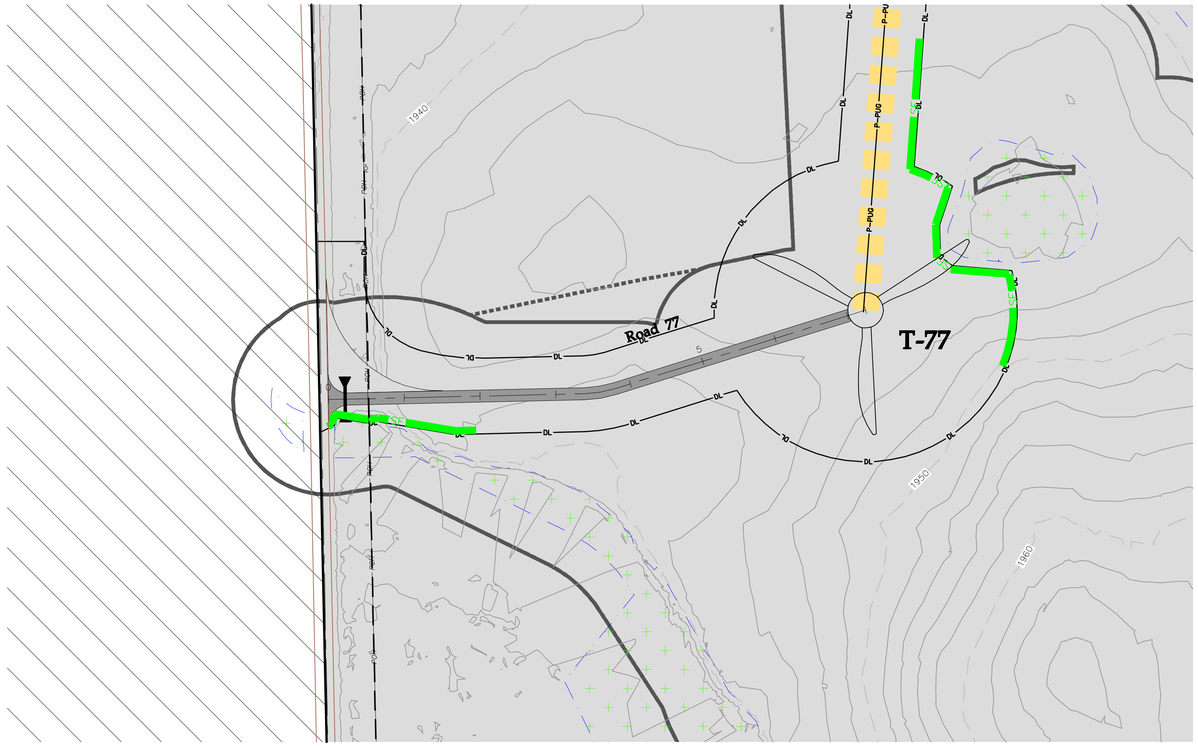
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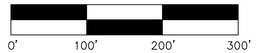
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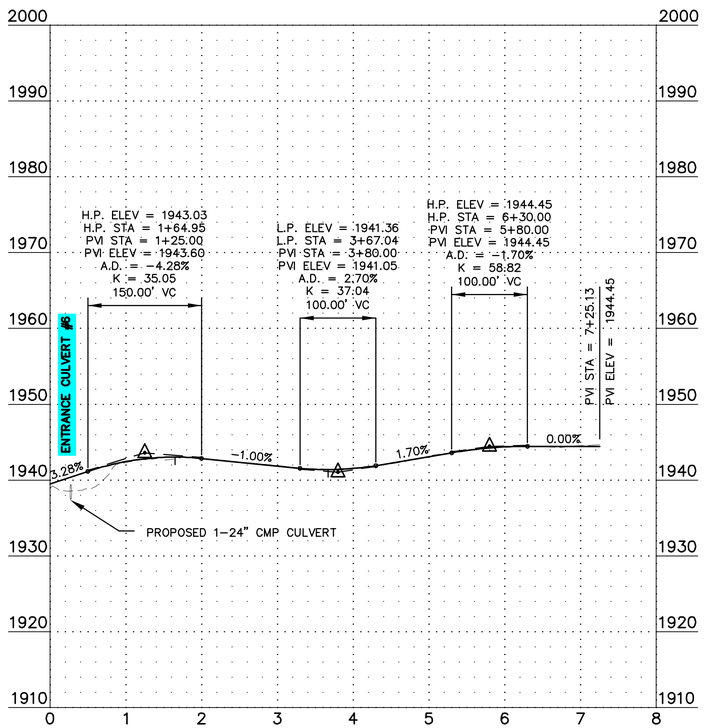
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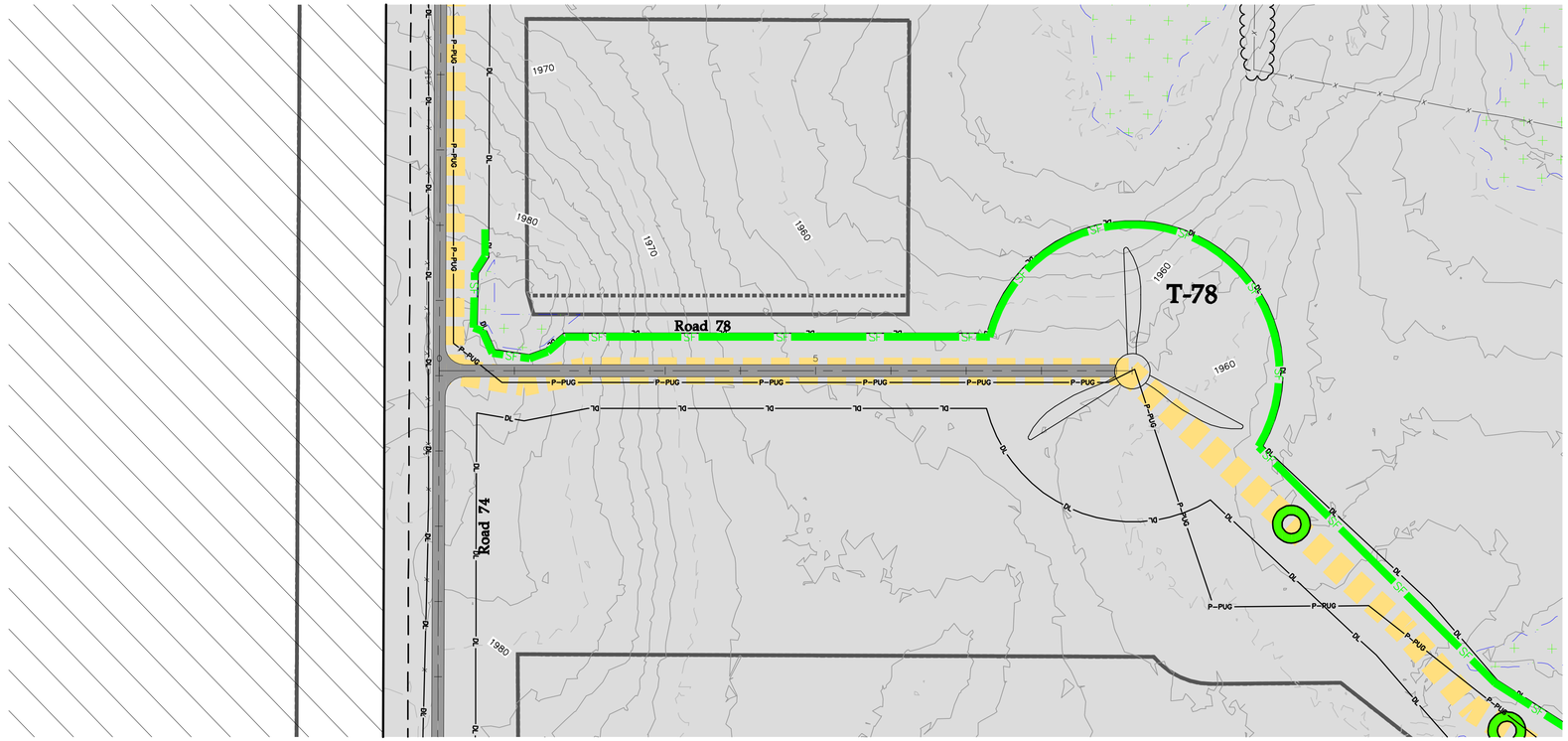
Road 77 - Sta. 0+00 to End

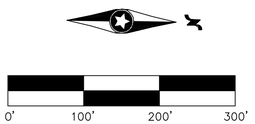
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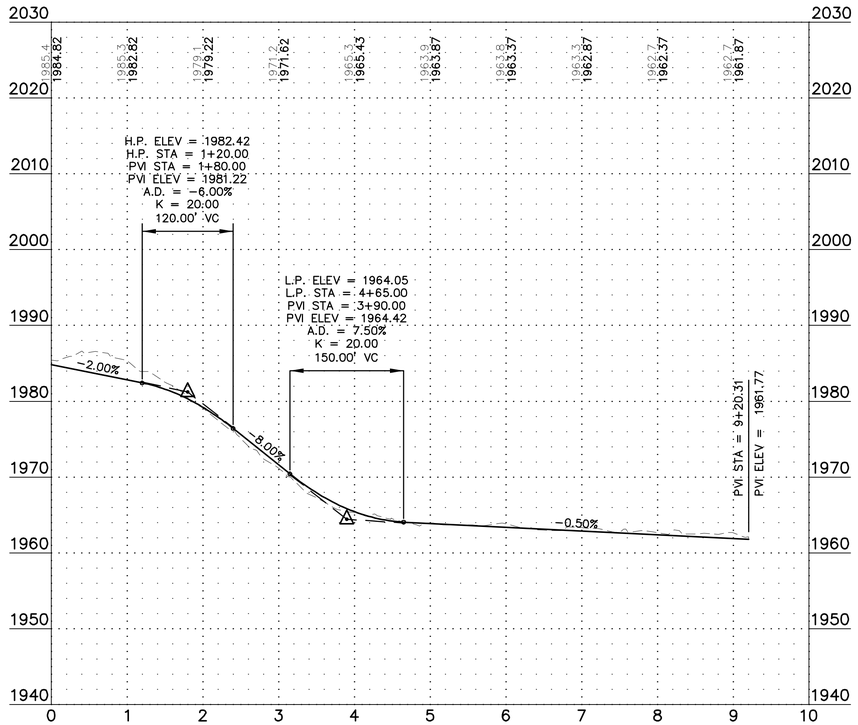
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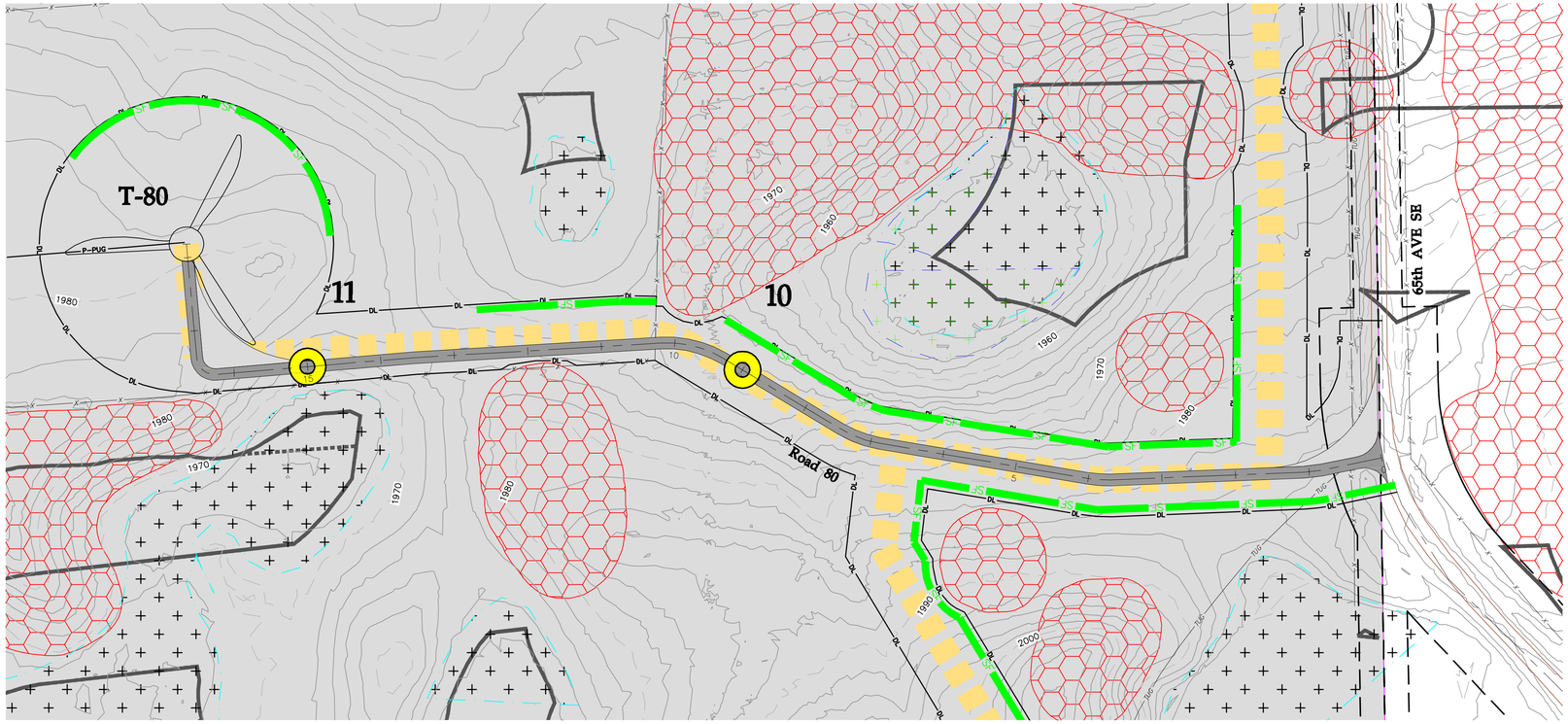
Road 78 - Sta. 0+00 to End

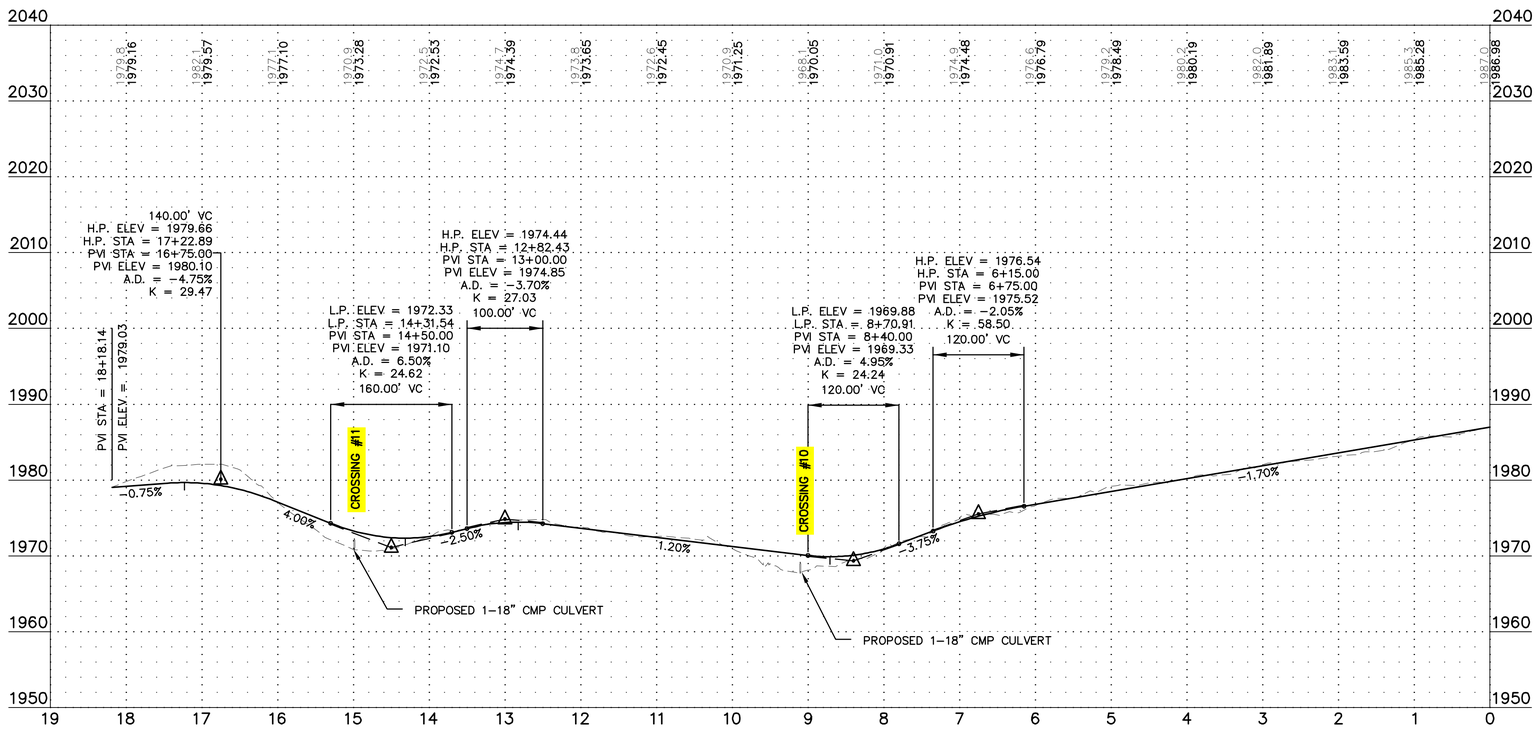
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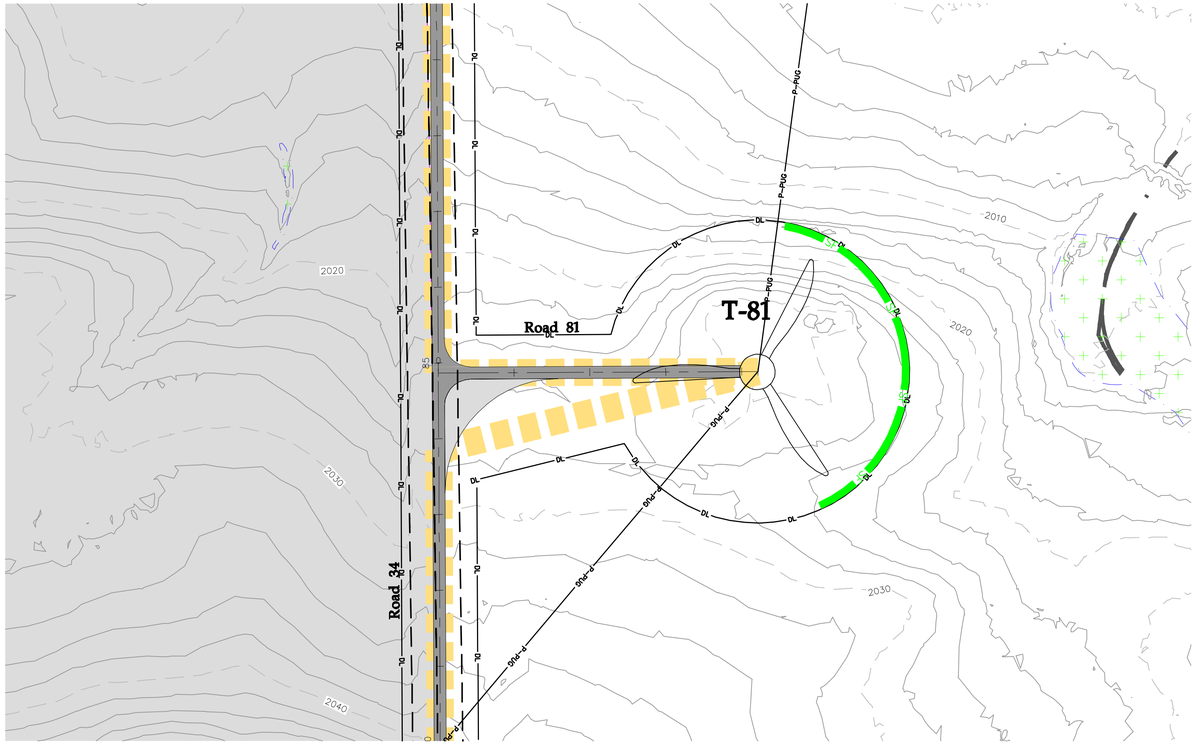
Road 80 - Sta. 0+00 to End

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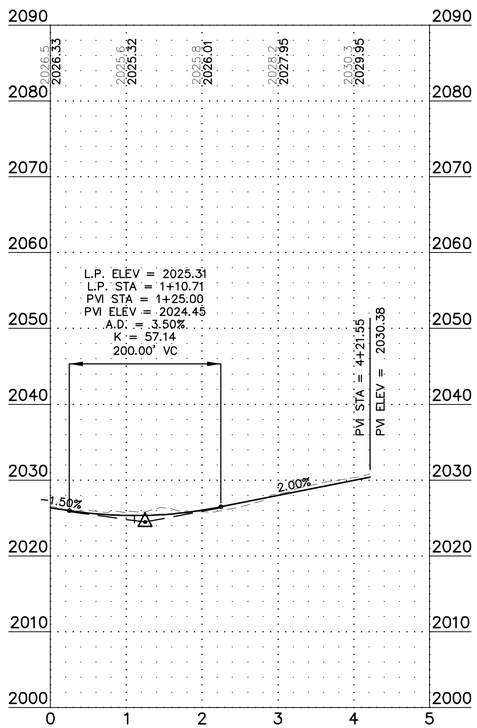
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Merricourt Wind Project

McIntosh County, North Dakota

Road 81 - Sta. 0+00 to End

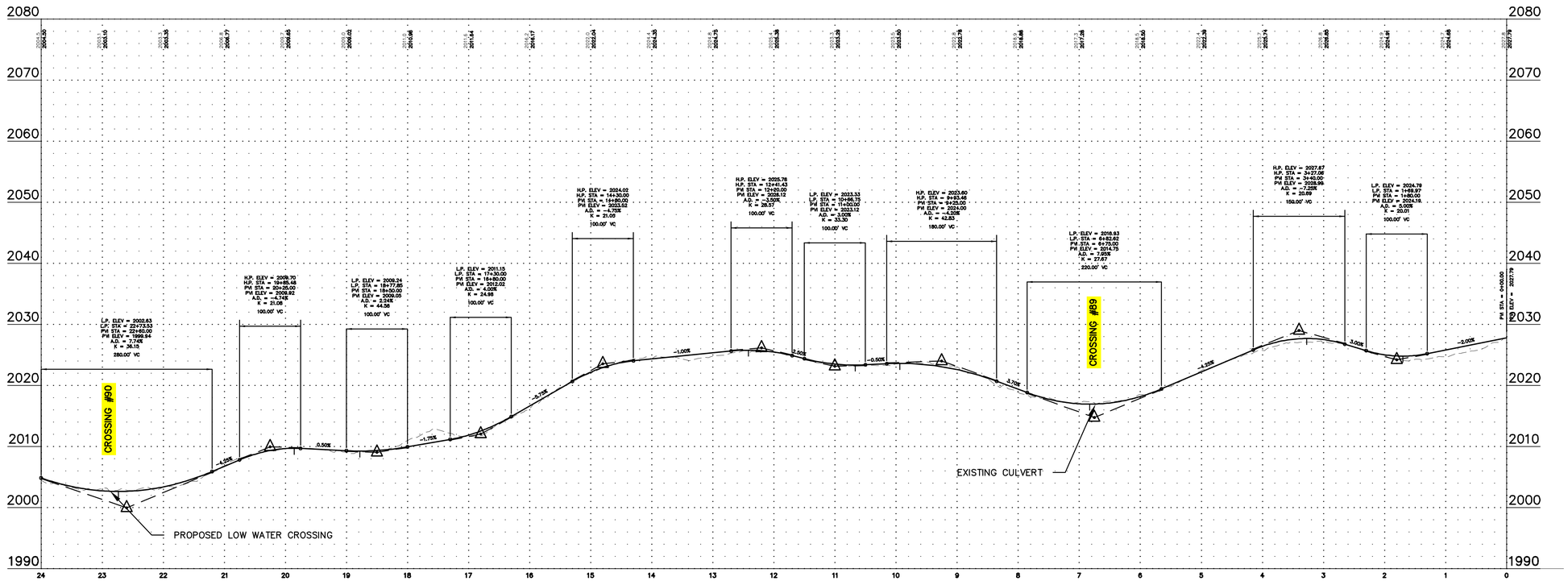
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McIntosh County, North Dakota

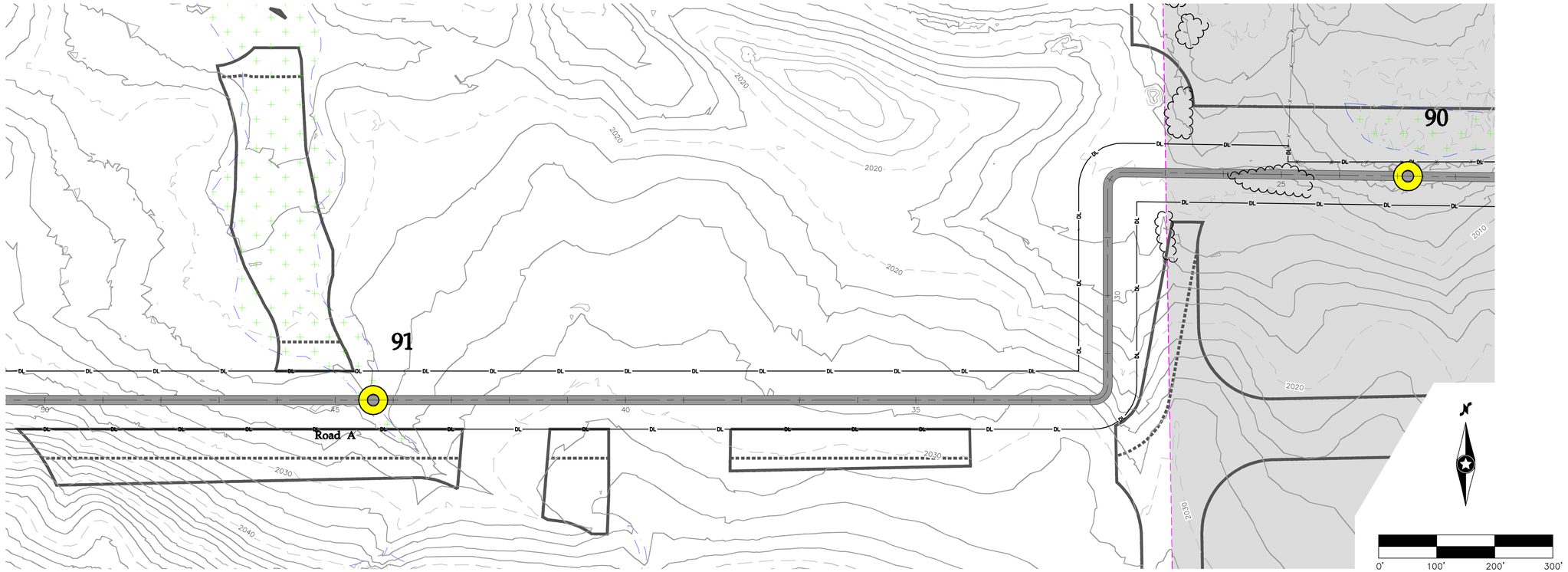
Road A - Sta. 0+00 to 24+00

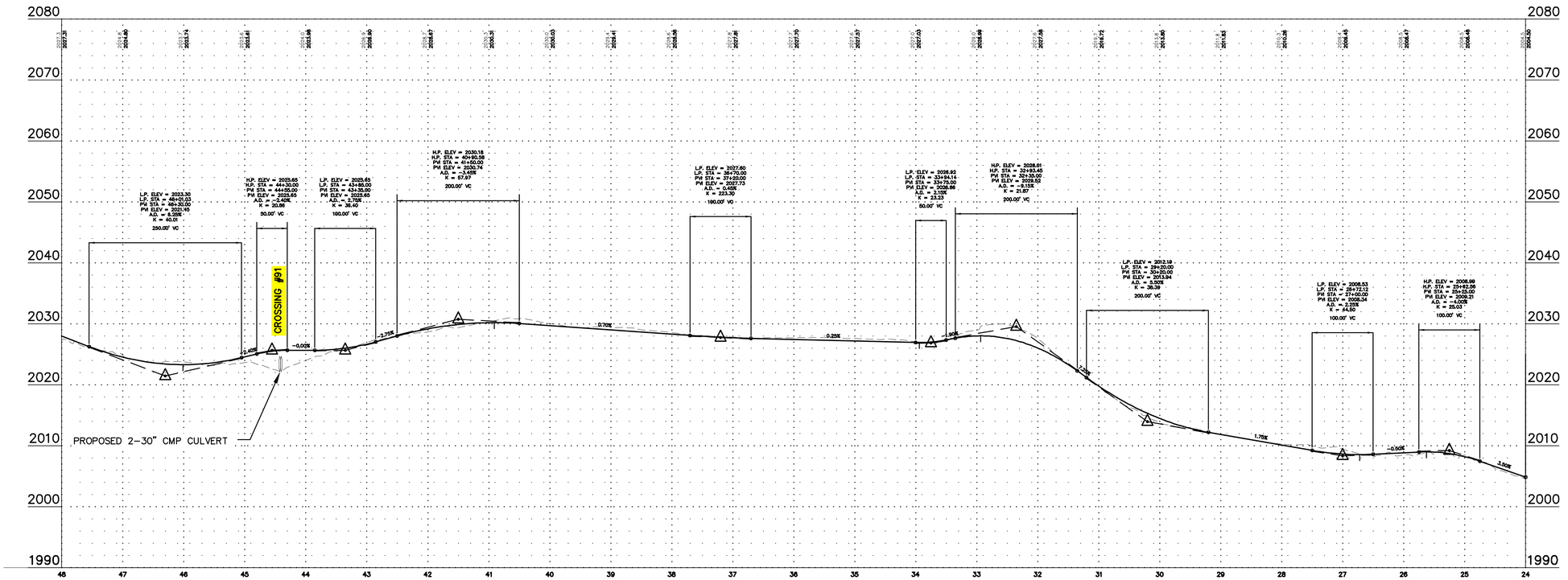
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McIntosh County, North Dakota

Road A - Sta. 24+00 to 48+00

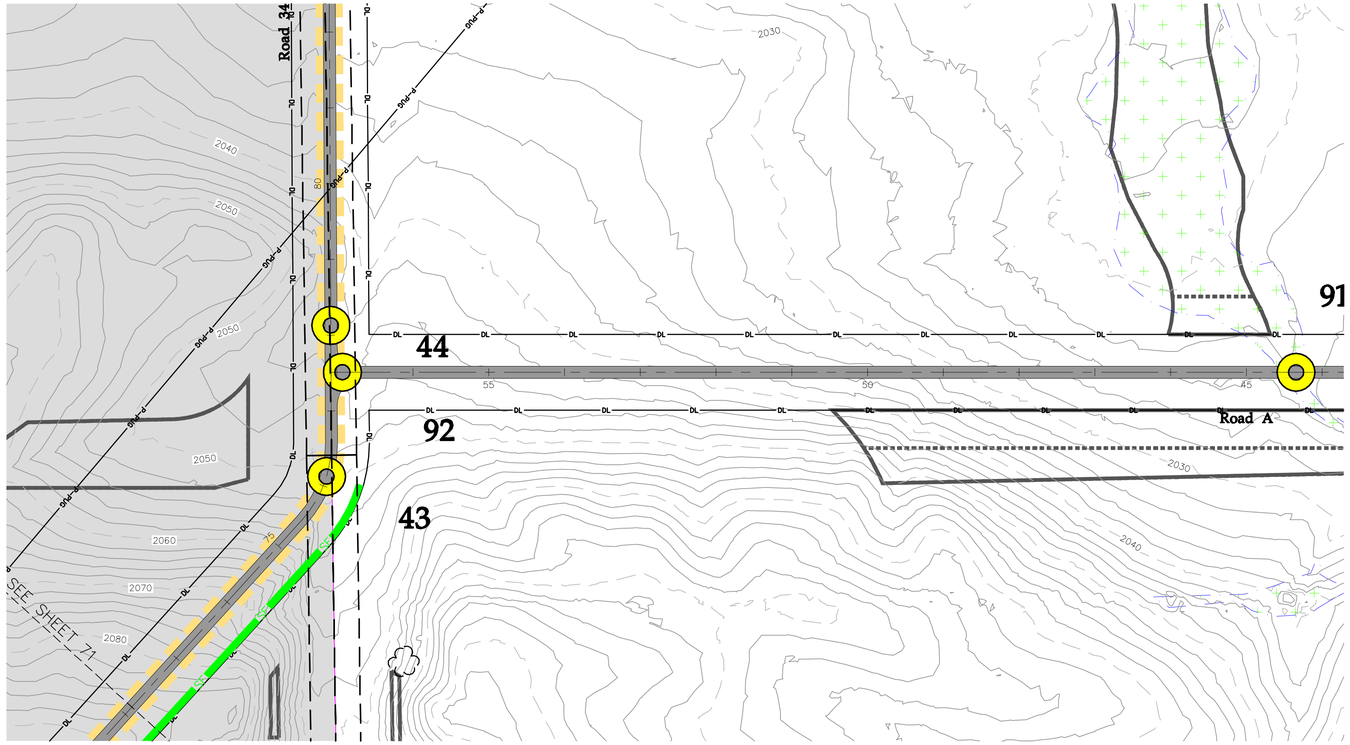
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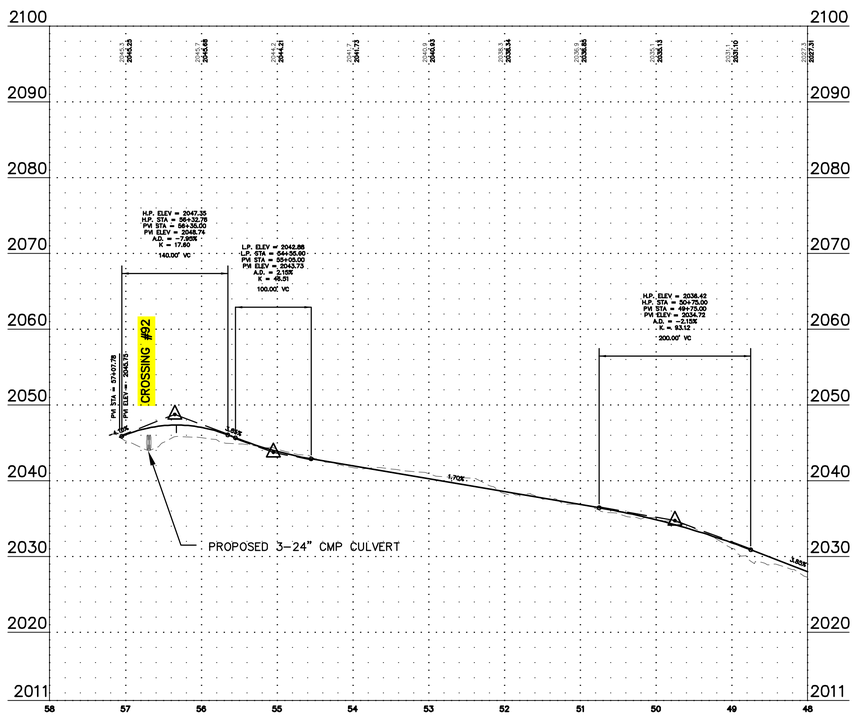
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0' 100' 200' 300'

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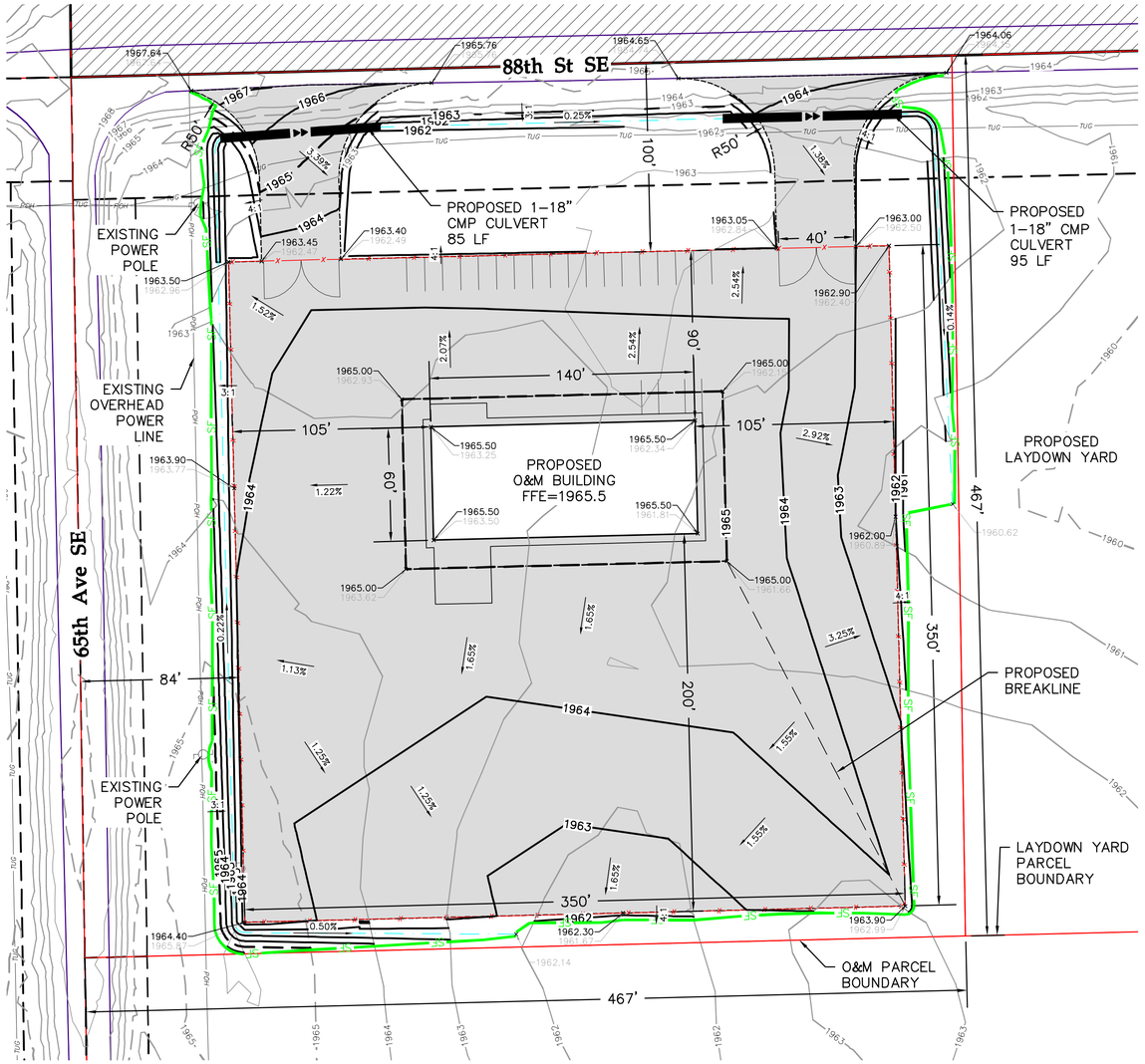
Road A - Sta. 48+00 to End

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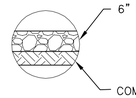
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LEGEND:

- EXISTING 1' CONTOURS
- EXISTING 5' CONTOURS
- EXISTING BITUMINOUS EDGE
- EXISTING FENCE LINE
- EXISTING OVERHEAD POWER
- EXISTING RIGHT OF WAY
- EXISTING PARCEL LINE
- PROPOSED GRAVEL EDGE
- PROPOSED DITCH CENTERLINE
- PROPOSED SILT FENCE
- PROPOSED FENCE LINE
- PROPOSED 1' CONTOURS
- PROPOSED 5' CONTOURS
- OUT OF PROJECT BOUNDARY
- GRADED PAD AREA
- PROPOSED FINISH GRADE ELEVATION
- EXISTING GROUND ELEVATION



O&M YARD CROSS SECTION

O&M SITE

AGGREGATE AREA FOOTPRINT = 132,295 SF

AGGREGATE IMPORT = 2450 CY
(6" DEPTH AGGREGATE AREA)

EARTHWORK

TOPSOIL STRIP (8") = 2450 CY

COMPACTED SUBGRADE

RAW CUT – 460 CY
RAW FILL – 6655 CY
RAW NET – 6195 CY (SHORT)

NOTES:

1. APPROXIMATE EARTHWORK BALANCE IS AFTER THE TOPSOIL HAS BEEN STRIPPED.
2. GRADING ELEVATIONS ARE MEASURED TO FINISH GRADE LEVEL. SUB-GRADE ELEVATION SHALL BE 6" BELOW FINISH GRADE OF THE AREA.
3. QUANTITIES ARE IN-PLACE ESTIMATES NO SHRINK OR SWELL IS ASSUMED
4. REFER TO PROJECT SWPPP NARRATIVE BY WESTWOOD FOR ADDITIONAL BMP'S

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT REQUIREMENTS. REFER TO THE STORM WATER POLLUTION PREVENTION PLAN PREPARED FOR THE MERRICOURT WIND PROJECT FOR DETAILS.
2. REFER TO ARCHITECTURAL PLANS AND SITE PLAN BY OTHERS FOR DETAILED DIMENSIONS FOR BUILDING FOOTPRINT AND EXACT LOCATIONS/DIMENSIONS OF FEATURES (I.E. FENCE, GATES, UTILITIES, SEPTIC, VESTIBLE, SLOPED PAVING, RAMPS, TRUCK DOCKS, UTILITY ENTRANCES AND DOWNSPOUT LOCATIONS).
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE COUNTY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE NORTH DAKOTA HIGHWAY DEPARTMENT STANDARDS.
5. ALL SLOPES SHALL BE GRADED TO 4:1 OR FLATTER, UNLESS OTHERWISE INDICATED ON THE PLAN. ALL SLOPES 4:1 OR GREATER SHALL BE SEEDED AND STABILIZED WITH FIBER BLANKET.
6. SPOT ELEVATIONS AND PROPOSED CONTOURS INDICATE FINISH GRADE SURFACE. SUB-GRADE ELEVATIONS ARE 6" LOWER THAN THE SPOT ELEVATIONS SHOWN.
7. AFTER THE SITE GRADING IS COMPLETED, IF EXCESS SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES INVOLVED.
8. PROVIDE EROSION CONTROL SILT FENCE AT THE PERIMETER OF ALL TEMPORARY STOCKPILES. LOCATIONS TO BE DETERMINED BY SEQUENCE OF GRADING OPERATIONS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE PATTERNS.
10. THE CONTRACTOR SHALL NOTIFY NORTH DAKOTA 811 AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.

EXECUTION

1. TOPSOIL:
   - A. TOPSOIL, INCLUDING ROOTS LARGER THAN 2" AND ROOT MASSES SHALL BE STRIPPED FROM THE ENTIRE O&M PAD. A TOPSOIL STRIP OF 8" WAS ASSUMED.
   - B. TOPSOIL TO BE STOCKPILED IN A DESIGNATED AREA AND SPREAD WITHIN PARCEL AFTER GRADING AND COMPACTED WITHOUT ADVERSELY AFFECTING THE DRAINAGE PATTERN.
2. FILL MATERIAL:
   - A. SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR MOISTURE CONTENT, ATTERBERG LIMITS, AND PROCTOR TESTS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS.
   - B. ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATERIALS INCLUDING ROOTS AND VEGETATIVE MATERIAL.
   - C. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12".
3. SUBGRADE TESTING:
   - A. PROVIDE 3 MOISTURE DENSITY COMPACTION TESTS PER LIFT. COMPACTED SUBGRADE MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
   - B. THE FINAL SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE.
4. AGGREGATE BASE TESTING:
   - A. AGGREGATE BASE SHALL BE PROOF-ROLLED OVER THE ENTIRE O&M PAD.
   - B. PROVIDE 1 SIEVE ANALYSIS.

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Drawn:	SNK
As-Built Drawing:	

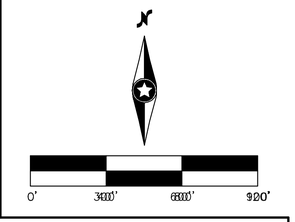
Revisions:

#	DATE	DESCRIPTION
0	08/01/19	ISSUED FOR CONSTRUCTION

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078



Merricourt Wind Project

McIntosh County, North Dakota

O&M Grading Plan

Issued for Construction

Date: 08/01/19

Sheet: 119 OF 118

Attachment F

Training Documentation

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location:

Date of Course:

Course Length(hours):

Stormwater Training Topic: *(check as appropriate)*

- ❑ Sediment and Erosion Controls
- ❑ Stabilization Controls
- ❑ Pollution Prevention Measures
- ❑ Emergency Procedures
- ❑ Inspections/Corrective Actions
- ❑ Stormwater Runoff Sampling

Specific Training Objective(s):

_____

_____

_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attachment G

Inspection and Maintenance Forms

Site Inspection Record Template
Construction
(07-2010)

Project Name: _____

Coverage Number: _____

Inspector: _____ Date: _____ Time: _____

Precipitation Amount: _____ Date: _____

Areas Inspected (Choose Applicable): ☐ Active areas

☐ Stabilized areas with less than 70% cover

☐ Areas that have achieved final stabilization

Is there evidence of, or the potential for, pollutants entering drainage systems or waters of the state from:

- Material Storage Areas ☐ Y ☐ N
- Vehicle Maintenance Areas ☐ Y ☐ N

Observations / Corrective Actions:

_____

_____

_____

☐ Y ☐ N	Have all erosion and sediment controls and best management practices identified in the plan been installed or implemented?
☐ Y ☐ N	Are erosion and sediment controls operating correctly and in serviceable condition?
☐ Y ☐ N	Are erosion and sediment controls operating consistently and effectively?
☐ Y ☐ N	Are there any devices similar to silt fence or fiber rolls where sediment has reached more than 1/3 the height of the device? (Removal and repairs must be made within 24 hours.)
☐ Y ☐ N	Are there any sediment basins where collected sediment has reduced the storage capacity by 1/2? (Drainage and removal must be completed within 72 hours.)
☐ Y ☐ N	Is there evidence of sediment deposits in surface waters, drainage ditches or other stormwater conveyance systems? (Removal and stabilization must be completed within 7 days unless prohibited by legal, regulatory or physical access constrains. All reasonable efforts must be made to obtain access. Once permission is granted, removal must take place within 7 days.)
☐ Y ☐ N ☐ NA	Is there evidence of sediment being tracked off-site by vehicles or equipment? (Sediment tracked or deposited on paved surfaces must be removed within 24 hours.)
☐ Y ☐ N	Is there evidence of sediment depositing off-site other than in surface waters, drainage ditches and stormwater conveyance systems? (Sediment must be recovered in a manner and frequency sufficient to minimize off-site impacts – for example, sediment could wash away during the next precipitation event.)
☐ Y ☐ N ☐ NA ☐ Y ☐ N ☐ NA ☐ Y ☐ N ☐ NA	Is stormwater flow distributed evenly over vegetative buffers? Is sediment accumulating in vegetative buffers? Are rills forming within vegetative buffers? (If vegetative buffers are silted covered, contain rills or are otherwise rendered ineffective, other erosion and sediment controls must be implemented. Eroded areas must be repaired and stabilized.)
☐ Y ☐ N	Are litter, debris, chemicals and parts being managed properly to minimize stormwater pollution?
☐ Y ☐ N	Are liquid or soluble materials like oil, fuel, paint, etc., properly stored to prevent spills, leaks or other discharges?

☐ Y ☐ N	Is there evidence of concrete wash water discharging to waters of the state, storm sewer systems or onto adjacent properties?
☐ Y ☐ N	Is there evidence of wastewater from processing operations or sanitary facilities (i.e., portable toilets) discharging from the site? (These types of discharges are not covered by the construction general permit, NDR10-0000. They must be stopped immediately if they are not covered by another type of permit. The following non-stormwater discharges are allowable if the appropriate prevention measures are in place: fire-fighting, fire hydrant flushing, potable water line flushing, infrequent building and equipment wash down without detergents, uncontaminated foundation drains, springs, lawn watering and air conditioning condensate. Please note that discharges from temporary dewatering activities, such as hydrostatic testing or disinfection of new pipelines may require coverage under the temporary dewatering general permit, NDG07-0000.)
☐ Y ☐ N	Is there evidence of wash water from tools or equipment draining to waters of the state, drainage ditches or storm sewer systems?
☐ Y ☐ N ☐ NA	Are permanent stormwater management measures (e.g., oil-water separators, rain gardens) functioning properly?

Corrective Actions and Schedule:

_____

_____

_____

- Are best management practices effective to minimize the discharge of sediment from the site? ☐ Y ☐ N
- Do best management practices need to be adjusted? ☐ Y ☐ N
- Are additional best management practices needed? ☐ Y ☐ N

Comments:

_____

_____

_____

List all spills, leaks or hose-breaks that have occurred since the last inspection:

-Size	-Location	-Was it reportable?	-Was it reported?
_____	_____	☐ Y ☐ N	☐ Y ☐ N
_____	_____	☐ Y ☐ N	☐ Y ☐ N
_____	_____	☐ Y ☐ N	☐ Y ☐ N

- Were Spill Prevention Procedures adequate? ☐ Y ☐ N
- What Spill Response Procedures were used?

Comments

_____

_____

_____

- Has the SWPP Plan been updated as a result of this inspection? ☐ Y ☐ N
- Has the Site Map been updated as a result of this inspection? ☐ Y ☐ N

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
1200 Missouri Avenue, Bismarck, ND 58504-5264
P.O. Box 5520, Bismarck, ND 58506-5520
701.328.5200 (fax)
www.ndhealth.gov

MEMO TO : Owners/Operators of Concrete Batch Plants and Cement Handling Facilities and Other Interested Parties

FROM : Terry L. O'Clair, P.E.
Director
Division of Air Quality

RE : Permitting of Concrete Batch Plants and Cement Handling Facilities

DATE : January 28, 2005

The Division of Air Quality has previously required owners/operators of concrete batch plants and cement handling facilities to obtain permits for construction and operation of these facilities. Based on our experience and the amount of emissions from these facilities, permits will no longer be required. Facilities are being exempted from the requirement to obtain a permit under provisions of the North Dakota Air Pollution Control Rules which allow the Department to exempt minor sources of air pollution from permitting requirements.

Although permits are no longer required, the owners/operators of these facilities are still required to comply with all applicable requirements of the North Dakota Air Pollution Control Rules. The requirements of the rules are summarized below:

1. Chapter 33-15-02 - Ambient Air Quality Standards establishes acceptable levels of particulate matter (dust, etc.) in the ambient air which cannot be exceeded.

2. Chapter 33-15-03 - Restriction of Emission of Visible Air Contaminants limits the darkness, or opacity, of the visible plume from the stacks at a facility.

3. Chapter 33-15-05 - Emissions of Particulate Matter Restricted limits the amount of particulate matter which is allowed to be emitted from stacks at a facility.

4. Chapter 33-15-17 - Restriction of Fugitive Emissions limits emissions which do not come from a stack; an example is dust from haul roads.

To comply with the above rules, owners/operators are required to operate and maintain all air pollution control equipment (fabric filters, etc.) in a manner consistent with good air pollution control practice for minimizing emissions. This includes periodic inspection of the control equipment and repair of the control equipment in a timely manner if problems are found.

In addition, all reasonable precautions must be taken to prevent and/or minimize fugitive emissions from the facility. This may include the watering of haul roads and other methods to reduce fugitive emissions from the facility.

Summary

In summary, the only change is that operations do not require an air quality permit. Operations must still meet applicable rules. The Department will continue to investigate any instances where it appears that the above air pollution control requirements are not being followed and failure to follow the above requirements may result in enforcement action.

Any questions regarding the above policy may be directed to Craig Thorstenson of my staff at (701)328-5188.

TLO/CDT:saj

RESOLUTIONS FOR DICKEY COUNTY, NORTH DAKOTA RELATING TO MERRICOURT WIND PROJECT

RESOLVED, that the Board of Commissioners of Dickey County acknowledges the potential benefit to Dickey County and all of its citizens which will result from the construction and operation of the Merricourt Wind Project, currently being developed by EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and enXco Development Corporation) and its affiliates (collectively, "EDF");

RESOLVED, FURTHER, that EDF its successors and assigns are hereby granted the right to utilize the public rights of way that have been previously established by law for public travel 33 feet on either side of the congressional section lines for the following purposes: improving such section line rights of way to applicable County standards for vehicular travel (including access by construction equipment), installing access road connections, and for crossing such section line rights of way with access roads, underground electrical collection lines, fiber optic lines, and other related equipment, all in accordance with the civil and collector line design specifications presented to this Board and attached to this Resolution;

RESOLVED, FURTHER, that EDF, its successors and assigns are hereby granted the right, subject to application for and issuance of a standard County Highway Department Utility Permit, to utilize existing Dickey County roads and other rights of way in connection with construction and operation of the Merricourt Wind Project, including the right to install access road connections and crossings, and to bore under such existing roads and rights of way for collection lines, fiber optic lines and other related equipment;

RESOLVED, FURTHER, that EDF, its successors and assigns shall have the right to modify the civil and collector line design specifications presented to this Board as needed to successfully develop and construct the Merricourt Wind Project, on the condition that a copy of such modified plan be provided, upon completion of construction of the Merricourt Wind Project, to the Dickey CountyHighway Superintendent; if the location(s) of any proposed access roads, underground electrical collection lines, fiber optic lines or other related facilities within County rights of way change from that which is attached to this resolution, EDF, its successors and assigns shall notify the Dickey County Highway Superintendent in advance of such modification and provide the new location of such facilities.

RESOLVED, FURTHER, that this resolution reaffirms the resolution adopted March 30, 2011 by this board relating to the Merricourt Wind Project.

RESOLVED, FURTHER, that EDF, its successors and assigns shall have an ongoing right to use and obligation to maintain all such installed roadways as needed for the operation, repair and ultimate decommissioning of the Merricourt Wind Project.

By: Joel E Hamar	By: _____
Name: Joel E. Hamar	Name: _____
Title: Chairman	Title: _____
Date: 7-2-19	Date: _____

DICKEY COUNTY

PERMIT FOR ROAD APPROACH

Service Fee: $100.00

Permit Fee: $400.00

(Permit fee to be refunded after approved completion)

Name: Wanzek Construction

Address: 4850 32nd Ave S, Fargo, ND 58104

"Applicant" requests permission to construct a road approach or to add to an existing approach on the Dickey County Highway right-of-way along the East side of 66th Ave SE South of 88th St. T54/T55 Entrance Radius.

(Direction)

Side of the County Road Address: 46°8'33.7" N 99°0'16" W

Street/ Ave.

Approach Location: Section 30 Township 131N Range 66W

Approach Width Requested (Min 24'-Max 40') 25 feet.

Approach In slopes: 6:1 Culvert required: 1 Culvert Size (18" minimum) 18"

Authorization is hereby given to

Of 6 to construct an approach to minimum standards as determined and shown on the attached sheet. Authorization by the undersigned County Official does not relieve the applicant of any legal responsibilities. If approach construction does not meet minimum standards, corrections will be made at the expense of the applicant within 30 days or approach will be removed by the order of the Dickey County Commissioners. All Expensed incurred will be the responsibility of applicant.

Tanner Dufault /Erik Bute

Applicant

2185569921

Contact# (Phone-Cell)

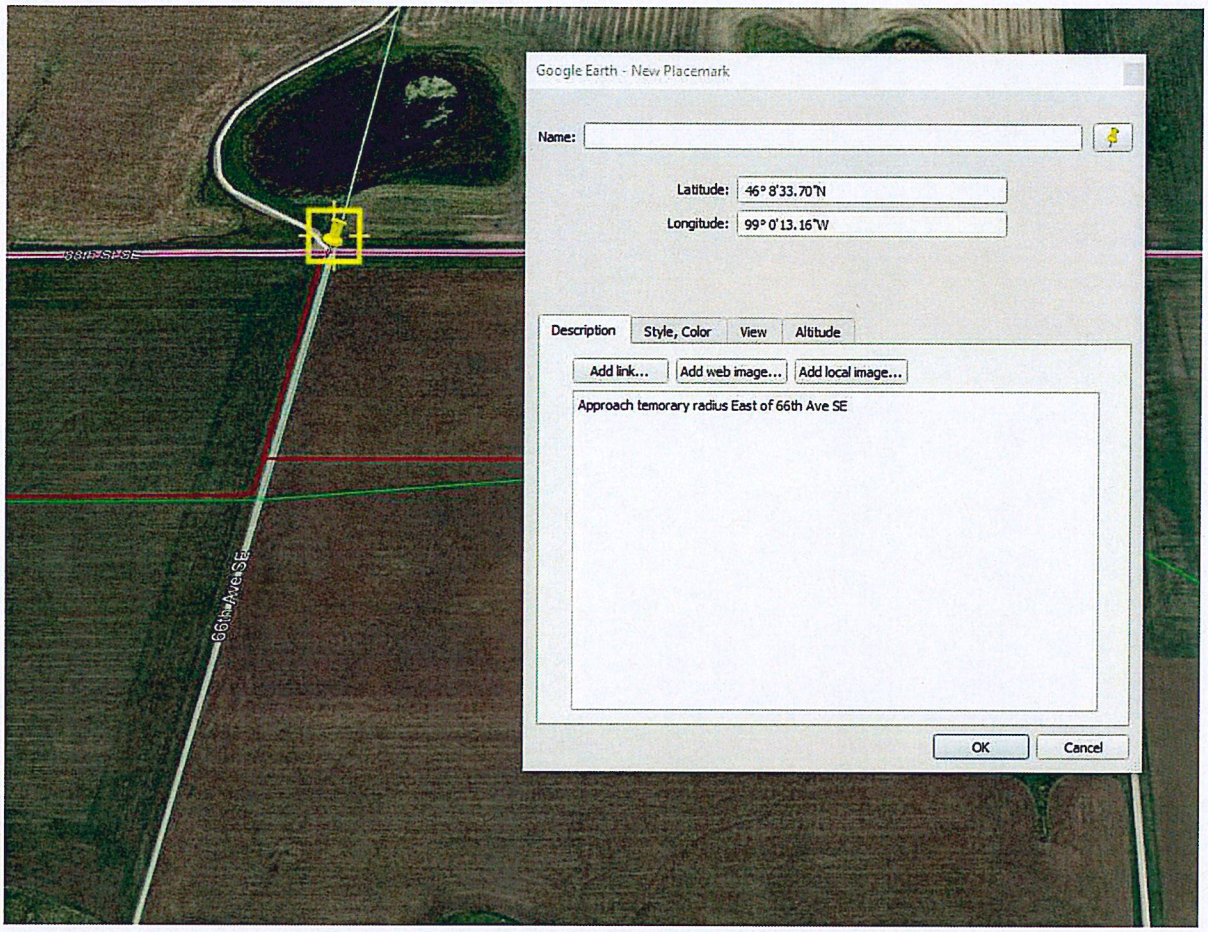
9/16/19

Jeffrey A Hoye Hwy. Supt.

County Road Supt. Approved

9/16/2019

Dated


Google Earth - New Placemark
Name:
Latitude: 46° 8'33.70"N
Longitude: 99° 0'13.16"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
Approach temorary radius East of 66th Ave SE
OK
Cancel
66th Ave SE

Not needed Per Dickey County, ND

X Jeffrey A Hay Twp Supt Date: 9-16-19
Twp Road

DICKEY COUNTY

PERMIT FOR ROAD APPROACH

Service Fee: $100.00

Permit Fee: $400.00

(Permit fee to be refunded after approved completion)

Name: Wanzek Construction

Address: 4850 32nd Ave S, Fargo, ND 58104

"Applicant" requests permission to construct a road approach or to add to an existing approach on the Dickey County Highway right-of-way along the West side of 67th Ave SE

(Direction)

Side of the County Road Address: 46°8'17.6" N 98°59'07.2" W

Street/ Ave.

Approach Location: Section 30 Township 131N Range 66W

Approach Width Requested (Min 24'-Max 40') 25 feet.

Approach In slopes: 6:1 Culvert required: 1 Culvert Size (18" minimum) 18"

Authorization is hereby given to

Of to construct an approach to minimum standards as determined and shown on the attached sheet. Authorization by the undersigned County Official does not relieve the applicant of any legal responsibilities. If approach construction does not meet minimum standards, corrections will be made at the expense of the applicant within 30 days or approach will be removed by the order of the Dickey County Commissioners. All Expensed incurred will be the responsibility of applicant.

Tanner Dufault

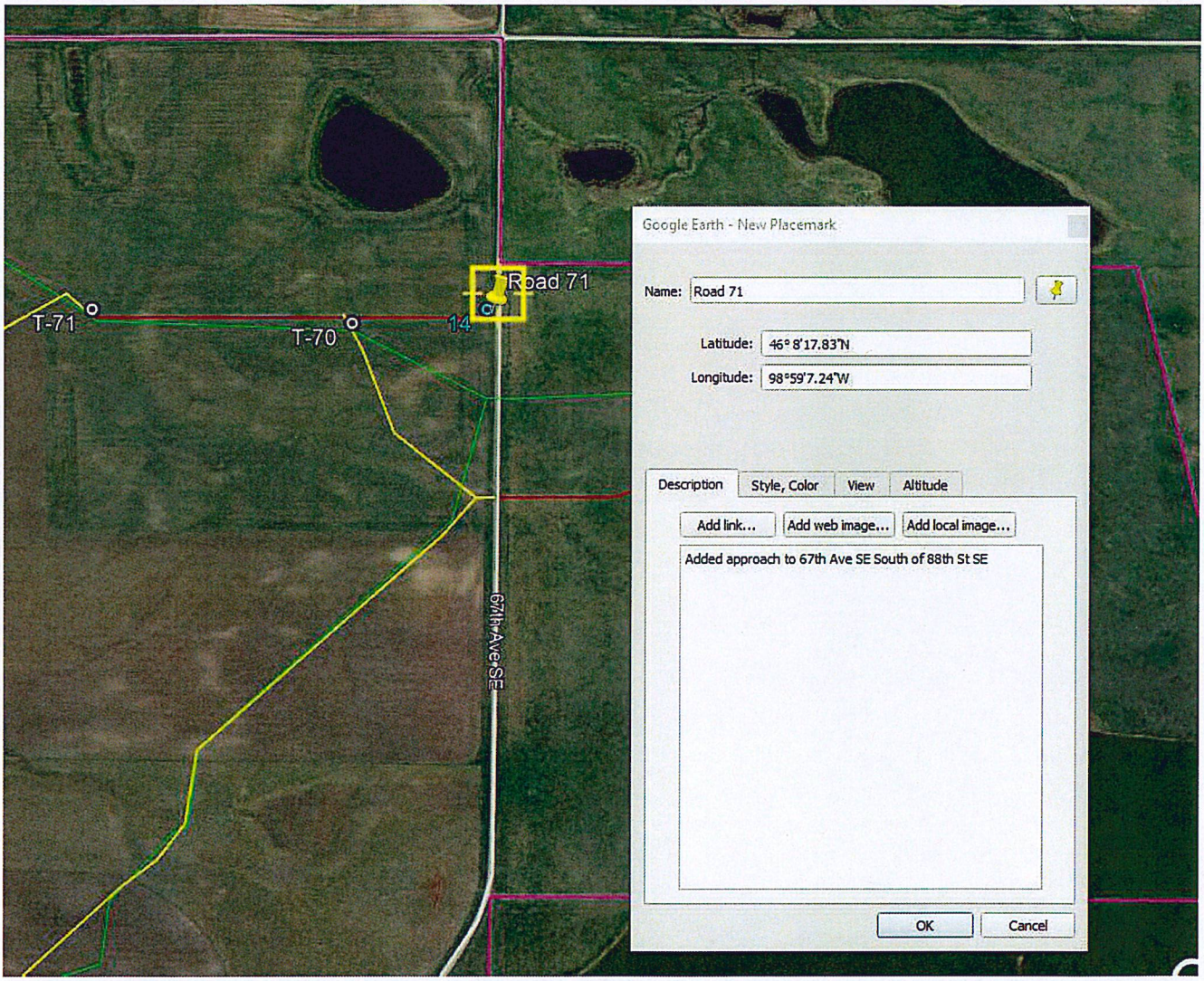
Applicant

County Road Supt. Approved

2185569921

Contact# (Phone-Cell)

Dated


Road 71
T-71
T-70
14
67th Ave SE
Google Earth - New Placemark
Name: Road 71
Latitude: 46° 8'17.83"N
Longitude: 98°59'7.24"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
Added approach to 67th Ave SE South of 88th St SE
OK
Cancel

Not needed per Dickey County, ND

x Jeffrey A Hagen Dickey. Co. Supt Date: 9-16-19

Twp Road

DICKEY COUNTY

PERMIT FOR ROAD APPROACH

Service Fee: $100.00

Permit Fee: $400.00

(Permit fee to be refunded after approved completion)

Name: Wanzek Construction

Address: 4850 32nd Ave S, Fargo, ND 58104

"Applicant" requests permission to construct a road approach or to add to an existing approach on the Dickey County Highway right-of-way along the West side of 67th Ave SE

(Direction)

Side of the County Road Address: 46°7'42.29" N 98°59'13.2" W

Street/ Ave.

Approach Location: Section 30 Township 131N Range 66W

Approach Width Requested (Min 24'-Max 40') 25 feet.

Approach In slopes: 6:1 Culvert required: 1 Culvert Size (18" minimum) 18"

Authorization is hereby given to

Of to construct an approach to minimum standards as determined and shown on the attached sheet. Authorization by the undersigned County Official does not relieve the applicant of any legal responsibilities. If approach construction does not meet minimum standards, corrections will be made at the expense of the applicant within 30 days or approach will be removed by the order of the Dickey County Commissioners. All Expensed incurred will be the responsibility of applicant.

Tanner Dufault

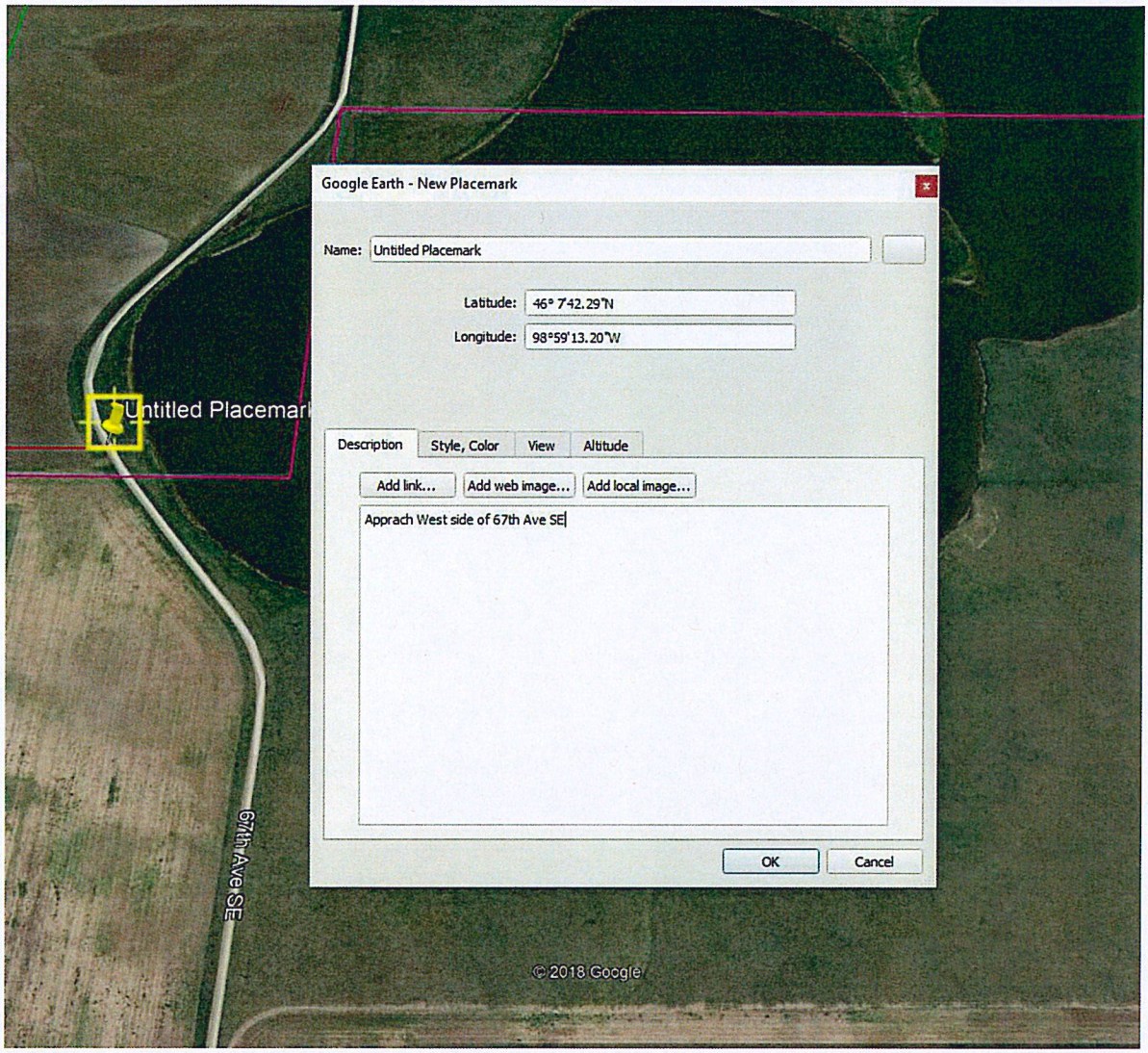
Applicant

2185569921

Contact# (Phone-Cell)

County Road Supt. Approved

Dated


Google Earth - New Placemark
Name: Untitled Placemark
Latitude: 46° 7'42.29"N
Longitude: 98°59'13.20"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
Apprach West side of 67th Ave SE
OK
Cancel
Untitled Placemar
67th Ave SE
© 2018 Google

Not needed for Dickey County, ND

X Jeffrey A Hagen Atty 5497 Date: 9-16-19

DICKEY COUNTY

PERMIT FOR ROAD APPROACH

Service Fee: $100.00

Permit Fee: $400.00

(Permit fee to be refunded after approved completion)

Name: Wanzek Construction

Address: 4850 32nd Ave S, Fargo, ND 58104

"Applicant" requests permission to construct a road approach or to add to an existing approach on the Dickey County Highway right-of-way along the East side of 67th Ave SE

(Direction)

Side of the County Road Address: 46°8'9.34" N 98°59'6.55" W

Street/ Ave.

Approach Location: Section 29 Township 131N Range 66W

Approach Width Requested (Min 24'-Max 40') 25 feet.

Approach In slopes: 6: 1 Culvert required: 1 Culvert Size (18" minimum) 18"

Authorization is hereby given to

Of to construct an approach to minimum standards as determined and shown on the attached sheet. Authorization by the undersigned County Official does not relieve the applicant of any legal responsibilities. If approach construction does not meet minimum standards, corrections will be made at the expense of the applicant within 30 days or approach will be removed by the order of the Dickey County Commissioners. All Expensed incurred will be the responsibility of applicant.

Tanner Dufault

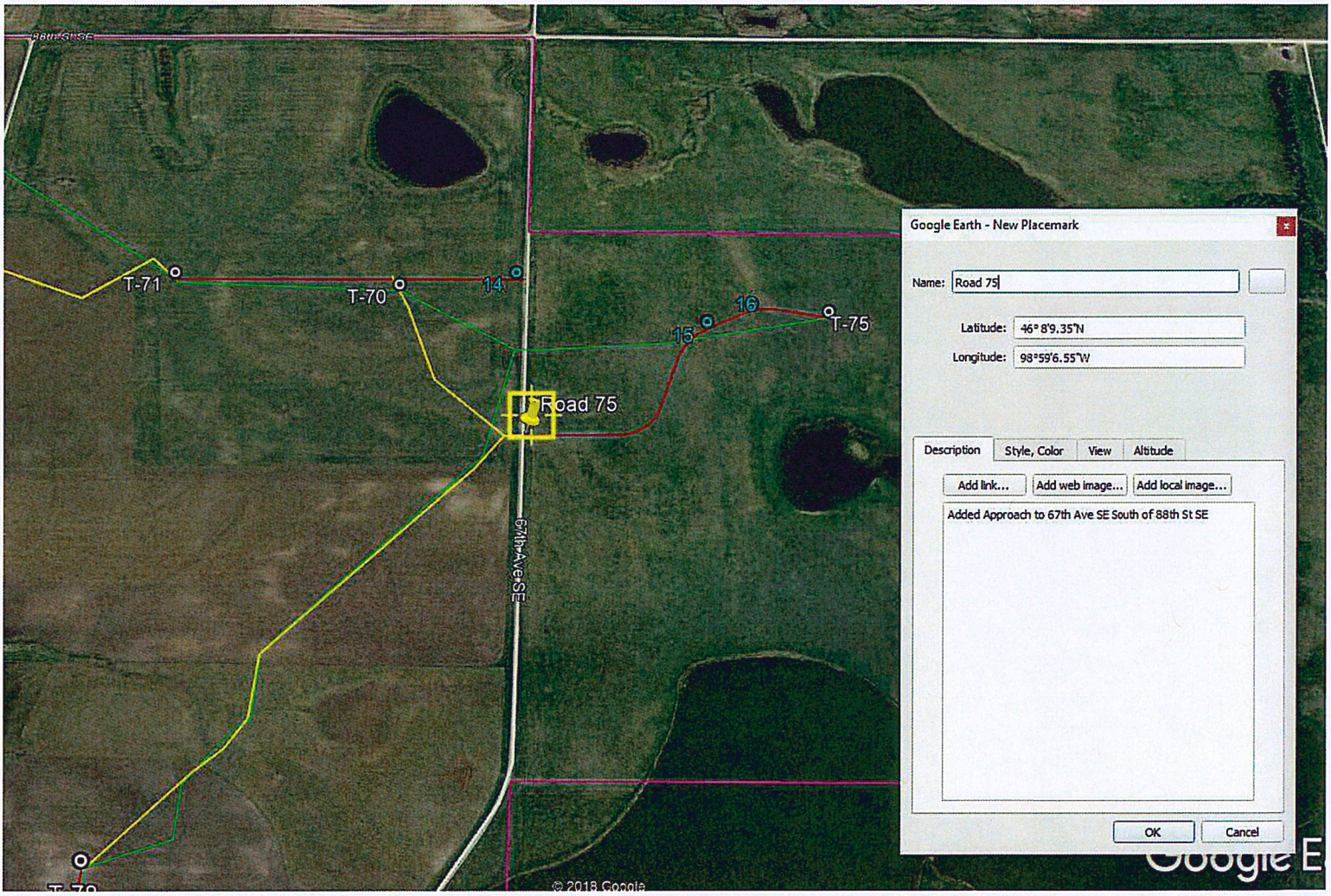
Applicant

2185569921

Contact# (Phone-Cell)

County Road Supt. Approved

Dated


T-71
T-70
14
16
T-75
15
Road 75
67th Ave SE
© 2018 Google
Google Earth - New Placemark
Name: Road 75
Latitude: 46° 8'9.35"N
Longitude: 98°59'6.55"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
Added Approach to 67th Ave SE South of 88th St SE
OK
Cancel

Not needed Per Dickey County, ND check w/ township.

X Jeffrey A Hay Hwy Supt Date: 9-16-19

Twp Road

Fee: $50.00

DICKEY COUNTY HIGHWAY DEPARTMENT
dchighway@nd.gov
Fax:701-349-3960
Office: 701-349-3326

UTILITY PERMIT

The Board of County Commissioner of Dickey County, North Dakota hereby grants permission to Wanzek Construction to:

Place buried lines on County road right-of-way at the following location and under the following conditions:

I. The utility shall be placed at a minimum depth of 48 inches below the surface of the ground.

2. The utility shall be placed under all roads by means of pipe or boring tool pushed under the surface of the road, at minimum depth of 42 inches.

3. Above ground features shall be located off the road right-of-way or on the right-of-way line. (Preferably 75 feet or more from the survey centerline.)

4. All trenches and other excavations shall be carefully backfilled in such a manner as to eliminate settlement, and the surface of the ground shall be returned to its original condition.

5. It is understood and agreed by Wanzek Construction that Dickey County will not be liable for any costs in connection with the future required relocation of the utility due to road improvements.

6. If at any time Dickey County wants to excavate in this area and if it should require the cable to be moved, it will be at the expense of Wanzek Construction

7. It is the responsibility of Wanzek Construction to contact NORTH DAKOTA ONE CALL any time they excavate.

COUNTY HIGHWAY 67th Ave SE - Crossing County Highway

LOCATION: Section 29

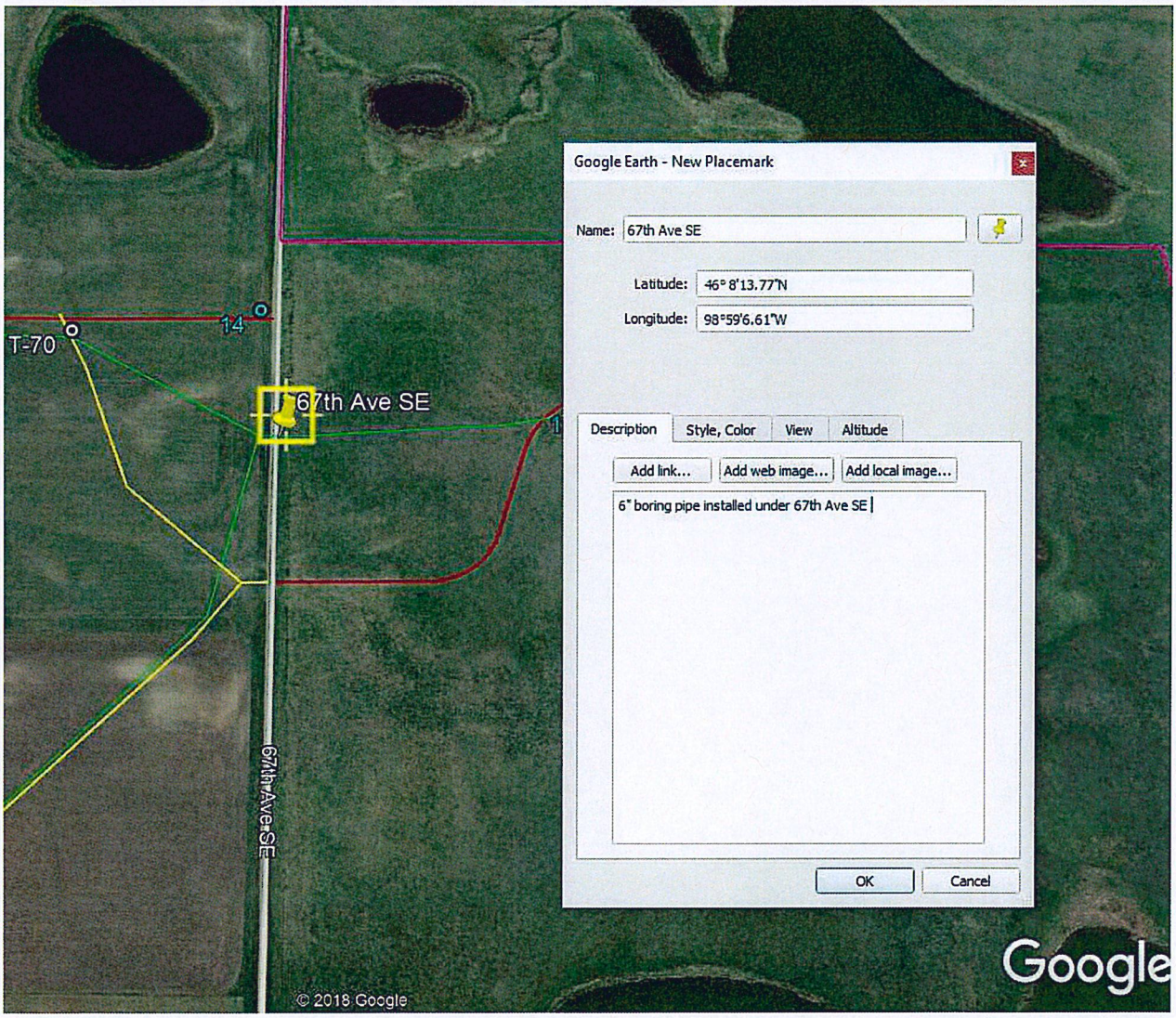
Township 131N Range 66W

Submitted by: Tanner Dufault

Signature

Approved-Chairman, Dickey County Commission.

Date:


Google Earth - New Placemark
Name: 67th Ave SE
Latitude: 46° 8'13.77"N
Longitude: 98°59'6.61"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
6" boring pipe installed under 67th Ave SE
OK
Cancel
T-70
14
67th Ave SE
67th Ave SE
© 2018 Google
Google

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
AUDITOR: Gina Ketterling
TREASURER: Lanette Blumhardt
STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
TAX DIRECTOR: Patricia Smith
SUPT. OF SCHOOLS: Coreen Schumacher
VETERANS SERVICE OFFICER: Douglas Olson
DISASTER EMERGENCY MANAGER: Neil Meidinger

COUNTY HIGHWAY DEPARTMENT

UTILITY PERMIT

The Board of County Commissioners of McIntosh County, North Dakota, hereby grant permission to Wanzek Construction to:
place buried lines

on County road right-of-way at the following locations under the following conditions:

1) The cable to be placed at a minimum depth of 48 inches below the surface of the ground.

2) The utility shall be placed under blacktop or gravel roads by means of pipe or boring tool pushed under the surface of the road, at a minimum depth of 42 inches.

3) Above ground fixtures shall be located off the road right-of-way or on the right-of-way line.

4) All trenches and other excavations shall be carefully backfilled in such a manner as to eliminate settlement, and the surface of the ground shall be returned to its original condition.

5) It is understood and agreed by Wanzek Construction that McIntosh County will not be liable for any costs in connection with the future required relocation of the utility due to road improvements.

6) If any anytime McIntosh County wants to excavate in this area and if it should require the cable or line to be moved, it will be at the expense of Wanzek Construction.

7) McIntosh County is not liable if a cable or line is cut at any time.

8) If, at any time, poles need to be replaced, or any reason, it shall be at the expense of the utility company.

ALONG COUNTY HIGHWAY 91st St SE, OR

CROSSING COUNTY HIGHWAY 62nd Ave SE

LOCATION: Section 32 & 33, Township 131N, Range 67W.

Chairman, Board of County Commissioners

8-14-19

Date

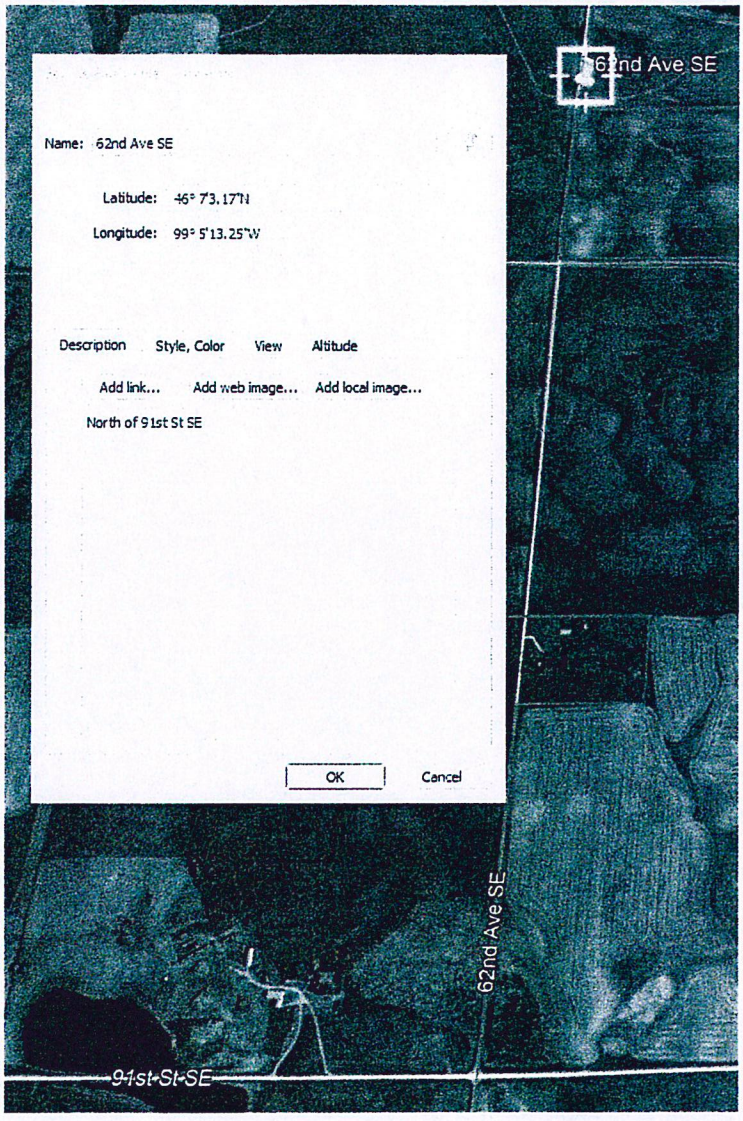
Warzek Construction

Utility Company

By Tanner Default

9/17/19

Date


62nd Ave SE
Name: 62nd Ave SE
Latitude: 46° 7'3.17"N
Longitude: 99° 5'13.25"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
North of 91st St SE
OK
Cancel
62nd Ave SE
91st St SE

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
AUDITOR: Gina Ketterling
TREASURER: Lanette Blumhardt
STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
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VETERANS SERVICE OFFICER: Douglas Olson
DISASTER EMERGENCY MANAGER: Neil Meidinger

COUNTY HIGHWAY DEPARTMENT

UTILITY PERMIT

The Board of County Commissioners of McIntosh County, North Dakota, hereby grant permission to Wanzek Construction to:
place buried lines

on County road right-of-way at the following locations under the following conditions:

1) The cable to be placed at a minimum depth of 48 inches below the surface of the ground.

2) The utility shall be placed under blacktop or gravel roads by means of pipe or boring tool pushed under the surface of the road, at a minimum depth of 42 inches.

3) Above ground fixtures shall be located off the road right-of-way or on the right-of-way line.

4) All trenches and other excavations shall be carefully backfilled in such a manner as to eliminate settlement, and the surface of the ground shall be returned to its original condition.

5) It is understood and agreed by Wanzek Construction that McIntosh County will not be liable for any costs in connection with the future required relocation of the utility due to road improvements.

6) If any anytime McIntosh County wants to excavate in this area and if it should require the cable or line to be moved, it will be at the expense of Wanzek Construction.

7) McIntosh County is not liable if a cable or line is cut at any time.

8) If, at any time, poles need to be replaced, or any reason, it shall be at the expense of the utility company.

ALONG COUNTY HIGHWAY 91st St SE, **OR**

CROSSING COUNTY HIGHWAY 62nd Ave SE

LOCATION: Section 4 & 5, **Township** 130N, **Range** 67W.

Chairman, Board of County Commissioners

8-16-19

Date

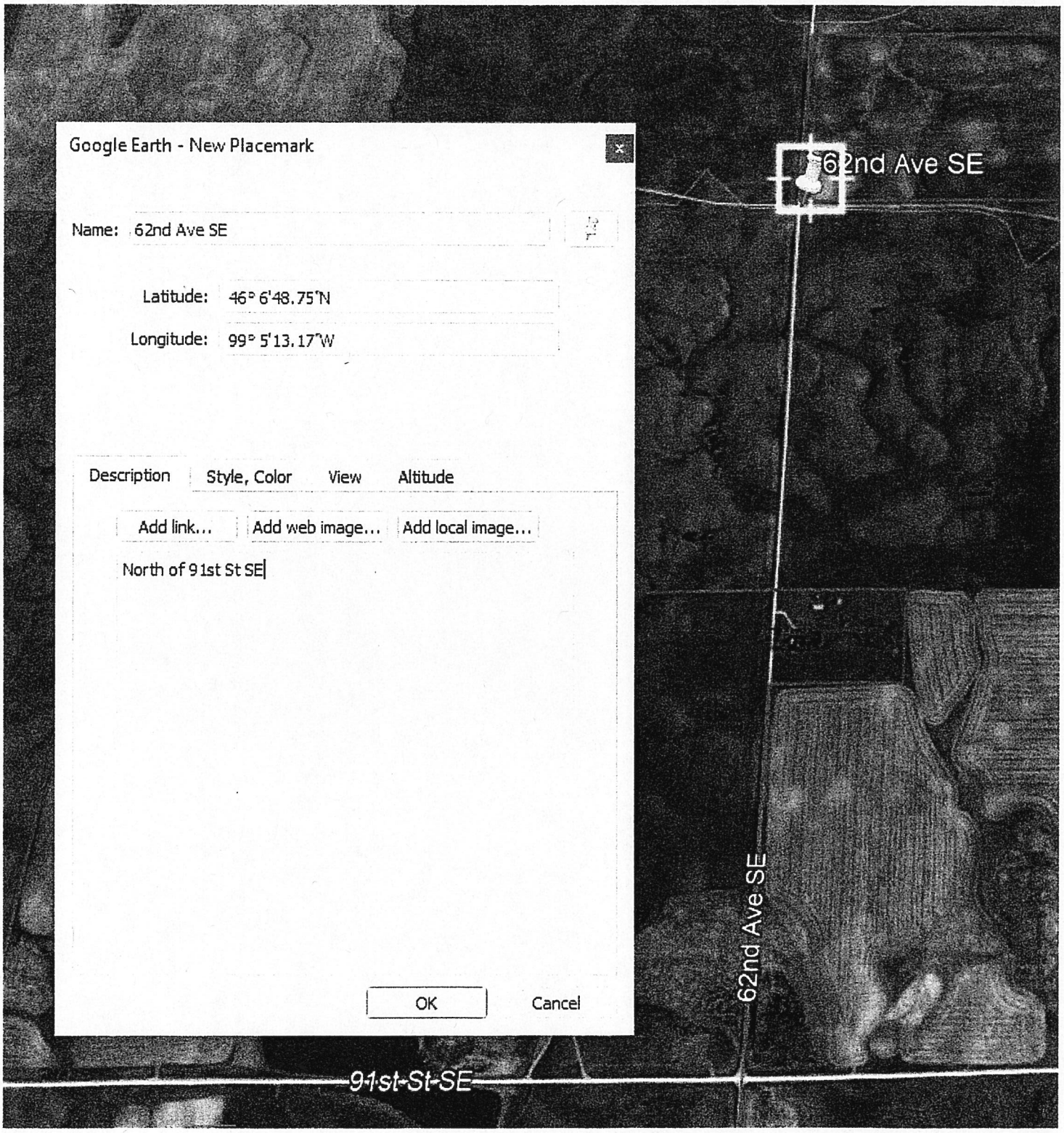
Wanzek Construction

Utility Company

By Tanner Dufault

9/12/19

Date


Google Earth - New Placemark
Name: 62nd Ave SE
Latitude: 46° 6'48.75"N
Longitude: 99° 5'13.17"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
North of 91st St SE
OK
Cancel
62nd Ave SE
62nd Ave SE
91st St SE

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
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TREASURER: Lanette Blumhardt
STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
TAX DIRECTOR: Patricia Smith
SUPT. OF SCHOOLS: Coreen Schumacher
VETERANS SERVICE OFFICER: Douglas Olson
DISASTER EMERGENCY MANAGER: Neil Meidinger

COUNTY HIGHWAY DEPARTMENT

UTILITY PERMIT

The Board of County Commissioners of McIntosh County, North Dakota, hereby grant permission to Wanzek Construction to:
place buried lines

on County road right-of-way at the following locations under the following conditions:

1) The cable to be placed at a minimum depth of 48 inches below the surface of the ground.

2) The utility shall be placed under blacktop or gravel roads by means of pipe or boring tool pushed under the surface of the road, at a minimum depth of 42 inches.

3) Above ground fixtures shall be located off the road right-of-way or on the right-of-way line.

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7) McIntosh County is not liable if a cable or line is cut at any time.

8) If, at any time, poles need to be replaced, or any reason, it shall be at the expense of the utility company.

ALONG COUNTY HIGHWAY 88th St SE, **OR**

CROSSING COUNTY HIGHWAY 62nd Ave SE

LOCATION: Section 28 & 29, **Township** 131N, **Range** 67W.

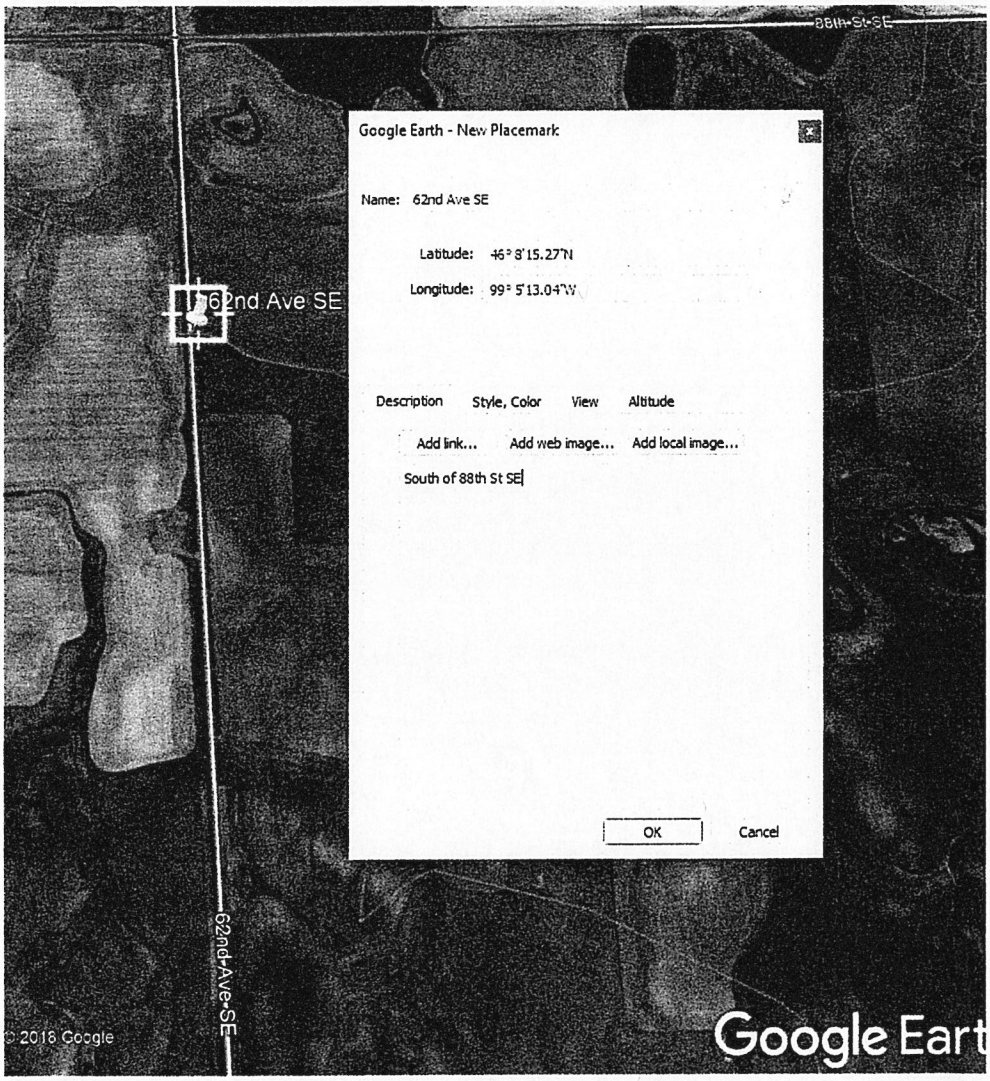
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Default

9/17/19
Date


88th St SE
62nd Ave SE
Google Earth - New Placemark
Name: 62nd Ave SE
Latitude: 46° 8' 15.27" N
Longitude: 99° 5' 13.04" W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
South of 88th St SE
OK
Cancel
62nd Ave SE
© 2018 Google
Google Eart

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
AUDITOR: Gina Ketterling
TREASURER: Lanette Blumhardt
STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
TAX DIRECTOR: Patricia Smith
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ALONG COUNTY HIGHWAY 91st St SE, **OR**

CROSSING COUNTY HIGHWAY 63rd Ave SE

LOCATION: Section 9 & 10, **Township** 130N, **Range** 67W.

Chairman, Board of County Commissioners

8-14-19

Date

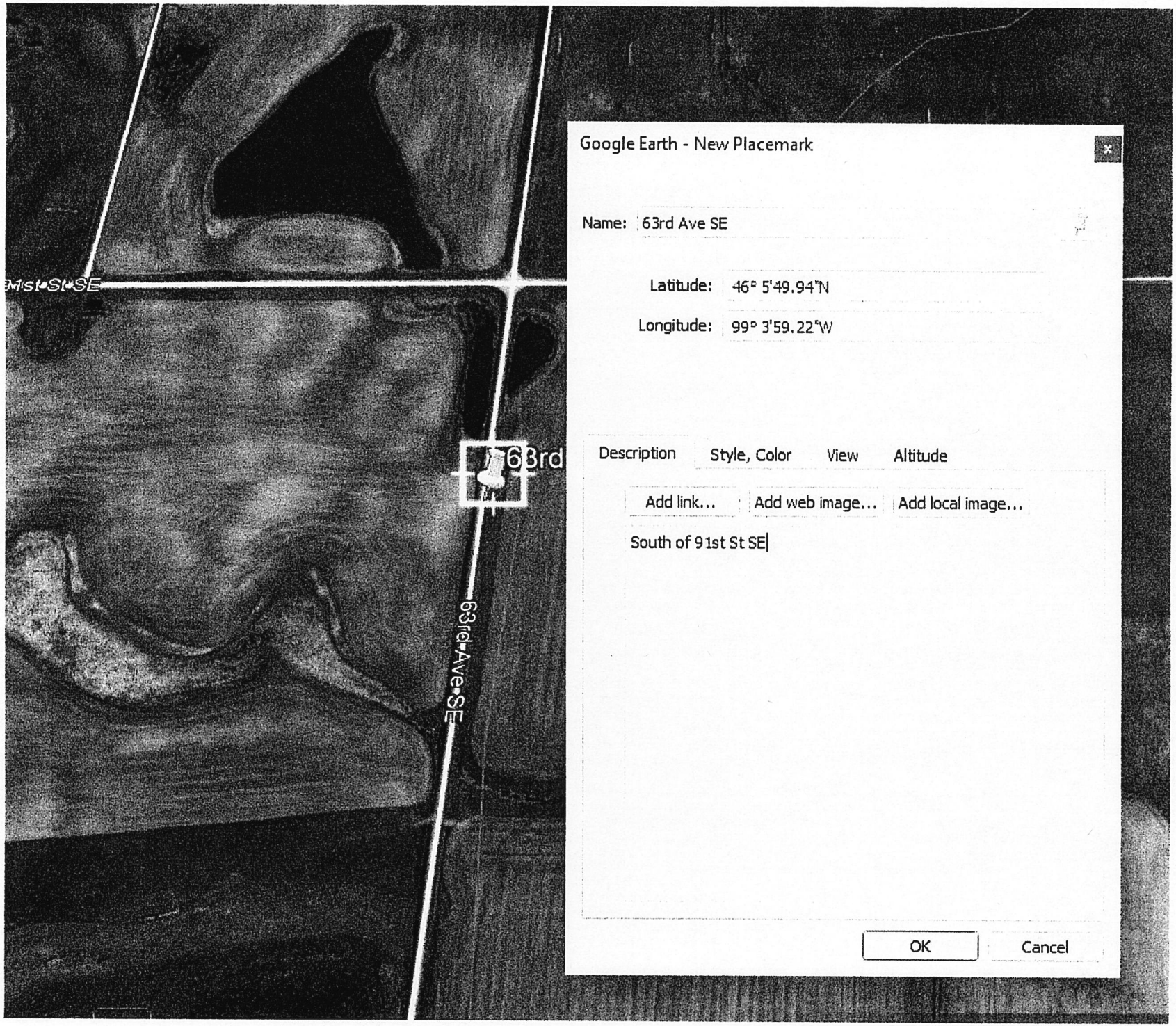
Wanzek Construction

Utility Company

By Tanner Dufault

9/17/19

Date


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Latitude: 46° 5'49.94"N
Longitude: 99° 3'59.22"W
Description
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Altitude
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Add local image...
South of 91st St SE
OK
Cancel
63rd
63rd Ave SE

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
AUDITOR: Gina Ketterling
TREASURER: Lanette Blumhardt
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SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
TAX DIRECTOR: Patricia Smith
SUPT. OF SCHOOLS: Coreen Schumacher
VETERANS SERVICE OFFICER: Douglas Olson
DISASTER EMERGENCY MANAGER: Neil Meidinger

COUNTY HIGHWAY DEPARTMENT

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ALONG COUNTY HIGHWAY 92nd St SE, OR

CROSSING COUNTY HIGHWAY 64th Ave SE

LOCATION: Section 14 & 15, Township 130N, Range 67W.

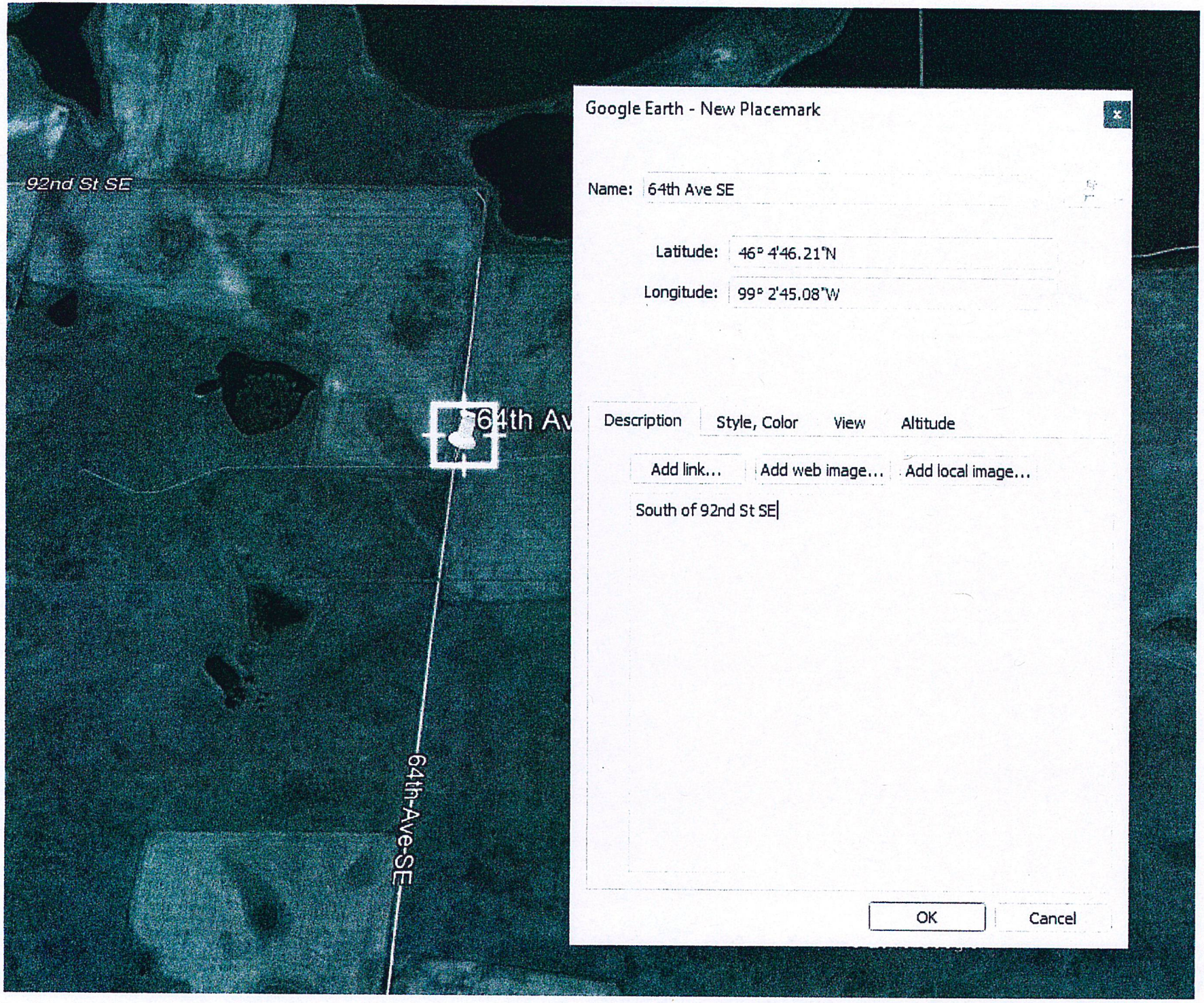
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date


92nd St SE
64th Av
64th-Ave-SE
Google Earth - New Placemark
Name: 64th Ave SE
Latitude: 46° 4'46.21"N
Longitude: 99° 2'45.08"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
South of 92nd St SE
OK
Cancel

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
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VETERANS SERVICE OFFICER: Douglas Olson
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ALONG COUNTY HIGHWAY 90th St SE, **OR**

CROSSING COUNTY HIGHWAY 65th Ave SE

LOCATION: Section 36 & 35, **Township** 131N, **Range** 67W.

Chairman, Board of County Commissioners

8-16-19

Date

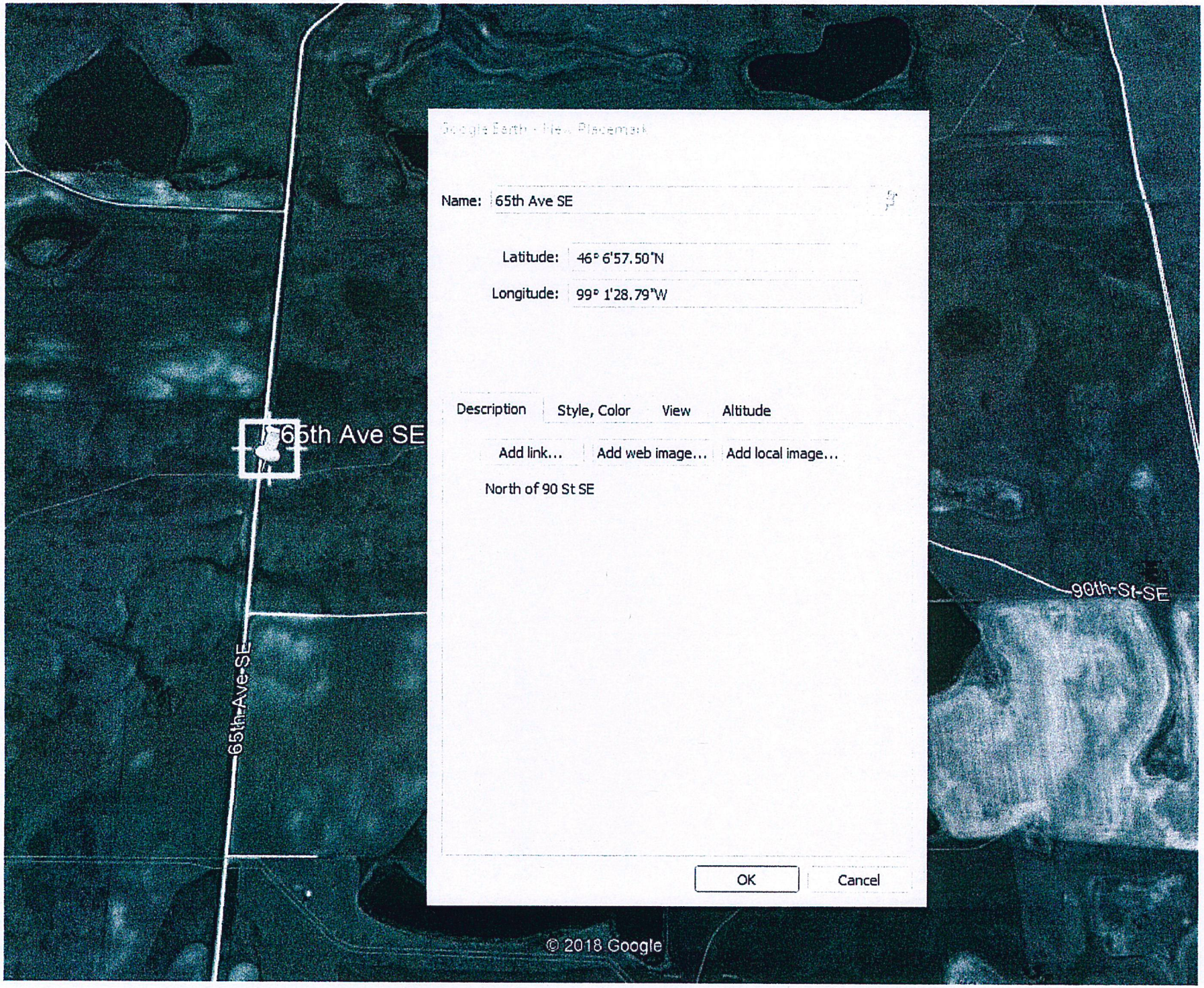
Wanzek Construction

Utility Company

By Tanner Dufault

9/17/19

Date


Google Earth - File - Placemark
Name: 65th Ave SE
Latitude: 46° 6'57.50"N
Longitude: 99° 1'28.79"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
North of 90 St SE
OK
Cancel
65th Ave SE
65th-Ave-SE
90th-St-SE
© 2018 Google

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
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ALONG COUNTY HIGHWAY 94th St SE, **OR**

CROSSING COUNTY HIGHWAY 65th Ave SE

LOCATION: Section 13 & 14, **Township** 130N, **Range** 67W.

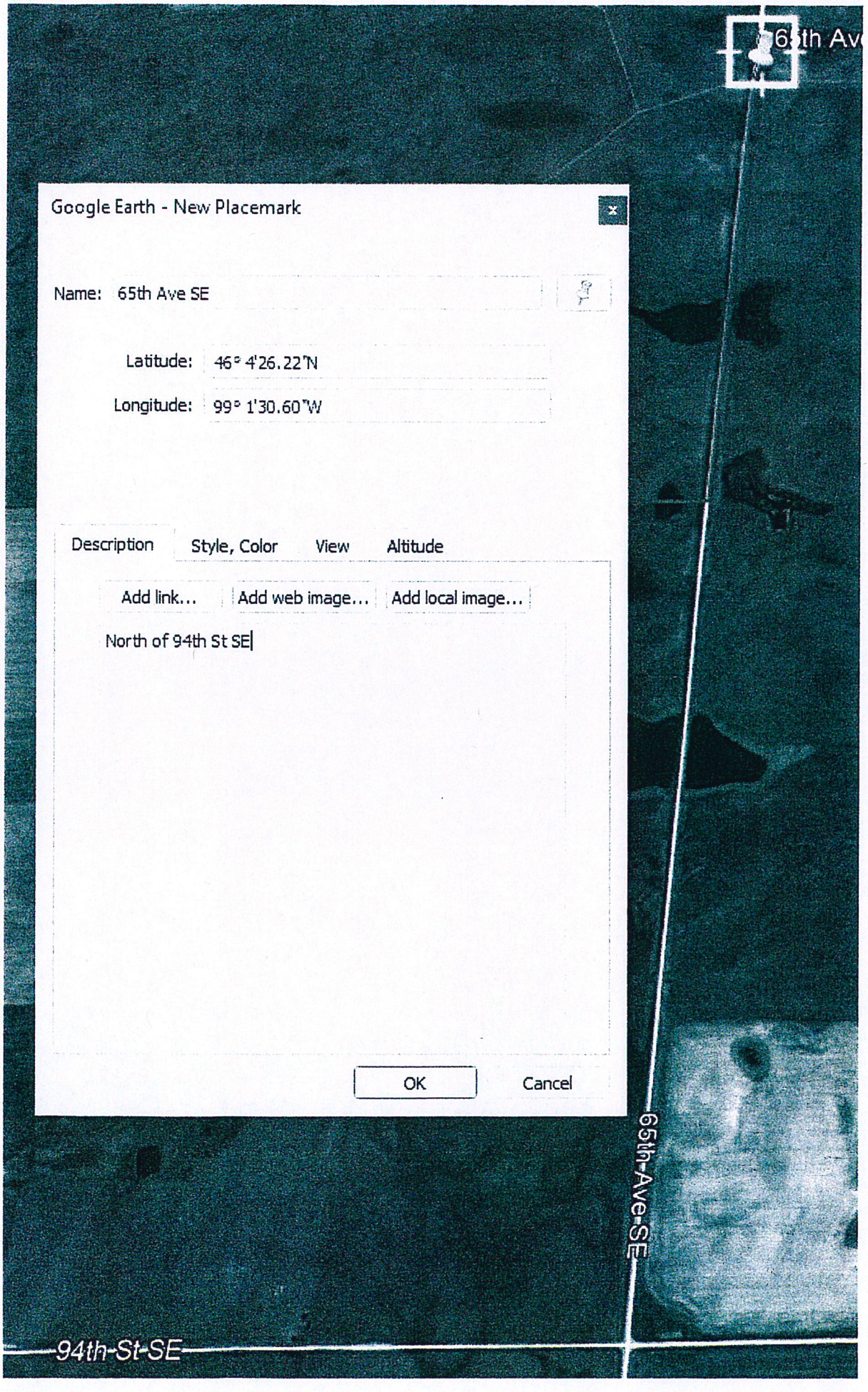
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date


65th Ave
Google Earth - New Placemark
Name: 65th Ave SE
Latitude: 46° 4'26.22"N
Longitude: 99° 1'30.60"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
North of 94th St SE
OK
Cancel
65th-Ave-SE
94th-St-SE

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
AUDITOR: Gina Ketterling
TREASURER: Lanette Blumhardt
STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
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TAX DIRECTOR: Patricia Smith
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ALONG COUNTY HIGHWAY 90th St SE, **OR**

CROSSING COUNTY HIGHWAY 65th Ave SE

LOCATION: Section 1 & 2, **Township** 130N, **Range** 67W.

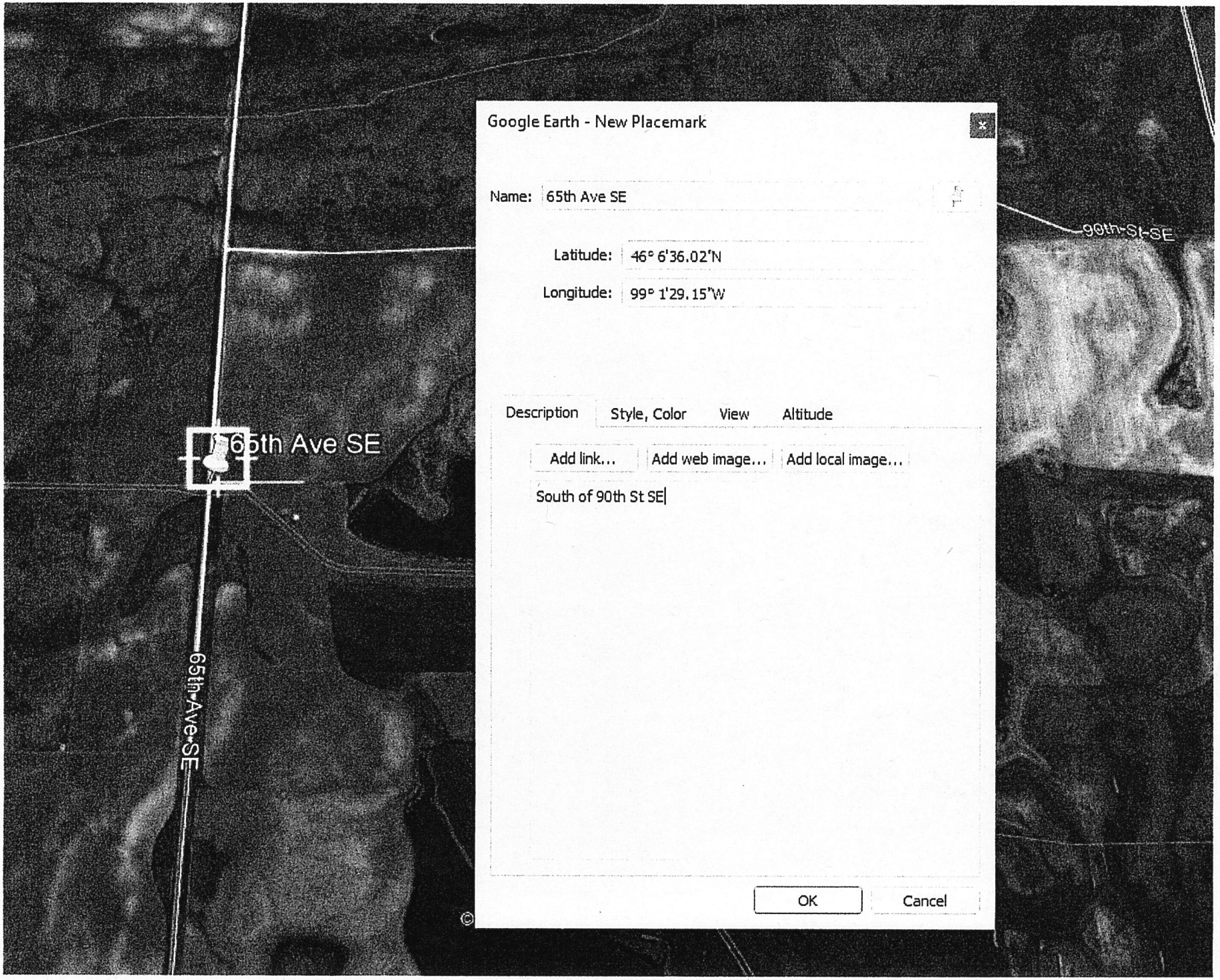
Chairman, Board of County Commissioners

9-16-19
Date

Wanzek Construction
Utility Company

By Tanner Default

9/17/19
Date


65th Ave SE
65th Ave SE
90th St SE
Google Earth - New Placemark
Name: 65th Ave SE
Latitude: 46° 6'36.02"N
Longitude: 99° 1'29.15"W
Description
Style, Color
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Altitude
Add link...
Add web image...
Add local image...
South of 90th St SE
OK
Cancel

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
Neil Meidinger
Perry Turner
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ALONG COUNTY HIGHWAY 90th St SE, OR

CROSSING COUNTY HIGHWAY 65th Ave SE

LOCATION: Section 1 & 2, Township 130N, Range 67W.

Chairman, Board of County Commissioners

8-16-19

Date

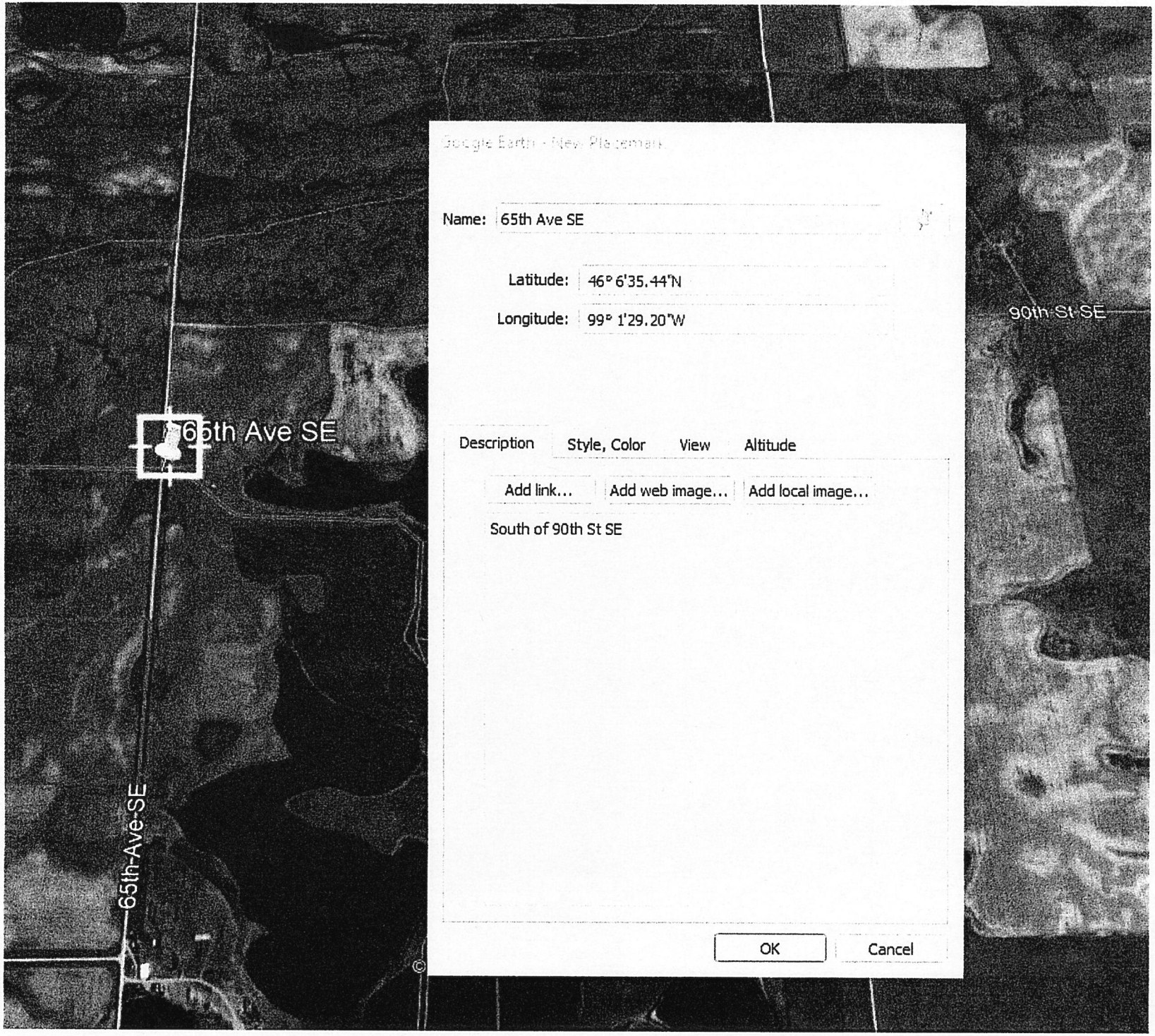
Wanzek Construction

Utility Company

By Tanner Default

9/17/19

Date


Google Earth - New Placemark
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Longitude: 99° 1'29.20"W
Description
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Add local image...
South of 90th St SE
OK
Cancel
65th Ave SE
65th Ave SE
90th St SE

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



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ALONG COUNTY HIGHWAY 91th St SE, OR

CROSSING COUNTY HIGHWAY 65th Ave SE

LOCATION: Section 11 & 12, Township 130N, Range 67W.

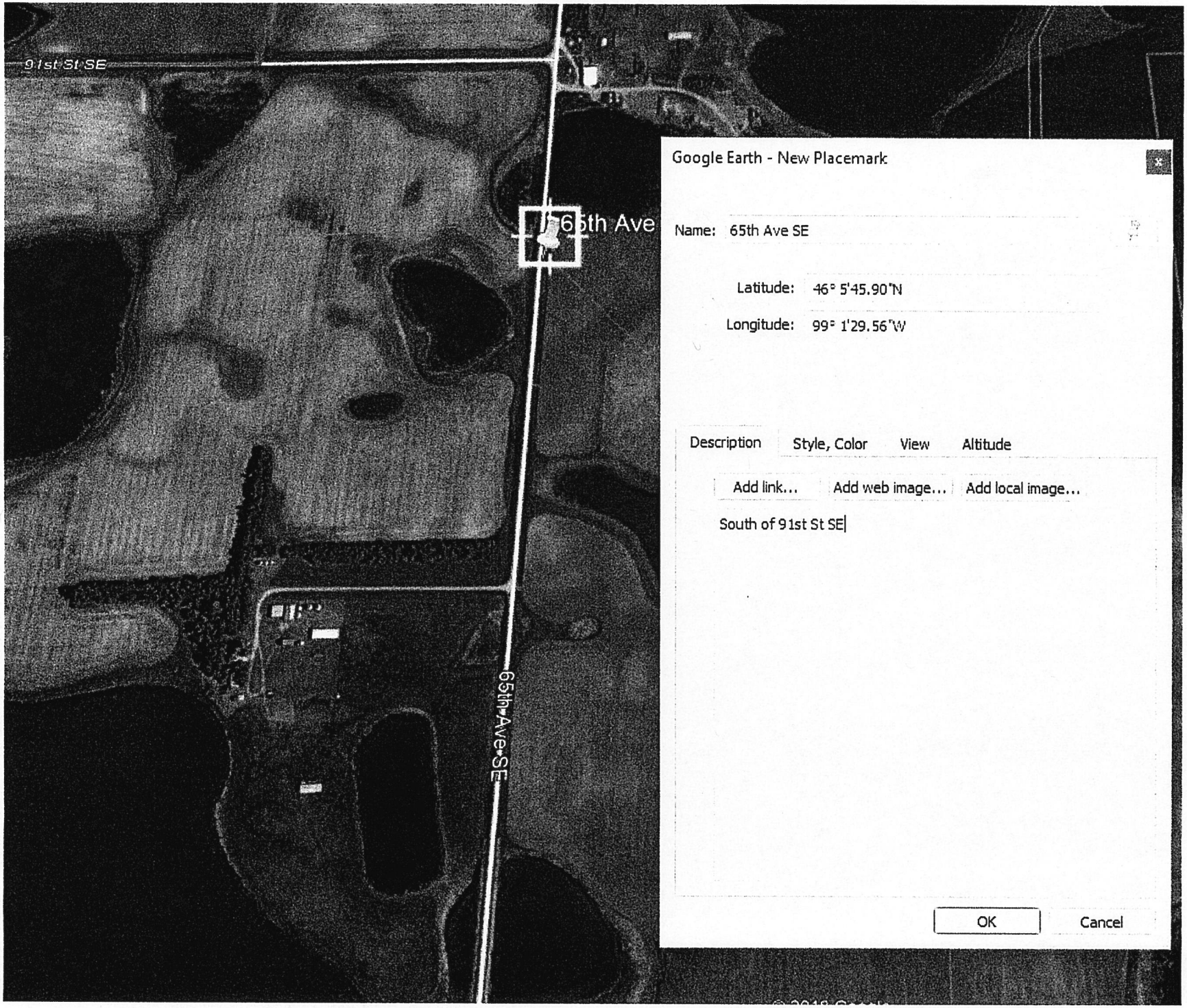
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/12/19
Date


91st St SE
65th Ave
65th Ave SE
Google Earth - New Placemark
Name: 65th Ave SE
Latitude: 46° 5'45.90"N
Longitude: 99° 1'29.56"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
South of 91st St SE
OK
Cancel

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
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ALONG COUNTY HIGHWAY 90th St SE, OR

CROSSING COUNTY HIGHWAY 66th Ave SE LOCATION:

Section 26, Township 131N, Range 67W.

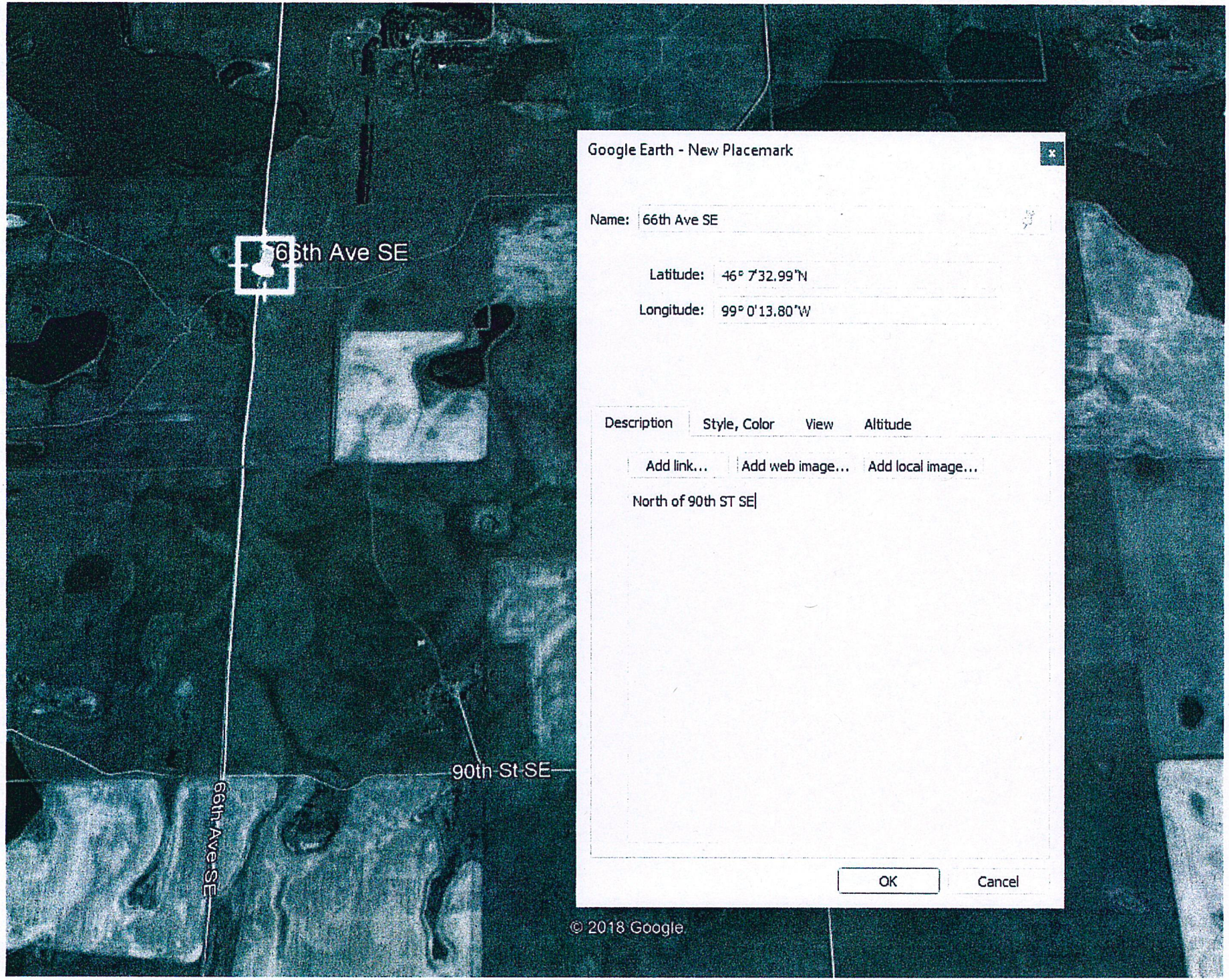
Chairman, Board of County Commissioners

8-26-19
Date

Warzek Construction
Utility Company

By Tanner Default

9/17/19
Date


66th Ave SE
90th St SE
66th Ave SE
© 2018 Google
Google Earth - New Placemark
Name: 66th Ave SE
Latitude: 46° 7'32.99"N
Longitude: 99° 0'13.80"W
Description
Style, Color
View
Altitude
Add link...
Add web image...
Add local image...
North of 90th ST SE
OK
Cancel

McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



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ALONG COUNTY HIGHWAY 88th St SE, **OR**

CROSSING COUNTY HIGHWAY 66th Ave SE

LOCATION: Section 25, **Township** 131N, **Range** 67W.

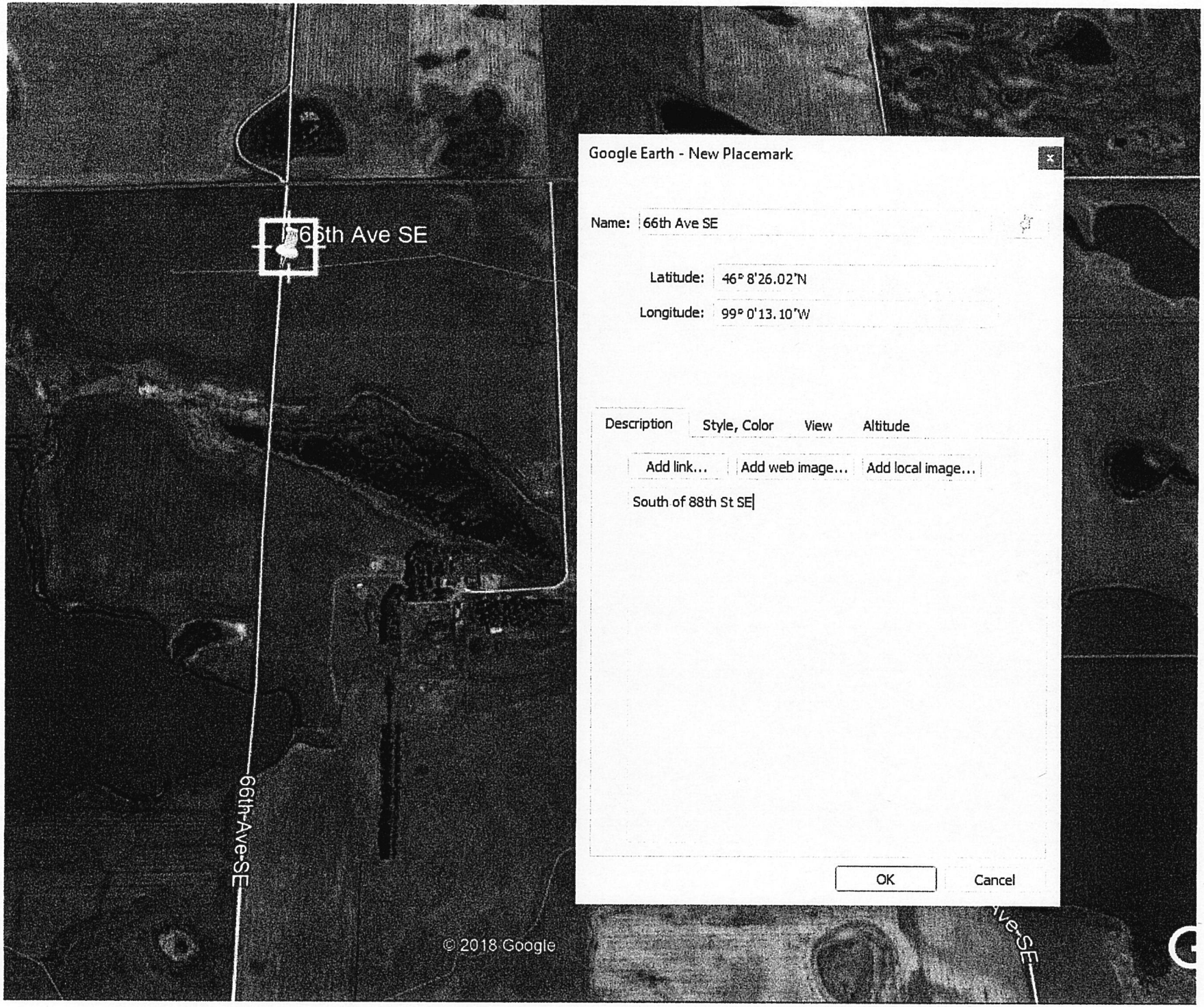
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date


66th Ave SE
66th Ave SE
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Google Earth - New Placemark
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McIntosh County
112 1st St. NE
PO Box 39
Ashley, ND 58413



BOARD OF COUNTY COMMISSIONERS:
Devin Deile
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Perry Turner
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STATE'S ATTORNEY: Mary DePuydt
SHERIFF: Laurie Heupel
CLERK OF COURT/COUNTY RECORDER: Carol Fey
TAX DIRECTOR: Patricia Smith
SUPT. OF SCHOOLS: Coreen Schumacher
VETERANS SERVICE OFFICER: Douglas Olson
DISASTER EMERGENCY MANAGER: Neil Meidinger

COUNTY HIGHWAY DEPARTMENT

UTILITY PERMIT

The Board of County Commissioners of McIntosh County, North Dakota, hereby grant permission to Wanzek Construction to:
place buried lines

on County road right-of-way at the following locations under the following conditions:

1) The cable to be placed at a minimum depth of 48 inches below the surface of the ground.

2) The utility shall be placed under blacktop or gravel roads by means of pipe or boring tool pushed under the surface of the road, at a minimum depth of 42 inches.

3) Above ground fixtures shall be located off the road right-of-way or on the right-of-way line.

4) All trenches and other excavations shall be carefully backfilled in such a manner as to eliminate settlement, and the surface of the ground shall be returned to its original condition.

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ALONG COUNTY HIGHWAY 63rd Ave SE, **OR**

CROSSING COUNTY HIGHWAY 88St St SE

LOCATION: Section 21 & 28, **Township** 131N, **Range** 67W.

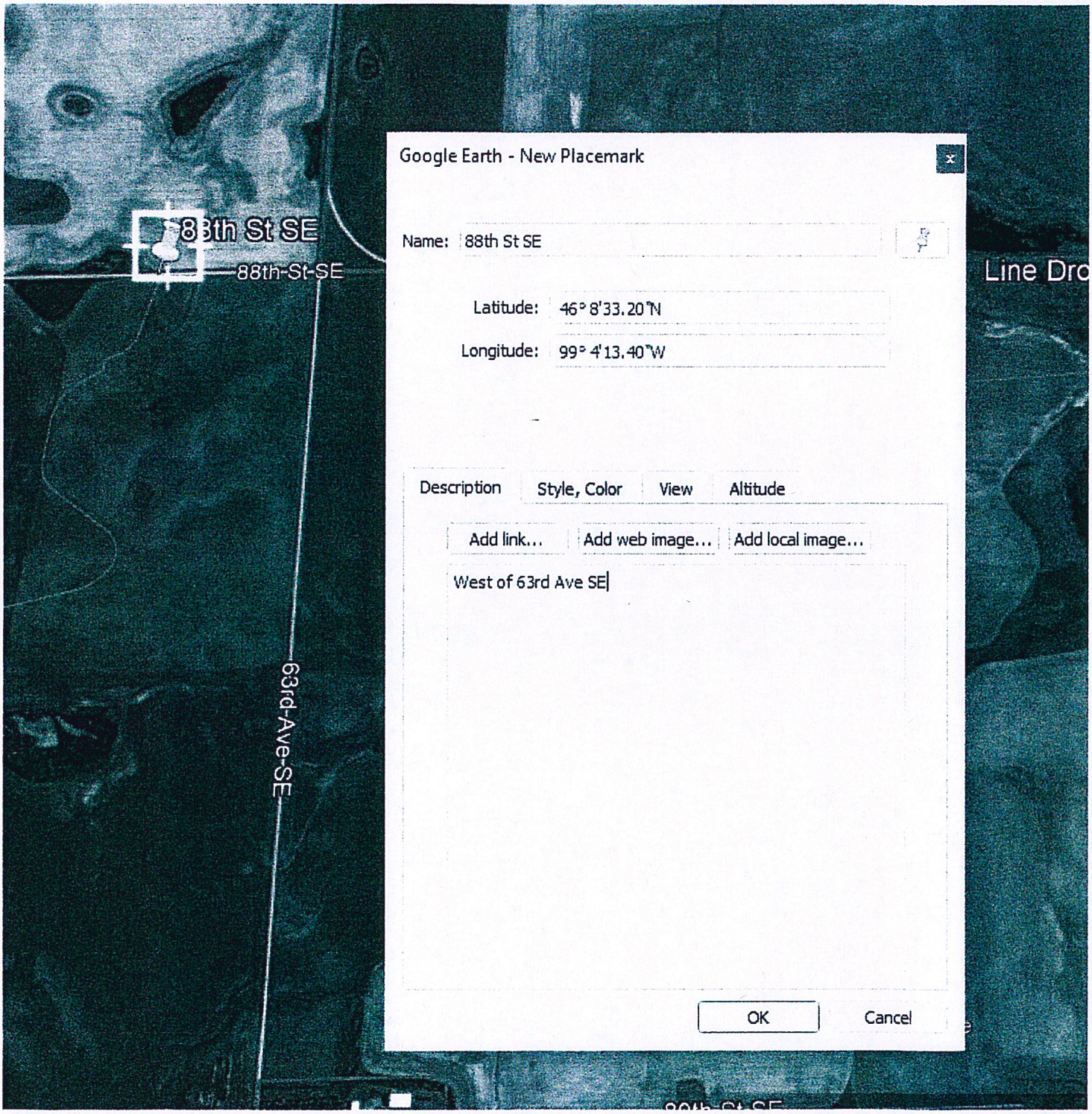
Chairman, Board of County Commissioners

8-14-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date


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ALONG COUNTY HIGHWAY 65th Ave SE, OR

CROSSING COUNTY HIGHWAY 88th St SE

LOCATION: Section 23 & 26, Township 131N, Range 67W.

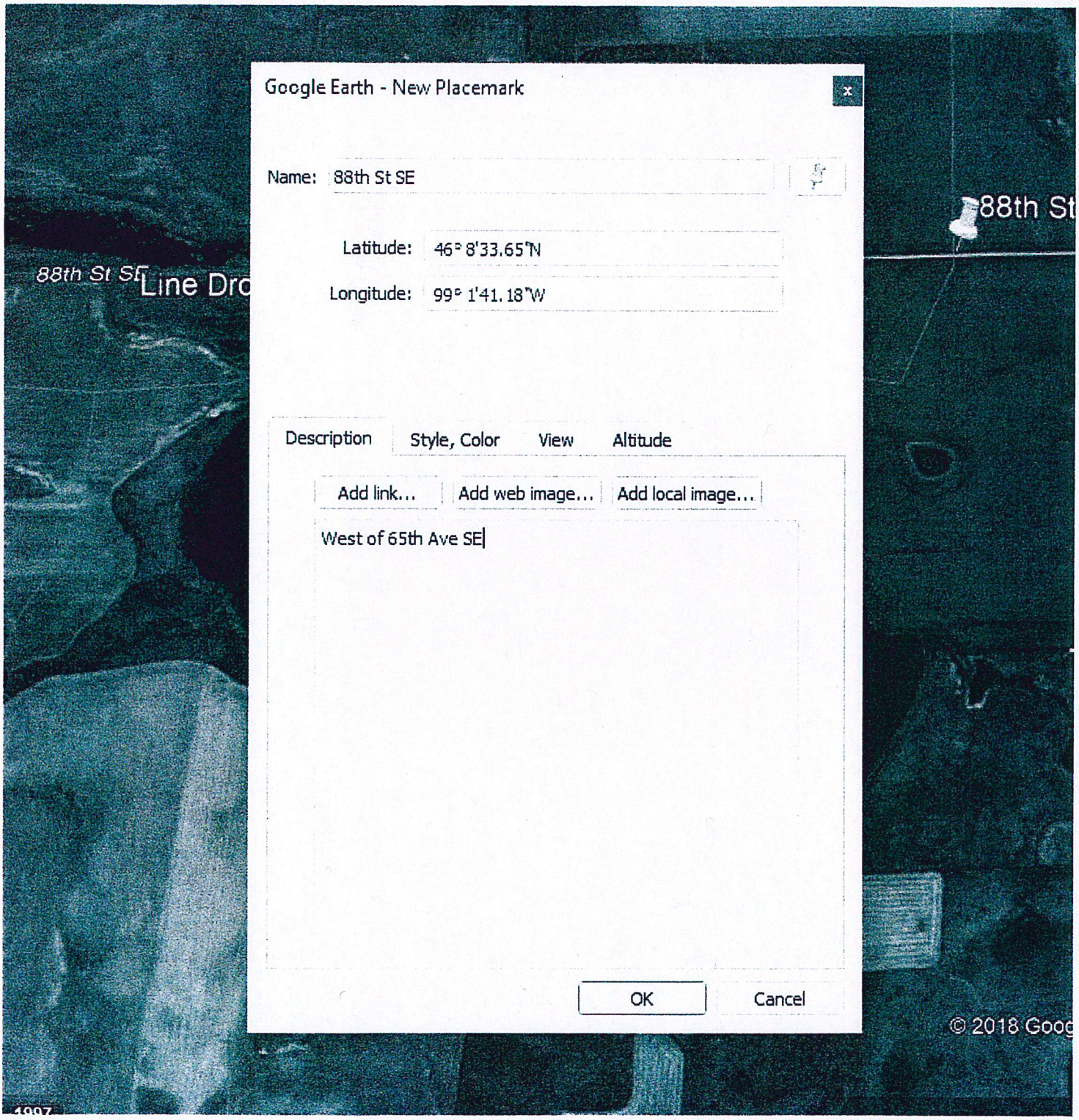
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8-14-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date


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88th St
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ALONG COUNTY HIGHWAY 65th Ave SE, **OR**

CROSSING COUNTY HIGHWAY 89th St SE

LOCATION: Section 35 & 26, **Township** 131N, **Range** 67W.

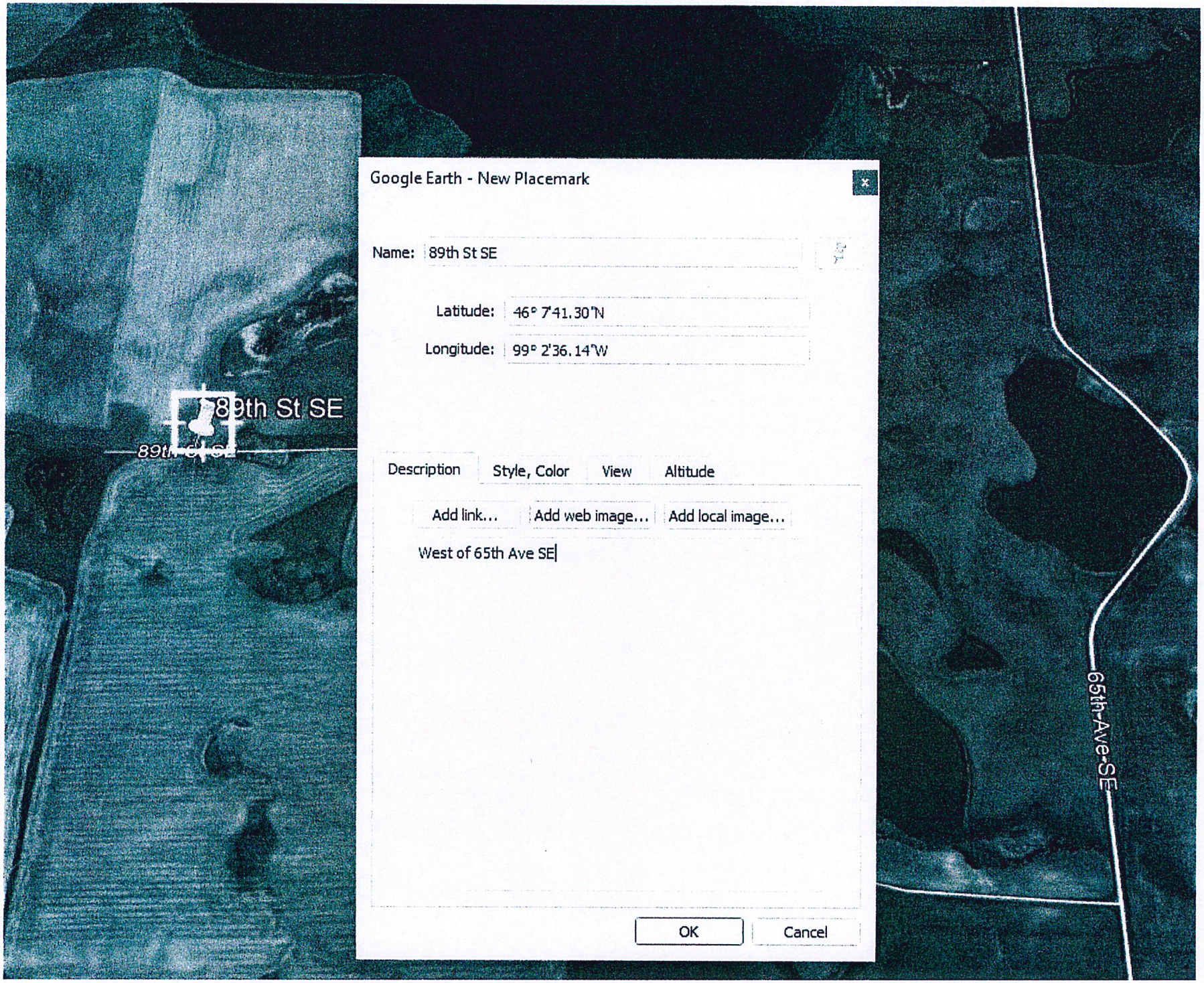
Chairman, Board of County Commissioners

8-16-19
Date

Wanzek Construction
Utility Company

By Tanner Dufault

9/17/19
Date



Google Earth - New Placemark

Name: 89th St SE

Latitude: 46° 7'41.30"N

Longitude: 99° 2'36.14"W

Description | Style, Color | View | Altitude

Add link... | Add web image... | Add local image...

West of 65th Ave SE

OK | Cancel

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Ashley, ND 58413



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ALONG COUNTY HIGHWAY 63rd Ave SE, OR

CROSSING COUNTY HIGHWAY 91st St SE

LOCATION: Section 3 & 10, Township 130N, Range 67W.

Chairman, Board of County Commissioners

8-16-19
Date

Hanzek Construction
Utility Company

By Tanner Dufault

9/12/19
Date


91st St SE
91st St SE
63rd Ave SE
Google Earth - New Placemark
Name: 91st St SE
Latitude: 46° 5'57.16"N
Longitude: 99° 3'51.54"W
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Add local image...
East of 63rd Ave SE
OK
Cancel

Stormwater Pollution Prevention Plan

For:

Merricourt Wind 34.5-230 kV Substation
McIntosh County, North Dakota

Owner

EDF Renewable Development Corporation, Inc
505 14th Street, Suite 1150
Oakland, CA 94612

Operator

EPC Services
2218 Jackson Blvd, Suite 6
Rapid City, SD 57702

Prepared By

Electrical Consultants, Inc.
3521 Gabel Road
Billings, MT 59102
406-259-9933

SWPPP Preparation Date

July 30, 2019

Estimated Project Dates:
Project Start Date: 9/1/2019
Project Completion Date: 8/30/2020

Table of Contents

Section 1. Construction Site 1-1
1.1. Project Information 1-1
1.2. Location (determined by GIS) 1-1
1.3. Contact Information/Responsible Parties 1-1
1.4. Construction Nature and Sequence of Construction Activity 1-2
1.5. Soil Data 1-2
1.6. General Permit Requirements 1-2
1.7. Receiving Waters 1-3
1.8. Endangered and Threatened Species 1-3
1.9. Historic Preservation 1-3
1.10. Applicable Federal, Tribal, State or Local Programs 1-3
1.11. Site Maps and Grading Plans 1-3
1.12. Potential Sources of Pollution 1-4
Section 2. Erosion and Sediment Control BMPs 2-1
2.1. Minimize Disturbed Area and Protect Natural Features and Soil 2-1
2.2. Phase Construction Activity 2-1
2.3. Stabilize Soils 2-1
2.4. Establish Perimeter Controls and Sediment Barriers 2-2
2.5. Establish Stabilized Construction Exits 2-3
2.6. Permanent Erosion and Sediment Controls 2-3
2.7. Phased BMP Implementation 2-4
Section 3. Good Housekeeping BMPs 3-1
3.1. Material Handling and Waste Management 3-1
3.2. Concrete Washout 3-4
3.3. Establish Proper Equipment/Vehicle Fueling and Maintenance Practices 3-4
3.4. Spill Prevention and Control Plan 3-5
3.5. Allowable Non-Stormwater Discharge Management 3-5
Section 4. Inspections 4-1
4.1. Inspections 4-1
4.2. Corrective Actions 4-1
Section 5. Recordkeeping and Training. 5-1
5.1. Recordkeeping 5-1
5.2. Accessibility 5-1
5.3. Log of Changes to the SWPPP 5-1
5.4. Training 5-1

Appendices

Appendix A – Overview Map
Appendix B – Site Maps and Grading Plan
Appendix C – North Dakota General Permit NDR10-0000
Appendix D – NOI
Appendix E – Inspection Reports
Appendix F – Delegation of Authority
Appendix G – Subcontractor Certifications/Agreements
Appendix H – Corrective Action Log
Appendix I – Grading and Stabilization Activities Log
Appendix J – SWPPP Amendment Log
Appendix K – Training Log
Appendix L – BMP Fact Sheets

1.1. Project Information

Project Name: Merricourt Wind 34.5-230 kV Substation
County and State: McIntosh County, ND

1.2. Location (determined by GIS)

Latitude: 46.112897º N Longitude: 99.065727º W

Is the project located on Native American Lands?
No

Is this project considered a federal facility?

No

1.3. Contact Information/Responsible Parties

Operator
EPC Services
Paul Meland, Project Manager
2218 Jackson Blvd.
Rapid City, SD 57702
605-415-1551

Site Supervisor
TBD

SWPPP Contact
Electrical Consultants, Inc.
Aura Lindstrand
3521 Gabel Road
Billings, MT 59102
406-869-4785
aura.lindstrand@eciblgs.com

1.4. Construction Nature and Sequence of Construction Activity

EPC Services on behalf of EDF Renewables is proposing to construct a 34.5-230 kV Substation on an approximate 2.5-acre parcel in McIntosh County, ND. This substation is part of the Merricourt Wind Project, which is a 150 MW wind energy generation project located in McIntosh and Dickey counties, ND. The substation will interconnect to the Merricourt 230 kV Switch Station owned by Montana Dakota Utilities (MDU).

Sequence of Construction Activities for Merricourt Substation	
BMPs Installed- Silt Fence, Stabilized Construction Entrances, etc.	9/20/2019
Clearing, Grubbing and Site Grading	9/20/2019
Above Ground Site Work	9/23/2019
Installation of Substation Foundations/Fence	10/7/2019
Below Grade Conduit and Grounding	11/25/2019
Installation of Substation Equipment/Control Enclosure	1/10/2020
Above Ground Grading/Conduit	4/24/2020
Revegetation of Disturbed Areas	5/30/2019
Substation Substantial Completion/Energization Complete	7/30/2020
Removal of BMPs for Construction	7/30/2020
Final Stabilization	8/30/2020

1.5. Soil Data

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web based soil survey was used to determine soil types within project area.

Soil Designation	Soil Name	Acres of Construction
C135C	Zahl-Williams-Zahill complex, 6 to 9 percent slopes	1.24
C132B	Williams-Zahl loams, 3 to 6 percent slopes	0.34
C135D	Zahl-Williams loams, 9 to 15 percent slopes	0.24
	Total	**1.82**

1.6. General Permit Requirements

This construction site is authorized to discharge stormwater through North Dakota General Permit NDR10-0000.

Total substation project area	2.5 acres
Construction site area to be disturbed	1.8
Percentage impervious area before construction	20%
Runoff coefficient before construction	0.20
Percentage impervious area after construction	75%
Runoff coefficient after construction	0.74

1.7. Receiving Waters

The proposed substation property is located within two Hydrologic Unit Code (HUC) classifications 101600040101 and 101600040102. The nearest receiving water is an intermittent waterway located approximately 860 feet southeast of the property that drains to an unnamed pond. With proper installation and use of BMPs, it is not anticipated that stormwater and/or sediment runoff will reach the waterway.

A wetland delineation was completed by EDF Renewables and revealed a small freshwater emergent wetland located on the southeast corner of the substation. Substation construction will result in approximately 1700 SF (0.04 acre) of fill. This fill is under 1/10 of an acre and will not require a United States Army Corps of Engineers (USACE) 401/404 Permit. As shown on the SWPPP Map in Appendix B, barrier fence will be installed on north and west borders of the wetland to prohibit through traffic and minimize impacts.

1.8. Endangered and Threatened Species

An Information for Planning and Consultation (IPaC) Resource Report published by the U.S. Fish and Wildlife Service was generated for this project on July 29, 2019. One mammal and three birds were identified with the potential to occur in the Project Area. The northern long-eared bat *(Myotis septentrionalis)* is threatened. However, the site is cultivated agricultural land with no trees and there are no impacts to this species anticipated. Threatened birds include the piping plover *(Charadrius melodus)*, the red knot *(Calidris canutis rufa)* and the endangered whooping crane *(Grus Americana)*. The site is cultivated agricultural land and the species are not anticipated to be encountered and will not be affected by stormwater runoff.

1.9. Historic Preservation

As part of the Certification Relating to Wind Energy Conversion Facilities (Case No. PU-08-932) through the North Dakota Public Service Commission (NDPSC), EDF Renewable Development Corporation was required to complete a Cultural Report. An area exclusion map was included with the NDPSC map. There are no exclusion areas located on the substation property, but a condition of the NDPSC approval specifies that any potential cultural resources discovered during construction will require protection until a review from the State Historical Society can be performed.

1.10. Applicable Federal, Tribal, State or Local Programs

This SWPPP is being prepared in compliance with the National Pollutant Discharge and Elimination System (NPDES) authorization to discharge under Permit Number NDR10-0000 and a Notice of Intent (NOI) will be submitted to the North Dakota Department of Environmental Quality. There are no local permits required for the Proposed Project.

1.11. Site Maps and Grading Plans

An Overview Map is in Appendix A and Site Maps and the Grading Plan are in Appendix B.

1.12. Potential Sources of Pollution

Sediment from ground disturbance (WM-03) has the potential to result in the discharge of exposed sediments to waterways and drainages near the Project. Soils stockpiled because of excavation may contribute sediment to stormwater flowing on and through the project. Access roads have the potential to discharge sediment from disturbed soils and from tracking soils onto the adjacent paved street. Ground disturbance will occur throughout the construction process and during foundation excavation.

Contaminated soils (WM-07) are not known to be present within the project boundaries. If contaminated soils are discovered during construction, the Stormwater Management Plan will be revised to address contaminated soils.

Loading and unloading areas have the potential to impact stormwater if the operations occur near waterways or drainage areas during periods of high precipitation or if materials are not properly stored. Loading and unloading of liquids will be minimal and will occur away from drainages and receiving waters. Toxic materials such as fertilizers, solvents and insecticides, if used, will be stored and handled according to the instructions of the label and stored according to the Material Safety Data Sheets (MSDS).

Materials storage (WM-01) may impact stormwater if the materials are discharged into drainages or receiving waters. Liquids stored at the facility will be limited during construction. Final installation of equipment at the site will meet the definition of oil containing operational equipment under 40 CFR 112 and will be addressed in a Spill Prevention, Control and Countermeasure (SPCC) plan for the substation.

Vehicle maintenance and fueling (NS-09, NS-10) may impact stormwater if liquid spills occur in the work area during construction. Equipment fueling will take place offsite as much as possible. Fueling onsite will be from mobile tanker trucks and topping off will be discouraged.

Equipment and vehicle washing (NS-08) has the potential to result in the discharge of sediment into surrounding waterways and drainages. Vehicles and equipment will be washed offsite for the duration of construction.

Dust management (WE-01) practices may contribute to stormwater discharge or discharge of sediments to receiving waters from dust suppression operations onsite.

Routine maintenance (NS-10) includes activities related to fueling motorized vehicles and equipment. Detergents, fuels, solvents or oils unrelated to operation and maintenance of vehicles are not expected to be present at the site.

Onsite waste management practices (WM-05) at the site have the potential to contribute to stormwater discharges if waste containers are not properly managed. Human waste management facilities (portable toilets) also pose potential issues if they are not staked down properly.

Concrete equipment washing (WM-08) will occur onsite at a designated location (see BMP map in Appendix B). Concrete washout shall not occur outside of the designated washout areas. Concrete will not be buried onsite but will be taken to a licensed facility for disposal.

Dedicated asphalt and concrete batch plants will not be present at the site.

Dewatering (NS-02) may occur around foundations, footings or other excavated areas. Uncontaminated flows from excavation dewatering activities will be allowed if operational and structural controls are used to reduce any pollutant releases to avoid or minimize the impacts on water quality *(Part II(C)(3)(g)).*

Potential pollutants other than native sediments are listed in the table below.

Trade Name Material	Stormwater Pollutants	Location
Gasoline	Gasoline	Construction Area
Diesel	Diesel	Construction Area
Hydraulic fluid	Hydraulic Fluid	Construction Area
Coolant	Coolant	Construction Area
Cement materials	Sediment, metals	Construction Area
Concrete curing compounds	High pH chemicals, metals, fine sediments	Construction Area
Crushed aggregates, base and subbase materials	Sediment	Construction Area
Raw landscaping	Topsoils, herbicides, fertilizers	Construction Area
Portable toilet	Raw sewage, sewage treatment chemicals	Construction Area

2.1. Minimize Disturbed Area and Protect Natural Features and Soil

Stockpile Management (WM-03)

BMP Description: Excavated topsoil or fill material retained for reuse will be placed adjacent to the structure or in the stockpile or laydown yard as shown on the SWPPP map in Appendix B. The slopes of the stockpile will not exceed a 2:1 ratio to prevent erosion. Dust management BMPs will be applied to stockpiles during times of high wind erosion potential. On steep slopes, fiber rolls will be placed on the down slope side of the stockpile. Stockpiles will be excavated and refilled as the project proceeds *(Appendix 1: A.4).*

☐ *Permanent*	☒ *Temporary*
Maintenance and Inspection:	Stockpiles will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

2.2. Phase Construction Activity

Construction Sequence – One Phase

BMP Description: Substation construction will occur in a single phase. Any areas that will have permanent vegetation will be reseeded as construction progresses. Stabilization of disturbed areas must be initiated immediately whenever clearing, grading, excavating or other earth disturbing activities have permanently or temporarily ceased on any portion of the site and will not resume for 14 or more calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day *(Appendix 1: A.3).*

☐ *Permanent*	☒ *Temporary*
Maintenance and Inspection:	The construction site will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

2.3. Stabilize Soils

Stabilization Practices (SS-04)

BMP Description: Exposed soils will be seeded as soon as practical, when clearing, grading, excavating or other earth disturbing activities have permanently or temporarily ceased on any portion of the site and will not resume for 14 or more calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day *(Appendix A: A.3).*

Installation Schedule:	At the completion of construction and where necessary as the project progresses.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)* until 70% uniform revegetation has been achieved.
Responsible Party:	EPC Services

2.4. Establish Perimeter Controls and Sediment Barriers

Silt Fences (SC-01)

BMP Description: Silt fencing will be installed on the west side of the substation along the pad and to the north and south of the accesses (see grading plan in Appendix B) to prevent sediment from flowing offsite.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	The silt fence will be installed prior to grading of the site.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).* Sediment will be removed after a rainfall event. Any structural deficiencies, like gaps and tears will be repaired immediately. If sediment is straining the structural control, it will be removed, as necessary (*Appendix 1: B.1.a).* Silt fences will not be removed until the site reaches final stabilization with 70% uniform vegetation coverage.
Responsible Party:	EPC Services

Barrier Fence (NS-16)

BMP Description: Barrier fence (orange construction fence) will be installed on the north and west boundary of the delineated wetland on the southeast portion of the site to help prevent through traffic and mitigate impacts

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Installation will occur prior to grading of the pad.
Maintenance and Inspection:	Construction fence will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

Fiber Rolls (SC-05)

BMP Description: Fiber Rolls will be placed as slope controls for stockpiles, structures and laydown area to limit sediment from the disturbed area.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Fiber Rolls will be installed along the toe of slope for stockpiles and where necessary on the substation site.
Maintenance and Inspection:	Fiber rolls will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

2.5. Establish Stabilized Construction Exits

Construction Entrance and Exit Stabilization (TC-01)

BMP Description: Construction entrance and exit stabilization will be implemented at substation access points. Driveway stabilization to the substation will be constructed to prevent tracking onto the adjacent private road and surrounding county gravel roads.

☒ *Permanent*	☐ *Temporary*
Installation Schedule:	Stabilized construction entrance/exits will be installed according to specifications in Appendix L.
Maintenance and Inspection:	Entrances/exits will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)*. Gravel will be replaced as required.
Responsible Party:	EPC Services

2.6. Permanent Erosion and Sediment Controls

Low Water Crossings (TC-04)

BMP Description: Low water crossings will be installed as permanent stormwater BMPs on the proposed access drives to the substation, as shown on the SWPPP map and grading plan in Appendix B. Installation specifications have been included on the grading detail sheet and in the BMP fact sheets in Appendix L.

☒ *Permanent*	☒ *Temporary*
Installation Schedule:	Low water crossings will be installed on the proposed driveway accesses and will remain in place after construction is complete.
Maintenance and Inspection:	Low water crossings will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)*.
Responsible Party:	EPC Services

Revegetation (PC-04)

BMP Description: Exposed soils will be seeded as soon as practical, when clearing, grading, excavating or other earth disturbing activities have permanently or temporarily ceased on any portion of the site and will not resume for 14 or more calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day *(Appendix A: A.3)*.

Installation Schedule:	At the completion of construction.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)* until 70% uniform revegetation has been achieved.
Responsible Party:	EPC Services

2.7. Phased BMP Implementation

BMPs will be phased as construction progresses and updated on the SWPPP and accompanying maps when inspections occur. Inspections performed once every 14 calendar days will determine whether a BMP is effective for controlling sediment discharging from the construction site. If a BMP is ineffective, it shall be noted during the inspection and replaced as soon as practical. Gravel will be installed on the access roads as a vehicle tracking measure, if necessary. Concrete washout will occur onsite and waste shall be disposed of at an approved facility, not buried onsite. Once construction has ceased in an area, it will be permanently stabilized.

3.1. Material Handling and Waste Management

Material Management (WM-01)

BMP Description: This BMP addresses material delivery and storage to reduce or eliminate the discharge of pollutants from material delivery and storage to stormwater by minimizing the storage of hazardous materials, designating a storage area, conducting inspections and training. The majority of the construction materials will be delivered to staging areas. A temporary storage area for miscellaneous materials will be set-up away from construction. MSDS sheets will remain at the construction site and an inventory of stored and delivered goods will be kept. Chemicals, drums and bagged materials will not be stored directly on the ground; reactive, ignitable and flammable liquids will comply with fire codes; chemicals will be kept in their regular containers; employees and subcontractors will be trained on normal unloading and storage procedures; residual materials in soils and on the ground will be removed after construction.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Storage and delivery BMPs will be implemented at the start of construction and will remain until the conclusion of construction.
Maintenance and Inspection:	Storage areas will be inspected daily for spills, leaks and be cleared of debris and garbage.
Responsible Party:	EPC Services

Material Use Practices (WM-02)

BMP Description: Material use BMPs will be applied onsite. Hazardous materials will be used minimally, and alternatives will be used, if practical. Manufacturer instructions will be followed for all chemicals applied onsite. The contractor will train their employees on proper material use; MSDS sheets will remain onsite; latex paints and tools used with the paints will be disposed when dry with other construction debris; original products will remain in their containers with the original label; paint will be mixed indoors or in a designated containment area. Paint thinner residue and sludge will be disposed of as hazardous waste. An ample supply of spill containment and clean-up materials will be kept onsite. Leftover materials will be disposed of at approved locations in accordance with Federal, State and local regulations.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Material use BMPs will be implemented at the beginning of construction and will be in place until the conclusion of construction.
Maintenance and Inspection:	Proper material use will be verified at the beginning of the activity. Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

Solid Waste Management (WM-05)

BMP Description: Solid waste management procedures and practices are designed to reduce or eliminate pollution discharges to stormwater from solid or construction waste. Designated waste collection (dumpsters) will be kept in the staging area onsite. Storage containers will be kept in a designated storage area, trash containers will have lids and covers to keep precipitation out and eliminate waste from blowing offsite. A separate disposal container will be onsite for disposal of liquid wastes. Dumpsters will not be washed out at the construction site and regular waste collection will be arranged. Clean-up of container spills will occur immediately.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Solid waste management procedures will be implemented at the start of construction and stay in place until construction completion.
Maintenance and Inspection:	Activity based BMP's will be implemented at the start of the associated activity. Ongoing activities will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)*
Responsible Party:	EPC Services

Liquid Waste Management (WM-10)

BMP Description: Liquid waste management practices are used to minimize and prevent liquid waste associated with construction activities from entering drainages and watercourses. Employees and subcontractors will be instructed on the identification of hazardous and non-hazardous liquid waste, non-hazardous handling, storage and proper disposal. The contractor shall hold regular safety meetings to ensure proper liquid waste procedures are followed and efforts are being made to minimize the amount of liquid waste produced. Liquid wastes generated from operational procedures shall not be allowed to flow into drainages or waterways. Designated containment areas shall be located away from drainages, waterways, areas of high traffic and areas susceptible to flooding. Liquid waste will be disposed in accordance with Federal, State and local regulations.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Liquid waste management procedures will be implemented at the start of construction and stay in place until construction completion.
Maintenance and Inspection:	Areas with ongoing activities will be inspected once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1)*
Responsible Party:	EPC Services

Sanitary Waste Management (WM-10)

BMP Description: Sanitary waste management prevents the discharge of pollutants to stormwater from sanitary and septic waste by providing well-maintained facilities and arranging for regular service and disposal. Temporary sanitary facilities will be located away from drainage areas and secured (staked down). Wastewater will not be disposed of or buried onsite.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Sanitary waste management practices will be implemented when a temporary sanitary system is installed onsite.
Responsible Party:	EPC Services

BMP Description: Sanitary waste management prevents the discharge of pollutants to stormwater from sanitary and septic waste by providing well-maintained facilities and arranging for regular service and disposal. Temporary sanitary facilities will be located away from drainage areas and secured (staked down). Wastewater will not be disposed of or buried onsite.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Sanitary waste management practices will be implemented when a temporary sanitary system is installed onsite.
Responsible Party:	EPC Services

3.2. Concrete Washout

Concrete Washout (WM-08)

BMP Description: A general location for the concrete washout is located south of the southern entrance to the substation as shown on the SWPPP map in Appendix B. The washout area may consist of a portable vinyl, plastic or metal leak proof container or a permanent leak proof area constructed to the specifications in Appendix L.

Concrete slurry should be removed from the excavation using a vacuum truck and hauled from the site. Excess slurry should be controlled as to not be discharged to nearby waterways. Slurry that will not be reused should be disposed at a licensed disposal facility and should not be discharged to the ground or local stormwater system. Any slurry that is spilled on soil should be cleaned up and removed from around the structure *(Part II.C.3.f)*.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	The equipment washout area will be installed after the access roads are installed.
Maintenance and Inspection:	The stabilized washout area will be inspected weekly for loss of gravel or concrete build-up.
Responsible Party:	EPC Services

3.3. Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

Equipment Fueling (NS-09)

BMP Description: Equipment fueling will occur offsite as much as possible. If fueling will be done onsite, it will be performed by a fuel truck in a designated area away from drainages and waterways.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Equipment fueling procedures will be implemented at the start of construction and stay in place until construction is complete.
Maintenance and Inspection:	No storage tanks will be kept onsite. Spill kits will be inspected, and their contents verified every 14 days. Since fueling may occur onsite, the fueling areas will be inspected to ensure no leaks occur.
Responsible Party:	EPC Services

Equipment Maintenance (NS-10)

BMP Description: Equipment maintenance will occur offsite. Oil leaks will be stopped immediately or caught in onsite containers and drip pans and disposed of properly.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	This BMP will begin at the start of construction and last for the duration of construction.
Maintenance and Inspection:	Vehicles will be inspected at least weekly for oil leaks.
Responsible Party:	EPC Services

Vehicle Washing (NS-08)

BMP Description: Vehicle and equipment washing using detergents will take place offsite at facilities maintained for these purposes.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Offsite washing will be required for the duration of construction.
Maintenance and Inspection:	Vehicle washing will take place offsite.
Responsible Party:	EPC Services

3.4. Spill Prevention and Control Plan

Spill Prevention and Control

BMP Description: All employees will be trained onsite by the contractor for proper spill prevention and control measures. Vehicles and equipment will be maintained and fueled offsite when possible or at staging areas with a fueling vehicle. Vehicles leaking fluids will not be allowed onsite. Drip pans will be placed under all vehicles and equipment that are parked overnight. Hazardous materials will be stored in accordance with local, State and Federal regulations. Spill kits will be kept on the construction site at material yards and in vehicles and contain: granular absorbents, booms and pads for spill cleanup.

Spill kit materials will be deployed for immediate containment and the contractors' dispatch will be called for reinforcements if needed. Also, for the containment and cleanup of large spills, excavation equipment that is onsite will be used in the capacity needed to contain spills. This might include construction of berms and catch basins to contain spills. All spills will be cleaned up immediately upon discovery. Spent absorbent materials and rags will be hauled offsite immediately after the spill is cleaned up for disposal at a licensed facility. This SWPPP will be modified within seven days of a spill to provide the description of the release, the circumstances leading to the release and the date of the release.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	The spill prevention management plan will be in place at the beginning of construction and will not be terminated until the end of construction.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

3.5. Allowable Non-Stormwater Discharge Management

Dewatering Operations (NS-02)

BMP Description: Dewatering operations may occur during foundation excavation for the substation. The source of the dewatering will be stormwater mixed with groundwater. Dewatering will be discharged to the ground to percolate into ground water and evaporate or to a dewatering mechanism that settles sediment before discharge. Discharges from dewatering operations will be sent to sediment traps, desilting basins or a gravity bag filter to remove sediment and to percolate back to ground water *(Part II.C.3.g).*

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Dewatering may occur during foundation excavation.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches *(Part III.A.1).*
Responsible Party:	EPC Services

Wind Erosion Control (WE-01)

BMP Description: Application of water or dust palliatives will be implemented, as necessary, during construction operations to prevent wind erosion from exposed soil surfaces.

☐ *Permanent*	☒ *Temporary*
Installation Schedule:	Wind erosion control will be applied, as necessary from the beginning of construction until the permit is terminated.
Maintenance and Inspection:	Inspections will occur once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches (Part III.A.1) and more frequently during times of high wind.
Responsible Party:	EPC Services

4.1. Inspections

Inspection Schedule and Procedures:
Qualified personnel shall inspect disturbed areas of the construction site that have not reached final stabilization, areas used for storage of materials, structural control measures and locations where vehicles enter or exit the site, at least once every 14 calendar days and within 24 hours of a storm event of greater than 0.25 inches per *Part III.A.1* of North Dakota General Permit NDR10-000.

Inspections should, at a minimum, consist of the following:

1. Disturbed areas and areas used for storage of materials shall be inspected for evidence of and the potential for pollutants to enter stormwater runoff. Sediment and erosion control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

2. Based on the results of the inspection, the SWPPP shall be revised to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP shall be completed within seven calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation shall be completed before the next anticipated storm event. If implementation before the next anticipated storm event is impractical, they shall be implemented as soon as practicable. The SWPPP inspection form is in Appendix E.

4.2. Corrective Actions

Corrective actions:
The contractor must complete the following corrective actions in accordance with the deadlines specified in this section. In all circumstances, the contractor must immediately take reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up contaminated surfaces so that the material will not discharge in subsequent storm events.

For any of the following conditions onsite, the contractor must install a new or modified control and make it operational, or complete the repair, by no later than seven calendar days from the time of discovery. If it is infeasible to complete the installation or repair within seven calendar days, the contractor must document why it is infeasible to complete the installation or repair of the BMP. A required stormwater control that was never installed, was installed incorrectly or not in accordance with the requirements set forth in the North Dakota General Permit NDR10-0000 or the contractor becomes aware that the stormwater installed and maintained controls are not effective enough to meet water quality standards.

For each corrective action taken, the contractor must complete a corrective action log, which includes the applicable information in this section. A SWPPP Amendment Log is included in Appendix J.

1. Within 24 hours of discovering the occurrence, the contractor must provide a record of the following:
   - Which condition was identified at the site;
   - The nature of the condition identified; and
   - The date and time of the condition identified and how it was identified.

2. Within seven days of discovering the occurrence, the contractor must complete a record of the following:
   - Any follow-up actions taken to review the design, installation, and maintenance of stormwater controls, including the dates such actions occurred;
   - A summary of stormwater control modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed.

5.1. Recordkeeping

The permittee shall retain copies of the SWPPP, all data used to complete the NOI and reports required by the North Dakota General Permit NDR10-0000, for a period of at least three years from the date of final stabilization *(Part IV.5)*. This period may be extended by request of the Director at any time.

5.2. Accessibility

The Permittee shall retain a copy of the SWPPP at the construction site (or other local location accessible to the Director; a State or local agency approving sediment and erosion plans, grading plans or stormwater management plans; local government officials from the date of project initiation to the date of final stabilization. Permittees with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP available at a central location for the use of all operators and those identified as having responsibilities under the SWPPP.

5.3. Log of Changes to the SWPPP

A log of changes to the SWPPP can be found in Appendix J.

5.4. Training

The site supervisor will be responsible for training employees and subcontractor on correct stormwater procedures including inspections and installation of BMPs.

The site supervisor will conduct informal training for all staff, including subcontractors, on the site. The training will be conducted primarily through tailgate sessions and will focus on avoiding damage to stormwater BMPs and preventing illicit discharges. The tailgate sessions will be conducted biweekly and will address the following topics: Erosion Control BMPs, Sediment Control BMPs, Non-Stormwater BMPs, Waste Management and Materials Storage BMPs and Emergency Procedures specific to the construction site.

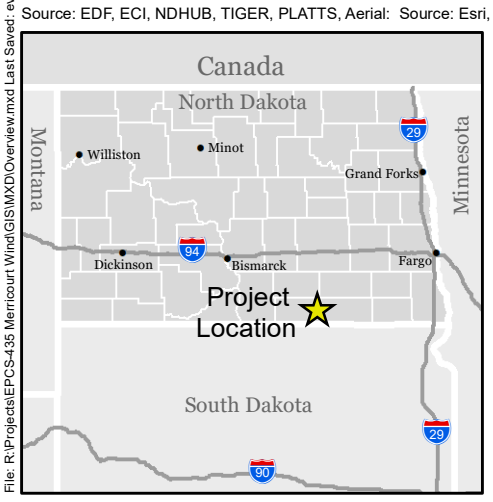
The site supervisor will provide formal training to all staff and subcontractors with specific stormwater responsibilities, such as installing and maintaining BMPs. The formal training will cover all design and construction specifications for installing the BMPs and proper procedures for maintaining each BMP. Formal training will occur before BMPs are installed on the site.

Where authority is delegated to specific onsite employees the delegation must be recorded. A Training Log is in Appendix K and a Delegation of Authority Form is included in Appendix F.

Appendix A
Overview Map



Source: EDF, ECI, NDHUB, TIGER, PLATTS, Aerial: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Substation Pad
- Grading Boundary
- Parcel Boundary
- Existing Transmission Line
- NHD Waterbody
- Road

Merricourt Substation
McIntosh County, ND
Overview

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Appendix B
Site Maps and Grading Plan

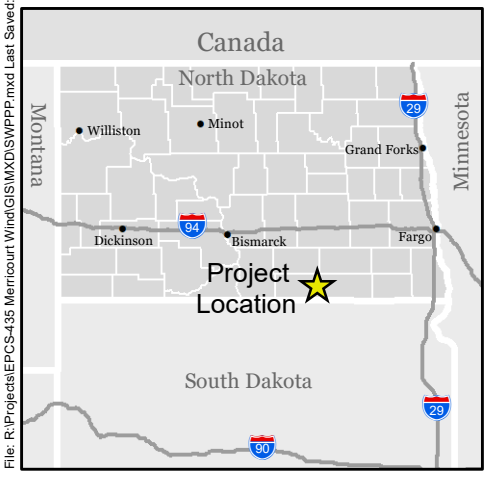
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Reference	Control Type	Description
SS-04	Soil Stabilization	Seeding
SC-01	Sediment Control	Silt Fence
SC-05	Sediment Control	Fiber Rolls
WE-01	Wind Erosion Control	Wind Erosion Control
TC-01	Tracking Control	Stabilized Entrance
TC-04	Tracking Control	Low Water Crossing
NS-02	Non-stormwater	Dewatering Operations
NS-08	Non-stormwater	Vehicle Maintenance and Cleaning
NS-09	Non-stormwater	Vehicle and Equipment Fueling
NS-10	Non-stormwater	Vehicle and Equipment Maintenance
NS16	Non-stormwater	Barrier Fence
WM-01	Waste Management	Material Delivery and Storage
WM-02	Waste Management	Material Use
WM-03	Waste Management	Stockpile Management
WM-05	Waste Management	Solid Waste Management
WM-07	Waste Management	Contaminated Soil Management
WM-08	Waste Management	Concrete Waste Management
WM-10	Waste Management	Liquid Waste Management
PC-04	Post Construction	Permanent Seeding and Revegetation

NORTH

0 50 100 200 Feet

Source: ECI, EDF, NDHUB, TIGER, NWI, Aerial: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Substation Pad
- Grading Boundary
- Access Road
- Stabilized Entrance
- Concrete Washout
- Laydown Yard
- Low Water Crossing
- Parcel Boundary
- General Arrangment
- Site Fence
- Drainage Ditch
- Silt Fence
- Construction Fence
- Road
- Delineated Freshwater Emergent Wetland

Contour

- Major Grading
- Minor Grading
- Major Topo (5 ft)
- Minor Topo (1 ft)

Merricourt Substation
McIntosh County, ND
SWPPP

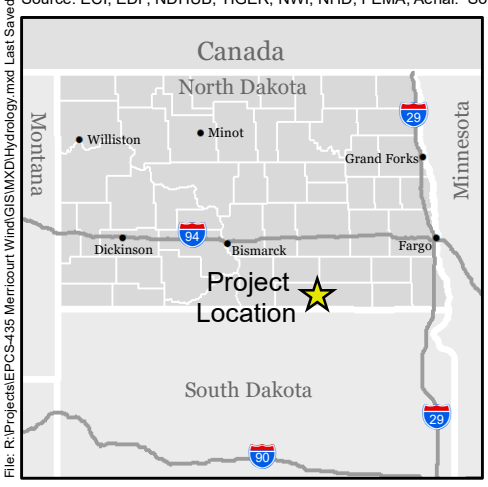
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Source: ECI, EDF, NDHUB, TIGER, NWI, NHD, FEMA, Aerial: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Substation Pad
- Grading Boundary
- Parcel Boundary
- Delineated Wetland
- Road

NHD Hydrology

- Waterbody
- HUC12 Boundary
- Intermittent Waterway

Merricourt Substation
McIntosh County, ND
Hydrology

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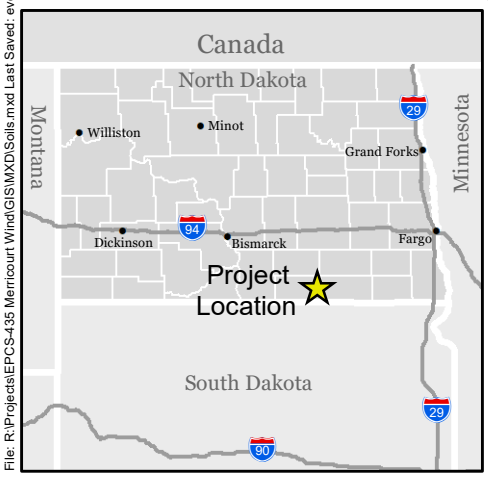
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Soil Classification

- C132B, Williams-Zahl loams, 3 to 6 percent slopes
- C135C, Zahl-Williams-Zahill complex, 6 to 9 percent slopes
- C135D, Zahl-Williams loams, 9 to 15 percent slopes
- C155F, Zahl-Max-Arnegard loams, 15 to 60 percent slopes
- C406B, Makoti-Sakakawea complex, 2 to 6 percent slopes
- C411A, Makoti silty clay loam, 0 to 2 percent slopes
- C825A, Divide loam, 0 to 2 percent slopes
- C870E, Wabek-Lehr-Appam complex, 9 to 25 percent slopes
- C877B, Wabek-Lehr complex, 2 to 6 percent slopes

T131N R67W
33
34
T130N R67W
4
3
90TH ST
63RD AVE
NORTH
0 250 500 1,000 Feet

Source: ECI, EDF, NDHUB, TIGER, NHD, Aerial: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



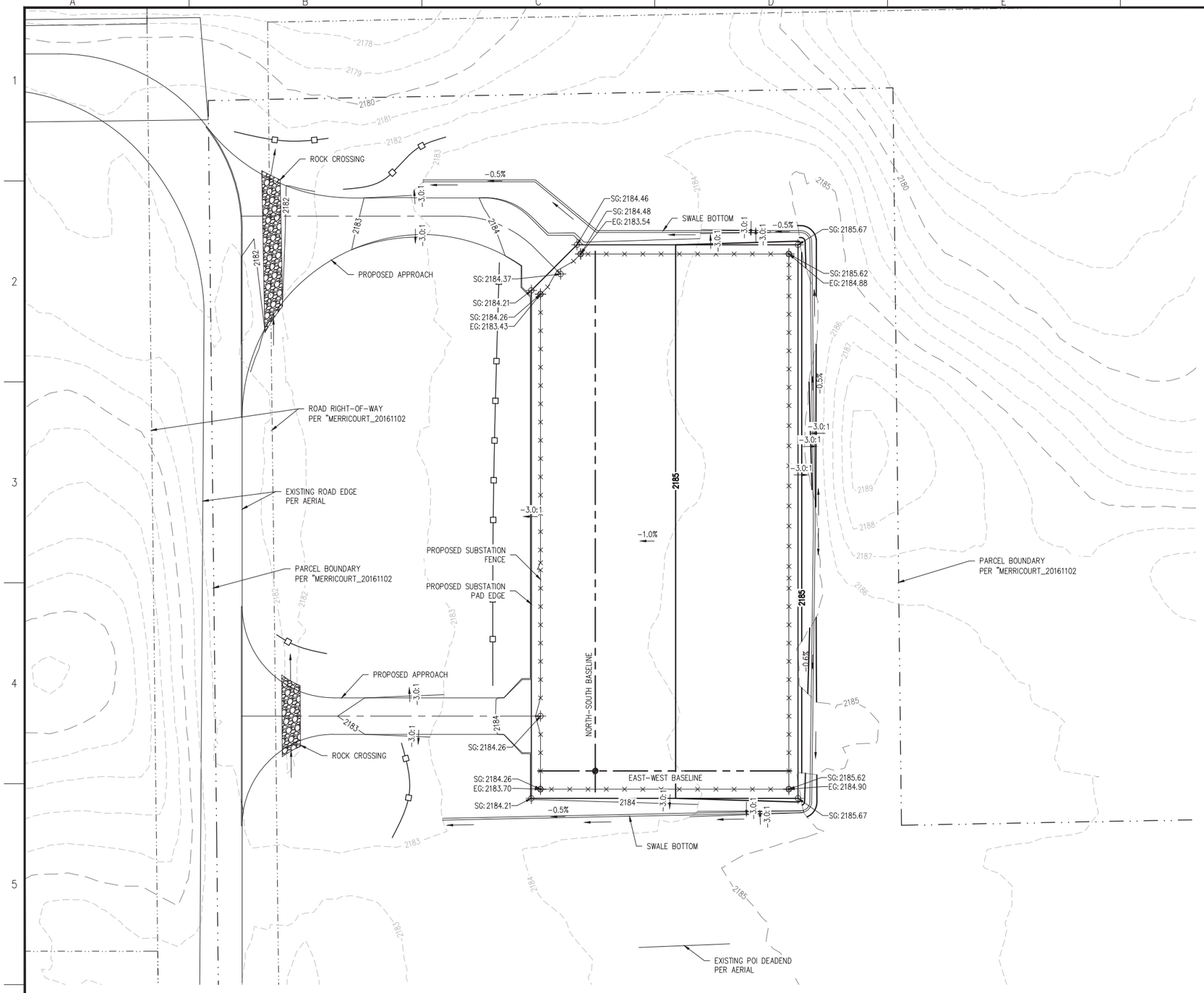
- Substation Pad
- Grading Boundary
- Access Road
- Parcel Boundary
- Soils Boundary
- Road

Merricourt Substation
McIntosh County, ND
Soils

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0 10FT 30FT 60FT
SCALE: 1"=30'

ISSUED FOR REVIEW

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APPROXIMATE EARTHWORK QUANTITIES

Total Disturbed Area: 61,550 sq. ft. (1.4 acres)

Yard Pad and Swale:
Disturbed Area: 49,060 sq. ft. (1.1 acres)
Topsoil Removal Volume (@ 4" Depth): 600 Cu. Yds.
Total Cut Volume: 637 Cu. Yds.
Total Cut Volume minus Topsoil Removal Volume: 37 Cu. Yds.

Fill Volume: 2,043 Cu. Yds.
Total Fill without Flexible Base Volume: 953 Cu. Yds.
Yard Pad Flexible Base Volume (8" import): 1,090 Cu. Yds.

Approaches:
Disturbed Area: 11,280 sq. ft. (0.3 acres)
Topsoil Removal Volume (@ 4" Depth): 122 Cu. Yds.
Total Cut Volume: 560 Cu. Yds.
Total Cut Volume minus Topsoil Removal Volume: 438 Cu. Yds.

Fill Volume: 360 Cu. Yds.
Total Fill without Flexible Base/Road Courses Volume: 0 Cu. Yds.
Flexible Base/Road Courses (import) Volume: 489 Cu. Yds.

Road Base Course Volume (8" import): 280 Cu. Yds.
Road Top Course Volume (6" import): 209 Cu. Yds.

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- PROPOSED MAJOR CONTOUR LINE (SUBGRADE)
- PROPOSED MINOR CONTOUR LINE (SUBGRADE)
- PROPOSED SUBSTATION BASELINE
- PROPERTY BOUNDARY
- RIGHT-OF-WAY
- CHAINLINK FENCE
- SILT FENCE
- SG: SUBGRADE (TOP OF FLEXIBLE BASE)
- EG: EXISTING GRADE

GENERAL NOTES

1. Cut and fill volumes are raw volumes with no allowances for shrinkage where applicable.
2. Contractor shall strip approximately 4 inches of soils from the working area; stripped top soil shall be used for embankments and slopes outside of the immediate area of the pad.
3. Suitable excess fill including waste top soils may be used for embankments and slopes outside of the immediate area of the pad.
4. Site and roadway to be covered by a 8 inch road base gravel as a working surface.
5. Slope access roads for drainage.
6. New contours indicate subgrade and do not include crushed rock surfacing.
7. All areas not receiving crushed rock surfacing or road mix (Flexible Base) shall be filled with topsoil and re-seeded.
8. Crushed rock surfacing shall not be placed until all subgrade conduit, grounding and utilities are complete.
9. Subgrade includes Flexible Base material.
10. The earthwork contractor shall furnish and install compacted non-expansive backfill.

FILE LOCATION: L:\EDF RENEWABLE\EDF-054 MERRICOURT WIND\300 DESIGN\320 CIVIL & STRUCTURAL\322 SITE DESIGN\MERRICOURT C3D2018 2019-06-18_1.DWG LAST SAVED BY: rtharper 6/19/2019 2:58 PM PLOTTED BY: Rob T. Harper 6/19/2019 3:56 PM Tab:Site Grading Plan

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BILLINGS, MONTANA

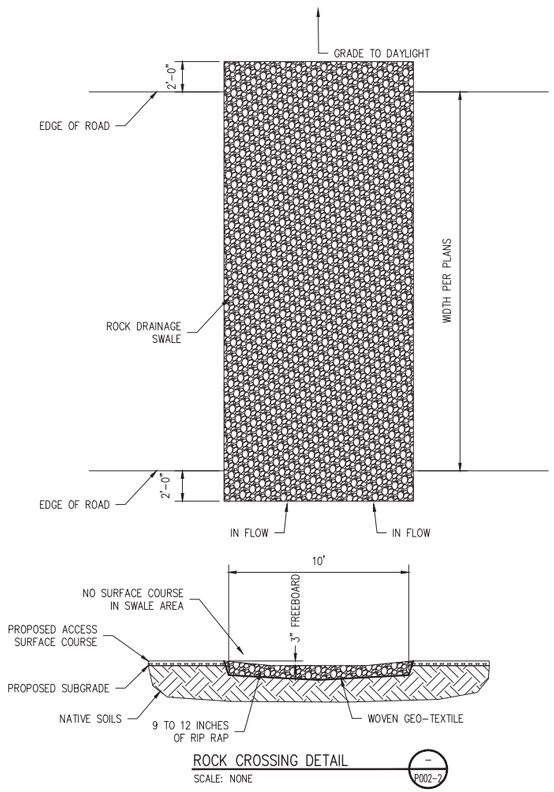
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A	ISSUED FOR 30% REVIEW	06/19/19	RTH	BGP

edf renewables

ENGINEERING RECORD		DATE
DRAWN	HARPER	06/19
DESIGNED	JOBES	06/19
CHECKED	FOSTER	06/19
APPROVED		
DWG SCALE: 1"=30'	PLT SCALE: 1:1	

MERRICOURT WIND PROJECT
34.5 – 230 kV SUBSTATION
SITE GRADING PLAN

DWG. NAME: MCW-D-P002-2 REVISION NO : A



ROCK CROSSING DETAIL

SCALE: NONE

P002-2

PRELIMINARY

NOTES

1. FOR GENERAL NOTES SEE SHEET P002-2

FILE LOCATION: L:\EDF RENEWABLE\EDF-054 MERRICOURT WIND\300 DESIGN\320 CIVIL & STRUCTURAL\322 SITE DESIGN\MERRICOURT C3D2018 2019-07-16.DWG LAST SAVED BY: nrfoster 7/17/2019 12:03 PM PLOTTED BY: Nolan R. Foster 7/31/2019 4:42 PM Tab:Site Grading Details Sh 4

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BILLINGS, MONTANA

NO	REVISION	DATE	BY	APR
A	ISSUED FOR REVIEW	07/31/19	RTH	BGP

edf renewables

ENGINEERING RECORD		DATE
DRAWN	HARPER	07/19
DESIGNED	JOBES	07/19
CHECKED	FOSTER	07/19
APPROVED		
DWG SCALE: NONE	PLT SCALE: 1:1	

MERRICOURT WIND PROJECT
34.5 – 230 kV SUBSTATION
SITE GRADING DETAILS

DWG. NAME: MCW-D-P002-8 | REVISION NO : A

Appendix C
North Dakota General Permit NDR10-0000

Permit No: NDR10-0000
Effective Date: April 01, 2015
Expiration Date: March 31, 2020

AUTHORIZATION TO DISCHARGE UNDER THE

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

Facilities both qualifying for and satisfying the requirements identified in Part I of the permit

are authorized to discharge stormwater associated with **construction activity**

to waters of the state

in accordance with conditions set forth in this permit.

This permit and the authorization to discharge shall expire at midnight,

March 31, 2020.

Signed this 31 day of March, 2015.

Karl H. Rockeman, P.E.
Director
Division of Water Quality

BP 2014.06.12

Table of Contents

I. PERMIT COVERAGE AND LIMITATIONS 3
A. Discharges Covered 3
B. Discharges Not Covered 4
C. Obtaining Coverage and Authorization Effective Date 4
D. Application (Notice of Intent) Process 5
E. Notice of Termination (NOT) 6
F. Transfer of Ownership or Control 6
II. STORMWATER DISCHARGE REQUIREMENTS 7
A. Prohibition of Non-Stormwater Discharges 7
B. Releases in Excess of Reportable Quantities 7
C. Stormwater Pollution Prevention Plans 7
D. Local Requirements 13
E. Final Stabilization 13
III. SELF MONITORING AND REPORTING 14
A. Inspection and Maintenance Requirements 14
B. Records Location 16
IV. STANDARD CONDITIONS 17
A. COMPLIANCE RESPONSIBILITIES 17
B. GENERAL REQUIREMENTS 20
V. DEFINITIONS 22
Appendix 1 – Erosion and Sediment Control Requirements 25

I. PERMIT COVERAGE AND LIMITATIONS

A. Discharges Covered

1. This permit applies to all areas within the state of North Dakota, except for those areas defined as Indian Country. Construction activity located within Indian Country within the state of North Dakota must obtain a permit through the United States Environmental Protection Agency. If the construction activity is located with the jurisdiction of the state of North Dakota, and the United States Environmental Protection Agency, a permit must be obtained from both regulatory entities.

2. This permit applies to stormwater discharges associated with construction activity and small construction activity as defined in Title 40 of the Code of Federal Regulations (CFR), Parts 122.26(b)(14)(x) and (b)(15), respectively. The reference to construction activity in this permit includes both large construction activity and small construction activity as described below.

    a. Large construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five (5) acres or more.

    b. Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater that one (1) and less than five (5) acres.

    c. Discharges of stormwater from oil and gas exploration, production, processing or treatment operations, or transmission facilities composed of contaminated runoff by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

3. Stormwater discharges from support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) may be covered by this permit as part of a related construction site. The support activities may only be in association with one project. If the support activity is associated with more than one project, a separate stormwater permit (Industrial or mining, extraction or paving material preparation) is required.

4. Certain non-stormwater discharges from facilities covered by this permit and meeting the requirements specified in Part II(A).

5. Stormwater discharges from construction activity covered by the previous permit, issued October 12, 2009, where a notice has been submitted to obtain coverage under this permit.

6. Projects which have obtained coverage under this permit shall amend and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of this permit within ninety (90) days of the effective date of this permit.

7. Discharges from dewatering activities related to construction activities (discharges of uncontaminated stormwater).

8. Local Authority. This permit does not preempt or supersede the authority of local agencies or operators of municipal separate storm sewer systems to prohibit, restrict, or control discharges of stormwater to storm sewer systems or other water courses within their jurisdiction.

B. Discharges Not Covered

1. Stormwater discharges associated with industrial activity from any source other than construction activities described in Part I(A).

2. Post-construction discharges from industrial activity that originate from the site after construction activities have been completed at the site. Industrial and post-construction stormwater discharges may need to be covered by a separate stormwater permit.

3. The placement of fill into waters of the state requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits).

4. This permit does not substitute for obligations under the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Wild and Scenic Rivers Act, or National Historic Preservation Act (NHPA), it is your responsibility to ensure the project and resulting discharges comply with the respective requirements.

5. Discharges to waters for which there is a total maximum daily load (TMDL) allocation for sediment and/or parameters associated with sediment transport are not covered unless you develop a Stormwater Pollution Prevention plan (SWPPP) that is consistent with the assumptions and requirements in the approved TMDL. To be eligible for coverage under this general permit, the SWPPP must incorporate the conditions applicable to the discharge necessary for consistency with the assumptions, allocations and requirements of the TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

6. Stormwater discharges that the department determines will cause, or have the reasonable potential to cause or contribute to a violation of the standards for quality for waters of the state (North Dakota Administrative Code (N.D.A.C.) 33-16-02.1).

7. Discharges from hydrostatic testing, well points, water line disinfection and treatment of gasoline or diesel contaminated groundwater.

8. Discharges of wash water using detergents, wastewater, or sanitary waste.

C. Obtaining Coverage and Authorization Effective Date

1. To obtain authorization under this general permit for stormwater discharges you must submit a complete application and develop a SWPPP in accordance with Part II(C) of this permit. A SWPPP must be in place as a condition of the permit and a copy of the SWPPP must be retained by the permittee.

2. Permit coverage will become effective seven (7) days after you submit a complete application unless otherwise notified by the department (based on the department receipt date).

3. Upon the effective date of permit coverage you, as the permit applicant, are authorized to discharge stormwater from eligible activities under the terms and conditions of this permit.

D. Application (Notice of Intent) Process

1. You must use a Notice of Intent (NOI) to complete your application. An NOI form (or a replacement application form) is available at the following website: www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm.

2. Application Content and Conditions.

   a. The owner, or owner jointly with the operator (usually the general contractor), shall submit a completed application for this permit. The owner is responsible for compliance with all terms and conditions of this permit. The operator has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.

   b. The application (Notice of Intent) shall contain, at a minimum, the following information:

      (1) Owner name, mailing address and phone number;
      (2) Project contact name and phone number;
      (3) Project/site name;
      (4) Project/site location (street address; section, township, range; or latitude and longitude) and county;
      (5) A brief description of the construction activity;
      (6) The anticipated start date and the anticipated completion date for the project (if known);
      (7) The estimated total area of the site and the total area of disturbance in acres;
      (8) The name of receiving water(s), or the name of the municipal storm sewer system and receiving water(s);
      (9) The signature of the applicant(s), owner (and operator if co-applicants) signed in accordance with the signatory requirements in Part IV(A)(6) of this permit.

   c. A SWPPP (Part II(C)) for the project must be prepared and available for review, upon request, by the department at the time of application. A partially complete plan is acceptable when it clearly identifies the item(s) to be completed, the person(s) responsible for completing the item(s) and the deadline for completing the item(s). The SWPPP must be completed prior to the start of construction (or the applicable construction phase). You are not required to submit the SWPPP with the application unless otherwise notified by the department.

3. For residential construction activity occurring within a common plan of development (such as a subdivision) subject to the permit requirements, coverage may be obtained by the following:

   a. The owner of the lot(s) shall submit one (1) NOI for all of the owner's construction activity within the common plan of development, or

   b. The operator, such as a homebuilder who may represent one (1) or more lot owners, shall submit one (1) NOI for all of the operator's construction activity within each addition of the common plan of development.

      In addition, a SWPPP must be developed and implemented for the permittee's activities within the common plan of development. Additional phases of the common plan of development may be included under the initial application and permit coverage provided the SWPPP is amended to include the additional area or phases.

4. For oil and gas exploration, production, processing, treatment operations, or transmission facilities, which discharge contaminated stormwater, permit applications may be submitted for individual project sites or for an area of operations such as well field or by county.

5. Completed applications and any reports required by this permit shall be submitted to:

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue
Bismarck, ND 58501-1947

E. Notice of Termination (NOT)

1. Permittees wishing to terminate coverage under this permit must submit a Notice of Termination (NOT) or other written request identifying the facility, reason why the permit is no longer needed and signed in accordance with Part IV(A)(6) of this permit. Compliance with the conditions of this permit is required until a NOT is submitted to the department.

2. Permittees may only submit a NOT after one of the following conditions have been met:

   a. Final stabilization (Part II(E)) has been achieved on all portions of the site for which the permittee is responsible.

   b. Another owner/operator/permittee has assumed control, in accordance with the transfer provisions (Part I(F)), over all areas of the site that have not achieved final stabilization.

   c. For residential construction only, a NOT is not required for each lot that is sold, transferred, or has achieved final stabilization. The permittee must modify their SWPPP to indicate that permit coverage is no longer required for that lot. The SWPPP shall indicate the reason why coverage is no longer needed and the date the lot was sold, transferred, or achieved final stabilization. In order to terminate coverage, all lots under the control of the owner or operator must be sold, transferred, or achieved final stabilization (Part II(E)).

F. Transfer of Ownership or Control

1. When the owner or operator of a construction project changes, the new owner or operator must submit a written request for permit transfer/modification within fourteen (14) days of assuming control of the site or commencing work on-site, or of the legal transfer, sale or closing on the property; except as provided in Part I(F)(2). Late submittals will not be rejected; however the department reserves the right to take enforcement for any unpermitted discharges or permit noncompliance. For stormwater discharges from construction activities where the owner or operator changes, the new owner or operator can implement the original SWPPP created for the project or develop and implement their own SWPPP. Permittee(s) shall ensure either directly or through coordination with other operators that their SWPPP meets all terms and conditions of this permit and that their activities do not interfere with another party's erosion and sediment control practices.

2. A permit transfer/modification request is not required for the legal transfer, sale or closing on a property between permittees covered by this permit. Examples include the sale of a property parcel from a developer to a builder, or the transfer of an easement from a developer to a local government authority. If the new party is not covered by this permit at the time of transfer or sale, then the new owner/operator must submit a completed application/NOI within 14 days of assuming control of the site.

II. STORMWATER DISCHARGE REQUIREMENTS

A. Prohibition of Non-Stormwater Discharges

The discharge of wastewater is not authorized by this permit. The following sources of non-stormwater discharges are allowed if they are not a significant source of pollution and are identified in the SWPPP: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented. Discharges may not come into contact with oil and grease deposits or any other toxic or hazardous materials (unless cleaned up using dry clean-up methods). The SWPPP must include a description of the pollution prevention measures to be implemented while non-stormwater discharges are occurring.

If chemical treatment for sediment removal is intended to be used on-site, the permittee shall provide the department with the information outlined in Appendix 1(A)(14) of this permit for approval prior to use. This information shall be provided to the department no later than sixty (60) days prior to use.

B. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302, nor the reporting requirements found in Chapter 33-16-02.1 of the North Dakota Administrative Code. Any releases which meet any reporting requirement, must be reported to the agencies identified in Part IV(A)(7).

C. Stormwater Pollution Prevention Plans

All permittees shall implement a SWPPP for any construction activity requiring this permit until final stabilization is achieved. The SWPPP and revisions are subject to review by the department. The objectives of the SWPPP is to identify potential sources of sediment and other sources of pollution associated with construction activity, and to ensure practices are implemented and maintained to reduce the contribution of pollutants in stormwater discharges from the construction site to waters of the state and storm sewer systems. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP, or used in whole as a SWPPP if it meets the requirements of this part.

The SWPPP may identify more than one permittee and may specify the responsibilities of each permittee by task, area, and/or timing. Permittees may coordinate and prepare more than one SWPPP to accomplish this. However, in the event there is a requirement under the SWPPP for which responsibility is ambiguous or is not included in the SWPPP, each permittee shall be responsible for implementation of that requirement. Each permittee is responsible for assuring that their activities do not render another permittee's controls ineffective.

The SWPPP must incorporate the requirements provided in Appendix 1 and shall include the following information.

1. **Site Description**. Each plan shall provide a description of the construction activity and potential sources of pollution as indicated below:

    a. A description of the overall project and the type of construction activity;

b. Estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, grubbing, or other activities during the life of the project;

c. A proposed timetable/schedule, or chart, of activities that includes major phases/stages, BMP implementation, BMP removal, disturbances, and stabilization for major portions of the site;

d. A description of the soil within the disturbed area(s);

e. The name of the surface water(s) and municipal storm sewer system at or near the disturbed area that will receive stormwater runoff from the project site; and

f. A site map which indicates the following items as applicable (more than one (1) map may be needed). If an item is not applicable, provide rationale describing why the item is not applicable to the construction activity:

1) Project boundaries;
2) Areas of ground disturbance during each phase/stage of the project;
3) Areas where disturbance will not occur, such as avoidance areas (e.g. wetlands, critical habitat, Threatened and Endangered Species, etc);
4) Drainage patterns including: flow direction (run-on and runoff);
5) Dividing lines, discharge points, and storm sewer system inlets which the site drains to or may be affected by the activity;
6) Pre-existing and final grades;
7) Location of all temporary and permanent sediment and erosion controls during each particular phase;
8) Location of any stormwater conveyances such as: retention ponds, detention ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;
9) Location of potential sources of pollution (e.g. portable toilets, trash receptacles, etc.);
10) Location of soil stockpiles;
11) Identify steep slopes;
12) Surface waters, including an aerial extent of wetland acreage;
13) Location of surface water crossings;
14) Locations where stormwater is discharged to surface waters;
15) Location of dewatering discharge points;
16) Locations of where chemical treatment of stormwater will be performed, including discharge points;
17) Fueling locations, vehicle and equipment maintenance areas, designated wash water collection site, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection area;
18) Location of any impervious surfaces upon completion of construction; and
19) Where included as part of the project, the site maps for off-site concrete/asphalt batch plants, equipment staging areas, borrow sites or excavated fill material disposal sites. Site maps must show items 1 through 18 of this section.

g. Projects that discharge stormwater which flows to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids or turbidity must identify the water body and impairment in the SWPPP. The Department's 303(d) list may be found at the following website under Integrated Reports: www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm.

h. For water bodies which have a TMDL, the SWPPP must describe and conform to the Waste Load Allocations (WLA) of the water body as per Part II(C)(4)(g) of this permit. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

2. **Narrative.** The SWPPP must include a narrative description of the selected operational controls and sediment and erosion controls as outlined in Part II(C)(3), Part II(C)(4), and Appendix 1 of this permit. When applicable, a description of the requirements for any additional environmental regulations (federal) and local requirements related to the project, as it relates to waters of the state, must also be included or incorporated by reference (e.g. The Wild and Scenic Rivers Act, The National Historic Preservation Act, The Endangered Species Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Section 404 of the Clean Water Act, etc.).

   The narrative shall describe at a minimum:

   a. The installation, removal (if applicable), and maintenance requirements of selected Best Management Practices (BMPs) for each phase/stage of construction activity;
   b. The rationale for the selection of all BMPs (calculations should be included if appropriate);
   c. Whether selected BMPs are temporary or permanent;
   d. Any descriptions of infeasibility or explanations as required in Part II, Part III(A), and Appendix 1 of this permit.

3. **Operational Controls**. The SWPPP shall describe the BMPs used in day to day operations on the project site that reduce the contribution of pollutants in stormwater runoff.

   a. The SWPPP must identify a person knowledgeable and experienced in the application of erosion and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion and sediment control BMPs before and during construction, until a NOT is filed or the permit is transferred. A knowledgeable and experienced person is someone who meets the requirements of Part II(C)(3)(e) of this permit.

      The owner shall develop a chain of responsibility with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and a NOT has been submitted to the department.

   b. The SWPPP must include a description of good housekeeping practices used to maintain a clean and orderly site. The SWPPP shall describe how litter, debris, chemicals and parts will be handled to minimize exposure to stormwater. The SWPPP also shall describe what measures will be used to reduce and remove sediment tracked off-site by vehicles or equipment. In addition, the SWPPP shall describe methods which will be used to reduce the generation of dust.

   c. The SWPPP shall describe preventative maintenance practices used to ensure the proper operation of erosion and sediment control devices (e.g., fiber rolls, erosion control blankets and silt fences) and equipment used or stored on site. The SWPPP shall describe proper inspection procedures for ensuring proper operation of erosion and sediment control devices.

   d. The SWPPP shall describe spill prevention and response procedures where potential spills can occur. Specific handling procedures, storage requirements, spill containment, cleanup procedures, and disposal must be identified. Storage structures for petroleum products and other chemicals shall have adequate leak and spill protection to prevent any spilled materials from entering waters of the state or storm sewer systems.

      The potential discharge of hazardous substances in stormwater discharges shall be minimized by including measures onsite, detailed in the SWPPP to prevent and respond to releases of hazardous substances. If a reportable quantity release occurs, the SWPPP shall be revised to prevent the reoccurrence of such a release.

e. The SWPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired or as necessary to ensure compliance with the SWPPP and the general permit. Employees and responsible parties include individuals who are responsible for design, installation, maintenance and repair of stormwater controls and conducting inspections.

    1) On-site personnel must understand the requirements of this permit as it pertains to their role in implementing the SWPPP. On-site personnel must know:

        a. The purpose of the SWPPP, requirements of the SWPPP, and how the SWPPP will be implemented;

        b. The location of all BMPs identified in the SWPPP; and

        c. Correct installation, function, maintenance and removal (if applicable) of BMPs identified in the SWPPP.

    2) Personnel responsible for performing site inspections must understand when inspections must be conducted (Part III(A)), what must be inspected (Part II(C)(7), how to record findings, when to initiate corrective actions, and properly document corrective actions.

    3) Maintenance personnel must understand when maintenance must be performed on BMPs in order to maintain properly functioning BMPs and what needs to be recorded for corrective actions/maintenance records in accordance with Part III(A)(5) of this permit.

f. The SWPPP must describe how concrete grindings and slurry will be managed. Wastewater from concrete washout, cleanout or washout from: stucco, paint, joint compound, and other building materials shall not be discharged to waters of the state, storm sewer systems or curb and gutter systems.

    1) Wash water must be collected in leak-proof containers or leak-proof pits. Containers or pits must be designed and maintained so that overflows cannot occur due to inadequate sizing, precipitation events, or snowmelt.

g. The SWPPP shall describe any dewatering activities planned at the site. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the permitted activity must be managed with appropriate BMPs, such that the discharge does not adversely affect the receiving water. The following conditions apply to dewatering activities:

    1) Dewatering is limited to un-contaminated stormwater, surface water, and groundwater that may collect on-site and those sources identified in Part II(A), if they are not a significant source of pollution. A separate permit must be obtained to discharge water from other sources such as hydrostatic testing of pipes, tanks, or other similar vessels; disinfection of potable water lines; pump testing of water wells; and the treatment of gasoline or diesel contaminated groundwater or surface water.

    2) The permittee(s) must operate the discharge to minimize the release of sediment and provide adequate BMPs where necessary to minimize erosion due to the discharge. Discharges must not lead to the deposition of sediment within stormwater conveyance systems or surface waters. Discharges must not cause or potentially cause a visible plume within a surface water body.

3) When dewatering, utilize structures or BMPs which allow for draw down to occur from the surface of the water, unless infeasible. If infeasible, documentation must be provided in the SWPPP. In addition, you must describe what BMP(s) will be used in its place.

4) In addition to the inspection requirements in Part III, dewatering activities shall be inspected daily. The inspection must include the dewatering site, areas where BMPs are being implemented and the discharge location. A record shall be maintained to document the inspections of the dewatering operation and actions taken to correct any problems that may be identified.

   a. Records shall contain at a minimum:

      i. Date and time of the inspection,
      ii. Inspector name,
      iii. Approximate volume of water discharged,
      iv. Findings of the inspection, including recommendations and schedule for corrective actions;
      v. Corrective actions taken (including dates, times, and party completing maintenance activities); and
      vi. Documentation that the SWPPP has been amended when changes are made to the dewatering activity in response to inspections.

5) Local authorities may require specific BMPs for discharges affecting their storm sewer system.

4. **Erosion and Sediment Controls**. Erosion and sediment controls and stabilization requirements must be implemented for each major phase of site activity (e.g., clearing, grading, building, and landscaping phases). A description of the erosion and sediment controls and site stabilization methods must be provided in accordance with Part II(C)(2) of this permit. Erosion and sediment controls, and site stabilization must conform to the requirements provided in Appendix 1. The description and implementation of controls shall address the following minimum components:

   a. The selection of erosion and sediment controls, and site stabilization shall consider the following:

      1. The expected amount, frequency, intensity, and duration of precipitation events;

      2. The nature of stormwater run-on and runoff from the site as well as changes during, and as a result of, construction activity. This includes changes to impervious surfaces, slopes, seasonal changes, and drainage features on-site;

      3. Channelized flow, must be handled in order to minimize erosion at outlets and to minimize impacts to downstream receiving waters;

      4. Soil types (wind and water erodibility, and settling time); and

      5. Seasonal conditions.

   b. Sediment basins, or an appropriate combination of equivalent sediment controls such as smaller sediment basins and/or sediment traps, silt fences, fiber logs, vegetative buffer strips, berms, etc., are required for all down slope boundaries of the disturbance area and for those side slope boundaries as may be appropriate for site conditions.

c. Temporary or permanent erosion protection and stabilization (such as cover crop planting or mulching) must be initiated immediately, as described in Appendix 1(A), for all exposed soil areas where activities have been completed or temporarily ceased.

d. All control measures must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. Corrective actions must be made prior to the next anticipated rainfall event of within 24 hours of discovery (whichever comes first) or as soon as field conditions allow. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

   The permittee may deviate from the manufacturer's specifications and erosion and sediment control requirements in Appendix 1 if they provide justification for the deviation and document the rationale for the deviation in the SWPPP. Any deviation must provide equivalent erosion and sediment control.

e. If sediment escapes from the site, off-site accumulations of sediment must be removed in a manner and frequency sufficient to minimize off-site impacts as outlined in Appendix 1(B). The SWPPP must be modified to prevent further sediment deposition off-site.

f. Stormwater controls are expected to withstand and function properly during precipitation events of up to the 2-year, 24-hour storm event. Visible erosion and/or off-site sediment deposition from such storm events should be minimal. The 2-year, 24-hour rainfall event in North Dakota ranges from about 1.9 inches in the west to 2.3 inches in the east.

g. For projects that discharge stormwater which flows to a water body for which there is a TMDL allocation for sediment and/or parameters associated with sediment transport, the SWPPP must be consistent with the assumptions, allocations, and requirements in the approved TMDL. If a TMDL specifies certain BMPs or controls to meet a WLA applicable to the project's discharges, the BMPs or controls must be incorporated into the SWPPP. Information about TMDL allocations may be found at the following website: www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

5. **Stormwater Management**. The SWPPP must identify permanent practices incorporated into the project to control pollutants in stormwater discharges occurring after construction operations have been completed.

   a. Identify stormwater ponds; flow reduction methods; infiltration of runoff on-site; sequential systems which combine several practices or other post-construction stormwater management features.

   b. Identify velocity / energy dissipation devices placed at discharge locations and appropriate erosion protection for outfall channels and ditches.

   c. Maintenance for on-site stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance.

   d. The design, installation and use of stormwater management features must comply with applicable local, state or federal requirements.

6. **Maintenance**. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. The SWPPP must indicate, as appropriate, the maintenance or clean out interval for sediment controls. If site inspections, required in Part III of this permit, identify BMPs that are not operating effectively, maintenance shall be arranged and accomplished in accordance to Appendix 1 or as soon as practicable.

7. **Inspections**. The SWPPP must provide for site inspections as outlined in Part III. The permittee shall ensure that personnel conducting site inspections are familiar with permit conditions and the proper installation and operation of control measures. Inspectors must be knowledgeable in their role of the SWPPP, as outlined in Part II(C)(3)(e) of this permit. The erosion and sediment control measures and stabilized areas identified in the SWPPP shall be observed to ensure they are operating correctly and in serviceable condition. Inspections shall include areas used for storage of materials, permanent stormwater control measures and vehicle maintenance areas. These areas shall be inspected for evidence of, or the potential for, pollutants entering a drainage system. If necessary, the plan shall be revised based on the observations and deficiencies noted during the inspection.

8. **SWPPP Review and Revisions**.

   a. The SWPPP shall be signed in accordance with the Signatory Requirements, Part IV(A)(6), and retained on-site for the duration of activity as outlined in Part III(B).

   b. The permittee shall make the SWPPP available upon request to the department, EPA, or, in the case of discharges to a municipal storm sewer system, the operator of the municipal system.

   c. The permittee shall amend the SWPPP whenever there is a change in design, construction, operation, maintenance, or BMPs. The SWPPP shall be amended if the plan is found to be ineffective in controlling pollutants present in stormwater. The SWPPP shall be amended as soon as practicable.

D. Local Requirements

All stormwater discharges must comply with the requirements, policies, or guidelines of municipalities and other local agencies as applicable to the construction site. Any discharges to a storm sewer, ditch or other water course under the jurisdiction of a municipality must comply with any specific conditions or BMPs required by the municipality or agency.

E. Final Stabilization

The permittee(s) must ensure final stabilization of the site. The permittee(s) should submit a NOT within 30 days after final stabilization has been achieved, or another owner/operator (permittee) has assumed control according to Part I(F) for all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways.

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent of the pre-existing cover over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

   a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;

b. All temporary erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization; and

c. The permittee(s) must remove all sediment from conveyances and temporary sedimentation basins that will be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed into basins, conveyances or drainage ways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

2. For areas of the state where the average annual rainfall is less than 20 inches, all soil disturbing activities at the site have been completed and erosion control measures (e.g., degradable rolled erosion control product) and stabilization methods are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years and achieve 70 percent of the pre-existing vegetative cover within three (3) years without active maintenance. Sites must meet the criteria outlined in items 1(a), (b), and (c) above.

3. Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. If the construction activity removed standing crop, the area must be restored in accordance with the landowner.

   Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance use must meet the final stabilization criteria in (1) or (2) above.

4. For residential construction only, final stabilization may be achieved when soil is stabilized (see Appendix 1(A)(3)) and down gradient perimeter control for individual lots has been implemented and the residence has been transferred to the homeowner. Additionally, the permittee must distribute a “homeowner fact sheet” to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization. The permittee also must demonstrate that the homeowner received the fact sheet.

III. SELF MONITORING AND REPORTING

A. Inspection and Maintenance Requirements

1. Inspections shall be performed by or under the direction of the permittee at least once every 14 calendar days and within 24 hours after any storm event of greater than 0.25 inches of rain per 24-hour period. Inspections are only required during normal working hours. The permittee shall use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station. Rain gauge locations or stations must be representative of the site.

   a. “Within 24 hours after any storm event greater than 0.25 inches rain per 24-hour period” means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. If there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

2. There may be times when a site inspection may not be practical at the specified time. Adverse climatic conditions, such as flooding, high winds, tornadoes, electrical storms, site access constraints, etc., may prohibit inspections. The permittee must include a description of why the inspection(s) could not be performed at the designated time in the next inspection record. If an inspection is delayed due to adverse weather conditions or rain events outside normal working hours, an inspection must be conducted during the next working day, or as conditions allow.

3. Some erosion and sediment control measures may require more frequent inspection based on location (e.g., sensitive areas or waters of the state) or as a result of recurring maintenance issues. Erosion or sediment control measures found in need of maintenance between inspections must be repaired or supplemented with appropriate measures as soon as practicable. Erosion and sediment control measures which require more frequent inspection based on location or as a result of recurring maintenance issues must be identified in the SWPPP.

4. All inspections conducted during construction must be recorded in writing and these records must be retained in accordance with Part III(B). Records of each inspection activity shall include:

    a. Date and time of inspections;

    b. Name of person(s) conducting inspections;

    c. Findings of inspections, including recommendations and schedule for corrective actions;

    d. Date and amount of all rainfall events greater than 1/4 inch (0.25 inches) in 24 hours; and

    e. Documentation that the SWPPP has been amended when changes are made to BMPs in response to inspections.

    f. All inspection reports shall be signed in accordance with Part IV(A)(6) of this permit.

5. Corrective actions (maintenance activities) performed during construction must be recorded in writing and these records must be retained in accordance with Part III(B). Records for maintenance activity shall include:

    a. Best Management Practice corrected;

    b. Date and time of corrective action;

    c. Name of person(s) performing corrective actions;

    d. Corrective actions taken; and

    e. Corrective actions/maintenance records shall be signed in accordance with Part IV(A)(6) of this permit.

6. Completed areas that have been stabilized but do not meet the 70 percent perennial vegetative cover criteria for final stabilization may be inspected once per month. Inspections may be suspended for parts of the construction site that meet final stabilization requirements of Part II(E) of this permit. The SWPPP must update to identify any areas which meet this condition.

7. Inspections may be suspended where earthwork has been suspended due to frozen ground conditions. The required inspections and maintenance must resume as soon as runoff occurs or the ground begins to thaw at the site. The permittee must record freeze/thaw and runoff dates as part of the inspection records.

B. Records Location

A copy of the completed and signed NOI, coverage letter from the department, SWPPP, site inspection records, and this general permit shall be kept at the site of the construction activity in a field office, trailer, shed, or in a vehicle that is on-site during normal working hours. If the site does not have a reasonable on-site location, then the documents must be retained at a readily available alternative location; preferably with the individual responsible for overseeing the implementation of the SWPPP. Electronic copies of records are acceptable if the records can be accessed on-site. If the site is inactive, then the documents may be stored at a local office. Permittees should avoid using personal electronic devices for storing electronic records.

IV. STANDARD CONDITIONS

A. COMPLIANCE RESPONSIBILITIES BP 2014.12.08

1. Duty to Comply
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Proper Operation and Maintenance
The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

3. Planned Changes
The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

4. Duty to Provide Information
The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

5. Records Retention
All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the department or EPA.

6. Signatory Requirements
All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the department; and

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If an authorization under 6. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:

    a. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under 8. Bypass of Treatment Facilities;

    b. Any upset which exceeds any effluent limitation in the permit under 9. Upset Conditions; or

    c. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.

2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:

    a. A description of the noncompliance and its cause;

    b. The period of noncompliance, including exact dates and times;

    c. The estimated time noncompliance is expected to continue if it has not been corrected; and

    d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    Reports shall be submitted to the address in **Part I(D) Application (Notice of Intent) Process**. The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

    All other instances of noncompliance shall be reported no later than at the time of the next Discharge Monitoring Report submittal. The report shall include the four items listed in this subsection.

8. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.

Bypass exceeding limitations-notification requirements.

a. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.

b. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under 7. Twenty-four Hour Notice of Noncompliance Reporting.

2. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under the 8(a). Anticipated Bypass subsection of this section.

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three (3) conditions listed above.

9. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with erosion and sediment or site stabilization methods if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and the permittee can identify its cause(s);

2. The permitted facility was, at the time being, properly operated;

3. The permittee submitted notice of the upset as required under 7. Twenty-four Hour Notice of Noncompliance Reporting and

4. The permittee complied with any remedial measures required under 10. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

11. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard.

12. Duty to Reapply

Any request to have this permit renewed should be made 15 days prior to its expiration date.

B. GENERAL REQUIREMENTS

1. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the construction activity and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

2. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

3. Transfers

This permit is not transferable except upon the filing of a Transfer/Modification request (Part I(F)) by the new party. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the Department of the possible change.

4. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

V. DEFINITIONS Permit Specific BP 2009.02.05

"303(d) List" or "Section 303(d) List" means a list of North Dakota's water quality-limited waters needing total maximum daily loads or TMDLs developed to comply with section 303(d) of the Clean Water Act. A copy of the latest integrated report is available on the state's web site at: www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm.

"Act" means the Clean Water Act.

"Bankfull" means the channel is filled to the top of one or both of its banks.

"BMP" or "Best Management Practices" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

"Common Plan of Development or Sale" means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

"Construction Activity" means construction activity as defined in 40 CFR part 122.26(b)(14)(x) and small construction activity as defined in 40 CFR part 122.26(b)(15). This includes a disturbance to the land that results in a change in topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

"Department" means the North Dakota Department of Health, Division of Water Quality.

"Energy Dissipation" means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

"Indian Country" means (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservations; (2) All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

"Infeasible" means not technologically possible or not economically practicable and achievable in light of best industry practices.

"Immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

“Large Construction Activity” means land disturbance of equal to or greater than five (5) acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater that five acres.

“Normal Wetted Perimeter” means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

“Non-Stormwater Discharges” means discharges other than stormwater. The term includes both process and non-process sources. Process wastewater sources that require a separate NDPDES permit include, but are not limited to industrial processes, domestic facilities and cooling water. Non-stormwater sources that may be addressed in this permit include, but are not limited to: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate.

“Operator” means the person (usually the general contractor) designated by the owner who has day to day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible and must perform those responsibilities in a workmanlike manner.

“Owner” means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

“Permanently Ceased” means clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

“Permanent Cover” means final stabilization. Examples include grass, gravel, asphalt, and concrete.

"Severe Property Damage" means substantial physical damage to property, damage to best management practices which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in construction.

"Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

"Significant Spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

“Small Construction Activity” means land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres

"Stabilized" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, or other material that prevents erosion from occurring. Grass seeding alone is not stabilization. Snow cover and frozen ground conditions are not considered stabilized.

“Steep Slopes” means slopes which are fifteen (15) percent or greater in grade.

"Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.

“Stormwater Associated with Industrial Activity” means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 CFR 122.26(b)(14).

“Stormwater Associated with Small Construction Activity” means the discharge of stormwater from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than once acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

(ii) Any other construction activity designated by EPA or the department, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the state.

“Temporarily Ceased” means clearing, grading, and excavation within any area of the site that will not include permanent structures, will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future.

"Temporary Erosion Protection" means methods employed to prevent erosion. Examples of temporary cover include; mulch, straw, erosion control blanket, wood chips, tackifiers, and erosion netting.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with permit requirements because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed erosion and sediment controls or site stabilization methods, inadequate erosion and sediment controls or site stabilization methods, lack of preventive maintenance, or careless or improper operation.

“Waters of the State” means any and all surface waters that are contained in or flow in or through the state of North Dakota as defined in NDCC 61-28-02. This definition includes all water courses, even if they are usually dry.

“You” means the owner, operator or permittee as appropriate.

Appendix 1 – Erosion and Sediment Control Requirements

Requirements for designing, implementing and maintaining erosion and sediment controls.

A. Erosion and Sediment Control Practices

1. Sites using temporary (or permanent) sediment basins must meet the following requirements:

    a. Sediment basins shall be designed for a calculated volume of runoff from a 2-year, 24-hour storm per acre drained to the basin and provides not less than 1,800 cubic feet of sediment storage below the invert of the outlet pipe from each acre drained to the basin; or

    b. Basins shall be sized to provide 3,600 cubic feet of sediment storage below the invert of the outlet pipe per acre drained to the basin if calculations are not performed.

    c. Basin outlets must be designed to avoid short-circuiting and the discharge of floating debris. Basins must be designed with the ability to allow complete basin drawdown for maintenance activities. Basins must release the storage volume in at least 24 hours. Outlet structures must be designed to withdraw water from the surface, unless not practicable. If not practicable, rationale must be provided in the SWPPP. The basin must have a stabilized emergency overflow to prevent failure of pond integrity. Energy dissipation must be provided for the basin outlet.

2. Erosion, sediment, and stabilization practices shall be provided. Erosion, sediment and stabilization practices include such things as: silt fences, fiber logs, vegetative buffer strips, erosion control blankets, mulch, hydro-seeding combined with mulch or tackifiers, etc.

3. All exposed soil areas must be stabilized (see definitions). Stabilization must be initiated immediately where activities have been permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. Stabilization must be completed as soon as practicable, but no later than fourteen (14) calendar days after the initiation of soil stabilization. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) are exempt from this requirement.

    a. For slopes with a grade of 3:1 or greater, stabilization must be initiated immediately once activities have been completed or temporarily ceased. Stabilization must be completed as soon as practicable, but no later than seven (7) calendar days after the initiation of soil stabilization.

4. Temporary soil stockpiles must have effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches.

5. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized at least 200 linear feet from the property edge, or from the point of discharge to any surface water. Stabilization shall be completed prior to connection with a surface water. Any remaining portion of the temporary or permanent drainage ditch must be stabilized within fourteen (14) calendar days for portions which construction activities have temporarily or permanently ceased.

6. If stabilization requirements cannot be met due to circumstances beyond the control of the permittee, the permittee may comply with following:

    a. If vegetative stabilization is to be used, immediately initiate, and within 14 calendars days complete, the installation of temporary non-vegetated stabilization; or

    b. Complete all methods of initiating stabilization as soon as conditions or circumstances allow.

If any conditions in parts a or b above are encountered, the permittee must document the circumstances which prevented you from meeting the stabilization requirements in the SWPPP of this paragraph and provide a schedule in the SWPPP which will be followed in order to meet the stabilization requirements.

Permittees are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

7. Stream diversions or any temporary or permanent drainage ditch or trench, which will have continuous flow, shall be stabilized with appropriate controls prior to connection with any surface water. The entire area (channel and bank) of the stream diversion or temporary or permanent drainage ditch, or trench, must be appropriately stabilized to bankfull height.

8. While working in or around surface waters, sediment and erosion controls must be used above the anticipated level of the surface water. Floating silt curtain does not satisfy the down slope and side slope boundary requirements in Part II(C)(4)(b) of this permit, unless the construction activity is on or below the elevation of the surface water. The floating silt curtain must be placed as close to shore as possible. Sediment control must be installed where exposed soils drain to the surface water immediately after construction activity along the waterline has been completed.

9. Pipe and culvert outlets must be provided with energy dissipation within 24 hours of connection to a surface water.

10. Splash pads and/or downspout extensions must be provided for roof drains to prevent erosion from roof runoff.

11. All storm drain inlets in the immediate vicinity of the construction site must be protected by appropriate BMPs during construction until all disturbed areas and stockpiles with the potential to discharge to the inlet have been stabilized. This includes storm drain inlets which may be affected by sediment tracked onto paved surfaces by vehicles or equipment.

12. Inlet protection devices are a last line of control – erosion and sediment control practices must be used on-site. Inlet protection devices must conform to local ordinances or regulations. In general, inlet protection devices need to provide for adequate drainage to prevent excessive roadway flooding. Inlet protection may be removed for a particular inlet if a specific concern (i.e., street flooding/freezing, snow removal) has been identified and documented in the SWPPP. In this situation, additional erosion and sediment control practices, or stabilization methods must be used to supplement the loss of the inlet protection device to prevent sediment from entering the storm sewer system.

13. Vegetated buffers must have a minimum width of 1 foot for every 5 feet of disturbed area that drains to the buffer. The width of the buffer shall have a slope of 5 percent or less and the area draining to the buffer shall have a slope of 6 percent or less. Concentrated flows should be minimized throughout the buffer.

    Buffers shall consist of dense grassy vegetation, 3 to 12 inches tall with uniform coverage over 90 percent of the buffer. Woody vegetation shall not be counted for the 90 percent coverage. No more than 10 percent of the overall buffer may be comprised of woody vegetation.

14. A 50 foot natural buffer or equivalent erosion and sediment controls must be provided when a project is within 50 feet of a surface water and stormwater flows to the surface water. If equivalent erosion and sediment controls are used, rationale for using equivalent controls must be provided in the SWPPP.

If working within 100 feet of a surface water listed as impaired for sediment, suspended solids or turbidity, a 100 foot natural buffer or equivalent sediment and erosion controls must be provided. If equivalent erosion and sediment controls are to be used, rationale for using equivalent controls must be provided in the SWPPP.

15. If the permittee(s) intend to use chemical treatment for sediment removal, they must be used in accordance with the manufacturer's specifications. Treatment chemicals must be selected appropriately for the anticipated soil particle size and characteristics of the stormwater (pH, turbidity, flow rate of stormwater flowing into the chemical treatment system, etc.). A description of the chemical treatment process must be included in the SWPPP.

    a. To ensure selection and management of chemicals minimize the potential for harmful effects in the discharge, the permittee shall provide a written request to the department for review and approval. Additional monitoring and reporting may be required as a condition for the approval to discharge.

       A request to discharge chemically treated water shall include all of the following information and be provided sixty (60) days prior to use:

       i. Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS);
       ii. Proposed water additive discharge concentration;
       iii. Discharge frequency (i.e., number of hours per day and number of days per year);
       iv. Monitoring point for product discharge;
       v. Type of removal treatment, if any, that the water additive receives prior to discharge;
       vi. Product function (e.g., coagulant, flocculant, etc.);
       vii. A 48-hour LC_{50} or EC_{50} for a North American freshwater planktonic crustacean (*Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); and
       viii. Results for a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean).

    b. Discharges from the chemical treatment of stormwater must not cause a violation of the standards of quality for waters of the state (N.D.A.C. § 33-16-02.1). The discharge must meet the dewatering or basin draining requirements provided in Part II(C)(3)(g) of this permit.

16. Minimize the duration of exposed soils on steep slopes.

B. Maintenance Requirements for Erosion and Sediment Controls

1. All erosion prevention and sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, maintained or supplemented with functional BMPs. If a nonfunctioning BMP is supplemented, the nonfunctional BMP shall be removed. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first), or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

   Permittee(s) must investigate and comply with the following inspection and maintenance requirements:

   a. All control devices similar to, and including, silt fence or fiber rolls must be repaired, replaced, maintained or supplemented when they become nonfunctional (torn from posts, visible tears, etc.). Collected sediment must be removed as it approaches 1/2 of the above ground capacity of the control device.

   b. Fiber rolls must be replaced when 1/2 of the original above ground height of the device when it was installed has been lost as a result of flattening or other damage.

c. Sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

d. Maintenance and cleaning of inlet protection devices must be performed when sediment accumulates, the filter becomes clogged, and/or performance is compromised.

2. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment deposited by erosion. Permittees must remove all deltas and sediment deposits in surface waters, drainage ways, catch basins, and other drainage systems. Areas where sediment removal results in exposed soil must be stabilized. Removal and stabilization must take place immediately, but no more than, seven (7) calendar days after the discovery unless precluded by legal, regulatory or physical access constraints. Permittees shall use all reasonable efforts to obtain access. If precluded, removal and stabilization shall take place immediately, but no more than, seven (7) calendar days after obtaining access. Permittees are responsible for contacting all local, regional, state, and federal authorities, and receiving any applicable permits prior to conducting any work.

3. Vehicle tracking of sediment from the site must be minimized by BMPs. This may include having a designated egress with aggregate surfacing from the site or by designating off-site parking. Permittees are responsible for (or making the arrangements for) street sweeping and/or scraping if BMPs are not adequate to prevent sediment from being tracked onto the street from the site.

   Construction site egress locations must be inspected for evidence of sediment being tracked offsite by vehicles or equipment onto paved surfaces. Accumulations of tracked and deposited sediment must be removed from all off-site paved surfaces by the end of the work day, shift or if applicable, within a shorter time specified by local authorities or the department.

4. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain event and/or pose a safety hazard to users of public streets).

5. Vegetative buffers must be inspected for proper distribution of flows, sediment accumulation and signs of rill formation. If a buffer becomes silt covered, contains rills, or is otherwise rendered ineffective, other control measures shall be implemented. Eroded areas shall be repaired and stabilized within 24 hours of discovery, or as soon as conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

C. Operational Controls

1. Properly handle construction debris and waste materials.

   a. Debris and waste must be handled appropriately until disposal. Litter and debris shall be collected and stored to reduce the potential for wind and water to carry the materials off-site or leachate discharging from a site. Collected material shall be taken to the appropriate facility for disposal or recycling.

   b. Liquid or soluble materials including oil, fuel, paint and any other hazardous substances must be properly stored, to prevent spills, leaks or other discharges. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of liquid or soluble material must be in compliance with applicable regulations.

2. Wash water containments must be cleaned out (solids and liquid) before 80 percent of storage capacity is attained.

3. Best management practices used in surface waters must be cleaned immediately upon removal from surface waters to prevent the transfer of aquatic nuisance species.

Appendix D
NOI

APPLICATION (NOTICE OF INTENT) TO OBTAIN COVERAGE UNDER NDPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY
SFN 19145 (06/2019)

New Project

FOR DEPT. USE ONLY

Date Received
Application Number
NOI ID: SW_NOI_20190814170709225

GENERAL INFORMATION

1. Name of Owner of Construction Project	2. Contact First Name	3. Contact Last Name	4. Contact Telephone Number
Otter Tail Power Company	Bradley	Tollerson	218.739.8855
5. Contact E-mail Address	6. Mailing Address		
btollerson@otpco.com	215 South Cascade Street		
7. City	8. State/Province	9. Zip Code	
Fergus Falls	MN	56537	

10. Name of Operator Working at Site	11. Contact First Name	12. Contact Last Name	13. Contact Telephone Number
EPC Services	Dustin	McCoy	605.786.2848
14. Contact E-mail Address	15. Mailing Address		
dustin.mccoy@epcs.com	3521 Gabel Road		
16. City	17. State/Province	18. Zip Code	
Billings	MT	59102	

PROJECT INFORMATION

19. Name of Construction Project
Merricourt Wind 34.5-230 kV Substation

20. Brief Description of Construction Activity
Construction of a substation associated with a wind farm.

21. Project Start Date	22. Estimated Completion Date	23. Estimated Total Acres of Site	24. Estimated Acres of Disturbance
09/01/2019	08/30/2020	25	19

Project Location

25. Physical Address			26. City	
9006 63rd Avenue SE			Ashley	
27. Township	28. Range	29. Section	30. Quarter Section (ABCD Format)	31. County
130	67	3	NENE	McIntosh
32. Latitude (Decimal Degrees)			33. Longitude (Decimal Degrees)	
46.11289			099.06572	

Receiving Waters

34. Name of Municipal Storm Sewer System or Description of Receiving Water
Unnamed waterway in HUC 101600040101 and HUC 101600040102

35. A SWPPP must be prepared and available for review at the time of application. You are not required to submit the SWPPP with the application unless otherwise notified by the department. The SWPPP must be completed prior to the start of construction (or the applicable construction phase). Please refer to Part I(D)(2)(c) of the permit.

Submit by E-mail

AFTER SUBMITTING BY E-MAIL PRINT AND SEND COMPLETED APPLICATION WITH "WET" INK SIGNATURE TO:

North Dakota Dept. of Env. Quality
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: (701) 328-5210

Print Form

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

36. Printed Name of Owner(s)	37. Title
Bradley Tollerson	VP
38. Signature of Owner(s)	39. Date
	15 Aug 19
40. Printed Name of Operator(s)	41. Title
Glen Smith	General Manager
42. Signature of Operator(s)	43. Date

NOTICE OF TRANSFER/MODIFICATION OF COVERAGE UNDER (NDPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY
SFN 54242 (03/19)

For Dept. Use Only

Date Received:___/___/___

This form may be used to modify existing permit information for a permitted site. The form also may be used when an owner or operator of a construction project changes (see Part I.F of NDR10-0000). The new owner or operator may implement the original SWPP plan or develop a new SWPP plan. New permittees must ensure either directly or through coordination with others that their SWPP plan will meet the terms and conditions of the permit and will not interfere with another party's SWPP plan.

PERMIT ID NUMBER: NDR1 ____ SW NOI REF # 20190814170709225

REASON FOR MODIFICATION :

☐ Add Owner ☒ Add Contractor ☐ Remove Contractor

☐ Change from Sole-Permittee to Co-Permittee

MODIFICATION INFORMATION

Company Name	Contact Person		Phone Number
EDF-RE US Development, LLC	David Cliff		858-521-3300
Mailing Address	**City**	**State/Province**	**Zip Code**
15445 Innovation Drive	San Diego	CA	92128

OR:

☐ New Owner ☐ New Contractor ☐ Address Change ☐ Company Name Change

OLD INFORMATION

Company Name	Contact Person		Phone Number
Mailing Address	**City**	**State/Province**	**Zip Code**

NEW INFORMATION

Company Name	Contact Person		Phone Number
Mailing Address	**City**	**State/Province**	**Zip Code**

OTHER:

☐ New Project Name

☐ Other

CERTIFICATION STATEMENT

Return Completed Form to:

North Dakota Dept of Env. Quality
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: 701.328.5210
Fax: 701.328.5200

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Owner	Title
David Cliff	Program Manager
Signature of Owner	**Date**
David Cliff	30 August 2019

(Attach additional pages if needed)

Appendix E
Inspection Reports

Stormwater Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		**Location**	
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: ❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? ❑Yes ❑No **If yes, provide:** Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			
Have any discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**			
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, describe:**			

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		❑Yes ❑No	❑Yes ❑No	
2		❑Yes ❑No	❑Yes ❑No	
3		❑Yes ❑No	❑Yes ❑No	
4		❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	
7		❑Yes ❑No	❑Yes ❑No	
8		❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
12		❑Yes ❑No	❑Yes ❑No	
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
12	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature:_____ Date:_____

Appendix F
Delegation of Authority

Appendix F–Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in _____ (Reference State Permit), and that the designee above meets the definition of a "duly authorized representative" as set forth in _____ (Reference State Permit).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix G
Subcontractor Certifications/Agreements

Appendix G–Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform onsite. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix H
Corrective Action Log

Appendix H –Corrective Action Log

Project Name:
SWPPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Appendix I
Grading and Stabilization Activities Log

Appendix I–Grading and Stabilization Activities Log

Project Name:
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

Appendix J
SWPPP Amendment Log

Appendix J –SWPPP Amendment Log

Project Name:
SWPPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix K
SWPPP Training Log

Appendix K–SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ Erosion Control BMPs
- ❑ Emergency Procedures
- ❑ Sediment Control BMPs
- ❑ Good Housekeeping BMPs
- ❑ Non-Stormwater BMPs

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Appendix L
BMP Fact Sheets

SEEDING and SODDING

Specification 708.02

SEEDING



Tractor mounted seed drill

Material

- The species and variety of seed used should be specified in the plans and should meet or exceed Pure Live Seed requirements.
- Seed and seeding mixtures should be free of all prohibited noxious weed seed and should not contain more than ½ of 1% by weight of restricted noxious weed seeds as classified by the North Dakota State Seed Department.
- Seed will be accepted by certification after it has been tested by an approved laboratory within nine months of planting. Seed that has not been planted within nine months of testing will need to be retested.
- Seed that has become wet, moldy or damaged before it is planted will not be accepted.
- Fertilizer should be placed according to the class of seed as specified in the specifications.
- When hydro-mulch is used, the fertilizer should be in the slurry mixture.

Placement

- Areas to be seeded should be done as specified in the plans.

Installation

- Areas to be seeded should be cleared of all material that is detrimental to seedbed preparation.
- The cleared areas should be shaped to the plan cross sections, or to the cross section that best fits existing conditions.
- Grass seeds of the required mixture and quality shall be sown by a mechanical seeder or other method, which will sow a uniform quantity as required over the whole area to be seeded.
- No seed should be sown when the wind velocity exceeds 15 miles per hour.
- No seed should be sown in standing water or frozen ground.
- All slopes should be worked on the contour, or as directed by the Engineer.
- Seeded areas should be watered and mulched immediately following placement when specified by the project designer or site conditions dictate.

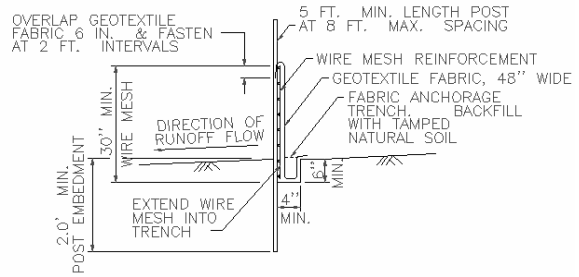
Maintenance

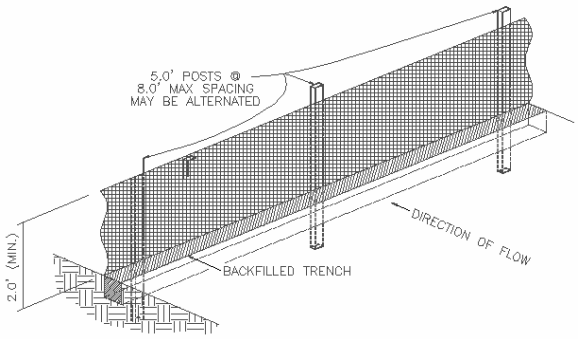
Problem	**Corrective Maintenance**
Rills or gullies forming	Regrade and reseed, Add additional controls
Bare soil patches	Remulch and/or reseed
Sediment at the toe of the slope	Regrade, Add silt fence or filter dike if next to a body of water

Silt Fence and Fiber Rolls

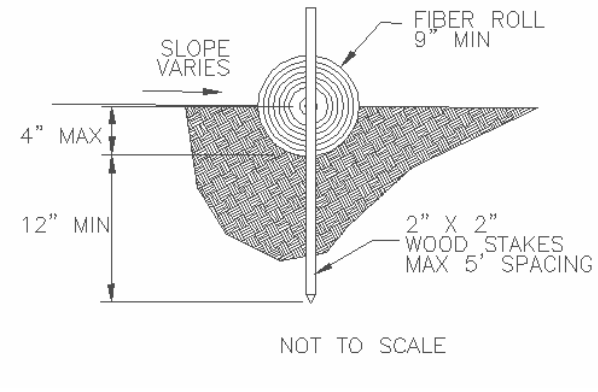
Silt fence can be used to protect stock piles or as a means of protection of your vegetated areas. The drawing below shows the typical heavy duty silt fence design that is often used for installations which will remain in place for the duration of a project. Posts may be installed in an alternating pattern if wind is a concern. This helps keep the fabric from tearing away from the posts due to strong winds in one direction.

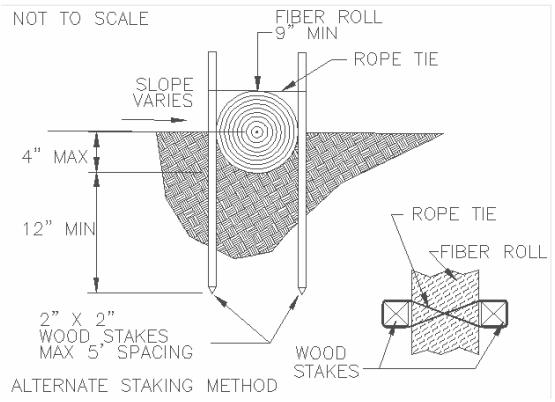
Typical Silt Fence Details





Typical Fiber Roll Details





Fiber rolls consist of straw or wood fiber contained in netting to form a log shape. They are 9"-20" in diameter. They must be secured with stakes. Typical installation requires that rolls be entrenched. It is important not to crush fiber roll when it is installed.

It is also important when installing either Silt fence or Fiber rolls to provide J-hooking.

SC-6 Fiber Rolls

Definition and Purpose

Weed–free straw, flax, coconut, or other similar fiber materials bound into tight tubular rolls encased in natural fiber or UV-degradable polypropylene netting. They are used to intercept runoff, reduce flow velocities, capture sediment, and promote infiltration.

Objectives

- ☐ Construction Site Planning
- ☒ Temporary Soil Stabilization
- ☒ Run-on and Runoff Control
- ☒ **Temporary Sediment Control**
- ☐ Snow Management
- ☐ Good Housekeeping
- ☐ Waste Management

AT A GLANCE

Applications

- ☒ Site Perimeter
- ☒ Exposed Areas
- ☒ Slopes
- ☒ Toe of Slopes
- ☐ Ditches
- ☒ Cut/Fill Transitions
- ☒ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☒ Near Water/Wetlands
- ☒ Pollution/Material Sources



Properly-installed fiber rolls are trenched in and run parallel to slope contours.



Fiber rolls must be overlapped and tightly abutted to prevent storm water flows and sediment from passing between rolls.

Alternative BMPs to Consider

- SS-7 Surface Roughening
- SC-1 Silt Fence
- SC-7 Compost Sock
- SC-8 Brush Barrier
- SC-10 Gravel Bag Berm

Use In Conjunction With

- SS-2 Mulch Cover
- SS-3 Temporary Seeding
- SS-4 Erosion Seeding
- SS-5 Soil Binders
- SS-6 Rolled Erosion Control Products
- SS-7 Surface Roughening
- SC-4 Check Dams
- SC-12 Inlet/Outlet Protection

Limitations

- Not for use in live streams.
- Erosion may occur if fiber rolls are not adequately trenched in.
- Fiber rolls are difficult to move once saturated.
- Fiber rolls can be removed by unexpected high flows if not properly staked and trenched in.
- Fiber rolls have a limited sediment capture zone, and more effective sediment barriers may need to be considered.
- Do not use fiber rolls on slopes subject to creep, slumping, or landslide.

Effectiveness

- Most effective when sized for appropriate application and anticipated runoff flows and when trenched in and properly staked.
- Least effective when flattened by traffic or overwhelmed with sediment.

SC-6 Fiber Rolls

Materials

- Provide fiber rolls consisting of either prefabricated rolls (wattles) or rolled tubes of erosion control blanket.
- Prefabricated rolls (wattles) should be manufactured from natural straw, coir (coconut), flax, wood fibers, or a combination thereof, and wrapped in netting made of UV-degradable polypropylene or natural fiber such as jute, cotton, hemp, sisal, or burlap.
- Refer to SS-6 Rolled Erosion Control Products for erosion control blanket material guidelines for rolled tubes. Secure the ends tightly with jute-type twine.

Design and Installation

Assembly of Field-rolled Fiber Roll

- Roll length of erosion control blanket into a tube of minimum 8-inch diameter.
- Bind roll at each end and every 4 feet along length of roll with jute-type twine.

Perimeter Control

- Size fiber rolls appropriately depending on use. Factors influencing diameter of roll to be used include slope ratio, anticipated flow volumes, and soil characteristics. Provide fiber rolls with a minimum diameter of 8 inches or according to submitted manufacturer's specifications for appropriate design diameter.
- Install fiber rolls parallel to the contour line and perpendicular to the direction of flow.
- Trench fiber rolls a minimum 2 inches below the ground surface.
- Use the following staking method, unless Contractor submits alternative manufacturer staking specifications to MDT.
  - Stake fiber roll to the ground using a minimum 3/4-inch by 3/4- inch wood stake. Extend stake 12 inches below the ground surface. Space stakes 4 feet apart along entire length of roll.
- If more than one roll is placed in a row, overlap the fiber rolls and butt them tightly together. Provide a minimum of 12 inches of overlap.
- Turn terminal ends of roll upslope 24 to 48 degrees to prevent flow around ends of roll.

Slope Protection/Toe of Slope

- Do not use fiber rolls where creeping, slumping, or sliding of the slope may occur.
- Roll diameter is dependent on the gradient of the slope, anticipated flow volumes, and soil characteristics. Spacing of the roll is dependent on gradient of the slope and diameter of roll.

  Provide fiber rolls with a minimum diameter of 8 inches on the slope and 12 inches in diameter at toe of slope, or according to submitted manufacturer's specifications for appropriate design diameter. Use the following spacing guidelines unless Contractor submits alternate manufacturer specifications to MDT.

SC-6 Fiber Rolls

Design and Installation

Spacing Intervals		
Slope	Roll Diameter	
	8 inch	12 inch
1:1	10 feet	15 feet
2:1	20 feet	30 feet
3:1	30 feet	45 feet
4:1 or flatter	40 feet	60 feet

- Install fiber rolls parallel to the contour line and perpendicular to the direction of flow.
- For toe of slope application, install the fiber roll with a setback from toe of slope, where practicable, to allow for storm water ponding and sediment storage.
- Trench fiber rolls a minimum of 2 inches below the ground surface.
- Use the following staking method, unless Contractor submits alternative manufacturer staking specifications to MDT.
  - Stake fiber roll to the ground using a minimum 3/4-inch by 3/4-inch wood stake. Extend stake 12 inches below the ground surface. Space stakes 4 feet apart along entire length of roll.
- If more than one roll is placed in a row, overlap fiber rolls and butt them tightly together. Provide a minimum of 12 inches of overlap.
- Turn terminal ends of roll upslope 24 to 48 degrees to prevent flow around ends of roll.
- Fiber rolls should extend sufficiently from either side of the flow line to ensure that water flows through the roll rather than around it.

Inlet/Outlet Protection

- Refer to SC-12 Inlet/Outlet Protection for design and installation guidelines.
- Fiber rolls must be trenched in a minimum of 2 inches below the ground surface.

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure fiber rolls are functioning properly. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect fiber rolls regularly, particularly before forecast storm events and as soon as possible after storm events.
- Inspect to ensure rolls remain firmly anchored and trenched.
- Inspect for undermining, tears, splits, unraveling, or slumping.
- Repair any rills or gullies promptly. Repair or replace fiber rolls as needed.
- For all applications except slope protection, remove sediment from the upslope side of the fiber roll when accumulation reaches 1/3 of the effective height of the roll.
- Incorporate removed sediment into the project or dispose of it in accordance with all laws, rules, and applicable regulations.

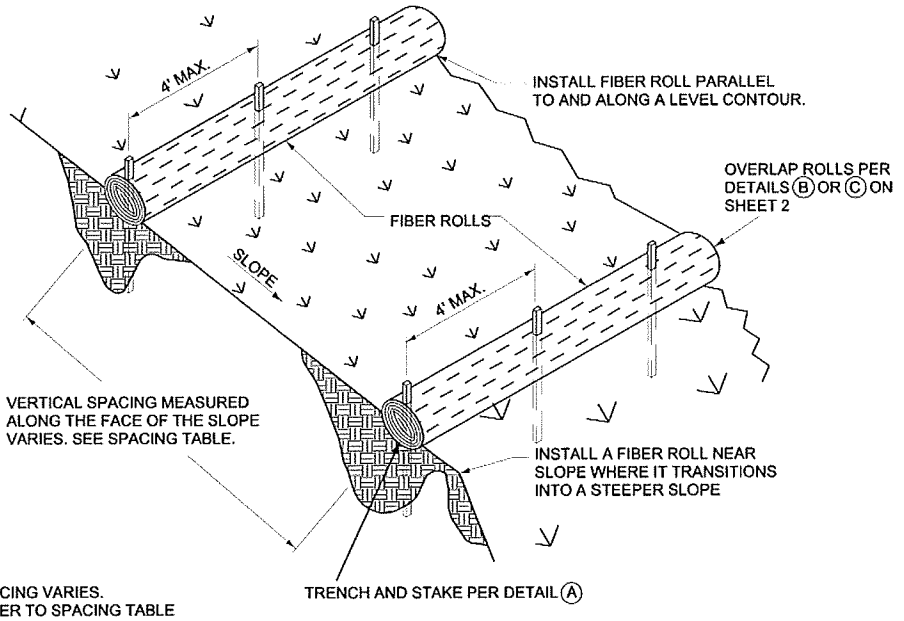
SC-6 Fiber Rolls

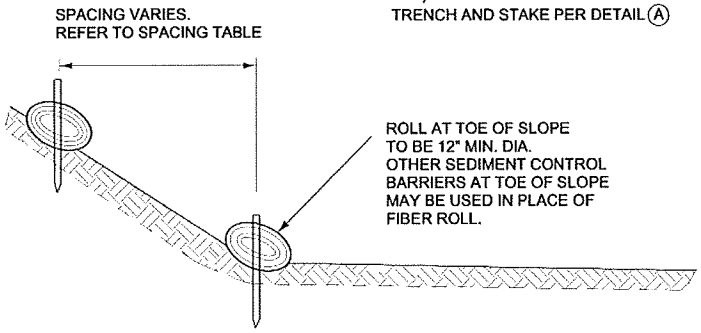
Inspection and Maintenance

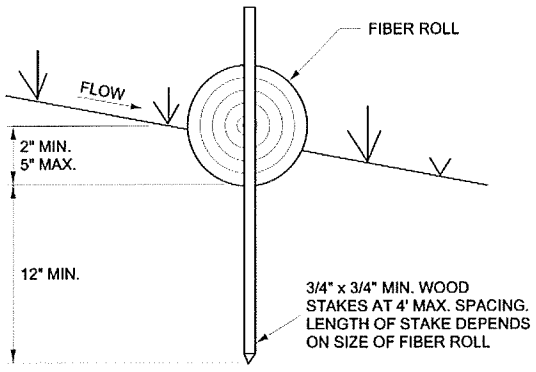
- For inlet protection, check all storm drain inlets after each storm event, remove any sediment or debris clogging inlet, and repair the inlet protection to prevent sediment clogging in the future.

Removal

- When fiber rolls are removed, collect and dispose of sediment accumulation and fill, compact, and seed holes, trenches, depressions or any other ground disturbance to blend with adjacent ground.
- Dispose of waste materials in accordance with all laws, rules, and applicable regulations.







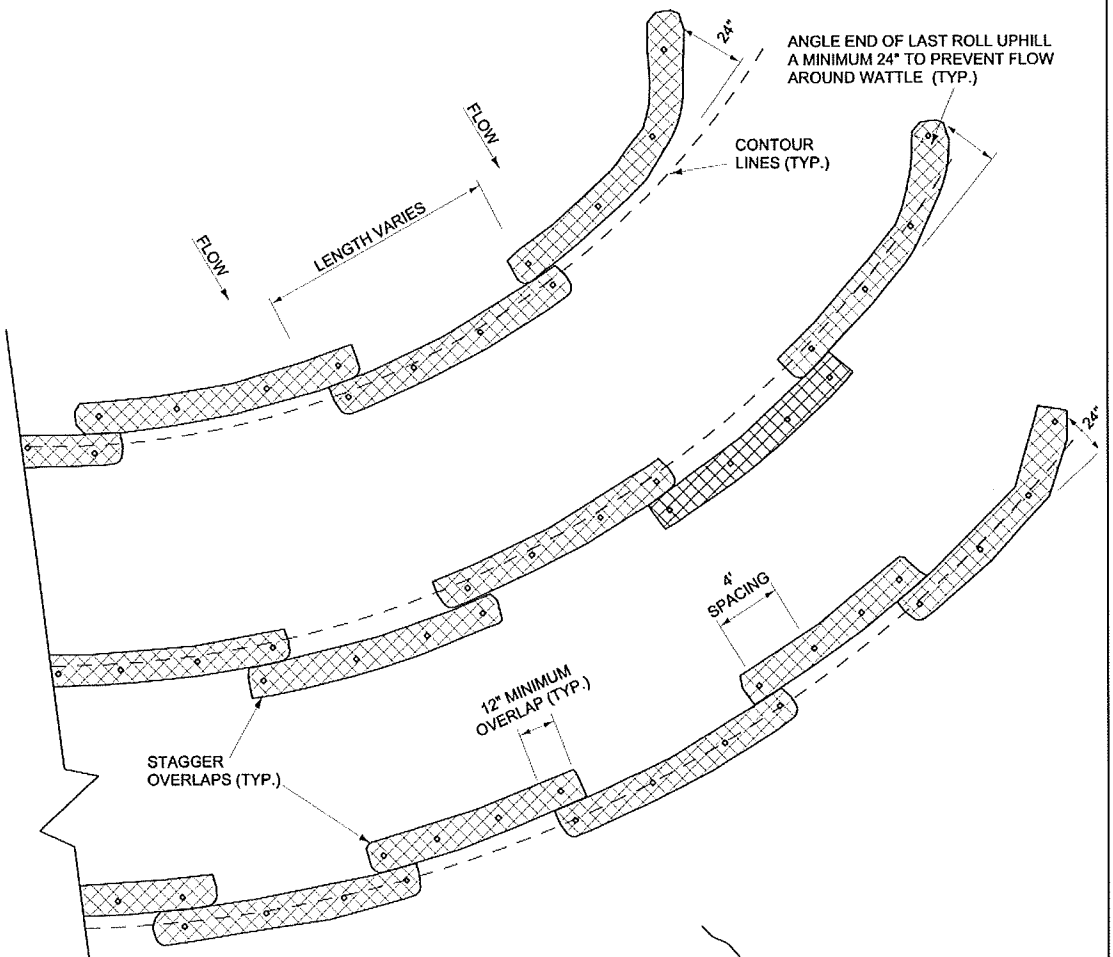
(A) STAKING DETAIL

SPACING INTERVALS		
SLOPE	ROLL SIZE	
	8"	12"
1:1	10 FT.	15 FT.
2:1	20 FT.	30 FT.
3:1	30 FT.	45 FT.
4:1 OR FLATTER	40 FT.	60 FT.

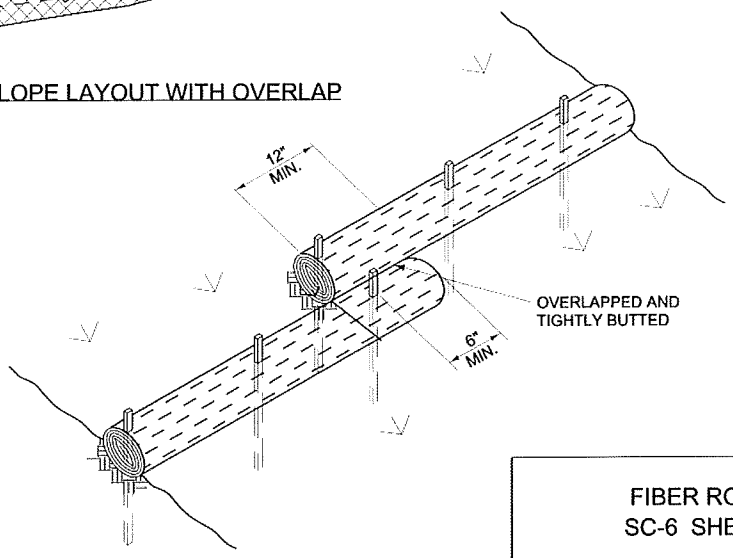
SPACING TABLE

FIBER ROLLS
SC-6 SHEET 1

MDT MONTANA DEPARTMENT OF TRANSPORTATION



Ⓑ SLOPE LAYOUT WITH OVERLAP



Ⓒ FIBER ROLL OVERLAPPING DETAIL

FIBER ROLLS
SC-6 SHEET 2

MDT MONTANA DEPARTMENT OF TRANSPORTATION

SS-8 Wind Erosion Control

Definition and Purpose

Consists of applying water, soil binders, or installing wind barriers or protective covers as necessary to prevent soil erosion. Several soil stabilization BMPs can be applied for wind erosion control.

Objectives

- ☐ Construction Site Planning
- ☒ **Temporary Soil Stabilization**
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☐ Good Housekeeping
- ☐ Waste Management

AT A GLANCE

Applications

- ☒ Site Perimeter
- ☒ Exposed Areas
- ☒ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources



Dust should be suppressed through the application of water or soil binders.

Alternative BMPs to Consider

- Not applicable.

Use In Conjunction With

- CP-1 Scheduling
- SS-2 Mulch Cover
- SS-3 Temporary Seeding
- SS-4 Erosion Seeding
- SS-5 Soil Binders
- SS-6 Rolled Erosion Control Products

Limitations

- Effectiveness depends on soil, temperature, humidity, wind velocity, and wind direction.

Effectiveness

- Most effective when appropriate BMPs are selected based on site conditions like soil, temperature, humidity, wind velocity, and wind direction.

SS-8 Wind Erosion Control

Materials

- Refer to SS-5 Soil Binders, SS-6 Rolled Erosion Control Products, and any other applicable BMPs for specified materials.
- Wind fencing consists of a prefabricated commercial product made of woven polyethylene and ultraviolet resistant material with a porosity of 50% minimum.

Design and Installation

Water Spraying

- Apply water using pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles capable of uniformly distributing the water over the application area.
- Do not use excessive amounts of water that may cause soils to be saturated and create other problems such as excess runoff, mud/dirt tracking, or icing in winter months.
- Unless water is applied by means of pipelines, make at least one mobile unit available at all times to apply water or dust suppressants.
- If reclaimed wastewater is used, comply with DEQ water reclamation criteria for sources and discharges. Do not convey non-potable water in tanks or drain pipes that may be used to convey potable water. Do not connect between potable and non-potable water supplies. Mark non-potable tanks, pipes, and other conveyances as "Non-Potable Water – Do Not Drink."

Dust Suppressants

- Apply in accordance with submitted manufacturer's recommended application rates and methods for soil stabilizers and soil binders.
- Apply materials in accordance with all local, state, tribal, and federal regulations.

Wind Barriers

- Provide wind fencing consisting of a prefabricated commercial product made of woven polyethylene and ultraviolet resistant material with a minimum porosity of 50%.
- Wind fencing is most protective when installed in an orientation perpendicular to the prevailing wind direction.
- Wind fencing should be a minimum height of 45 inches, with the bottom gap between the fencing and the ground at 15 inches minimum.
- For wind protection of stockpiles, place wind fencing upwind of the stockpile a distance of approximately 3 times the height of the stockpile.

Covers

- Refer to SS-6, Rolled Erosion Control Products for installation guidelines for slopes and stockpiles.

SS-8 Wind Erosion Control

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure BMPs installed for wind erosion are functioning properly. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Check areas protected to ensure coverage.
- Continue to disperse water as needed for dust suppression.

Removal

- Remove wind fencing and other non-degradable devices used for wind erosion control when soils are stabilized or upon completion of the work.

Temporary Construction Entrance

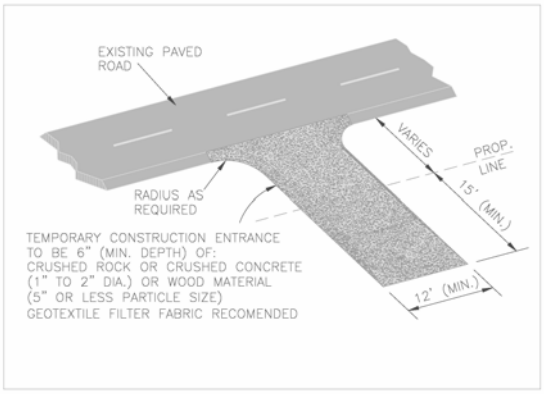
Each lot must have a temporary construction entrance if the permanent access is not in place. The purpose is to minimize tracking of sediments on to the street. It is the site operator's responsibility to see that all deliveries and construction equipment use this entrance.

The temporary construction entrance should be crushed rock, wood chips, or crushed concrete.

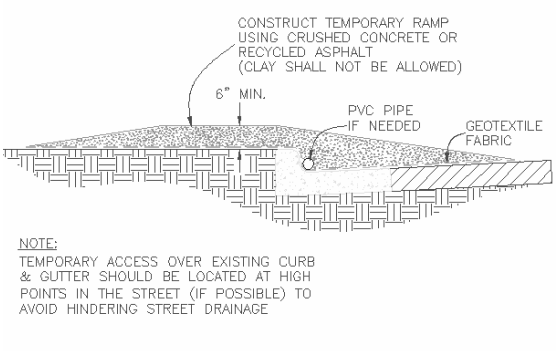
Wood material used for temporary construction accesses shall consist of "Coarse" grade material. Material shall consist of shredded bark of wood ground so that 95% of the material passes through a 5-inch sieve and no more than 45% through a ¾" sieve. Wood shall not contain material that would be harmful to equipment nor shall it contain compounds in quantities detrimental to animals, plant life or water quality. The material will have a dry bulk density of less than 22.2 lbs per cubic foot.

If the curb does not have a drop at the location of the temporary construction entrance a temporary ramp will be necessary. The ramp should be constructed of asphalt or crushed concrete.

Typical Temporary Construction Entrance



Temporary Access over Curb & Gutter





Best Access



Better Access



Non-compliant Access

Chapter 9

Fords and Low-Water Crossings

"Keep the ford profile low, armor the driving surface, and protect against scour."

Low water crossings, fords, or drifts, as they are commonly called, can offer a desirable alternative to culverts and bridges for stream crossings on low-volume roads where road use and stream flow conditions are appropriate. Like other hydraulic structures for stream crossings, they require specific site considerations and specific hydrologic, hydraulic, and biotic analyses. Ideally, they should be constructed at a relatively narrow, shallow stream location and should be in an area of bedrock or coarse soil for good foundation conditions. A ford can be narrow or broad, but should not be used in deeply incised drainages that require a high fill or excessively steep road approaches.

Low-water crossings may have a simple rock reinforced (armored) driving surface or an improved surface such as gabions or a concrete slab, as seen in *Figure 9.1a* and *Photo 9.1*. Vented fords combine the use of culvert pipes or box culverts to pass low flows and a reinforced driving surface over the culverts to support traffic and keep traffic out of the water most of the time, as seen in *Figures 9.1b* and *c*. The reinforced driving surface over the pipes also resists erosion during overtopping at high water flows (*Photo 9.2*). The entire wetted perimeter of the structure



Photo 9.1 Use armored low-water crossings, fords, or drifts as often as possible to cross low flows in broad, shallow natural drainages, thus avoiding the use of pipes. Note that part of this reinforced driving surface needs repair.



Photo 9.2 **A vented ford, using multiple culvert pipes to handle low flows through the pipes, yet allow major flows and debris to overtop the entire structure.**

should be protected to a level above the anticipated high water elevation.

Key factors to consider for the design and location of a ford include the following: low and high water levels; foundation conditions; scour potential; allowable traffic delays; channel cross-section shape and confinement; protection of the downstream edge of the structure against local scour; stream channel and bank stability; locally available construction materials; and grade control for fish passage.

ADVANTAGES OF LOW-WATER CROSSINGS

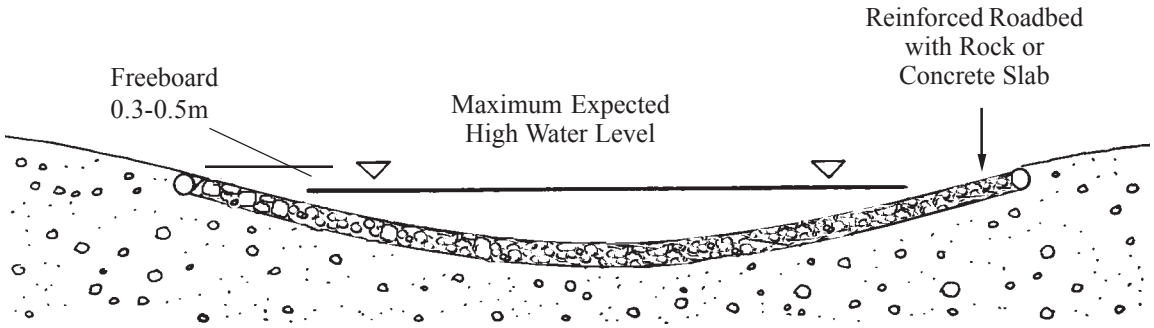
- The major advantage is that a ford is usually not susceptible to plugging by debris or vegetation the way a culvert pipe may plug.
- Fords are typically less expensive structures than large culverts or bridges. They may be initially more expensive than culverts, but they require less fill in the channel, and they can accommodate larger flows.
- Vented fords can be used to pass low flows and keep vehicles out of the water, avoiding water quality degradation.
- The structure can be designed as a broad-crested weir that can pass a large flow volume over the top of the ford. It is not very sensitive to specific flow volumes since a small increase in flow depth greatly increases capacity. They can be more "forgiving" and accommodate more uncertainties in the design flow and thus are ideal for drainages with unknown or variable flow characteristics.

DISADVANTAGES OF LOW-WATER CROSSINGS

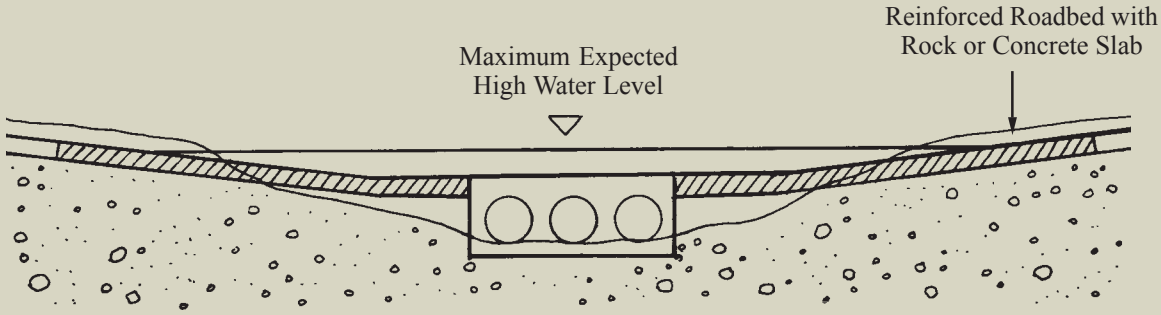
- Ford-type structures imply some periodic or occasional traffic delays during periods of high flow.
- The shape is not easily suitable to deeply incised drainages that would require high fills.
- Since the shape of the structure involves a dip and periodic delays, they are typically not desirable for high use or high-speed roads.
- Vented fords may back up the bedload in a stream channel, causing culvert plugging, requiring maintenance, and causing other channel adjustments.
- Fish passage may be difficult to incorporate into the design.
- Crossing the structure can be dangerous during periods of high flow (*Figure 9.2*).

For fish or aquatic species passage, a natural or rough stream channel bottom should be maintained through the ford, and water velocities should not be accelerated. Ideal structures are either vented fords with box culverts and a natural stream bottom (see *Photo 9.5*) or simple on-grade fords with a reinforced, rough driving surface (*Figure 9.1a*).

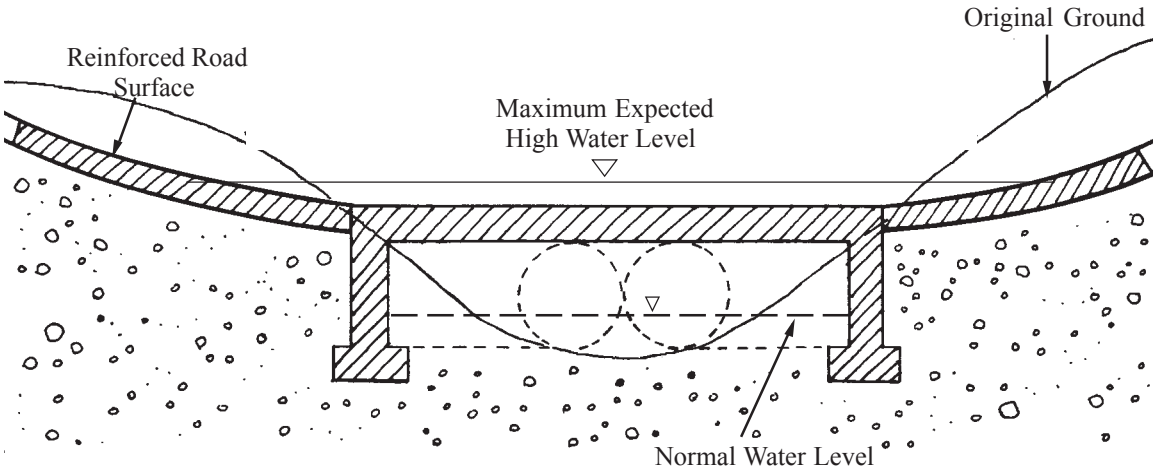
Figure 9.1 Basic low-water crossing (fords or drifts) options. Note: Armor the road surface (with rock, concrete reinforcement, etc.) to an elevation **above** the high water level!



a. Simple Low-Water Crossing with Reinforced Roadbed of Rock or Concrete

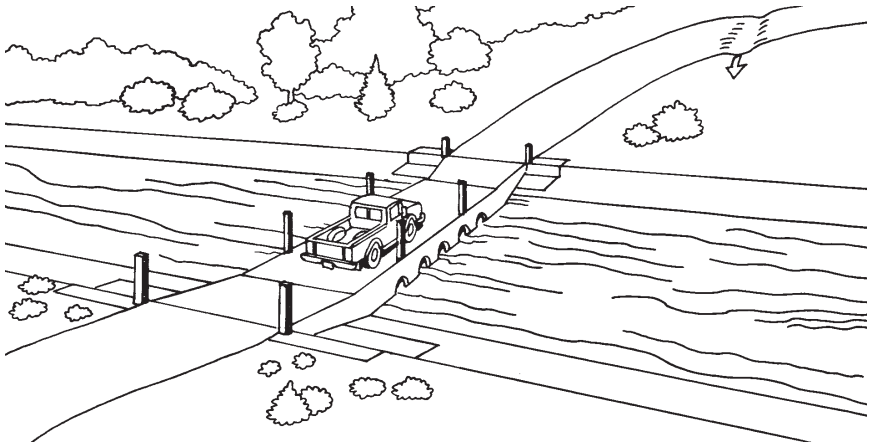


b. Improved (Vented) Ford with Culvert Pipes in a Broad Channel

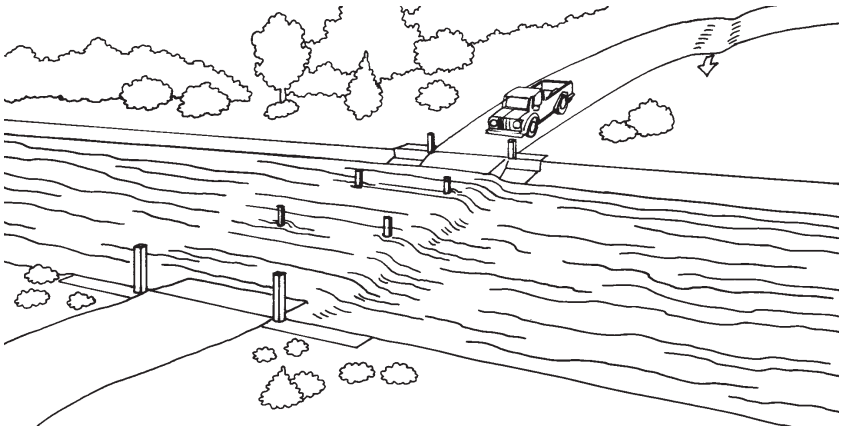


c. Vented Ford with Pipes or Box Culverts in an Incised Channel

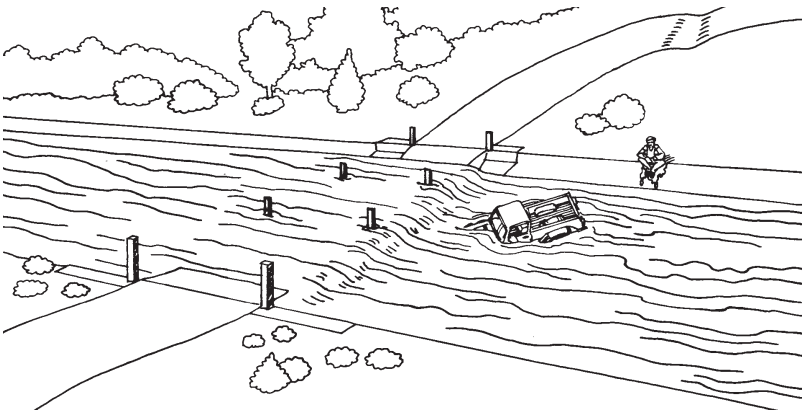
Figure 9.2 Danger of crossing a ford at high water. Fords require occasional traffic delays during periods of high water. *(Adapted from Martin Ochoa, 2000 and PIARC Road Maintenance Handbook, 1994)*



a. Low-water crossing at low water.



b. Low-water crossing at high water – WAIT!



c. Crossing during high water can be dangerous!

RECOMMENDED PRACTICES

- Use an adequately long slab or structure to protect the "wetted perimeter" of the natural flow channel. Add protection above the expected level of the high flow (*Photo 9.3*). Allow for some freeboard, typically 0.3 to 0.5 meters in elevation, between the top of the reinforced driving surface (slab) and the expected high water level (see *Figure 9.1*). The flow capacity of a ford, and thus the high water level, can be estimated using a "Broad-Crested Weir" formula.

- Protect the entire structure with cutoff walls, riprap, gabions, concrete slabs, or other scour protection. The downstream edge of a ford is a particularly critical location for scour and needs energy dissipators or riprap protection because of the typical drop in water level off the structure and the accelerated flows across the slab.

- For simple rock fords, use large graded rock in the roadbed through the creek, large enough to resist the flow of water. Use criteria as shown in *Figure 6.1*. Fill the voids with clean, small rock or gravel to provide a smooth driving surface. This small rock will have to be periodically maintained and replaced.

- Use fords for crossing seasonally dry streambeds or streams with low flows during most periods of road use. Use improved (vented) fords with pipes or concrete box culverts to pass low water flows (*Photo 9.4*). Accommodate fish passage where needed using box culverts with a natural stream channel bottom (*Figure 9.1c* and *Photo 9.5*).

- Locate fords where stream banks are low and where the channel is well confined. For moderately incised drainages, use improved fords with pipe or box culverts (*Figure 9.1c*).

- Place foundations into scour resistant material (bedrock or coarse rock) or below the expected depth of scour. Prevent foundation or channel scour with the use of locally placed heavy riprap, gabion baskets, concrete reinforcement or dense vegetation.

- Use well placed, sturdy depth markers at fords to advise traffic of dangerous water depths (*Figure 9.2*).

PRACTICES TO AVOID

- Constructing sharp vertical curves on fords that can trap long trucks or trailers.

- Placing approach fill material in the drainage channel.

- Crossing fords during high water flows.

- Placing low-water crossings on scour susceptible, fine grained soil deposits, or using designs without scour protection.

- Constructing fords that block upstream and downstream passage of fish.



Photo 9.3 With low-water crossings, the downstream edge of the structure typically must be protected against scour and the entire wetted perimeter (to a level above the high water level) should be reinforced.



Photo 9.4 Use vented fords with pipes or openings to keep traffic out of the water most of the time, minimize traffic delays, and allow for fish passage. Note the downstream scour protection with gabions and rock.



Photo 9.5 Some fords can be designed as "low-water bridge" structures. They must be designed to be occasionally overtopped and have an erosion resistance deck and approaches. This structure is ideal for fish passage.

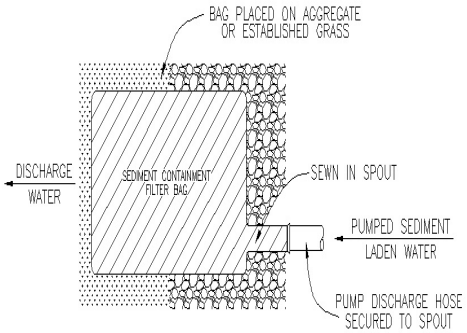
Construction Site Dewatering

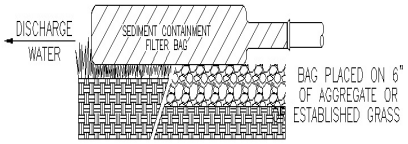
Removing excess water from a construction site is crucial to getting the job done. It is understood that it is not in anybody's best interest to wait for a site to dry out and pumping storm water may be necessary.

It is not however acceptable to discharge sediment laden water into inlets, curb lines, or anywhere else that they can come into contact with the storm sewer system or a natural water body.

Pumped sediment laden construction site water must be treated to eliminate the sediment before releasing the water. Treatment can be as simple as using a sediment containment bag (AS SHOWN BELOW). For smaller amounts of water a filter sock may be all that is necessary.

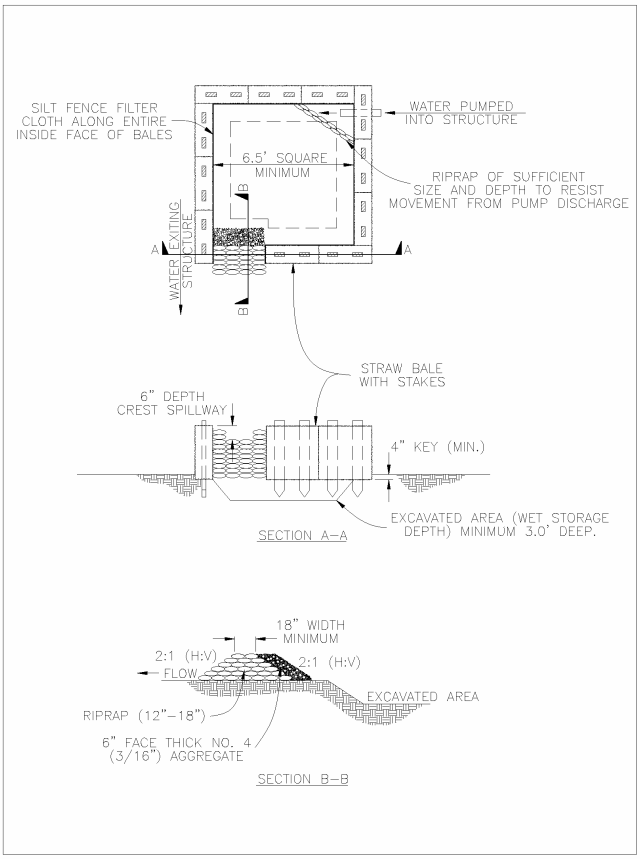
Sediment Containment Bag



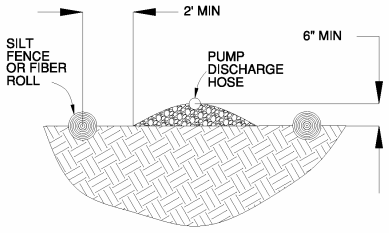


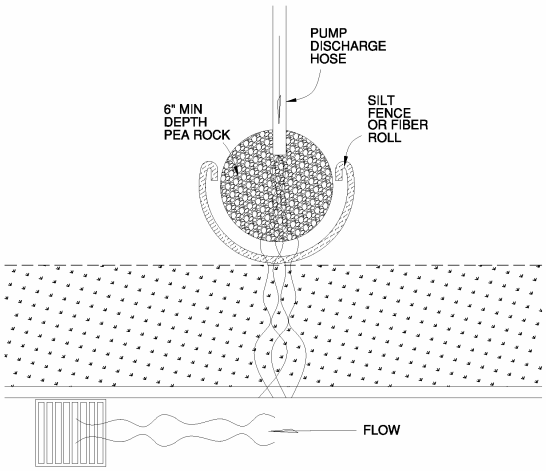
For larger amounts of water an operator may require a containment structure such as the one shown in the upper right. The intent of such a structure is to handle large amounts of pumped water and facilitate sediment removal. Structures must be sized appropriately for the pump or pumps total capacity. The lower right shows an alternative dewatering structure that can be constructed from materials most contractors have on hand. This structure is adequate for most situations.

Dewatering Structure



Alternative Dewatering Structure





GH-1 Vehicle and Equipment Cleaning

Definition and Purpose

Procedures and practices used to minimize or eliminate the discharge of pollutants from vehicle and equipment cleaning operations to storm drain systems or watercourses, and to reduce or eliminate spread of noxious weeds and invasive plant species from the project site.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- GH-8 Spill Prevention and Control
- WM-1 Solid Waste Management
- WM-2 Hazardous Waste Management
- WM-3 Contaminated Soil Management
- WM-6 Liquid Waste Management

Limitations

- On-site vehicle and equipment washing is discouraged.
- Cleaning vehicles and equipment generates liquid, semi-solid and solid wastes, which must be contained on-site and/or treated to prevent pollution.
- Construction of enclosed wash area and wash water disposal can be costly.

Effectiveness

- Most effective when proper containment and disposal plans are in place to ensure the effectiveness of vehicle and equipment washing on site. Off-site vehicle and equipment cleaning is encouraged.

GH-2 Vehicle and Equipment Fueling

Definition and Purpose

Vehicle and equipment fueling procedures and practices to minimize or eliminate the discharge of fuel spills and leaks into the storm drain system or to watercourses.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

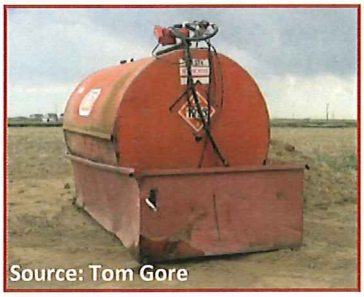
- Not applicable

Use In Conjunction With

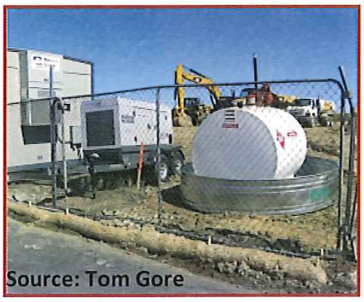
- GH-8 Spill Prevention and Control
- WM-3 Contaminated Soil Management
- WM-6 Liquid Waste Management

Limitations

- Only use on-site vehicle and equipment fueling when it is impractical to send vehicles and equipment off-site.
- Some permit requirements may dictate whether on-site fueling is allowed.



Check fuel containment for spills and leaks.



Fuel should be properly stored in leak-proof containers.

Effectiveness

- Most effective when fueling areas are located away from downstream drainage facilities and watercourses, when fueling areas are properly contained, and when proper fueling and waste management guidelines are understood and followed by project personnel.

GH-2 Vehicle and Equipment Fueling

Materials

- Provide absorbent spill clean-up materials and spill kits in fueling areas and on fueling trucks and dispose of used materials in accordance with all laws, rules, and applicable regulations.

Design and Installation

- When fueling must occur on site, select and designate an area to be used.
- Protect dedicated fueling areas from storm water run-on and runoff, and locate at least 50 feet from downstream drainage facilities and watercourses.
- Fueling must be performed on level-grade areas.
- Make absorbent spill clean-up materials and spill kits available and appropriately identified in fueling areas and on fueling trucks.
- Use absorbent materials on small spills. Do not hose down or bury spills. Remove spent absorbent material promptly and dispose of all used materials in accordance with all laws, rules, and applicable regulations.
- Use drip pans or absorbent pads during vehicle and equipment fueling.
- In vehicle and equipment fueling areas, use only nozzles equipped with an automatic shut-off. Do not leave fueling operations unattended.
- Size the containment area to provide sufficient freeboard.
- Protect fueling areas with impermeable berms and/or dikes to prevent run-on, runoff, and to contain spills.
- Do not top off fuel tanks.
- Comply with all federal, state, tribal, and local requirements for any stationary above-ground storage tanks.
- Whenever practical, transport equipment to the designated fueling area rather than using mobile fueling operations.

Inspection and Maintenance

- Provide regular inspections of fueling areas and storage tanks at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect vehicles and equipment daily for leaks.
- Repair leaks immediately, or remove problem vehicles/equipment from the project site.
- Keep an ample supply of spill clean-up material on the site.
- Immediately clean up spills and dispose of contaminated soil and clean-up materials in accordance with all laws, rules, and applicable regulations.

Removal

- Remove the fueling area, berms/dikes, and fueling area equipment when no longer needed or at the completion of the work.

GH-1 Vehicle and Equipment Cleaning

Materials

- Not applicable.

Design and Installation

- On-site vehicle and equipment washing is discouraged.
- All vehicles and equipment that regularly enter and leave the construction site must be cleaned off site. Clean all equipment and vehicles prior to their transport into the project area.
- Do not allow equipment or vehicles with visible dirt or plant parts into the project area until they are cleaned.
- If vehicle and equipment washing and cleaning must occur on site, designate on-site stations on impervious surfaces, if possible, and 50 feet away from storm drain inlets, drainage facilities, or watercourses.
- If the operation cannot be located within a structure or building equipped with appropriate disposal facilities, provide an outside cleaning area meeting the following characteristics.
  - Located 50 feet away from storm drain inlets, drainage facilities, or watercourses.
  - Paved with concrete or asphalt and bermed with an impermeable material to contain wash waters and to prevent run-on and runoff.
  - Configured with a sump to allow collection and disposal of wash water.
  - Used only when necessary.
- Contain vehicle and equipment wash water for percolation or evaporative drying away from storm drain inlets, drainage facilities, open ditches, and/or watercourses. Do not discharge wash water within the right-of-way, to storm drains, or watercourses.
- Do not cleaning vehicles and equipment with soap, detergents, solvents, or steam on the project site unless the resulting wastes are fully contained and disposed of in accordance with all laws, rules, and applicable regulations.
- The use of diesel fuel for vehicle and equipment cleaning is prohibited.
- When cleaning vehicles/equipment with water:
  - Use as little water as possible. High-pressure sprayers may use less water than a hose, and should be considered.
  - Use positive shutoff valve to minimize water usage.
- Provide facility wash racks which discharge to a sanitary sewer, recycle system, or other appropriate discharge system and which do not discharge to storm drains or watercourses.

Inspection and Maintenance

- Provide regular inspections of vehicle cleaning areas at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect sump regularly and remove liquids and sediment as needed to ensure intended use and function is maintained.

Removal

- Remove the vehicle and equipment cleaning station from the construction site following project completion.
- All wash water must be disposed of in accordance with all laws, rules, and applicable regulations.

GH-3 Vehicle and Equipment Maintenance

Definition and Purpose

Vehicle and equipment maintenance procedures and practices to minimize or eliminate the discharge of pollutants to the storm drain system or to watercourses from vehicle and equipment maintenance procedures. This BMP promotes the proper disposal of equipment and other vehicle maintenance waste or debris.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- GH-8 Spill Prevention and Control
- WM-2 Hazardous Waste Management
- WM-3 Contaminated Soil Management

Limitations

- Local codes and ordinances regarding the disposal of fluids and consumable goods, and the on-site maintenance of equipment.



Source: Tom Gore

Use drip pans or spill pads during vehicle maintenance.



Source: Tom Gore

Minimize vehicle leaks to the soil surface.

Effectiveness

- Most effective when maintenance areas are designated and located away from downstream drainage facilities and watercourses, when fluid containers are properly stored, and when proper maintenance guidelines are understood and followed by project personnel.

GH-3 Vehicle and Equipment Maintenance

Materials

- Do not use diesel fuel as a cleaning agent or as a release agent for any paving equipment or operations. Use a commercially-manufactured release agent.
- Make drip pans, absorbent pads, spill clean-up materials, and spill kits available in maintenance areas.
- Provide readily available MSDS for all materials used or stored on the project site.

Design and Installation

- Use off-site maintenance facilities whenever practical.
- When vehicle and equipment maintenance must occur on site, select and designate an area to be used.
- Protect dedicated maintenance areas from storm water run-on and runoff, and locate at least 50 feet from downstream drainage facilities and watercourses.
- For long-term projects, consider using portable tents or covers over maintenance areas.
- Use drip pans or absorbent pads during vehicle and equipment maintenance work that involves fluids.
- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Place drip pans or plastic sheeting under all vehicles and equipment located on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Make absorbent spill clean-up materials available in maintenance areas and dispose of waste materials in accordance with all laws, rules, and applicable regulations.
- Use non-toxic substances to coat asphalt transport trucks and asphalt-spreading equipment. Dispose of used oils, fluids, lubricants, and spill clean-up materials in accordance with all laws, rules, and applicable regulations.
- Do not dump fuels and lubricants onto the ground.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Recycle or dispose of used batteries in accordance with all laws, rules, and applicable regulations.
- Do not bury used tires.
- Provide spill containment dikes or secondary containment around stored oil and chemical drums.

Inspection and Maintenance

- Provide regular inspections of vehicle and equipment maintenance areas at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect vehicles and equipment on each day of use.
- Repair leaks immediately or remove the problem vehicle/equipment from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.
- Inspect waste fluid containers for leaks and maintain them in a leak-proof condition.
- Keep an ample supply of spill clean-up material on the site.

GH-3 Vehicle and Equipment Maintenance

Removal

- Remove the vehicle and equipment maintenance station when no longer needed or at the completion of the work.
- Dispose of all vehicle and equipment fluids in accordance with all laws, rules, and applicable regulations.

Construction Barrier

Definition

Construction barriers are fences, signs, and other devices used on constructions sites for:

- Limiting the movement of personnel, vehicles, and equipment, to only specific, predetermined areas necessary for ingress/egress and for performing the work. This minimizes disruption of the site, maximizes the preservation of existing vegetation, and reduces the potential for soil erosion or compaction.

- Protecting trees against abrasion or damage, and protecting their root zones against soil compaction. Note that it takes 20 to 30 years for newly-planted trees to provide the benefits of mature trees.

- Protecting sensitive areas, such as water bodies or newly seeded areas.

- Preventing unnecessary, unauthorized, or inadvertent access by people, vehicles, and equipment, to structural BMPs or other prohibited areas of the construction site.

Pollutants Controlled

Using barriers for confining construction activities to specific, predetermined locations at a given construction site reduces the potential for soil erosion, by minimizing the area of disturbance.

Advantages & Disadvantages

Effective use of construction barriers may reduce or eliminate the need for post construction re-grading, or revegetation of slopes or raw areas.

Location

Use at any construction areas where earth changes are taking place, or where confinement or protection of personnel, property, or natural resources is needed. Suitable land uses include transportation (highways), urban (drains, and private, commercial, or industrial development), and golf courses. This practice is particularly critical for preventing traffic and other potentially disruptive activities on construction sites with erodible soils or steep slopes, as these areas are more susceptible to erosion.

Apply this practice prior to the start of construction and as needed throughout the duration of the project. Some barriers, such as vehicle deterrent barriers, may remain in place after project completion.

Companion & Alternate Practices

Like other measures such as Tree Protection, construction barrier is a passive practice that helps prevent erosion by restricting the movement of people and vehicles to only those areas of a site where work is being done, and by preventing unnecessary access to all other areas, including critical areas (see Critical Area Stabilization). However, construction barriers must still be used in conjunction with other active soil erosion and sedimentation control practices—such as Access Roads, Rolled Erosion Control Products, Silt Fences, Turbidity Curtains, and others—to minimize erosion and/or treat runoff from areas where work is being done and across which traffic is moving. Areas protected by construction barrier may also still need to be stabilized.

Design

1. Make all barriers which are to separate the construction area from pedestrian thoroughfares, or to alert personnel of hazardous conditions, stable and easily legible.

2. A tree's drip line is defined as the outermost extent of the tree's canopy, projected vertically straight downward to the ground around the tree. Set up barriers just outside of the drip lines of all trees which are to remain intact during and after construction. Pounding barriers into the ground within the drip line of trees may cause root damage and weaken the tree. Follow specifications in the Tree Protection BMP.

3. Do not nail or otherwise post signs on trees.

4. In large, open areas susceptible to wind erosion, consider protecting sprigged or seeded areas with fencing.

5. Barriers are particularly important around detention, retention, and Sediment Basins; and dams or cofferdams. At a minimum, include with barriers in these areas signs warning of potential dangers. Fencing may also be needed depending for steep slopes, at outlets where water flows, around deep water, etc.

   Select the appropriate structure type for the intended use:

   a. Temporary: Construction barriers can consists of wood and wire snow fencing, plastic fencing, or similar types, that provide openings to allow the passage of wind and water through them.

   b. Permanent: Can be constructed of wood, plastic, synthetic fabric, plastic, or any other appropriate material. See the item above regarding the use of Silt Fence as construction barrier;

6. Silt Fence is not generally recommended as a construction barrier, because locations where either practice is needed will not typically coincide. Silt Fence is to be installed along single isopleths (i.e., lines) of elevation, whereas construction barrier may need to be installed across (i.e., up or down) slopes.

If Silt Fence is installed incorrectly (i.e., by not being put in the proper location), it can actually concentrate flows, thus causing erosion. Another potential problem with using Silt Fence as a construction barrier is the relatively limited visibility (both in terms of height, and color) of Silt Fence, which could increase the possibility of it being damaged by construction equipment.

However, if the potential complications mentioned above are not an issue, Silt Fence can theoretically be used as construction barrier. Doing so will require extra diligence in assuring that the Silt Fence is not damaged in its role as construction barrier.

One alternative to an area (i.e., line) where both Silt Fence and construction barrier are needed is to install both practices parallel to each other, with the Silt Fence just inside the construction barrier for protection. While the initial cost for such an installation would be more than using just Silt Fence, the protection afforded by the construction barrier might provide cost savings in reduced maintenance require to keep the Silt Fence operational.

Use cyclone fencing with secure, locked gates around dangerous areas, such as deep basins.

Use snow fence to both prevent pedestrian access, and to control wind erosion.

Construction Guidelines

Pre-Construction

1. Construct signs out of durable materials, and print the signs legibly.

2. Construct fencing following specifications for the type being installed. Be sure all posts are sturdy, and all materials are suitable for the intended uses. One source of specifications for standard wire, suspension, electric, and permanent power fencing is the Natural Resource Conservation Service Field Office Technical Guide section titled "Fence (Feet) 382."

3. Install any Silt Fence that's to be used on the site, following the manufacturer's recommendations. See the Silt Fence BMP for general installation guidelines. Ensure that any Silt Fence does not concentrate flow, which could exacerbate erosion. Refer to item 6. above in the **Design** section, regarding the use of Silt Fence as construction barrier.

Post-Construction

1. Remove all temporary construction barriers. Before leaving the site, inspect all permanent barriers to ensure they are in good working order, and make any necessary repairs.

2. When removing tree protection barriers, assure that trees are still in good health. If possible, repair any damaged trees. Otherwise, remove and replace any severely damaged, unrepairable trees. See the Tree Protection BMP for techniques on how to properly repair damaged roots and limbs, and for information on replacing trees.

Maintenance

Inspect and maintain barriers on a regular basis. Immediately repair or replace any damaged signs or fences.

Although Silt Fence is not recommended as a construction barrier, areas where it is being used as such will be prone to damage. These areas therefore require particular diligence in conducting regular maintenance, to ensure that the silt fencing is operating as necessary.

GH-5 Material Delivery and Storage

Definition and Purpose

Procedures and practices for the proper handling, delivery, and storage of all construction materials in a manner that minimizes or eliminates the discharge of these materials to a storm drain system or to watercourses. These procedures are implemented when the following materials are used or prepared on site: soil; pesticides and herbicides; fertilizers; detergents; plaster; asphalt and concrete; petroleum products such as fuel, oil, lubricants, and grease; soil stabilizers and binders; hazardous chemicals such as acids, lime, glue, adhesives, paints, solvents, and curing compounds; and other materials that may be harmful to the environment.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- GH-6 Material Use
- GH-8 Spill Prevention and Control
- WM-2 Hazardous Waste Management

Limitations

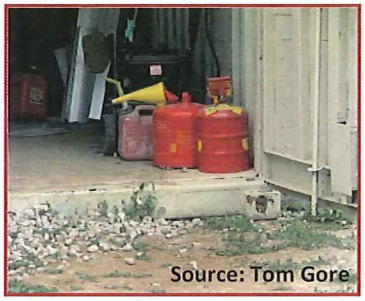
- Space limitation may preclude indoor storage.
- Storage sheds must meet building and fire code requirements.

Effectiveness

- Most effective when materials are properly contained and stored away from drainage facilities and watercourse, and when proper storage guidelines are understood and followed by project personnel.



Store liquids and petroleum products in approved containers and drums. Place them in temporary containment areas for storage.



When available, store materials indoors within existing structures or sheds.

GH-5 Material Delivery and Storage

Materials

- Provide readily available MSDS for all materials used or stored on the project site.

Design and Installation

- Train project personnel on proper material delivery and storage practices.

Material Storage Areas and Practices

- When available, store materials indoors within existing structures or sheds.
- Storage sheds must meet building and fire code requirements.
- Locate chemical and material storage areas away from low areas, drainages and stream banks, and outside the 100-year flood level.
- Locate temporary storage areas away from vehicular traffic.
- Store MSDS in a central location, which is accessible at all times and inform all personnel of that location.
- Store liquids and petroleum products in approved containers and drums and place them in temporary containment areas for storage. Do not overfill drums.
- Complete storage, preparation, and mixing within temporary containment facilities. Provide each temporary containment facility with a spill containment volume equal to 1.5 times the volume of all containers therein and which is impervious to the materials contained therein for a minimum contact time of 72 hours.
- Provide sufficient separation between stored containers to allow for spill clean up and emergency response access.
- Do not store incompatible materials, such as chlorine and ammonia, in the same temporary containment facility.
- To provide protection from wind and rain, cover temporary containment facilities during non-working days and prior to rain events.
- Maintain temporary containment facilities in a condition which is free of accumulated rainwater and spills.
- Store materials in their original containers and maintain the original product labels in place and in a legible condition. Replace damaged or otherwise illegible labels immediately.
- Store bagged and boxed materials on pallets and do not allowed them to accumulate on the ground.
- To provide protection from wind and rain, cover bagged and boxed materials during non-working days and prior to rain events.
- Protect stockpiles in accordance with GH-7 Stockpile Management.
- Minimize the material inventory stored on-site (e.g., only a few days' supply).
- Have proper storage instructions posted at all times in an open and conspicuous location.
- Keep hazardous chemicals well labeled and in their original containers.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Also see WM-2 Hazardous Waste Management for storing of hazardous materials.

Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored on-site.
- Have employees trained in emergency spill clean-up procedures present when dangerous materials or liquid chemicals are unloaded.

GH-5 Material Delivery and Storage

Design and Installation

Spill Clean-up

- Contain and clean-up any spill immediately.
- If significant residual materials remain on the ground after construction is complete, remove and dispose of any hazardous materials or contaminated soil in accordance with all laws, rules, and applicable regulations.
- See GH-8 Spill Prevention and Control for spills of chemicals and/or hazardous materials.

Inspection and Maintenance

- Provide regular inspections of storage areas at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect containers and storage areas for spills and damage.
- Inspect storage areas before and after rainfall events.
- Maintain storage areas to prevent rainfall and runoff from coming in contact with chemicals or materials.
- Keep storage areas clean, well-organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
- Repaire or replace perimeter controls, containment structures, covers, and liners as needed to maintain proper function.
- Clean areas where materials have been removed to insure that no dust or spillage remains to be washed into storm water.

Removal

- Remove all construction materials from the project site upon completion of the work.

GH-6 Material Use

Definition and Purpose

Procedures and practices for use of construction material in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to watercourses. These measures ensure the proper use of materials such as pesticides, herbicides, and fertilizers; detergent and cleaners; petroleum products such as fuel, oil, and grease; asphalt and concrete compounds; plaster; hazardous materials; and any other materials that may pose a threat to environmental and human health.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- GH-5 Material Delivery and Storage
- GH-8 Spill Prevention and Control

Limitations

- Safer alternative building and construction products may not be available or suitable in every instance.

Effectiveness

- Most effective when proper material handling guidelines are understood and followed by project personnel.

GH-6 Material Use

Materials

- Provide readily available MSDS for all materials used or stored on the project site.
- Provide absorbent spill clean-up materials and spill kits and dispose of used materials in accordance with all laws, rules, and applicable regulations.

Design and Installation

- Store MSDS in a central location, which is accessible at all times, and inform all personnel of that location.
- Latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, may be disposed of with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Do not clean paint brushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled in accordance with all laws, rules, and applicable regulations.
- For water-based paint, clean brushes to the extent practical and rinse to a drain leading to a sanitary sewer where permitted, or into a concrete washout pit or temporary sediment trap. For oil-based paints, clean brushes to the extent practical, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity.
- Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials on-site when practical.
- Do not over-apply fertilizers and pesticides. Prepare only the amount needed. Strictly follow the recommended usage instructions. Apply surface dressings in smaller applications, as opposed to large applications, to allow time for it to work in and to avoid excess materials being carried off-site by runoff.
- Provide a licensed applicator for the application of herbicides and pesticides.
- Maintain logs for all pesticides and herbicides applied, including brand name, formulation, EPA registration number, amount and date applied, exact location of application, size of area treated, vehicle calibration, and name, address, and certification number of applicator.
- Keep an ample supply of spill clean-up material near use areas. Train employees in spill clean-up procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Comply with all pertinent local, tribal, state and federal regulations.

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Maintain an ample supply of clean-up materials at all designated maintenance areas where leaks and spills are likely to occur.
- Spot check project personnel monthly throughout the job to ensure appropriate practices are being employed.

GH-6 Material Use

Inspection and Maintenance

- Check material use areas regularly for non-labeled materials and spills.
- Inspect perimeter controls, containment structures, covers, and liners regularly for spills or damage and repaired or replaced as needed to maintain proper function.

Removal

- Remove all material storage facilities upon the completion of the work.
- Ensure hazardous materials are disposed of in accordance with all laws, rules, and applicable regulations.

GH-7 Stockpile Management

Definition and Purpose

Procedures and practices to reduce or eliminate pollution of storm water from stockpiles of soil and paving materials such as PCCP rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub-base or pre-mixed aggregate, and asphalt binder (cold mix asphalt).

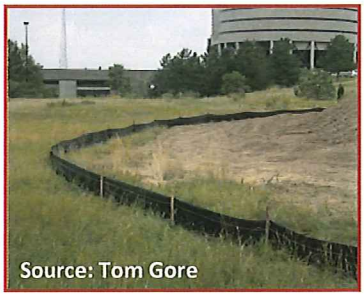
Objectives

- ☒ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☒ Temporary Sediment Control
- ☐ Snow Management
- ☒ **Good Housekeeping**
- ☒ Waste Management

AT A GLANCE

Applications

- ☒ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources



Protect stockpiles from storm water run-on using a temporary perimeter sediment barrier.

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- SS-5 Soil Binders
- SS-8 Wind Erosion Control
- SC-1 Silt Fence
- SC-6 Fiber Rolls
- SC-7 Compost Socks
- SC-9 Sandbag Barrier
- WM-3 Contaminated Soil Management



Stockpiles should be properly contained to reduce pollution of storm water.

Limitations

- Appropriate procedures for specific materials used may need to be adjusted to comply with federal, state, tribal, and local regulations.

Effectiveness

- Most effective when stockpiles are located away from concentrated flows of storm water, drainage courses, and inlets, and when properly protected with perimeter sediment barriers and covered.

GH-7 Stockpile Management

Materials

- Not applicable.

Design and Installation

- Protection of stockpiles is a year-round requirement.
- Locate stockpiles a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets.
- Protect all stockpiles from storm water run-on using a temporary perimeter sediment barrier such as berms, dikes, silt fences, compost socks, or sandbag barriers.
- Cover or protect with soil stabilization measures if rain is predicted.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see SS-8, Wind Erosion Control.
- Manage stockpiles of contaminated soil in accordance with WM-3 Contaminated Soil Management.
- Place all bagged materials on pallets and under cover.
- Comply with local jurisdiction air quality requirements.

Protection of Non-active Stockpiles

- Protect non-active stockpiles as follows.
  - Soil stockpiles
    - Protect with temporary perimeter sediment barriers.
    - Keep stockpiles covered or protected with soil stabilization measures to avoid direct contact with precipitation and to minimize sediment discharge.
    - Contain and securely protect from wind, as appropriate.
  - Stockpiles of PCCP rubble, asphalt concrete, asphalt concrete rubble, aggregate base or sub-base.
    - Protect stockpiles with temporary perimeter sediment barriers at all times.
    - During the rainy season or prior to the onset of precipitation, cover stockpiles to minimize sediment discharge.
- Place stockpiles of cold mix on, and covered with, durable plastic or comparable material at all times when not in use.
- Cover treated wood with durable plastic or comparable material and keep it on pallets at all times when not in use.

Protection of Active Stockpiles

- Protect all stockpiles with a temporary sediment barrier prior to the onset of precipitation.
- Place stockpiles of cold mix on, and covered with, durable plastic or comparable material prior to onset of precipitation.

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure proper measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Inspect stockpiles for spills outside of the perimeter controls and clean up any discharge.

GH-7 Stockpile Management

Inspection and Maintenance

- Repair and/or replace sediment perimeter controls and covers as needed to keep them functioning properly.

Removal

- Remove all stockpiled material, temporary sediment barriers, and covers from the project site once construction is complete.

WM-1 Solid Waste Management

Definition and Purpose

Procedures and practices implemented to minimize and prevent solid waste associated with construction activities from entering the storm drain system or watercourses. The purpose of this BMP is to control a major cause of pollution on construction sites, prevent the contamination of storm water from stockpiled waste materials, and prevent the clogging of storm drain systems.

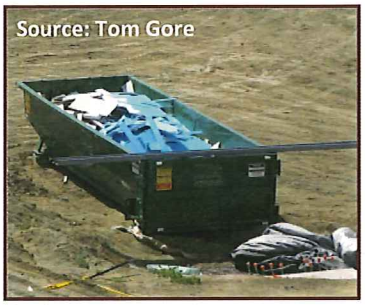
Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ Good Housekeeping
- ☒ **Waste Management**

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources



Designate waste storage areas and provide watertight dumpsters of sufficient size.

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- RC-1 Earth Dikes/Drainage Swales/Lined Ditches
- GH-5 Material Delivery and Storage
- GH-6 Material Use
- GH-7 Stockpile Management
- WM-2 Hazardous Waste Management
- WM-4 Concrete Waste Management
- WM-6 Liquid Waste Management



Do not store solid waste in uncontained locations.

Limitations

- It may be difficult to schedule waste disposal at projects located in remote areas.

Effectiveness

- Most effective when solid waste containers are placed in locations convenient to workers and timely disposal is provided.

WM-1 Solid Waste Management

Materials

- Not applicable

Design and Installation

Education

- Instruct project personnel on identification of hazardous waste.
- Educate project personnel on solid waste handling, storage, and disposal procedures, and require that project personnel follow appropriate procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Prohibit littering by project personnel and visitors.
- Wherever possible, minimize production of solid waste materials.

Collection, Storage, and Disposal

- Designate waste storage areas and provide watertight dumpsters of sufficient size and number to contain the solid waste generated by the project. In addition, provide trash receptacles in the yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Locate solid waste storage areas at least 50 feet from drainage facilities and watercourses and outside of areas prone to flooding or ponding. Prevent storm water run-on from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures, or through the use of measures to elevate waste form site surfaces. Regularly collect litter from work areas within the construction limits of the project site and placed it in watertight dumpsters regardless of whether the litter was generated by project personnel, the public, or others.
- Handle and dispose of litter stored in collection areas and containers using trash-hauling Contractors. Emptied or remove full dumpsters from the project site in a timely manner.
- Maintain materials that are disposed of or temporarily stockpiled outside the right-of-way, but which are visible from the roadway, in a neat and orderly fashion.
- Provide covers for dumpsters and waste containers to prevent entry of rainwater and/or loss of contents by high winds. Protect solid waste not stored in containers from wind and rain by securely covering the waste with tarps or plastic sheeting.
- Dumpster washout on the project site is not allowed.
- Plan for additional containers and/or more frequent pickup during the demolition phase of construction.
- Segregate potentially hazardous waste and liquid waste from non-hazardous construction site solid waste. Additional handling and disposal requirements for hazardous materials and liquid waste are included in WM-2 and WM-6, respectively.
- Salvage or recycle useful vegetation debris, packaging, and/or surplus building materials when practical. For example, trees and shrubs from land clearing can be used as a brush barrier, or converted into wood chips and used as mulch. Wood pallets, cardboard boxes, and construction scraps can be recycled.
- Dispose of all non-salvageable materials in accordance with all laws, rules, and applicable regulations.

WM-1 Solid Waste Management

Inspection and Maintenance

- Provide regular inspections of the project site and solid waste receptacles at the frequency required by the NPDES/MPDES storm water permit to ensure proper solid waste management measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Check for, and remove, litter and debris from drainage grates, trash racks, ditch lines, and other drainage structures.
- Inspect waste receptacles for leaks, inadequate covers, or ineffectiveness and remedy deficiencies.

Removal

- At the conclusion of the project, clean up all affected areas and empty/remove all waste receptacles.

WM-3 Contaminated Soil Management

Definition and Purpose

Procedures and practices implemented to minimize or prevent pollutants from contaminated soil associated with construction activities from entering the storm drain system or watercourses.

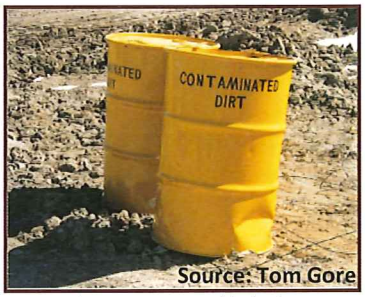
Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ Good Housekeeping
- ☒ **Waste Management**

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources



Source: Tom Gore

Properly contain and label contaminated soils temporarily stored on site.

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- GH-8 Spill Prevention and Control
- WM-2 Hazardous Waste Management

Limitations

- The procedures and practices presented in this BMP are generalized. Identify appropriate practices and procedures for the specific contaminants known to exist or discovered on site.

Effectiveness

- Most effective when project personnel are educated in the identification of contaminated soils as well as proper handling, storage, and disposal requirements.

WM-3 Contaminated Soil Management

Materials

- Not applicable.

Design and Installation

Identifying Contaminated Areas

- Contaminated soils are often identified during project planning and development with known locations indicated in the plans and specifications. Review applicable reports and investigate appropriate call-outs in the plans and specifications.
- Further identify contaminated soils by investigating:
  - past site uses and activities,
  - detected or undetected spills and leaks, and
  - acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline forming elements.
- Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris. Test suspected soils at a certified laboratory.

Education

- Prior to performing any excavation work at the locations containing material classified as hazardous, ensure that project personnel complete a safety training program which meets federal regulations and covers the potential hazards as identified.
- Educate project personnel in identification of contaminated soil and on contaminated soil handling and disposal procedures.
- Hold regular safety meetings to discuss and reinforce disposal procedures.

Handling Procedures for Material with ADL

- Materials from areas designated as containing ADL may, if allowed by the contract special provisions, be excavated, transported, and used in the construction of embankments and/or backfill.
- Ensure that excavation, transportation, and placement operations result in no visible dust.
- Use caution to prevent spillage of lead-containing material during transport.
- Monitor air quality during excavation of soils contaminated with lead.

Handling Procedures for Contaminated Soils

- Test suspected soils at an MDT-approved certified laboratory.
- If the soil is contaminated, work with the local regulatory agencies to develop options for treatment and/or disposal.
- Avoid temporary stockpiling of contaminated soils or hazardous material.
- If temporary stockpiling is necessary:
  - cover the stockpile with plastic sheeting or tarps,
  - install a berm around the stockpile to prevent runoff from leaving the area, and
  - do not stockpile in or near storm drains or watercourses or areas prone to flooding or ponding.
- Remove contaminated material and hazardous material from the exterior of transport vehicles and either place the material in the current transport vehicle or the excavation prior to the vehicle leaving the exclusion zone.

WM-3 Contaminated Soil Management

Design and Installation

- Monitor air quality continuously during excavation operations at all locations containing hazardous material.
- Procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work, including registration for transporting vehicles carrying the contaminated material and the hazardous material.
- Collect water from decontamination procedures, treat, and/or dispose of it in accordance with all laws, rules, and applicable regulations.
- Collect non-reusable protective equipment, once used by any personnel, and dispose of it at an appropriate disposal facility.
- Install temporary security fence to surround and secure the exclusion zone. Remove fencing when no longer needed.
- Excavate, transport, and dispose of contaminated material and hazardous material in accordance with all laws, rules, and applicable regulations.

Procedures for Underground Storage Tank Removals

- Prior to commencing tank removal operations, obtain the required underground storage tank removal permits and approval from the federal, state, tribal, and local agencies, which have jurisdiction over such work.
- Arrange to test any liquid or sludge found in the underground tank prior to its removal to determine if it contains hazardous substances.
- Following the tank removal, take soil samples beneath the excavated tank and perform analysis as required by the local agency representative(s).
- Transport the underground storage tank, any liquid and/or sludge found within the tank, and all contaminated substances and hazardous substances removed during the tank removal to disposal facilities permitted to accept such waste.

Water Control

- Take all necessary precautions and preventive measures to prevent the flow of water, including ground water, from mixing with hazardous substances or underground storage tank excavations. Such preventative measures may consist of, but are not limited to: berms, cofferdams, grout curtains, freeze walls, and seal course concrete or any combination thereof.
- If water does enter an excavation and becomes contaminated, discharge such water, when necessary to proceed with the work, to clean, closed-top, water-tight holding tanks; treat; and dispose of in accordance with all laws, rules, and applicable regulations.

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure proper contaminated soil management measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Monitor air quality continuously during excavation operations at all locations containing hazardous material.
- Coordinate contaminated soils and hazardous substances/waste management with the appropriate federal, state, tribal, and local agencies.
- Inspect hazardous waste receptacles and areas regularly.

WM-3 Contaminated Soil Management

Removal

- Analytical testing of the soil at an accredited laboratory will be necessary prior to disposal.
- Disposal of the soil must be at a licensed disposal facility.

WM-4 Concrete Waste Management

Definition and Purpose

Procedures and practices implemented to minimize or prevent pollutants from concrete waste materials associated with construction activities from entering the storm drain system or watercourses.

Objectives

- ☐ Construction Site Planning
- ☐ Temporary Soil Stabilization
- ☐ Run-on and Runoff Control
- ☐ Temporary Sediment Control
- ☐ Snow Management
- ☒ Good Housekeeping
- ☒ **Waste Management**

AT A GLANCE

Applications

- ☐ Site Perimeter
- ☐ Exposed Areas
- ☐ Slopes
- ☐ Toe of Slopes
- ☐ Ditches
- ☐ Cut/Fill Transitions
- ☐ Inlets and Outlets
- ☐ Sediment Traps/Basins
- ☐ Near Water/Wetlands
- ☒ Pollution/Material Sources

Alternative BMPs to Consider

- Not applicable

Use In Conjunction With

- SC-9 Sandbag Barrier
- SC-12 Inlet/Outlet Protection
- GH-10 Paving and Grinding Operations
- WM-1 Solid Waste Management
- WM-6 Liquid Waste Management

Limitations

- None identified.

Effectiveness

- Most effective when concrete washout facilities are placed at convenient locations near pour sites, and when facilities are monitored and cleaned to provide sufficient storage volume.



Provide properly-contained temporary washout facilities with areas of sufficient volume to completely contain all liquid.



Concrete washout and slurry cannot be wasted to the ground. It must be properly contained.

WM-4 Concrete Waste Management

Materials

- Not applicable.

Design and Installation

Education

- Educate project personnel and suppliers on the concrete waste management techniques described herein.

Concrete Slurry Wastes

- Do not allow PCC and PMS waste, including but not limited to, slurries generated from saw-cutting, coring, grinding, milling, grooving, and hydro demolition to enter storm drains or watercourses.
- Collect and dispose of PCC and PMS waste in accordance with all laws, rules, and applicable regulations.
- Do not allow slurry residue from wet coring or saw-cutting PMS or PCC to enter storm drains or receiving waters by:
  - placing temporary berms or sandbags around coring or saw-cutting locations to capture and contain slurry runoff;
  - placing sandbags or gravel dams around inlets to prevent slurry from entering storm drains;
  - vacuuming slurry waste or collecting it in a temporary pit and allowing it to dry; and
  - properly disposing of slurry residue.
- Dispose of hardened PCC and PMS waste as solid waste in accordance with WM-1 unless the material is to be reused on site in embankments, as base course, as surfacing, or as traffic gravel.
- Install a sign adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.
- Below-grade concrete washout facilities are typical. Above grade facilities are used if excavation is not practical.
- Collect and dispose of slurry residue as well as residue from grooving and grinding operations in a temporary pit (as described in On-site Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below) and allow slurry to dry. Dispose of dry slurry residue as solid waste in accordance with WM-1.

On-site Temporary Concrete Washout Facility & Transit Truck Washout Procedures

- Locate temporary concrete washout facilities a minimum of 50 feet from storm drain inlets, open drainage facilities, and watercourses and away from construction traffic or access areas to prevent disturbance or tracking. Locate concrete washout facilities near the pour site whenever practical for convenient truck access.
- Provide multiple washout locations for sites with extensive concrete work or multiple, dispersed pour locations.
- Install a sign adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities may be constructed above grade or below

WM-4 Concrete Waste Management

Design and Installation

grade, but must be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

- Provide temporary washout facilities with a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste materials generated during washout procedures.
- Perform washout of concrete trucks in designated areas only.
- Once concrete wastes are washed into the designated area and allowed to harden, break up the concrete, remove, and disposed of as solid waste in accordance with WM-1. Dispose of hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)
  - Construct temporary concrete washout facilities (type above grade) with a recommended minimum length and minimum width of 10 feet. Provide a quantity and volume sufficient to contain all liquid and concrete waste generated by washout operations.
  - Provide polyethylene lining material with a minimum of 60 mils and which is free of holes, tears, or other defects that could compromise the impermeability of the material.
  - Provide flexible delineators which conform to the provisions of the contract. Adhere the delineator bases to the pavement. Apply delineators only to a clean, dry surface.
- Temporary Concrete Washout Facility (Type Below Grade)
  - Construct temporary concrete washout facilities (type below grade) with a recommended minimum length and minimum width of 10 feet. Provide a quantity and volume sufficient to contain all liquid and concrete waste generated by washout operations.
  - Provide polyethylene lining material with a minimum of 60 mils and which is free of holes, tears, or other defects that could compromise the impermeability of the material.

Inspection and Maintenance

- Provide regular inspections at the frequency required by the NPDES/MPDES storm water permit to ensure proper concrete waste management measures are being followed. If no storm water permit is required for the project, conduct inspections as specified in the contract.
- Maintain temporary concrete washout facilities to provide adequate holding capacity with a minimum freeboard of 4 inches, for above grade facilities, and 12 inches, for below grade facilities. Maintaining temporary concrete washout facilities includes removing and disposing of hardened concrete and returning the facilities to a functional condition.
- Clean or provide new temporary washout facilities once the washout is 75% full.

Removal

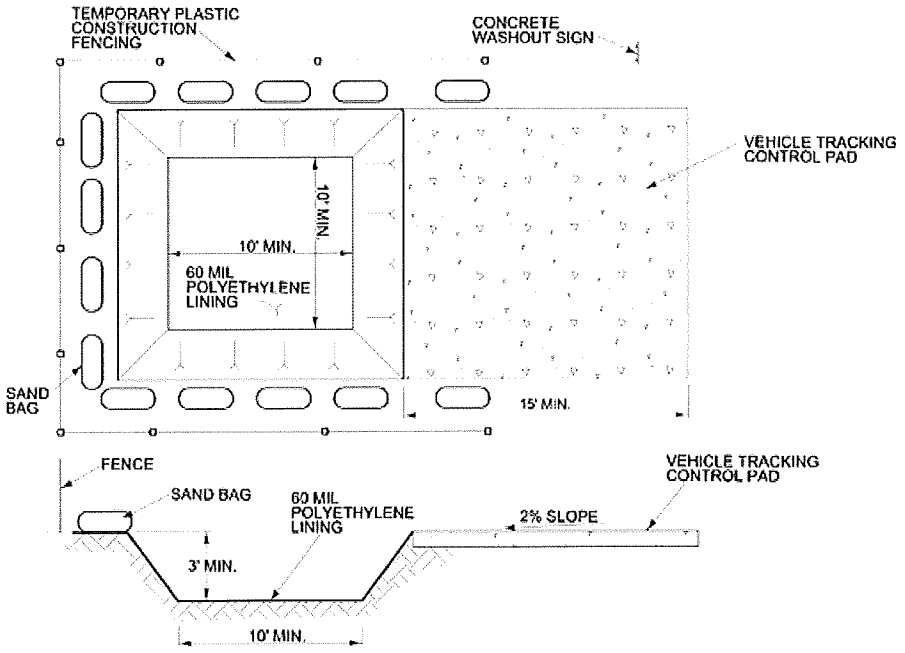
- When temporary concrete washout facilities are no longer required for the work, remove the hardened concrete and disposed of it as solid waste in accordance with WM-1. Remove materials used to construct temporary concrete washout facilities from the work site, and dispose of them in accordance with all laws, rules, and

Removal

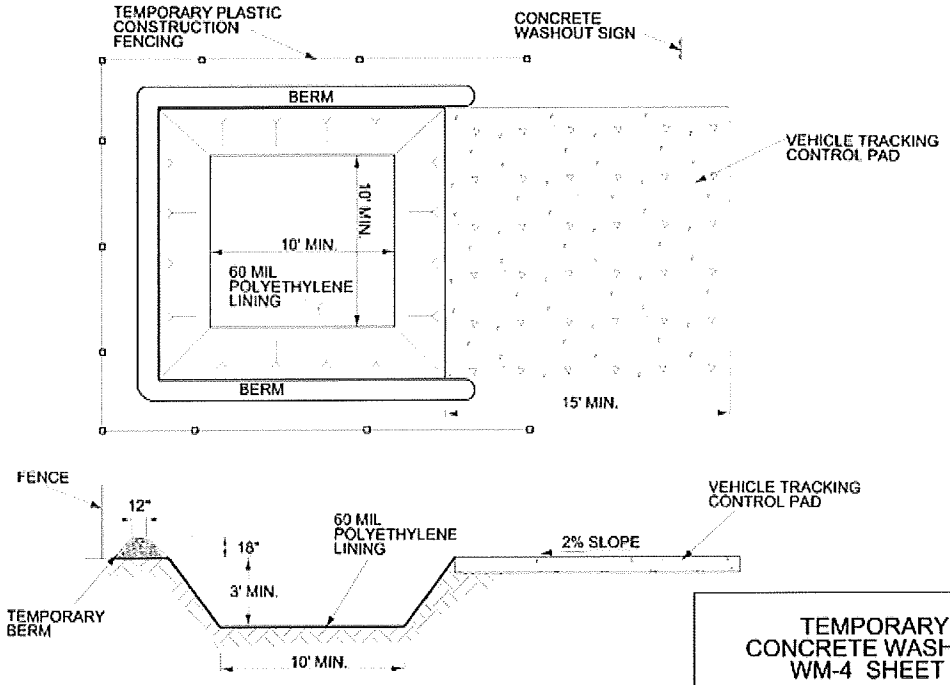
applicable regulations.

- Backfill and repair holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities.

WM-4 Concrete Waste Management



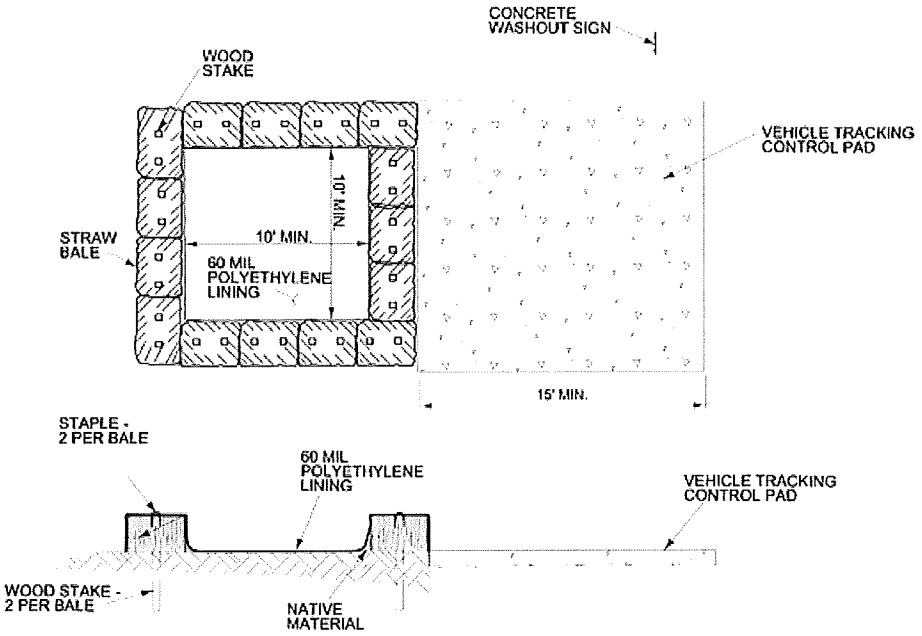
BELOW GROUND WITH SANDBAGS



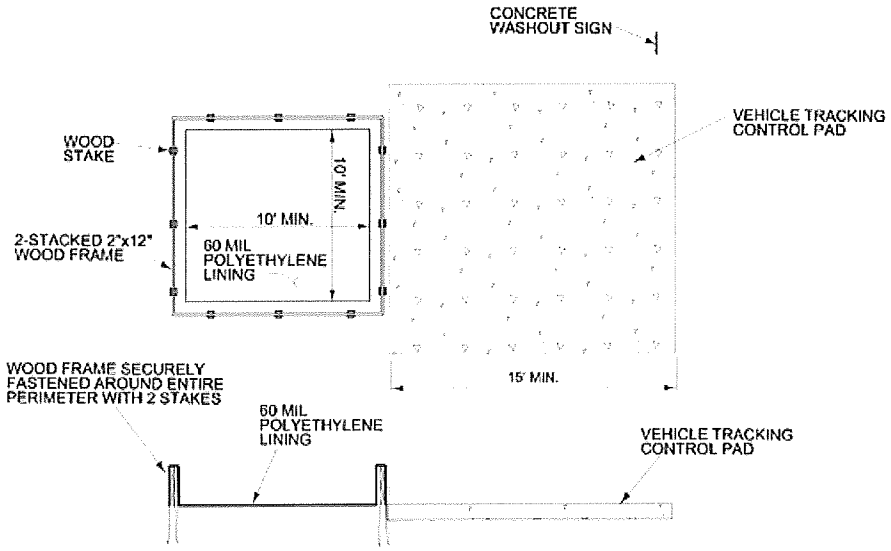
BELOW GROUND WITH BERMS

TEMPORARY CONCRETE WASHOUT
WM-4 SHEET 1

MDT MONTANA DEPARTMENT OF TRANSPORTATION



ABOVE GROUND WITH STRAW BALES



ABOVE GROUND WITH WOOD PLANKS

TEMPORARY
CONCRETE WASHOUT
WM-4 SHEET 2

MDT MONTANA DEPARTMENT OF TRANSPORTATION

STABILIZATION BMPs

SEEDING

Vegetative cover is regarded as the most powerful deterrent for surface erosion. Focusing on this aspect of erosion control, the strategy of quickly establishing vegetative growth on disturbed areas is a powerful planning BMP. Whether as a permanent measure for final stabilization or as temporary stabilization, a clear and steadfast focus should be given to *Seeding*.

Permanent Seeding

Permanent seeding should be implemented on areas of disturbance as soon as they are completed and available. It is not economical to wait until the end of the construction to implement seeding. More revenue can be expended installing and managing BMPs in completed areas, then implementing final stabilization.

Many factors will impact the planning and execution of *Seeding*. Important considerations:

- What is native to the region/elevation
- Soil type, preparation, grade and access
- Time of year, weather patterns
- Will area be irrigated
- Seed selection
- Application method
- Application rate
- Means of providing seedbed cover



Temporary Seeding

Areas that will be dormant or may not be fully readied for final stabilization may be candidates for *Temporary Seeding* applications. This technique can provide interim erosion control and control costs associated with repairing grades damaged by surface erosion.

EROSION SEEDING (MDT)



Adapted from Montana Department of Transportation 208 Standards

Erosion Seeding **is the immediate seeding of freshly exposed slopes steeper than 3:1. Seeding is executed manually without mulch or fertilizer application, but stabilized with equipment tracking.**



RESOLUTIONS FOR DICKEY COUNTY, NORTH DAKOTA RELATING TO MERRICOURT WIND PROJECT

RESOLVED, that the Board of Commissioners of Dickey County acknowledges the potential benefit to Dickey County and all of its citizens which will result from the construction and operation of the Merricourt Wind Project, currently being developed by EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and enXco Development Corporation) and its affiliates (collectively, "EDF");

RESOLVED, FURTHER, that EDF its successors and assigns are hereby granted the right to utilize the public rights of way that have been previously established by law for public travel 33 feet on either side of the congressional section lines for the following purposes: improving such section line rights of way to applicable County standards for vehicular travel (including access by construction equipment), installing access road connections, and for crossing such section line rights of way with access roads, underground electrical collection lines, fiber optic lines, and other related equipment, all in accordance with the civil and collector line design specifications presented to this Board and attached to this Resolution;

RESOLVED, FURTHER, that EDF, its successors and assigns are hereby granted the right, subject to application for and issuance of a standard County Highway Department Utility Permit, to utilize existing Dickey County roads and other rights of way in connection with construction and operation of the Merricourt Wind Project, including the right to install access road connections and crossings, and to bore under such existing roads and rights of way for collection lines, fiber optic lines and other related equipment;

RESOLVED, FURTHER, that EDF, its successors and assigns shall have the right to modify the civil and collector line design specifications presented to this Board as needed to successfully develop and construct the Merricourt Wind Project, on the condition that a copy of such modified plan be provided, upon completion of construction of the Merricourt Wind Project, to the Dickey CountyHighway Superintendent; if the location(s) of any proposed access roads, underground electrical collection lines, fiber optic lines or other related facilities within County rights of way change from that which is attached to this resolution, EDF, its successors and assigns shall notify the Dickey County Highway Superintendent in advance of such modification and provide the new location of such facilities.

RESOLVED, FURTHER, that this resolution reaffirms the resolution adopted March 30, 2011 by this board relating to the Merricourt Wind Project.

RESOLVED, FURTHER, that EDF, its successors and assigns shall have an ongoing right to use and obligation to maintain all such installed roadways as needed for the operation, repair and ultimate decommissioning of the Merricourt Wind Project.

By: Joel E Hamar	By: _____
Name: Joel E. Hamar	Name: _____
Title: Chairman	Title: _____
Date: 7-2-19	Date: _____

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ROAD MAINTENANCE AGREEMENT

THIS ROAD MAINTENANCE AGREEMENT ("Agreement") is made as of the ____ day of _____, 2019, by and between EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and EDF Development Corp.) ("EDF"), a Delaware corporation and Dickey County, North Dakota (the "County").

RECITALS

A. EDF desires to develop, construct and operate a wind powered electrical generating facility together with all necessary access needs located in the County and depicted on the preliminary Civil design document attached hereto as Exhibit A (the "Project").

B. On _____, 2019, the Board of County Commissioners for the County adopted Resolutions No. _____ authorizing and approving, among other things, use by EDF of the public rights of way that have been established 33 feet on either side of the congressional section lines ("Section Line Rights of Way") for improvement and access as necessary to construct and operate the Project.

C. The parties agree it is in their best interests to memorialize their respective rights, obligations and responsibilities with respect to, among other things, the improvement, use and maintenance of County roads during construction of the Project.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants stated herein and for other good and valuable consideration, the parties stipulate and agree as follows:

1. **Period of Construction**. For purposes hereof, the "construction period" shall be defined as the period beginning on the date that construction equipment is first mobilized in the County with respect to the Project and ending when EDF has issued a final completion certificate. On or prior to such date, EDF and the County and/or County Road Superintendent shall jointly document the then existing condition of County roads and bridges for purposes of determining the extent of the repair obligations of EDF under Section 2 hereof.

2. **Obligations of EDF**. EDF shall improve those Section Line Rights of Way as designated in the attached Civil design document, as such Civil design document may be modified from time to time by EDF. Additionally, EDF shall use all other County roads and bridges in accordance with the attached Civil design document, as modified from time to time by EDF. Upon completion of the Project, EDF shall provide the County Road Superintendent with a copy of the final Civil design document. At the expense of EDF, qualified contractors selected by EDF, shall repair any damage to the County roads and bridges due to transportation of equipment and any other activity directly associated with construction of the Project ("Road Repair Obligations"). In the event a hazardous road condition exists which is part of the Road Repair Obligations EDF shall promptly, upon receipt of written notice thereof from a County representative, place a hazardous road condition warning sign or equivalent notification to the public at the location of the hazardous road condition and if such hazardous road condition is not

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promptly corrected by EDF within 30 days after notification by the County, the County Auditor may order emergency road repairs performed by qualified contractors or by County employees, and EDF shall promptly, upon receipt of an itemized invoice therefor, reimburse the County for reasonable emergency road repair costs. Weather permitting, the final Road Repair Obligations shall be completed within 30 days after completion of construction of the Project, or as soon thereafter as weather conditions permit.

3. **Obligations of County**. The County agrees to make the County Auditor and Road Superintendent reasonably available as requested by EDF from time to time during construction of the Project. The County shall give timely notification to EDF of any conditions which come to its attention and may give rise to a Road Repair Obligation or which would constitute a hazardous road condition.

4. **Indemnification**. EDF agrees to defend, indemnify and hold harmless the County and its commissioners, trustees, administrators, employees and representatives (collectively the "Indemnified Party") against any and all losses, claims, damages, expenses and liabilities (including reasonable attorneys' fees) for physical damage to the County roads and bridges arising out of the Road Repair Obligations and for physical injury to any person to the extent resulting from or arising out of (i) any operations or activities of EDF on the roads and bridges of the County that give rise to a Road Repair Obligation; (ii) any negligent or willful misconduct on the part of EDF in connection with any operations or activities of EDF on the roads and bridges of the County that give rise to the Road Repair Obligations; or (iii) any breach of this Agreement by EDF. Furthermore, EDF agrees to defend, indemnify and hold harmless the Indemnified Party from any third party claims arising out of the terms and conditions of this Agreement. This indemnification obligation shall survive the termination of this Agreement.

5. **Consents**. The County hereby consents and agrees that EDF may perform the following activities over, under, through, and within the Section Line Rights of Way or any other County right of way easements in connection with the activities contemplated in this Agreement and development, construction, and operation of the Project: (i) excavate, displace, and remove any and all solid minerals and (ii) remove any trees, shrubs, vegetation, or other natural growth.

6. **Insurance**. EDF shall at all times during construction and operation of the Project carry or cause to be carried: (i) Worker's Compensation insurance in accordance with the laws of the State of North Dakota and Employer's Liability insurance; (ii) Commercial General Liability insurance with minimum limits of $1,000,000.00 per occurrence; and (iii) Automobile Liability insurance. Certificates of insurance shall be provided to the County Auditor upon written request.

7. **Compliance with Laws**. EDF shall at all times comply with all federal, state and local laws, statutes, ordinances, rules, regulations, judgments and other valid orders of any governmental authority with respect to EDF's activities associated with the Project and shall obtain all permits, licenses and orders required to conduct any and all such activities.

8. **Entire Agreement**. It is mutually understood and agreed that this Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and supersedes any and all prior oral or written understandings, representations or

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statements, and that no understandings, representations or statements, verbal or written, have been made which modify, amend, qualify or affect the terms of this Agreement.

9. **Counterparts**. This Agreement may be executed in two or more counterparts and by different parties on separate counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original.

10. **Applicable Law**. This Agreement shall be governed by and interpreted in accordance with North Dakota law.

11. **Modification**. Except as otherwise specifically stated in this Agreement, the provisions of this Agreement shall not be subsequently modified, except by mutual consent and agreement of the parties, expressed in writing, dated and signed.

12. **Severability**. If any provision of this Agreement shall be held by a court of competent jurisdiction to be contrary to public policy or unenforceable for any reason, such finding shall not invalidate any other provision of this Agreement and such provision that has been found to be contrary to public policy or unenforceable shall be replaced with a suitable and equitable provision in order to carry out, so far as may be valid and enforceable, the intent of such provision that has been found to be contrary to public policy or unenforceable.

13. **Assignment**. The County hereby consents and agrees that EDF may assign this Agreement and all of if its rights and obligations herein to (i) any affiliate of EDF, (ii) to Otter Tail Power Company, or (iii) any successor owner of the Project.

14. **Binding Effect**. This Agreement shall bind the assigns and successors of the respective parties hereto to the same full degree and extent as the parties themselves are hereby bound.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed effective the day and year first above written.

[SIGNATURE PAGE FOLLOWS]

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EDF Renewables Development, Inc.

Name: Tristan Grimbert

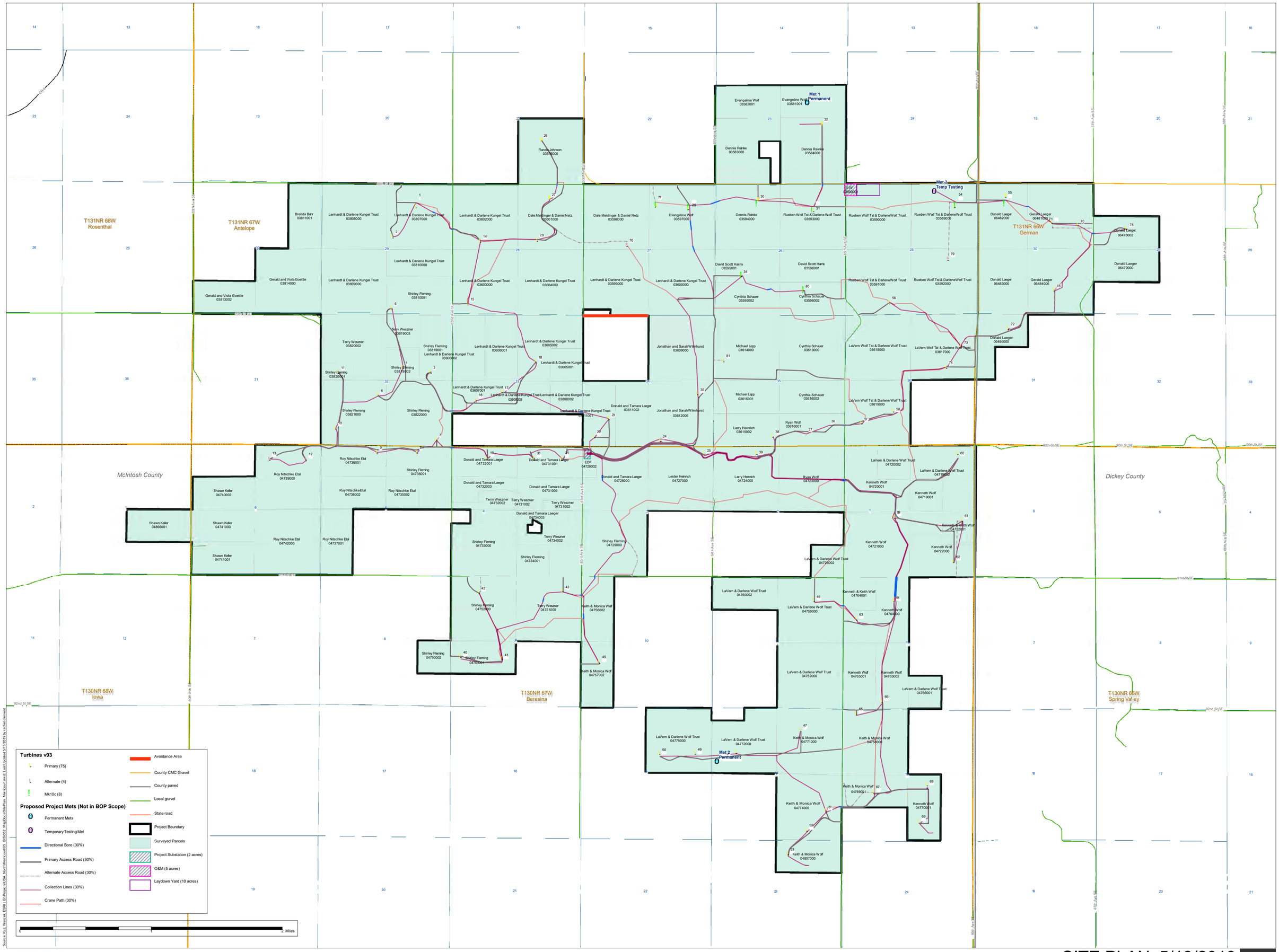
Title: President & CEO

Dickey County Board of Commissioners

Its: Joel E. Homar Chairman 6-18-19

Its: _____

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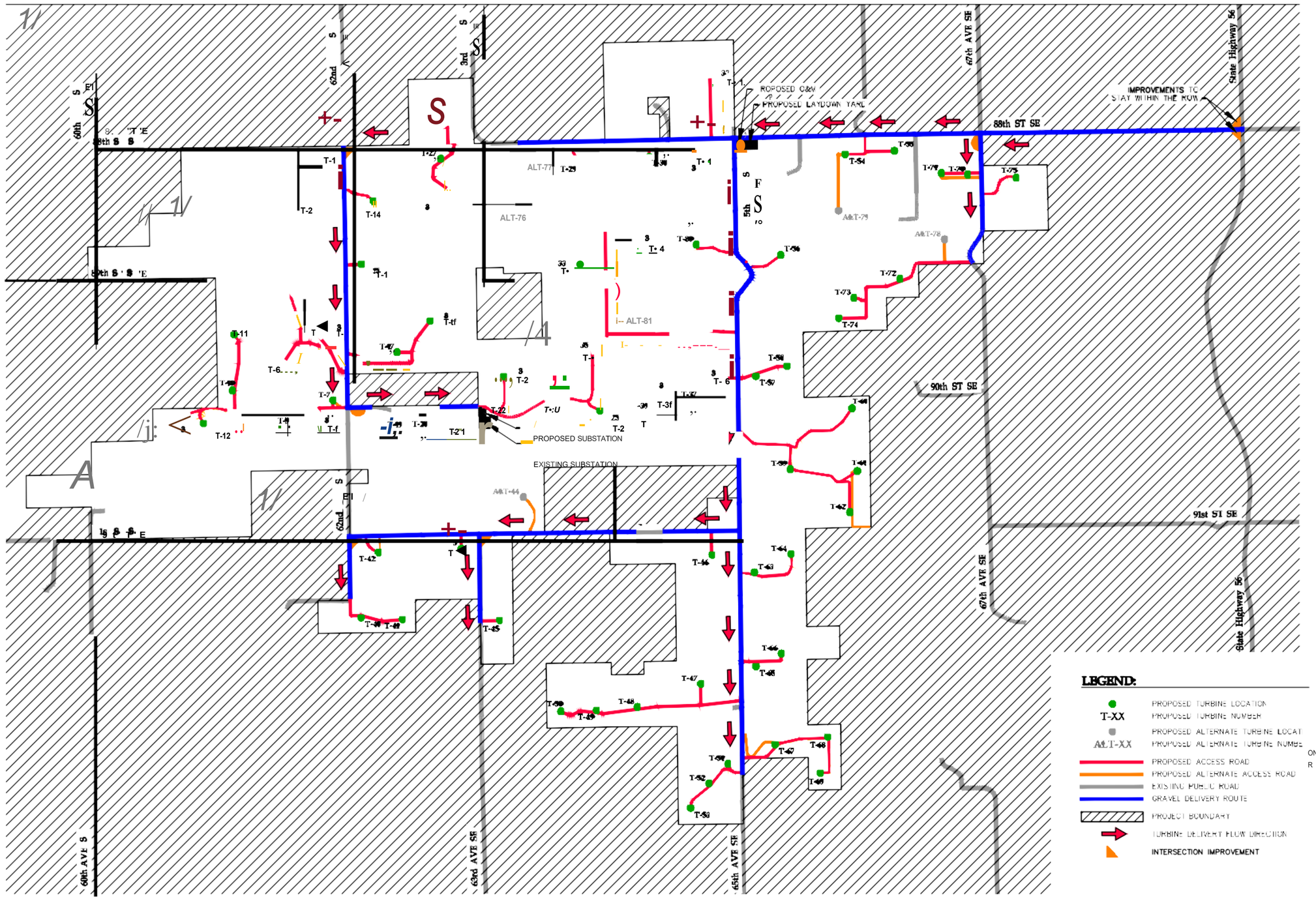
SITE PLAN: 5/13/2019

Merricourt Wind Project | McIntosh & Dickey Counties, North Dakota

F-6

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o 2019 Westwood Pr of ession al Services, Inc.



Westwood
Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
(888) 937-5150 www.westwoodps.com
Westwood Professional Services, Inc
TollFree

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A 04/10/19 30% CIVIL PLANS
B 05/01/19 60% CIVIL PLANS

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ROAD MAINTENANCE AGREEMENT

THIS ROAD MAINTENANCE AGREEMENT ("Agreement") is made as of the 11 day of June, 2019, by and between EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and EDF Development Corp.) ("EDF"), a Delaware corporation and German Township, Dickey County, North Dakota (the "Township").

RECITALS

A. EDF desires to develop, construct and operate a wind powered electrical generating facility together with all necessary access needs located in the Township and depicted on the preliminary Civil design document attached hereto as Exhibit A (the "Project").

B. On 6-11, 2019, the Supervisors of Township for the Township adopted Resolutions No. _____ authorizing and approving, among other things, use by EDF of the public rights of way that have been established 33 feet on either side of the congressional section lines ("Section Line Rights of Way") for improvement and access as necessary to construct and operate the Project.

C. The parties agree it is in their best interests to memorialize their respective rights, obligations and responsibilities with respect to, among other things, the improvement, use and maintenance of Township roads during construction of the Project.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants stated herein and for other good and valuable consideration, the parties stipulate and agree as follows:

1. **Period of Construction**. For purposes hereof, the "construction period" shall be defined as the period beginning on the date that construction equipment is first mobilized in the Township with respect to the Project and ending when EDF has issued a final completion certificate. On or prior to such date, EDF and the Township shall jointly document the then existing condition of Township roads and bridges for purposes of determining the extent of the repair obligations of EDF under Section 2 hereof.

2. **Obligations of EDF**. EDF shall improve those Section Line Rights of Way as designated in the attached Civil design document, as such Civil design document may be modified from time to time by EDF. Additionally, EDF shall use all other Township roads and bridges in accordance with the attached Civil design document, as modified from time to time by EDF. Upon completion of the Project, EDF shall provide the Township Supervisors with a copy of the final Civil design document. At the expense of EDF, qualified contractors selected by EDF, shall repair any damage to the Township roads and bridges due to transportation of equipment and any other activity directly associated with construction of the Project ("Road Repair Obligations"). In the event a hazardous road condition exists which is part of the Road Repair Obligations EDF shall promptly, upon receipt of written notice thereof from a Township representative, place a hazardous road condition warning sign or equivalent notification to the public at the location of the hazardous road condition and if such hazardous road condition is not

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promptly corrected by EDF within 30 days after notification by the Township, the Township Supervisors may order emergency road repairs performed by qualified contractors or by Township employees, and EDF shall promptly, upon receipt of an itemized invoice therefor, reimburse the Township for reasonable emergency road repair costs. Weather permitting, the final Road Repair Obligations shall be completed within 30 days after completion of construction of the Project, or as soon thereafter as weather conditions permit.

3. **Obligations of Township**. The Township agrees to make the Township Supervisors reasonably available as requested by EDF from time to time during construction of the Project. The Township shall give timely notification to EDF of any conditions which come to its attention and may give rise to a Road Repair Obligation or which would constitute a hazardous road condition.

4. **Indemnification**. EDF agrees to defend, indemnify and hold harmless the Township and its Supervisors, commissioners, officials, trustees, administrators, employees and representatives (collectively the "Indemnified Party") against any and all losses, claims, damages, expenses and liabilities (including reasonable attorneys' fees) for physical damage to the Township roads and bridges arising out of the Road Repair Obligations and for physical injury to any person to the extent resulting from or arising out of (i) any operations or activities of EDF on the roads and bridges of the Township that give rise to a Road Repair Obligation; (ii) any negligent or willful misconduct on the part of EDF in connection with any operations or activities of EDF on the roads and bridges of the Township that give rise to the Road Repair Obligations; or (iii) any breach of this Agreement by EDF. Furthermore, EDF agrees to defend, indemnify and hold harmless the Indemnified Party from any third party claims arising out of the terms and conditions of this Agreement. This indemnification obligation shall survive the termination of this Agreement.

5. **Consents**. The Township hereby consents and agrees that EDF may perform the following activities over, under, through, and within the Section Line Rights of Way or any other Township right-of-way easements in connection with the activities contemplated in this Agreement and development, construction, and operation of the Project: (i) excavate, displace, and remove any and all solid minerals and (ii) remove any trees, shrubs, vegetation, or other natural growth.

6. **Insurance**. EDF shall at all times during construction and operation of the Project carry or cause to be carried: (i) Worker's Compensation insurance in accordance with the laws of the State of North Dakota and Employer's Liability insurance; (ii) Commercial General Liability insurance with minimum limits of $1,000,000.00 per occurrence; and (iii) Automobile Liability insurance. Certificates of insurance shall be provided to the Township Clerk upon written request.

7. **Compliance with Laws**. EDF shall at all times comply with all federal, state and local laws, statutes, ordinances, rules, regulations, judgments and other valid orders of any governmental authority with respect to EDF's activities associated with the Project and shall obtain all permits, licenses and orders required to conduct any and all such activities.

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8. **Entire Agreement**. It is mutually understood and agreed that this Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and supersedes any and all prior oral or written understandings, representations or statements, and that no understandings, representations or statements, verbal or written, have been made which modify, amend, qualify or affect the terms of this Agreement.

9. **Counterparts**. This Agreement may be executed in two or more counterparts and by different parties on separate counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original.

10. **Applicable Law**. This Agreement shall be governed by and interpreted in accordance with North Dakota law.

11. **Modification**. Except as otherwise specifically stated in this Agreement, the provisions of this Agreement shall not be subsequently modified, except by mutual consent and agreement of the parties, expressed in writing, dated and signed.

12. **Severability**. If any provision of this Agreement shall be held by a court of competent jurisdiction to be contrary to public policy or unenforceable for any reason, such finding shall not invalidate any other provision of this Agreement and such provision that has been found to be contrary to public policy or unenforceable shall be replaced with a suitable and equitable provision in order to carry out, so far as may be valid and enforceable, the intent of such provision that has been found to be contrary to public policy or unenforceable.

13. **Assignment**. The Township hereby consents and agrees that EDF may assign this Agreement and all of if its rights and obligations herein to (i) any affiliate of EDF, (ii) to Otter Tail Power Company, or (iii) any successor owner of the Project.

14. **Binding Effect**. This Agreement shall bind the assigns and successors of the respective parties hereto to the same full degree and extent as the parties themselves are hereby bound.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed effective the day and year first above written.

[SIGNATURE PAGE FOLLOWS]

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EDF Renewables Development, Inc.

Name: Tristan Grimbert

Title: President & CEO

German Township Supervisors

Its:

Its:

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RESOLUTIONS FOR GERMAN TOWNSHIP, DICKEY COUNTY, NORTH DAKOTA RELATING TO MERRICOURT WIND PROJECT

RESOLVED, that the Supervisors of German Township, Dickey County, North Dakota acknowledges the benefit to German Township and all of its citizens which will result from the construction and operation of the Merricourt Wind Project, currently being developed by EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and enXco Development Corporation) and its affiliates (collectively, "EDF");

RESOLVED, FURTHER, that EDF its successors and assigns are hereby granted the right to utilize the public rights of way that have been previously established by law for public travel 33 feet on either side of the congressional section lines for the following purposes: improving such section line rights of way to applicable Township standards for vehicular travel (including access by construction equipment), installing access road connections, and for crossing such section line rights of way with access roads, underground electrical collection lines, fiber optic lines, and other related equipment, all in accordance with the civil and collector line design specifications presented to this Board and attached to this Resolution;

RESOLVED, FURTHER, that EDF, its successors and assigns are hereby granted the right, subject to application for and issuance of a standard County Highway Department Utility Permit, to utilize existing German Township roads and other rights of way in connection with construction and operation of the Merricourt Wind Project, including the right to install access road connections and crossings, and to bore under such existing roads and rights of way for collection lines, fiber optic lines and other related equipment;

RESOLVED, FURTHER, that EDF, its successors and assigns shall have the right to modify the civil and collector line design specifications presented to this Board as needed to successfully develop and construct the Merricourt Wind Project, on the condition that a copy of such modified plan be provided, upon completion of construction of the Merricourt Wind Project, to the German Township Supervisors; if the location(s) of any proposed access roads, underground electrical collection lines, fiber optic lines or other related facilities within Township rights-of-way change from that which is attached to this resolution, EDF, its successors and assigns shall notify the German Township Supervisors in advance of such modification and provide the new location of such facilities.

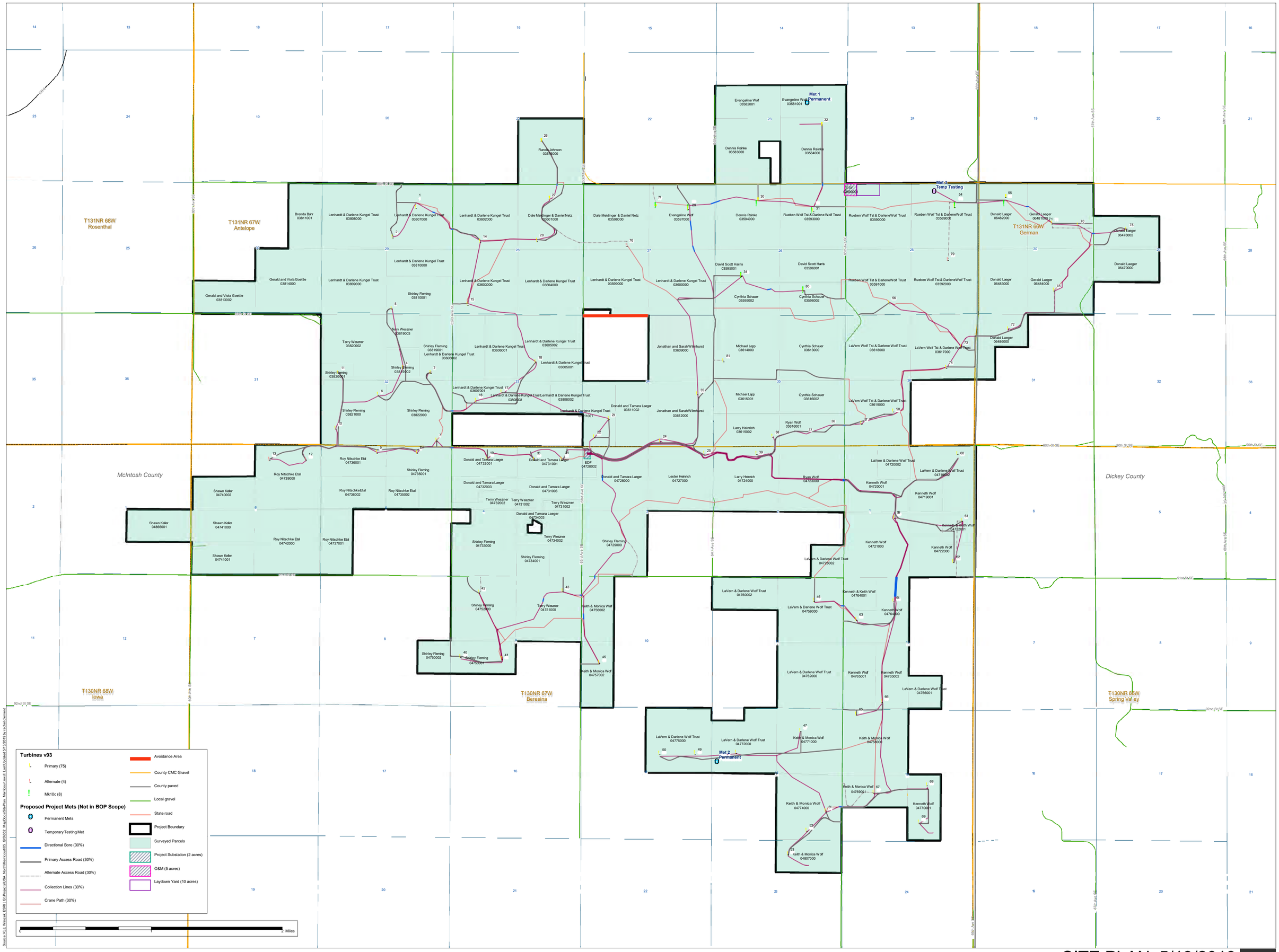
RESOLVED, FURTHER, that this resolution reaffirms the resolution adopted March 30, 2011 by this board relating to the Merricourt Wind Project.

RESOLVED, FURTHER, that EDF, its successors and assigns shall have an ongoing right to use and obligation to maintain all such installed roadways as needed for the operation, repair and ultimate decommissioning of the Merricourt Wind Project.

By: Rodney Braaz
Name: Rod
Title: Supervisor Chairman
Date: 6-11-19

By: Kevin Strobel
Name: Kevin Strobel
Title: Supervisor
Date: 6-11-19

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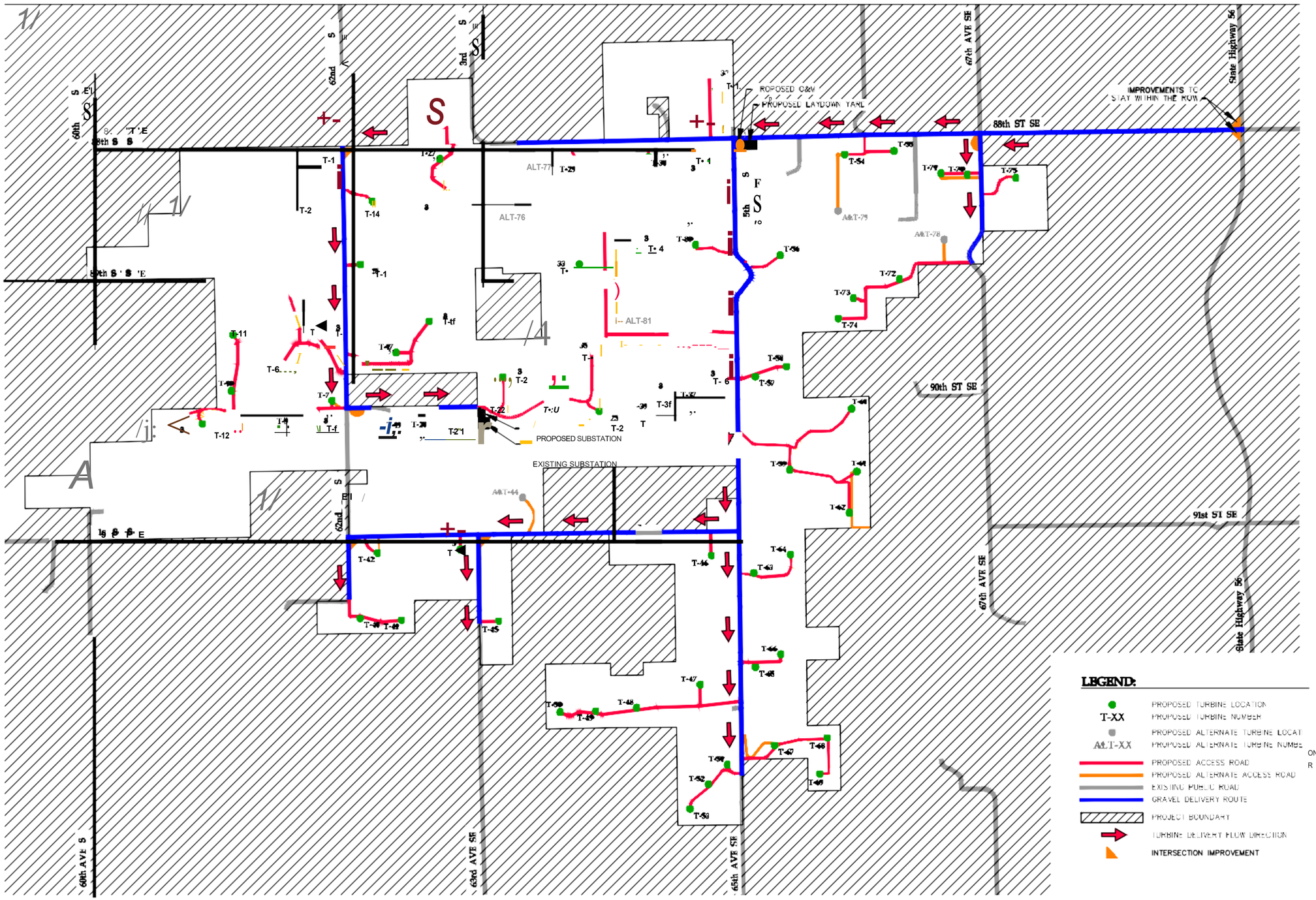
SITE PLAN: 5/13/2019

Merricourt Wind Project | McIntosh & Dickey Counties, North Dakota

F-6

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o 2019 Westwood Pr of ession al Services, Inc.



Westwood
Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
(888) 937-5150 www.westwoodps.com
Westwood Professional Services, Inc
TollFree

D signed:
Drawn: SNK
D wing: SNK

A 04/ 10/ 19 30% CIVIL PLANS
B 05/01/19 60% CIVIL PLANS

WANZEK
a MasTec company

M ou
IV erricio rt
Wind Pr ject
M Cou N akota
IV cintosh nty, orth D
D F la
Jelive ry low Pl n

NO O ONS O
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, T F, R C, TRUCTI, N
Da e:
05/01/19

L

RESOLUTIONS FOR MCINTOSH COUNTY, NORTH DAKOTA RELATING TO MERRICOURT WIND PROJECT

RESOLVED, that the Board of Commissioners of McIntosh County acknowledges the benefit to McIntosh County and all of its citizens which will result from the construction and operation of the Merricourt Wind Project, currently being developed by EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and enXco Development Corporation) and its affiliates (collectively, "EDF");

RESOLVED, FURTHER, that EDF its successors and assigns are hereby granted the right to utilize the public rights of way that have been previously established by law for public travel 33 feet on either side of the congressional section lines for the following purposes: improving such section line rights of way to applicable County standards for vehicular travel (including access by construction equipment), installing access road connections, and for crossing such section line rights of way with access roads, underground electrical collection lines, fiber optic lines, and other related equipment, all in accordance with the civil and collector line design specifications presented to this Board and attached to this Resolution;

RESOLVED, FURTHER, that EDF, its successors and assigns are hereby granted the right, subject to application for and issuance of a standard County Highway Department Utility Permit, to utilize existing McIntosh County roads and other rights of way in connection with construction and operation of the Merricourt Wind Project, including the right to install access road connections and crossings, and to bore under such existing roads and rights of way for collection lines, fiber optic lines and other related equipment;

RESOLVED, FURTHER, that EDF, its successors and assigns shall have the right to modify the civil and collector line design specifications presented to this Board, or Road Superintendent, as needed to successfully develop and construct the Merricourt Wind Project, on the condition that a copy of such modified plan be provided, upon completion of construction of the Merricourt Wind Project, to the McIntosh County Road Superintendent; if the location(s) of any proposed access roads, underground electrical collection lines, fiber optic lines or other related facilities within County rights of way change from that which is attached to this resolution, EDF, its successors and assigns shall notify the McIntosh County Road Superintendent in advance of such modification and provide the new location of such facilities.

RESOLVED, FURTHER, that this resolution reaffirms the resolution adopted March 30, 2011 by this board relating to the Merricourt Wind Project.

RESOLVED, FURTHER, that EDF, its successors and assigns shall have an ongoing right to use and obligation to maintain all such installed roadways as needed for the operation, repair and ultimate decommissioning of the Merricourt Wind Project.

By: _____

Name: Gina Ketterling

Title: County Auditor

Date: 7-3-2019

By: Percy Turner

Name: _____

Title: Board Chairman

Date: 7-3-2019

ROAD MAINTENANCE AGREEMENT

THIS ROAD MAINTENANCE AGREEMENT ("Agreement") is made as of the 3rd day of July, 2019, by and between EDF Renewables Development, Inc. (f/k/a EDF Renewable Development, Inc. and EDF Development Corp.) ("EDF"), a Delaware corporation and McIntosh County, North Dakota (the "County").

RECITALS

A. EDF desires to develop, construct and operate a wind powered electrical generating facility together with all necessary access needs located in the County and depicted on the preliminary Civil design document attached hereto as Exhibit A (the "Project").

B. On March 30, 2011, the Board of County Commissioners of the County adopted a resolution (the "2011 Resolution") authorizing and approving, among other things, use by EDF of the public rights of way that have been established 33 feet on either side of the congressional section lines ("Section Line Rights of Way") for improvement and access as necessary to construct and operate the Project.

C. On July 3, 2019, the Board of the County Commissioners for the County adopted Resolution No. 001 (the "2019 Resolution") reaffirming the 2011 Resolution.

D. The parties agree it is in their best interests to memorialize their respective rights, obligations and responsibilities with respect to, among other things, the improvement, use and maintenance of County roads during construction of the Project.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants stated herein and for other good and valuable consideration, the parties stipulate and agree as follows:

1. **Period of Construction**. For purposes hereof, the "construction period" shall be defined as the period beginning on the date that construction equipment is first mobilized in the County with respect to the Project and ending when EDF has issued a final completion certificate. On or prior to such date, EDF and the County and/or County Road Superintendent shall jointly document the then existing condition of County roads and bridges for purposes of determining the extent of the repair obligations of EDF under Section 2 hereof.

2. **Obligations of EDF**. EDF shall improve those Section Line Rights of Way as designated in the attached Civil design document, as such Civil design document may be modified from time to time by EDF. Additionally, EDF shall use all other County roads and bridges in accordance with the attached Civil design document, as modified from time to time by EDF. Upon completion of the Project, EDF shall provide the County Road Superintendent with a copy of the final Civil design document. At the expense of EDF, qualified contractors selected by EDF, shall repair any damage to the County roads and bridges due to transportation of equipment and any other activity directly associated with construction of the Project ("Road

Repair Obligations"). In the event a hazardous road condition exists which is part of the Road Repair Obligations EDF shall promptly, upon receipt of written notice thereof from a County representative, place a hazardous road condition warning sign or equivalent notification to the public at the location of the hazardous road condition and if such hazardous road condition is not promptly corrected by EDF within 30 days after notification by the County, the County Auditor may order emergency road repairs performed by qualified contractors or by County employees, and EDF shall promptly, upon receipt of an itemized invoice therefor, reimburse the County for reasonable emergency road repair costs. Weather permitting, the final Road Repair Obligations shall be completed within 30 days after completion of construction of the Project, or as soon thereafter as weather conditions permit.

3. **Obligations of County**. The County agrees to make the County Auditor and Road Superintendent reasonably available as requested by EDF from time to time during construction of the Project. The County shall give timely notification to EDF of any conditions which come to its attention and may give rise to a Road Repair Obligation or which would constitute a hazardous road condition.

4. **Indemnification**. EDF agrees to defend, indemnify and hold harmless the County and its commissioners, trustees, administrators, employees and representatives (collectively the "Indemnified Party") against any and all losses, claims, damages, expenses and liabilities (including reasonable attorneys' fees) for physical damage to the County roads and bridges arising out of the Road Repair Obligations and for physical injury to any person to the extent resulting from or arising out of (i) any operations or activities of EDF EDF including but not limited to on the roads and bridges of the County that give rise to a Road Repair Obligation; (ii) any negligent or willful misconduct on the part of EDF in connection with any operations or activities of on the roads and bridges of the County that give rise to the Road Repair Obligations; or (iii) any breach of this Agreement by EDF. Furthermore, EDF agrees to defend, indemnify and hold harmless the Indemnified Party from any third party claims arising out of the terms and conditions of this Agreement. This indemnification obligation shall survive the termination of this Agreement.

5. **Consents**. The County hereby consents and agrees that EDF may perform the following activities over, under, through, and within the Section Line Rights of Way or any other County right of way easements in connection with the activities contemplated in this Agreement and development, construction, and operation of the Project: (i) excavate, displace, and remove any and all solid minerals and (ii) remove any trees, shrubs, vegetation, or other natural growth.

6. **Insurance**. EDF shall at all times during construction and operation of the Project carry or cause to be carried: (i) Worker's Compensation insurance in accordance with the laws of the State of North Dakota and Employer's Liability insurance; (ii) Commercial General Liability insurance with minimum limits of $1,000,000.00 per occurrence; and (iii) Automobile Liability insurance. Certificates of insurance shall be provided to the County Auditor upon written request.

7. **Compliance with Laws**. EDF shall at all times comply with all federal, state and local laws, statutes, ordinances, rules, regulations, judgments and other valid orders of any

governmental authority with respect to EDF's activities associated with the Project and shall obtain all permits, licenses and orders required to conduct any and all such activities.

8. **Entire Agreement**. It is mutually understood and agreed that this Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and supersedes any and all prior oral or written understandings, representations or statements, and that no understandings, representations or statements, verbal or written, have been made which modify, amend, qualify or affect the terms of this Agreement.

9. **Counterparts**. This Agreement may be executed in two or more counterparts and by different parties on separate counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original.

10. **Applicable Law**. This Agreement shall be governed by and interpreted in accordance with North Dakota law.

11. **Modification**. Except as otherwise specifically stated in this Agreement, the provisions of this Agreement shall not be subsequently modified, except by mutual consent and agreement of the parties, expressed in writing, dated and signed.

12. **Severability**. If any provision of this Agreement shall be held by a court of competent jurisdiction to be contrary to public policy or unenforceable for any reason, such finding shall not invalidate any other provision of this Agreement and such provision that has been found to be contrary to public policy or unenforceable shall be replaced with a suitable and equitable provision in order to carry out, so far as may be valid and enforceable, the intent of such provision that has been found to be contrary to public policy or unenforceable.

13. **Assignment**. The County hereby consents and agrees that EDF may assign this Agreement and all of if its rights and obligations herein to (i) any affiliate of EDF, (ii) to Otter Tail Power Company, or (iii) any successor owner of the Project.

14. **Binding Effect**. This Agreement shall bind the assigns and successors of the respective parties hereto to the same full degree and extent as the parties themselves are hereby bound.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed effective the day and year first above written.

[SIGNATURE PAGE FOLLOWS]

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EDF Renewables Development, Inc.

Name: Tristan Grimbert
Title: President & CEO

McIntosh County Board of Commissioners

Its: Board Chairman

Its: Co. Auditor

T131NR 68W
Rosenthal

T131NR 67W
Antelope

T131NR 66W
German

T130NR 68W
Iowa

T130NR 67W
Beresina

T130NR 66W
Spring Valley

McIntosh County

Dickey County

Met 1
Permanent

Met 2
Permanent

Met 3
Temp Testing

EDF
0590958

Evangeline Wolf
03582001

Evangeline Wolf
03581001

Dennis Reinke
03583000

Dennis Reinke
03584000

Randy Johnson
03576000

Brenda Bahr
03811001

Lenhardt & Darlene Kungel Trust
03808000

Lenhardt & Darlene Kungel Trust
03807000

Lenhardt & Darlene Kungel Trust
03602000

Dale Meidinger & Daniel Netz
03601000

Dale Meidinger & Daniel Netz
03598000

Evangeline Wolf
03597000

Dennis Reinke
03594000

Rueben Wolf Tst & Darlene Wolf Trust
03593000

Rueben Wolf Tst & Darlene Wolf Trust
03590000

Rueben Wolf Tst & Darlene Wolf Trust
03589000

Donald Laeger
06482000

Gerald Laeger
06481000

Donald Laeger
06478002

Donald Laeger
06479000

Lenhardt & Darlene Kungel Trust
03810000

Gerald and Viola Goettle
03814000

Lenhardt & Darlene Kungel Trust
03809000

Lenhardt & Darlene Kungel Trust
03603000

Lenhardt & Darlene Kungel Trust
03604000

Lenhardt & Darlene Kungel Trust
03599000

Lenhardt & Darlene Kungel Trust
03600000

David Scott Harris
03595001

David Scott Harris
03596001

Rueben Wolf Tst & Darlene Wolf Trust
03591000

Rueben Wolf Tst & Darlene Wolf Trust
03592000

Donald Laeger
06483000

Gerald Laeger
06484000

Gerald and Viola Goettle
03813002

Shirley Fleming
03810001

Cynthia Schauer
03595002

Cynthia Schauer
03596002

Terry Weszner
03819003

Terry Weszner
03820002

Shirley Fleming
03819001

Lenhardt & Darlene Kungel Trust
03606001

Lenhardt & Darlene Kungel Trust
03605002

Lenhardt & Darlene Kungel Trust
03606002

Lenhardt & Darlene Kungel Trust
03605003

Jonathan and Sarah Wilmhurst
03609000

Michael Lepp
03614000

Cynthia Schauer
03613000

LaVern Wolf Tst & Darlene Wolf Trust
03618000

LaVern Wolf Tst & Darlene Wolf Trust
03617000

Donald Laeger
06486000

Shirley Fleming
03820001

Shirley Fleming
03810002

Lenhardt & Darlene Kungel Trust
03607001

Lenhardt & Darlene Kungel Trust
03808003

Lenhardt & Darlene Kungel Trust
03808002

Shirley Fleming
03821000

Shirley Fleming
03822000

Lenhardt & Darlene Kungel Trust
03611001

Donald and Tamara Laeger
03611002

Jonathan and Sarah Wilmhurst
03612000

Michael Lepp
03615001

Cynthia Schauer
03616002

LaVern Wolf Tst & Darlene Wolf Trust
03619000

Larry Heinrich
03615002

Ryan Wolf
03616001

Roy Nitschke Etal
04739000

Roy Nitschke Etal
04736001

Donald and Tamara Laeger
04732001

Donald and Tamara Laeger
04731001

EDF
04728002

Donald and Tamara Laeger
04728000

Lester Heinrich
04727000

Larry Heinrich
04724000

Ryan Wolf
04723000

LaVern & Darlene Wolf Trust
04720002

LaVern & Darlene Wolf Trust
04718002

Shirley Fleming
04735001

Shawn Keller
04740002

Roy Nitschke Etal
04736002

Roy Nitschke Etal
04735002

Donald and Tamara Laeger
04732003

Donald and Tamara Laeger
04731003

Terry Weszner
04732002

Terry Weszner
04731002

Terry Weszner
04731002

Kenneth Wolf
04720001

Kenneth Wolf
04719001

Shawn Keller
04866001

Shawn Keller
04741000

Roy Nitschke Etal
04742000

Roy Nitschke Etal
04737001

Donald and Tamara Laeger
04734003

Terry Weszner
04734002

Shirley Fleming
04733000

Shirley Fleming
04734001

Shirley Fleming
04729000

Kenneth Wolf
04721000

Kenneth Wolf
04722000

Kenneth & Keith Wolf
04722001

LaVern & Darlene Wolf Trust
04725002

Shawn Keller
04741001

LaVern & Darlene Wolf Trust
04760002

Kenneth & Keith Wolf
04764001

Kenneth Wolf
04764000

LaVern & Darlene Wolf Trust
04759000

Shirley Fleming
04752000

Terry Weszner
04751000

Keith & Monica Wolf
04756002

Shirley Fleming
04750002

Shirley Fleming
04753001

Keith & Monica Wolf
04757002

LaVern & Darlene Wolf Trust
04762000

Kenneth Wolf
04765001

Kenneth Wolf
04765002

LaVern & Darlene Wolf Trust
04766001

LaVern & Darlene Wolf Trust
04775000

LaVern & Darlene Wolf Trust
04772000

Keith & Monica Wolf
04771000

Keith & Monica Wolf
04768000

Keith & Monica Wolf
04769001

Keith & Monica Wolf
04774000

Kenneth Wolf
04770001

Keith & Monica Wolf
04807000

Turbines v93

- Primary (75)
- Alternate (4)
- Mk10c (8)

Proposed Project Mets (Not in BOP Scope)

- Permanent Mets
- Temporary Testing Met
- Directional Bore (30%)
- Primary Access Road (30%)
- Alternate Access Road (30%)
- Collection Lines (30%)
- Crane Path (30%)

- Avoidance Area
- County CMC Gravel
- County paved
- Local gravel
- State road
- Project Boundary
- Surveyed Parcels
- Project Substation (2 acres)
- O&M (5 acres)
- Laydown Yard (10 acres)

0 1 2 Miles

Source: KLJ, Maxwide, ESRI | G:\Projects\USA_NorthMerricourt\05_GIS\052_MapDocs\SitePlan_Merricourt.mxd | Last Updated 5/13/2019 by rachel.clement

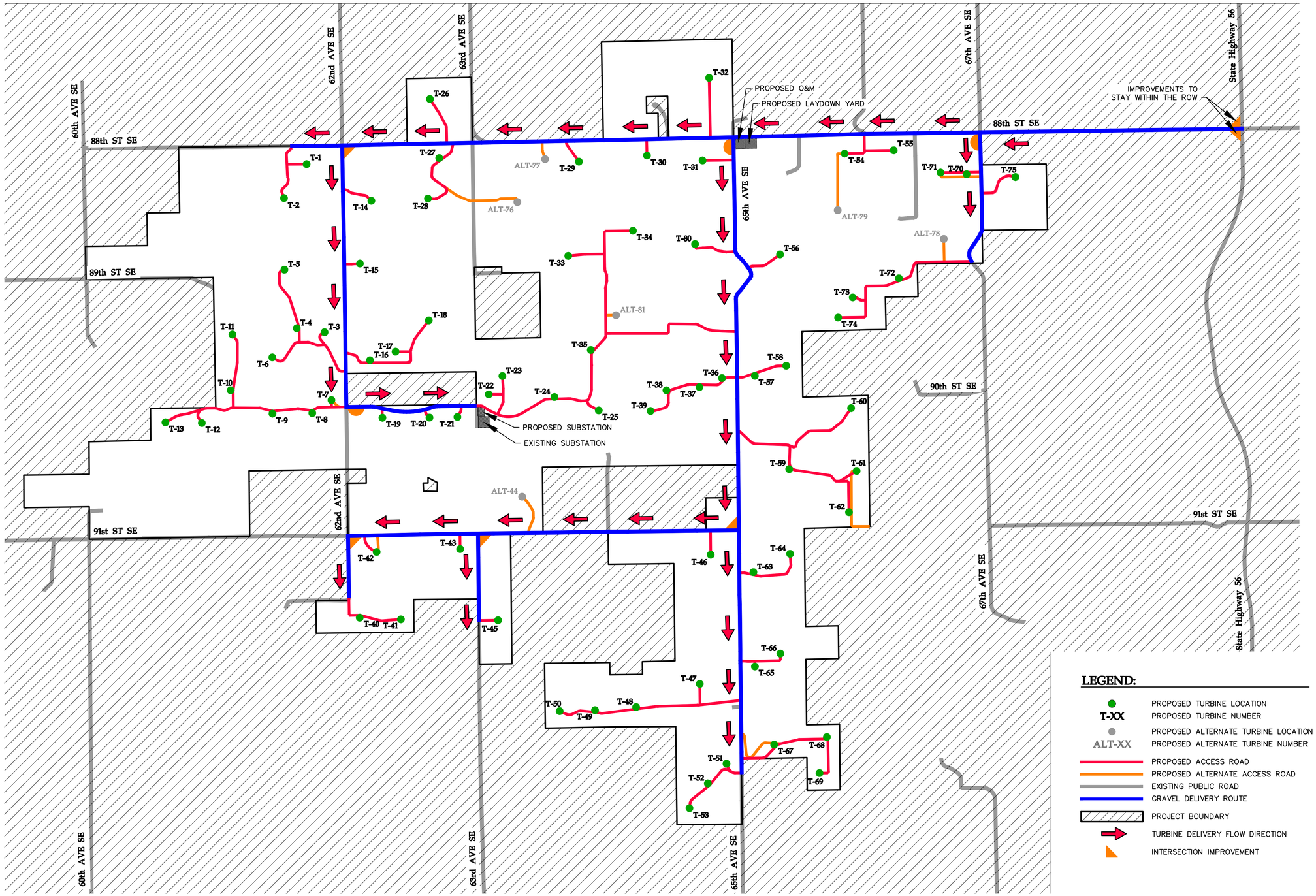
eDF renewables

SITE PLAN: 5/13/2019

Merricourt Wind Project | McIntosh & Dickey Counties, North Dakota

F-6

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LEGEND:

- PROPOSED TURBINE LOCATION
- T-XX — PROPOSED TURBINE NUMBER
- PROPOSED ALTERNATE TURBINE LOCATION
- ALT-XX — PROPOSED ALTERNATE TURBINE NUMBER
- PROPOSED ACCESS ROAD
- PROPOSED ALTERNATE ACCESS ROAD
- EXISTING PUBLIC ROAD
- GRAVEL DELIVERY ROUTE
- PROJECT BOUNDARY
- TURBINE DELIVERY FLOW DIRECTION
- INTERSECTION IMPROVEMENT

ITEM	LENGTH
GRAVEL DELIVERY ROUTE	20.75 mi

N

0' 2000' 4000' 6000'

Westwood

Phone (952) 937-5150 | 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 | Minnetonka, MN 55343
Toll Free (888) 937-5150 | westwoodps.com

Westwood Professional Services, Inc.

Designed: SNK
Checked: DJN
Drawn: SNK
As-Built Drawing:

Revisions:

#	DATE	DESCRIPTION
A	04/10/19	30% CIVIL PLANS
B	05/01/19	60% CIVIL PLANS

Prepared for:

WANZEK
a MasTec company

2028 2nd Avenue NW
West Fargo, ND 58078

Merricourt Wind Project

McIntosh County, North Dakota

Delivery Flow Plan

60% Complete
NOT FOR CONSTRUCTION

Date: 05/01/19
Sheet: 3 OF 117

Permit Number - ND2019-19701

State of North Dakota
Temporary Water Permit
SWC Project No. 1400A

In response to an application for a temporary water permit dated 8/5/19 as received in this office 8/5/19, authority is hereby granted to:

Wanzek Construction
6510 88th St SE

Kulm, ND 58456

Contact Person: Tanner Dufault Telephone: (701) 282-6171

A Temporary Water Permit as follows:

Source: unnamed slough

Point of Diversion: NW1/4 Sec. 28 Twp. 131 Rng. 067

Nature of Use: Dust Control

Total Quantity of Water: 25.778 Acre-Feet

Maximum Withdrawal Rate: 1,000.0 gpm

Period of authorized usage: 8/27/19 through 8/1/20

This temporary water permit does not authorize the construction of any dam or crossing. Future water use from this source for this purpose may require a conditional water permit. Temporary water permits are not a water right, are non-transferrable, and cannot be modified. This temporary water permit is granted subject to water use by senior appropriators. Withdrawals authorized by this temporary water permit must cease upon order of the State Engineer. Noncompliance with permit conditions may result in possible civil or criminal penalties. Development of a water project with a temporary water permit is at the permitholder's risk.

Conditions

1. A weather-protected copy of this temporary water permit must be present and on display at the equipment withdrawing water at all times.

2. The permitholder must complete every enclosed Annual Water Use Report, even if no water is withdrawn based on the following:

Dated: 8/27/19

Garland Erbele, P.E.
State Engineer
Jon C Patch PE
Director, Water Appropriation Division
ND State Water Commission
900 East Boulevard
Bismarck, ND 58505

cc: McIntosh WRD

State of North Dakota
Temporary Water Permit
SWC Project No. 1400A

a. For temporary water permits that are inclusive to one (1) calendar year:
   i. One (1) Annual Water Use Report must be submitted to the Office of the State Engineer within thirty (30) days after the expiration date of the permit.
b. For temporary water permits that span two (2) calendar years:
   i. The first Annual Water Use Report must be submitted to the Office of the State Engineer within thirty (30) days after the close of the first calendar year, which must report the total water withdrawn in the first calendar year, and
   ii. The second Annual Water Use Report must be submitted to the Office of the State Engineer within thirty (30) days after the expiration date of the permit, which must report the total water withdrawn in the second calendar year.

3. Any works associated with this temporary water permit are subject to inspection at any time by representatives of the Office of the State Engineer. Refusal to allow inspection is grounds for temporary water permit cancellation.

4. Failure to comply with any order of the State Engineer may result in temporary water permit forfeiture.

Dated: 8/27/19

Garland Erbele, P.E.
State Engineer
ND State Water Commission
900 East Boulevard
Bismarck, ND 58505

Jon C Patch P E
Director, Water Appropriation Division

cc: McIntosh WRD

Document Routing

8/27/19 : jennifermartin
8/27/19 : afranklund
8/28/19 : anygren
8/28/19 : jpatch

OFFICE OF THE NORTH DAKOTA STATE ENGINEER
RECOMMENDED DECISION

To: Garland Erbele, P.E., State Engineer, through
Approved by: Jon Patch, P.E., Director, Water Appropriations Division
Reviewed by: Andrew Nygren, Hydrologist Manger
Reviewed by: Abigail Franklund, Hydrologist Manager
Reviewed by: Jennifer Martin, Hydrologist
From: Sam Swanberg, Hydrologist
Subject: Temporary Water Permit Application from **Wanzek Construction**
Date: August 23, 2019

Temporary Water Permit Application ND2019-19701 by Wanzek Construction requests 8,400,000 gallons (25.778 acre-feet) of water from the unnamed pond in Section 28, Township 131 North, Range 67 West (T131N, R67W) in McIntosh County for construction use from August 26, 2019 through August 1, 2020. The requested maximum withdrawal rate is 1,200,000 gallons per minute (gpm). Wanzek Construction will use the water for dust control on county roads.

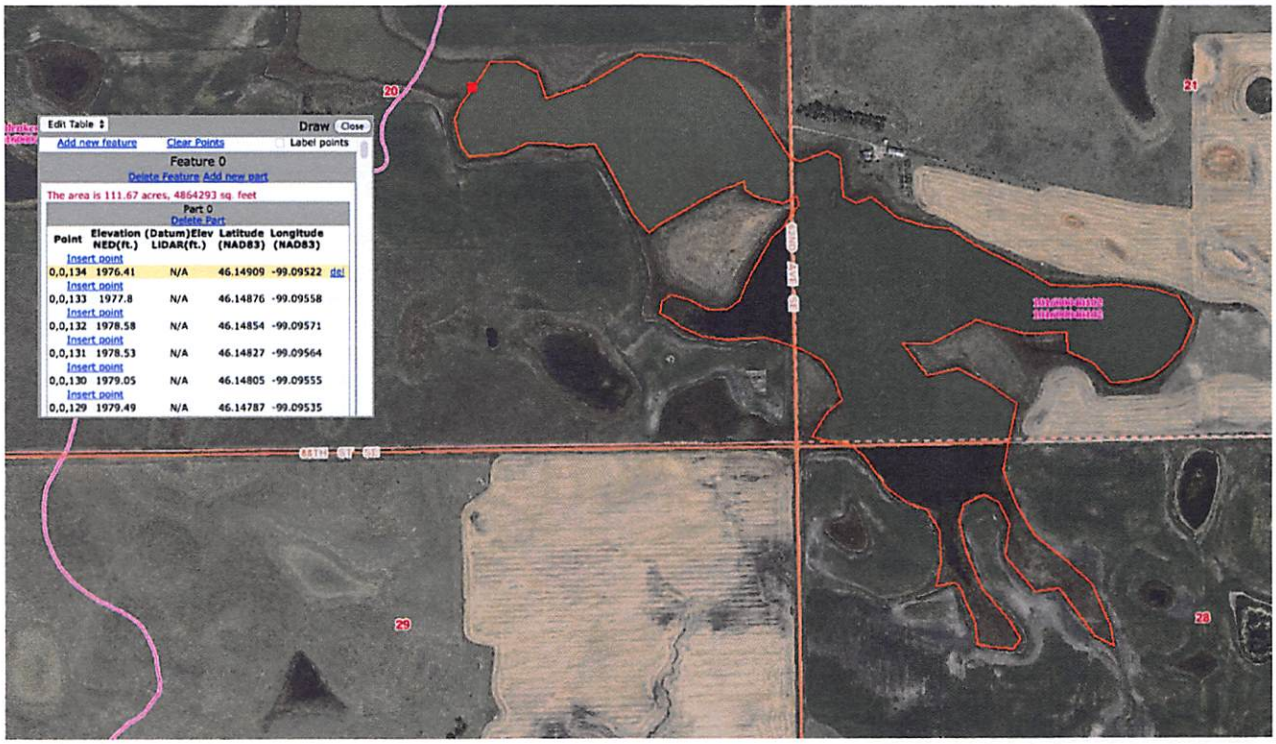


Figure 1. Proposed point of diversion (POD) is at an unnamed slough in the NW1/4 of Section 28, T131N, R67W in McIntosh County. Background image was taken from 2018 National Agriculture Imagery Program airphotos.

On August 23, 2019, Tanner Default, representative of Wanzek Construction, provided that the proposed source is located in the NW1/4 of Section 28, T131N, R67W, and requested the withdrawal rate is to be modified to 1,000 gpm.

The requested POD is located at an unnamed slough in the 101600040102 sub-watershed, Town of Freedonia watershed, Elm sub-basin, and James basin. The 101600040102 sub-watershed has been defined by the Watershed Boundary Dataset National Technical Coordinators as a closed unit and as a non-contributing area of the Town of Freedonia watershed. The unnamed slough is estimated to cover 112 acres and store 448 acre-feet of water. There are no known water rights within the 101600040102 sub-watershed. Therefore, there is adequate water expected from this source for the 25.778 acre-feet of water requested.

The requested POD is within ND Climate Division 9 of the Palmer Drought Severity Index (PDSI). This area has a current classification of Extremely Moist conditions. The PDSI values from the previous three-week period have trended from Very Moist Spell to Extremely Moist conditions. The U.S. Drought Monitor by the Climate Prediction Center (CPC) suggests that no drought conditions are occurring or expected to occur through November 2019 in this region. The CPC and International Research Institute for Climate and Society state that El Nino/Southern Oscillation (ENSO) has transitioned to ENSO-neutral conditions. Neutral conditions are expected to remain through the 2019-2020 winter in the northern hemisphere. The three-month climatic outlook by the CPC for September, October and November favors above normal precipitation and slightly favors above normal temperatures. Therefore, the current climatic outlook does not indicate below normal water availability in this region.

Statutory authority for issuing emergency or temporary use of water is given to the State Engineer in North Dakota Century Code § 61-04-02.1 and North Dakota Administrative Code § 89-03-01-10.

> *61-04-02.1. Emergency or temporary authorization.*
> *The state engineer may authorize emergency or temporary use of water for periods not to exceed twelve months if the state engineer determines such use will not be to the detriment of existing rights. The state engineer shall establish by rule a separate procedure for the processing of applications for emergency or temporary use. No prescriptive or other rights to the use of water shall be acquired by use of water as authorized herein.*
>
> *89-03-01-10. Emergency or temporary authorization.*
> *Application for a temporary appropriation must be made on the form provided by the state engineer. In that request, the applicant must indicate the purpose for which water will be used, quantity of water needed, proposed point of diversion, type of use, place of use, rate of withdrawal, source of water, dates of proposed use, and applicant's address. The state engineer will evaluate the request and, if it is granted, the state engineer will list on the temporary authorization conditions that govern the appropriation.*

An applicant for emergency use of water, if the situation warrants, may call the office of the state engineer requesting immediate use of water. Following an oral request and oral approval by the state engineer for authorization, a temporary application form must be submitted.

The applicant for temporary or emergency appropriations is responsible for all damages that may be caused to other appropriators or any other individual because of the emergency or temporary use of water.

The application meets the criteria prescribed in water appropriation statutes and rules, and standard operating procedures of the division. Therefore, the application by Wanzek Construction to appropriate 8,400,000 gallons (25.778 acre-feet) of water from an unnamed slough via a POD located in Section 28, T131N, R67W in McIntosh County, is hereby recommended for the approval of 8,400,000 gallons (25.778 acre-feet) of water for dust control use via a POD located in the NW1/4 of Section 28, T131N, R67W at a maximum rate of 1,000 gpm from August 27, 2019 through August 1, 2020 with conditions attached to the permit. Withdrawals are to be taken from within the 88th St SE right-of-way.

Sam Swanberg, Hydrologist

NORTH DAKOTA STATE ENGINEER'S OFFICE
WATER APPROPRIATIONS DIVISION
ADMINISTRATIVE AND HYDROLOGICAL REVIEW WORKSHEET
FOR TEMPORARY WATER PERMIT APPLICATIONS

ADMINISTRATIVE REVIEW

Applicant's name	Wanzek Construction
Application Index number	4287
Temporary Water Permit number	ND2019-19701
Date Application received in the State Engineer's Office	08/05/19
Date review process started	08/23/19
Is legal description filled out correctly?	Yes
Is the water source correct?	Yes
What is the requested purpose of use?	Dust Control
Which category best describes the requested purpose?	Dust Control
Does the application name more than one water source?	No
Does the application name more than one POD?	No
Is the requested period of use less than NDCC 61-04-2.1?	Yes
Is the maximum rate of withdrawal in line with the total request?	No, Modified

WATER SOURCE REVIEW

Is the water source properly identified in the application?	Yes
Is the water source within the definition of navigable?	No
E-mail to Sovereign Lands?	N/A
If an impoundment, what is the surface area?	~112 acres
Are there access constraints to the source?	No

Waterfowl easements	No
Wetlands easements	No
USACOE lands	No
Bureau of Reclamation lands	No
US Forest Service lands	No
BIA/Tribal lands	No
Taxed land within reservation	No

WATER PERMIT REVIEW

Water permits in the sub-watershed?	No
If so, to what degree might the permits be impacted?	N/A
Water permit applications in the sub-watershed?	No
If so, to what degree might they be impacted?	N/A
Water use registrations (108D) in the sub-watershed?	No
If so, to what degree might the 108D's be impacted?	N/A
Current temporary water permits in the sub-watershed?	Yes
If so, to what degree might these be impacted?	None

HYDROLOGICAL REVIEW

What is the identification of the sub-watershed (HUC-12)?	101600040102
What is the name of the sub-watershed (HUC-12)?	101600040102
What is the area of the sub-watershed (HUC-12)?	55.89 Sq. Miles
What is the name of the watershed (HUC-10)?	Town of Freedonia
What is the name of the sub-basin (HUC-8)?	Elm
Drainage area up gradient of proposed POD	1.33 Sq. Miles
Snow water equivalent (SWE) data (if applicable)	N/A
Palmer Drought Severity Index (PDSI) region	ND Region 9
Current period + 4.69 08/17/19	
1st previous period + 4.14 08/10/19	
2nd previous period + 4.36 08/03/19	
3rd previous period + 3.99 07/27/19	
PDSI trend +4.0 or more – Extremely Moist	- 2.0 to - 2.9 – Moderate Drought
+3.0 to +3.9 – Very Moist Spell	- 3.0 to - 3.9 – Severe Drought
+2.0 to +2.9 – Unusual Moist Spell	- 4.0 or less – Extreme Drought
- 1.9 to +1.9 – Near Normal	
Are there any USGS monitoring sites within the sub-basin?	Yes, but not in relation
If so, specify sites and attached latest data available.	N/A
Is there any potential impact to the monitoring sites?	N/A
If so, add condition to monitor impact	N/A
Hydrology Manual of North Dakota:	
Estimated Annual Normal Precipitation (inches)	17
Estimated Mean Annual Evaporation (inches)	33
Estimated Annual Yield of up gradient area 50% (AF/mi^2)	30
Estimated Annual Yield of up gradient area 80% (AF/mi^2)	14

NDCC 61-04-06 CRITERIA REVIEW

Could the rights of a prior appropriator be affected?	No
Is the proposed means of diversion adequate?	Yes
Is the proposed use beneficial?	Yes
Is the proposed appropriation in the public interest?	Yes
Benefit to the applicant?	Yes
Effect of economic activity?	Yes
Effect on fish & game resources?	No
Effect on public recreation?	No
Effect of loss of alternate use?	No
Harm to other persons?	No
Intent & ability to complete?	Yes

RECOMMENDATION

Quantity of water requested:	25.778 Acre-Feet
Maximum rate of withdrawal requested:	1,200,000 Gallons per Minute
Requested point of diversion:	13106728
Recommended Quantity of water:	25.788 Acre-Feet
Recommended maximum rate of withdrawal:	1,000 Gallons per Minute
Recommended point of diversion:	13106728B

APPLICATION FOR A TEMPORARY WATER PERMIT

NORTH DAKOTA STATE WATER COMMISSION

WATER APPROPRIATIONS

SFN 60158

MAIL THE COMPLETED APPLICATION TO:
State Engineer • ND State Water Commission • State Office Building • 900 East Boulevard • Bismarck, ND 58505-0850
BY FAX - (701) 328-3696 • BY EMAIL - waterpermits@nd.gov

(SIGNATURE MUST BE PROVIDED)

NOTE: Use one application for each type of source (surface water or ground water). Use one application for each different surface water source. Complete all lines. If this application is not satisfactorily completed, it will be returned, If more space is necessary, attach additional sheets Please type or print in ink. No map is required.

Name of Applicant Wanzek Construction			
Mailing Address 6510 88th St SE			
City Kulm	State ND	Zip Code 58456	
Home Telephone Number 7012826171	Work Phone Number		
Cell Phone Number	E-Mail tdufault@wanzek.com		
Contact Person (if applicant is not individual) Tanner Dufault	Contact Person Phone Number 2185569921		
Source of Water Surface Water			
Name of Source (if surface water): Unnamed Pond		County McIntosh	
1/4 1/4 (if needed)	Section 28	Township 131	Range 67
Purpose for Which Water Will be Used: Dust Control on County Roads			
Total Quantity of Water Requested: 8400000 Gallons			
Fees: < 1 Acre-Feet ($75)	1 - 10 Acre-Feet ($125)	X > 10 Acre-Feet ($200)	
Withdrawal rate at which water is proposed to be diverted at the location listed above:	GPM : 1200000		
Period of Usage: (up to 12 months)	From 08/26/19	Through 08/01/20	
Signature:			
Printed Name: Tanner Dufault			

Upon receipt of this form, the State Engineer will forward a written response to the applicant within approximately 30 days. If the applicaiton is approved, the granting of temporary water permit does not create a water right. If you have any questions, call (701 328-2754.

For Internal Use

2020 Temporary Permit Annual Water Use Report

(Return all pages of this form even if no water was used)

ND2019-19701

Permit Number:ND2019-19701

Wanzek Construction
6510 88th St SE

Kulm, ND 58456

Phone: (701) 282-6171

Make Name and/or Address corrections below:

_____

_____

_____

Report the total in: Gallons or Barrels or Acre-Feet. Please circle the units used (gallons, barrels, acre-feet)
Report the total amount of water per month if applicable:

JANUARY	_____	JULY	_____
FEBRUARY	_____	AUGUST	_____
MARCH	_____	SEPTEMBER	_____
APRIL	_____	OCTOBER	_____
MAY	_____	NOVEMBER	_____
JUNE	_____	DECEMBER	_____

TOTAL ANNUAL USE _____

I. INFORMATION ABOUT WELLS, PUMPS, OR POINTS OF DIVERSION

Report the following information for the Point of Diversion NW1/4 Sec. 28 Twp. 131 Rng. 067

Water Source: Ground Water or Surface Water (Circle one)

Pumping Rate: _____ (Circle: Barrels, Acre-Feet, Gallons) PER (Circle : Second, Minute, Hour, Day)

Total Water Use from this Point of Diversion : _____ (Circle: Barrels, Acre-Feet, Gallons)

WATER PERMIT CRITERIA:

Source: unnamed slough
Nature of Use: Dust Control
Total Quantity of Water: 25.77 Acre-Feet
Maximum Withdrawal Rate: 1,000.0 gpm
Period of Authorized Useage: 8/27/19 through 8/1/20

II. MAKE ANY ADDITIONAL REMARKS BELOW:

Note: 1 Acre-Foot = 325,851 gallons.

E-Mail: depotreporting@nd.gov

Please return to:
North Dakota Office of the State Engineer
State Office Building
900 East Boulevard
Bismarck, ND 58505
Phone (701) 328-2754

Signature _____

Date : _____

2019 Temporary Permit Annual Water Use Report

(Return all pages of this form even if no water was used)

ND2019-19701

Permit Number:ND2019-19701

Wanzek Construction
6510 88th St SE

Kulm, ND 58456

Phone: (701) 282-6171

Make Name and/or Address corrections below:

_____

_____

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MARCH	_____	SEPTEMBER	_____
APRIL	_____	OCTOBER	_____
MAY	_____	NOVEMBER	_____
JUNE	_____	DECEMBER	_____

TOTAL ANNUAL USE _____

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E-Mail: depotreporting@nd.gov

Please return to:
North Dakota Office of the State Engineer
State Office Building
900 East Boulevard
Bismarck, ND 58505
Phone (701) 328-2754

Signature _____

Date : _____