



# MDU Heskett Station Natural Gas Pipeline Post-Construction Inspection Report PU-11-680

Prepared for:

**NORTH DAKOTA  
PUBLIC SERVICE COMMISSION**

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Appendix A:	Photographs
Appendix B:	Project Overview Map with field observation points

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# 1.0 Executive Summary

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The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Heskett Station Natural Gas Pipeline (Project) in Morton County, North Dakota (ND), constructed by InfraSource Services (InfraSource), and currently operated by Montana-Dakota Utilities Co. (MDU). Construction for the Project was completed in June 2014. Wenck reviewed all Project documents to identify those aspects that required compliance, and visually inspected the Project area on 3 December 2013 and on 20 August 2014.

The Project was well-maintained and appeared to have been constructed as planned with numerous efforts to minimize impacts. However, there were a few non-critical issues that may need to be resolved for the Project to be considered complete and in full compliance, including 1) written verification of noxious weed control measures (if necessary), 2) Written verification of annual inspection of tree/shrub plantings and replanting as necessary 3) vegetation establishment in the two noted areas of concern. Follow-up actions taken by MDU (or Morton County Soil Conservation District) to address these issues can be corroborated in writing or photos and will not require a subsequent site visit. Wenck recommends the PSC take the following steps to resolve these issues.

## **Recommended Action Steps**

### **→ Request Now**

- Written Verification of future noxious weed control (if required)

### **→ Review Internally, Clarify, Then Request if Needed**

- Reconcile As-Built Alignment Sheets with Approved Pipeline Corridor GIS files
- Review areas of concern, contact MDU for further actions

### **→ Expect Later, Request if Needed**

- Documentation of Noxious Weed Control
- 2015-2018: Tree and Shrub Survival Reports and Replanting Reports

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## 2.0 Background & Scope

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### 2.1 INTRODUCTION

The Heskett Station Natural Gas Pipeline (Project) was completed in June 2014 in Morton County, North Dakota (ND). The Project was constructed by InfraSource Services (InfraSource), and is currently operated by Montana-Dakota Utilities Co. (MDU). The Project is a 10-inch diameter underground pipeline with a total length of approximately 24 miles. The Project originates in Morton County, ND, approximately 15 miles southwest of Mandan, ND, and ends near the Heskett Station power plant just north of Mandan (**Appendix B**). The Project is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Findings of Fact, Conclusions of Law, and Order in Case No. PU-11-680 on 21 August 2013, granting a Certificate of Corridor Compatibility No. 143 and Route Permit No. 156 for the Project.

### 2.2 PURPOSE

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Post-construction inspections ensure that such projects are constructed in compliance with the siting laws (North Dakota Century Code Chapter §49-22) and rules (North Dakota Administrative Code Article 69-06) and the applicable Commission Findings of Fact, Conclusions of Law, and Order (Order). The North Dakota PSC retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Project.

### 2.3 METHODS AND SCOPE OF INSPECTION

#### 2.3.1 Project Compliance Items Identified

Wenck identified a list of “Project Specifications”, which InfraSource/MDU were obligated or responsible to follow and that can be verified either in written documentation or by an on-site inspection. These items were taken from 1) siting laws and rules, 2) Project activities or specifications proposed in the Application for a Certificate of Corridor Compatibility and Route Permit (Application), 3) Project plans described in the Findings of Fact, 4) Orders, and 5) recommendations by other agencies. These Project specifications are listed in Table 2.1 under 7 categories: Siting & Location; Project Design & Engineering; Pre-Construction; Cultural Resources; Natural Resources; Construction, Reclamation & Soils; and Operation.

#### 2.3.2 Document Review

Wenck staff reviewed publicly-available Project documents in the PSC Online Case Search (ND PSC 2014) to find written verification of compliance for the Project specifications listed in Table 2.1. If written verification was filed, the findings are described in Section 3 and the source and name of the documentation is listed in Table 2.1, Column 3 (Written Verification). Shaded boxes in the table

represent Project specifications that are potentially non-compliant because they have no written verification.

### **2.3.3 On-Site Inspections**

Roshaan Grieme, Wenck junior engineer, visited the Project site on 3 December 2013. A representative from MDU, the company currently operating the pipeline, accompanied Wenck staff during the site visit.

The site was inspected visually by driving to access points and walking within the Project area at those points. Digital photographs (Canon Power Shot SD1300 IS, 12 megapixel) were taken showing typical Project infrastructure and documenting problem areas (**Appendix A**). Geographic coordinates were recorded at observation points or potential problem areas using a handheld Global Positioning System (GPS) (Garmin GPSMAP 60CSx; <10m accuracy; NAD83 datum) (**Appendix B**).

A final inspection was performed on 20 August 2014 by Jeffrey Lorsung, Wenck Environmental Scientist intern, accompanied by David Yexley from MDU. This final inspection was performed in a similar manner as the initial inspection, accessing the ROW by various points, taking GPS coordinates of access points and noting problem areas. Again, a Garmin handheld GPS (Garmin GPSMAP 60CSx; <10m accuracy; NAD83 datum) was used and digital photos were taken with a Canon PowerShot (SD1300 IS, 12.1 Megapixel ) to capture general views of the completed project, and other note-able areas.

**Table 2-1: Project Specifications with Written or Site Verification Information**

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	<b>SITING &amp; LOCATION</b>		
App. p. 11, 16, 17, 20; Findings of Fact 2	Designated location in Morton County, ND, beginning about 4 miles west of St. Anthony, ND and terminating about 2 miles north of Mandan, ND. Route altered slightly to avoid cultural resource sites, biological resources, a high pressure water line, and occupied structures within Mandan city limits. Provide maps of approved corridor and associated GIS files within 3 months of approved Order.	Docket #48 Findings of Fact, Conclusions of Law, and Order	Section 3.1.1
ND Admin. Code Article 69-06-08; App. p. 21-60; Findings of Fact 14-18, 21-22, 24	Siting Criteria analysis – exclusion, avoidance, selection, and policy. Four exclusion areas within study area; no exclusion areas within 400ft wide field survey area over pipeline. Four avoidance areas within study area; no significant impact on avoidance areas. Several (mostly limited) impacts to Selection Criteria; any adverse effects will be managed and maintained. Meets Policy Criteria.	Docket #5, Application	Section 3.1.2
Route App. p. 13	Project will temporarily impact of agricultural land. No impacts to quality of cropland anticipated due to timing of project. Crops were planted for 2014 growing season.	Docket#5, Biological Resources Survey	Section 3.1.3
App. p. 29	Setback of 500ft from occupied structures. 22 residences and two places of business within 500ft of route. Route altered to exclude occupied structures within Mandan city limits. Waivers received from home and business owners.	Docket #5, Appendix C, Exclusion and Avoidance Area Maps; Docket #5, Appendix D, Selection Criteria Maps; Docket #12, response to request for additional information	Section 3.1.4
Licenses and Permits Docket #53	No state trust surface or mineral ownership within study area. No PLOTS lands in or adjacent to corridor. No state parks or NDPR-managed lands.	Docket# 48 Findings of Fact, Conclusions of Law, and Order	N/A
	<b>PROJECT DESIGN &amp; ENGINEERING</b>		
App. p. 11, 16, 17,18, 20; Findings of Fact 2, 4	Authorized 24 miles of 10-inch diameter, underground pipeline and aboveground markers.	Docket# 48 Findings of Fact, Conclusions of Law, and Order	Section 3.2.1
App. p. 17; Findings of Fact 6	Construction of Town Border Station header, in-line inspection tool launcher/receiver, mid-line valves, odorizer, cathodic protection, gas delivery station and pipeline markers.	Docket# 48 Findings of Fact, Conclusions of Law, and Order	Section 3.2.5
App. p. 17, 60;	The majority of temporary construction will be within 85ft wide right-of-way (ROW), reduced to 75ft at some locations. This includes a 15ft temporary workspace for both. Permanent ROW is 70ft wide, reduced to 60ft at some locations.	Docket# 48 Findings of Fact, Conclusions of Law, and Order	Section 3.2.2

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Certification 29	Provide engineering design drawings prior to construction upon request.	Docket #52, Pipeline route construction sheets 1 through 20	N/A
Certification 31	Provide as-built design specifications and associated GIS files within 3 months after construction complete.	Docket# 82 As-built alignment sheets	N/A
<b>PRE-CONSTRUCTION</b>			
ND Century Code Ch. 49-22-07.1; ND Admin. Code Article 69-06-03	Letter of Intent.	Docket #1, Letter of Intent	N/A
ND Century Code Ch. 49-22-08; ND Admin. Code Article 69-06-04	Application for a Certificate of Site or Corridor Compatibility and Route Permit.	Docket #5, Application	N/A
ND Century Code Ch. 49-22-07	Certificate of Site Compatibility or Route Permit.	Docket #48, Findings of Fact, Conclusions of Law, and Order	N/A
ND Century Code Ch. 49-22-04; ND Admin. Code Article 69-06-02; App. p. 19	Ten-year Plan submitted in 2011; proposed Project included, no deviations expected	Docket#48 Findings of Fact, Conclusions of Law, and Order	N/A
Certification 2, 5	Conduct Pre-construction Conference. Provide notice of intent to start construction.	Docket #54, Meetings notes and attendance list from preconstruction conference	N/A
Certification 30, 33	Inform Commission of plans to modify facility and obtain approval. Any facilities not included in current Application must be applied for in a separate Route or Site Permit.	Docket# 61 Certification and supporting documentation in support of route adjustment	N/A
Certification 3, 4	Compliance with rules and regulations of other jurisdictional agencies. Obtain permits and approvals from other agencies and provide copies prior to applicable permitted activity.	Docket #53, Licenses and permits	N/A
Findings of Fact 31	Participate in ND One-Call Excavation Notice System.	Docket#48 Findings of Fact, Conclusions of Law, and Order	Section 3.3.5
<b>CULTURAL RESOURCES</b>			
Docket 4, letter recommending Class I and Class III cultural resources inventory	Perform a Class I Cultural Resource Inventory (file and records search with project maps) and a Class III (pedestrian) survey for all areas directly impacted by the project. No cultural resource sites will be impacted, provided eligible sites are avoided as planned.	Docket #5, Appendix H, Class III Cultural Resource Inventory; Docket #11, letter concurring no Historic Properties or Significant Sites affected; Findings of Fact 11, 12, 20	N/A
Certification 11, 12	Submit cultural resource mitigation plans to SHPO prior to construction for approval. Report discovery of cultural, archeological, historic, etc. sites and	Docket#48	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	stop construction, consult SHPO for clearance, and file report to PSC.		
	<b>NATURAL RESOURCES</b>		
App. p. 53-56	Expect temporary displacement of wildlife due to clearing and construction, but no significant impacts. Construction may affect, but is not likely to adversely affect, whooping crane, Sprague's pipit, and Dakota skipper; no impacts expected to other T+E or sensitive species. No impacts expected to bald and golden eagles.	Docket #5, Appendix G, Biological Resources Survey; Docket #5, Appendix I, Agency Correspondences;	N/A
Route App. p. 18-19, 21; Findings of Fact 17; USFWS (04-20-2011); NDGF (04-26-2011)	No permanent impacts to wetlands or water bodies are anticipated. Spill control, erosion and sediment controls, and other specific construction measures will be used through wetlands, according to permit. Dry Creek will be crossed underneath with HDD; an 80ft vegetation buffer will be left on either side during clearing. USFWS recommends impacts to wetlands and streams are minimized by workspace modification, narrowing ROW, horizontal drilling, and/or use of Best Management Practices (BMPs). NDGF recommends erosion control, no drainage alteration.	Docket #5, Natural Resource Report; Docket #5, Wetland Delineation Report; Docket #82, Weekly Construction Report, completion of 30 bores.	Section 3.5.2
App. p. 50	Expect short term disturbances to wetlands, including temporary loss of wetland vegetation and wildlife habitat due to clearing and construction. Utilize HDD where crossing flowing water. Wetlands will not be drained or permanently filled. Implement BMPs to minimize erosion and control sedimentation. Reduce construction work area widths within wetland areas.	Docket #5, Appendix F, Wetland Delineation Report	Section 3.5.2
USFWS (04-20-2011)	USFWS recommended minimal disturbance and narrowing of ROW within native prairie.	None.	Section 3.5.3
Certification 10	Report presence of T+E species, bald or golden eagles during construction and operation.	None reported to date.	N/A
Certification 17	Reclamation, fertilization, and reseeding according to NRCS (or landowner if approved). USFWS request: reseed with grass/forb mixture of native species from local seed sources.	None.	N/A
App. p. 51; Certification 20	Reduce construction work area in wooded areas. Tree and shrub removal and replacement will comply with "Tree and Shrub Mitigation Specifications".	Docket #81 Compliance Filing-Final Tree/shrub mitigation plan	N/A
	<b>CONSTRUCTION, RECLAMATION &amp; SOILS</b>		
Findings of Fact 27;	Utilize Environmental Inspectors during construction and restoration	Docket #51, 55-60,62-66,76,-80	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Certification 5	activities to ensure environmental compliance throughout the duration of the Project.		
Findings of Fact 32	Ensure regulator station constructed at interconnection with North Border pipeline will be located within insulated, enclosed structure such that noise from regulator will not exceed 55 decibels audible (dBA) outside regulator station.	Docket #48, Findings of Fact-32	Section 3.6.1
Certification 6	Pipeline buried to 48in in range land, 48in in cultivated land, 48in at the bottom of ditch for road crossings, and 72in in undeveloped section lines.	Docket #82, As built alignment sheets	None.
App. p. 50; Findings of Fact 26	Implement BMPs to minimize the potential for sedimentation and erosion control	None.	Section 3.6.3
Certification 16	Topsoil and subsoil must be segregated and replaced separately.	Docket#	N/A
Certification 23	No staging areas on land not owned by Company, unless otherwise negotiated with landowners.	None.	N/A
Certification 13	Crossings of graded roads bored.	Docket #82, As built alignment sheets	Section 3.6.5
Certification 14, 18, 19, 25	Temporarily disturbed areas and roads will be restored. Pre-existing roads restored to satisfactory condition. Restoration of area to pre-construction contours as soon as practicable upon completion of construction. Reclamation and maintenance throughout life of facility.	Docket# 48, Certification Relating To Order ProvisionsTransmission Facility Siting-14	Section 3.6.5
Certification 15	Construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land.	Docket# 48, Certification Relating To Order ProvisionsTransmission Facility Siting-14	N/A
App. p. 35; Certification 21, 22, 24	Temporary fences and gates will be installed as necessary. Repair/replace all damaged fences and gates. Repair/replace damaged drainage tile. Repair/replace irrigation systems. Waste removed and disposed regularly.	None.	Section 3.6.7
Certification 34	Damage to underground facilities reported to PSC. Construction suspended until clearance to proceed.	None Reported	N/A
	<b>OPERATION</b>		
Certification 8, 9, 27	Construct and operate in accordance with Application and safety requirements. Maintain records of compliance with Order and Certificate of Site Compatibility. Extraordinary events (e.g. injuries, T+E wildlife fatalities) reported within 5 business days.	Docket #51, 55-66,76-80 Weekly Construction Report	N/A
Findings of Fact 26	Implement various measures to protect ROW or mitigate the adverse impacts of ROW preparation and pipeline construction, operation, and	None	Section 3.7.1

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	maintenance on the human and natural environment. Restore ROW as closely as possible to pre-construction conditions. Work closely with landowners and applicable agencies to ensure proper restoration of ROW.		
Certification 17,18, 19,24, 25	Reclamation and maintenance throughout life of facility. Waste removed & disposed regularly.	None.	Section 3.6.7
Findings of Fact 48; Certification 2, 27,28, 29	Cooperation with landowners/residents to mitigate adverse effects. Company's existing Emergency Action Plan will include the Project. Safety measures for traffic control or to restrict public access. Procedure for handling complaints.	None.	Section 3.7.2
Findings of Fact 29, 30; Certification 26, 28	Company's emergency response program complies with standards set by DOT Pipeline and Hazardous Materials Safety Administration. Company's existing Emergency Response Plan has been submitted and accepted by DOT, and will be applicable to the Project. Safety measures for traffic control or to restrict public access. Procedure for handling complaints.	Docket# 48 Findings of Fact, Conclusions of Law and Order	Section 3.7.3

**\*Note: Shaded boxes represent non-compliance or potential non-compliance issues.**

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## 3.0 Findings

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### 3.1 SITING & LOCATION OF FACILITY

#### 3.1.1 Designated Location & Maps of Corridor

The Project was built generally as proposed in the designated location described in the Application and Order (**Appendix B**). However, the final pipeline route was slightly altered in two locations of the Project.

At approximately station 1110+00, a portion of the route was adjusted up to 23ft to the south in order to avoid a high pressure water line that intersected the original alignment (Docket #61, Certification and Supporting Documentation in Support of Route Adjustment). The route adjustment and associated construction activities were located within the designated corridor and did not affect any known exclusion or avoidance areas within the corridor. Additional permanent easement was granted by the landowners (Myron and Carrie Schmidt) who were affected by the route adjustment. It was noted in Docket 61 that Myron and Carrie Schmidt did not oppose the route adjustment and the Company obtained an easement from Myron and Carrie for the adjusted route. The route adjustment request complied with the provisions of NDCC49-22-16.3.

Near the termination point of the pipeline, along 38<sup>th</sup> Street north of Mandan, MDU requested the pipeline route be shifted approximately 35ft to the south (Docket #40, Request to Amend Application for Certificate of Site Compatibility and Route Permit). MDU was unable to obtain one necessary waiver from a homeowner as it relates to the 500ft avoidance area near occupied structures. MDU proposed to move the pipeline south to locate it outside of the 500ft avoidance area. Additional easement was obtained from Tesoro, the landowners to the south of the proposed reroute. PSC determined that the proposed reroute did not materially affect the original applications for a corridor certificate and route permit, and that a rehearing was not necessary (Docket #43, Letter Enclosing Motion Deeming Rehearing is not required).

In the NW1/4 of Section 13, Township 139N, Range 82W, MDU proposed slightly altering the route of the pipeline at the request of the affected landowner (Docket #12, Response to Request for Additional Information Regarding Application). This re-route shifted the pipeline to the east to more closely follow the section line. As a result, one additional home became located within 500ft of the proposed pipeline. A waiver was obtained from that homeowner.

MDU proposed a re-route of the pipeline along the north end of the Project, just outside the City of Mandan (Docket #12, Response to Request for Additional Information Regarding Application). The alignment was shifted to the east, allowing for the entire 500ft avoidance area relating to occupied structures to be located outside city limits. No additional occupied structures were located within the 500ft avoidance area as a result of the re-route.

In Section 25, Township 139N, Range 82W, MDU proposed re-routing the pipeline route further to the west.

### **3.1.2 Siting Criteria**

Siting criteria were analyzed in detail in the Application for the Project (Docket #5). Wenck confirmed during the site inspection that there were no exclusion or avoidance areas within the Project area, and that there were no impacts to the variety of exclusion and avoidance areas near the Project area. Wenck also confirmed that impacts to selection and policy criteria were considered and kept at a minimum.

### **3.1.3 Land & Agricultural Impacts**

The Project was built as proposed within the estimated construction ROW.

The Project was constructed within the maximum acreage estimated in the Route Application. Topsoil replacement and soil de-compaction was satisfactory (**Appendix A, Photos 1, 2, 14-18**). Crop production appeared to have been resumed for the 2014 planting season. (**Appendix A, Photos 1, 2, 3**).

### **3.1.4 Setbacks**

There were a total of 25 occupied dwellings or structures within 500ft of the authorized pipeline route (23 residences and two places of business). 12 of those residences were located on 38<sup>th</sup> Street near the termination point of the pipeline. MDU was unable to secure a waiver from one homeowner on 38<sup>th</sup> Street, so MDU requested a modification to the pipeline route in order to move the pipeline approximately 35ft south along 38<sup>th</sup> Street and outside of the 500ft avoidance area (Docket #40, Request to amend Application for Certificate of Site Compatibility and Route Permit). Waivers were obtained from all other affected home and business owners, releasing MDU from the 500ft setback requirement. Wenck confirmed the pipeline was constructed according to the plans, and that no occupied structures were significantly impacted.

### **3.1.5 ND State-Owned or Managed Lands**

Consultation with officials in the ND Department of Trust Lands, Surface Management and Minerals Management Divisions indicated that no trust surface or mineral ownership was within the study area (ProSource Correspondence with USFWS Docket#5). Consultation with the ND Game & Fish Department (NDGF) indicated no NDGF-managed lands were within or adjacent to the pipeline corridor. A total of 35 government agencies were contacted for comments regarding the proposed corridor. (Docket#48 Findings of Fact, Conclusions of Law, and Order)

## **3.2 PROJECT DESIGN & ENGINEERING**

### **3.2.1 Length & Infrastructure**

The Project was authorized as 24 miles of 10in diameter underground pipeline, as described in the Application and at the hearing. The site inspection observations and as-built drawing information coincide with these parameters (Docket #24,82). Aboveground markers were in place along the route, and the pipeline originated at an interconnection with the Northern Border Pipeline and terminated at the Heskett Station Power Facility north of Mandan, North Dakota.(Docket 5) (**Appendix A, Photos 5,6**).

### **3.2.2 Right-of-Way Corridor**

The Order for the Project authorized construction within an 85ft ROW (70ft permanent, 15ft temporary) centered on the pipeline route for a majority of the Project; this was reduced to 75ft (60ft permanent, 15ft temporary) in some areas. The pipeline appeared to have been constructed within the authorized ROW. (Docket #82) (**Appendix B**).

### **3.2.3 Compliance with US DOT Regulations**

There was no written verification or certification of compliance with US DOT 49 CFR Part 192.

### **3.2.4 Engineering Design Drawings**

Engineering design drawings were provided prior to construction (Docket #52, Pipeline route construction sheets 1 through 20).

### **3.2.5 As-built Drawings and GIS Files**

As-built alignment drawings and associated GIS files were received on 29 August 2014 (Docket #82), within three months after construction was completed. The as-built drawings were inspected in relation to the on-the-ground infrastructure of the facility and appeared to coincide. The accuracy of the as-built drawings should be confirmed, however, drawings show necessary markers and construction of pipeline within approved ROW.

## **3.3 PRE-CONSTRUCTION**

### **3.3.1 PSC-Required Documents**

A Letter of Intent was received on 24 October 2011 (Docket #1). The PSC moved that the one year waiting period between filing the Letter of Intent and the Application be shortened to two months (Docket #2, Commission Motion acknowledging Letter of Intent). An Application for a Certificate of Corridor Compatibility and Route Permit was subsequently submitted on 13 February 2013 (Docket #5, Application). A Certificate of Corridor Compatibility No. 143 and Route Permit No. 156 were issued on 21 August 2013, in accordance with the Order and Certification Relating to Order Provisions signed by MDU on 3 May 2013 (Docket #48, Findings of Fact, Conclusions of Law, and Order). There was no written verification of a Ten-Year Plan having been submitted for the Project.

### **3.3.2 Pre-Construction Conference/Notice of Intent to Start Construction**

Record of the pre-construction conference was on file and notice was provided during the meeting of intent to start construction on 9 September 2013 (Docket #54, Meetings notes and attendance list from preconstruction conference).

### **3.3.3 PSC Approval of Modifications**

There were no notifications to modify the facility filed to date. Observations of on-the-ground infrastructure coincided with maps of the approved corridor and as-built drawings. No separate approvals were sought for those differences.

### **3.3.4 Permits and Approvals from Other Agencies**

Several permits and licenses were required and obtained for the Project (Docket #53, Licenses and Permits; Docket #45 Late filed exhibit MDU-13, proposed Findings of Fact, Conclusions of Law and Order).

Federal agency permits and licenses obtained for the Project included:

- US Bureau of Reclamation – License Agreement for crossing Western Area Power Administration’s Bismarck-Medora 230kV transmission line (Docket #53)

State agency permits and licenses obtained for the Project included:

- ND Department of Health – NDPDES General Permit for Temporary Dewatering/Hydrostatic Testing, for discharge of potable water into the Missouri River (Docket #53)
- ND Department of Health – NDPDES General Permit for Stormwater Discharges from Construction Activity (Docket #53)
- ND Department of Transportation – Utility Crossing Permits for Highways 1806, I-94, and I-94 Business Loop (Docket #53)
- ND State Water Commission – Sovereign Land Permit for Heart River crossing (Docket #45)

Local permits and licenses obtained for the Project included:

- Morton County – Road Crossing Permits (Docket #45; Docket #53)
- Morton County – Building Permit for Natural Gas Station on 54<sup>th</sup> Street (Docket #53)
- Morton County – Approach Permit for 54<sup>th</sup> Street (Docket #53)
- City of Mandan – Building Permit for Natural Gas Line Control building on 38<sup>th</sup> Street (Docket #53)

Other permits and licenses obtained for the Project included:

- Burlington Northern Santa Fe Railway – Pipeline License for railroad crossing (Docket #53)

These permits and licenses were filed with the PSC as required.

### **3.3.5 North Dakota One-Call Participation**

There was no written documentation that InfraSource participated in North Dakota One-Call. However, it was noted in the findings of fact (Docket #48) that MDU will participate in the North Dakota One-Call Excavation Notice System.

## **3.4 CULTURAL RESOURCES**

### **3.4.1 Cultural Site Avoidance**

Prosource Technologies, Inc. submitted preliminary information to the State Historical Society of North Dakota for ND SHPO REF: 12-0025 PSC/Montana Dakota Utilites Company-Heskett Station Natural Gas Pipeline... on December 13, 2011. (Docket #4) The State Historical Society noted potential for unrecorded and recorded cultural resource properties in a variety of physiographic settings in the overall project area. The State Historical Society recommended a Class I Cultural Resource Inventory and a Class III survey to be submitted for the project. They also encouraged the presence of tribal monitors to survey the APE. Three sites had been identified previously (32MO1362, 32MO1364, and 32MO1072) and were stipulated as “to be avoided” by the project.

The results of the Class III Cultural Survey indicated “No Historic Properties Affected” and “No Significant Sites Affected” in reference to NDSHPO REF: 12-0025 PSC given the previously noted avoidance areas.

The State Historical Society found this report to be acceptable and would concur with the aforementioned determination when consulted by a federal agency. (Docket #11)

### 3.4.2 Mitigation Plans & Reporting

No cultural resource mitigation plans have been submitted by InfraSource to date. No new discoveries of cultural, archeological, or historic sites have been reported to the PSC to date and no discoveries were recorded on the weekly construction reports for the Project (Dockets #51, 55-60, 62-66). Presumably no new sites were encountered during construction of the Project.

## 3.5 NATURAL RESOURCES

### 3.5.1 Wildlife

In general, it appeared InfraSource attempted to minimize impacts to wildlife and habitat. A biological resources survey was completed prior to construction which included a wetland determination; a cursory assessment of wildlife, threatened and endangered species, and potential habitat; and an inventory of vegetative communities (Docket #5, Appendix D, Biological Resources Survey).

Nearly all the listed endangered threatened, or candidate species for Morton County were not expected to be impacted by construction. It was determined that the Project “May Affect, But Is Not Likely to be Adversely Affect” the following species:

- Whooping crane (threatened) – likely would avoid croplands and wetlands where construction is taking place in favor of suitable adjacent habitat
- Sprague’s pipit (candidate) – a highly mobile species which would most likely use suitable adjacent habitat
- Dakota skipper (candidate) – habitat which would suit species was mostly avoided by route

No endangered, threatened, candidate species, or bald or golden eagles were seen during the survey or the site visit completed by Wenck staff.

The US Fish and Wildlife Service (USFWS) gave several recommendations to minimize wildlife impacts:

- The USFWS recommended avoid impacting the habitat of piping plover, Sprague’s pipit, and Dakota skipper
- The USFWS recommended an eagle nest survey with at least ½-mile avoidance for any documented nests. According to USFWS data, there is a documented bald eagle nest approximately one mile from the pipeline route. A cursory survey for general wildlife and avian habitat within the Project corridor was part of the biological resources survey completed for the Project. No eagle nests were observed during the survey though it was determined they *may* occur within or near the area because of potential habitat near the Heart River and Missouri River (Docket #5, Appendix G, Natural Resource Report). The project was not expected to affect these species because the route is located approximately ½ mile away from the Missouri River and any habitat along the Heart River would be avoided via horizontal directional drilling (HDD).
- The USFWS requested construction is scheduled to avoid disrupting migratory birds during breeding season (February 1 to July 15). The pre-construction conference notes and weekly construction reports indicated that construction began 9 September 2013 (Docket #54) and halted 7 December 2013 (Docket #66). Construction was resumed in March 2014.
- The USFWS recommended that all practicable measures be taken to avoid a take of migratory birds, such as suspending construction where necessary, and/or maintaining adequate buffers to protect the birds until the young have fledged.
- The USFWS recommended that a Conservation Plan be developed to identify potential impacts to migratory birds as a result of the Project. They also recommended that InfraSource document

the steps taken to minimize disturbance and reclaim habitat. Other than the mitigation measures discussed in the Application, a Conservation Plan was not developed for the Project.

### **3.5.2 Wetlands**

A wetland delineation during the biological resource survey revealed the presence of 24 wetlands and two Waters of the United States (WOUS), a total of 26 sites, along the Project ROW (Docket #5, Appendix F, Wetland Delineation Report). The two WOUS sites are the Little Heart River and the Heart River. To minimize impacts to wetlands, MDU agreed to utilize HDD whenever crossing flowing water and to restore the ROW as close as possible to pre-construction conditions. Wenck verified that the crossings at the Little Heart River and the Heart River were bored to avoid impacts. During an interim project inspection conducted on December 3, 2013, it appeared that all necessary erosion and sediment control structures were in place. After completion of the project, it appeared that the Project ROW was restored to pre-construction conditions and contours, ensuring that drainage conditions in the area would not be permanently impacted. (**Appendix A, Photos 7,8,9,10,11,12**).

### **3.5.3 Native Prairie**

As part of the Biological Resources Survey, a Vegetation Community types Overview was provided in section 4.1 of Docket item 5 Appendix G. The survey showed that, although much of the corridor consisted of pasture and rangeland, there were three locations of remnant dry-mesic grass prairie observed. Within this Appendix, a list of Grass and forb species observed at these locations was created.(Table 4-1, 4.1.1, Appendix G, Docket#5). Further documentation on avoidance of this area was not specified within the documents provided to PSC.

### **3.5.4 Reporting**

Weekly construction reports indicated that no environmental incidents or issues occurred during construction (Docket #51, 55-60, 62-66, Weekly Construction Reports). There were no reports filed documenting the presence of threatened or endangered species or bald or golden eagles during construction or operation to date.

### **3.5.5 Reclamation & Reseeding**

At the time of the initial site inspection, the pipeline trench had been backfilled, soils had been recontoured, and reseeded had been completed in grassland areas. The second inspection verified that vegetation had become established with the exception of two areas. The first was a hill with evidence of heavy livestock travel and some vehicle travel attributed to local residents. At the time of inspection, Mr. David Yexley contacted the owner of the land to notify him that the area should be left undisturbed until vegetation was at 70% coverage. (**Appendix A, Photo 20**). The second area of concern had somewhat poor vegetation growth near Pipeline Marker N:388012.25 E:1847743.82. (**Appendix A, Photo 19**).

### **3.5.6 Tree & Shrub Mitigation**

It appeared that in general, major woody areas were avoided through Project siting. The effort to conserve trees was apparent, including reducing the construction area and use of HDD where practical. Both initial and final compliance plans were filed with the PSC. (Docket 68,69,81). As ordered by the Commission, Montana-Dakota Utilities contacted the North Dakota Forest Service to identify suitable trees and shrubs to be used in plantings. At this time, the North Dakota Forest Service directed Montana-Dakota Utilities to the Morton County Soil Conservation District. Docket item 81, submitted 30 June 2014, noted the counts for trees and shrubs removed during the project as well as plans for

plantings. Morton County Soil Conservation District is designated as being responsible for maintaining and inspecting plantings yearly starting in September 2015. InfraSource provided a Tree Management Plan, which included a pre-construction tree count and method for replenishing those trees affected by construction. The March 24, 2014 2<sup>nd</sup> Revised Attachment to the Tree Mitigation Plan listed that 2208 trees/shrubs were planted to account for the 879 trees/shrubs removed for the pipeline project, and the 66 trees/shrubs removed for the Heskett Plant 88 MW Turbine Project (PU-11-631). Wenck observed that planting of new trees was complete in areas that were impacted by construction, or had been and generally followed the Tree Management Plan and the Tree and Shrub Mitigation Specifications. **(Appendix A, Photo 13,21,22)**

### **3.5.7 Noxious Weeds**

As part of the Biological Resources Survey, a noxious weed survey was performed on the approved corridor and the results were listed within the Biological Resources Survey submitted to the PSC as part of Docket item 5. (4.1.6, Appendix G, Docket#5) It was noted that leafy spurge and spotted knapweed were the most frequent varieties. Canada and musk thistle were also observed occasionally. Less frequent varieties included absinth wormwood and houndstongue. (Table 4-3, 4.1.7, Appendix G, Docket#5)

During the site inspection, some noxious weeds were noted. Numerous areas of the pipeline contained leafy spurge. Mr. Yexley noted that they will begin spraying for weeds in the spring of next year. However, no written verification could be found regarding future weed control within documents submitted to the PSC. It was noted in the tree and shrub mitigation plans that any noxious trees or shrubs removed would be replaced with non-noxious varieties. (Docket#68)

## **3.6 CONSTRUCTION, RECLAMATION & SOILS**

### **3.6.1 Construction Management & Safety**

Wenck staff was accompanied by the Environmental Inspector, Tom Hitz, during the site visit. Mr. Hitz described his methods for ensuring environmental mitigation requirements were being met. Weekly construction reports were submitted for the duration of construction (Docket #51, 55-60, 62-66, Weekly Construction Reports). Each report indicated whether any safety or environmental incidents had occurred, and documented that construction of the Project proceeded in accordance with the Application and safety requirements. For the week ending on September 14, 2013, there was one documented safety incident where an inspector on the Project had to receive stitches after running into a wire fence (Docket #51, Weekly Construction Report). There were no other documented safety issues throughout the rest of the Project. These reports stated that safety and environmental training were occurring throughout construction. Construction appeared to have gone as planned prior to construction being suspended at the end of the week of December 7, 2013 due to cold weather (Docket #66, Weekly Construction Report). Construction resumed in March 2014, and was completed in June 2014. Site inspection verified that the connection with regulator station constructed at the interconnection with the North Border pipeline was located within an insulated, enclosed structure so that noise from the regulator will not exceed 55 decibels audible (dBa) outside the regulator station.

### **3.6.2 Pipeline Depth**

The Route Application and PSC Certification of Order Provisions stated the pipeline must be buried to 48in in rangeland, cultivated land, and bottoms of ditches for road crossings, and 72in in undeveloped section lines. Wenck did not visually confirm the depth of the pipeline. The as-built indicated the pipeline was buried at a minimum depth of 48 inches (Docket #82) for all areas.

### **3.6.3 Erosion & Sedimentation**

The Project Application states that BMPs would be utilized during construction to minimize the potential for sedimentation and erosion control. During the interim inspection, Wenck observed that BMPs were in place at all critical and sensitive areas along the Project ROW. During the final inspection, crews were removing BMPs that no longer were necessary, leaving behind those that are biodegradable. Wenck identified a few areas of concern that showed some potential for erosion. (See 3.5.5 for details and photos) Wenck recommends that these areas continue to be monitored as vegetation becomes more densely established.

### **3.6.4 Soil Segregation & Staging**

In general it appeared that measures were taken to minimize the overall impact of the Project and the extent of land and soil disturbance. Wenck observed that topsoil appeared to be replaced to the required depth and separately from subsoils. Wenck did not observe any indicators of poor soil replacement, and crops planted following the completion of the project appeared healthy. It appeared large rocks had been removed from cropland if any had surfaced during soil disturbances.

### **3.6.5 Graded Roads Bored**

There were 14 road crossings as part of the Project. A total of 30 borings were performed on 17 road crossings/driveways, 9 wetlands/sensitive bodies of water, 3 pipeline crossings/final site, and 1 hill. Wenck verified that all of the crossings at graded roads appeared to have been directionally bored, with the route of the pipeline indicated by markers on either side. (Docket #82, As-built alignment sheets) **(Appendix A, Photo 6)**

### **3.6.6 Reclamation & Roads**

Weekly construction reports indicated that cleanup and reclamation had occurred concurrently with construction activities (Docket #51, 55-60, 62-66, Weekly Construction Reports). At the time of the initial inspection, the pipeline trench had been backfilled, soils had been re-contoured, and reseeding had been completed, with vegetation beginning to establish in most seeded areas **(Appendix A, Photos 24, 25)**. The final inspection confirmed a minimum of 70% vegetative coverage established in all areas. All roads within the Project area appeared to be in good condition and properly maintained.

### **3.6.7 Fencing, Repairs & Waste**

Fences had been repaired where the Project crossed fence lines **(Appendix A, Photo 23,26)**. Temporary fence was installed in certain areas along the Project ROW to prevent livestock from grazing on the disturbed land. Following completion of the project temporary fence will be removed except in areas where the landowner has purchased the fence. InfraSource reported there had not been any agricultural fields with drainage tile or irrigation systems impacted by construction of the Project. There was some silt fence debris observed at the site during the final inspection, however crews were removing the fence from the project at the time of inspection.

### **3.6.8 Underground Facilities**

No reports of damage to underground facilities were reported to the PSC. Wenck confirmed with InfraSource that no damage to facilities occurred during construction.

## **3.7 OPERATION**

### **3.7.1 Safety & Record-keeping**

No concerns were identified during the site review that would indicate that Project operation was out of compliance with the Application or safety regulations. Examples of operational safety measures observed at the site include: use of personal protective equipment and warning signs marking the pipeline route. The only extraordinary event reported to the PSC was the minor injury described in Section 3.6.1.

### **3.7.2 Maintenance**

During the final inspection temporary fence was being removed (except in certain areas of landowner purchase), along with silt fence and any other non-bio-degradable erosion control devices. There was no waste, debris, or abandoned equipment in any areas inspected and maintained. Most areas within the ROW were well maintained and have been restored to a natural condition. **(Appendix A, Photos 14,15,16,17,18)**

### **3.7.3 Public Contact & Safety**

Warning signs marking the location of the pipeline had been installed and were in place at all fencelines and road crossings **(Appendix A, Photos 6,12)**. InfraSource indicated that resident/landowner concerns and issues are handled promptly and InfraSource makes every reasonable attempt to alleviate problems caused by the Project (J. Coleman, 2013, pers. comm.).

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## 4.0 Issues to Resolve and Recommendations

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### 4.1 PROJECT SPECIFICATIONS NEEDING WRITTEN VERIFICATION

#### Necessary Items

- 1.) Written verification of noxious weed control measures (if necessary)
- 2.) Written verification of annual inspection of tree/shrub plantings and replanting as necessary

#### Potential Items

- Areas of Concern may need follow-up re-seeding in Spring 2015

### 4.2 SOIL REPLACEMENT, REVEGETATION & CROP PRODUCTION

The majority of the project had an excellent establishment of vegetation. Agricultural fields that were planted this year (spring 2014) following the completion of construction showed no signs of distress or insufficiencies due to poor soil quality or soil mixing.

During the 20 August 2014 inspection, two areas showed concerns relating to lack of vegetative growth. See section 3.5.5 for further details.

### 4.3 TREE & SHRUB MITIGATION

Yexley noted that annual tree and shrub mitigation inspections would be completed by the Morton County Soil Conservation District starting in 2015. Docket items 69 identifies the total amounts of trees and shrubs removed during construction, and the total amount of trees and shrubs replanted as directed by the Morton County Soil Conservation District according to the Tree and Shrub Mitigation Plan filed on 25 February 2014. Docket item 81 identifies the locations of the plantings and the number and variety of each species in the planting. Docket item 81 states that Montana-Dakota has contracted with the Morton County Soil Conservation District to perform the three annual "tree and shrub replacement inspections". The inspections will be conducted annually during the month of September, starting in year 2015, and Montana-Dakota will report the results of those reviews.

Visual inspection of the planting areas during the 20 August 2014 inspection showed that a number of trees had not survived, and will most likely need to be replanted in years to come.

### 4.4 USFWS RECOMMENDATIONS

Recommendations regarding endangered and threatened species are noted in *Section 3.5.1*. No other written verification was found regarding USFWS recommendations.

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## 5.0 Conclusions

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Overall, the Project appeared to have been constructed as designed with minimal impacts to the surrounding natural or human environment. The Project site was well-maintained and in good condition. Wenck observed that the project was completed as proposed and most reclaimed areas had been restored to their previous condition. Some items should be verified by a PSC representative including; reconciliation of the original approved corridor with as-built drawings, and follow-up with the Morton County Soil Conservation District on inspections and maintenance of tree/shrub plantings and control of noxious weeds.

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## 6.0 References

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North Dakota Public Service Commission (ND PSC). 2014. Online Case Search. Available from:  
[http://www.psc.nd.gov/database/company\\_case\\_list.php](http://www.psc.nd.gov/database/company_case_list.php). Accessed; August, September 2014.

Yexley, David. P.E.,C.I.G.C. 2013,2014.Montana-Dakota Utilities Co.;Director of Business Development & Special Projects. Personal Communication: discussion during site visit.

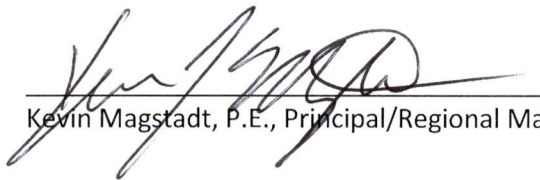
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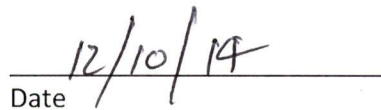
## 7.0 Signatures

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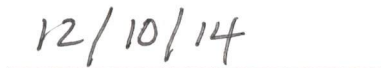
The services performed by Wenck scientists for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

Lead Project Manager, Kevin Magstadt and Secondary Project Manager, Luke Nelson, prepared the report.

  
Kevin Magstadt, P.E., Principal/Regional Manager

  
Date

  
Luke Nelson, Project Engineer

  
Date

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## Appendix A

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### Photographs

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**Above: Image 1, Cropland-Wheat Field 2014 Season**

**Below: Image 2, Cropland-Sunflower Field 2014 Growing Season**





**Above: Image 3, Cropland-Corn Field 2014 Growing Season**

**Below: Image 4, Trees that were bored under, Marker present**





**Above: Image 5, Interconnect station south end of Pipeline**

**Below: Image 6, Pipeline Crossing into Heskett Station Property**





**Above: Image 7, Wetland Crossing- Bore Pipe No. 3**

**Below: Image 8, Wetland Crossing- Bore Pipe No. 8-Area of Concern**





**Above: Image 9, Wetland Crossing Bore Pipe No. 8 close to stream**

**Below: Image 10, Wetland Crossing Bore Pipe No. 10**





**Above: Image 11, Wetland Crossing, Bore Pipe No. 11**

**Below: Image 12, Wetland Crossing, Bore Pipe No. 15**





**Above: Image 13, Tree plantings south group**

**Below: Image 14, Restored Prairie/Pasture**





**Above: Image 15, Restored Prairie/Pasture**

**Below: Image 16, Restored Prairie/ Pasture**





**Above: Image 17, Restored Cropland/Prairie**

**Below: Image 18, Restored Prairie/Pastureland, using existing ROW**





**Above: Image 19, Area of Concern (same as above)- Wetland Crossing Bore Pipe No.8**

**Below: Image 20, Area of Concern (2) Hill with Vehicle Tracks and Cattle Sign**





**Above: Image 21, Tree clearing, Restored to Prairie/Pasture**

**Below: Image 22, Tree Planting (North Half of previous picture)**





**Above: Image 23, Restored Fence**

**Below: Image 24, ROW Road Crossing**





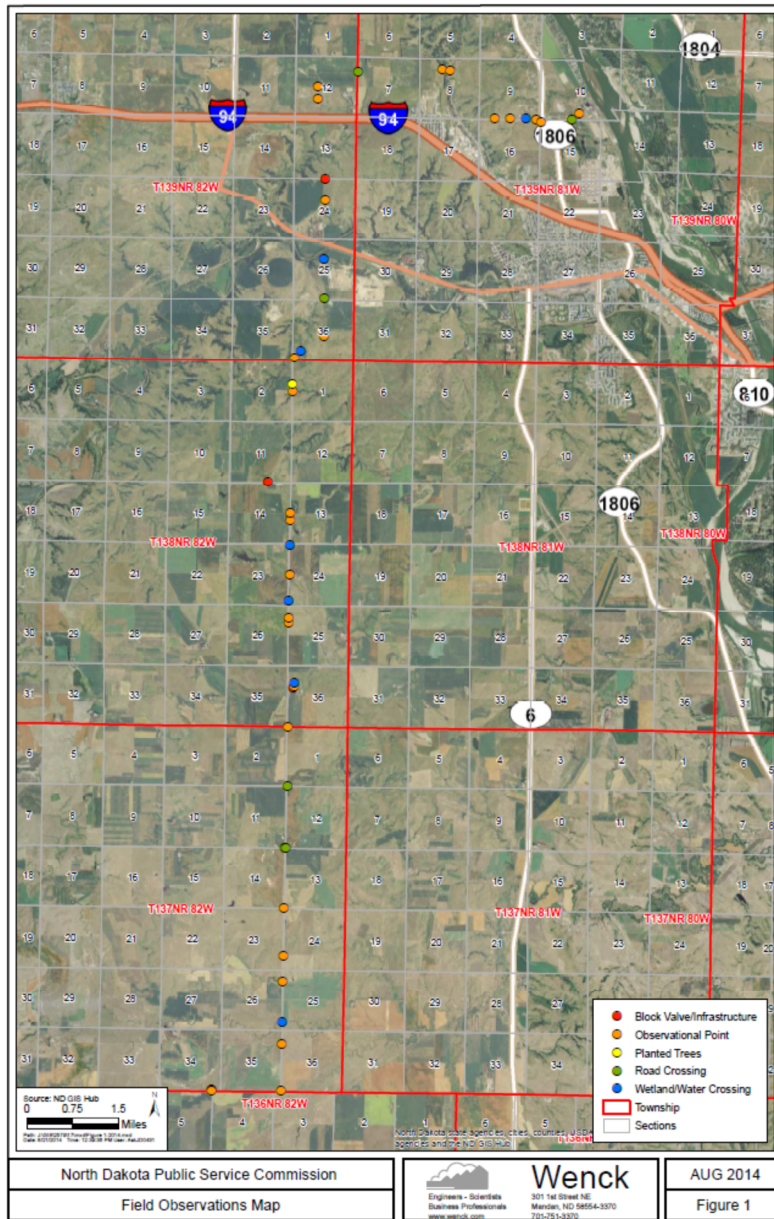
**Above: Image 25, ROW crosses Cty Rd 82, Bore Pipe No. 15 to block valve**

**Below: Image 26,**

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# Appendix B

## Field Observation Points



Field Observation Points from 8/20/2014

