

Hiland Crude, LLC.

Reclamation and Revegetation Inspection Report
New Town Expansion
Crude Oil Pipeline Project
Mountrail County
Case No. PU-15-416
Contract No. PU-748-16

March 1, 2017

Prepared for:

North Dakota Public Service Commission
600 East Boulevard Ave
Bismarck, ND 58505-0480





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BACKGROUND AND SCOPE

Introduction

The New Town Expansion Project is an 8-inch diameter, 42.5-mile pipeline constructed by Hiland Crude Pipeline Company, LLC. The Pipeline originates five miles southwest of Ross, North Dakota at Hiland's White Earth injection station and terminates to the south at Dakota Plains Holding, Inc.'s Pioneer Rail Terminal, approximately 1.5 miles southeast of New Town, North Dakota.

Regulatory Purpose and Scope of Work

The North Dakota Energy Conversion and Transmission Facility Act authorizes the State to determine that the location, construction, and operation of energy transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. The North Dakota Public Service Commission has contracted KLJ Engineering for inspection services on Case No. Pu-15-416, New Town Expansion.

KLJ is to document the reclamation and revegetation of the Project. The process includes inspection of the reclamation of subsoil and topsoil, as well as the seeding, fertilization, and status of revegetation.



EXECUTIVE SUMMARY

Methods

The project was inspected and documented on October 12 and October 20, 2016. A drone was utilized to collect aerial photography along the 42.5-mile pipeline, highlighting areas of both completed revegetation and areas of concern. The equipment used during inspection includes a DJI Phantom 4 integrated GPS and 12-megapixel camera. (Appendix B, Pictures)

Inspection Observations and Findings

At time of inspection on October 13, 2016, revegetation had been established in all observed areas of construction. As seen in the pictures, most areas are well blended and nearly undetectable among the surrounding areas. No issues were observed in areas where cropland covered the pipeline location.

There were some areas that contained some weed growth and/or were not well blended to the surrounding conditions. See areas of concern and pictures for more information.

Areas of Concern

North of station 625 (pictures 39 and 40), and east of station 635 (picture 75) vegetation was well established, but differed some from the surroundings. Similar conditions were also present near station 668 (picture 41). As seen in the picture 41, vegetation appears more closely blended on closer inspection.

Near station 1800 to 1830 (pictures 57, 59, 62, 65) some weed growth is present in the pipeline scar, although the vegetation appears to be becoming blended to the surrounding conditions.

Recommendations for Resolution

Areas of concern near station 625, 635 and 668 are well established and will likely continue to blend with the surrounding conditions. These areas should be monitored in the future, but we do not feel corrective action will be required.

Areas of concern near station 1800 to 1830, contain some weed growth, although it appears the surrounding conditions are becoming blended into the construction area. These locations should be monitored in the future, and reseeded is recommended if weed growth begins to increase.



DETERMINATION OF RECLAMATION

The New Town Expansion Project appeared to have been reclaimed and revegetated as near as practical to match previous conditions, with minor exceptions as detailed in this report. Upon inspection, the project site was well-maintained and in satisfactory condition. It was apparent that efforts were made to minimize impacts to the surrounding environment.

All work was performed inside the right of way. During reclamation, access on and off the right of way utilized predetermined access points specifically to be used for this work.

It is recommended to continue inspection at areas of concern, however there were no observations indicating that future work will likely be necessary.



REFERENCES

North Dakota Public Service Commission (ND PSC). 2015. Online Case Search.
Available from: <http://www.psc.nd.gov/database/companycaselist.php>
Accessed November 2015-December 2015

William E Wolf. 2016. Hiland Crude LLC.
Personal Communication: Discussions during site visits on October 8, 2016.

Soil Survey Division Staff. 1993. Soil survey manual.
Soil Conservation Service, U.S. Department of Agriculture Handbook.



SIGNATURES

The services performed by KLJ staff 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 judgement 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, Paul Lee, and Environmental Field Inspector, Arnie E. Siverson,

Paul Lee, PLS, Project Manager

Date

Arnie E. Siverson, Field Inspector

Date



APPENDIX A:

Maps of Project and Observation Points



Hiland Crude, LLC
Route Application
New Town Expansion Project

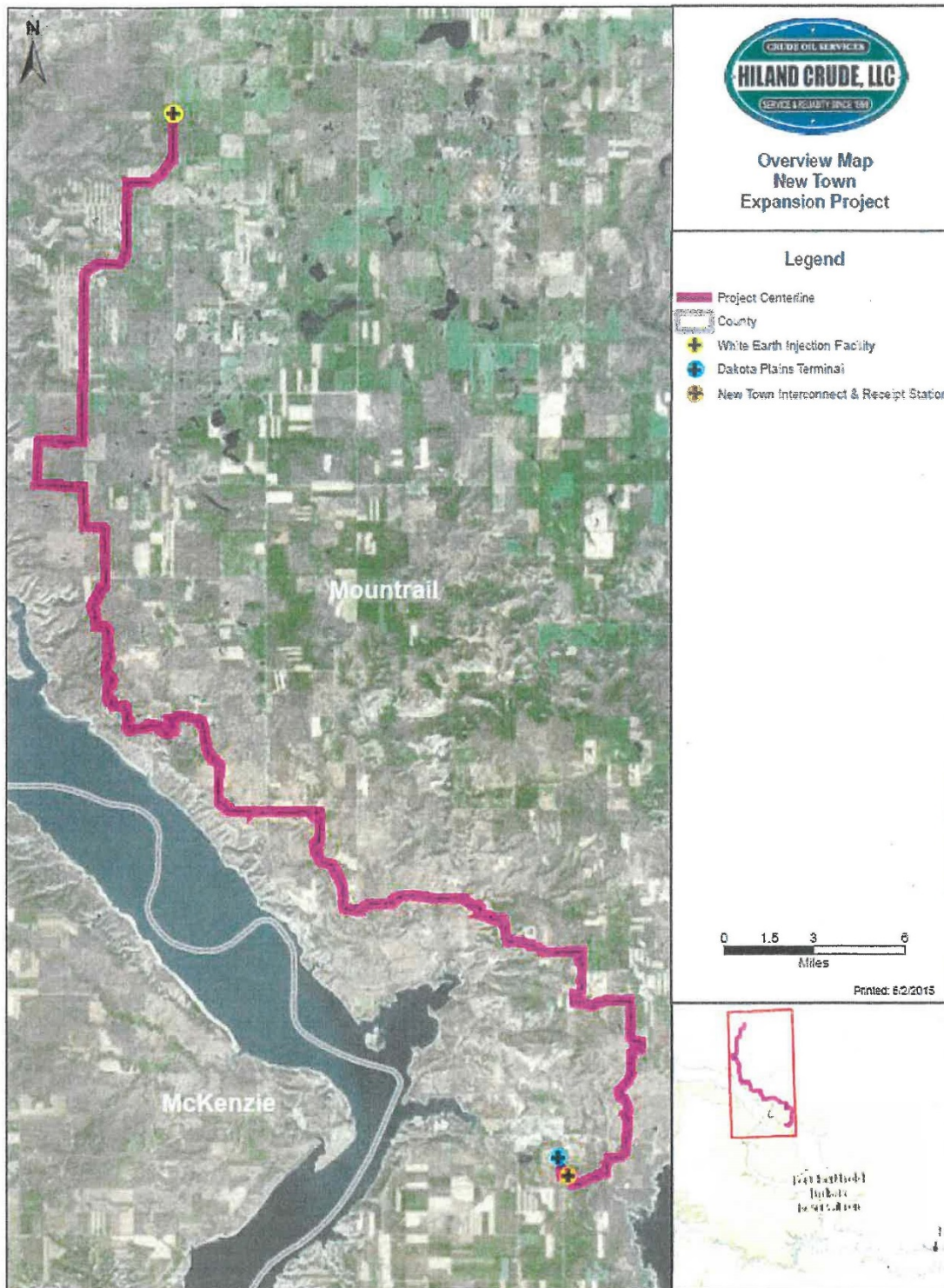
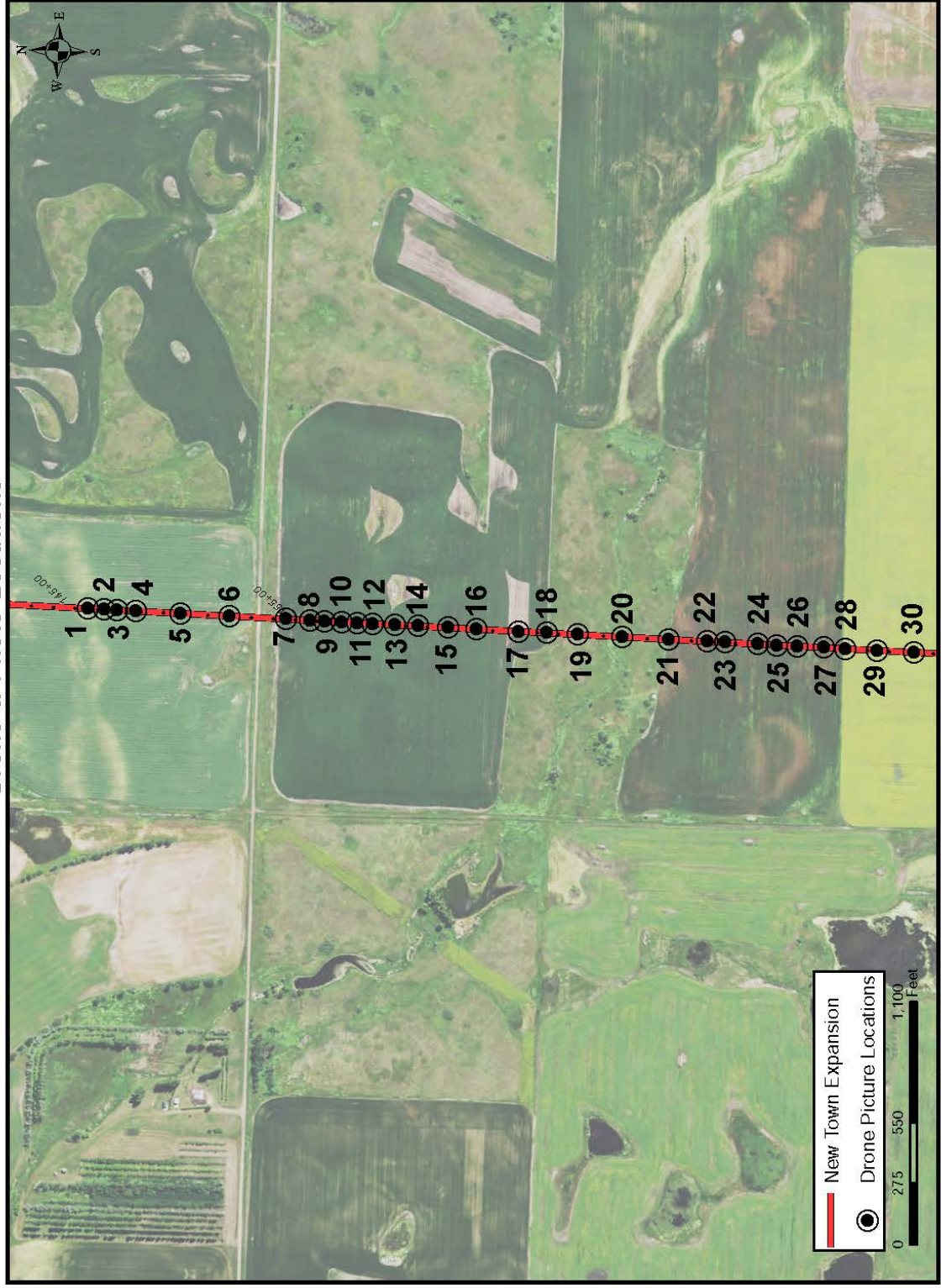


FIGURE 3.A.1 – General New Town Expansion Project Location Map

New Town Expansion

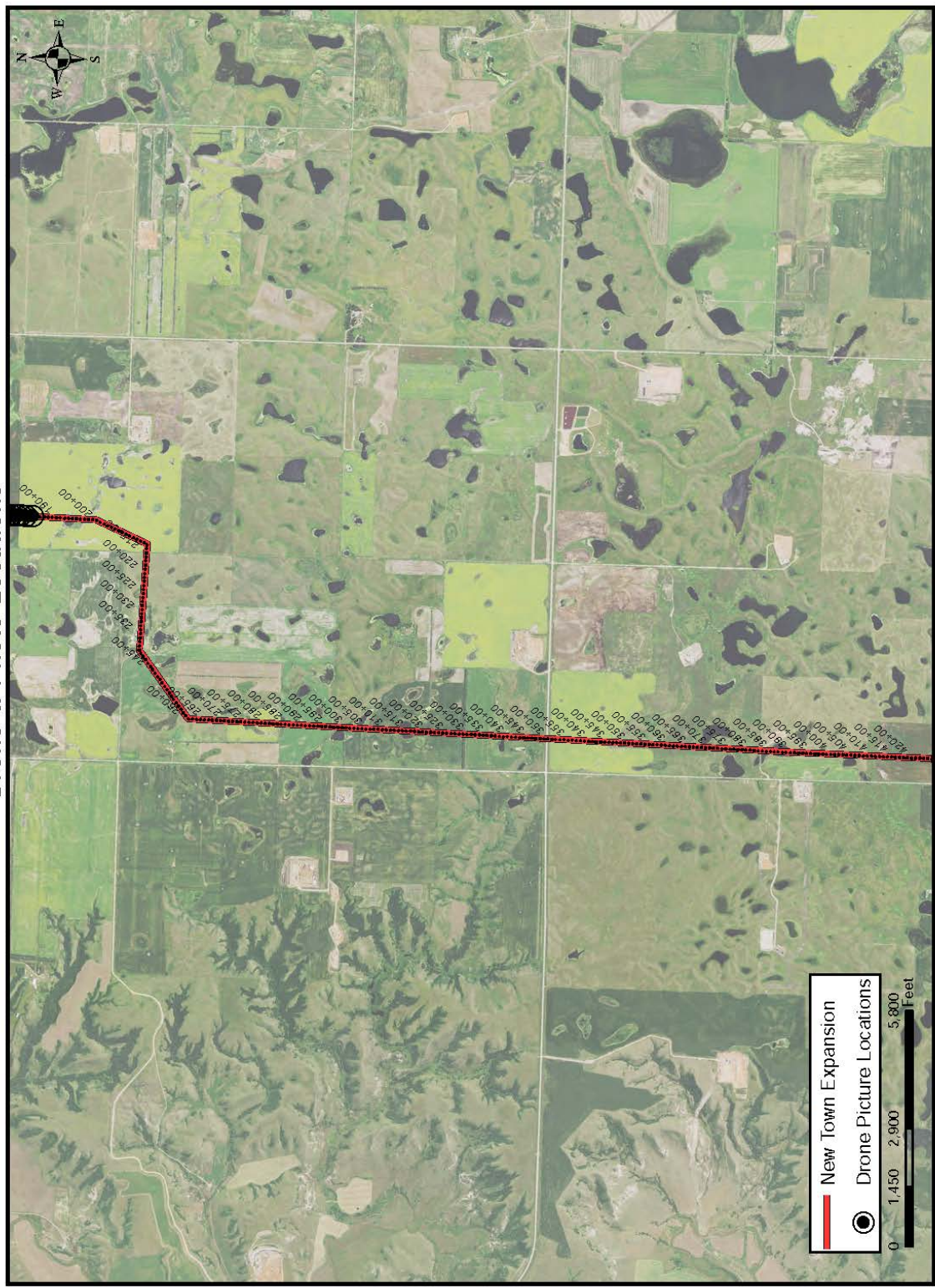
Drone & Photo Locations

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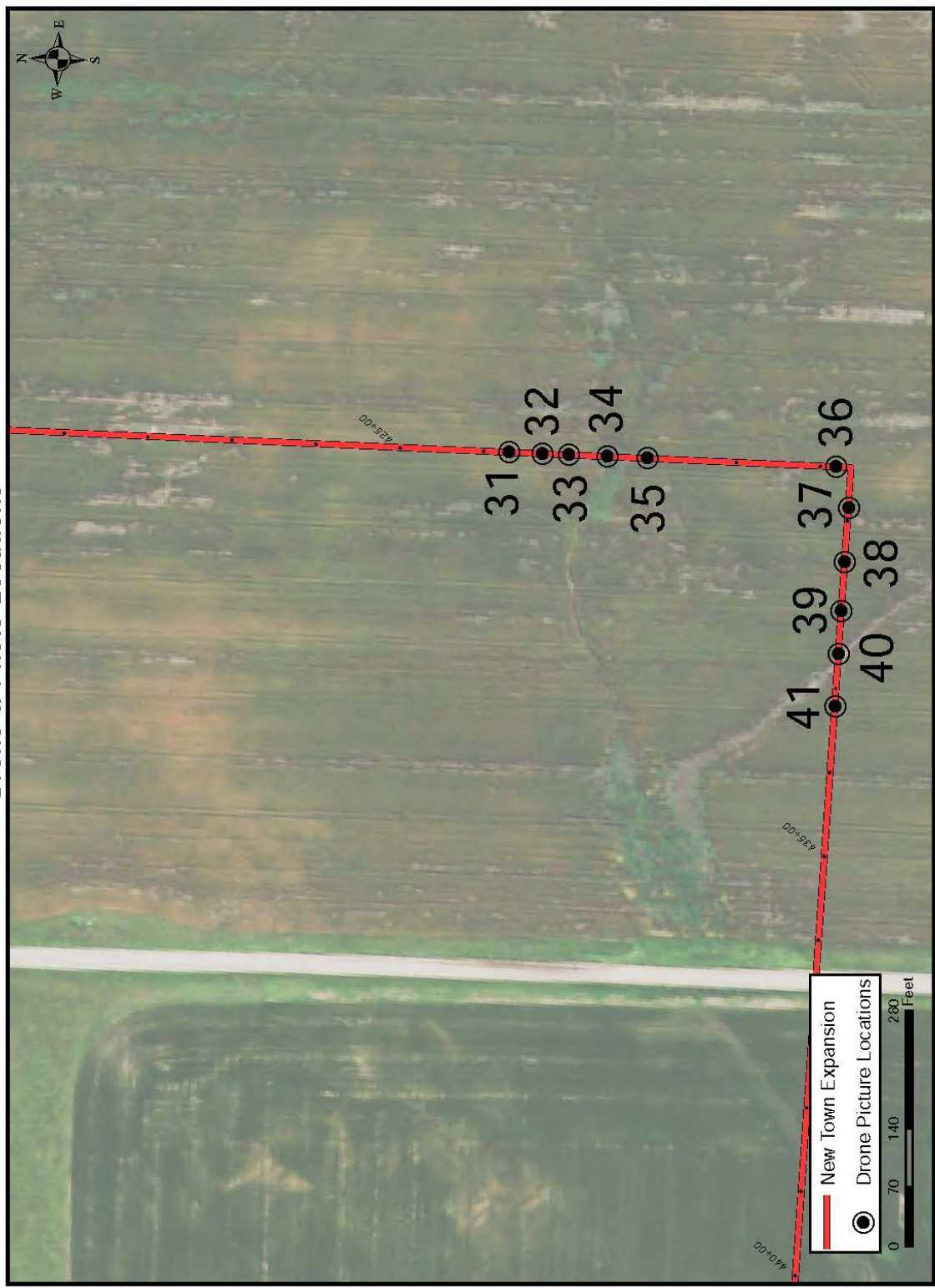




New Town Expansion Drone & Photo Locations



New Town Expansion Drone & Photo Locations





New Town Expansion Drone & Photo Locations





New Town Expansion Drone & Photo Locations





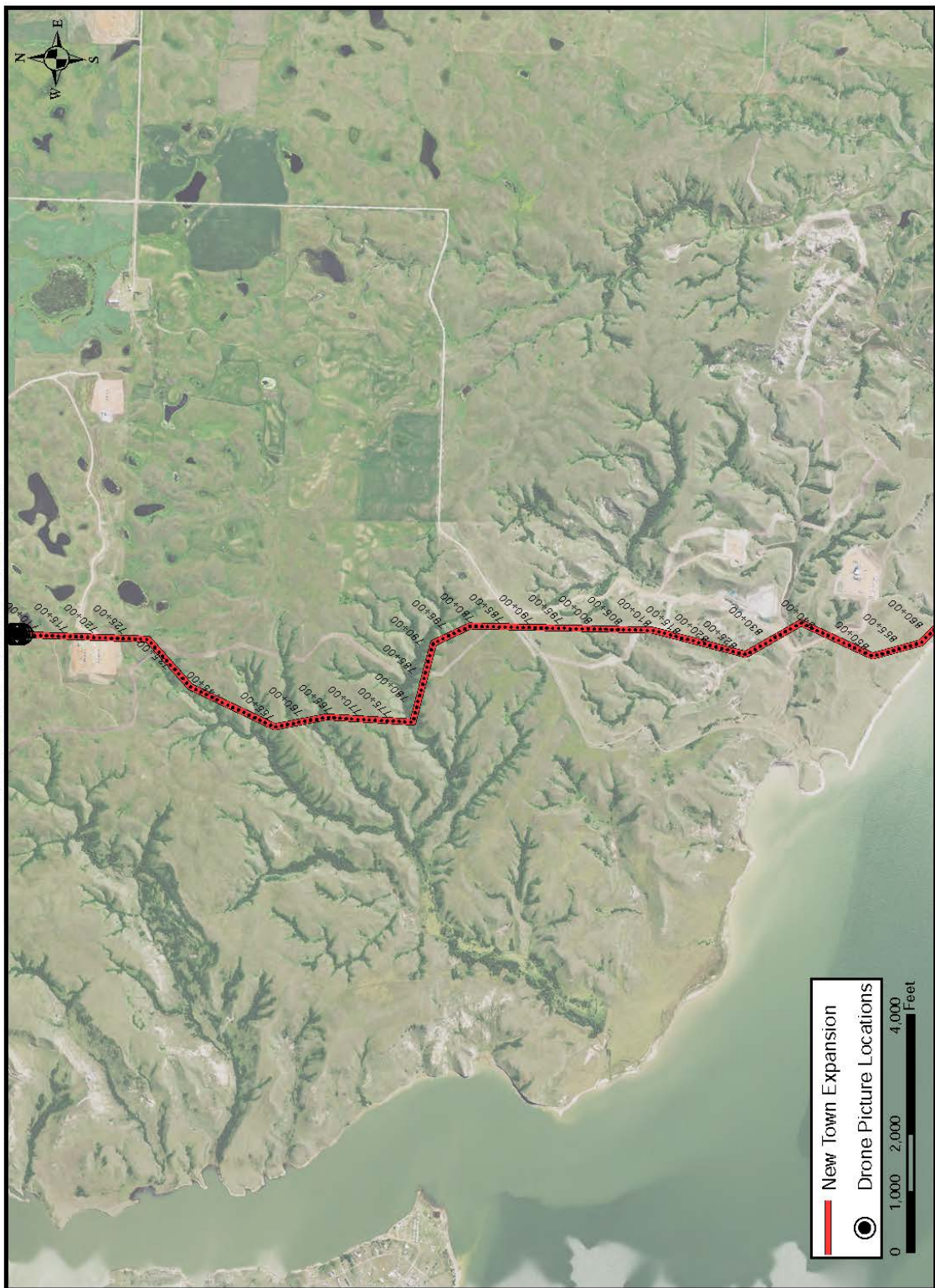
New Town Expansion

Drone & Photo Locations





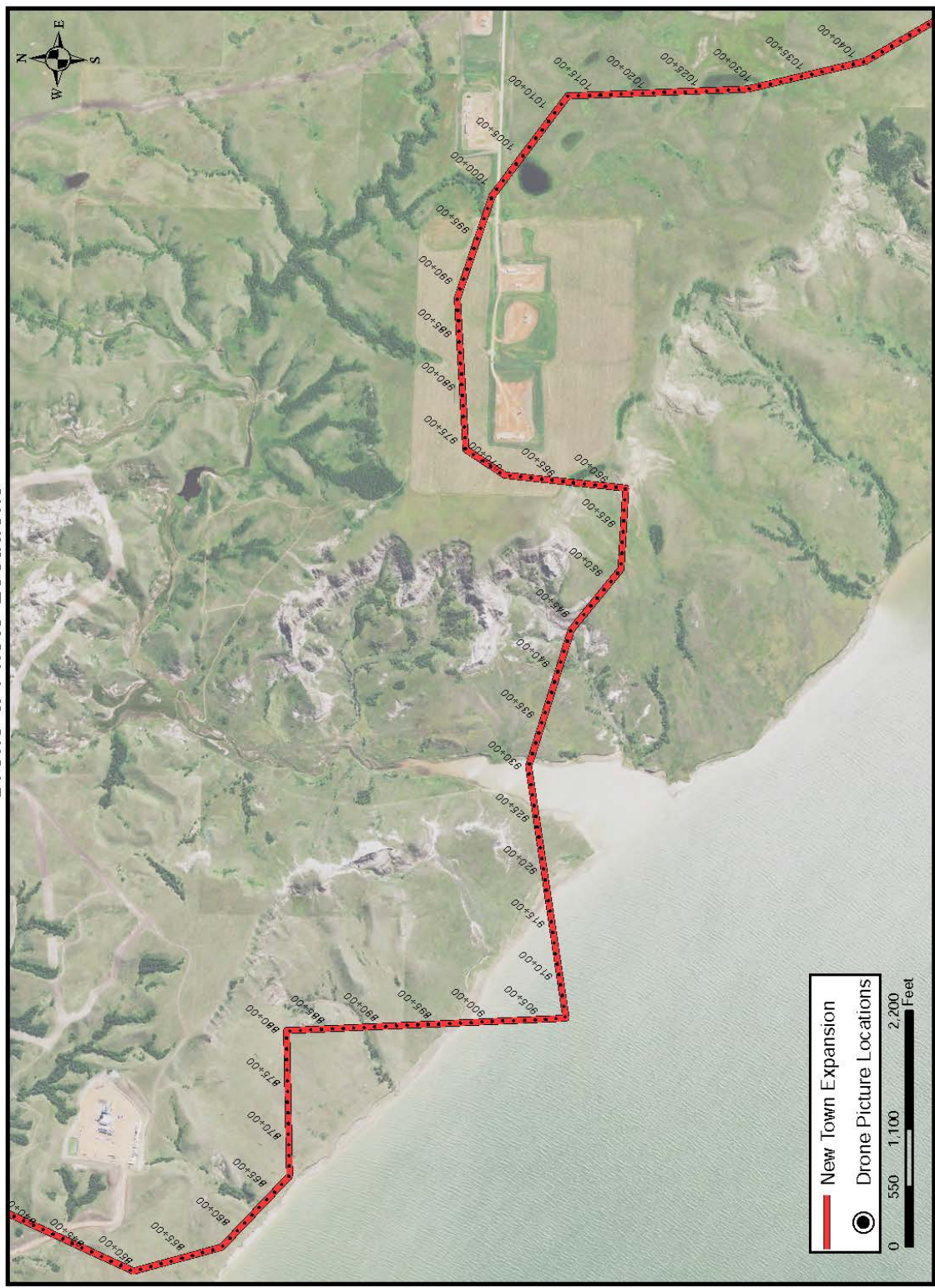
New Town Expansion Drone & Photo Locations





New Town Expansion

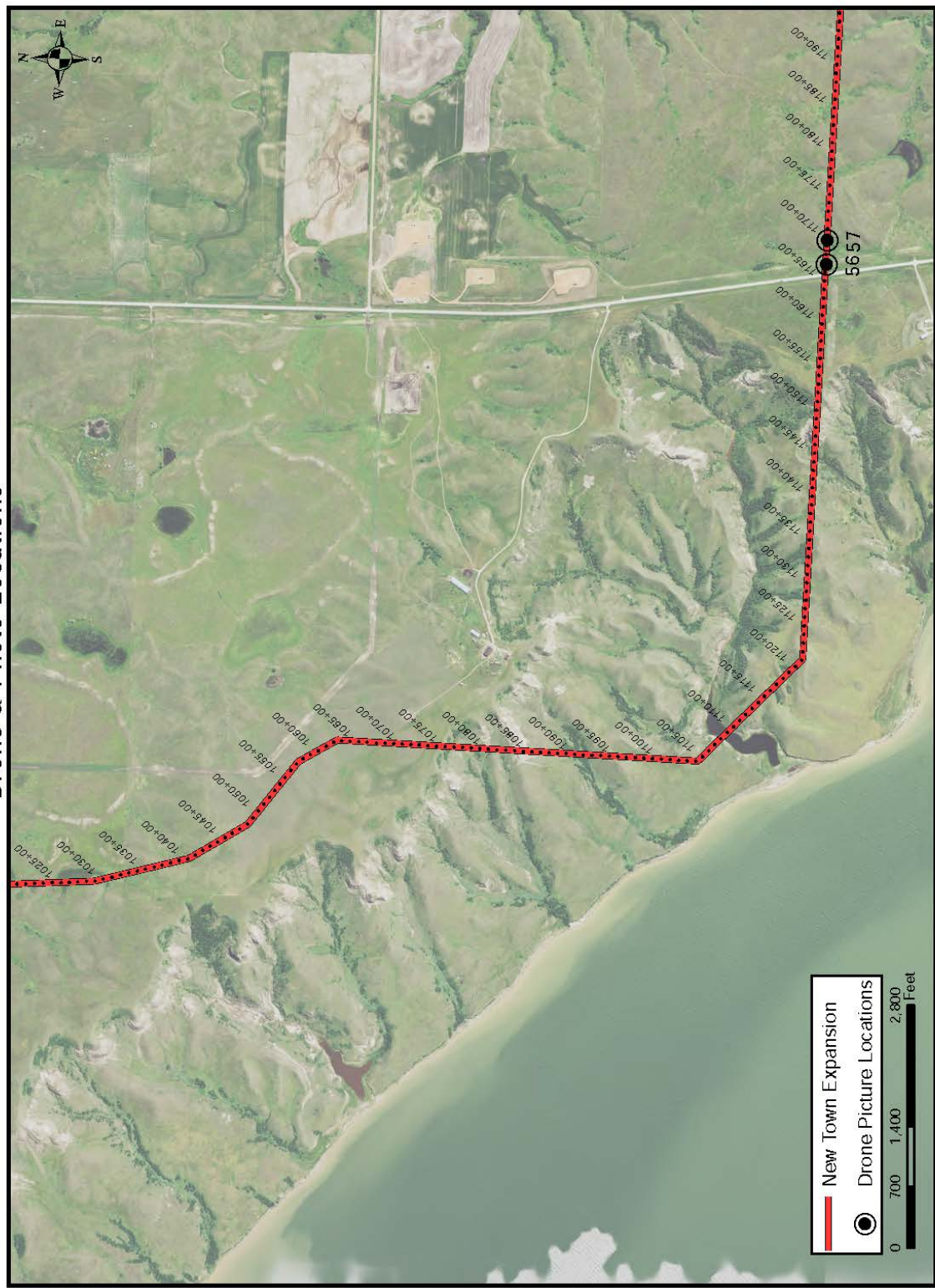
Drone & Photo Locations





New Town Expansion

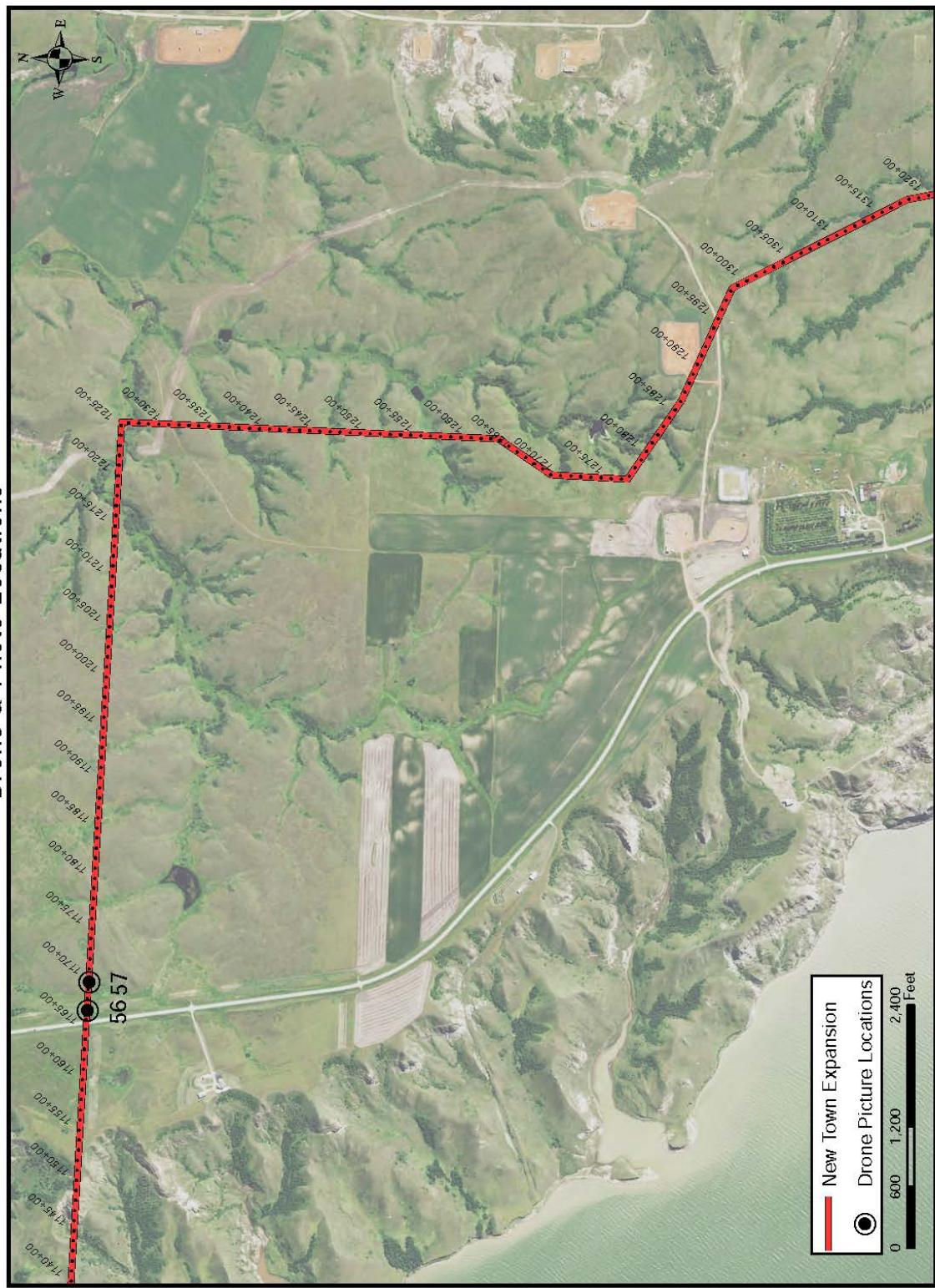
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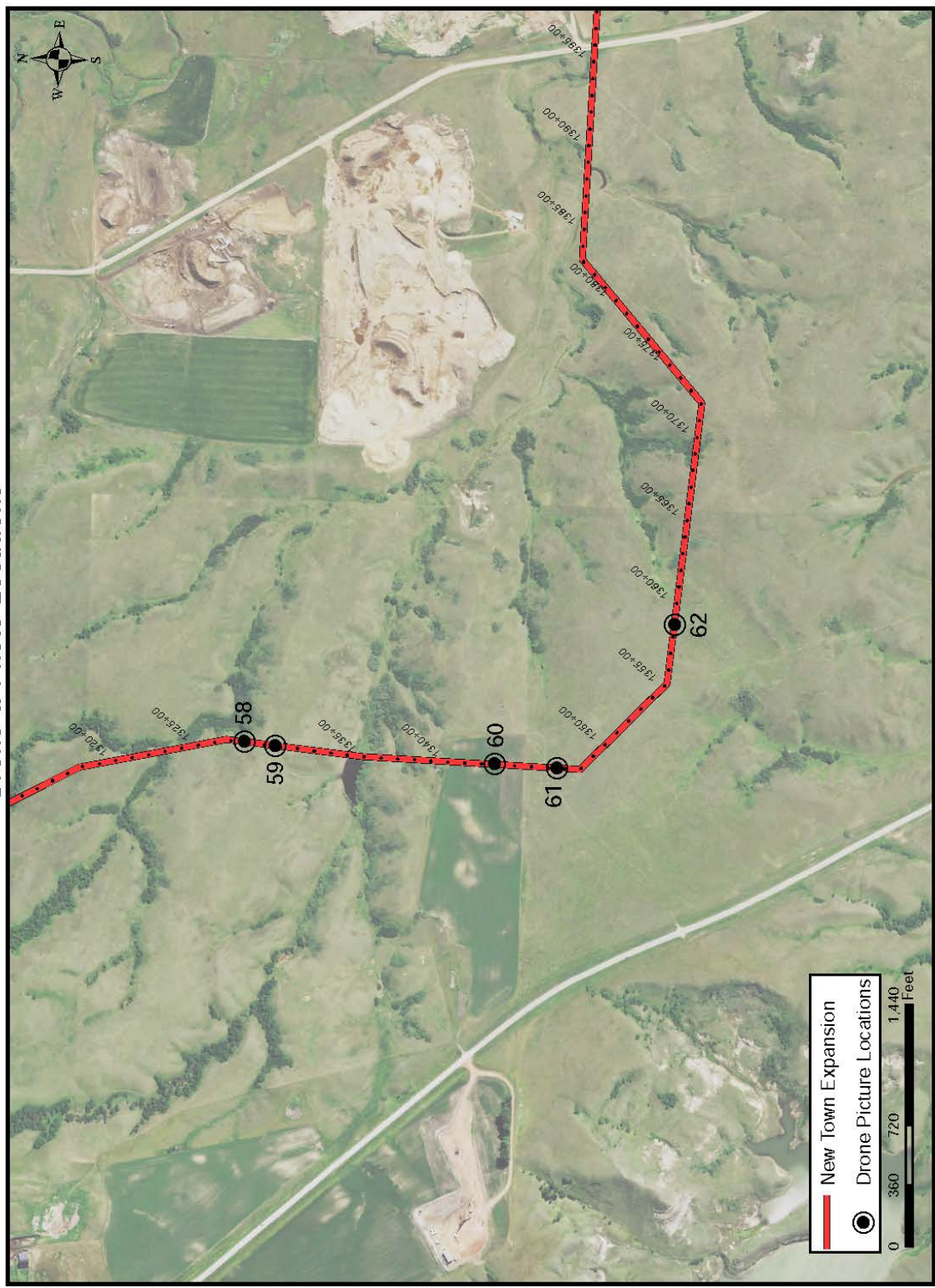
Drone & Photo Locations





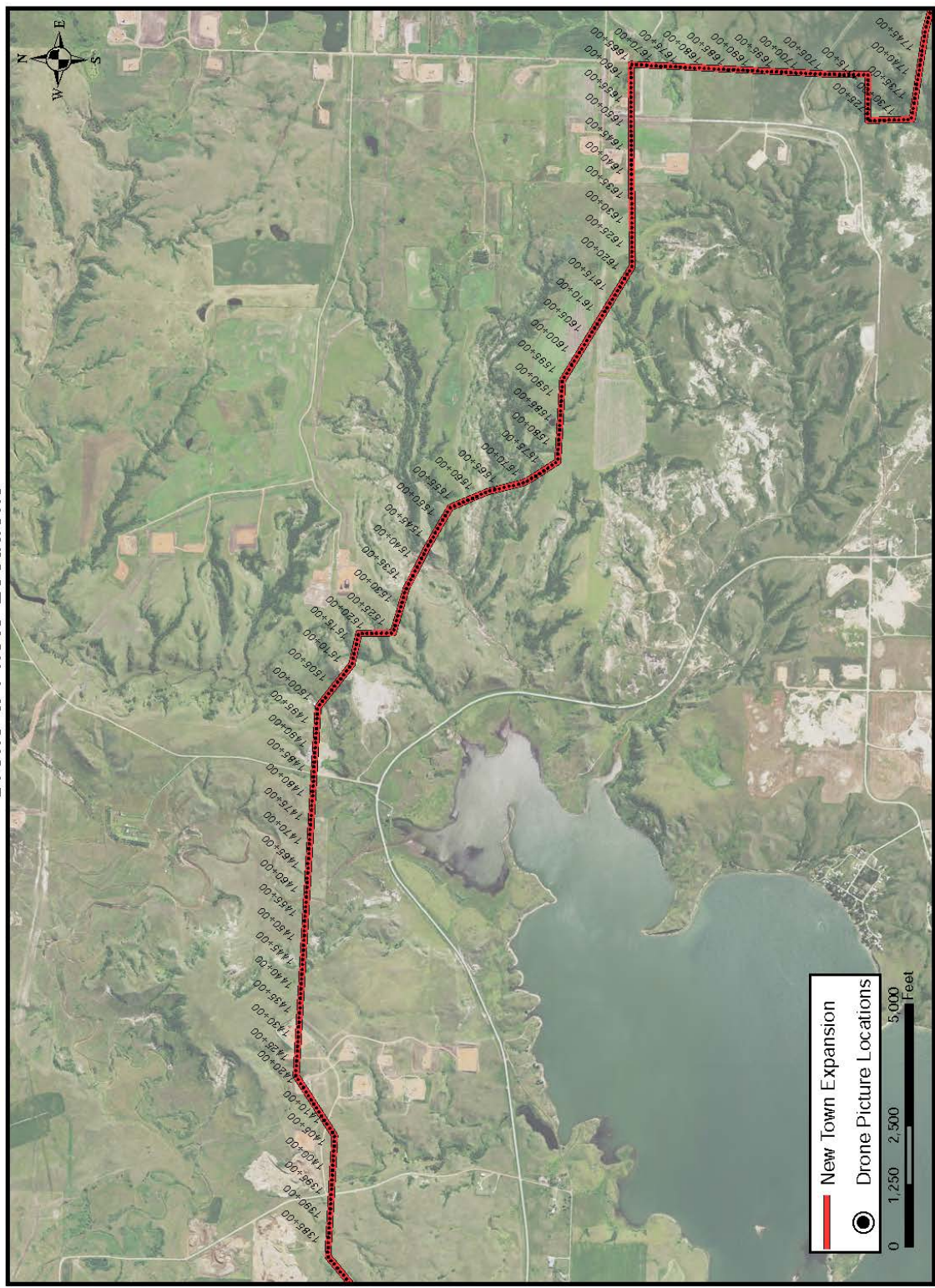
New Town Expansion

Drone & Photo Locations



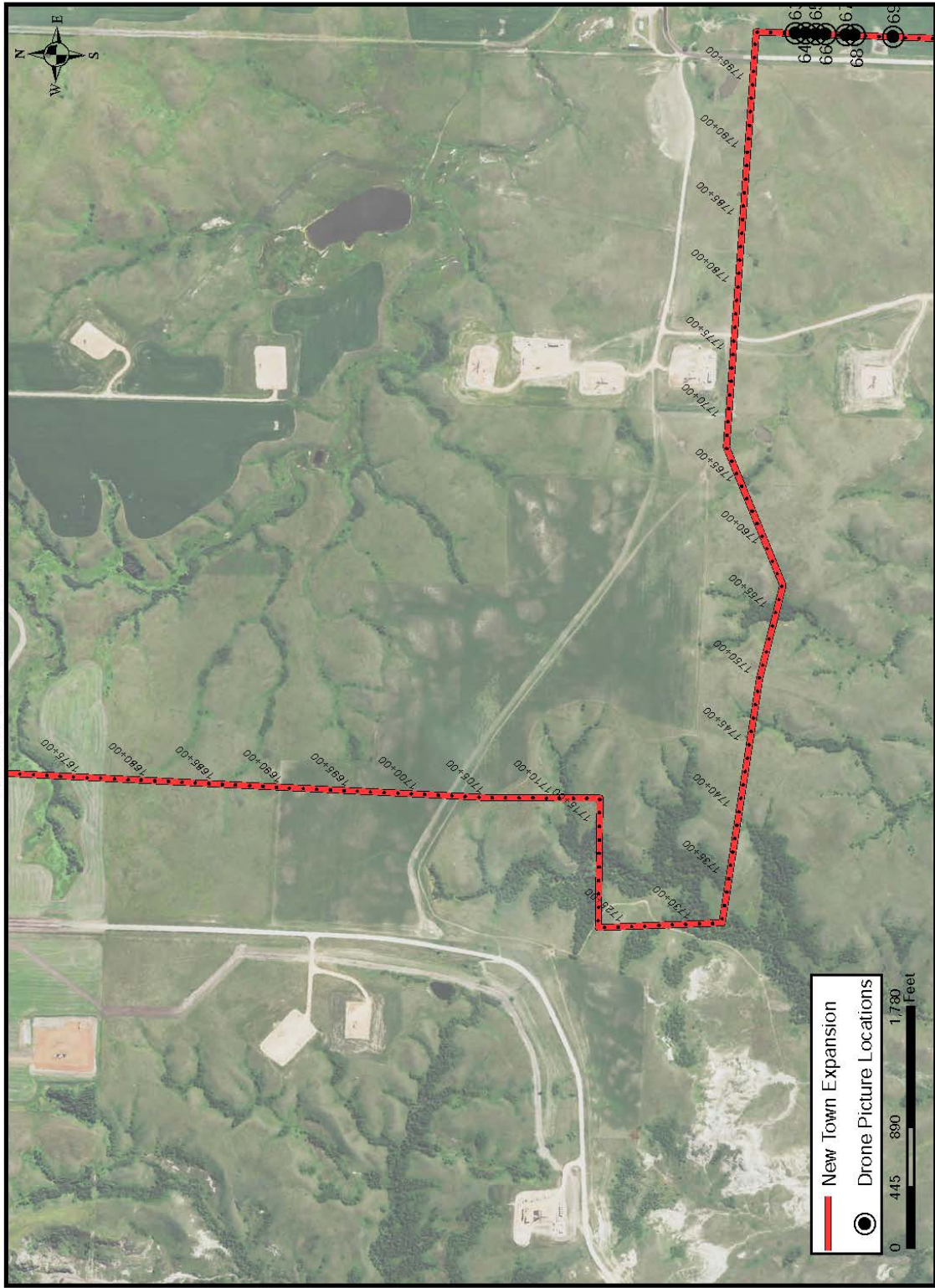


New Town Expansion Drone & Photo Locations





New Town Expansion Drone & Photo Locations





APPENDIX B: DRONE PICTUREGRAPHS

Taken October 13, 2016



*Picture 1: Station 147+20.00; Latitude: 48°15'24.04"N Longitude: 102°40'26.51"W
Picture looking south, pipeline located on left side of field*



*Picture 2: Station 147+20.00; Latitude: 48°15'24.05"N Longitude: 102°40'26.48"W
Picture looking north, pipeline located in left side of the field*



*Picture 7: Station 153+10.00; Latitude: 48°15'18.24"N Longitude: 102°40'26.67"W
Picture looking north, pipeline located in far-left side of picture*



*Picture 8: Station 157+00.00; Latitude: 48°15'14.58"N Longitude: 102°40'26.65"W
Picture looking north, pipeline located in far-left side of picture*



*Picture 13: Station 161+50.00; Latitude: 48°15'10.03"N Longitude: 102°40'26.62"W
Picture looking north, pipeline at left side of picture*



Picture 29: Station 427+10.00; Latitude: 48°11'4.71"N Longitude: 102°41'46.86"W



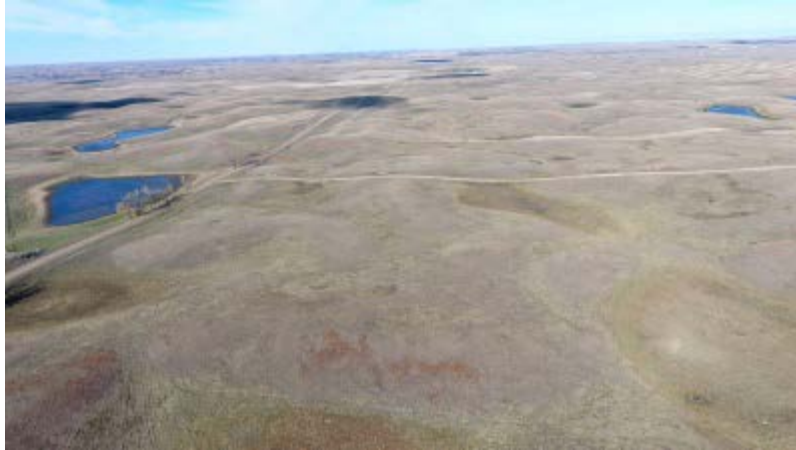
*Picture 31: Station 427+15.00; Latitude: 48°11'4.64"N Longitude: 102°41'46.74"W
Picture looking south, pipeline on right side of field*



*Picture 33: Station 427+80.00; Latitude: 48°11'4.12"N Longitude: 102°41'47.01"W
Picture looking north, pipeline in left side of field*



*Picture 35: Station 430+40.00; Latitude: 48°11'1.56"N Longitude: 102°41'46.31"W
Picture looking west, pipeline at left side of field*



*Picture 37: Station 608+00.00; Latitude: 48° 9'52.30"N Longitude: 102°41'43.58"W
Looking north, pipeline at left side, scare visible, but blended into surroundings*



*Picture 39: Station 625+50.00; Latitude: 48° 9'23.79"N Longitude: 102°41'16.94"W
Picture looking north, pipeline in center of picture*



*Picture 40: Station 625+50.00; Latitude: 48° 9'20.70"N Longitude: 102°41'17.10"W
Looking north, pipeline in center of picture*



*Picture 41: Station 668+20.00; Latitude: 48° 9'14.80"N Longitude: 102°41'17.35"W
Looking north, pipeline in center of picture, vegetation becoming well blended to surroundings*



*Picture 42: Station 670+70.00; Latitude: 48° 9'12.83"N Longitude: 102°41'17.19"W
Looking south, pipeline in center, then to the turning to the right side of picture*



*Picture 43: Station 674+00.00; Latitude: 48° 9'9.37"N Longitude: 102°41'15.58"W
Looking south, pipeline in center, then to the turning to the right side of picture*



Picture 44: Station 698+10.00; Latitude: 48° 8'45.55"N Longitude: 102°41'15.66"W
Looking south, pipeline in far-right side of picture



Picture 47: Station 705+50.00; Latitude: 48° 8'38.37"N Longitude: 102°41'16.04"W
Looking south, pipeline crosses near center of picture



Picture 56: Station 1802+85.00; Latitude: 48° 0'15.87"N Longitude: 102°26'18.14"W
Looking north-east, pipeline on left side of picture (prominent scar from a different pipeline)



*Picture 57: Station 1805+40.00; Latitude: 48° 0'13.25"N Longitude: 102°26'18.09"W
Looking north, pipeline is the less visible scar to the left, some weed growth present*



*Picture 58: Station 1806+15.00; Latitude: 48° 0'12.47"N Longitude: 102°26'18.09"W
Picture looking to the south, pipeline near road (prominent scar from a different pipeline)*



*Picture 59: Station 1809+00.00; Latitude: 48° 0'9.62"N Longitude: 102°26'18.13"W
Looking north, pipeline is the less visible scar to the left, some weed growth present*



*Picture 60: Station 1813+10.00; Latitude: 48° 0'5.53"N Longitude: 102°26'16.17"W
Looking south, pipeline between road and pipeline currently being reclaimed*



*Picture 62: Station 1822+20.00; Latitude: 47°59'56.74"N Longitude: 102°26'19.74"W
Looking south, pipeline scar on the right side of picture. Vegetation becoming blended to surroundings*



*Picture 63: Station 1822+20.00; Latitude: 47°59'56.74"N Longitude: 102°26'18.94"W
Looking north, pipeline near center of picture (prominent scar from a different pipeline)*



*Picture 65: Station 1824+50.00; Latitude: 47°59'54.30"N Longitude: 102°26'16.88"W
Looking south, pipeline to the right of recent reclamation*



*Picture 69: Station 1839+90.00; Latitude: 47°59'35.49"N Longitude: 102°26'21.66"W
Looking north, pipeline on left side of picture (prominent scar from a different pipeline)*



*Picture 72: Station 1863+50.00; Latitude: 47°59'30.52"N Longitude: 102°26'22.51"W
Looking north, pipeline on left side of picture (prominent scar from a different pipeline)*



*Picture 73: Station 2075+00; Latitude: 47°57'59.4432" N. Longitude: 102°27'16.0992" W.
Looking east, pipeline on left side of picture, vegetation becoming blended with surroundings*



*Picture 74: Station 2050+00 Latitude: 47°58'19.1244" N, Longitude: 102°26'35.8800" W
Looking north, pipeline in center of picture*



*Picture 75: Station 635+00 Latitude: 48°10'10.2144"N, Longitude: 102°41'58.92" W
Looking East, pipeline in center of picture, vegetation established, but not yet well blended with surroundings*



4585 Coleman Street
PO Box 1157
Bismarck, ND 5850-1157
701 355 8400
Kljeng.com

