



**PU-17-97  
Cenex Pipeline, L.L.C.  
10" Refined Fuels Pipeline  
Reclamation Inspection Report**

File No. 227701128

August 2022

Prepared for:

**North Dakota Public Service Commission**  
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## **1.0 EXECUTIVE SUMMARY**

The North Dakota Public Service Commission (PSC) retained Stantec Consulting Services Inc (Stantec; Formerly Wenck Associates, Inc) to complete a reclamation and revegetation inspection following the completion of the 10" Refined Fuels Pipeline (Project) constructed by Cenex Pipeline, L.L.C. (Cenex). The Project consisted of two construction spreads in Williams, Mountrail, and Ward Counties, ND. Spread 1 (West) was contracted by Frontier Services and Spread 2 (East) was contracted by Loenbro, and includes those portions sub-contracted to Stealth Energy Group. The purpose of the inspection was to confirm the project was constructed in compliance with the siting laws and rules and the applicable PSC Orders for the Project, which includes requirements for restoration and repair of infrastructure affected by Project construction, reclamation, and reseeding.

Construction was commenced in June 2019 and the Project was commissioned in June 2020. Stantec completed an as-built inspection April 19-21, 2021. On-site reclamation/revegetation inspections occurred on August 1-3, 2022. This report includes documentation from the most recent site inspection and the status of reclamation and revegetation efforts to date.

Overall, the restoration of the Project appeared to be trending toward pre-construction conditions. Generally, cropland areas under cultivation were producing crops apparently comparable to portions of the fields outside of the disturbed right of way (ROW), with little-to-no occurrences of weedy species. The ROW was observed to be adequately recontoured and reclaimed to the surrounding landscape and topography. Desirable species were observed throughout most of the hay land and rangeland observation points, but the inspections revealed some issue areas along the ROW due to compaction, subsidence, and noxious weeds which Stantec recommends Cenex address. It is anticipated seeded-grass establishment will improve with time. Specifics on the issues observed are further outlined in this report, and Stantec's opinion is that adequate reclamation can be achieved in these areas with typical corrective measures.



## **2.0 BACKGROUND AND SCOPE**

### **2.1 INTRODUCTION**

The Cenex 10" Refined Fuels Pipeline in Williams, Mountrail, Ward counties, ND, 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-17-97 on 14 March 2018, granting Certificates of Corridor Compatibility No. 202 and Route Permit No. 212 for the Project. Construction of the Project was comprised of two spreads. Spread 1, constructed by Frontier, is approximately 59.2 miles in ND, originating in Section 34, T156N, R97W, Williams County heading west and intersecting with the North Dakota and Montana border in Section 22, T153N, R104W, Williams County. Spread 1 ends in Richland County, Montana (MT). Spread 2, constructed by Loenbro, is approximately 90.5 miles originating in Section 35, T156N, R97W, Williams County heading east through Williams, Mountrail, and Ward Counties, ending at the CHS terminal approximately one mile west of Minot in Section 20, T155N, R83W, Ward County. The total distance of the pipeline is approximately 181.5 miles, of which 149.7 miles is in North Dakota.

### **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. Inspections confirm 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 PSC Findings of Fact, Conclusions of Law, and Order (Order). The PSC retained Stantec to complete a reclamation and revegetation inspection of the Project following construction completion and as-built inspections.

### **2.3 METHODS AND SCOPE OF INSPECTION**

#### **2.3.1 Project Scope Identification**

Stantec's scope of work was to perform and document a reclamation and revegetation inspection after one full growing season no less than one year from the anniversary date of completion of fertilization and seeding. Seeding was assumed to be completed between April and May 2021. The reclamation and revegetation inspection includes a follow-up of areas of concern identified in the as-built construction inspection. The report includes, but is not limited to, documentation of site visit observations, and a summary of findings and issues that should be addressed for the Project to be considered complete and in compliance.

Stantec's intent was to confirm the Projects obligations of compliance with reclamation and restoration specifications found in the Findings of Fact, Conclusions of Law and Order, Certifications Relating to



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Order Provisions. These "Project Specifications" are listed in Table 1. Project Specifications originated mainly from the Certification Relating to Order Provisions.

**Table 1 Project Specification Scope Table**

<b>Order 12</b>	<i>One year after the Project is placed in service, Cenex shall file with the Commission a summary of the status of restoration activities related to the Project, including any restoration-related issues raised by landowners or identified by Cenex.</i>
<b>Order Provisions 18</b>	<i>Company understands and agrees that it shall, as soon as practicable upon the completion of the construction of the transmission facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.</i>
<b>Order Provision 19</b>	<i>Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the transmission facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.</i>
<b>Order Provision 20</b>	<i>Company understands and agrees that reclamation, fertilization, and reseeded is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.</i>
<b>Order Provision 21</b>	<i>Company will fulfill its obligation for reclamation and maintenance of the approved transmission facility right-of-way, transmission facility, and associated facilities continuing throughout the life of the transmission facility.</i>
<b>Order Provision 22</b>	<i>Company will repair all fences and gates removed or damaged during all phases of construction and operation of the transmission facility.</i>
<b>Order Provision 23</b>	<i>Company will repair or replace all drainage tile broken or damaged as a result of construction and operation of the transmission facility.</i>
<b>Order Provision 24</b>	<i>Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached. <b>(ND PSC an extension of the Tree and Shrub mitigation plan submitted 5/5/2021 PU-17-97 Docket #216 due to drought)</b></i>
<b>Order Provision 25</b>	<i>Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.</i>
<b>Order Provision 26</b>	<i>Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the transmission facility.</i>



### **2.3.2 On-Site Inspection**

Zachary Bartsch, Stantec Soil Scientist, inspected the Project route on August 1-3, 2022. The site was inspected by driving to ROW access points and systematically inspecting roads and ditches, fence lines, the encompassing ROW, and walking the ROW where accessible. Observation points containing geographic coordinates and describing potential issues and reclamation/revegetation status were recorded using ESRI ArcGIS Collector and Survey123 software applications on a tablet utilizing internal satellite triangulation software or paired with a Trimble Global Positioning System (GPS). Digital photographs were taken with the tablet utilizing the Survey123 application to geotag photo locations and associate all collected data from each Observation Point (Figures 1-37). Photographs were taken showing representative portions of the route, aboveground Project infrastructure, and potential problem areas (included with coordinate points in **Appendix A**). Loebro confirmed on August 1, 2022 that they had recently finished secondary reclamation efforts in areas with prior known issues.



## 3.0 RESULTS OF SITE INSPECTION

The following subsections outline findings from the inspection pertaining to the land uses of the ROW.

### 3.1 CROPLAND

The Project ROW crosses several parcels of cropland, either bisecting or following the outer boundaries of the fields. The fields observed under crop production contained barley, canola, corn, field pea, soybeans, and wheat; all of which still growing and yet to be harvested. No visual grain yield estimate or stand height comparisons were made, however, the stand density, color, and overall health of crops within the ROW were consistent to the surrounding, undisturbed crops (**Appendix A; 1, 5, 7, 13, 21, 23, 30, 33, 34, 41, 46, 47, 50, 51, 54, 56, 58, 61, 62**).

The soil in a majority of the inspected cropland had been adequately replaced and was matching existing surface topography. However, **Observation Points 26, 27, 28, 40, and 53 (Appendix A)** noted visibly bare soil with an uneven surface, which could be indicative of subsidence and/or compaction in the ROW. Compaction would inhibit root penetration (as seen at **Observation Point 59**) and plant establishment, potentially decreasing water infiltration and increasing runoff. Soil was examined with a sharpshooter and found to be difficult to dig beyond 3 inches, suggesting the soil is compacted.

**Observation Points 25, 53, and 60** noted populations of Canada thistle (*Cirsium arvense*) which is a ND noxious weed.

### 3.2 HAY LAND

The Project ROW crosses numerous parcels of idle land presumably used for hay production, covered by perennial and annual vegetation. It is presumed these hay lands are not normally subjected to livestock grazing or cultivation (**Appendix A; Observation Points 10, 18, 22, 38, 39, 49, 52**). On-site inspections confirmed the establishment and dominance of crested wheatgrass (*Agropyron cristatum*), western wheatgrass (*Elymus trachycaulus*), alfalfa (*Medicago sativa*), and smooth brome (*Bromus inermis*). Western wheatgrass is a native grass and may have been seeded, while crested wheatgrass, alfalfa, and smooth brome are introduced species that may be colonizing the disturbed area or were species requested by landowners. Other observed species can be found in Table 2.

Outside of the ROW, the land was dominated by alfalfa, slender wheatgrass, crested wheatgrass, and some kochia, and match the reclaimed vegetative communities. Vegetation cover was approximately >70% in ROW areas, as observed both at the geographical coordinates of the photo observation and from adjacent visual assessments along ROW extents.

Soil replacement and subsidence issues were not present at any of Stantec's inspection locations in hay land.



### 3.3 RANGELAND

The Project ROW crosses grassland presumably used as rangeland for grazing or CRP, that has no evidence of haying (**Appendix A; Observation Points 2, 3, 9, 11, 12, 14, 15, 16, 17, 20, 29, 32, 35, 36, 37, 42, 44, 56, 57, 63**). Stantec did not confirm what may have been seeded in the ROW and/or any deviations from NRCS recommendations are unknown. On-site inspections observed a dominance of native species, mainly slender wheatgrass, and on occasions wild sunflower. Other native species that were observed in the ROW in rangeland is included in Table 2. Unidentifiable drill-seeded grasses were observed at **Observation Point 20** and are presumed native. The predominant non-native vegetation in the ROW included alfalfa and smooth brome, and were also common outside of the ROW.

Uneven, bare, and compacted soil was present at **Observation Point 19 (Appendix A)**, suggesting subsidence issues related to soil settling along the ROW. Erosion was also observed on rangeland due to poor vegetation growth on a steep shoulder (**Observation Point 45**). Kochia and prickly Russian thistle were common at **Observation Point 48**. Canada thistle and Plumeless thistle (*Carduus acanthoides*) noxious weeds were also observed at **Observation Points 43 and 44**, respectively. Additional, minor annual weeds were also observed in reclaimed rangeland ROW parcels. Efforts to control these weed species may be needed. Otherwise, the majority of the ROW under rangeland land use contained appropriate grading, revegetation, and minimal areas of erosion.

### 3.4 NOXIOUS AND ANNUAL WEEDS

Plumeless and Canada thistle are noxious weeds, and observed at **Observation Points 25, 43, 44, 53, 60 (Appendix A)**. Some weeds occur in cropland, and may require coordination with landowners/tenants to control. Canada thistle is a ubiquitous and prolific weed species in the region, and often requires multiple attempts to suppress.



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**Table 2 Species<sup>1</sup> Observed in Reclaimed ROW**

Land Use	Vegetative Class					
	Grasses		Forbs		Weeds	
	Native	Non-Native	Native	Non-Native	Native	Non-Native
<b>Cropland</b>	NA	Green Foxtail	NA	NA	NA	<b>Canada thistle</b> Kochia
<b>Hay Land</b>	Western wheatgrass	Crested wheatgrass Smooth brome	NA	Alfalfa	NA	Kochia Prickly Russian thistle
<b>Rangeland</b>	Slender wheatgrass Canada wild rye ( <i>Elymus canadensis</i> ) Prairie cordgrass ( <i>Spartina pectinata</i> )	Crested wheatgrass Green foxtail ( <i>Setaria viridis</i> ) Smooth brome Cheatgrass ( <i>Bromus tectorum</i> )	Curly-cup gumweed Wild sunflower ( <i>Helianthus annuus</i> ) Yellow coneflower ( <i>Ratibida pinnata</i> ) Western snowberry ( <i>Symphoricarpos occidentalis</i> ) Prairie sage ( <i>Artemisia ludovicianna</i> )	Alfalfa Yellow sweet clover	NA	<b>Canada thistle</b> <b>Plumeless thistle</b> Kochia Lambsquarter

<sup>1</sup>Noxious weeds in bold red.



### 3.5 STREAM/WETLAND CROSSINGS

Two open cut wetland crossings were examined (**Appendix A; Observation Points 24 and 31**). The final topography matched the areas outside of the ROW, with no evidence of severe erosion, but there was a prevalence of salt accumulation at the soil surface, and some unvegetated areas in the wetland at **Observation Point 24**. Soil replacement and vegetation establishment was appropriate at **Observation Point 31**. Two other stream/wetland crossing were observed where the HDD crossing method was used (**Appendix A; Observation Point 4 and 39**). The boring staging areas were observed to be appropriately reclaimed, and contained adequate vegetative cover.

### 3.6 ROADS AND MAINTENANCE

Gravel roads crossed by the ROW had been bored underneath to avoid cuts and were in good condition (**Appendix A; Observation Points 6 and 9**). Access points through roadside ditches and approaches had a prevalence of annual weedy species and smooth brome grass. All fences and fenceposts appeared to have been fixed and/or replaced, and no access roads were found to remain. Overall, the ROW was maintained in good condition. Observed aboveground infrastructure (i.e., valve sites) were fenced, secured, and maintained well (**Appendix A; Observation Points 42, 55**).

### 3.7 AS-BUILT INSPECTION CONCERNS

Areas of the ROW needing maintenance and additional cleanup efforts were inspected and found to be addressed since the As-Built Inspection.

Stantec's as-built inspection report identified several permits and other required documentation had yet to be filed with the PSC. Since the submittal of the as-built inspection report, Stantec found Cenex has submitted a Tree and Shrub Mitigation Plan. Stantec did not find nor can confirm other filings with the PSC have been addressed. Cenex partnered with KC Harvey to facilitate the planting of trees. Cenex will also provide the landowners that were affected by tree and shrub removal the option to have the same 2:1 ratio planting replaced on their properties. The planting was planned to be completed in the Spring of 2021, but was granted a one year extension for Spring of 2022 due to drought. Cenex has agreed to conduct a post-planting survey to determine survival rates for three years following the planting. Results of this inspection will be provided to the Commission. Two years after replanting occurs, Cenex will file a summary documenting how this Plan achieved sustainable plantings.



## 4.0 ISSUES, RESULTIONS, AND RECOMMENDATIONS

### 4.1 VEGETATION MONITORING

Seeded and desired grass species did not yet comprise a majority of absolute cover in most of the inspected ROW rangeland areas. Native species can be slow to colonize recently disturbed land since competition for available nutrients in the reclaimed soil with annual weed species is high. Future monitoring could be conducted to ascertain if absolute cover of desired species increases over time, but present conditions suggest revegetation and reclamation of a majority of the ROW was successful.

### 4.2 WEED MANAGEMENT

Weedy species were present and recorded in the reclaimed ROW. The weed management plan should be implemented (PU-17-97 Docket #1). Stantec recommends coordinating herbicide treatment with landowners for areas within cropland in the Spring of 2023. Kochia is recommended to be sprayed once in the spring when the plants emerge, and later in the summer when late-germinating plants begin emerging (NDSU Extension Service, 2016). Kochia and prickly Russian thistle have seed viability of ~1 year, so adequate control for one growing season may significantly reduce weed presence in following years. Other annual weeds should be monitored along the route in hay lands and rangelands. Stantec recommends one or two years of mowing or herbicide application in June or July prior to seed ripening per landowner preferences. This would reduce the annual weed seed bank within a year or two and allow the grass cover to better establish.

The two noxious weed species observed were Canada thistle (perennial) and plumeless thistle (biennial). Stantec recommends Cenex address the infestations of noxious weeds in the ROW. For Canada thistle control, Stantec recommends infested areas be treated at the beginning of the 2023 growing season according to Cenex's weed management plan and from the recommendations from the local noxious weed board and landowners (per PU-17-97 Docket #1). The locations observed with noxious weeds should be monitored for at least two years to allow for the lifecycle of weeds, and to ensure infestations do not spread.

### 4.3 SOIL MIXING, COMPACTION, AND SUBSIDENCE

Exposed subsoil and/or mixed topsoil was observed at one location (**Appendix A; Observation Point 53**) in the ROW, which was affecting crop growth surrounding the area. Stantec recommends the PSC inquire about this area with Cenex. Adding topsoil, biological amendments, or organic matter could be possible methods to increase the organic matter content and improve vegetative restoration.

Soil decompaction and additional fill at select areas could mitigate the adverse impacts of observed compaction and subsidence (**Appendix A; Observation Points 28, 53, 59**). Without corrective measures, landowners producing crops in the compacted portions of the ROW soil may experience declined crop yields due to poor root penetration. Though these issues were isolated, Cenex should



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coordinate with the landowner(s) on possible ways to address these areas noted through either tillage, cover crops, or other methods.




## 5.0 SIGNATURES


The conclusions in this Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the ND PSC and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the ND PSC in accordance with Stantec's contract with the ND PSC. While the Report may be provided to applicable authorities having jurisdiction and others for whom the ND PSC is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

  
\_\_\_\_\_  
Matt Retka  
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Environmental Scientist

August 22, 2022  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Zachary Bartsch  
Natural Resources Scientist

August 22, 2022  
\_\_\_\_\_  
Date



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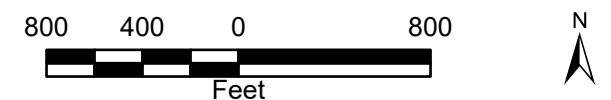
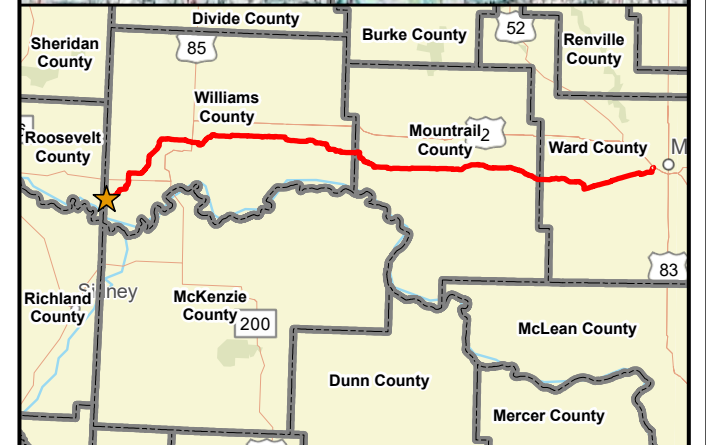
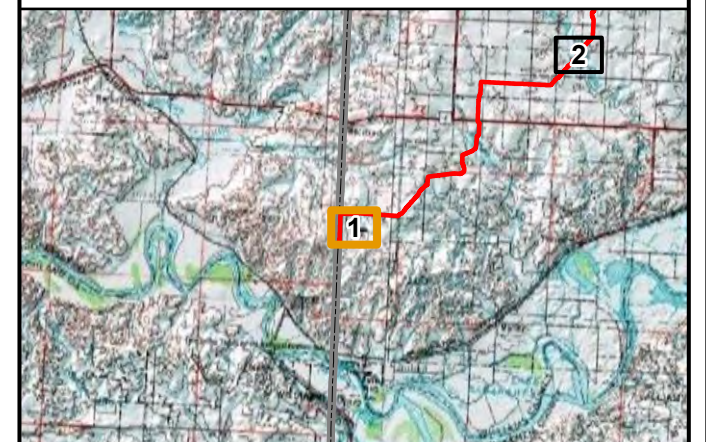
# **FIGURES**

**Figure 1-37: Reclamation/Revegetation Observation  
Locations Map**

**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 1**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)  
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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



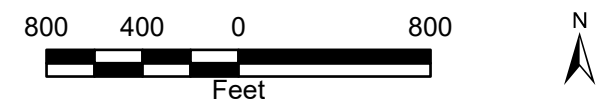
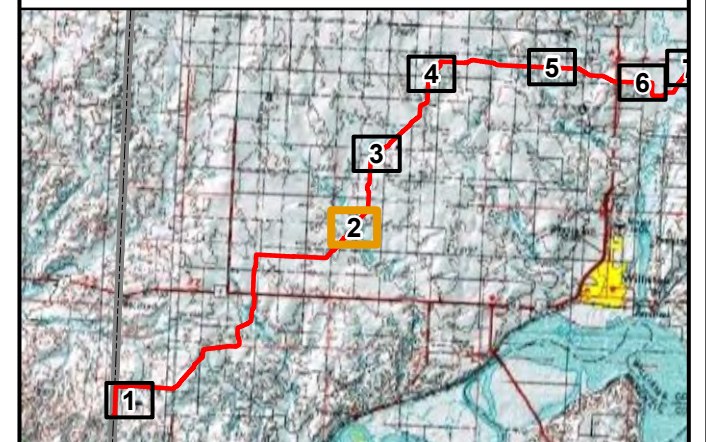
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Cenex Pipeline  
Figure 2

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

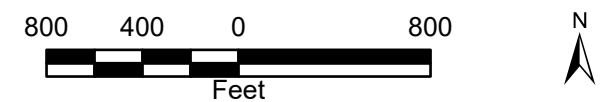
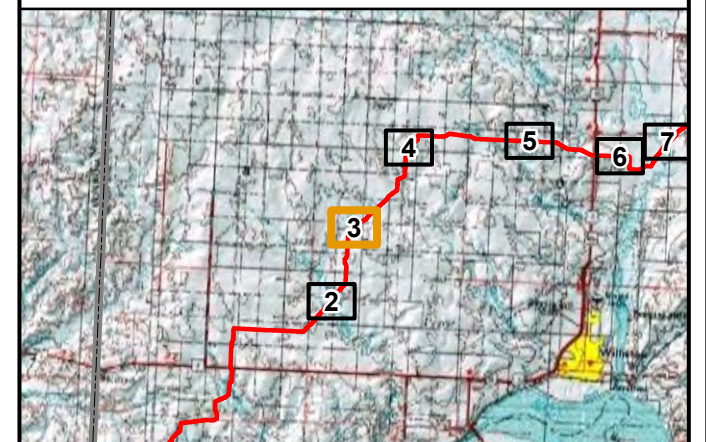


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Map 2 of 37

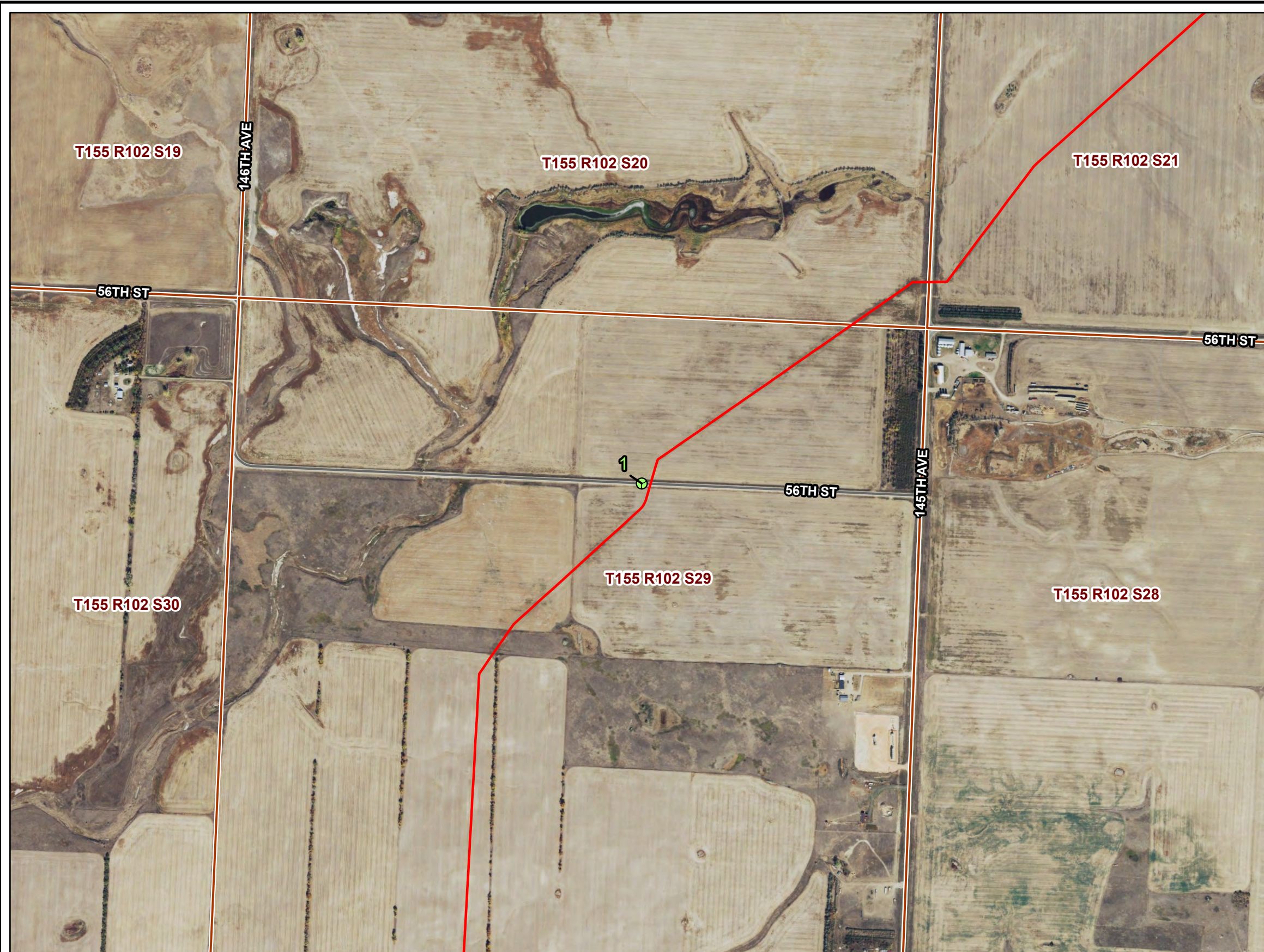
Cenex Pipeline  
Figure 3

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



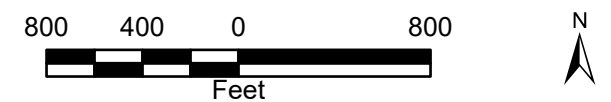
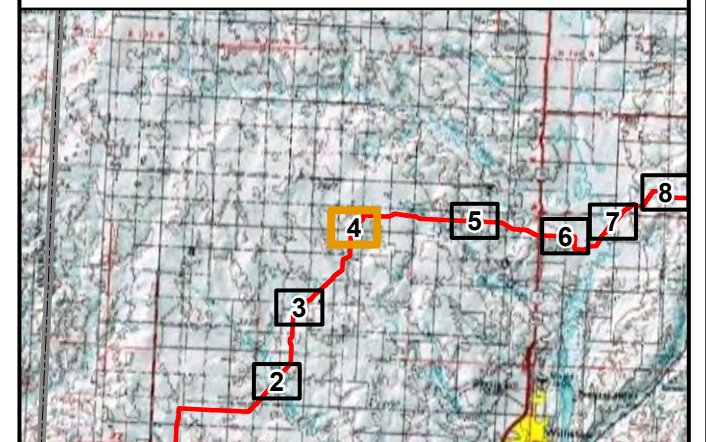
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Cenex Pipeline  
Figure 4

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







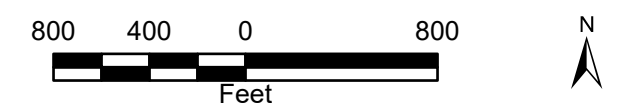
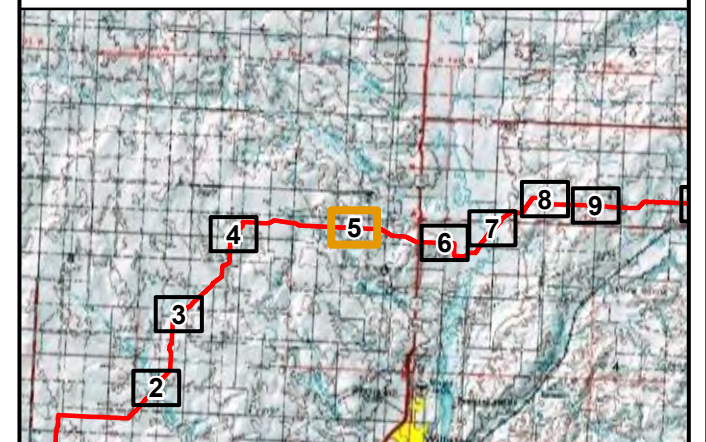
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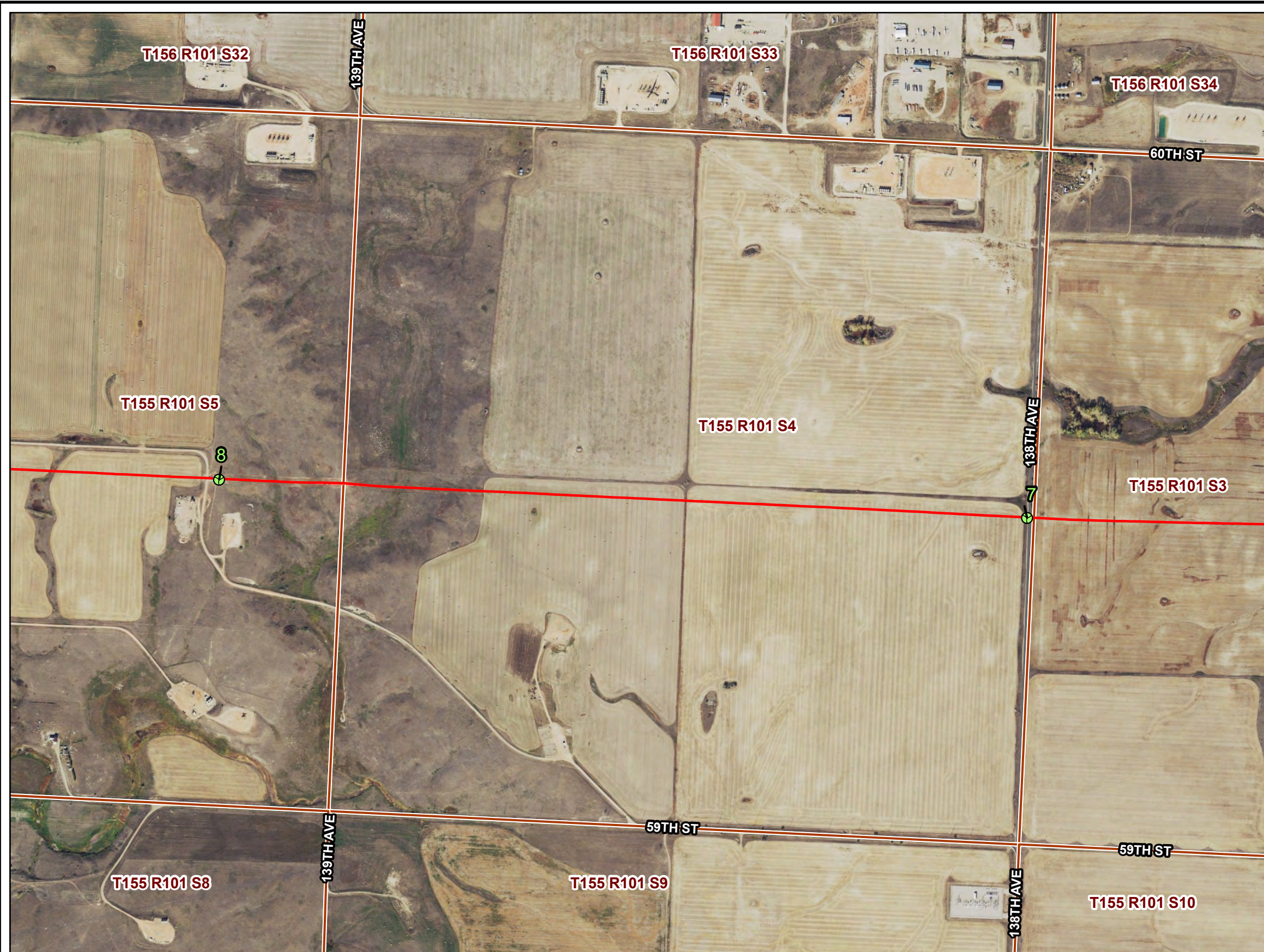
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**Cenex Pipeline  
Figure 5**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)  
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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



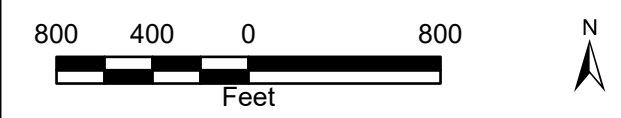
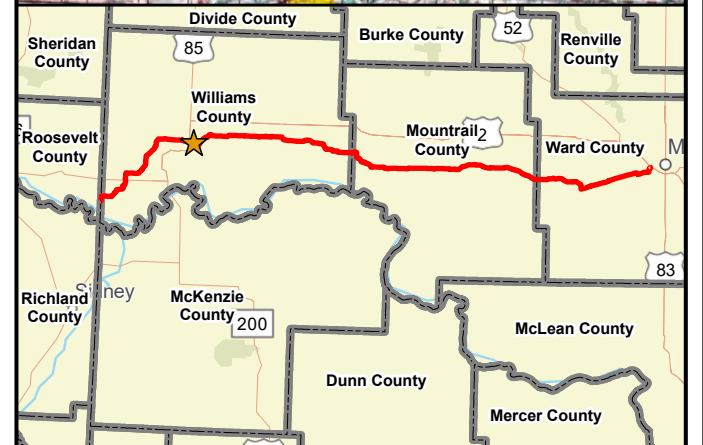
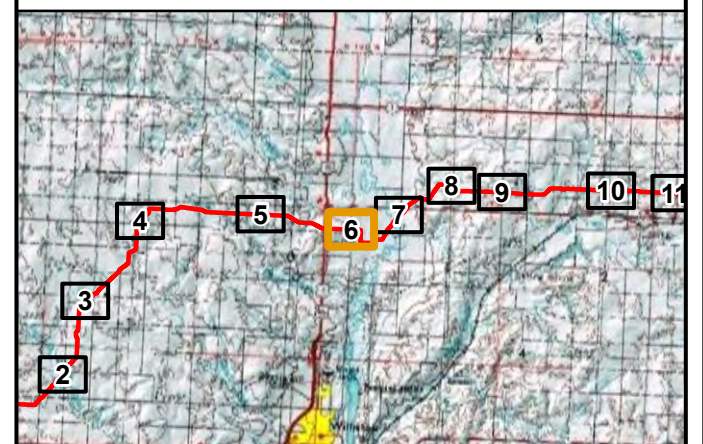
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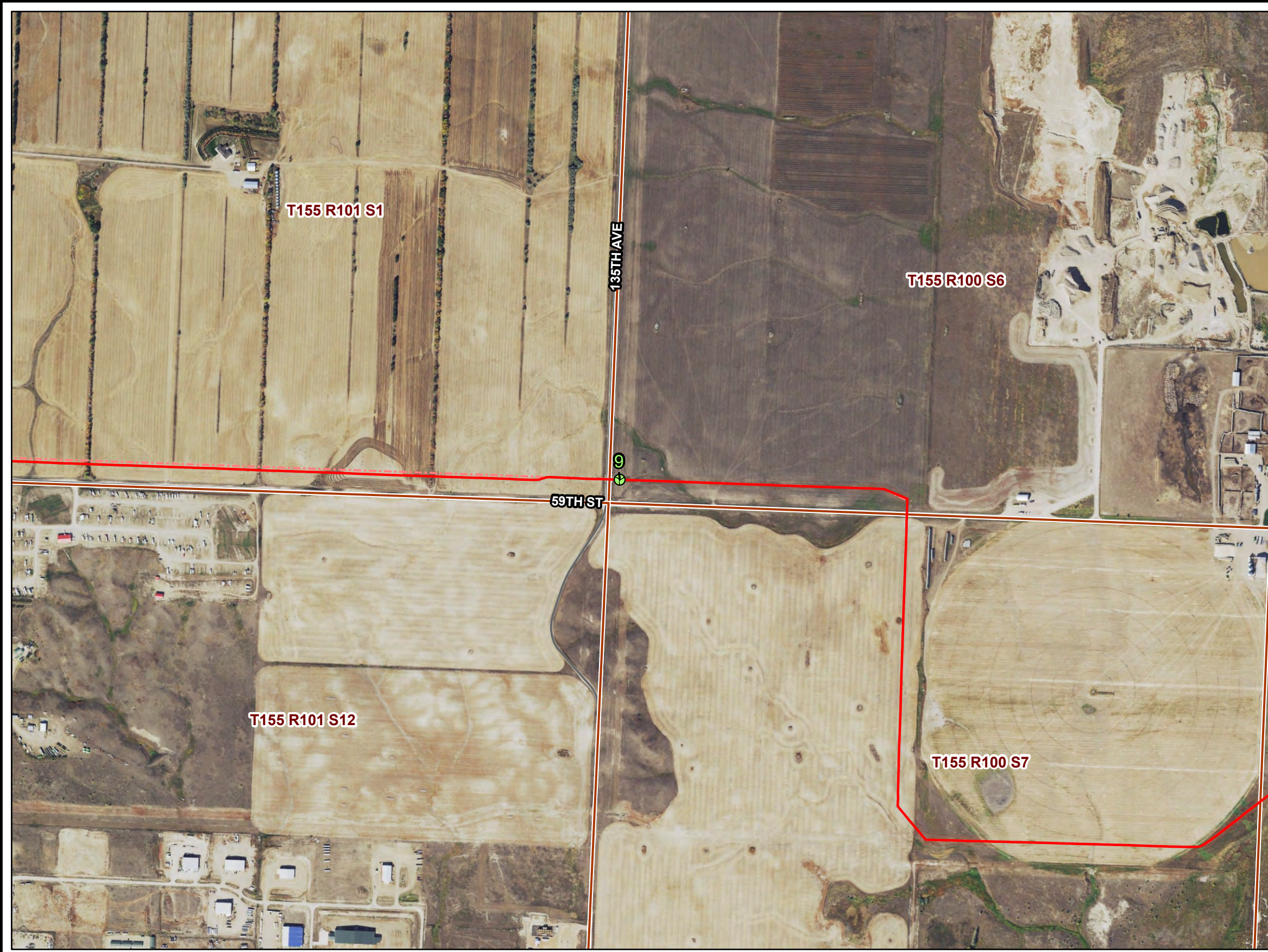
**Cenex Pipeline  
Figure 6**

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







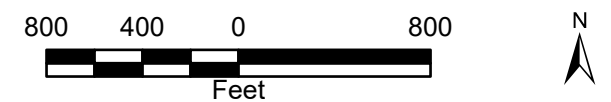
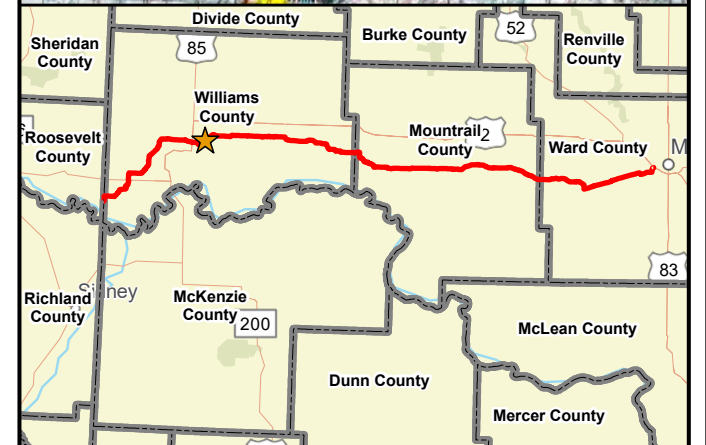
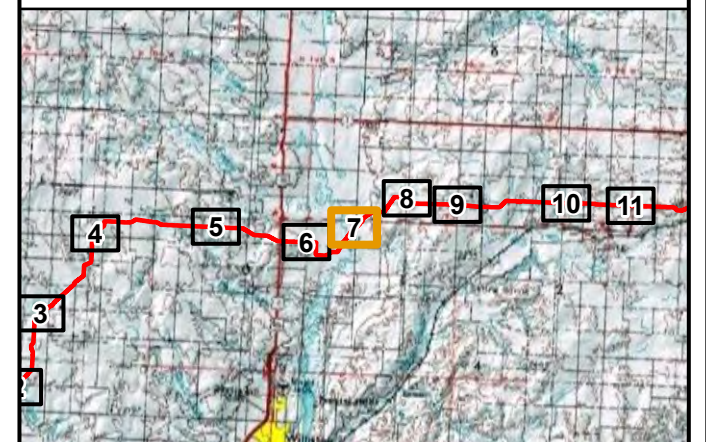
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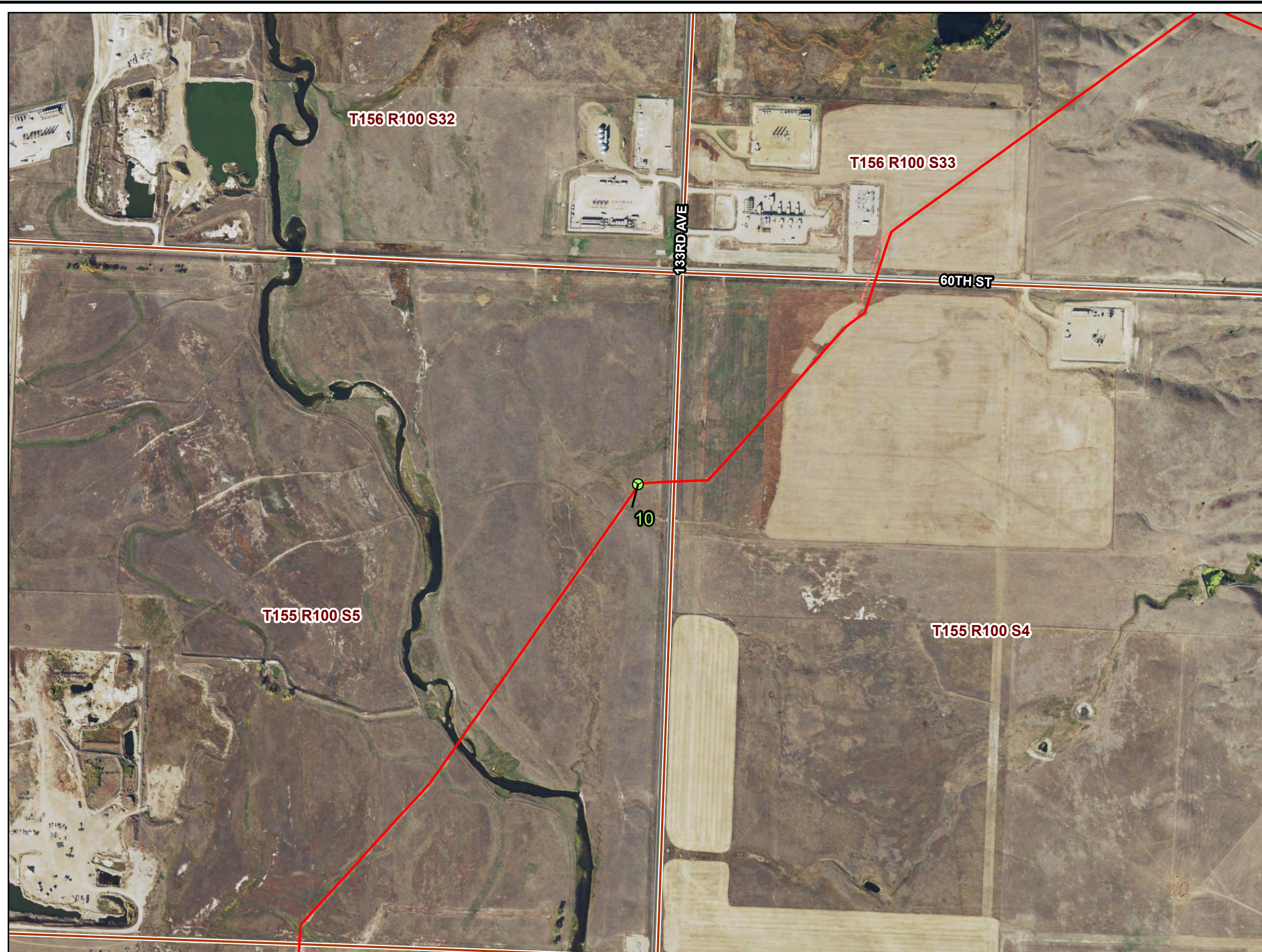
**Cenex Pipeline  
Figure 7**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







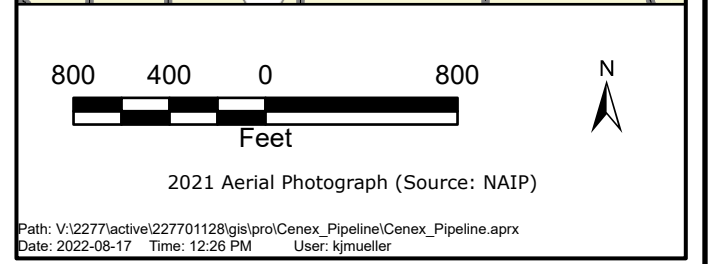
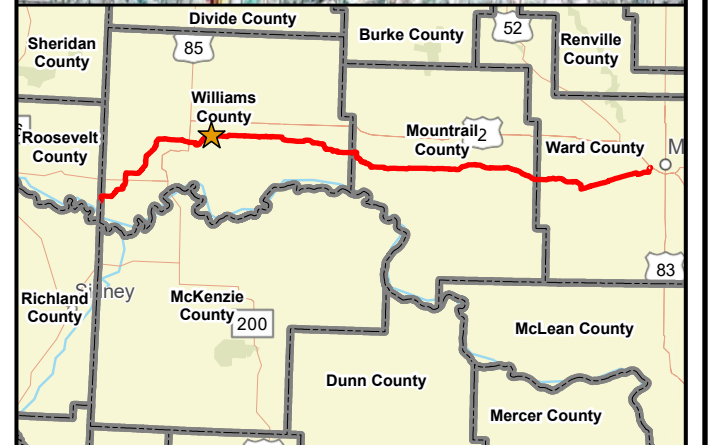
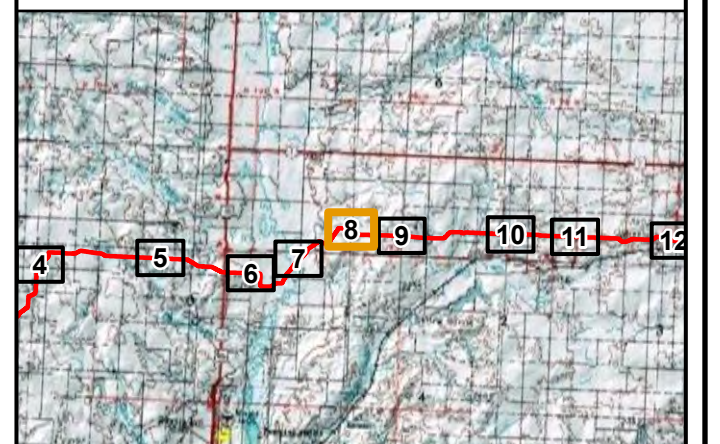
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**North Dakota  
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**Cenex Pipeline  
Figure 8**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)







PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION  
Reclamation Observation Locations

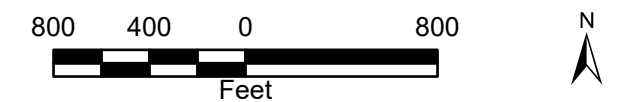
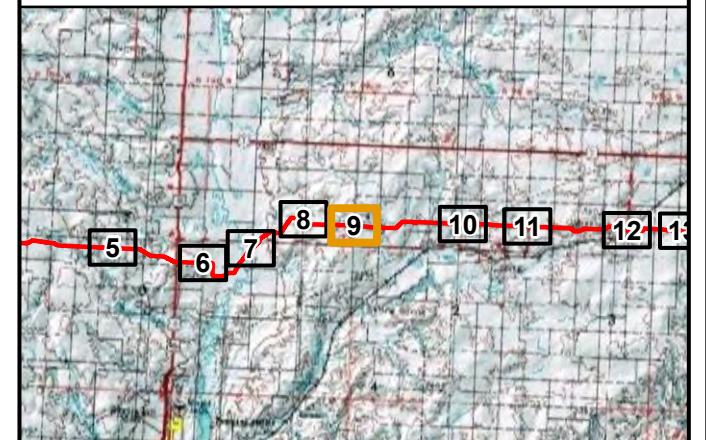


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Cenex Pipeline  
Figure 9

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

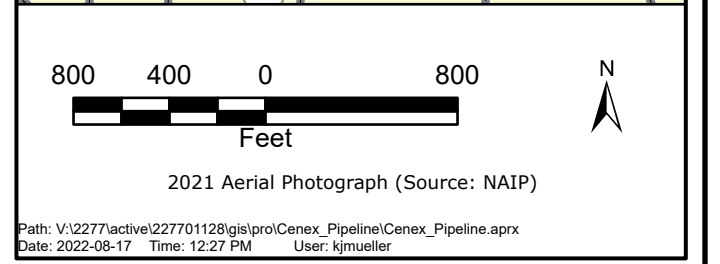
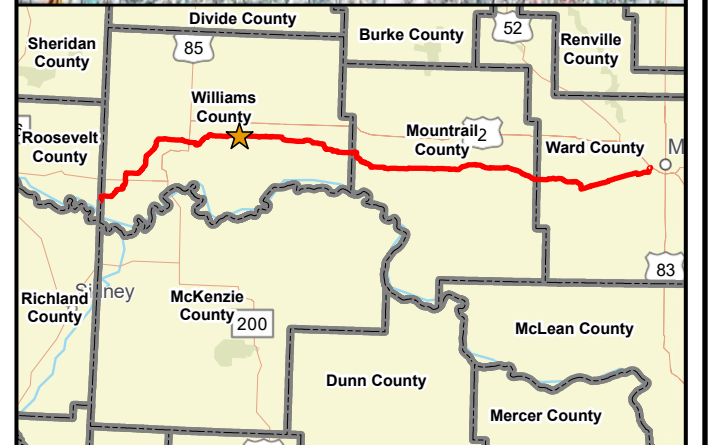
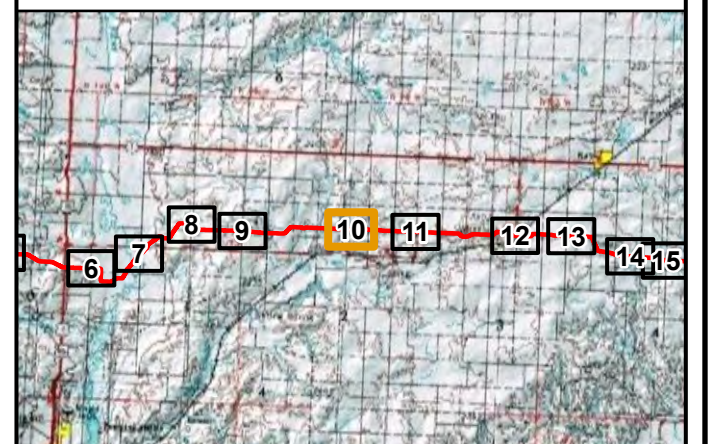


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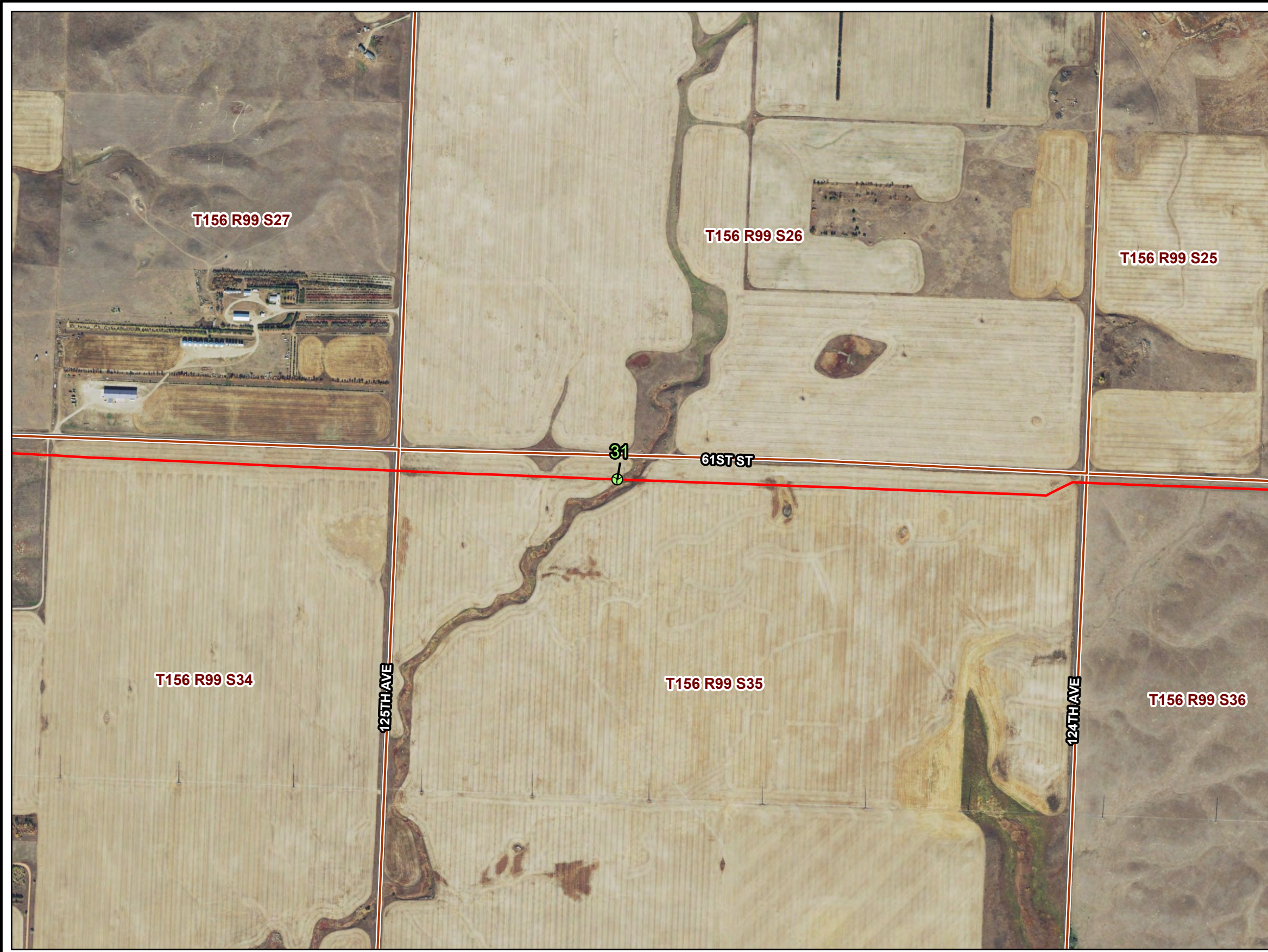
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Cenex Pipeline  
Figure 10

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



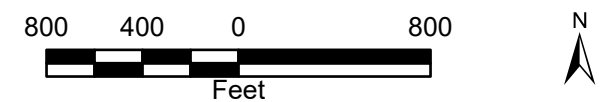
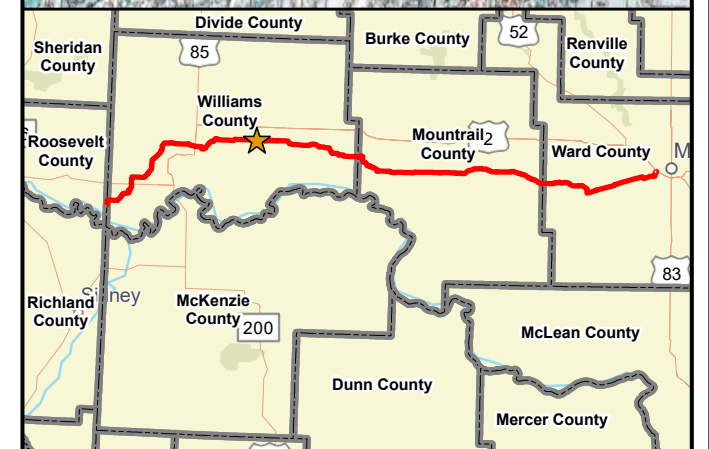
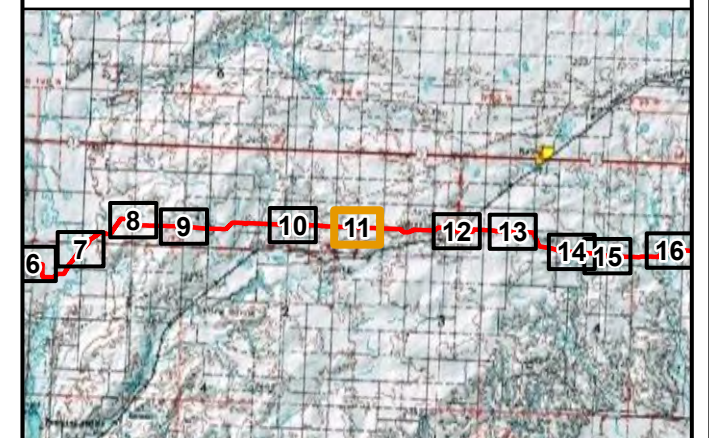
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Public Service Commission

Cenex Pipeline  
Figure 11

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

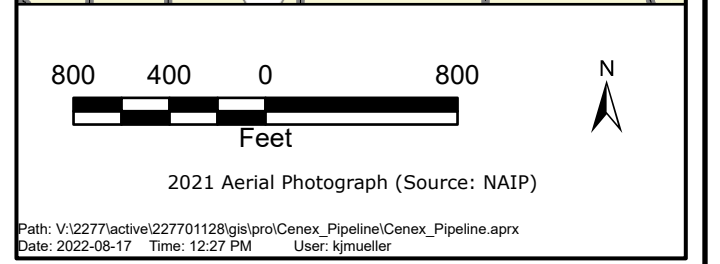
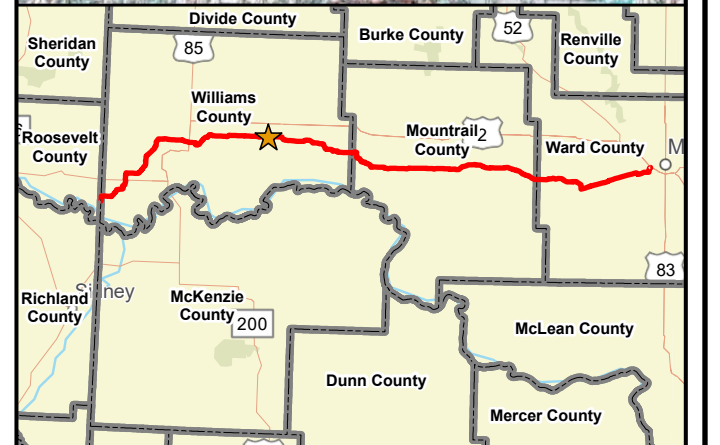
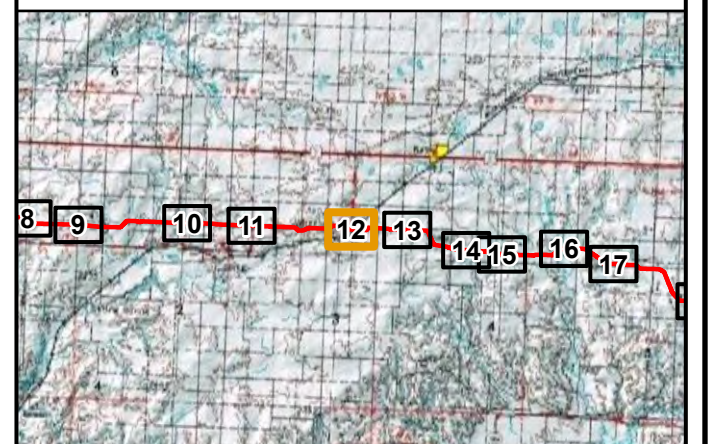


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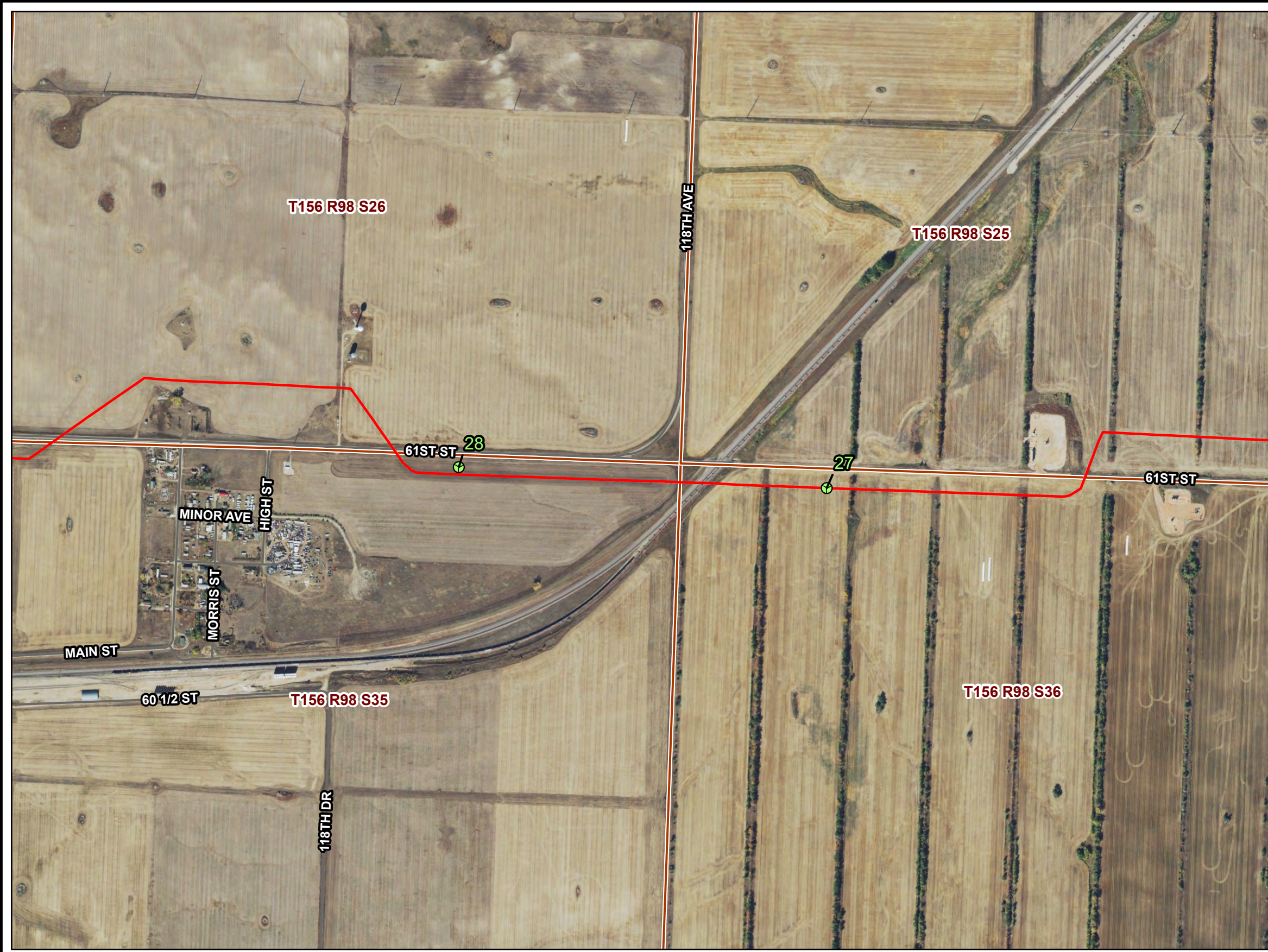
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Cenex Pipeline  
Figure 12

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

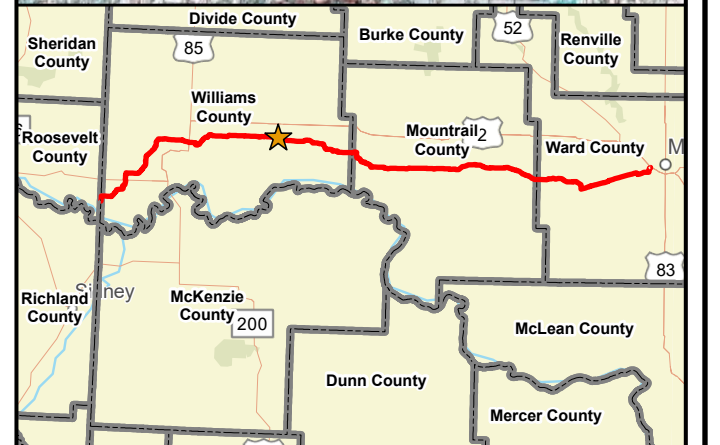
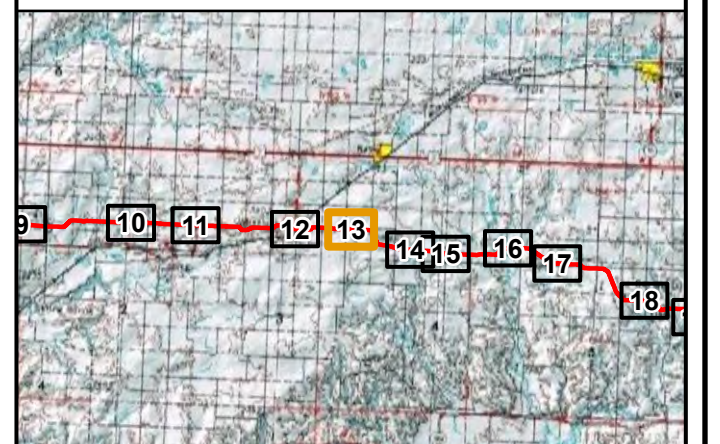


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Cenex Pipeline  
Figure 13

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)







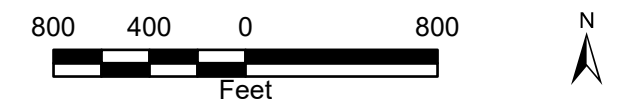
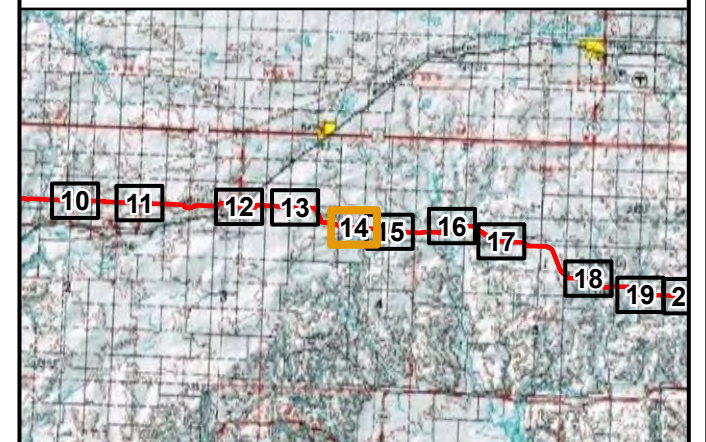
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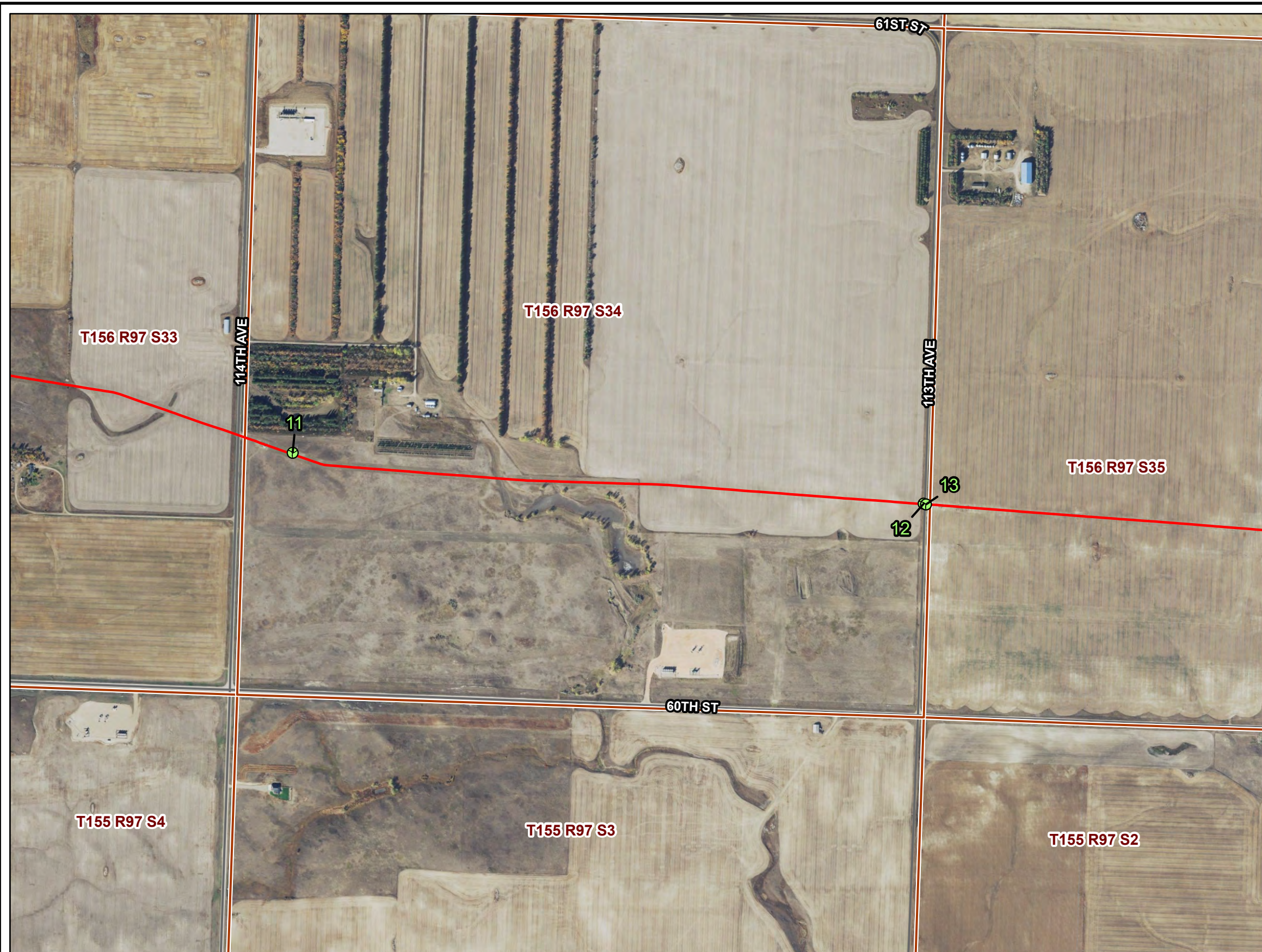
**Cenex Pipeline  
Figure 14**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







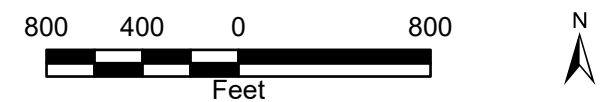
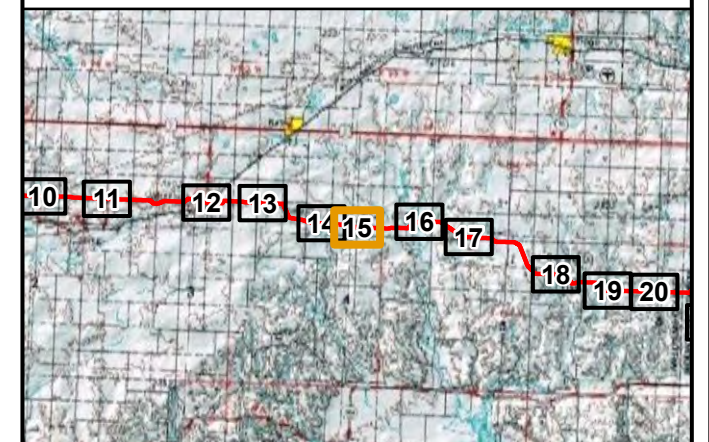
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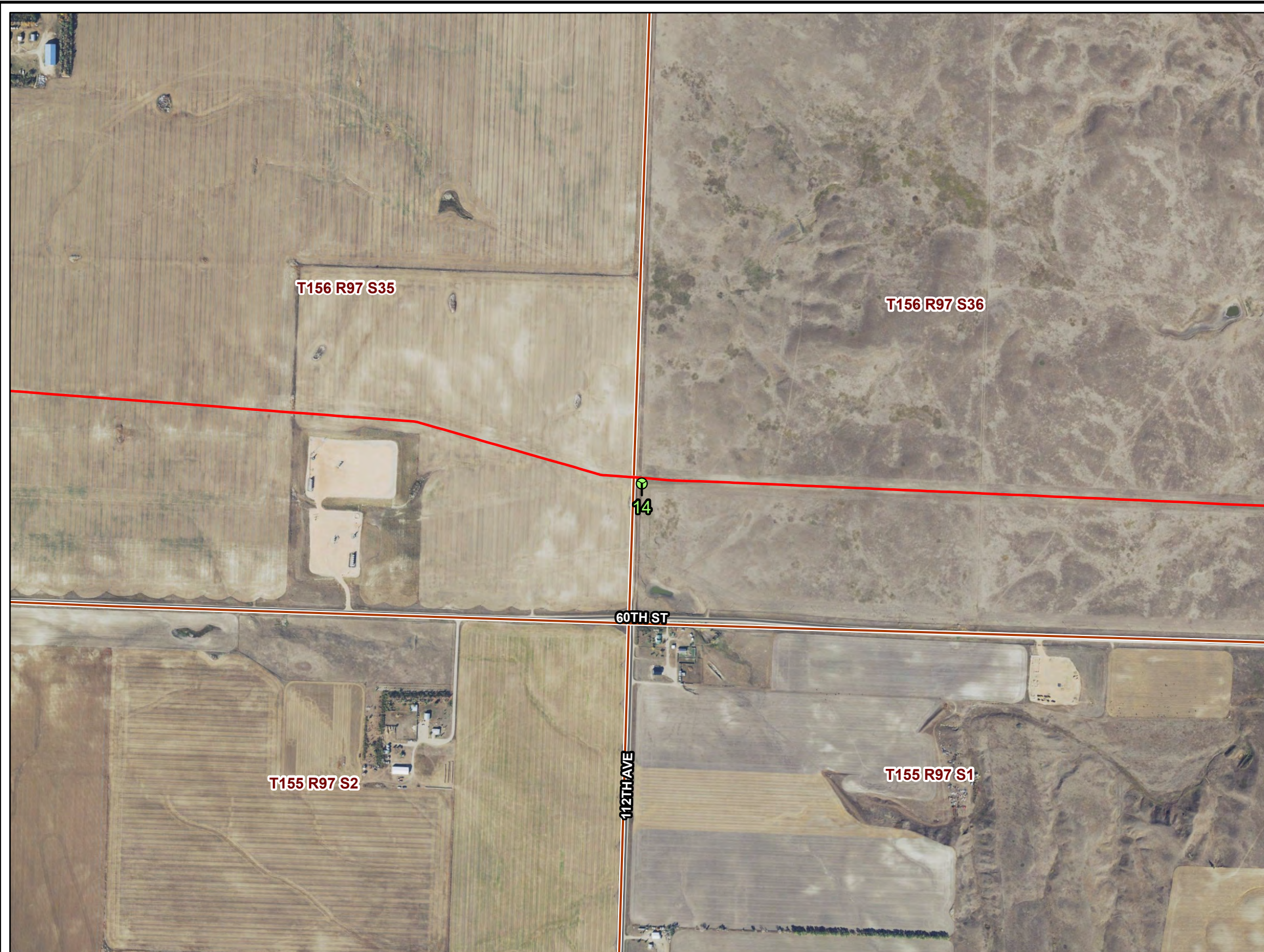
Cenex Pipeline  
Figure 15

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







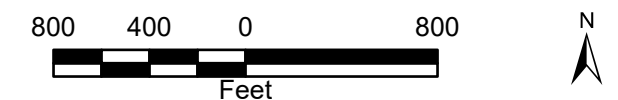
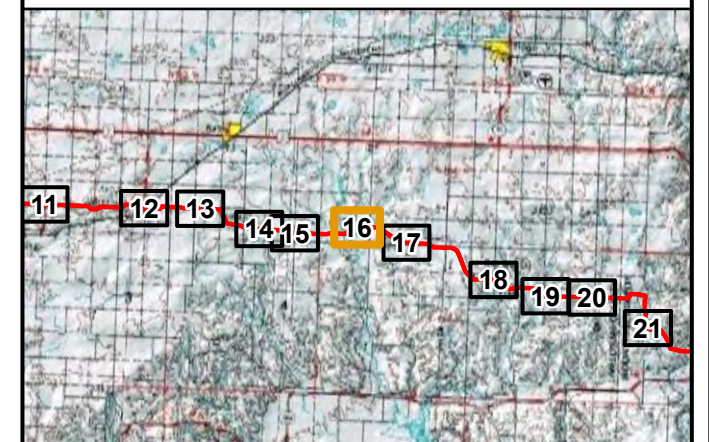
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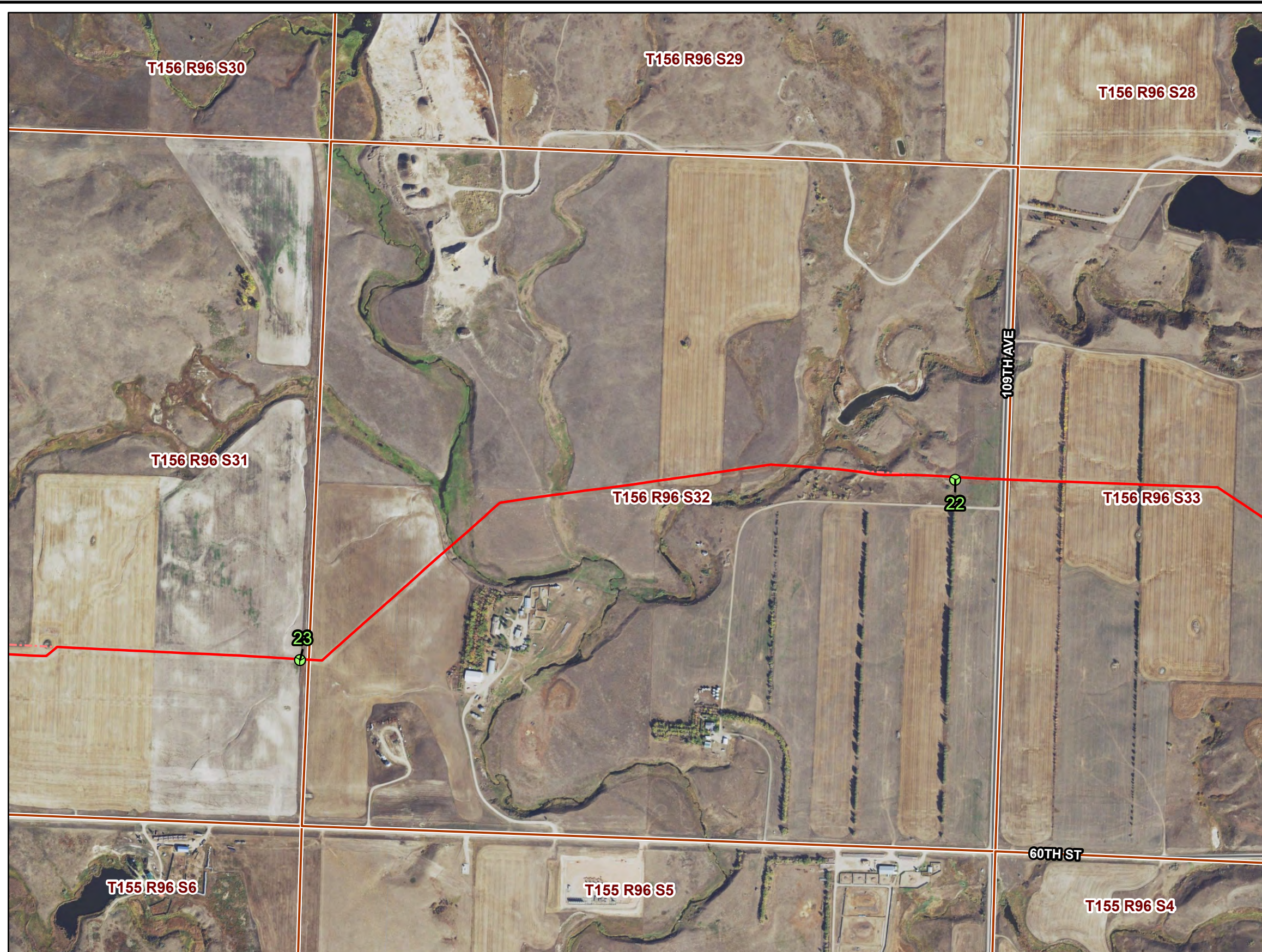
**Cenex Pipeline  
Figure 16**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







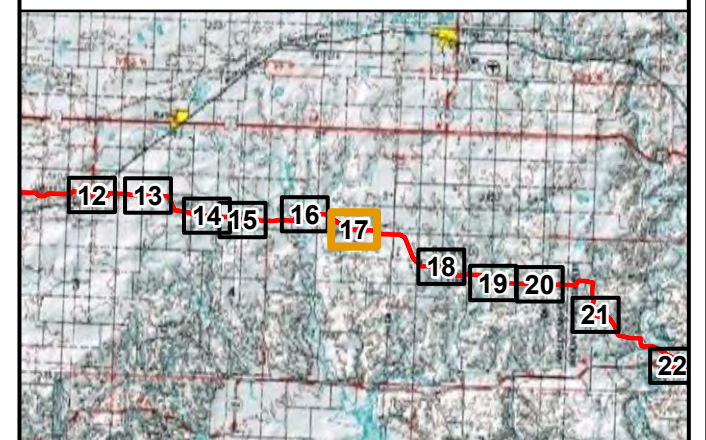
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**Cenex Pipeline  
Figure 17**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)  
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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







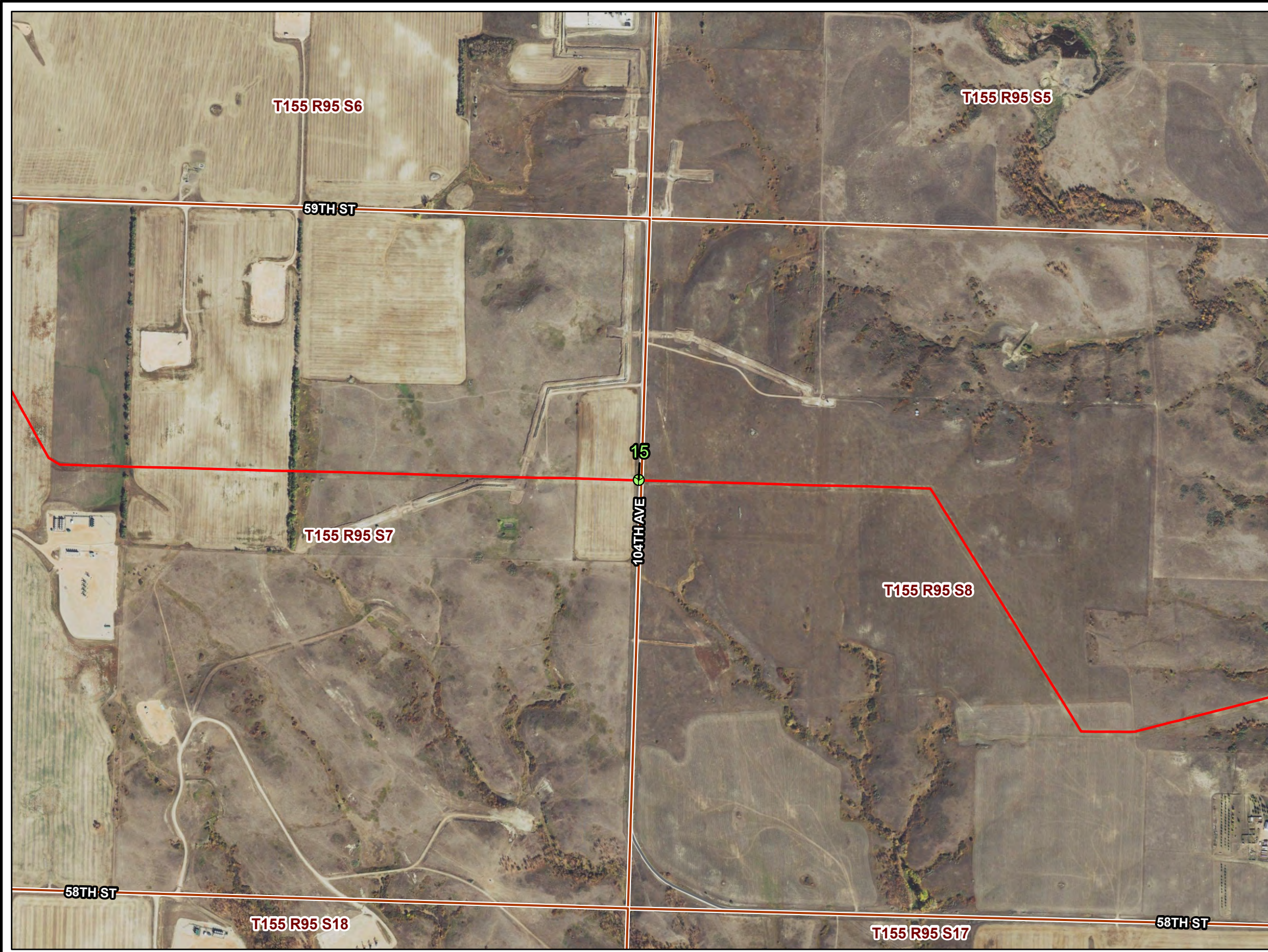
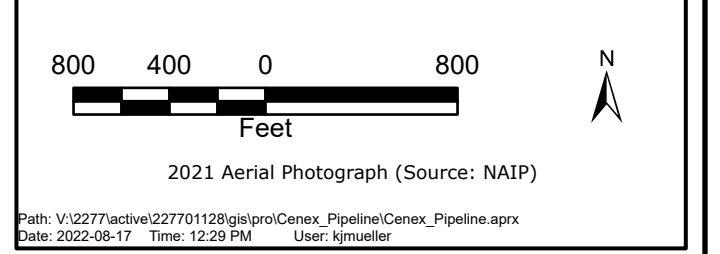
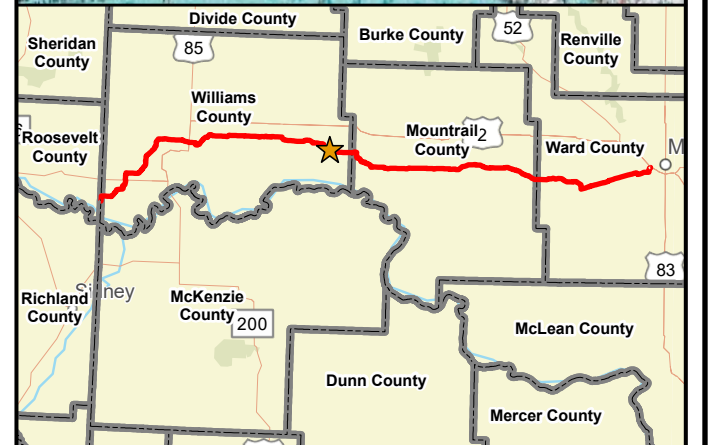
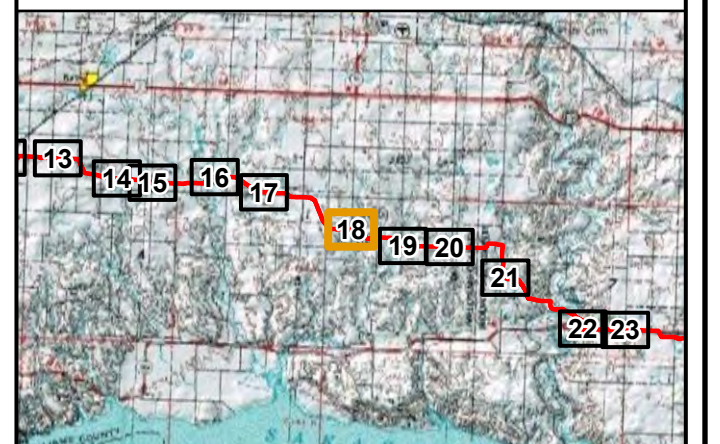
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**Cenex Pipeline  
Figure 18**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION  
Reclamation Observation Locations

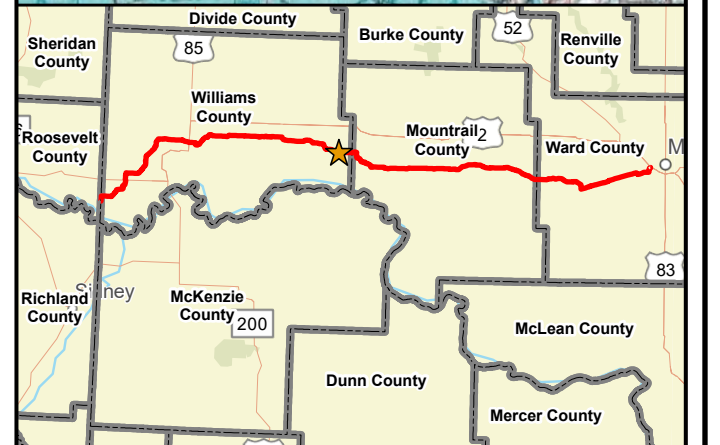
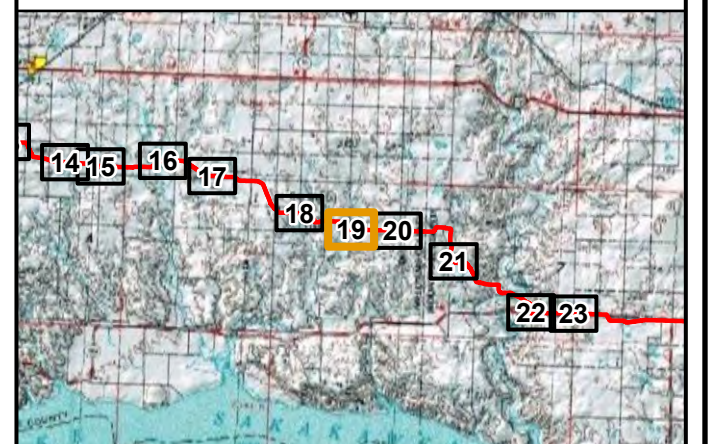


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Public Service Commission**

**Cenex Pipeline  
Figure 19**

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







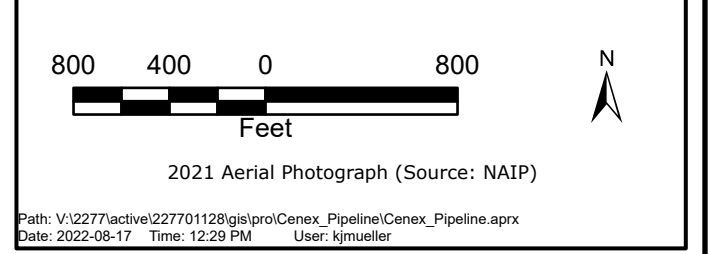
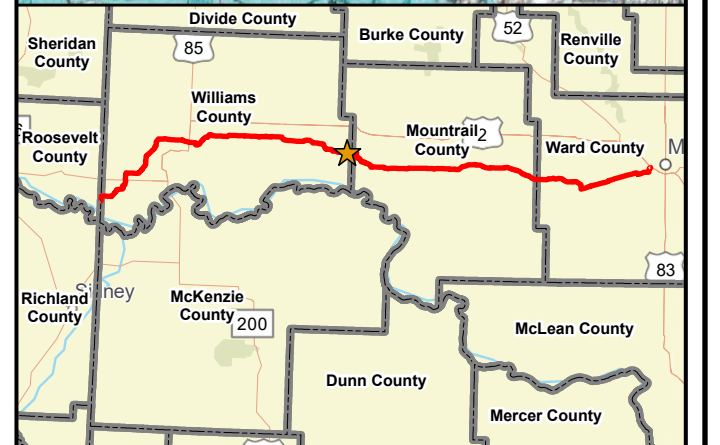
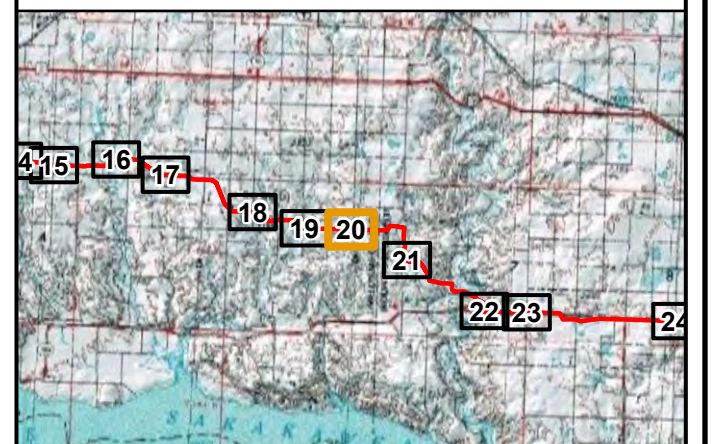
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**Cenex Pipeline  
Figure 20**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







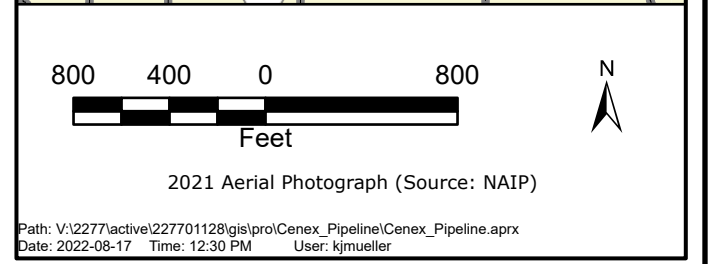
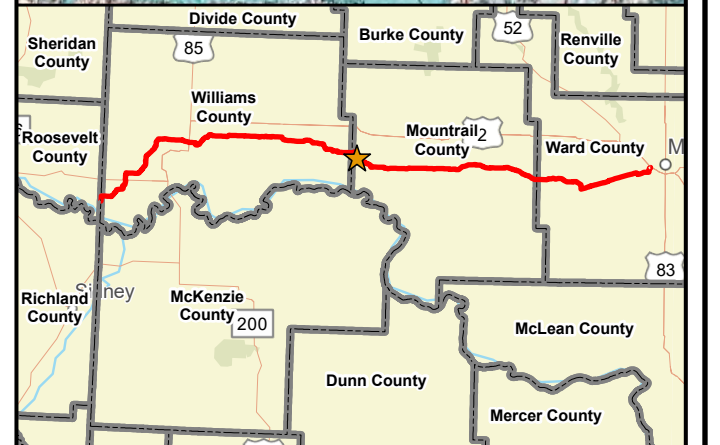
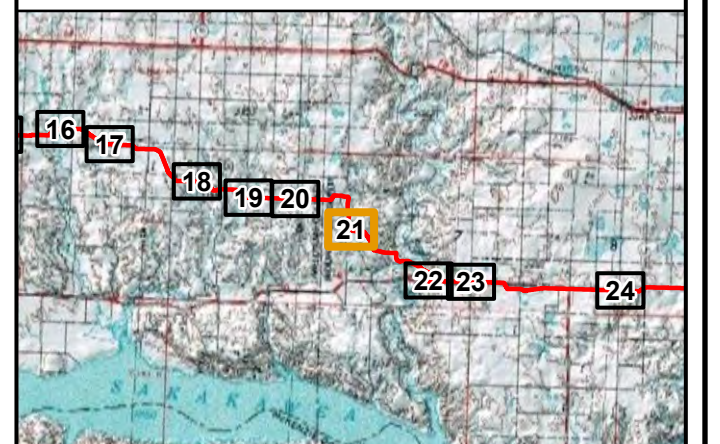
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**Cenex Pipeline  
Figure 21**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







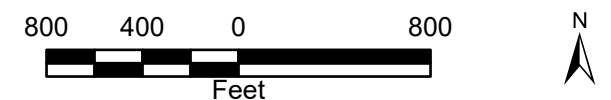
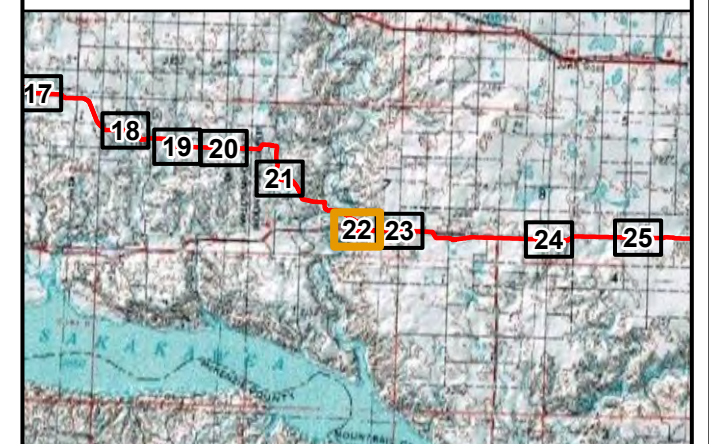
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Public Service Commission**

**Cenex Pipeline  
Figure 22**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION





Reclamation Observation Locations

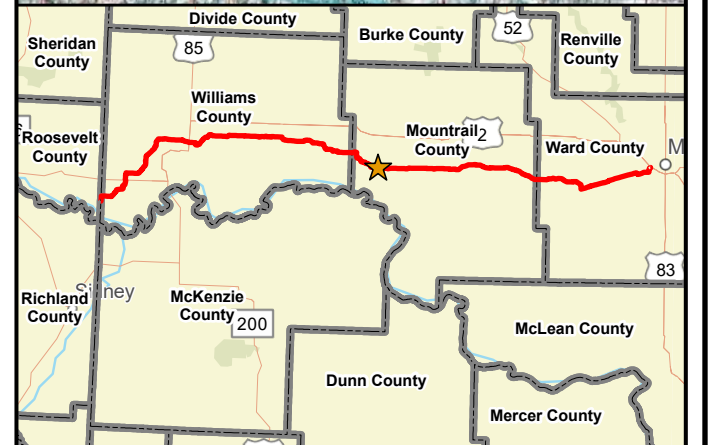
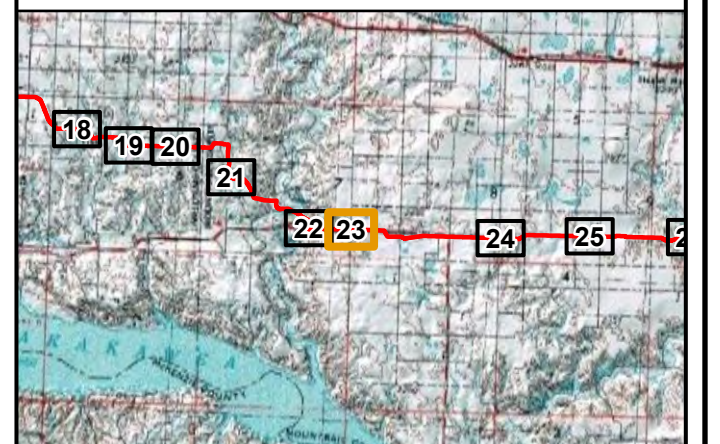


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**Cenex Pipeline  
Figure 23**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)







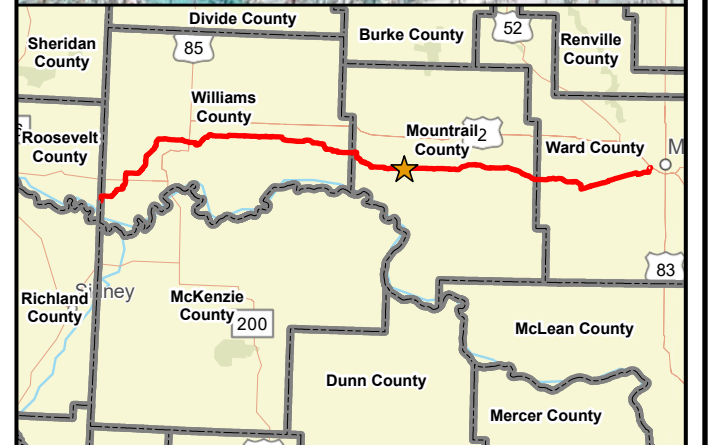
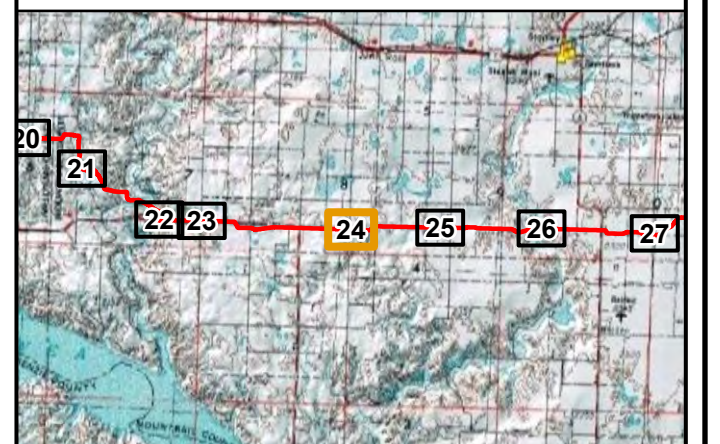
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**Cenex Pipeline  
Figure 24**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



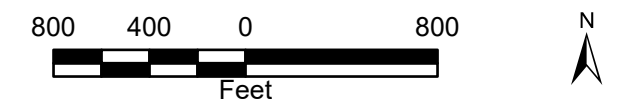
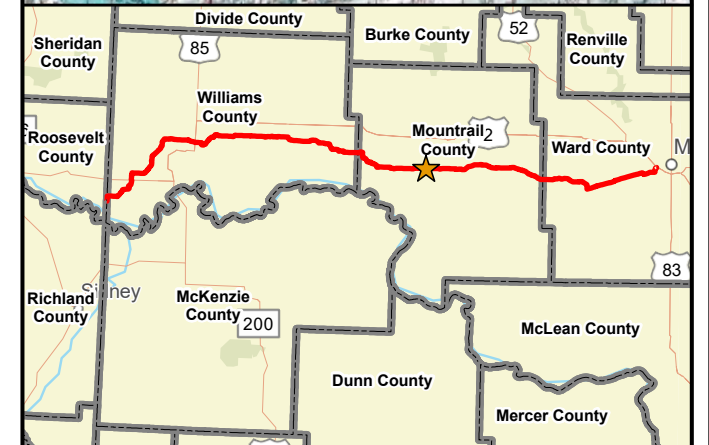
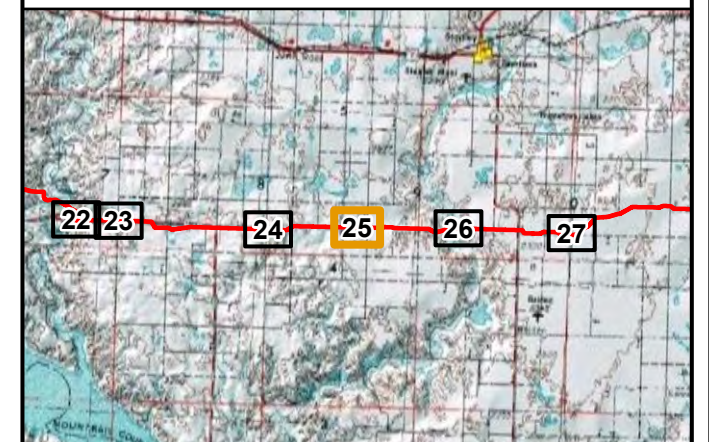
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North Dakota  
Public Service Commission

Cenex Pipeline  
Figure 25

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:31 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



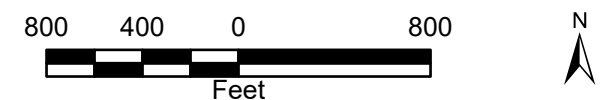
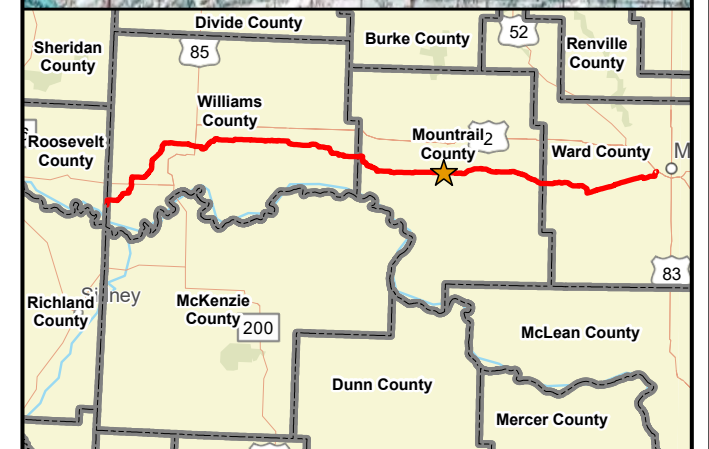
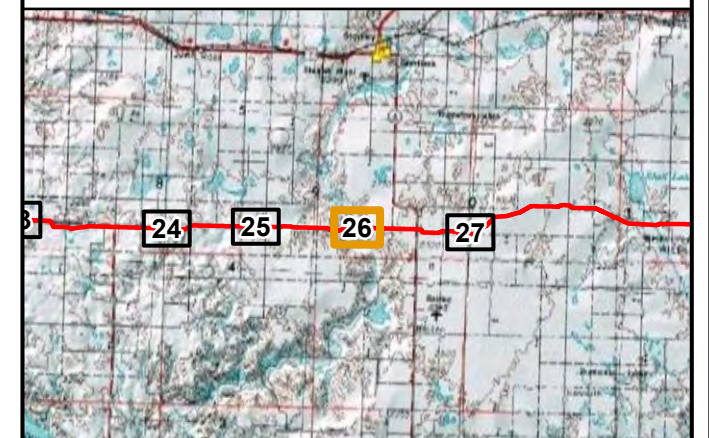
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North Dakota  
Public Service Commission

Cenex Pipeline  
Figure 26

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:31 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



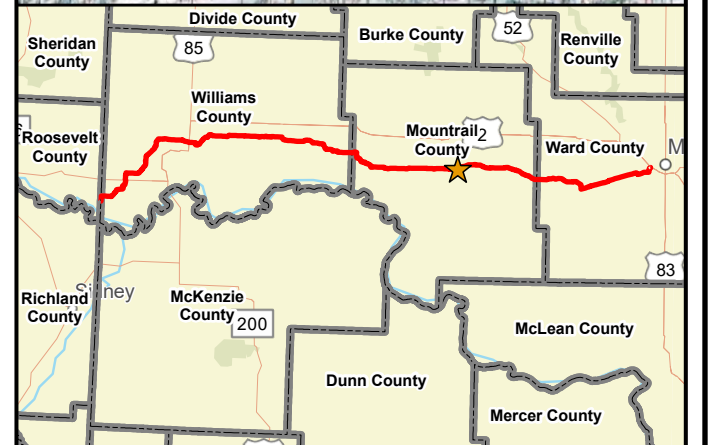
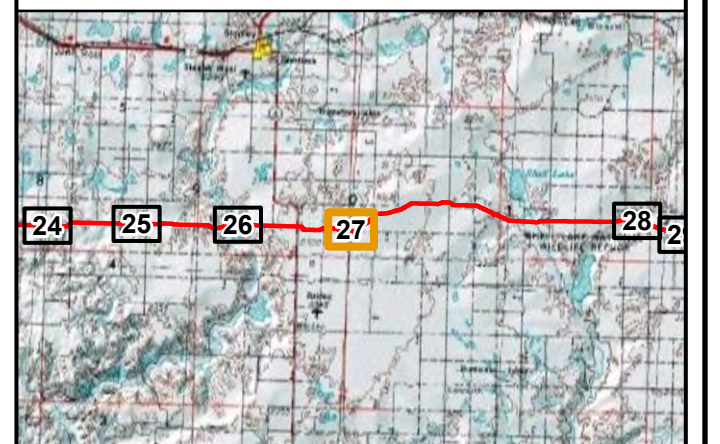
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**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 27**

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)  
Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:31 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







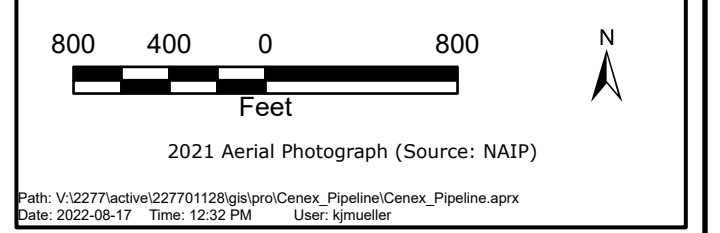
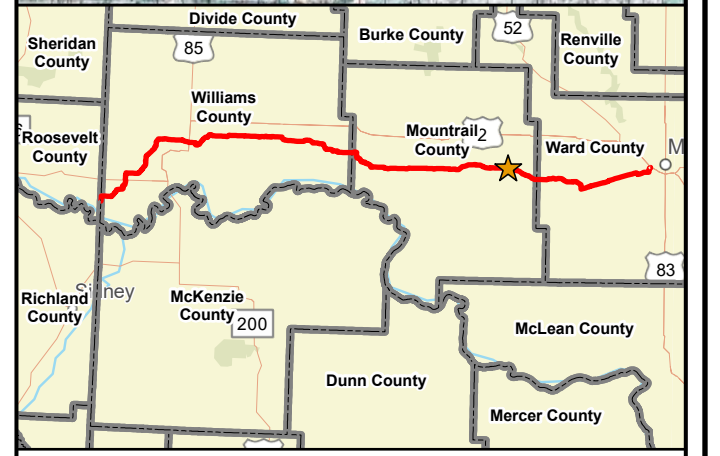
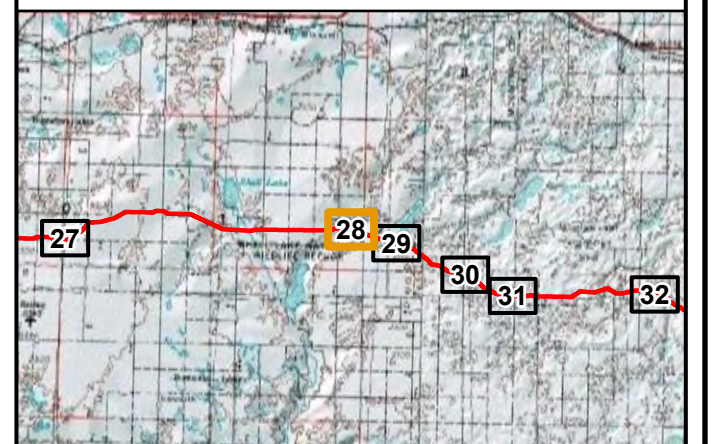
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**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 28**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







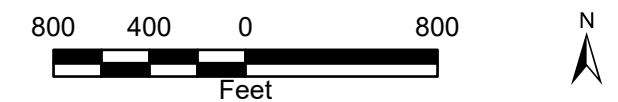
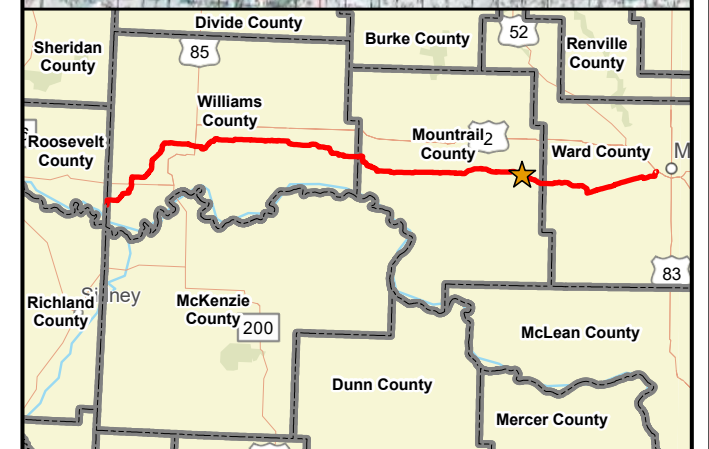
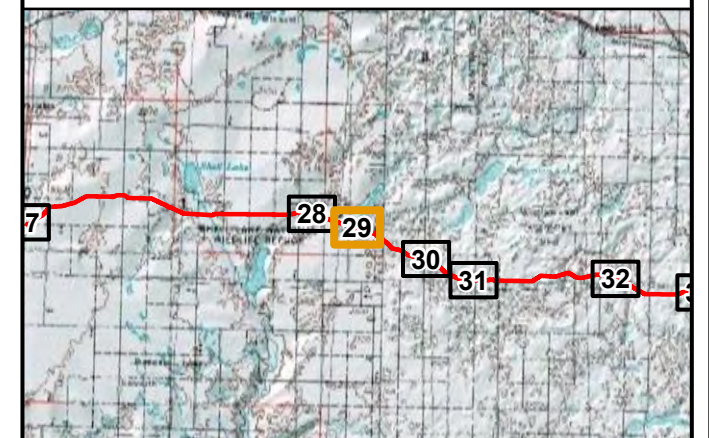
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Public Service Commission**

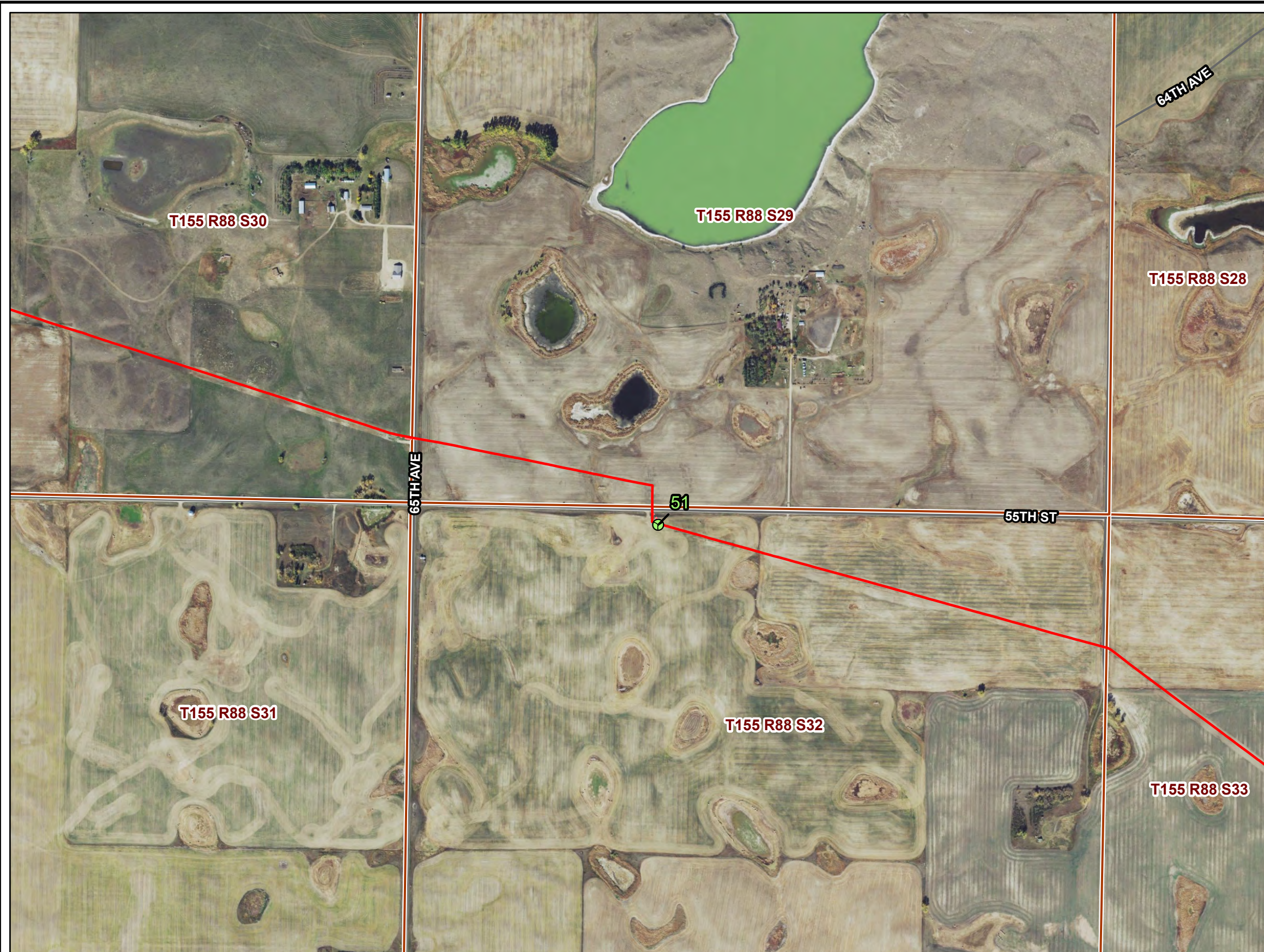
**Cenex Pipeline  
Figure 29**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:32 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

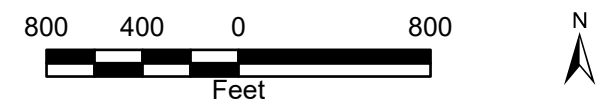
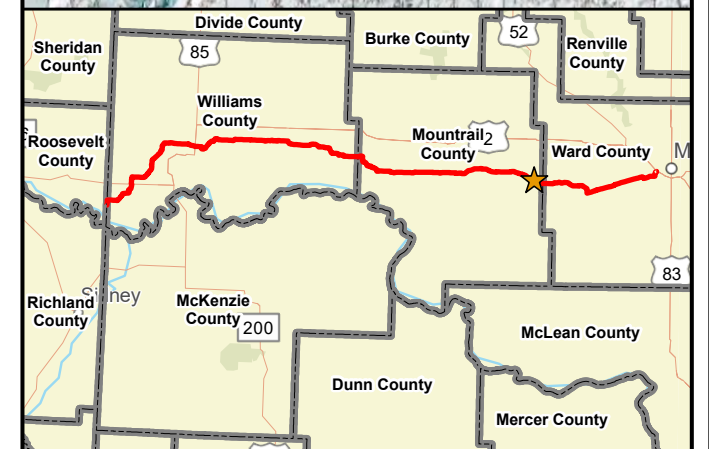
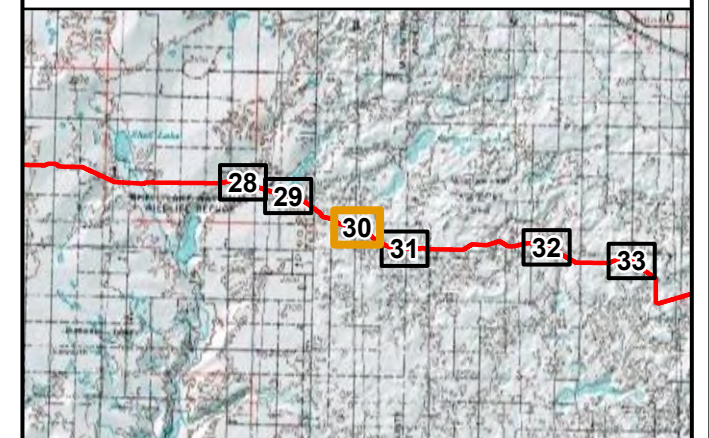


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Cenex Pipeline  
Figure 30

- 🟢 Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- - - Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



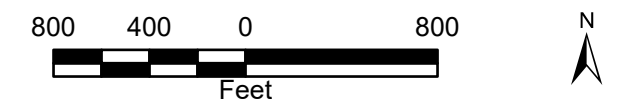
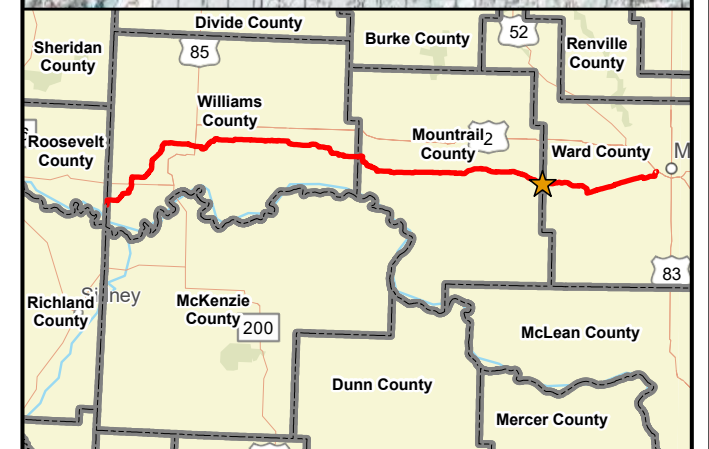
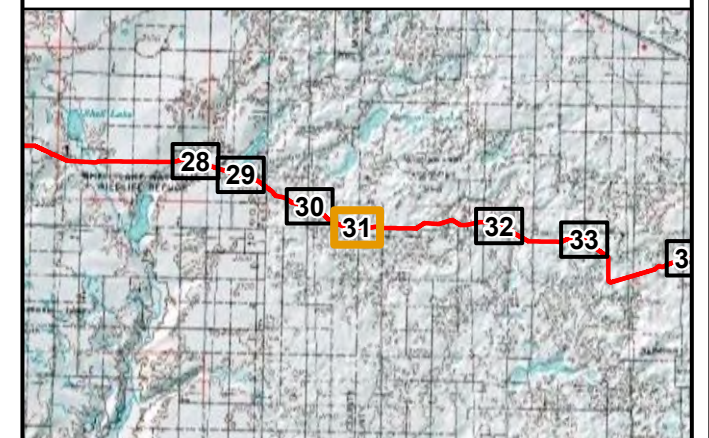
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North Dakota  
Public Service Commission

Cenex Pipeline  
Figure 31

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:32 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







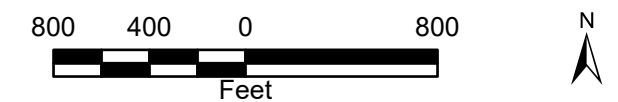
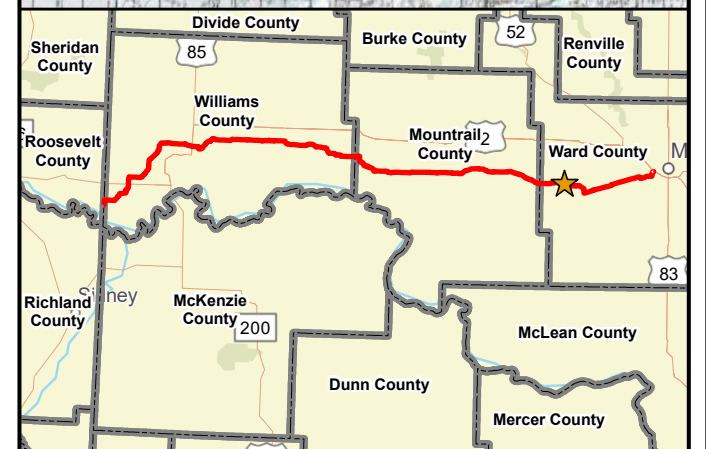
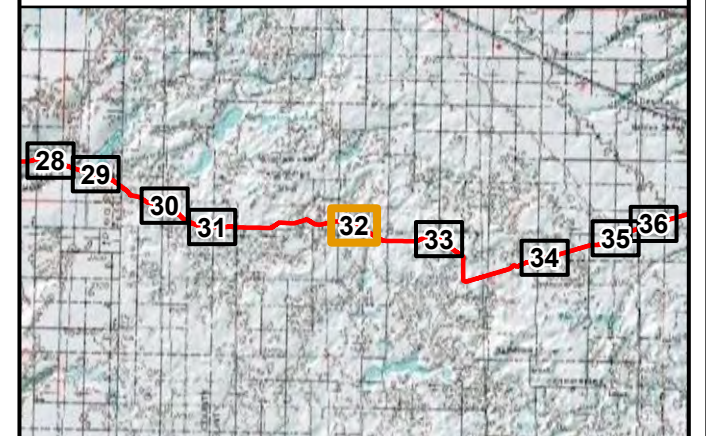
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**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 32**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:33 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



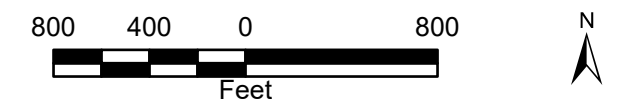
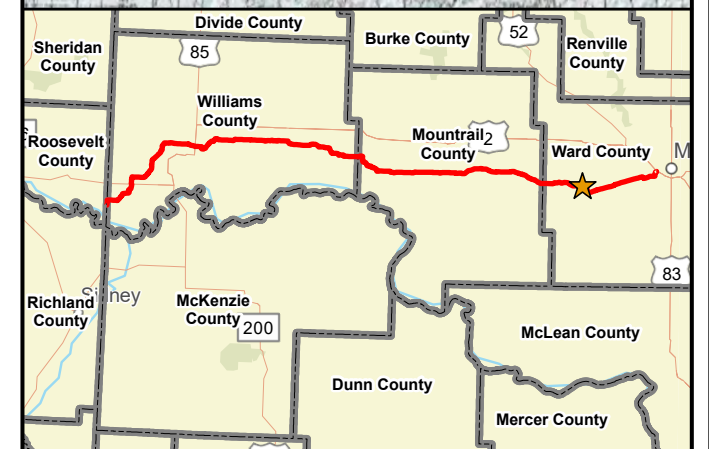
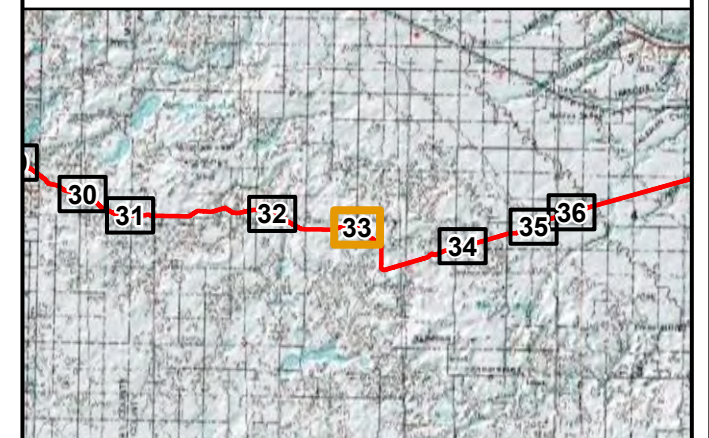
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North Dakota  
Public Service Commission

Cenex Pipeline  
Figure 33

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
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PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







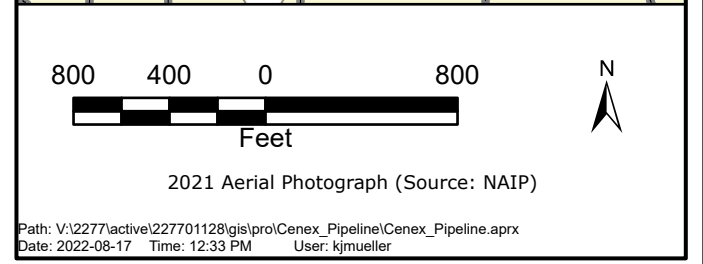
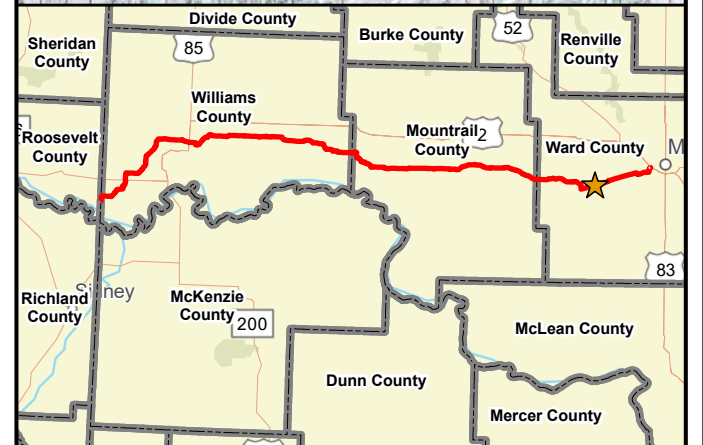
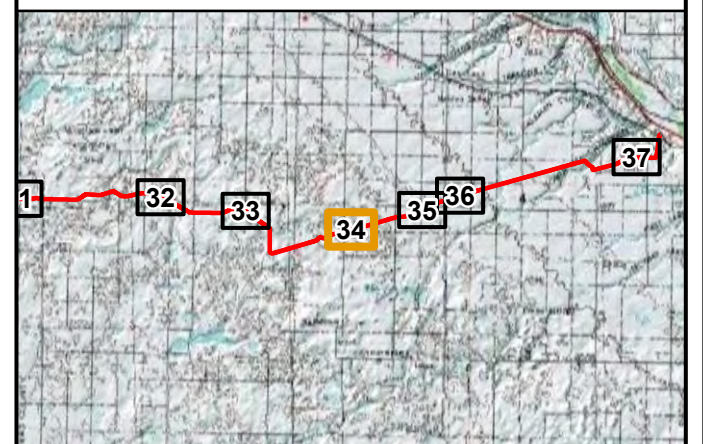
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**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 34**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







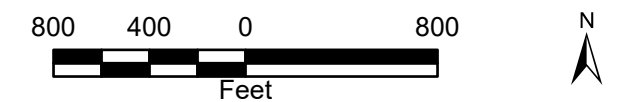
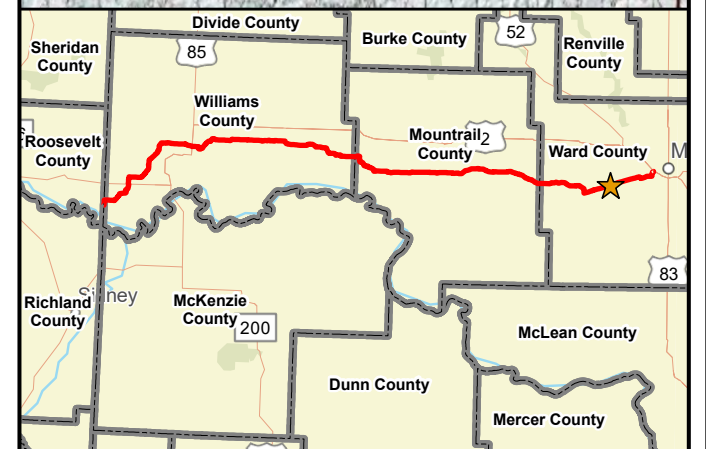
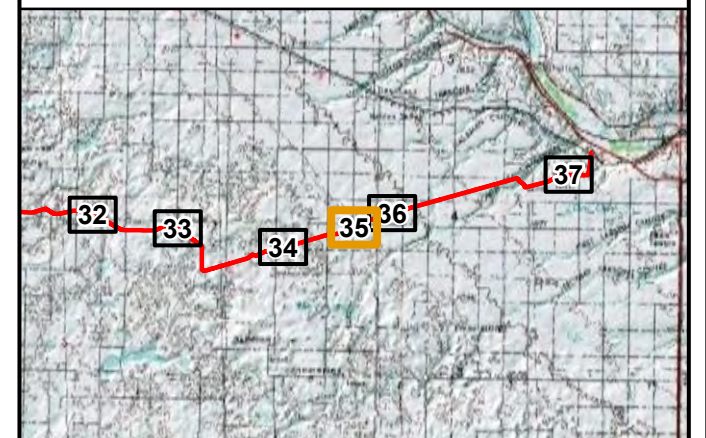
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**North Dakota  
Public Service Commission**

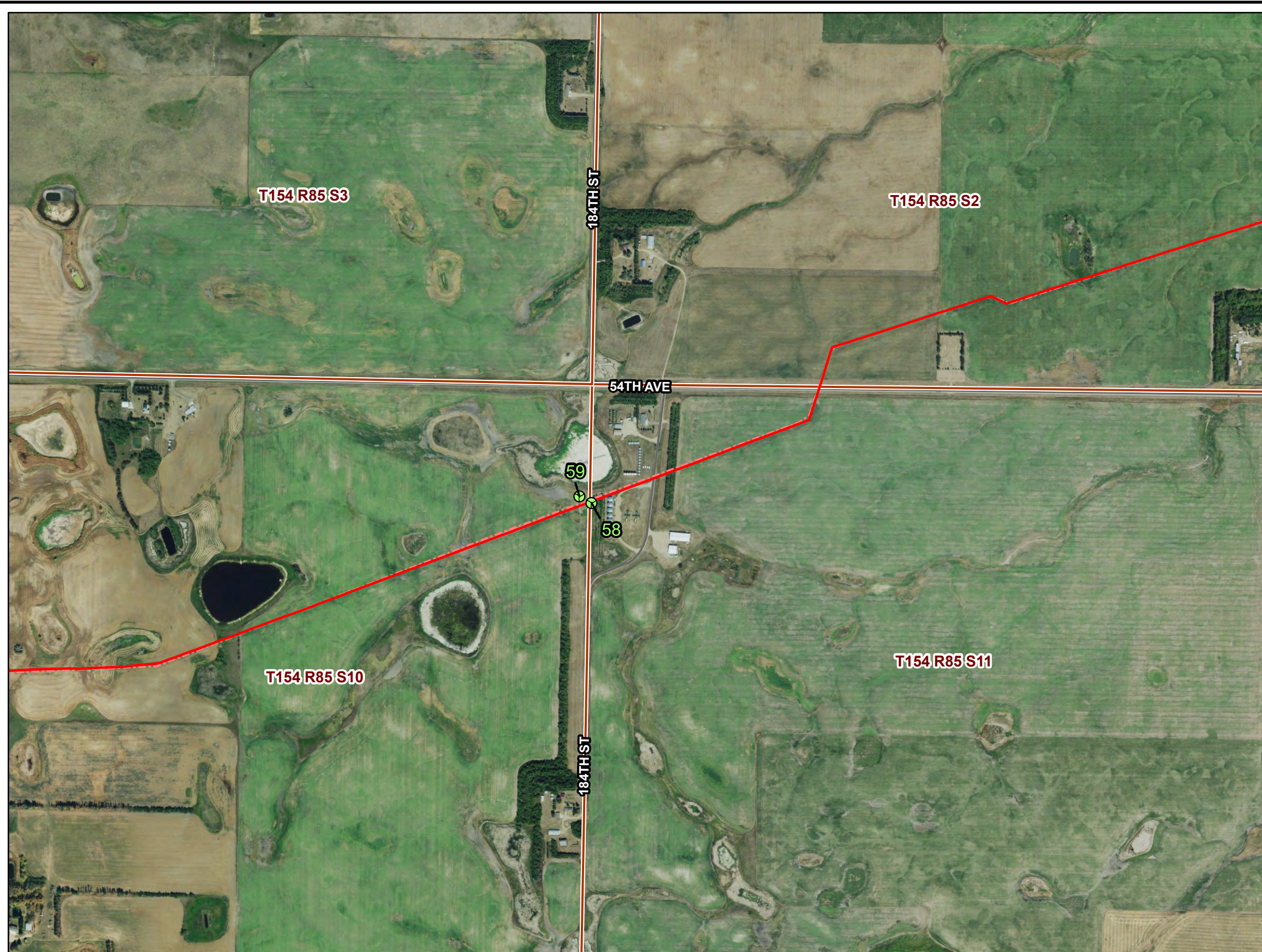
**Cenex Pipeline  
Figure 35**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:33 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations







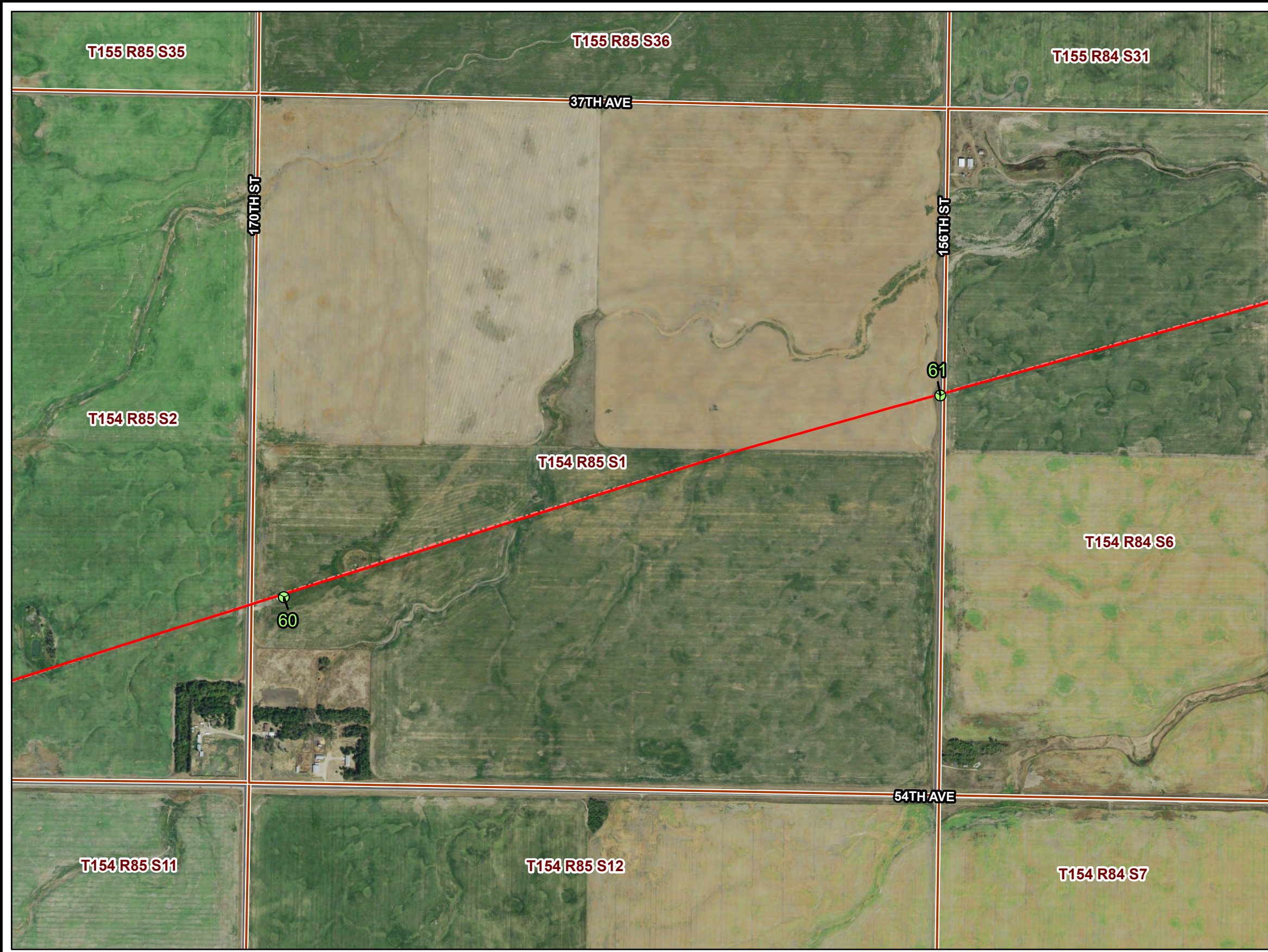
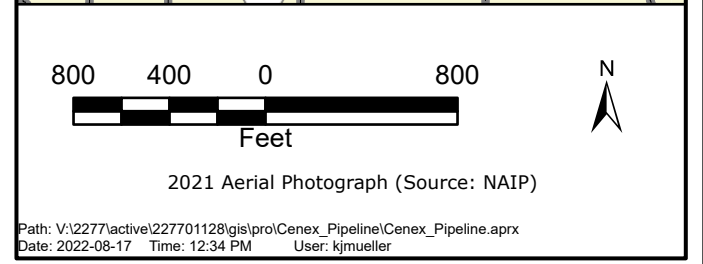
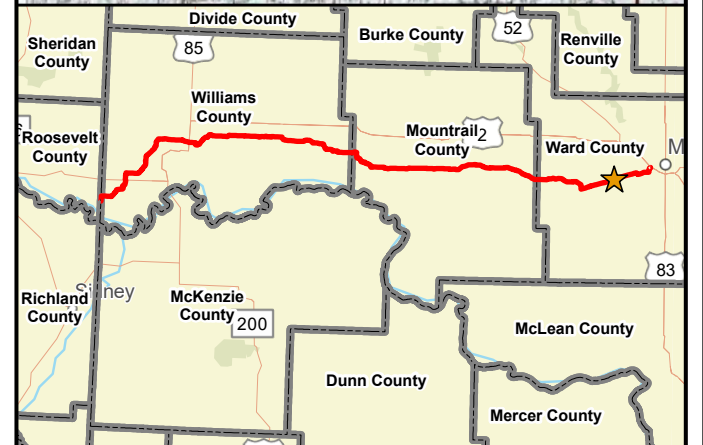
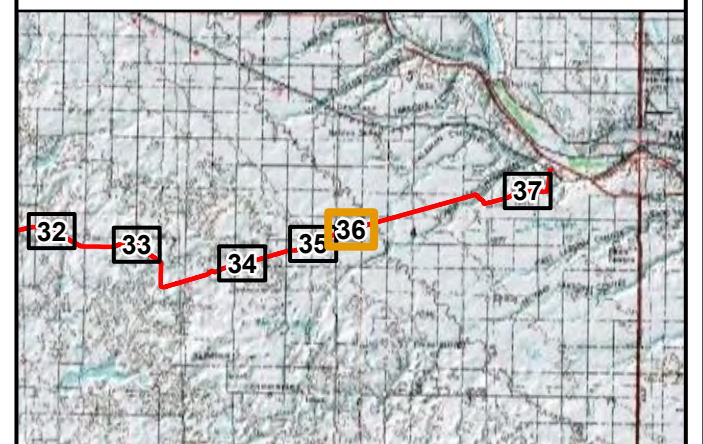
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**North Dakota  
Public Service Commission**

**Cenex Pipeline  
Figure 36**

-  Reclamation Observation Point Location
-  Constructed Access Road
-  Cenex As-Built Centerline (PU-17-97)
-  Cenex Original Proposed Centerline (PU-17-97)



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

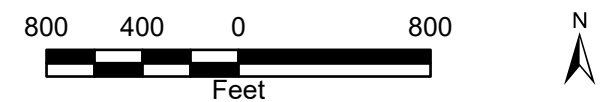
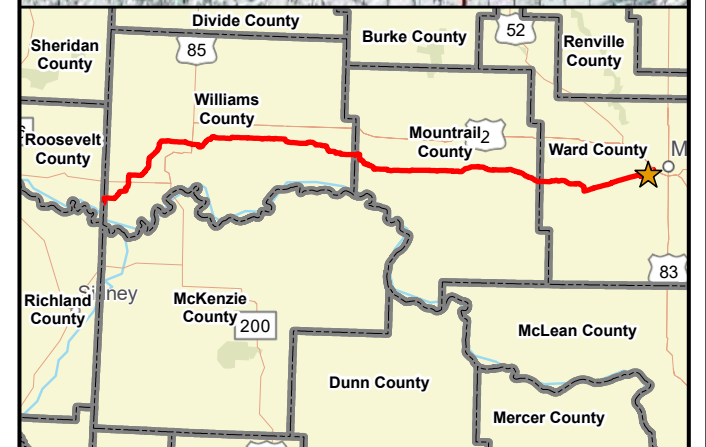
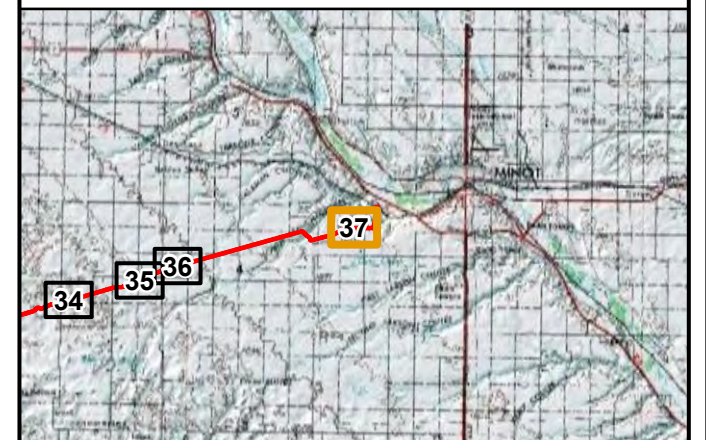


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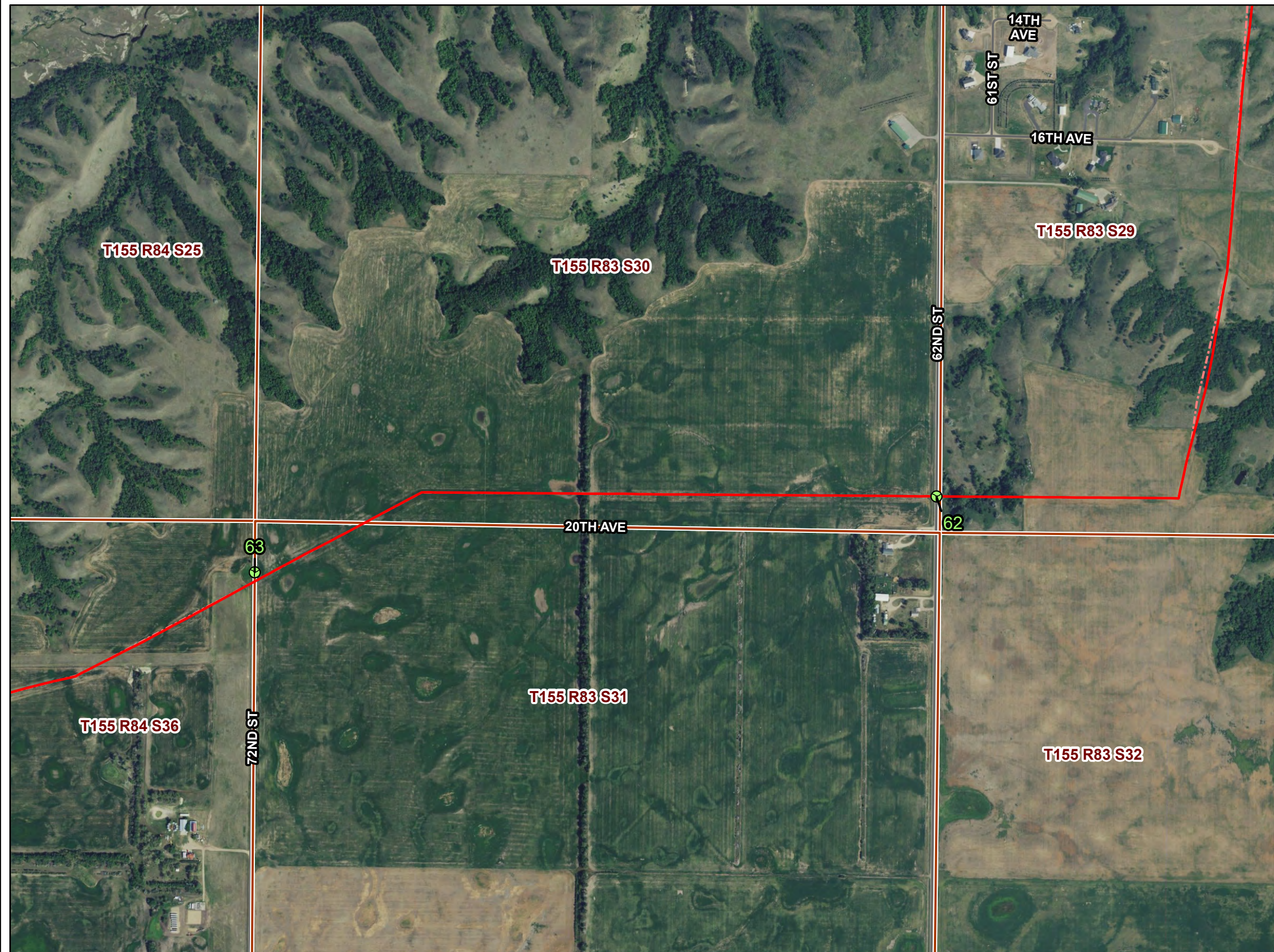
Cenex Pipeline  
Figure 37

- Reclamation Observation Point Location
- Constructed Access Road
- Cenex As-Built Centerline (PU-17-97)
- Cenex Original Proposed Centerline (PU-17-97)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701128\gis\pro\Cenex\_Pipeline\Cenex\_Pipeline.aprx  
Date: 2022-08-17 Time: 12:34 PM User: kjmueller



PU-17-97 CENEX PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



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# **APPENDIX A**

## **Observation Point Coordinates and Photolog**

## PU-17-97 (Cenex): Observation Point Photolog



### Observation Point: 1

Date Taken: August 1, 2022 4:35 PM  
Direction Photo is Taken: Northeast  
Land Use: Cropland

Photo Description: Excellent overall reclamation has allowed wheat growth to match surrounding area.

Latitude: 48.22326105  
Longitude: -103.82902313



### Observation Point: 2

Date Taken: August 1, 2022 4:43 PM  
Direction Photo is Taken: North  
Land Use: Rangeland

Photo Description: Adequate plant cover. 50% kochia, other species: green foxtail, crested wheatgrass, brome. Surrounding areas have some native grasses. Revegetation is progressing in rangeland.

Latitude: 48.18301261  
Longitude: -103.8429146



### Observation Point: 3

Date Taken: August 1, 2022 4:48 PM  
Direction Photo is Taken: Northeast  
Land Use: Rangeland

Photo Description: High vegetation cover dominated by crested wheatgrass and alfalfa. Some of the right of way contains cheatgrass.

Latitude: 48.17826318  
Longitude: -103.84830229

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 4**

Date Taken: August 1, 2022 5:13 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Kochia and red root pigweed dominate reclaimed row. Corn growth in reclaimed farmland is adequate and comparable to surrounding land.

Latitude: 48.0836132  
Longitude: -104.02305989



**Observation Point: 5**

Date Taken: August 1, 2022 5:25 PM  
Direction Photo is Taken: North  
Land Use: Cropland

Photo Description: Wheat growth suggests successful reclamation of right away. Ditch was well graded and contains perennial vegetation.

Latitude: 48.06790197  
Longitude: -104.0437221



**Observation Point: 6**

Date Taken: August 1, 2022 5:59 PM  
Direction Photo is Taken: Southwest  
Land Use: Rangeland

Photo Description: Pipeline boring location under road. Reclaimed ROW to south and north have good established vegetation.

Latitude: 48.27015413  
Longitude: -103.78485819

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 7**

Date Taken: August 1, 2022 6:44 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Excellent wheat growth in ROW.

Latitude: 48.27690692  
Longitude: -103.66925718



**Observation Point: 8**

Date Taken: August 1, 2022 6:51 PM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Land around block valve 352 is noxious weed-free. Kochia dominates area. ROW is covered in perennial grass >90% total cover.

Latitude: 48.27700873  
Longitude: -103.6946501



**Observation Point: 9**

Date Taken: August 2, 2022 7:48 AM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Grasses are present in reclaimed ROW. No noxious weeds. Green foxtail, alfalfa, kochia, wild sunflower. Returning to original condition.

Latitude: 48.27056418  
Longitude: -103.60366223

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 10**

Date Taken: August 2, 2022 8:52 AM  
Direction Photo is Taken: Southwest  
Land Use: Hay land

Photo Description: Crested and western wheatgrasses dominate with 70% coverage. No noxious weeds present. Topsoil appears replaced and soil reclamation is appropriate.

Latitude: 48.28003066  
Longitude: -103.56249101



**Observation Point: 11**

Date Taken: August 2, 2022 12:17 PM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Good vegetation establishment including smooth brome, sweetclover, prairie sage.

Latitude: 48.28939225  
Longitude: -103.15059375



**Observation Point: 12**

Date Taken: August 2, 2022 12:25 PM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: ROW from road. Appears comparable to surrounding area.

Latitude: 48.28878064  
Longitude: -103.1307067

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 13**

Date Taken: August 2, 2022 12:25 PM

Direction Photo is Taken: East

Land Use: Cropland

Photo Description: Consistent wheat growth in reclaimed soil.

Latitude: 48.28876566

Longitude: -103.13063139



**Observation Point: 14**

Date Taken: August 2, 2022 12:32 PM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: Curlycup gumweed, kochia, and grass in ROW. High cover but different community. Overall ok.

Latitude: 48.28722636

Longitude: -103.1088168



**Observation Point: 15**

Date Taken: August 2, 2022 4:00 PM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: Satisfactory vegetation cover of western wheatgrass and alfalfa. Similar to undisturbed areas.

Latitude: 48.26410706

Longitude: -102.93655879

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 16**

Date Taken: August 2, 2022 4:13 PM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Kochia dominates the ROW. Brome and other grasses are filling in on margins. Slight erosion, or shallow topsoil due to steep grade.

Latitude: 48.25561435  
Longitude: -102.89200842



**Observation Point: 17**

Date Taken: August 2, 2022 4:25 PM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Alfalfa, sweet clover, and western wheatgrass. 100% cover. Good reclamation.

Latitude: 48.25568764  
Longitude: -102.86075397



**Observation Point: 18**

Date Taken: August 2, 2022 4:31 PM  
Direction Photo is Taken: East  
Land Use: Hay land

Photo Description: Adequate vegetation cover in range and hay land.

Latitude: 48.25578273  
Longitude: -102.84438942

## PU-17-97 (Cenex): Observation Point Photolog



### Observation Point: 19

Date Taken: August 2, 2022 4:43 PM  
Direction Photo is Taken: Ground  
Land Use: Rangeland

Photo Description: Overall good vegetative cover on the reclaimed ROW, but approximately evidence of  $\geq 5$ in subsidence observed.

Latitude: 48.23910393  
Longitude: -102.8023087



### Observation Point: 20

Date Taken: August 2, 2022 5:19 PM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Lambsquarter, crested wheatgrass, and prickly Russian thistle present. Vegetation cover is overall high. Seeded grasses are emerging, but additional mowing on the ROW should be done to control weeds.

Latitude: 48.28349786  
Longitude: -103.00342483



### Observation Point: 21

Date Taken: August 2, 2022 5:24 PM  
Direction Photo is Taken: Northwest  
Land Use: Cropland

Photo Description: Pea and barley field. Reclaimed ROW contains crops but has a significant presence of kochia throughout.

Latitude: 48.28447901  
Longitude: -103.02151759

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 22**  
Date Taken: August 2, 2022 5:31 PM  
Direction Photo is Taken: West  
Land Use: Hay land

Photo Description: Predominance of seeded grasses, with alfalfa in Hay land. Well reclaimed.

Latitude: 48.29196661  
Longitude: -103.04552219



**Observation Point: 23**  
Date Taken: August 2, 2022 5:37 PM  
Direction Photo is Taken: West  
Land Use: Cropland

Photo Description: Kochia, green foxtail, and alfalfa along wheat field edge. No evidence of subsidence. Reclaimed well.

Latitude: 48.28773372  
Longitude: -103.06590168



**Observation Point: 24**  
Date Taken: August 2, 2022 6:05 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Pipeline trenched through this wetland. Salinity has hindered crop growth, but may be naturally occurring. Foxtail barley and kochia dominant in saline areas.

Latitude: 48.29944904  
Longitude: -103.1782786

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 25**

Date Taken: August 2, 2022 6:12 PM

Direction Photo is Taken: South

Land Use: Cropland

Photo Description: Canada thistle to east of point. Wheat is most likely affected by salinity and not directly from disturbance. Reclamation adequate.

Latitude: 48.29958911

Longitude: -103.18492902



**Observation Point: 26**

Date Taken: August 2, 2022 6:20 PM

Direction Photo is Taken: West

Land Use: Cropland

Photo Description: Right of way unplanted and the surrounding area is growing wheat. Right of way remains unvegetated. Tree clearing visible.

Latitude: 48.29973475

Longitude: -103.20809202



**Observation Point: 27**

Date Taken: August 2, 2022 6:26 PM

Direction Photo is Taken: South

Land Use: Cropland

Photo Description: Bare or stressed canola. Unable to get into the area due to surrounding canola fields. Photo file missing.

Latitude: 48.29851897

Longitude: -103.23344448

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 28**

Date Taken: August 2, 2022 6:30 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Compaction along the right of way inhibiting proper plant growth. Recommend addressing to be compliant.

Latitude: 48.29868429  
Longitude: -103.24505855



**Observation Point: 29**

Date Taken: August 2, 2022 6:38 PM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Land, vegetation, and topography looks well reclaimed.

Latitude: 48.29860951  
Longitude: -103.32493183



**Observation Point: 30**

Date Taken: August 2, 2022 6:38 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Crops are maturing sooner than undisturbed areas, but stand height is consistent. Overall reclamation appears satisfactory.

Latitude: 48.2986311  
Longitude: -103.3248414

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 31**

Date Taken: August 2, 2022 6:55 PM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Adequate reclamation.

Latitude: 48.29866164  
Longitude: -103.38145653



**Observation Point: 32**

Date Taken: August 3, 2022 8:28 AM  
Direction Photo is Taken: Northwest  
Land Use: Rangeland

Photo Description: Appropriate vegetative cover on reclaimed ROW. No observed excess weeds in rangeland/pasture.

Latitude: 48.29798116  
Longitude: -103.51810645



**Observation Point: 33**

Date Taken: August 3, 2022 8:39 AM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Healthy wheat growing. Minimal signs of stress except for near road on headlands and is not likely due to reclamation methods.

Latitude: 48.29549454  
Longitude: -103.47381971

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 34**

Date Taken: August 3, 2022 9:36 AM  
Direction Photo is Taken: South  
Land Use: Cropland

Photo Description: Wheat field is comparable to surrounding land. Suggests successful reclamation.

Latitude: 48.21123222  
Longitude: -102.7345767



**Observation Point: 35**

Date Taken: August 3, 2022 9:48 AM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Wild rye, Curlycup gumweed, western wheatgrass. Minimal weeds and good veg cover.

Latitude: 48.21122941  
Longitude: -102.69879346



**Observation Point: 36**

Date Taken: August 3, 2022 10:02 AM  
Direction Photo is Taken: West  
Land Use: Rangeland

Photo Description: Reclamation work in ROW appears to have been conducted recently or was grazed. Perennial grasses are common and should recover over future growing season.

Latitude: 48.20853298  
Longitude: -102.56946168

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 37**

Date Taken: August 3, 2022 10:03 AM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: ROW is sparsely covered but is likely due to the construction of transformer station unrelated to the Project.

Latitude: 48.20855883

Longitude: -102.56906865



**Observation Point: 38**

Date Taken: August 3, 2022 10:16 AM

Direction Photo is Taken: West

Land Use: Hay land

Photo Description: Seeded grass and alfalfa well established. Reclamation successful.

Latitude: 48.2109259

Longitude: -102.49885951



**Observation Point: 39**

Date Taken: August 3, 2022 10:21 AM

Direction Photo is Taken: West

Land Use: Hay land

Photo Description: HDD site well vegetated and free of weeds in hay land.

Latitude: 48.21095533

Longitude: -102.49473636

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 40**

Date Taken: August 3, 2022 10:26 AM

Direction Photo is Taken: East

Land Use: Cropland

Photo Description: Wheat growth stunted in center of pipeline ROW perhaps due to underlying compaction of soil. Consider further monitoring and follow-up corrective measures if needed.

Latitude: 48.21093251

Longitude: -102.50426424



**Observation Point: 41**

Date Taken: August 3, 2022 10:34 AM

Direction Photo is Taken: East

Land Use: Cropland

Photo Description: Canola field well covered and consistent throughout all areas.

Latitude: 48.21101028

Longitude: -102.48297952



**Observation Point: 42**

Date Taken: August 3, 2022 10:45 AM

Direction Photo is Taken: Northeast

Land Use: Rangeland

Photo Description: Prickly Russian thistle and kochia dominates ROW at this point.

Latitude: 48.21061615

Longitude: -102.41852982

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 43**  
Date Taken: August 3, 2022 11:19 AM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Minimal erosion on rolling hills. Canada thistle prominent.

Latitude: 48.21184509  
Longitude: -102.40202075



**Observation Point: 44**  
Date Taken: August 3, 2022 11:21 AM  
Direction Photo is Taken: East  
Land Use: Rangeland

Photo Description: Good vegetative cover. Barnyard grass, prairie sage, western Snowberry, plumeless thistle, yellow coneflower, and various perennial grass.

Latitude: 48.21184488  
Longitude: -102.40530685

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 45**

Date Taken: August 3, 2022 11:25 AM

Direction Photo is Taken: Ground

Land Use: Rangeland

Photo Description: Bare shoulder from erosion. Needs BMPs and reseeding efforts.

Latitude: 48.21164253

Longitude: -102.39962883



**Observation Point: 46**

Date Taken: August 3, 2022 11:31 AM

Direction Photo is Taken: West

Land Use: Cropland

Photo Description: Well reclaimed cropland.

Latitude: 48.21168196

Longitude: -102.39303299

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 47**

Date Taken: August 3, 2022 11:43 AM  
Direction Photo is Taken: Southeast  
Land Use: Cropland

Photo Description: Appropriately graded land with acceptable soybean growth in the reclaimed right of way. Some kochia is present.

Latitude: 48.2105232  
Longitude: -102.31936137



**Observation Point: 48**

Date Taken: August 3, 2022 11:49 AM  
Direction Photo is Taken: Northeast  
Land Use: Rangeland

Photo Description: Kochia dominates ROW. Recommended mowing and supplemental native grass seeding.

Latitude: 48.21175921  
Longitude: -102.30154675



**Observation Point: 49**

Date Taken: August 3, 2022 12:24 PM  
Direction Photo is Taken: West  
Land Use: Hay land

Photo Description: Alfalfa and perennial grass make up small amount of overall cover. Prickly Russian thistle and kochia dominate. Recommend mowing and re-seeding.

Latitude: 48.22002019  
Longitude: -102.0738451

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 50**

Date Taken: August 3, 2022 12:37 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Soil and plant density/stand height suggest successful reclamation to most practicable level.

Latitude: 48.21702999  
Longitude: -102.05163478



**Observation Point: 51**

Date Taken: August 3, 2022 12:51 PM  
Direction Photo is Taken: Southeast  
Land Use: Cropland

Photo Description: Minimal signs of compaction stress in reclaimed area. Wheat is standing well and matches surrounding cropland.

Latitude: 48.21107857  
Longitude: -102.02278809



**Observation Point: 52**

Date Taken: August 3, 2022 12:58 PM  
Direction Photo is Taken: Southeast  
Land Use: Rangeland

Photo Description: Establishment of smooth brome, alfalfa, and western wheatgrass evident but dissimilar to adjacent undisturbed areas. If more desirable species are required, re-seeding may be needed.

Latitude: 48.19480567  
Longitude: -101.96519353

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 53**

Date Taken: August 3, 2022 1:08 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Mixed topsoil and subsoil was replaced. Compaction and subsidence prevalent. The area west of observation point contains a significant amount of Canada thistle.

Latitude: 48.18300247  
Longitude: -101.92188041



**Observation Point: 54**

Date Taken: August 3, 2022 1:19 PM  
Direction Photo is Taken: East  
Land Use: Cropland

Photo Description: Successful reclamation.

Latitude: 48.1873462  
Longitude: -101.81399074



**Observation Point: 55**

Date Taken: August 3, 2022 1:27 PM  
Direction Photo is Taken: Southeast  
Land Use: Rangeland

Photo Description: Adequate reclamation and vegetation cover. Cattle traffic may be hindering vegetation growth. Wattles are preventing sediment transport.

Latitude: 48.18221129  
Longitude: -101.78994317

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 56**

Date Taken: August 3, 2022 1:32 PM  
Direction Photo is Taken: Southeast  
Land Use: Cropland

Photo Description: Overall, ROW is well vegetated with wheat comparable to the surrounding field. No noxious weeds observed in the ditch, field, or reclaimed rangeland.

Latitude: 48.17838794  
Longitude: -101.72785195



**Observation Point: 57**

Date Taken: August 3, 2022 1:42 PM  
Direction Photo is Taken: Northeast  
Land Use: Rangeland

Photo Description: Adequate veg cover in reclaimed ROW under rangeland land use.

Latitude: 48.16793764  
Longitude: -101.63750261



**Observation Point: 58**

Date Taken: August 3, 2022 1:55 PM  
Direction Photo is Taken: Southwest  
Land Use: Cropland

Photo Description: Healthy canola in ROW. Unplanted around wet basin.

Latitude: 48.17974832  
Longitude: -101.57702144

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 59**

Date Taken: August 3, 2022 2:00 PM

Direction Photo is Taken: NA

Land Use: Cropland

Photo Description: Photo showing root restriction from kochia specimens taken from ROW. Severe compaction in area of ROW. No crops were able to grow. Recommended deep ripping or other corrective measures to relieve compaction.

Latitude: 48.17988286

Longitude: -101.57740184



**Observation Point: 60**

Date Taken: August 3, 2022 2:09 PM

Direction Photo is Taken: Northeast

Land Use: Cropland

Photo Description: Noxious weeds present. Kochia is dense throughout the ROW.

Latitude: 48.18619085

Longitude: -101.55424151

**PU-17-97 (Cenex): Observation Point Photolog**



**Observation Point: 61**

Date Taken: August 3, 2022 2:16 PM  
Direction Photo is Taken: Northeast  
Land Use: Cropland

Photo Description: Well reclaimed.

Latitude: 48.19062317  
Longitude: -101.53367997



**Observation Point: 62**

Date Taken: August 3, 2022 2:35 PM  
Direction Photo is Taken: West  
Land Use: Cropland

Photo Description: Reclaimed wheat field in good condition.

Latitude: 48.21193364  
Longitude: -101.38266723



**Observation Point: 63**

Date Taken: August 3, 2022 2:44 PM  
Direction Photo is Taken: North  
Land Use: Cropland and Rangeland

Photo Description: Access road well graded. Vegetation is smooth brome, wild sunflower, yellow sweetclover, Canada goldenrod, prairie cordgrass, quackgrass.

Latitude: 48.21019225  
Longitude: -101.40384552