

ADDENDUM 1

CEDAR HILLS SOUTH UNIT (CHSU) FIELD-WIDE SWPPP, CHSU LATERAL CO₂ PIPELINE, CEDAR HILLS OIL FIELD, SLOPE & BOWMAN COUNTIES, ND

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1.0 PROJECT DESCRIPTION

Denbury Onshore, LLC (Denbury) proposes to construct a 17.79-mile-long, 12-inch-diameter carbon dioxide (CO₂) pipeline and ancillary facilities that will originate in the Cedar Creek Anticline (CCA) field in Fallon County, Montana, and terminate in the Cedar Hills South Unit (CHSU) field in Bowman County, North Dakota. The proposed Project will transmit liquid (dense phase) CO₂ from the CCA EOR Development to the CHSU field, where it will be used in EOR techniques to stimulate oil production. This Addendum 1 provides project-specific information for the CHSU Lateral CO₂ Pipeline project that will be used in conjunction with Denbury's CHSU Field-Wide Stormwater Pollution Prevention Plan (SWPPP).

1.1 Project Location

The North Dakota portion of the Project is located in Slope and Bowman Counties. More specifically, the Project area is in Sections 31-33, Township (T) 133 North (N), Range (R) 106 West (W); Section 1, T132N, R107W; and Sections 6-9, 16, 21, 28, and 33, T132N, R106W. A map of the Project location is provided as Figure 1. Additional Project maps are provided in Appendix A of this Addendum.

1.2 Total Land Disturbance Area

The pipeline right-of-way (ROW) will be a permanent 50-foot-wide easement with an additional 25 feet of temporary construction width. For the 9.23-mile segment of the pipeline in North Dakota, the total land disturbance area will be 92.51 acres, including permanent and temporary easement and additional temporary workspace, all on private land.

1.3 Soils

The three most prevalent soils along the North Dakota segment of the pipeline ROW and within the temporary workspaces are:

1. The Tusler-Fleak-Chinook complex, 9 to 15 percent slopes, which is characterized as a somewhat excessively drained loamy fine sand, with a very low runoff class that developed from sandy residuum weathered from calcareous sandstone.
2. The Havre clay loam, 0 to 2 percent slopes, which is characterized as very deep, well drained loam, saline, with a high runoff class that developed in stratified, calcareous, loamy alluvium.
3. The Rhame-Fleak complex, 9 to 50 percent slopes, which is characterized as moderately shallow (19 – 34 inches), well drained fine sandy loam, non-saline to very slightly saline, with a medium runoff class that developed from coarse-loamy residuum weathered from sandstone; depth to groundwater is greater than 80 inches.

The topsoil associated with these soil series consist of fine sandy to silty loams and range in thickness from 0 to 8 inches. Suitable Plant Growth Material (SPGM), consisting of the topsoil and B horizon subsoils, is relatively shallow and may range up to 26 inches in thickness.

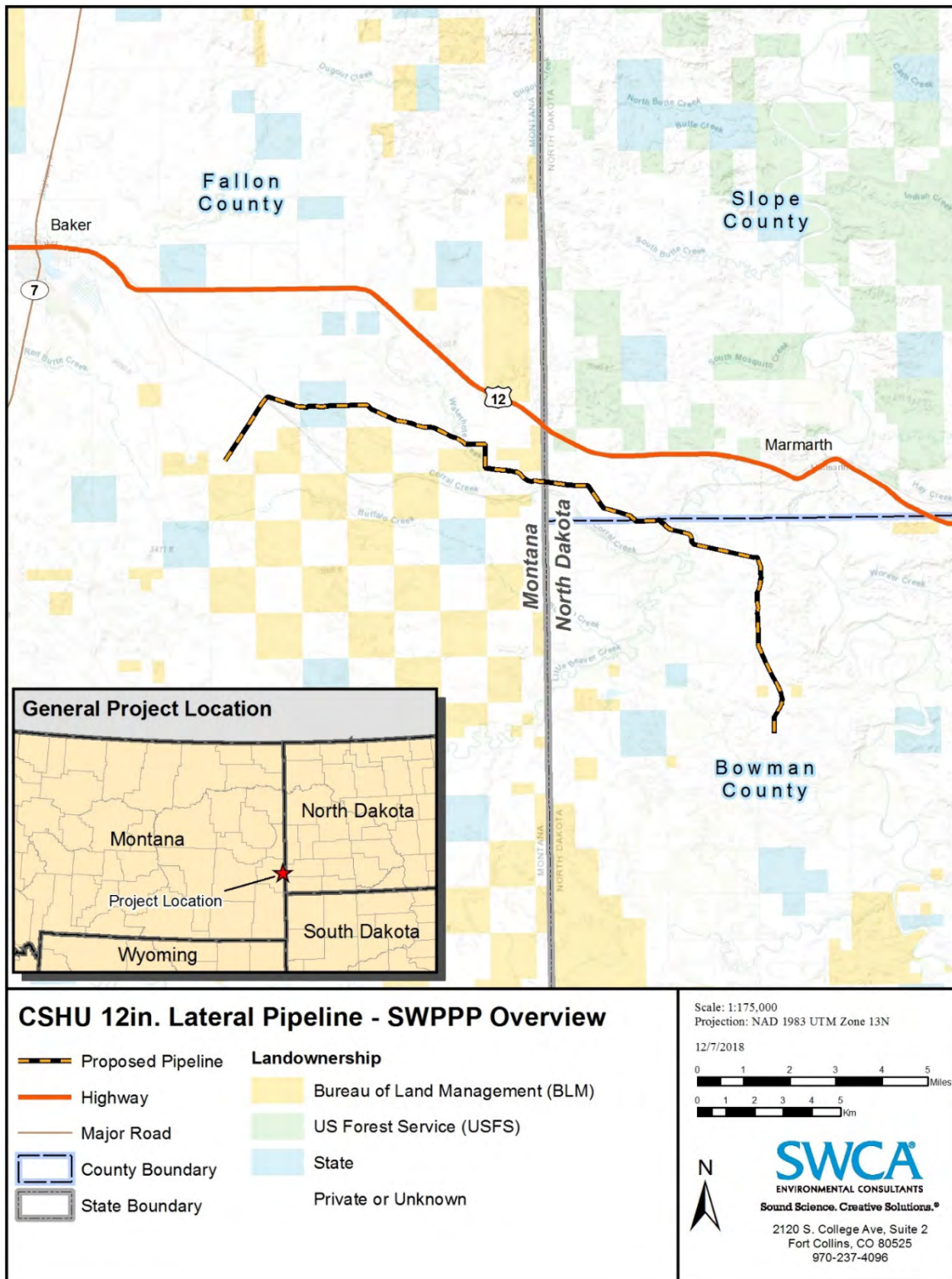


Figure 1. CHSU Lateral CO₂ Pipeline Location Map

2.0 CONSTRUCTION TIMEFRAME

Pipeline construction is generally sequenced as a moving assembly line as illustrated in the pipeline construction schematic in Appendix C of the CHSU Field-Wide SWPPP. The general construction sequence will be:

- ROW ground surface cleared of vegetation;
- ROW graded with the topsoil segregated from the subsoil;
- ROW trenched;
- pipe strung along the ROW;
- pipe bending, welding, and coating, as required;
- pipe lowered in;
- pipeline tied in;
- trench backfilled;
- pipeline hydrostatic testing and final tie-ins;
- rough cleanup of ROW; and
- final cleanup of ROW.

Pipeline construction activities will be phased to minimize the area of land disturbed at any one time. BMP implementation will coincide with each construction phase. Reclamation will immediately follow construction and will be monitored and maintained until all sites have been finally stabilized. Stormwater controls will remain in place until the disturbed areas are sufficiently stabilized by vegetation and the risk of erosion is minimized. Temporary BMPs that are no longer needed will be removed. Pipeline sections will have their own time constraints due to factors such as weather, landowner agreements, regulations, and availability of contractors.

The Project will begin in July 2019; Denbury anticipates completing construction by December 2019. Final stabilization to achieve a minimum of 70% vegetative cover is anticipated to occur within 2 years of the Project start date. The Project chronology in more detail is as follows.

- **Clear vegetation, remove and segregate topsoil, grade ROW:** Denbury will generally clear a 75-foot-wide construction ROW, although expansion and contraction of the ROW may be necessary to accommodate landowner concerns and temporary workspace requirements. Appendix C of the CHSU Field-Wide SWPPP provides ROW construction details and BMPs.
- **Excavate pipeline trenches:** Spoil material will be stockpiled for backfilling. Directional boring may be used to cross highways, railroads, creeks, streams, and rivers. Appendix C of the CHSU Field-Wide SWPPP provides BMP details for trenches and bored crossings.
- **Mobilize Project-specific equipment and materials:** Pipeline sections will be transported to the site, strung, bent, welded, coated, inspected, repaired (as needed), laid in trenches, and tied-in.

- **Complete construction activities:** Trenches will be backfilled and compacted, and the area will be stabilized through grading and surface roughening. As-built surveys, final tie-ins, and pipeline hydrostatic testing are typically completed during this stage of construction activity.
- **Demobilize Project-specific equipment and excess materials:** Pipeline construction equipment and excess materials will be removed from the construction site.
- **Reclaim/reseed the remaining disturbed area and establish a perennial vegetative cover of at least 70% of native background levels:** Upon completion of pipeline construction, the ground surface will be returned to the approximate pre-construction contours, and the ROW will be seeded to re-establish vegetative cover to meet the landowner and permit requirements.
- **Final cleanup/restoration:** Temporary erosion controls will be removed as necessary when vegetation is re-established. Areas disturbed by the removal of temporary erosion controls will also be stabilized.

For much of the Project duration, different project areas may be in various stages of development at the same time. Denbury will make every effort, to the extent practicable, to minimize the amount of time between clearing, trenching, pipeline installation, and re-grading, to reduce the total time a ROW section is exposed before reclamation commences. Reclamation and erosion-control activities will follow immediately behind construction and will be monitored and maintained until the pipeline segments have been fully stabilized and reclaimed.

3.0 NEARBY SURFACE WATER DRAINAGES

Named waterbodies crossed by the Project in North Dakota are Corral Creek and Little Beaver Creek, and various tributaries to these creeks. The primary receiving water is Little Beaver Creek. Numerous stock ponds and springs/seeps are also located near the Project area.

3.1 Stormwater Outfalls

Outfall locations along the North Dakota segment of the ROW are shown on the Project maps in Appendix A of this Addendum. Stormwater outfall information is summarized in Table 1.

Table 1. Stormwater Outfall Location Information

Outfall	Location		Receiving Stream
	Latitude	Longitude	
001	46.292087	-104.041417	Corral Creek
002	46.278706	-103.991589	Little Beaver Creek
003	46.272012	-103.976325	Little Beaver Creek
004	46.270452	-103.967761	Little Beaver Creek
005	46.268590	-103.954909	Little Beaver Creek
006	46.246691	-103.949987	Little Beaver Creek
007	46.238442	-103.948744	Little Beaver Creek

3.2 Nearby Section 303(d) Impaired Waterbodies

The Project does not cross any streams listed in the NDDEQ's 305(b)/303(d) Integrated Water Quality Report. The closest stream listed on the 305(b)/303(d) list is the Little Missouri River near its confluence with Little Beaver Creek, approximately 2.3 miles northeast of the Project. There are no TMDL surface water bodies within 2,000 feet of the project site.

4.0 STORMWATER MANAGEMENT CONTROLS

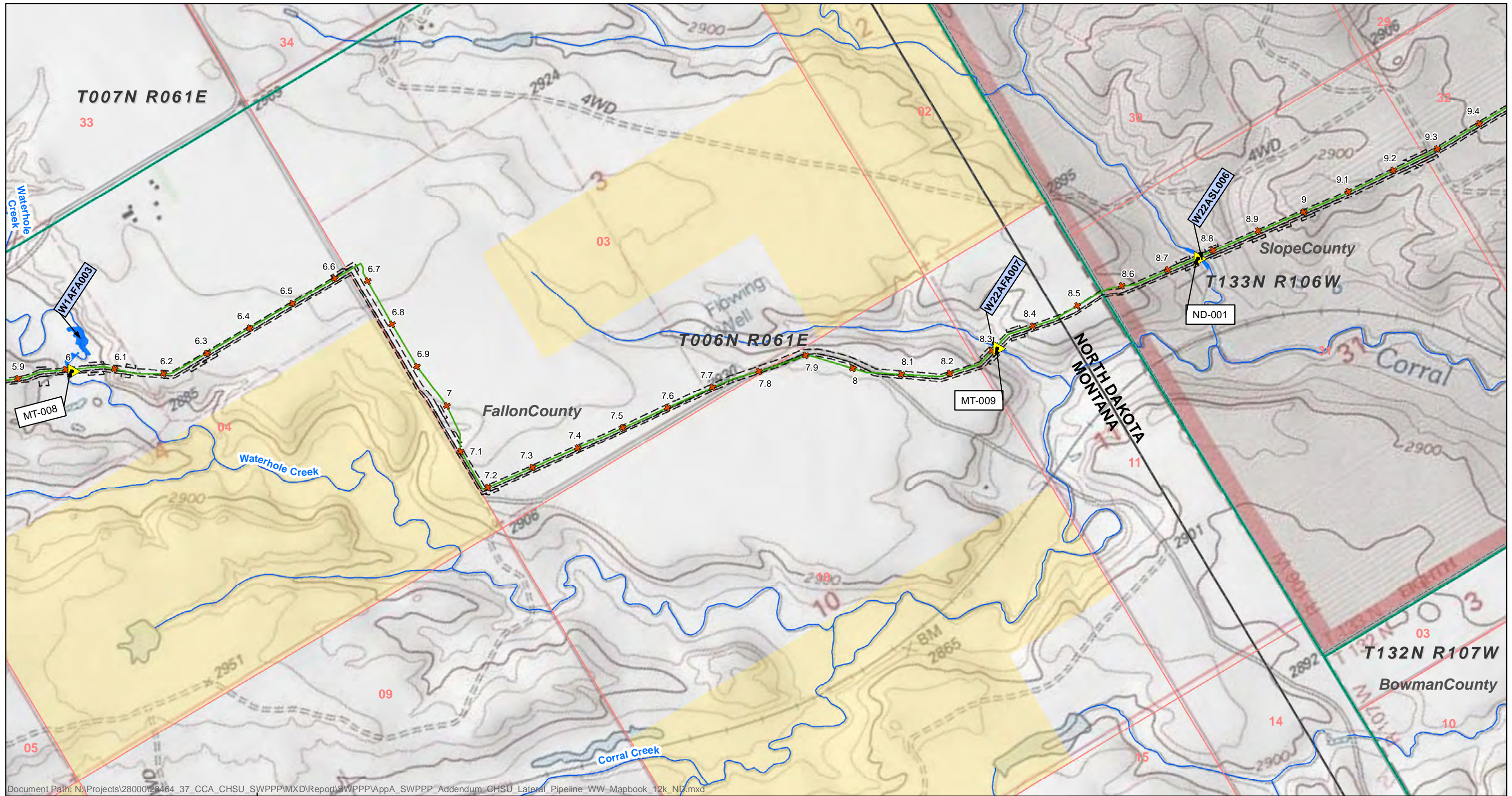
Stormwater management controls include erosion- and sediment-control BMPs and administrative controls that are used to prevent or minimize stormwater impacts and control soil erosion and subsequent sedimentation. The use of a combination of physical BMPs, good work practices, and proper fuel, chemical, and materials storage practices will prevent or minimize stormwater impacts.

BMPs used during construction of the pipeline will be selected as described in the CHSU Field-Wide SWPPP depending on the type of terrain crossed, including:

- uplands, range lands, grasslands, forested lands, and lands in public ROWs;
- wetlands; and
- waterbodies and riparian areas.

APPENDIX A

Project Maps with Stormwater Outfalls

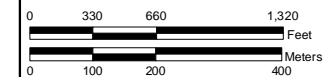


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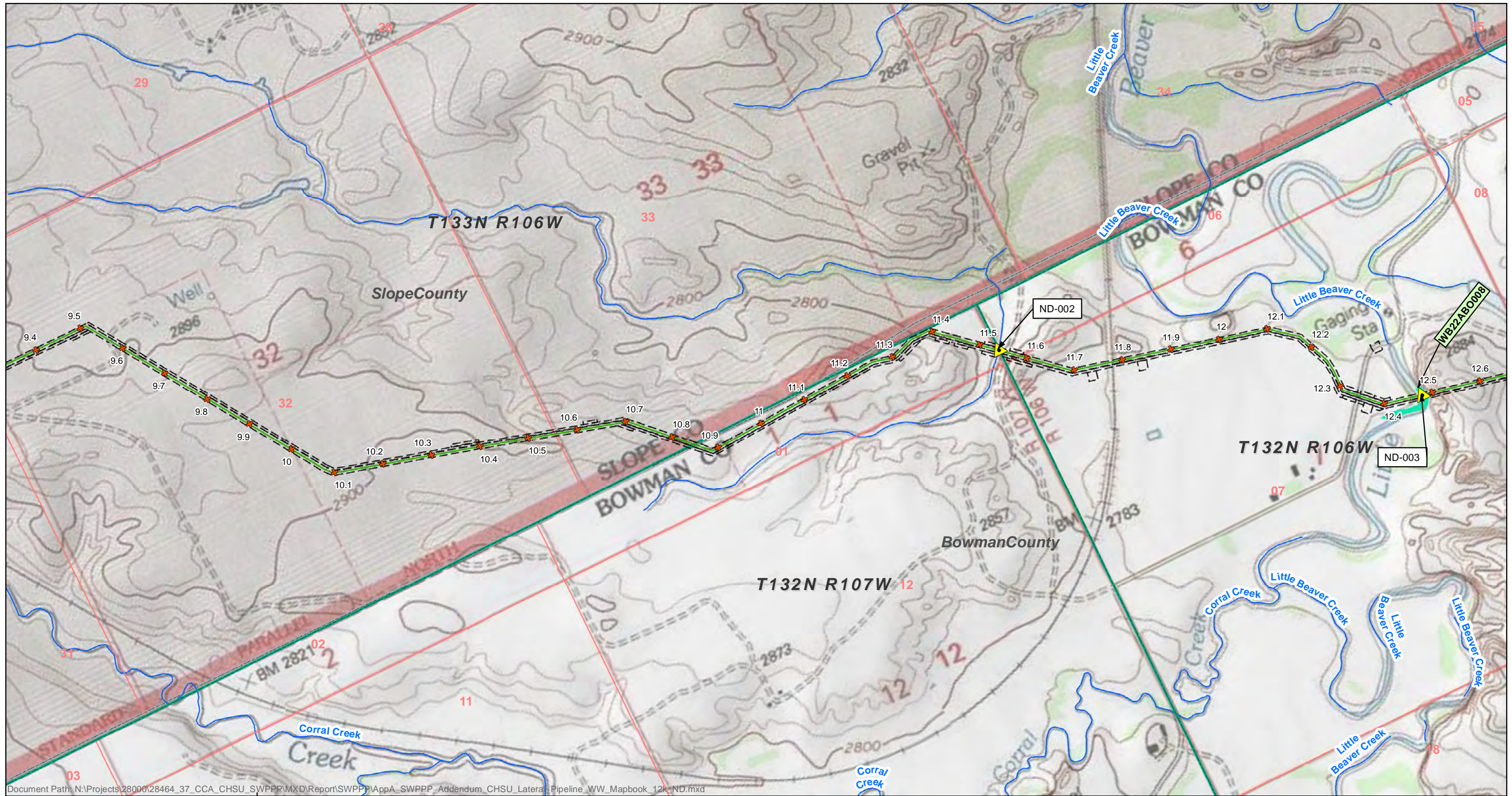
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|---------------------|----------------------|-----------------------|---------------------------------|
| Outfall | Disturbance Corridor | Section (PLSS) | Landownership |
| Milepost Tenth | Wetland | Township/Range (PLSS) | Private or Unknown |
| Proposed Centerline | Waterbody | County Boundary | Bureau of Land Management (BLM) |
| Flowline (NHD) | | State Boundary | |

Coordinate System: NAD 1983 UTM Zone 13N
 Projection: Transverse Mercator
 Datum: North American 1983
 Units: Meter
 Scale: 1:12,000
 Date: 12/15/2018



**CHSU Lateral Pipeline Project-
SWPPP - Addendum**

**Appendix A -
Wetland/Waterbody Overview**



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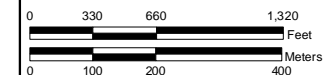


- Outfall
- Milepost Tenth
- Proposed Centerline
- Flowline (NHD)
- Disturbance Corridor
- Wetland
- Waterbody

- Section (PLSS)
- Township/Range (PLSS)
- County Boundary
- State Boundary

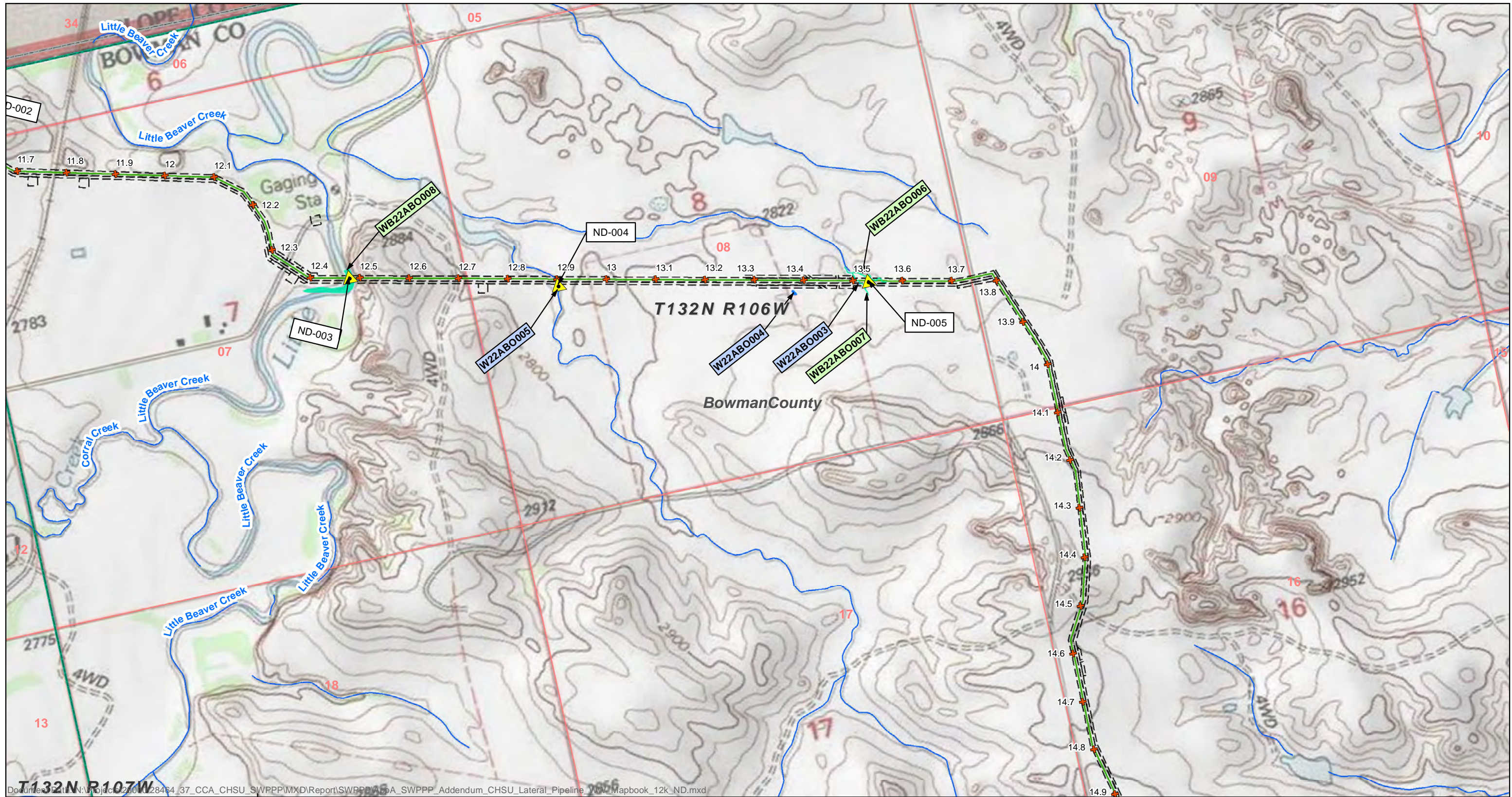
Landownership
Private or Unknown

Coordinate System: NAD 1983 UTM Zone 13N
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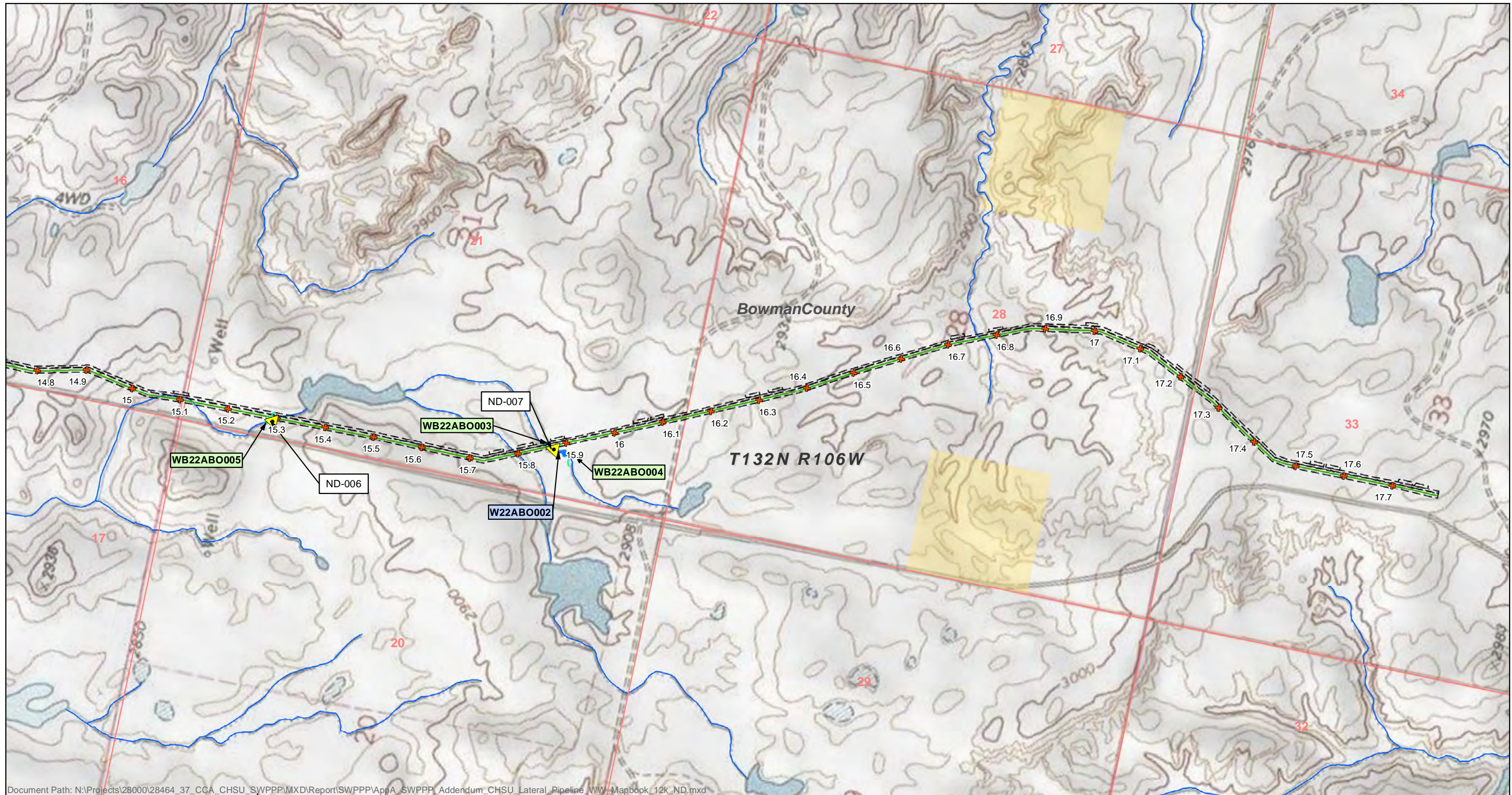
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**Appendix A -
Wetland/Waterbody Overview**



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Coordinate System: NAD 1983 UTM Zone 13N
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