Phase I Environmental Site Assessment

Turf Crosswind Runway 2/20 Construction

Stanley Municipal Airport

6115 82nd Ave NW
Stanley, ND 58784

Prepared for

Stanley Municipal Airport Authority

Stanley, ND 58784

Prepared by

Mead & Hunt

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Summary

Mead & Hunt, Inc. (Mead & Hunt) has completed a Phase I Environmental Site Assessment (ESA), according to American Society for Testing and Materials (ASTM) E 1527-21, for the proposed construction of a crosswind turf runway at the Stanley Municipal Airport. This ESA was completed as part of a Federal Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). Mead & Hunt services are authorized by the Stanely Municipal Airport Authority, the project sponsor, under Task Order #2023-03 to the Master Services Agreement. This summary is intended as an overview of the Phase I ESA for the convenience of the reader. The complete report must be reviewed in its entirety prior to making decisions regarding the Airport property.

A. Proposed Project Activities

Stanley Municipal Airport ("Airport"), Federal Aviation Administration (FAA) identifier 08D, is located approximately one mile southwest of downtown Stanley, ND, fifty-five miles west of Minot, ND, and seventy miles east of Willston, ND. The Airport is owned by the Stanley Municipal Airport Authority (SMAA). The Airport has one runway, Runway 10/28 which is 3,900 feet long by 60 feet wide and constructed` of asphalt. The Airport is currently updating its Airport Layout Plan (ALP) to include a new turf crosswind runway which it intends to construct in 2024.

The proposed project will construct a crosswinds turf runway running southwest to northeast in a 02/20 orientation that crosses RW 10/28 at the RW 10 end. The runway would be 1,185' x 120', with a majority of the runway lying north of RW 10/28. There are no wetlands or any obstructions within the proposed runway safety area (RSA), runway object free area (ROFA), runway obstacle free zone (OFZ), approach threshold siting surface (TSS), Federal Aviation Regulation (FAR) Part 77 primary surface, or FAR Part 77 approach surface. The proposed alignment crosses over three underground utilities located on the airfield. The runway itself crosses over a Montana-Dakota Utilities (MDU) natural gas pipeline and US Air Force Communication Cable (AFCC) while the RPZ for the runway lies above the Williston Basin Interstate (WBI) petroleum pipeline.

A location map illustrating the proposed crosswind turf project area is included in **Appendix A**. Existing Airport facilities are depicted in **Appendix B**.

B. Findings & Conclusions

Mead & Hunt has performed a Phase I ESA of the Stanley Municipal Airport property located in Stanley, North Dakota, in conformance with our understanding of the scope and limitations of ASTM Practice E 1527-21. Any exceptions to, or deletions from, this practice are described in Section 1.D of this report.

This assessment has revealed no recognized environmental conditions, controlled recognized environmental conditions, or significant data gaps in connection with the subject property.

1. Introduction

Stanely Municipal Airport is currently updating its Airport Layout Plan (ALP). In conjunction with this update, the Airport proposes to construct a new turf crosswind runway in 2024. Federal financial participation in projects through the Airport and Airway Improvement Act of 1982 (AIP) requires environmental review under the National Environmental Policy Act (NEPA). An Environmental Assessment (EA) is a document prepared under NEPA that evaluates the effects of a proposed action on the surrounding natural, social, and economic environments. Mead & Hunt conducted this Phase I ESA using ASTM E 1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process as part of the EA.

A. Purpose

The purpose of the Phase I ESA is to identify, pursuant to ASTM E 1527-21, *recognized environmental conditions* (RECs) in connection with the property.

ASTM defines the term *recognized environmental condition* as the presence or likely presence of hazardous substances or petroleum products on the property under conditions that are indicative of an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into the structures on the property or into the ground, groundwater, or surface water of the site. The term does not include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of enforcement action if brought to the attention of appropriate governmental agencies.

B. Detailed Scope of Services

This ESA was completed in accordance with ASTM International Standard E1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and U.S. Environmental Protection Agency (USEPA) All Appropriate Inquires (AAI) regulations under 40 CFR Part 312.

This report summarizes the results of Mead & Hunt's investigation of the proposed project area, visual non-invasive reconnaissance of the project area and adjoining properties, federal and state database reviews, and interviews, as applicable. Limitations, deviations, and significant gaps (if identified) are evident from reviewing the applicable scope of services and the report text. No other environmental issues will be assessed beyond the scope of ASTM E1527-21 in connection with this ESA.

C. Proposed Project Actions

To best provide the facilities necessary to give adequate wind coverage for all aircraft that use the Airport on a regular basis, to satisfy near-term user needs, and to meet FAA airport design standards, the following project actions are proposed:

- Construct crosswind turf Runway 2/20

Appendix C illustrates areas of proposed ground-disturbing activities.

D. Significant Assumptions

No significant assumptions were made.

E. Data Gaps

No major data gaps were identified.

F. Limitations and Exceptions

This Phase I ESA was conducted using ASTM E 1527-21. The findings of this report are applicable and representative of conditions encountered at the property on the date of this assessment, and may not represent conditions at a later date.

The review of public records was limited to that information that was available to Mead & Hunt at the time this report was prepared. Interviews with local and state government authorities were limited to those people that Mead & Hunt was able to contact during the preparation of this report. Information was derived from *reasonably ascertainable* and *practically reviewable* sources in compliance with Mead & Hunt's understanding of the standards set forth by ASTM E 1527-21.

G. Special Terms and Conditions

This Phase I ESA was conducted in accordance with Task Order # 2023-03 with the Stanley Municipal Airport Authority, dated September 11, 2023.

H. User Reliance

The resulting report is provided for the sole use of the Airport and its assignees. Use of this report by any third parties will be at such party's sole risk except when granted under written permission by Mead & Hunt. Any such authorized use or reliance by third parties will be subject to the same work authorization under which the work was conducted for the Airport.

Additional party's use and reliance on the report will be subject to the same rights, obligations, and limitations imposed on the Stanley Municipal Airport Authority by our Work Authorization. However, the total liability of Mead & Hunt to all parties of the Phase I ESA shall be limited to the remedies and amounts as provided in the Work Authorization as a single contract. The additional party's use and reliance on the report shall signify the additional party's agreement to be bound by the proposal and contract that make up the Work Authorization between Mead & Hunt and the Stanley Municipal Airport Authority.

According to standards set forth by ASTM 1527-21, components of the Phase I ESA will expire 180 days from the date of completion of that component and may therefore require updating if the date of property acquisition exceeds this time period. The dates of completion for pertinent components are as follows:

Component	**Date of Completion**
Site Reconnaissance	November 7, 2023
Environmental Database Search	November & December 2023

2. Physical Setting

This section summarizes the physical environment in which the Airport operates that may be useful in determining potential RECs or the potential hazard posed by identified RECs.

A. Location

Stanley Municipal Airport is located in the extra-territorial area of the City of Stanley in Mountrail County in northwest North Dakota. The City of Stanley is the county seat of Mountrail County. The Airport is publicly owned and run by the Stanley Airport Authority. The center of the Airport is approximately a half mile south of US Highway 2, one mile southwest of the center of the City. Stanley is located at the junction of US Highway 2 and ND Highway 9, approximately 50 miles west of Minot, ND, 60 miles northeast of Williston, ND, 130 miles northwest of Bismarck, ND, and 250 miles west of Grand Forks, ND. It is also approximately 48 miles south of the United States-Canada border.

B. Current Ownership and Use of the Property

The property is currently owned and operated by the Stanley Airport Authority. The Airport has over 25 based aircraft and has an average of 115 aircraft operations a week.[1]

C. Site and Vicinity Description

The dominant land use surrounding the Airport is agricultural. Operational agricultural fields surround the airport property to the east and west, and parts of the south. To the north, commercial businesses constructed during the 2010's are established along Westview Lane. Two businesses exist to the south of the airport along with one residence at the intersection of 82nd Ave NW and 61st St NW.

The airport access road is located on the eastern end of the property with access onto 82nd Ave NW. The Airport property itself is oriented in a west-northwest to east-southeast direction. All airport structures, fueling and parking is located north of Runway 10/28 at the eastern side. The area of proposed action is agricultural field both to the north and the south of Runway 10/28.

D. Descriptions of Roads, Structures, and Other Improvements on the Site

The Airport has a single utility runway that is 3,900 feet long and 60 feet wide and designed for Aircraft Approach Category (AAC) and Airplane Design Group (ADG) A/B-I aircraft. The Airport has two taxiways that connect the runway with the taxi lanes that service the apron. Taxi lanes are pathways that aircraft take to travel from the parking area, hangars, apron, or other stationary service area, to the taxiway. The Airport has three taxilanes in the terminal area that connect the fuel area, parking aprons, and hangars to the three taxiways.

The Airport has two parking aprons – one east and one west of Taxiway B and each with their own taxilane. The east apron is approximately 64,000 square feet in area and has direct access to eight adjacent hangars. There is also space for tie-down parking spaces at the easternmost end. The west

[1] FAA INFORMATION EFFECTIVE 02 NOVEMBER 2023, Stanley Municipal Airport, Stanley, North Dakota. AirNav: 08D - Stanley Municipal Airport

apron is approximately 54,000 square feet and has space for 10 tie-down parking spots. This apron has been expanded in recent years and has a connection to Taxiway C at the western end. The terminal building at 08D is located off Taxiway B. It is a combination terminal/hangar and has direct access to the east apron with space for two aircraft inside. The terminal building is approximately 4,000 square feet and is constructed of steel framing. The terminal can be accessed from the main airport access road which connects to 82nd Ave. NW. These are both gravel roads.

Hangar buildings allow for the storage of aircraft when not in use. The Airport currently has 11 hangar buildings located in two groups – a northern cluster and southern cluster. The northern cluster is comprised of three steel-frame hangars of various sizes. The largest hangar is a T-hangar with capacity for eight aircraft while the other two are box hangars with capacity for two aircraft each. These hangars access the airfield via a taxilane that connects to Taxiway B. The southern cluster is comprised of a mixture of eight steel-frame and wood-frame box hangars, which includes the terminal/hangar combo. The larger of the hangars have a four aircraft capacity and the smallest has a one aircraft capacity. Hangars in this cluster are located directly off the east apron and have a dedicated taxilane to Taxiway A and B.

The fueling area for aircraft at 08D is on the west apron near the Taxiway B junction, across Taxiway B from the main terminal. Aircraft are able to taxi in, circle out, and go to the parking area or back to the airfield using Taxiway B. The airport has a 12,000 gallon Jet A fuel tank, two 12,000 gallon 100LL aviation fuel tanks, and a MOGAS fuel tank.

E. Topography

Portions of the Airport property appear to be mowed grasslands. The airport is generally flat with little elevation change; the northwestern side is somewhat higher, gently sloping to the east and south to about 2,230 feet. See **Appendix D** for a detailed topographic map.

F. Hydrogeology and Geology

Wetlands are evident to the north between the Airport property and the existing commercial development. Surface drainage flows generally from northwest to southeast as it moves across the agricultural fields surrounding the Airport, toward the Stanley Reservoir. Drainage of the airport property runs off into the agricultural fields that are adjacent. Wetlands exist to the north of Runway 10/28.

The geology of the property is half Qccu, glacial sediment, to the northwest and half Qcrh, river sediment, to the southeast. Qccu is collapsed glacial sediment consisting or clay or mud and silt. It is described as unbedded, unsorted mixture of clay, silt, sand, and pebbles, and a few cobbles and boulders; as thick as 30 meters (100 feet). Qcrh is collapsed river sediment consisting of sand and gravel. It is descripted as moderately well sorted cross-bedded sand and plane-bedded gravel, including sediment of melt-water and other rivers; as thick as 30 meters (100 feet). Faulted and contorted supraglacial sediment with hummocky topography.[2]

[2] Physical Setting Report. Environmental Risk Information Services (ERIS) Database Report. Order 23101200256p.

G. Soils Data

The Airport is covered by a number of different soils (see Table 1). However, the proposed project area mainly consists of two soils: excessively drained Wabek-Appam complex, 6 to 9 percent slopes. and well drained Zahl-Williams-Bowbells loams, 3 to 9 percent slopes. Soils present in the project area are summarized in Table 1 and soils mapping is presented in **Appendix E.** Only one soil type has a hydric status.

Table 1. Summary of Soils Present

Map unit symbol	Map unit name	Soil Unit Component Percentage	Landform	Hydric Status
C132B	Williams-Zahl loams, 3 to 6 percent slopes	Williams/Zahl/other components 54/20/26	ground moraines on till plains	No
C154C	Zahl-Williams-Bowbells loams, 3 to 9 percent slopes	Zahl/Williams/Other 40/24/36	Rises on till plains	No
C210A	Williams-Bowbells loams, 0 to 3 percent slopes	Williams/bowbells/other 60/21/19	Rises on till plains	No
C272A	Hamerly-Tonka complex, 0 to 3 percent slopes	Hamerly/Tonka/Other 45/30/25	Flats on till plains	No
C360B	Livona fine sandy loam, 0 to 6 percent slopes	Livona/Others 60/40	ground moraines on till plains	No
C370B	Krem-Lihen loamy fine sands, 0 to 6 percent slopes	Krem/Lihen/Other 70/18/12	ground moraines on till plains	No
C3A	Parnell silty clay loam, 0 to 1 percent slopes	Parnell/Other 86/14	Depressions on till plains	Yes
C415A	Tansem loam, 0 to 2 percent slopes	Tansem/Others 75/25	Flats on glacial lakes on till plains	No
C424A	Minot silty clay, 0 to 2 percent slopes	Minot/Others 65/35	Collapsed ice-walled lakebeds on till plains	No
C825A	Divide loam, 0 to 2 percent slopes	Divide loam/Others 65/35	Flats on outwash plains	No
C870E	Wabek-Lehr-Appam complex, 9 to 25 percent slopes	Wabek/Lehr/Appam 50/19/17	Ridges on outwash plains	No
C874C	Wabek-Appam complex, 6 to 9 percent slopes	Wabek/Appam/Others 59/25/21	Rises on outwash plains	No

3. Site Reconnaissance

Environmental Professionals with Mead & Hunt conducted site reconnaissance in November 2023 to observe the current uses of the site, adjoining properties, and properties in the surrounding area, as well as the hydraulic and topographic conditions of the site and the surrounding area. Photographs were taken of various portions of the subject site to document existing conditions (see **Appendix F**).

A. Methodology and Limiting Conditions

The property was observed by walking the perimeter and by systematically traversing the project area to provide an overlapping field of view where accessible.

A vehicular tour of the area was made to confirm the nearby land use. The tour involved viewing nearby properties from publicly accessible roadways. Observation was limited to areas visible in the line of sight from the subject property or public roadways. Mead & Hunt did not enter adjacent properties.

B. Perimeter Observations

The land surrounding the airport property is a mix of agricultural fields, commercial businesses, and a few residential properties. To the north are several commercial businesses along Westview Lane. These include Ace hardware, Mainstay Suites, O'Reily Auto Parts, Tractor Supply, Cashwise Foods, and the Holiday Gas Station. Each of these properties appear to be newly built and well maintained. To the east is predominantly agricultural fields in production. Northeast is Mountrail-Williams Electric. To the west and south of the property is predominantly agricultural and two residences. Directly south of the proposed project area is an industrial building, appearing to be of recent construction and in good condition.

The presence of USTs was evident by filling ports at the Holiday gas station. No additional evidence of underground storage tanks, aboveground storage tanks (ASTs), stained soils, stressed vegetation, landfilling, or foul odors were noted in perimeter observations.

C. On-Site Observations

On-site observations revealed one active fuel location near the hangars connected to the taxiways. The hangars and associated buildings looked to be in good condition and well maintained. A small pad-mounted transformer was found outside of the Stanely Municipal Airport Hangar. The fuel location was found in good condition and clear of debris. The runway and taxi lanes were in good condition. The airport land surrounding the runway was a mix of open grasslands and agricultural land previously in production. Some snow was present in patches on the ground.

4. Records Review

A. Historical Use Development of the Airport and Periphery

Historical records of the Airport were not readily available. Development of the airport can be determined in the analysis of aerial photographs in the next section.

Today, the airport is one of three airports within Mountrail County, the others being New Town Municipal Airport and Trulson Field Airport. The Stanley Municipal Airport is used by local businesses and private pilots. It supports 13 buildings and houses 27 aircraft as of 2023.[3]

(1) Aerial Photographs

Aerial photography taken between 1938 and 2021 was reviewed to observe previous conditions and development of the property, as well as immediately adjacent properties. Images are included in **Appendix G**.

The earliest photograph of the area, taken in 1938, shows the general vicinity of the Airport mostly under cultivation, with only 61st St. NW in its current configuration. Several farmsteads are located around the perimeter of present-day Airport property.

The Airport was constructed in pieces with the first hard surface runway appearing in between 1967 and 1974 in a similar location to the now existing Runway 10/28. By 1997, Runway 10/28 is evident as well as the main airport terminal areas off of 82nd Ave NW. By 1997, additional hangars and maintenance buildings exist northeast of the main runway. From 2005 to 2022, the airport sees minor development of supporting structures, but stays generally unchanged.

Between 1974 and 1984, U.S. Route 2 is constructed north of the airport. However, commercial development along the northern border of the airport does not come until 2014, where it is seen in construction. By 2016 is it fully built out.

A farmstead is evident just south of the project area in the 1938 aerial. It remains throughout the timeframe covered by the aerials and is evident in the 2022 one. Between 2012 and 2014, structures are built or being built west of the farmstead.

The pattern of agricultural use, both row cropping and forage production, in areas around the airfield and within Airport property, observed since the airport's construction, continues to the present.

(2) Land Use

In general, the surrounding land uses are compatible with the Airport. Historical and existing land use is primarily agricultural. There has been commercial development since 2014 that is getting closer to Airport property, specifically in the northeast and southwest areas. Little to no other types of land use

[3] Stanley Municipal Airport. AirNAv.com. AirNav: 08D - Stanley Municipal Airport

development (e.g., residential, industrial, office) have been observed around the immediate vicinity of the airport. The surrounding land uses around the project area have largely been agricultural or commercial.

B. Standard Environmental Record Sources

Previously reported hazardous materials sites were identified based on a review of federal and state agency records and online databases for potential hazardous materials contamination sites in accordance with ASTM standards. The following databases were searched:

- North Dakota Department of Environmental Quality
  - Leaking Underground Storage Tank Registry
    - Leaking Underground Storage Tanks - North Dakota Department of Environmental Quality
- Combined Environmental Reporting Information System (CERIS-ND)
  - Combined Environmental Reporting Information System - North Dakota (nd.gov)
- Envirofacts, U.S. Environmental Protection Agency
  Multisystem Search | Envirofacts | US EPA

The following findings are based on data obtained from regulatory database searches and reviews of other available information. Federal and state database searches returned 5 records associated with parcels located on or within one-quarter mile of the Airport. Records for sites within one-quarter mile include registered ASTs and USTs, and hazardous waste generators. A list of sites identified is included in Table 2. A corresponding map is included in **Appendix H**. Available site reports are provided in **Appendix I**. A third-party ESIS Report is included in **Appendix J**.

Table 2. Sites Located Within the Vicinity of Proposed Project Activities

Site Number	Type	Status	Search Radius	Reference
1	Stanley Municipal Airport	Active	Target Property, exact location unknown	Stanley Municipal Airport
2	Underground Storage Tanks	Active	0.50 mi	Holiday Stationstore
3	Very Small Quantity Generator	Active	0.40 mi	Truck Supply
4	Very Small Quantity Generator	Active	0.70 mi	Mountrail Williams Electric Cooperative
5	Very Small Quantity Generator	Active	0.50 mi	Cash Wise Foods

5. Interviews

A. Interview with Owner

An interview was not conducted the with the Airport maintenance manager. Due to the lack of findings adjacent to the proposed work and the land being primarily forested, additional information from the owner was deemed not necessary. A User Questionnaire was provided to the Airport maintenance manager but was not returned.

B. Interview with Occupants

No interviews were conducted with the airport occupants as no record results were determined to warrant additional information from occupants.

C. Interview with Local Government Officials

No individual local government officials were interviewed as no record results were determined to warrant additional information from local officials.

D. Interviews with Others

No additional interviews were conducted.

6. Evaluation

A. Findings

The Phase I ESA was completed in accordance with ASTM International Standard E1527-21, Standard Practice for *Environmental Site Assessments: Phase I Environmental Site Assessment Process* and USEPA AAI regulations under 40 CFR Part 312. This report summarizes the results of Mead & Hunt's investigation of the subject property and database review. No other environmental issues are assessed beyond the scope of ASTM E1527-21 in connection with this Phase I ESA.

Findings are listed below by site. Multiple records may exist for one location, for instance the general Airport property. However, each site was evaluated individually. A corresponding map of findings illustrating their location to the proposed project area is included in **Appendix H**.

Site 1, Stanley Municipal Airport, had a Leaking Underground Storage Tank (LUST) that was cleaned up and permanently removed on 10/22/1991. The exact location is unknown. It had a 1,000 gallon capacity and contained gasoline. No additional information about the LUST was available. No other records of previously reported hazardous materials incidents were found. No evidence of contamination from the site was identified during site reconnaissance.

Site 2, Holiday Stationstore #432, has a 20,000 gallon capacity underground storage tank that contains diesel or B20. Installed on 10/15/2013, the tank remains in operation today with no known or documented spills. Additionally, it has two 20,000 gallon capacity underground storage tanks that contain gasoline or E10 that were installed on 9/11/2013 and remain in operation today with no known or documented spills. The site is also listed as an RCRA Very Small Quantity Generator (VSQG) handling ignitable, corrosive, and reactive waste. It is located within 0.25 miles of the airport property to the north along Westview Lane. While this site is regulated, it has no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

Site 3, Tractor Supply, is listed as a RCRA VSQG. It is located within 0.25 miles of the airport property to the north along Westview Lane. The site is documented to have ignitable and corrosive waste. While this site is regulated, it has no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

Site 4, Mountrail Williams Electric Cooperative, is located within 0.25 miles of the airport property. It is listed as an Above ground Storage Tank (AST). The tank was installed on 7/25/2017, has a capacity of 2,000 gallons and contains diesel. While this site is regulated, it has no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

Site 5, Cash Wise Foods, is located within 0.25 miles of the airport property. It was identified using the EPA's Envirofacts database. It is listed as a RCRA VSQG and is documented to handle ignitable, corrosive and reactive waste. The EPA compliance summary lists no violations identified. While this site is regulated, it has no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

Site 6, Stanley Municipal Airport fuel depot (Map ID 6), is located on the airport property near the hangars. Four above ground storage tanks were identified during site reconnaissance. Two tanks appeared to be 12,000 gallon 100LL aviation fuel tanks, another appeared to be a 12,000 gallon Jet A fuel tank and the last a gasoline tank of unknown capacity. All four tanks appear to be in good condition with no evidence of leaks or spills. While this site is regulated, it has no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

Site 7, underground utilities lines (see **Appendix C**), are located within the project area and beyond extending off the airport property. There are three underground utility lines that run beneath the Airport: a Montana-Dakota Utilities (MDU) natural gas pipeline, a Williston Basin Interstate (WBI) natural gas pipeline, and a U.S. Air Force missile communication cable (AFCC). All three of these underground utility lines are north of Runway 10/28. The MDU pipeline runs east-west, the WBI pipeline runs southeast-northwest, and the U.S. AFCC runs northeast-southwest. The proposed turf crosswind runway crosses the MDU pipeline and U.S. AFCC, while the RPZ overlays the WBI pipeline. While these entities are regulated, there are no records of previously reported hazardous materials incidents. No evidence of contamination from the site was identified during site reconnaissance.

7. Conclusions

Mead & Hunt has performed a Phase I ESA of the Stanley Municipal Airport property located in Stanley, North Dakota, in conformance with our understanding of the scope and limitations of ASTM Practice E 1527-21. Any exceptions to, or deletions from, this practice are described in Section 1.D of this report.

This assessment has revealed no recognized environmental conditions, controlled recognized environmental conditions, or significant data gaps in connection with the subject property.

8. Statement of Environmental Professional

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR § 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the proposed action. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signed,

Michael C. Lewis

Michael Lewis

Mark S. Sauer, AICP

Mead&Hunt

Michael Lewis, AICP CANDIDATE

URBAN PLANNER

Areas of Expertise

- GIS
- Comprehensive Plans
- Data management

Education

- Master, Urban Planning, University of Wisconsin – Milwaukee, 2021
- BS, Environmental Geography, University of Wisconsin – Eau Claire, 2019

Registration/Certifications

- American Institute of Certified Planners (AICP), Candidate

Memberships

- American Planning Association (APA)

LinkedIn URL

- www.linkedin.com/in/michael-lewis-1a4a71160

Michael is an urban planner with hands-on experience at Public Works and Metropolitan Sewerage agencies. He has four years of experience with Geographical Information Systems (GIS) using ERSI and online programs, including ArcMap, ArcGIS Online, and QGIS. Additionally, he has two years of experience with long-range planning documents such as Comprehensive Plans, zoning codes, ordinances, and permits. He has served in public-facing roles, including handling public feedback and educating homeowners on topics surrounding green infrastructure. He is also experienced with data analysis, pedestrian and bicycle planning, and land use planning.

Phase 1 Environmental Site Assessment Experience

Michael has completed abbreviated Phase 1 Environmental Site Assessments for the following projects:

Transportation

WisDOT NW Region

- Kington Road Bridge Replacement, Nelson Creek, Clark County, WI.
- Lien Lane Bridge Replacement, North Fork Beaver Creek, Trempealeau County, WI

WisDOT NC Region

- County U Reconstruction, Bangor to Rockland, La Crosse County, WI.

Other Planning and Environmental Experience

NEPA

WisDOT NE Region

- IH-43 Resurfacing, Green Bay to Manitowoc, Brown County, WI
- Lawrence Drive Reconstruction, Fortune Avenue to Scheuring Road, Brown County, WI
- Rest Area Reconstruction, Rest Areas 51 & 52, Manitowoc County, WI

WisDOT NC Region

- Kington Road Bridge Replacement, Nelson Creek, Clark County, WI.
- WIS 29, Chippewa Falls to Abbotsford, Clark County, WI
- Lien Lane Bridge Replacement, North Fork Beaver Creek, Trempealeau County, WI
- WIS 95, County A to 250' W of WIS 93, Trempealeau County, WI

WisDOT SW Region

- CTH U, Bangor to Rockland, La Crosse County, WI
- WIS 162, Stoddard to Chaseburg, Vernon County, WI

Mead&Hunt

Mark Sauer, AICP

PLANNER/TRANSPORTATION PLANNER

Areas of Expertise

- Comprehensive Smart Growth planning
- Park planning and design
- Land and site planning
- Urban design
- Land division and zoning change procedures
- Zoning code and policy analysis
- Presentation graphics
- Public involvement/charettes
- NEPA documentation
- Environmental Permitting
- Transportation corridor studies
- Grant applications
- Phase 1 Environmental Site Assessments
- Section 4(f)

Education

- Master of Urban Planning, University of Wisconsin – Milwaukee (2011)
- Bachelor of Urban Planning, University of Cincinnati (2008)

Registration

- American Institute of Certified Planners (AICP) (2015)

Training

- Phase I & Phase II Environmental Site Assessment Processes, ASTM International (2017)

Mark Sauer has worked in diverse professional workplaces designing and leading projects in the A&E industry both domestically and internationally for over ten years. He has expertise in comprehensive and sub-area planning, site design, urban and rural transportation studies, land division and zoning procedures, public involvement, and presentation visualizations. He has prepared numerous environmental documents including Categorical Exclusions, Environmental Reports, Environmental Assessments, and Indirect and Cumulative Effects Analyses. He has specialized training in Section 4(f) and Phase 1 Environmental Site Assessments.

Mark has completed Phase 1 Environmental Site Assessments for the following projects:

Transportation

WisDOT NC Region

- County K Bridge Replacement, Wisconsin River, Vilas County, WI
- County GG Bridge Replacement, Cranberry Creek, Wood County, WI
- County J Bridge Replacement, Little Wolf River, Waupaca County, WI

WisDOT NE Region

- WIS 32 Resurfacing, Main Avenue & Reid Street, City of De Pere, Brown County
- Rest Areas 51 (Maribel) and 52 (Denmark) Reconstruction, I-43, Manitowoc County, WI
- Lawrence Drive Reconstruction, Fortune Avenue – Scheuring Road, City of De Pere, WI
- I-43 Resurfacing, WIS 172 – Atkinson Dr., Brown County, WI
- North Union Road Bridge Replacement, Branch River, Manitowoc County, WI
- Old Hwy 47 Bridge Replacement, Toad Creek, Outagamie County, WI
- Maloney Road Bridge Replacement, Branch Apple Creek, Outagamie County, WI
- WIS 57 Resurfacing, WIS 42 – Summit Road, Door County, WI
- County BB Bridge Replacement, Little River, Marinette County, WI
- South Union Road Bridge Replacement, Point Creek, Manitowoc County, WI
- WIS 67 Resurfacing/ Reconstruction, West County Line – East County Line, Fond du Lac County, WI

WisDOT NW Region

- Joe Coulee & Hagestad Road Bridge Replacements, North Fork Beaver Creek, Trempealeau County, WI
- County O Reconstruction, Gibson St. – WIS 13, Taylor County, WI
- I-94 Bridge Replacements, Rush River, St. Croix County, WI
- WIS 88 Reconstruction, County U – WIS 37, Buffalo County, WI
- Owen Avenue Bridge Replacement, Rock Creek, Clark County, WI

- WIS 29 Pavement Replacement, Koser Avenue to County D, Clark County, WI

WisDOT SW Region

- WIS 95 Resurfacing, Main Street. County A to 250' West of WIS 93, City of Arcadia, Trempealeau County
- WIS 16 Reconstruction, Wisconsin Dells – Portage, Columbia Co., WI
- WIS 16/60 Urban Reconstruction, US 151 – River Road, Columbia County, WI
- WIS 16 Intersection Improvements, La Crosse & Onalaska County, WI
- WIS 173 Reconstruction, WIS 21 – County Line, Monroe & Juneau County, WI
- WIS 162 Resurfacing & Bridge Replacements, Coon Valley – Bangor, Vernon & La Crosse County, WI
- WIS 162 Resurfacing & Bridge Replacements, Village Park Drive to Depot Street, Vernon County, WI
- WIS 16 Pavement Replacement, County L / Business 26 to E. Main Street, Dodge & Jefferson County, WI
- WIS 19 Pavement Replacement, Crawford River Bridge to Gypsy Road, Dodge & Jefferson County, WI

Transportation Other

- Dunbar Toll Bridge Replacement, Kanawha County, WV

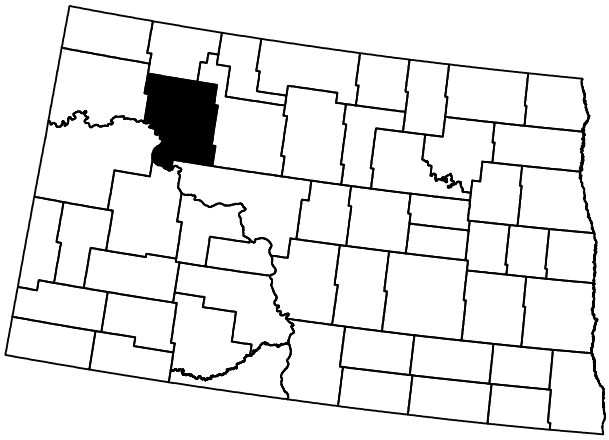
Aviation

- 21D, Lake Elmo Airport, Runway 14/32 Relocation and Associated Improvements, Washington County, MN (142 acres)
- AGS, Augusta Regional Airport, Aviation Improvements, Richmond County, GA
- BIV, West Michigan Regional Airport, Land Release, City of Holland, Ottawa and Allegan County, MI (32 acres)
- BTL, W.K. Kellogg Airport, Mass Grading, City of Battle Creek, Calhoun County, MI (120 acres)
- CMX, Houghton County Memorial Airport, Runway 25 Obstructions Clearing, Houghton, MI (20 acres)
- OCQ, J. Douglas Bake Municipal Airport, Land Acquisition, Oconto County, WI (140 acres)
- OGM, Ontonagon County Airport Schuster Field, Runway 17 Obstructions Clearing, Ontonagon County, MI (4 acres)
- MSN, Dane County Regional Airport, East Side Hangar Development, City of Madison, Dane County, WI (50 acres)

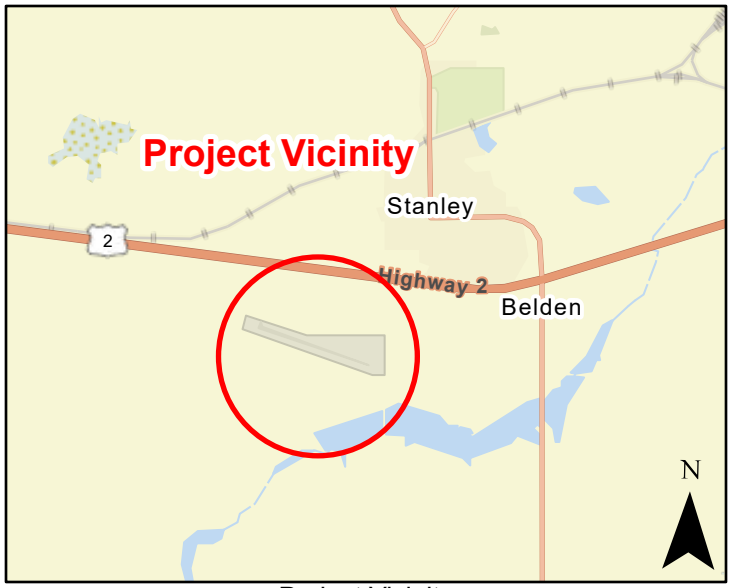
Land Development

- Chr. Hansen Land Acquisition, Wausau, WI (18 acres)
- Oakwood Village University Woods Campus, Madison, WI (35 acres)
- Oakwood Village Prairie Ridge Campus, Madison, WI (18 acres)
- Historic Iowa State Penitentiary, Land Release, Fort Madison, IA (55 acres)
- Parcel SC-194, Residential Development, Town of Scott, Brown County, WI (40 acres)
- Salm Partners, LLC, Commercial Development, Village of Denmark, Brown County, WI (26 acres)

Appendix A. Project Location Map



Mountrail County, North Dakota



Project Vicinity

Project Location

0 0.25 0.5 Miles

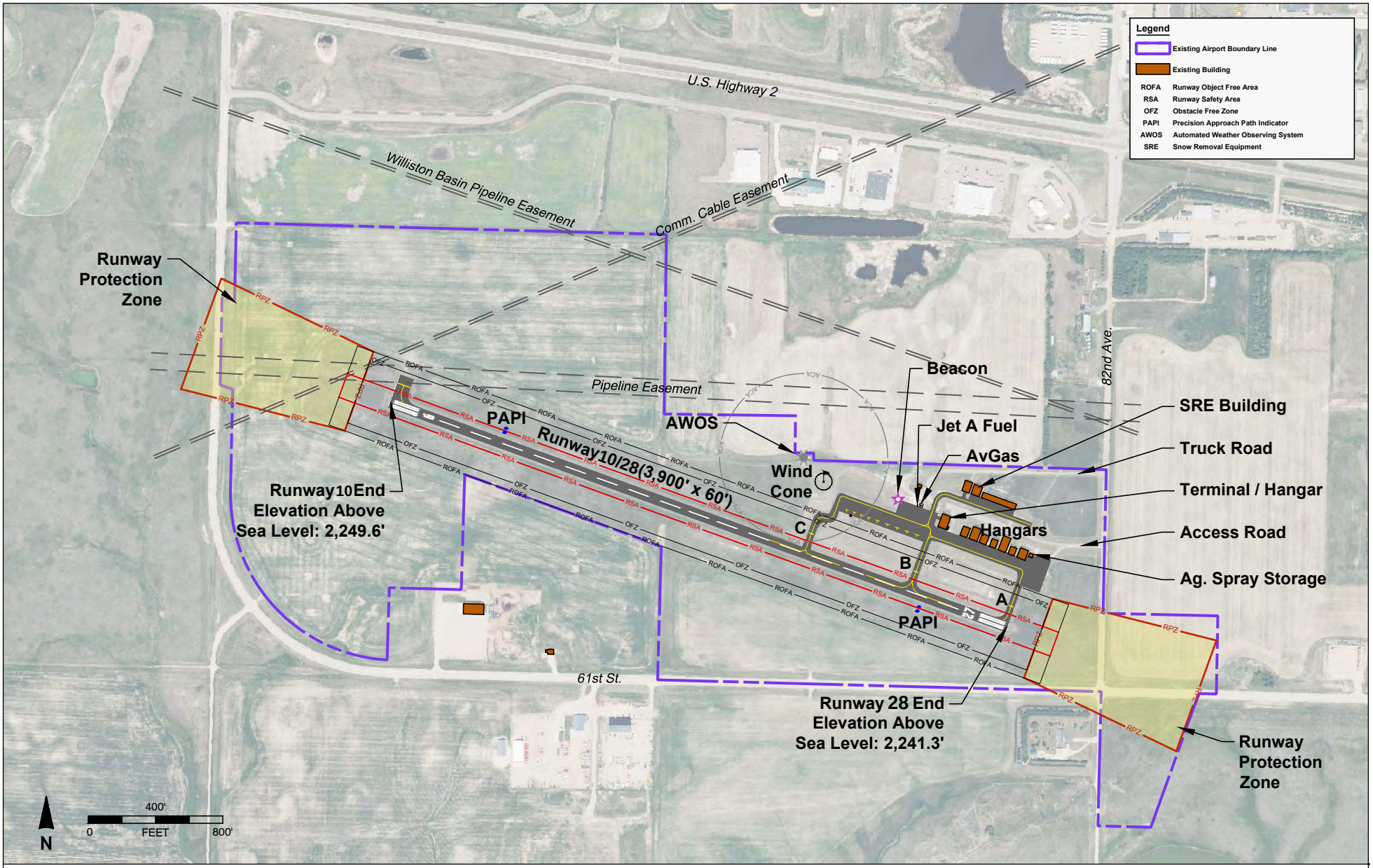
Stanley Municipal Airport
Turf Crosswind Runway 2/20 Construction
Stanley Municipal County, North Dakota

12/22/2023

Esri Community Maps Contributors,
State of North Dakota, Esri, HERE,

Appendix B. Airport Structures Location Map

8/29/2023 9:10:24 AM
X:\4545300\230576.01\TECH\CAD\230576.01-AIRPORT FACILITIES.DWG



STANLEY MUNICIPAL AIRPORT
STANLEY, ND

4545300-230576.01
08/21/2023

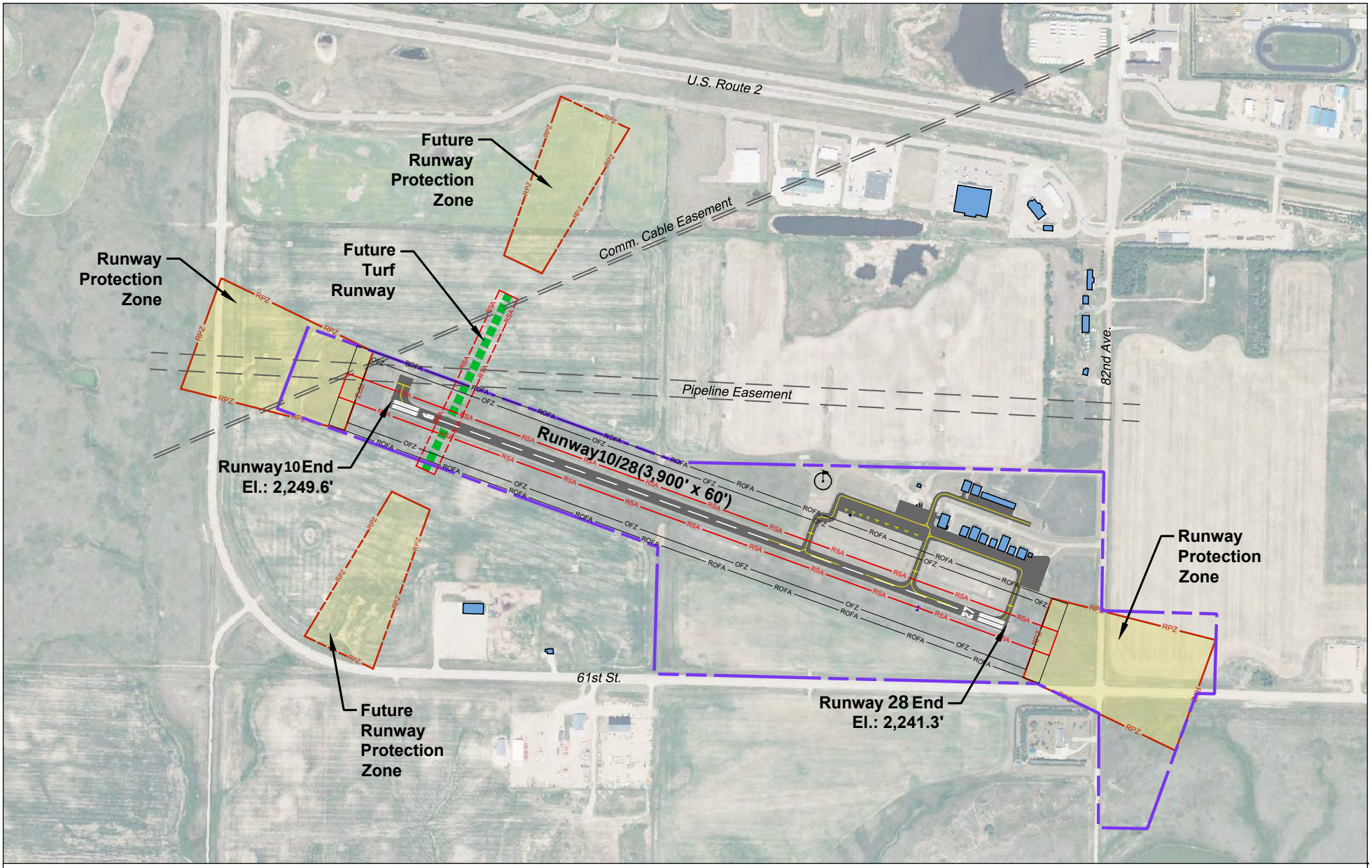
EXISTING AIRPORT FACILITIES

Mead & Hunt

FIGURE 1-2

Appendix C. Area of Proposed Project Activities

8/14/2023 5:48:26 PM
X:\4545300\230576.01\TECH\CAD\230576.01-AIRPORT FACILITIES.DWG



Mead & Hunt

Appendix D. Topography Map

PSR
PHYSICAL SETTING REPORT

Property Information

Order Number:		23101200256p
Date Completed:		October 12, 2023
Project Number:		4545300-230576.01
Project Property:		Stanley Municipal Airport Stanley Municipal Airport Stanley ND
Coordinates:		
	Latitude:	48.3023571
	Longitude:	-102.40766666
	UTM Northing:	5353155.02805 Meters
	UTM Easting:	692236.285626 Meters
	UTM Zone:	UTM Zone 13U
	Elevation:	2,239.31 ft
	Slope Direction:	SE

Topographic Information....2
Hydrologic Information....12
Geologic Information....19
Soil Information....23
Wells and Additional Sources....52
Summary....57
Detail Report....60
Radon Information....92
Appendix....93
Liability Notice....95

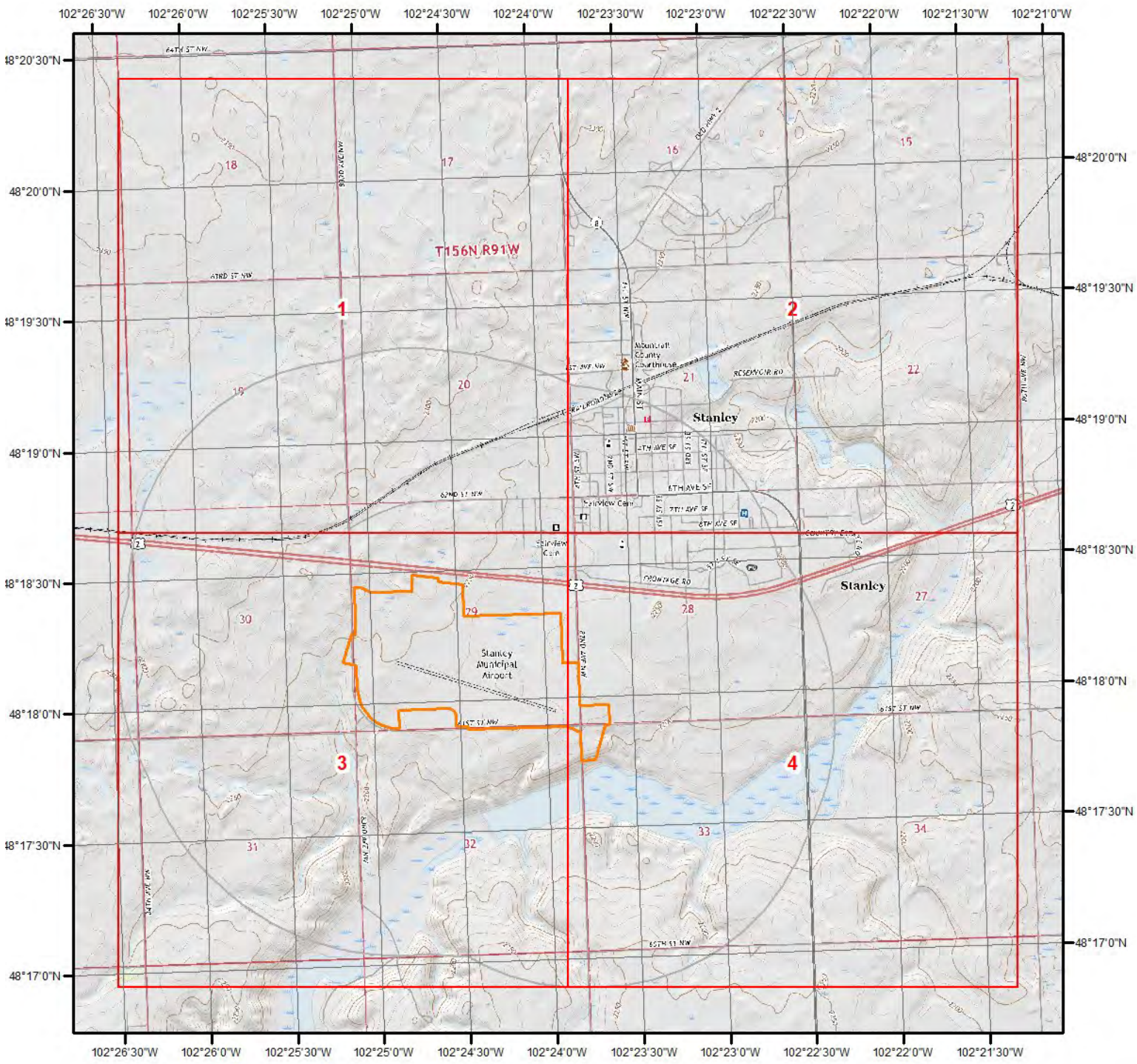
The ERIS ***Physical Setting Report - PSR*** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

Topographic Information



Current USGS Topo (2020)

0 0.2 0.4 0.8 1.2 1.6 Miles

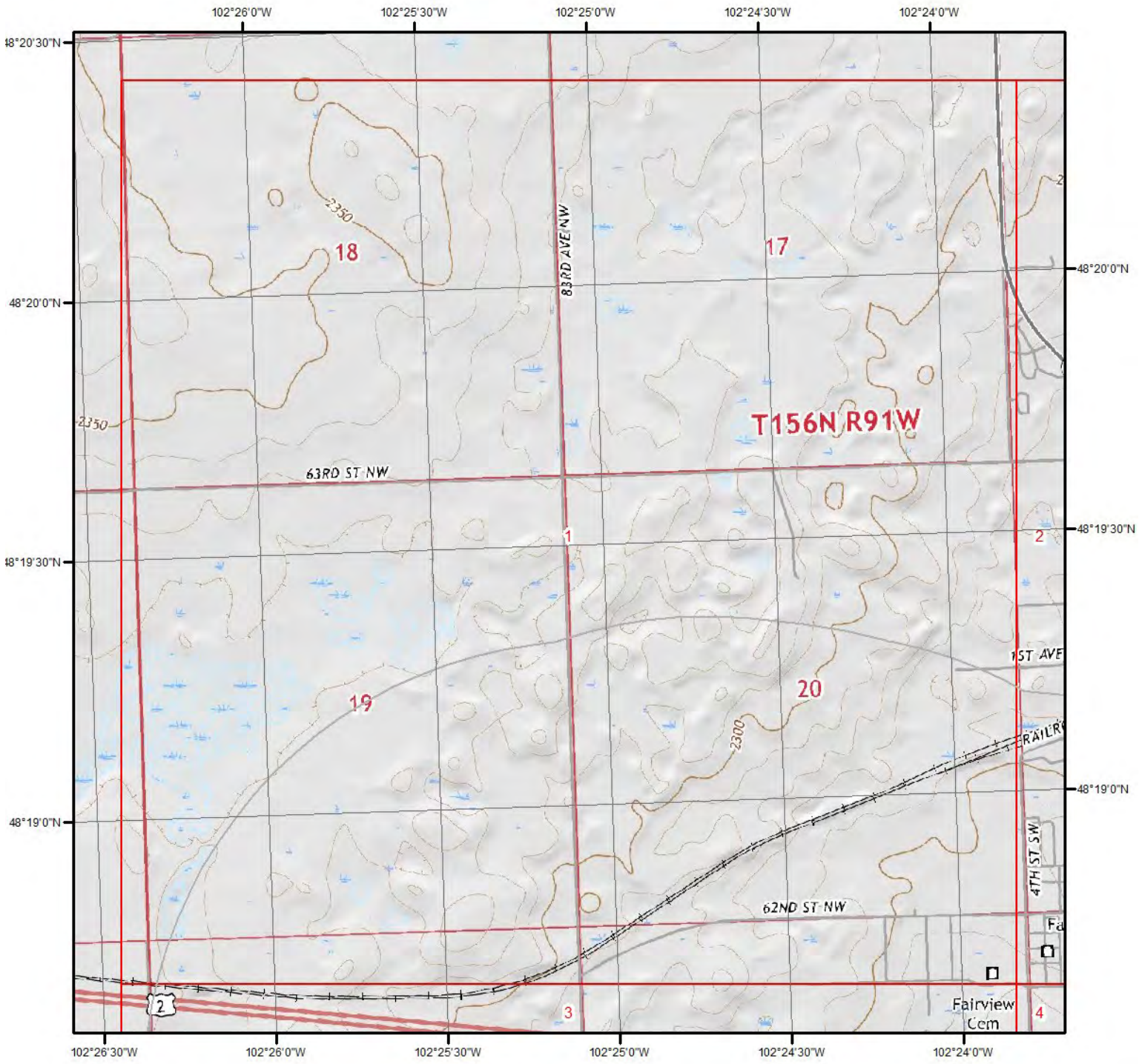
N

Quadrangle(s): Clearwater Lake,ND; Stanley,ND; Cottonwood Lake,ND; Stanley SE,ND; Belden,ND; Robinson Lake,ND; Ross,ND; Lostwood,

ERIS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 1

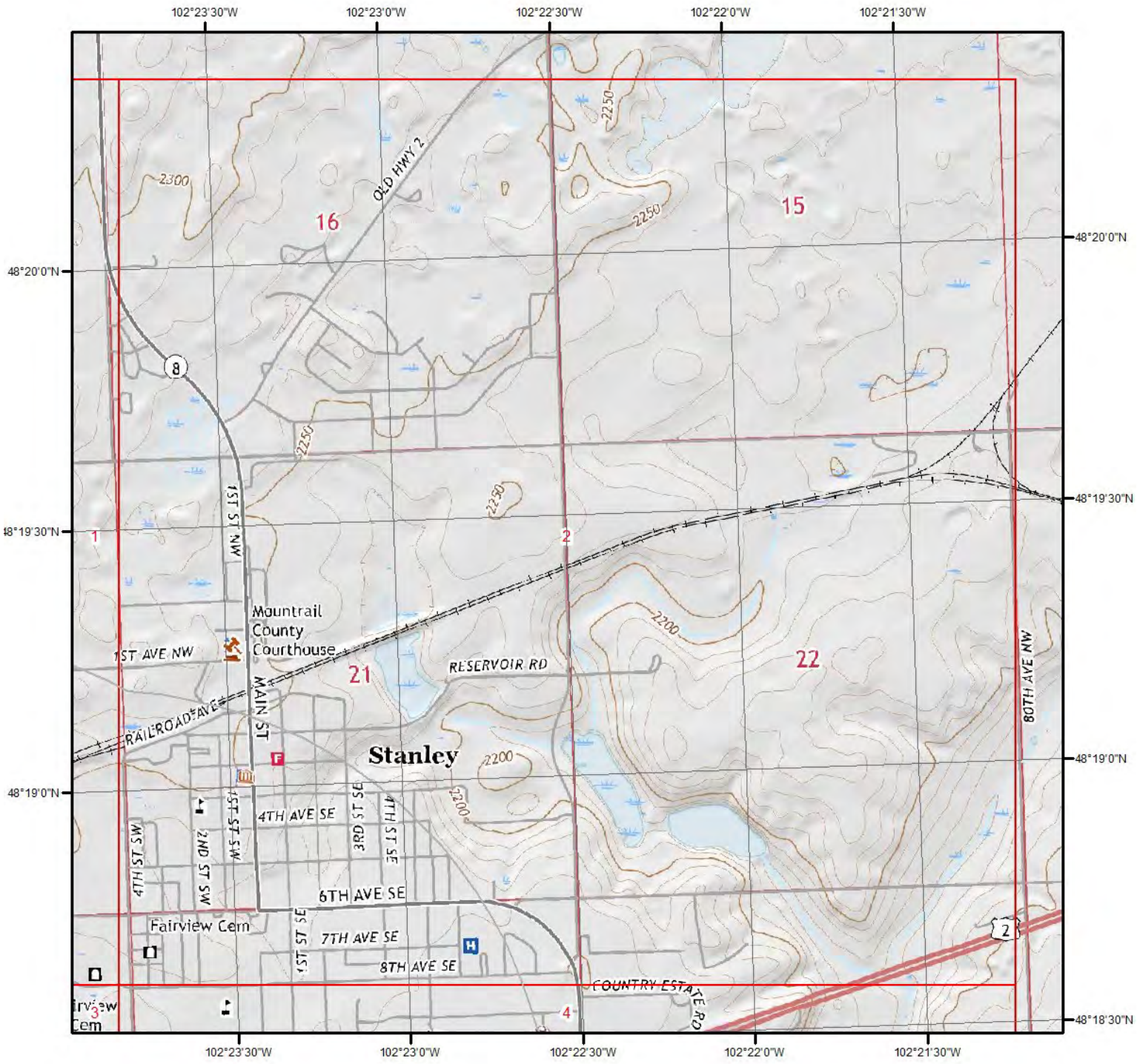
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 2

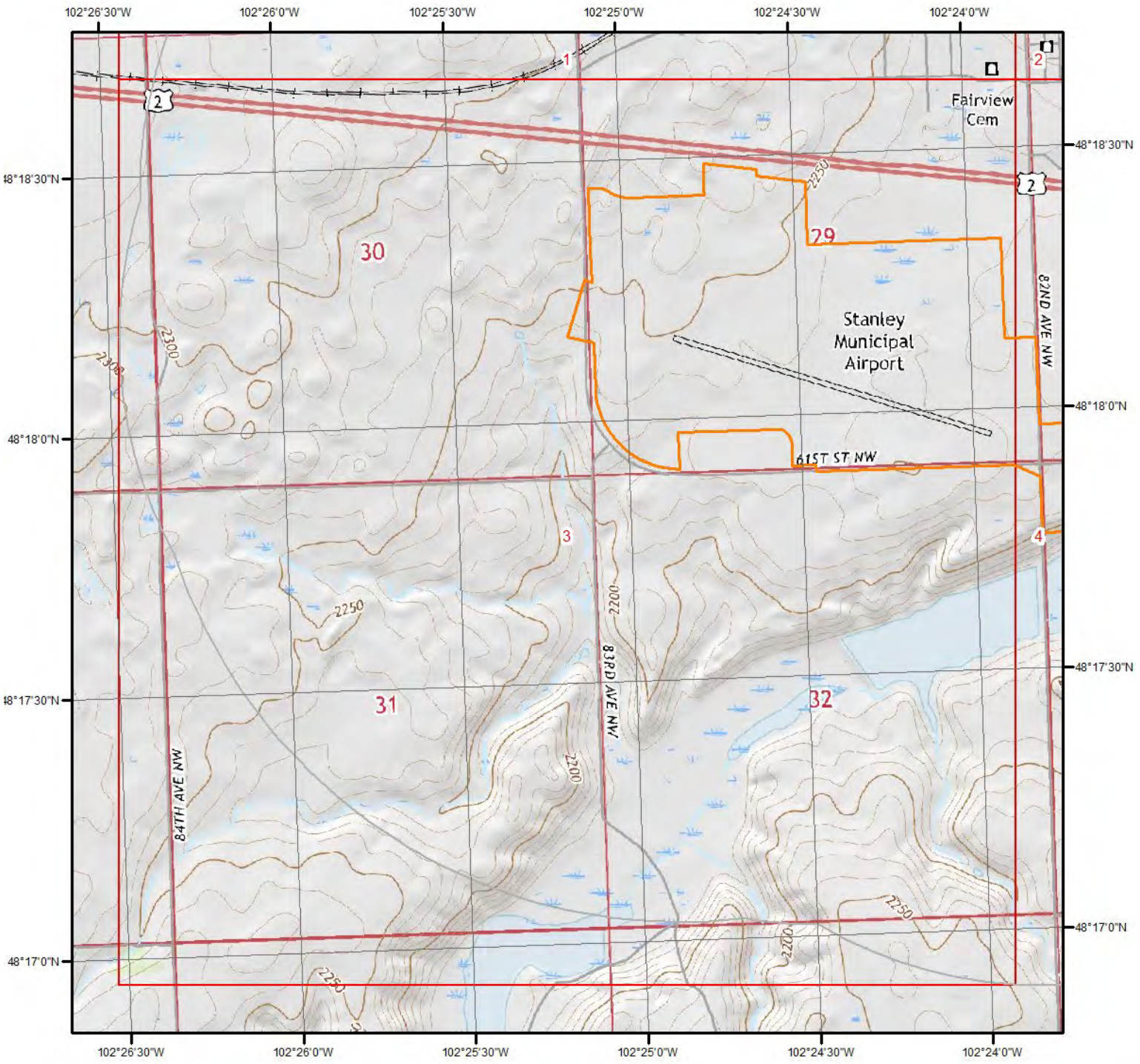
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND; Stanley SE,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 3

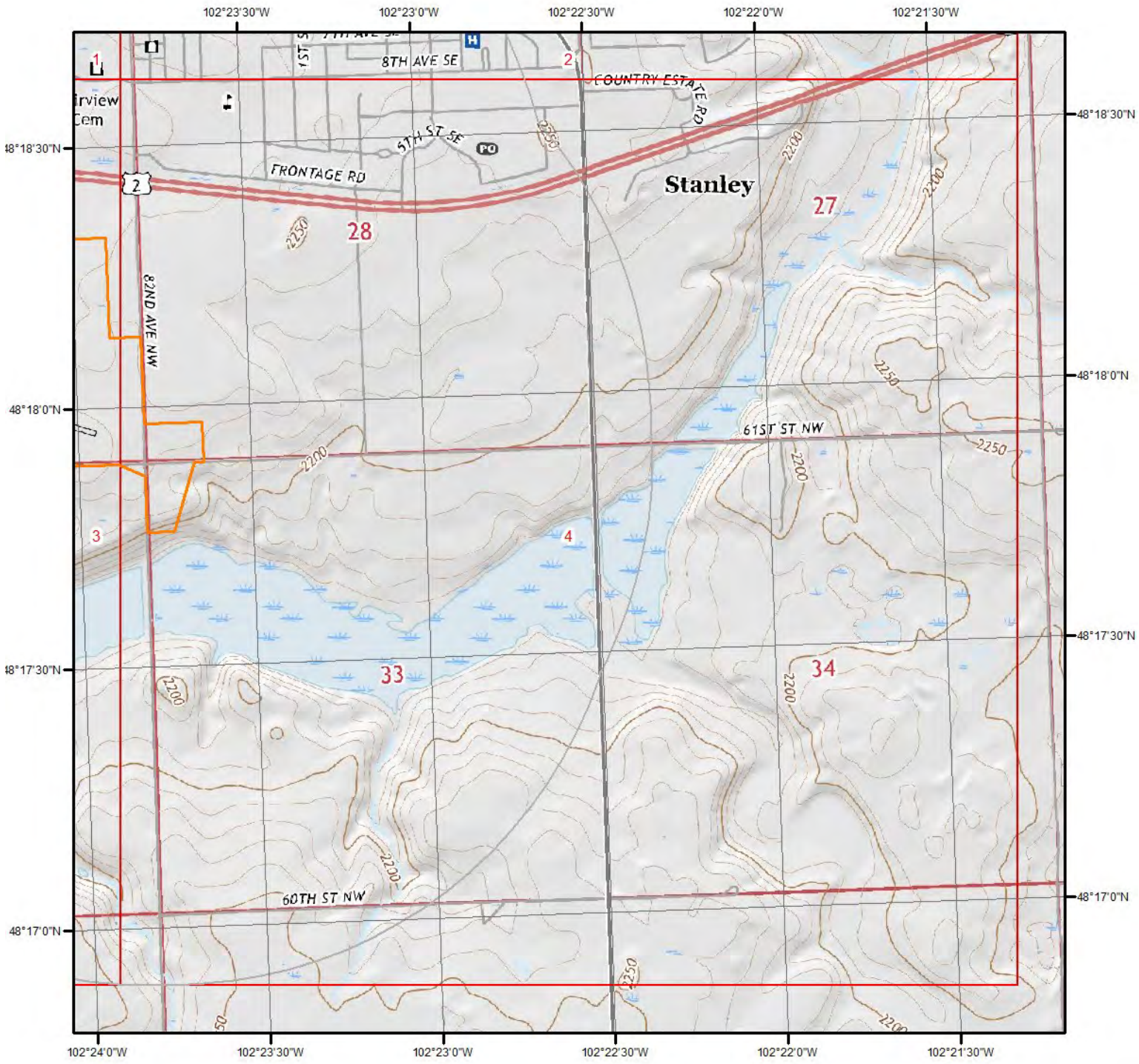
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 4

0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND; Stanley SE,ND

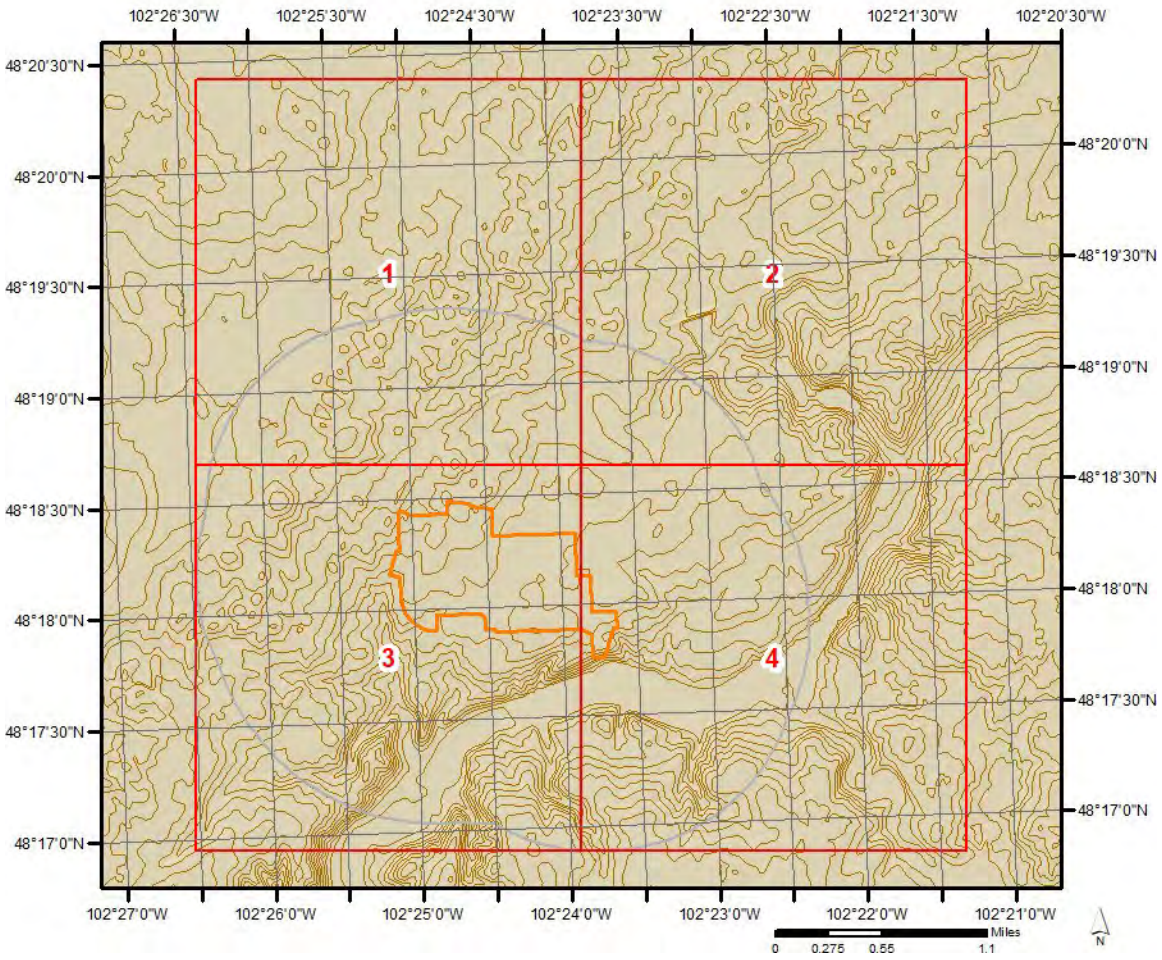
Source: USGS 7.5 Minute Topographic Map

Topographic Information

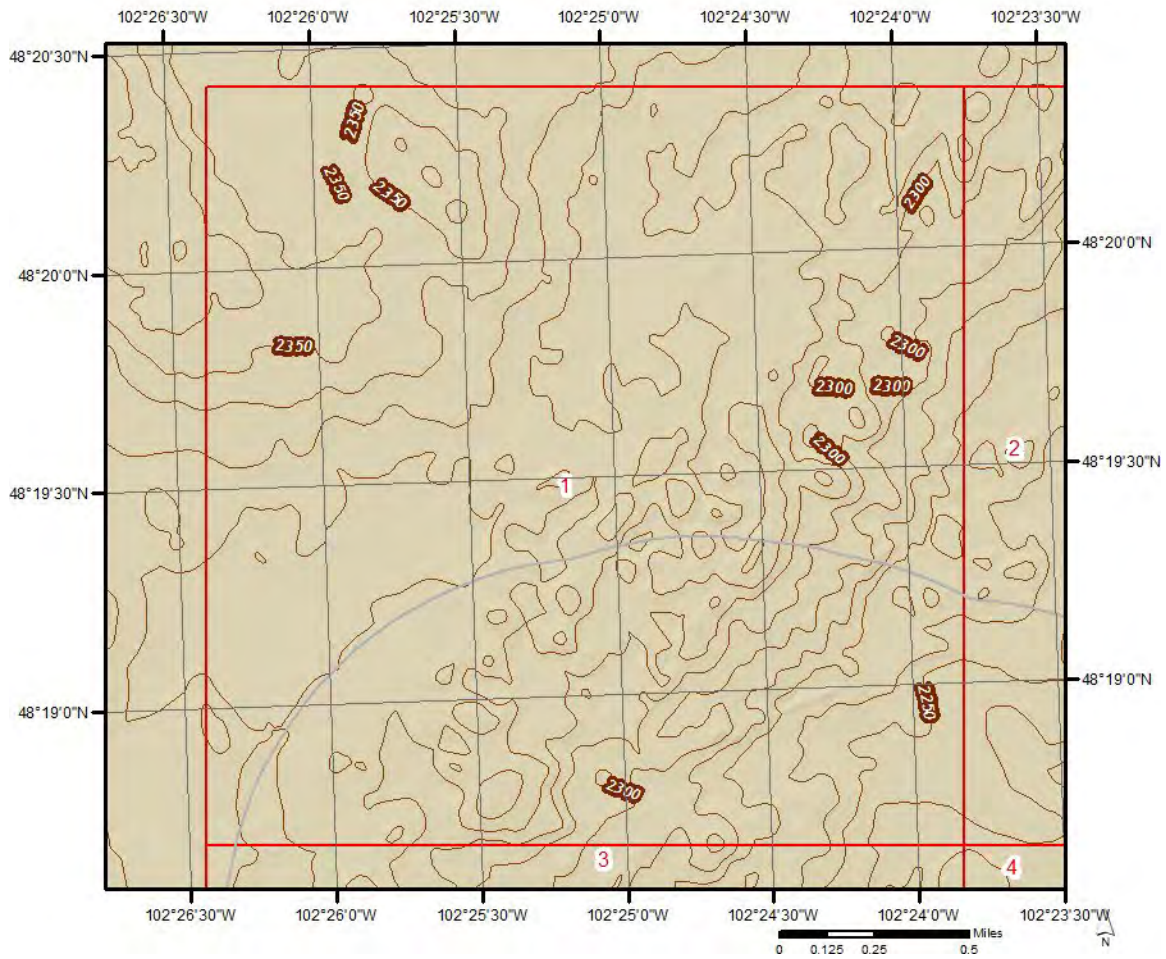
The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

Topographic information at project property:

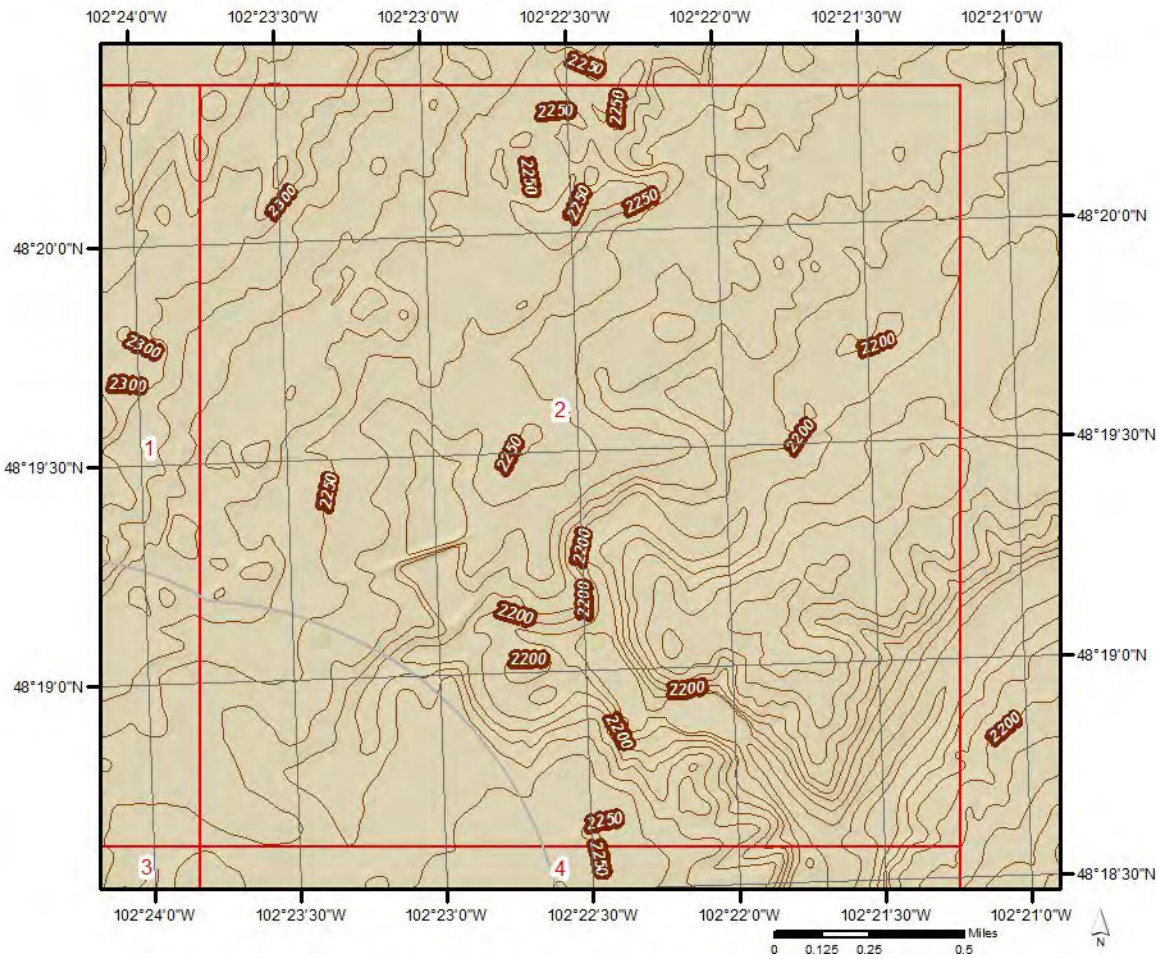
Elevation:	2,239.31 ft
Slope Direction:	SE



Topographic Information



Topographic Information



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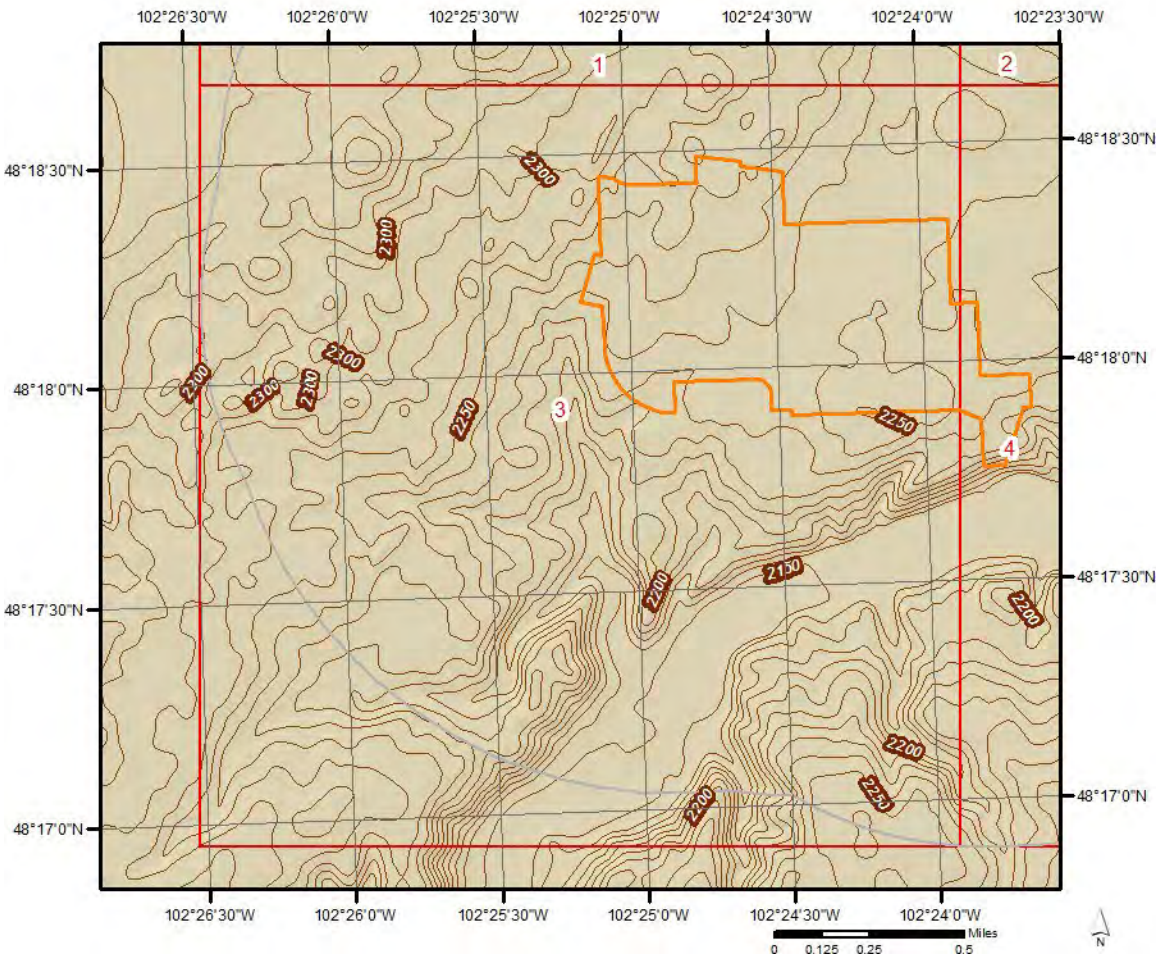
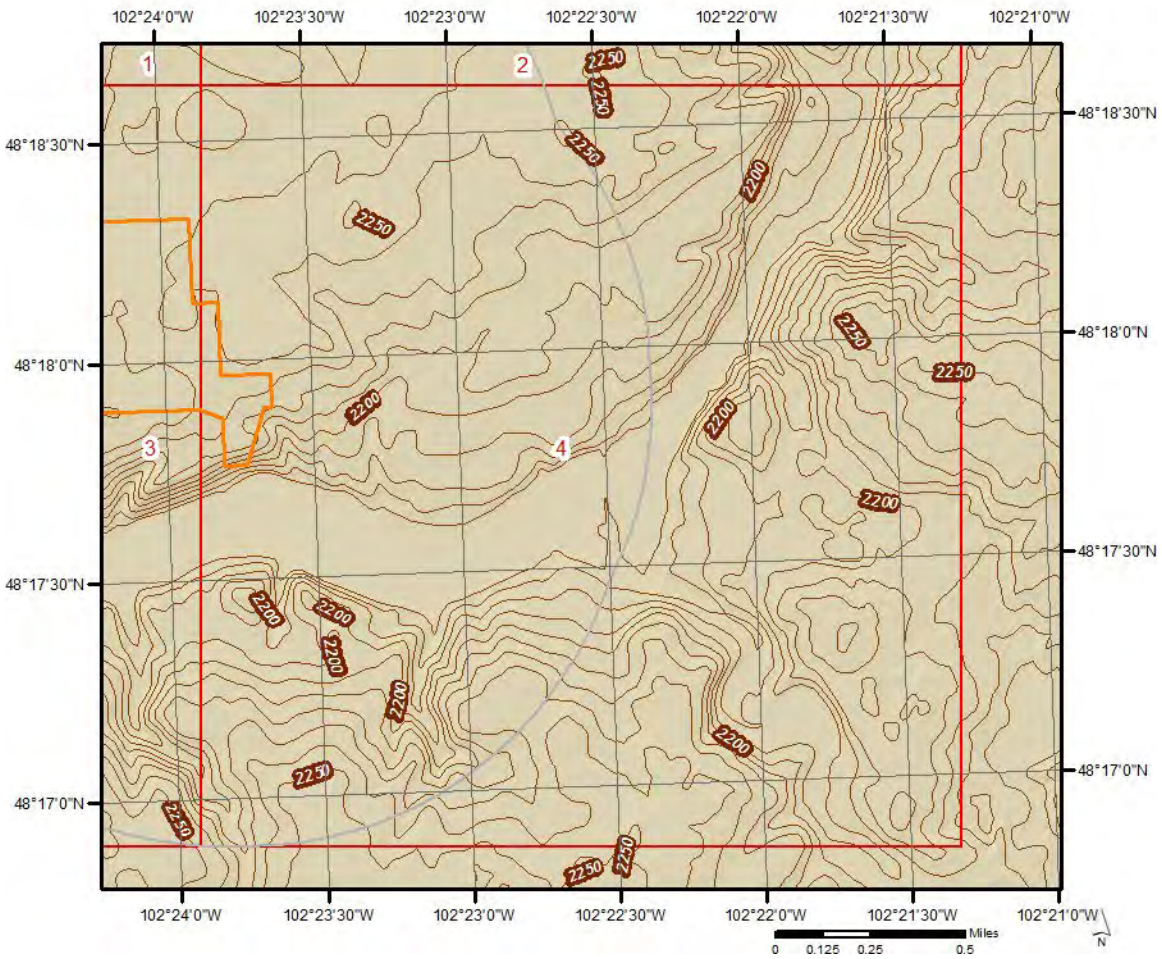


Topographic Information



Appendix E. ERIS Soils Data

Soil Information

SSURGO Soils

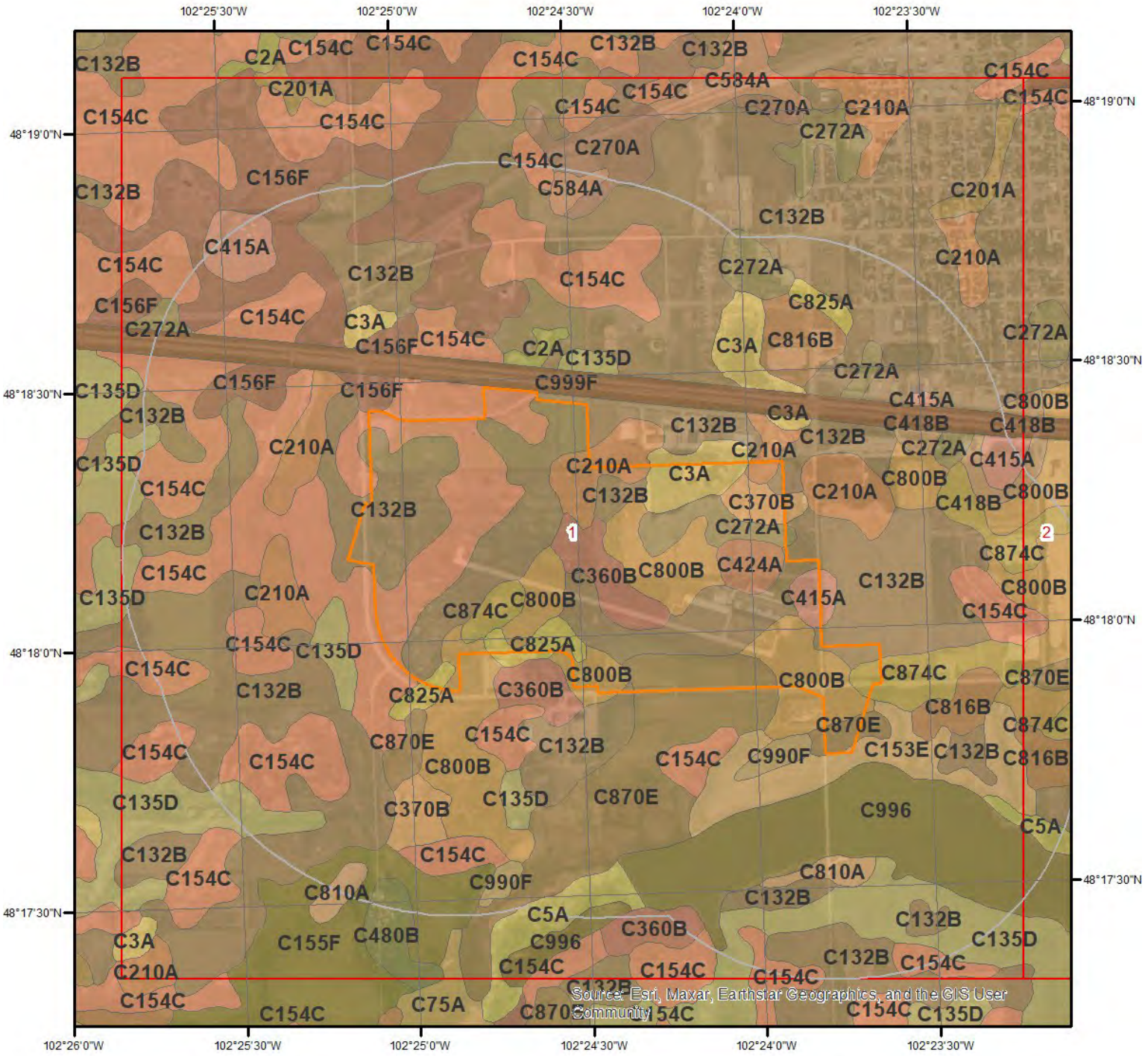
0 0.2 0.4 0.8 1.2 Miles

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

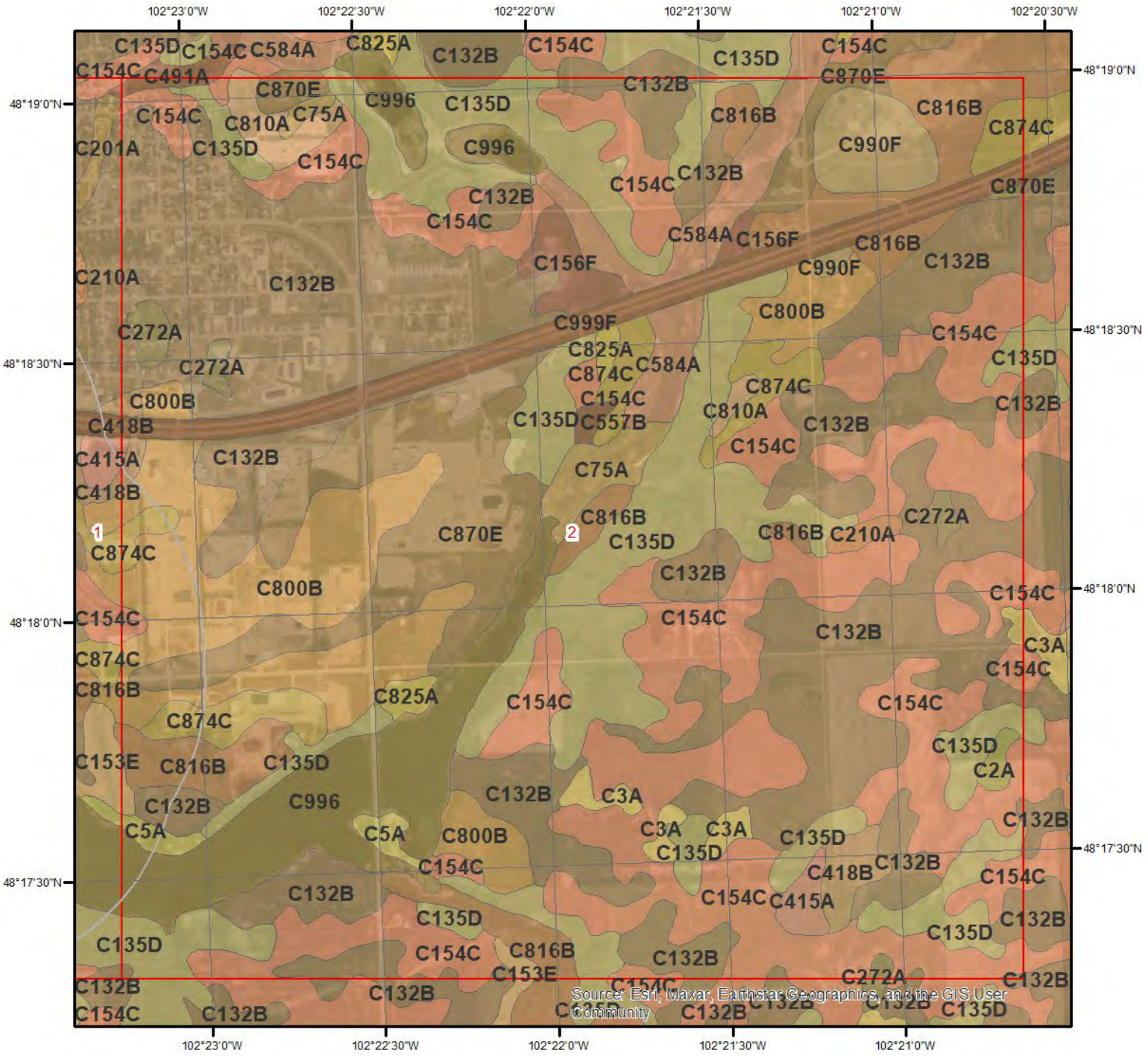
Soil Information



SSURGO Soils - Page 1

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

Soil Information



SSURGO Soils - Page 2

Miles
0 0.2 0.4

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

Map Unit C132B (48.49%)

Map Unit Name:	Williams-Zahl loams, 3 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Williams(54%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Zahl(20%)	
horizon Ap(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C132B - Williams-Zahl loams, 3 to 6 percent slopes

Component: Williams (54%)
The Williams component makes up 54 percent of the map unit. Slopes are 3 to 6 percent. This component is on ground moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahl (20%)
The Zahl component makes up 20 percent of the map unit. Slopes are 3 to 6 percent. This component is on ground moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Bowbells (11%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Zahill (8%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Hamerly (4%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Soil Information

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (1%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C135D (4.27%)

Map Unit Name:	Zahl-Williams loams, 9 to 15 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(41%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Williams(30%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C135D - Zahl-Williams loams, 9 to 15 percent slopes

Component: Zahl (41%)
The Zahl component makes up 41 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Williams (30%)
The Williams component makes up 30 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (9%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Zahill (9%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Niobell (3%)

Soil Information

Generated brief soil descriptions are created for major soil components. The Niobell soil is a minor component.

Component: Wabek (3%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Parnell (3%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Hamerly (2%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Map Unit C153E (0.64%)

Map Unit Name:	Zahl-Max loams, 15 to 25 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(50%)	
horizon A(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(34%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C153E - Zahl-Max loams, 15 to 25 percent slopes

Component: Zahl (50%)
The Zahl component makes up 50 percent of the map unit. Slopes are 15 to 25 percent. This component is on disintegration moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (34%)
The Max component makes up 34 percent of the map unit. Slopes are 15 to 25 percent. This component is on disintegration moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Arnegard (6%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Parnell (5%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Soil Information

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Wabek (1%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Zahl (1%)
Generated brief soil descriptions are created for major soil components. The Zahl, very stony soil is a minor component.

Map Unit C154C (6.15%)

Map Unit Name:	Zahl-Williams-Bowbells loams, 3 to 9 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(40%)	
horizon Ap(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Williams(24%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Bowbells(16%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C154C - Zahl-Williams-Bowbells loams, 3 to 9 percent slopes

Component: Zahl (40%)
The Zahl component makes up 40 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Williams (24%)
The Williams component makes up 24 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Soil Information

Component: Bowbells (16%)
The Bowbells component makes up 16 percent of the map unit. Slopes are 3 to 6 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahill (12%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Hamerly (3%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Livona (2%)
Generated brief soil descriptions are created for major soil components. The Livona soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C155F (3.87%)

Map Unit Name:	Zahl-Max-Arnegard loams, 15 to 60 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Zahl(40%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(30%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam
Arnegard(19%)	
horizon A(0cm to 30cm)	Loam
horizon Bw(30cm to 57cm)	Loam
horizon Bk(57cm to 93cm)	Clay loam
horizon C(93cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C155F - Zahl-Max-Arnegard loams, 15 to 60 percent slopes

Component: Zahl (40%)
The Zahl component makes up 40 percent of the map unit. Slopes are 25 to 60 percent. This component is on ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a

depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (30%)
The Max component makes up 30 percent of the map unit. Slopes are 25 to 60 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Arnegard (19%)
The Arnegard component makes up 19 percent of the map unit. Slopes are 15 to 25 percent. This component is on swales on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (4%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Harriet (3%)
Generated brief soil descriptions are created for major soil components. The Harriet soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Hamerly (1%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Map Unit C156F (3.6%)

Map Unit Name:	Zahl-Max-Bowbells loams, 6 to 35 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Zahl(54%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(22%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam
Bowbells(18%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Soil Information

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C156F - Zahl-Max-Bowbells loams, 6 to 35 percent slopes

Component: Zahl (54%)
The Zahl component makes up 54 percent of the map unit. Slopes are 15 to 35 percent. This component is on ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (22%)
The Max component makes up 22 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (18%)
The Bowbells component makes up 18 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Parnell (2%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Tonka (1%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Wabek (1%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Hamerly (1%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Noonan (1%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C210A (0.88%)

Map Unit Name:	Williams-Bowbells loams, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Williams(60%)

horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Bowbells(21%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C210A - Williams-Bowbells loams, 0 to 3 percent slopes

Component: Williams (60%)
The Williams component makes up 60 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (21%)
The Bowbells component makes up 21 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahl (8%)
Generated brief soil descriptions are created for major soil components. The Zahl soil is a minor component.

Component: Hamerly (5%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (2%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Parnell (1%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Map Unit C270A (0.49%)

Map Unit Name:	Hamerly loam, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	76cm
Drainage Class - Dominant:	Somewhat poorly drained

Soil Information

Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Hamerly(70%)

horizon Ap(0cm to 19cm)	Loam
horizon Bk(19cm to 86cm)	Clay loam
horizon C(86cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C270A - Hamerly loam, 0 to 3 percent slopes

Component: Hamerly (70%)
The Hamerly component makes up 70 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Bowbells (8%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Hamerly (7%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Vallers (6%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Tonka (4%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Parnell (3%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Noonan (2%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C272A (0.45%)

Map Unit Name:	Hamerly-Tonka complex, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Hamerly(45%)

horizon Ap(0cm to 19cm)	Loam
horizon Bk(19cm to 86cm)	Clay loam
horizon C(86cm to 200cm)	Clay loam

Tonka(30%)

horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 33cm)	Silt loam
horizon E(33cm to 48cm)	Loam
horizon Bt(48cm to 86cm)	Silty clay loam

horizon 2BC(86cm to 127cm)	Clay loam
horizon 2Cg(127cm to 200cm)	Loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C272A - Hamerly-Tonka complex, 0 to 3 percent slopes

Component: Hamerly (45%)
The Hamerly component makes up 45 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Tonka (30%)
The Tonka component makes up 30 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium over till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during March, April, May. Organic matter content in the surface horizon is about 7 percent. This component is in the R053BY019ND Wet Meadow ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Vallers (6%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Hamerly (6%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Parnell (5%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Wyard (5%)
Generated brief soil descriptions are created for major soil components. The Wyard soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C2A (0.05%)

Map Unit Name:	Tonka silt loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Tonka(70%)

horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 33cm)	Silt loam
horizon E(33cm to 48cm)	Loam
horizon Bt(48cm to 86cm)	Silty clay loam
horizon 2BC(86cm to 127cm)	Clay loam
horizon 2Cg(127cm to 200cm)	Loam

Soil Information

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C2A - Tonka silt loam, 0 to 1 percent slopes

Component: Tonka (70%)
The Tonka component makes up 70 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium over till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during March, April, May. Organic matter content in the surface horizon is about 7 percent. This component is in the R053BY019ND Wet Meadow ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Rimlap (10%)
Generated brief soil descriptions are created for major soil components. The Rimlap soil is a minor component.

Component: Parnell (6%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Hamerly (5%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Bowbells (5%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Vallers (4%)
Generated brief soil descriptions are created for major soil components. The Vallers, moderately saline soil is a minor component.

Map Unit C360B (0.53%)

Map Unit Name:	Livona fine sandy loam, 0 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Livona(60%)	
horizon Ap(0cm to 22cm)	Fine sandy loam
horizon Bw(22cm to 49cm)	Fine sandy loam
horizon Bt1(49cm to 55cm)	Sandy clay loam
horizon 2Bt2(55cm to 69cm)	Clay loam
horizon 2Bk(69cm to 117cm)	Clay loam
horizon 2BC(117cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C360B - Livona fine sandy loam, 0 to 6 percent slopes

Component: Livona (60%)
The Livona component makes up 60 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of eolian deposits over fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The

calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Parshall (12%)
Generated brief soil descriptions are created for major soil components. The Parshall soil is a minor component.

Component: Flaxton (10%)
Generated brief soil descriptions are created for major soil components. The Flaxton soil is a minor component.

Component: Krem (5%)
Generated brief soil descriptions are created for major soil components. The Krem soil is a minor component.

Component: Williams (5%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C370B (0.25%)

Map Unit Name:	Krem-Lihen loamy fine sands, 0 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Krem(70%)	
horizon Ap(0cm to 17cm)	Loamy fine sand
horizon A(17cm to 51cm)	Loamy fine sand
horizon Bw(51cm to 73cm)	Loamy fine sand
horizon 2Bt(73cm to 100cm)	Clay loam
horizon 2Bk(100cm to 135cm)	Clay loam
horizon 2C(135cm to 200cm)	Clay loam
Lihen(18%)	
horizon Ap(0cm to 17cm)	Loamy fine sand
horizon A(17cm to 42cm)	Loamy fine sand
horizon Bw(42cm to 75cm)	Loamy fine sand
horizon C(75cm to 200cm)	Loamy fine sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C370B - Krem-Lihen loamy fine sands, 0 to 6 percent slopes

Component: Krem (70%)
The Krem component makes up 70 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of eolian sands over fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY007ND Sands ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Lihen (18%)
The Lihen component makes up 18 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of sandy glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY007ND Sands ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Flaxton (4%)
Generated brief soil descriptions are created for major soil components. The Flaxton soil is a minor component.

Component: Parshall (3%)
Generated brief soil descriptions are created for major soil components. The Parshall soil is a minor component.

Component: Arveson (2%)
Generated brief soil descriptions are created for major soil components. The Arveson soil is a minor component.

Component: Williams (2%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Zahl (1%)
Generated brief soil descriptions are created for major soil components. The Zahl soil is a minor component.

Map Unit C3A (0.48%)

Map Unit Name:	Parnell silty clay loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Very poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Parnell(86%)

horizon A1(0cm to 38cm)	Silty clay loam
horizon A2(38cm to 56cm)	Silty clay loam
horizon Btg1(56cm to 81cm)	Silty clay loam
horizon Btg2(81cm to 140cm)	Silty clay
horizon BCg(140cm to 200cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C3A - Parnell silty clay loam, 0 to 1 percent slopes

Component: Parnell (86%)
The Parnell component makes up 86 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 8 percent. This component is in the R053BY025ND Shallow Marsh ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Vallers (4%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Southam (3%)
Generated brief soil descriptions are created for major soil components. The Southam soil is a minor component.

Component: Heil (2%)
Generated brief soil descriptions are created for major soil components. The Heil soil is a minor component.

Component: Marysland (2%)
Generated brief soil descriptions are created for major soil components. The Marysland, frequently ponded soil is a minor component.

Map Unit C415A (0.36%)

Map Unit Name:	Tansem loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Tansem(75%)

horizon Ap(0cm to 19cm)	Loam
horizon Bw(19cm to 38cm)	Silt loam
horizon Bk(38cm to 75cm)	Silt loam
horizon C(75cm to 200cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C415A - Tansem loam, 0 to 2 percent slopes

Component: Tansem (75%)
The Tansem component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on glacial lakes (relict) on till plains. The parent material consists of loamy glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Sakakawea (9%)
Generated brief soil descriptions are created for major soil components. The Sakakawea soil is a minor component.

Component: Roseglen (8%)
Generated brief soil descriptions are created for major soil components. The Roseglen soil is a minor component.

Component: Bearden (3%)
Generated brief soil descriptions are created for major soil components. The Bearden soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Nutley (2%)
Generated brief soil descriptions are created for major soil components. The Nutley soil is a minor component.

Component: Tonka (1%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Map Unit C418B (0.17%)

Soil Information

Map Unit Name:	Tansem-Sakakawea loams, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Tansem(70%)	
horizon Ap(0cm to 19cm)	Loam
horizon Bw(19cm to 38cm)	Silt loam
horizon Bk(38cm to 75cm)	Silt loam
horizon C(75cm to 200cm)	Silt loam
Sakakawea(15%)	
horizon Ap(0cm to 15cm)	Silty clay loam
horizon Bk(15cm to 67cm)	Silt loam
horizon C1(67cm to 74cm)	Silt loam
horizon C2(74cm to 104cm)	Loam
horizon C3(104cm to 200cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C418B - Tansem-Sakakawea loams, 2 to 6 percent slopes

Component: Tansem (70%)
The Tansem component makes up 70 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on glacial lakes (relict) on till plains. The parent material consists of loamy glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Sakakawea (15%)
The Sakakawea component makes up 15 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on glacial lakes (relict) on till plains. The parent material consists of calcareous coarse-silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Roseglen (8%)
Generated brief soil descriptions are created for major soil components. The Roseglen soil is a minor component.

Component: Nutley (3%)
Generated brief soil descriptions are created for major soil components. The Nutley soil is a minor component.

Component: Williams (2%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Alkabo (2%)
Generated brief soil descriptions are created for major soil components. The Alkabo soil is a minor component.

Map Unit C424A (0.12%)

Map Unit Name:	Minot silty clay, 0 to 2 percent slopes

Soil Information

Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Minot(65%)

horizon Ap(0cm to 22cm)	Silty clay
horizon Bss(22cm to 49cm)	Silty clay
horizon Bkss(49cm to 85cm)	Silty clay
horizon C(85cm to 200cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C424A - Minot silty clay, 0 to 2 percent slopes

Component: Minot (65%)
The Minot component makes up 65 percent of the map unit. Slopes are 0 to 2 percent. This component is on collapsed ice-walled lakebeds on till plains. The parent material consists of clayey glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY001ND Clayey ecological site. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wildrose (13%)
Generated brief soil descriptions are created for major soil components. The Wildrose soil is a minor component.

Component: Tansem (11%)
Generated brief soil descriptions are created for major soil components. The Tansem soil is a minor component.

Component: Makoti (5%)
Generated brief soil descriptions are created for major soil components. The Makoti soil is a minor component.

Component: Sakakawea (4%)
Generated brief soil descriptions are created for major soil components. The Sakakawea soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Map Unit C480B (0.19%)

Map Unit Name:	Shambo loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Shambo(70%)

horizon Ap(0cm to 15cm)	Loam
horizon A(15cm to 20cm)	Loam
horizon Bw1(20cm to 33cm)	Loam
horizon Bw2(33cm to 72cm)	Loam
horizon Bk(72cm to 107cm)	Loam
horizon BCk(107cm to 122cm)	Loam

horizon C(122cm to 200cm)	Loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C480B - Shambo loam, 2 to 6 percent slopes

Component: Shambo (70%)
The Shambo component makes up 70 percent of the map unit. Slopes are 2 to 6 percent. This component is on terraces on uplands. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Arnegard (13%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Stady (8%)
Generated brief soil descriptions are created for major soil components. The Stady soil is a minor component.

Component: Tally (4%)
Generated brief soil descriptions are created for major soil components. The Tally soil is a minor component.

Component: Savage (3%)
Generated brief soil descriptions are created for major soil components. The Savage soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C584A (0.06%)

Map Unit Name:	Harriet loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	23cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Harriet(76%)

horizon E(0cm to 6cm)	Loam
horizon Btnz1(6cm to 48cm)	Clay loam
horizon Btnz2(48cm to 80cm)	Clay loam
horizon Bknzg(80cm to 97cm)	Clay loam
horizon Cg(97cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C584A - Harriet loam, 0 to 2 percent slopes

Component: Harriet (76%)
The Harriet, occasionally flooded component makes up 76 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer, natric, is 1 to 5 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is occasionally flooded. It is rarely ponded. A seasonal zone of water saturation is at 9 inches during March, April, May, June. Organic matter content in the surface horizon is

about 2 percent. This component is in the R053BY006ND Saline Lowland ecological site. Nonirrigated land capability classification is 6s. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a moderately saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 19 within 30 inches of the soil surface.

Component: Ranslo (7%)
Generated brief soil descriptions are created for major soil components. The Ranslo soil is a minor component.

Component: Fluvaquents (5%)
Generated brief soil descriptions are created for major soil components. The Fluvaquents soil is a minor component.

Component: Lowe (5%)
Generated brief soil descriptions are created for major soil components. The Lowe soil is a minor component.

Component: Marysland (3%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Stirum (2%)
Generated brief soil descriptions are created for major soil components. The Stirum soil is a minor component.

Component: Straw (2%)
Generated brief soil descriptions are created for major soil components. The Straw soil is a minor component.

Map Unit C5A (0.38%)

Map Unit Name:	Southam silty clay loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Very poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Southam(78%)	
horizon A(0cm to 10cm)	Silty clay loam
horizon Ag1(10cm to 46cm)	Silty clay loam
horizon Ag2(46cm to 107cm)	Silty clay
horizon Cg(107cm to 200cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C5A - Southam silty clay loam, 0 to 1 percent slopes

Component: Southam (78%)
The Southam component makes up 78 percent of the map unit. Slopes are 0 to 1 percent. This component is on marshes on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 10 percent. This component is in the R053BY900ND Not Assigned ecological site. Nonirrigated land capability classification is 8w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. The soil has a slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Parnell (6%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Water (5%)
Generated brief soil descriptions are created for major soil components. The Water soil is a minor component.

Component: Vallers (5%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Marysland (3%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Minnewaukan (3%)
Generated brief soil descriptions are created for major soil components. The Minnewaukan soil is a minor component.

Map Unit C800B (3.73%)

Map Unit Name:	Appam sandy loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.

Major components are printed below

Appam(81%)

horizon Ap(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C800B - Appam sandy loam, 2 to 6 percent slopes

Component: Appam (81%)
The Appam component makes up 81 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (7%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Bowdle (4%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Lihen (4%)
Generated brief soil descriptions are created for major soil components. The Lihen soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Arveson (1%)
Generated brief soil descriptions are created for major soil components. The Arveson soil is a minor component.

Map Unit C810A (0.16%)

Soil Information

Map Unit Name:	Bowdle loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Bowdle(76%)

horizon Ap(0cm to 20cm)	Loam
horizon Bw(20cm to 56cm)	Loam
horizon Bk(56cm to 64cm)	Gravelly loam
horizon 2C1(64cm to 76cm)	Very gravelly loamy coarse sand
horizon 2C2(76cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C810A - Bowdle loam, 0 to 2 percent slopes

Component: Bowdle (76%)
The Bowdle component makes up 76 percent of the map unit. Slopes are 0 to 2 percent. This component is on swales on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (10%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Wabek (5%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Arnegard (3%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Appam (2%)
Generated brief soil descriptions are created for major soil components. The Appam soil is a minor component.

Component: Ruso (2%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Map Unit C816B (0.74%)

Map Unit Name:	Lehr loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Lehr(69%)

horizon Ap(0cm to 15cm)	Loam

horizon Bw(15cm to 28cm)	Loam
horizon Bk1(28cm to 38cm)	Loam
horizon 2Bk2(38cm to 56cm)	Gravelly loamy coarse sand
horizon 2C(56cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C816B - Lehr loam, 2 to 6 percent slopes

Component: Lehr (69%)
The Lehr component makes up 69 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY010ND Shallow Gravel ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (13%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Bowdle (9%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Arnegard (4%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Ruso (3%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Map Unit C825A (0.22%)

Map Unit Name:	Divide loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	76cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Divide(65%)

horizon Ap(0cm to 20cm)	Loam
horizon Ak(20cm to 30cm)	Loam
horizon Bk(30cm to 64cm)	Loam
horizon 2C1(64cm to 76cm)	Gravelly loamy coarse sand
horizon 2C2(76cm to 200cm)	Gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C825A - Divide loam, 0 to 2 percent slopes

Component: Divide (65%)
The Divide component makes up 65 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on outwash plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is

somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Wyrene (12%)
Generated brief soil descriptions are created for major soil components. The Wyrene soil is a minor component.

Component: Hamerly (6%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Marysland (6%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Bowdle (5%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Lowe (4%)
Generated brief soil descriptions are created for major soil components. The Lowe soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C870E (3.2%)

Map Unit Name:	Wabek-Lehr-Appam complex, 9 to 25 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Wabek(50%)	
horizon A(0cm to 15cm)	Loam
horizon Bk(15cm to 26cm)	Gravelly coarse sandy loam
horizon C(26cm to 200cm)	Very gravelly coarse sand
Lehr(19%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 28cm)	Loam
horizon Bk1(28cm to 38cm)	Loam
horizon 2Bk2(38cm to 56cm)	Gravelly loamy coarse sand
horizon 2C(56cm to 200cm)	Very gravelly coarse sand
Appam(17%)	
horizon A(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C870E - Wabek-Lehr-Appam complex, 9 to 25 percent slopes

Component: Wabek (50%)
The Wabek component makes up 50 percent of the map unit. Slopes are 9 to 25 percent. This component is on ridges on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available

water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY017ND Very Shallow ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (19%)
The Lehr component makes up 19 percent of the map unit. Slopes are 9 to 25 percent. This component is on ridges on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY010ND Shallow Gravel ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Appam (17%)
The Appam component makes up 17 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowdle (8%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Divide (4%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Parnell (2%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Map Unit C874C (0.86%)

Map Unit Name:	Wabek-Appam complex, 6 to 9 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.
Major components are printed below	
Wabek(59%)	
horizon A(0cm to 13cm)	Gravelly sandy loam
horizon Bk(13cm to 26cm)	Gravelly coarse sandy loam
horizon C(26cm to 200cm)	Very gravelly coarse sand
Appam(25%)	
horizon Ap(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C874C - Wabek-Appam complex, 6 to 9 percent slopes

Component: Wabek (59%)

Soil Information

The Wabek component makes up 59 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY017ND Very Shallow ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Appam (25%)
The Appam component makes up 25 percent of the map unit. Slopes are 6 to 9 percent. This component is on knolls on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (6%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Bowdle (5%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Ruso (2%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Marysland (1%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Map Unit C990F (0.11%)

Map Unit Name:	Pits, gravel and sand, 0 to 60 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	null
Major components are printed below	
Pits(70%)	
horizon H1(0cm to 15cm)	Extremely gravelly sand
horizon H2(15cm to 152cm)	Extremely gravelly sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C990F - Pits, gravel and sand, 0 to 60 percent slopes

Component: Pits (70%)
Generated brief soil descriptions are created for major soil components. The Pits, gravel and sand is a miscellaneous area.

Component: Wabek (10%)
Generated brief soil descriptions are created for major components. The Wabek soil is a minor component.

Component: Water (5%)
Generated brief soil descriptions are created for major components. The Water soil is a minor component.

Soil Information

Component: Bowdle (5%)
Generated brief soil descriptions are created for major components. The Bowdle soil is a minor component.

Component: Lehr (5%)
Generated brief soil descriptions are created for major components. The Lehr soil is a minor component.

Component: Appam (5%)
Generated brief soil descriptions are created for major components. The Appam soil is a minor component.

Map Unit C996 (3.11%)

Map Unit Name:	Water

No more attributes available for this map unit

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C996 - Water

Component: Water (100%)
Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map Unit C999F (16.43%)

Map Unit Name:	Orthents-Aquents-Urban land, highway complex, 0 to 35 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	30cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Orthents(39%)	
horizon A(0cm to 10cm)	Loam
horizon C(10cm to 152cm)	Clay loam
Aquents(18%)	
horizon H1(0cm to 5cm)	Loam
horizon H2(5cm to 152cm)	Loam
Orthents(17%)	
horizon A(0cm to 10cm)	Loam
horizon C(10cm to 152cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C999F - Orthents-Aquents-Urban land, highway complex, 0 to 35 percent slopes

Component: Orthents (39%)
The Orthents component makes up 39 percent of the map unit. Slopes are 6 to 35 percent. This component is on scalped areas on till plains, cuts (road, railroad, etc.) on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer, densic material, is 4 to 16 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Aquents (18%)

Soil Information

The Aquents component makes up 18 percent of the map unit. Slopes are 0 to 3 percent. This component is on swales on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during March, April, May. Organic matter content in the surface horizon is about 6 percent. This component is in the R053BY999ND Non-site ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Orthents (17%)
The Orthents component makes up 17 percent of the map unit. Slopes are 0 to 6 percent. This component is on scalped areas on till plains, cuts (road, railroad, etc.) on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer, densic material, is 4 to 16 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Urban land (17%)
Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Haplustolls (9%)
Generated brief soil descriptions are created for major components. The Haplustolls soil is a minor component.

Appendix F. Photographs of On-site Structures


STANLEY MUNICIPAL AIRPORT HANGAR

Appendix G. Historic Aerials

HISTORICAL AERIALS

Project Property: Stanley Municipal Airport
Stanley Municipal Airport
Stanley ND

Project No: 4545300-230576.01

Requested By: Mead & Hunt, Inc.

Order No: 23101200256

Date Completed: October 16,2023

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

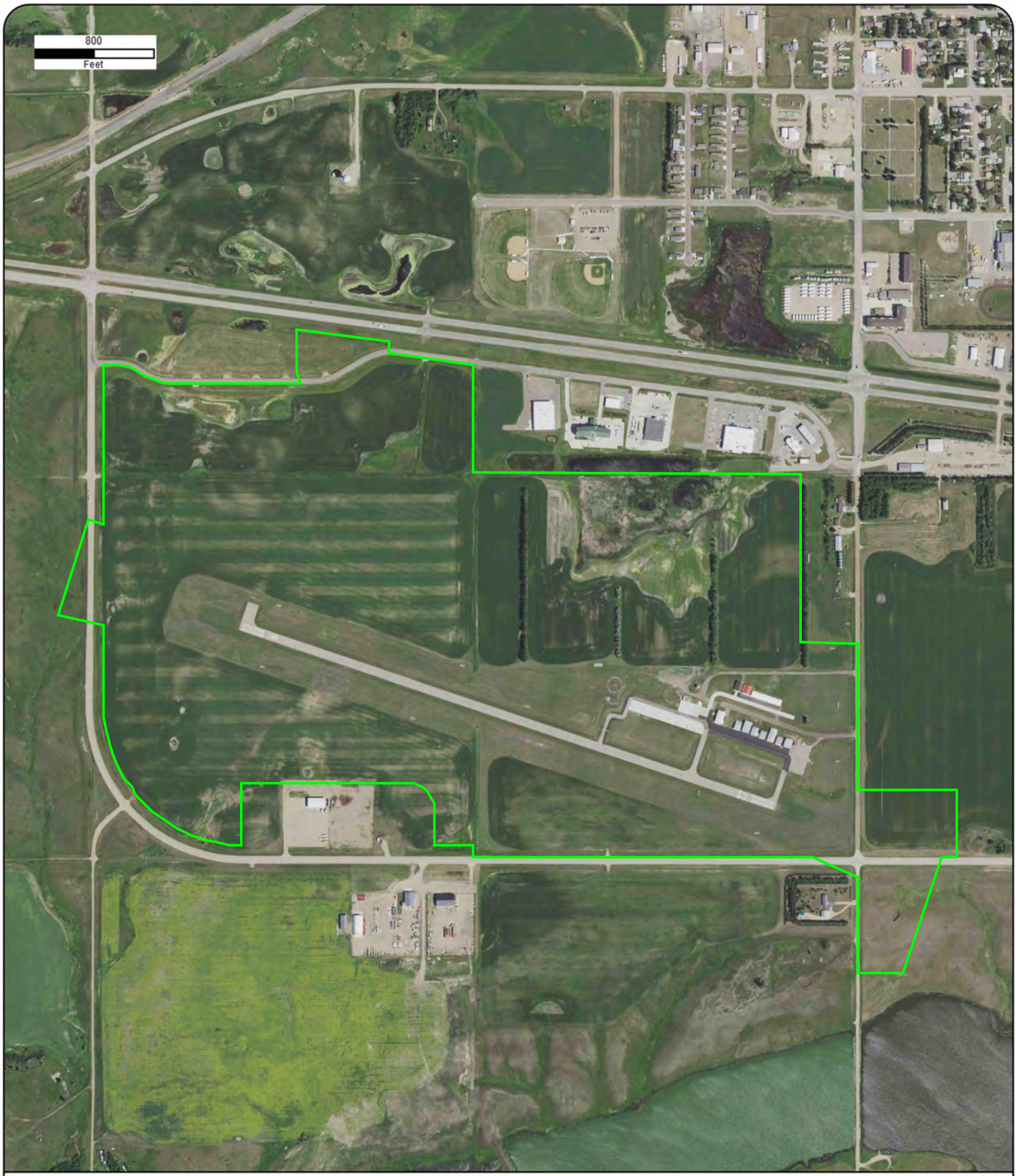
Date	Source	Scale	Comments
2021	MAXAR TECHNOLOGIES	1" = 800'	
2020	United States Department of Agriculture	1" = 800'	
2019	United States Department of Agriculture	1" = 800'	
2018	United States Department of Agriculture	1" = 800'	
2017	United States Department of Agriculture	1" = 800'	
2016	United States Department of Agriculture	1" = 800'	
2015	United States Department of Agriculture	1" = 800'	
2014	United States Department of Agriculture	1" = 800'	
2012	United States Department of Agriculture	1" = 800'	
2010	United States Department of Agriculture	1" = 800'	
2009	United States Department of Agriculture	1" = 800'	
2006	United States Department of Agriculture	1" = 800'	
2005	United States Department of Agriculture	1" = 800'	
2004	United States Department of Agriculture	1" = 800'	
2003	United States Department of Agriculture	1" = 800'	
1997	United States Geological Survey	1" = 800'	
1991	United States Geological Survey	1" = 800'	Best Copy Available
1984	United States Geological Survey	1" = 800'	
1974	United States Geological Survey	1" = 800'	Best Copy Available
1967	United States Geological Survey	1" = 800'	
1958	Agricultural Stabilization & Conserv. Service	1" = 800'	
1938	Agricultural Stabilization & Conserv. Service	1" = 800'	Photo Index-Best Available

Year: 2021
Source: MAXAR
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



Year: 2020
Source: USDA
Scale: 1" = 800'
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Address: Stanley Municipal Airport, Stanley, ND
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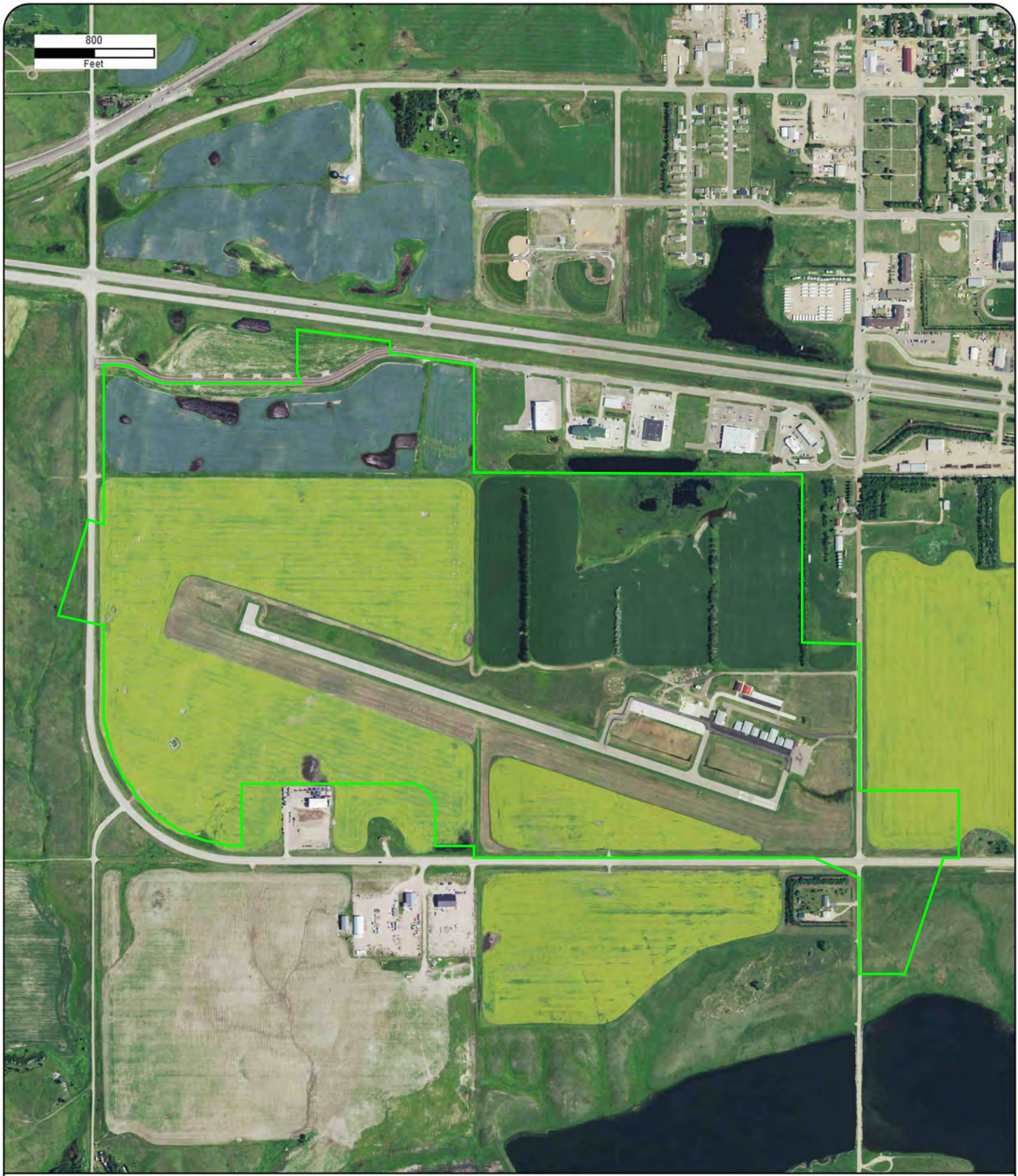
Order No: 23101200256

ERIS



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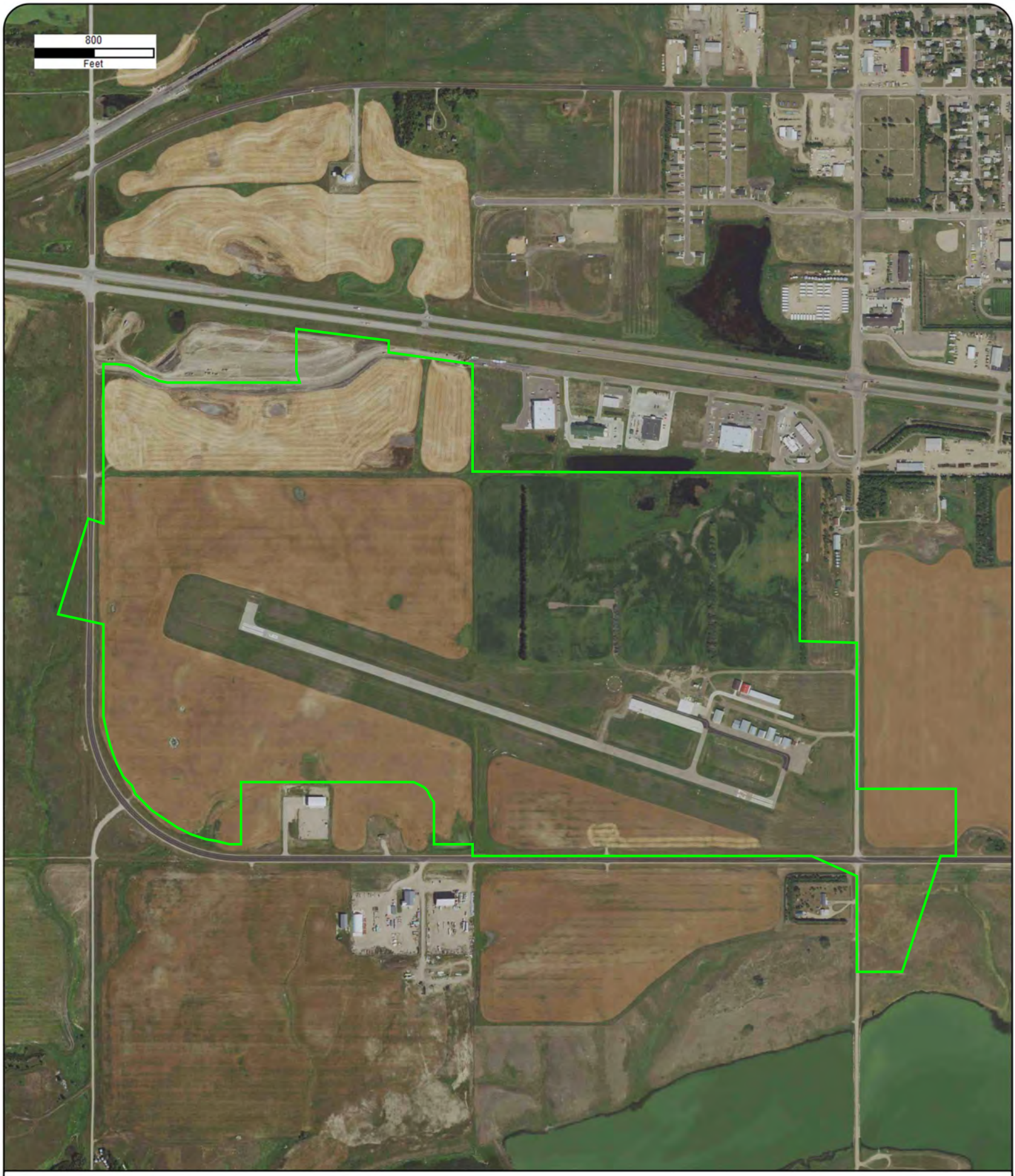
Order No: 23101200256

ERIS



Year: 2018
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 2017
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 2016
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 2015
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 2014
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

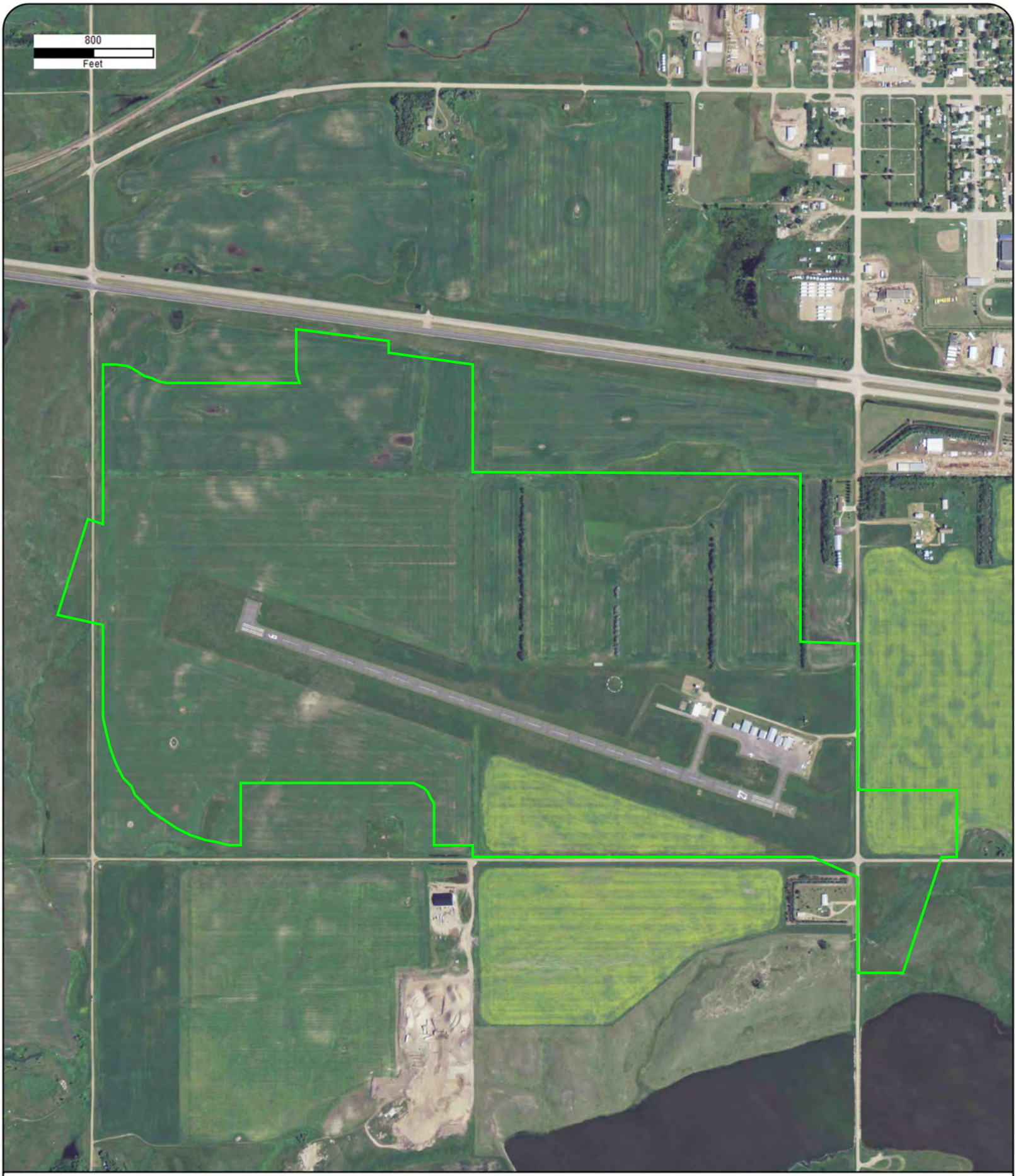
ERIS

Year: 2012
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



Year: 2010
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 2009
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

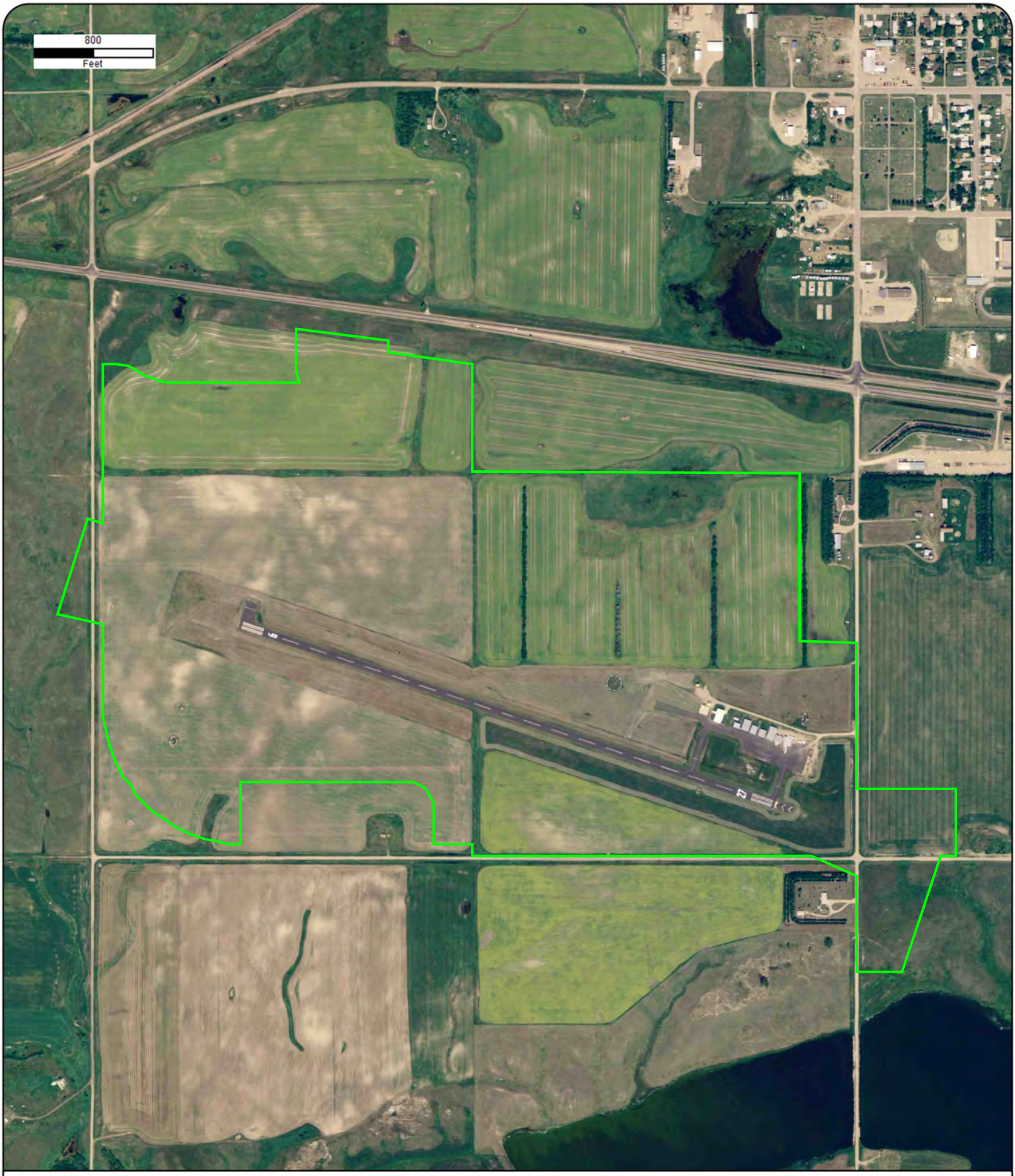
ERIS

Year: 2006
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



Year: 2005
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

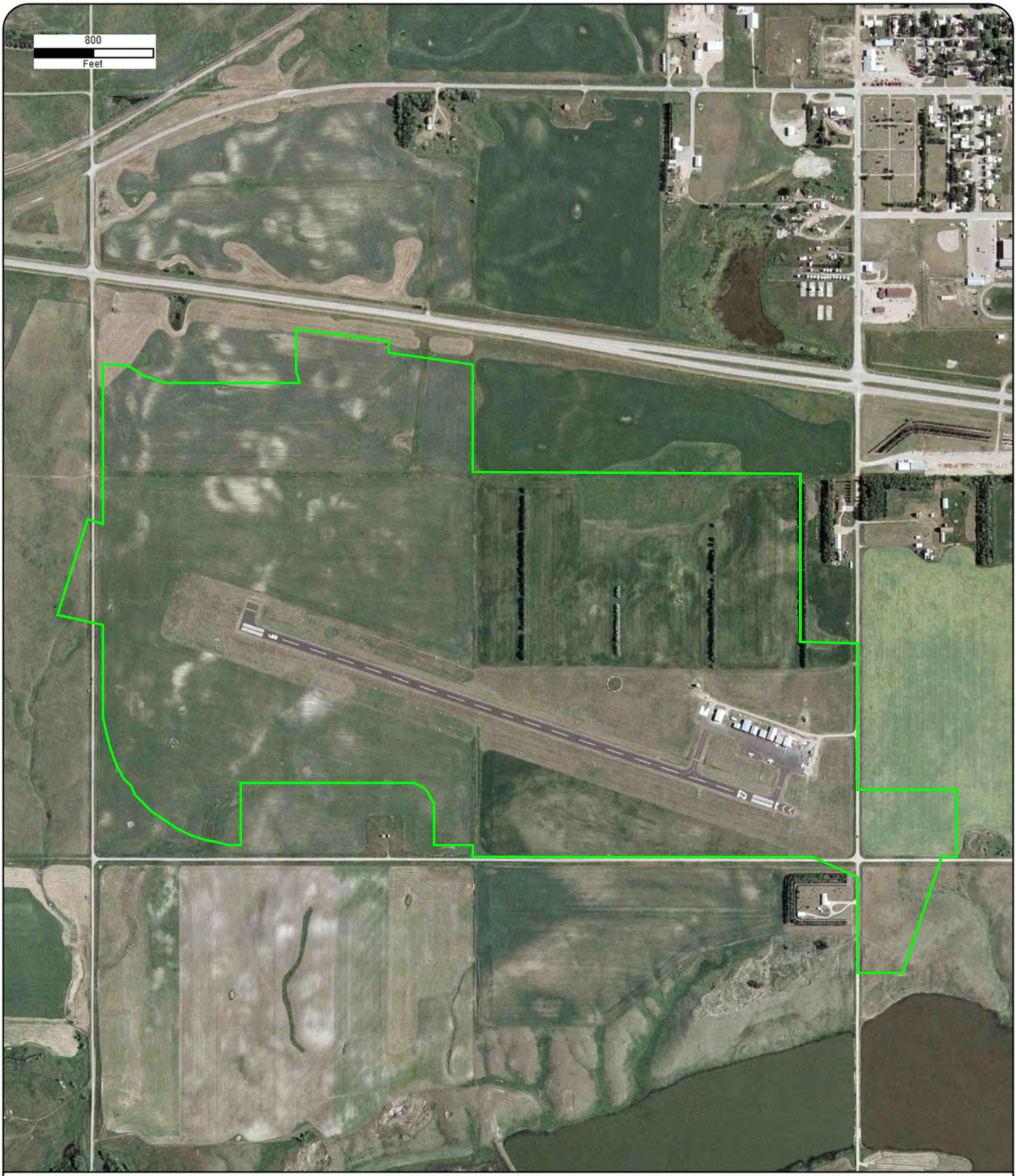
ERIS

Year: 2004
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



Year: 2003
Source: USDA
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 1997
Source: USGS
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

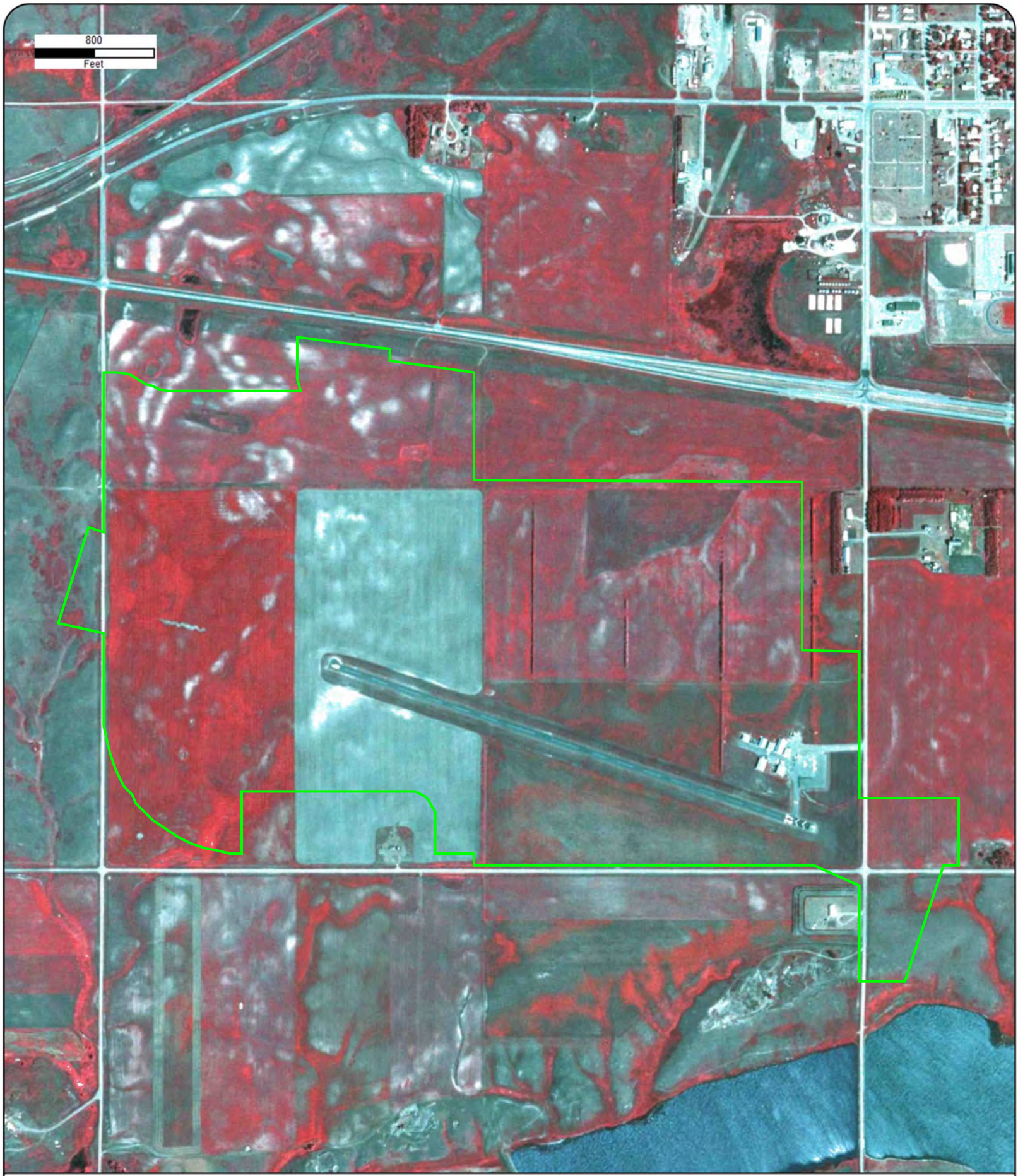
ERIS

Year: 1991
Source: USGS
Scale: 1" = 800'
Comment: Best Copy Available

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



Year: 1984
Source: USGS
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 1974
Source: USGS
Scale: 1" = 800'
Comment: Best Copy Available

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Year: 1967
Source: USGS
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

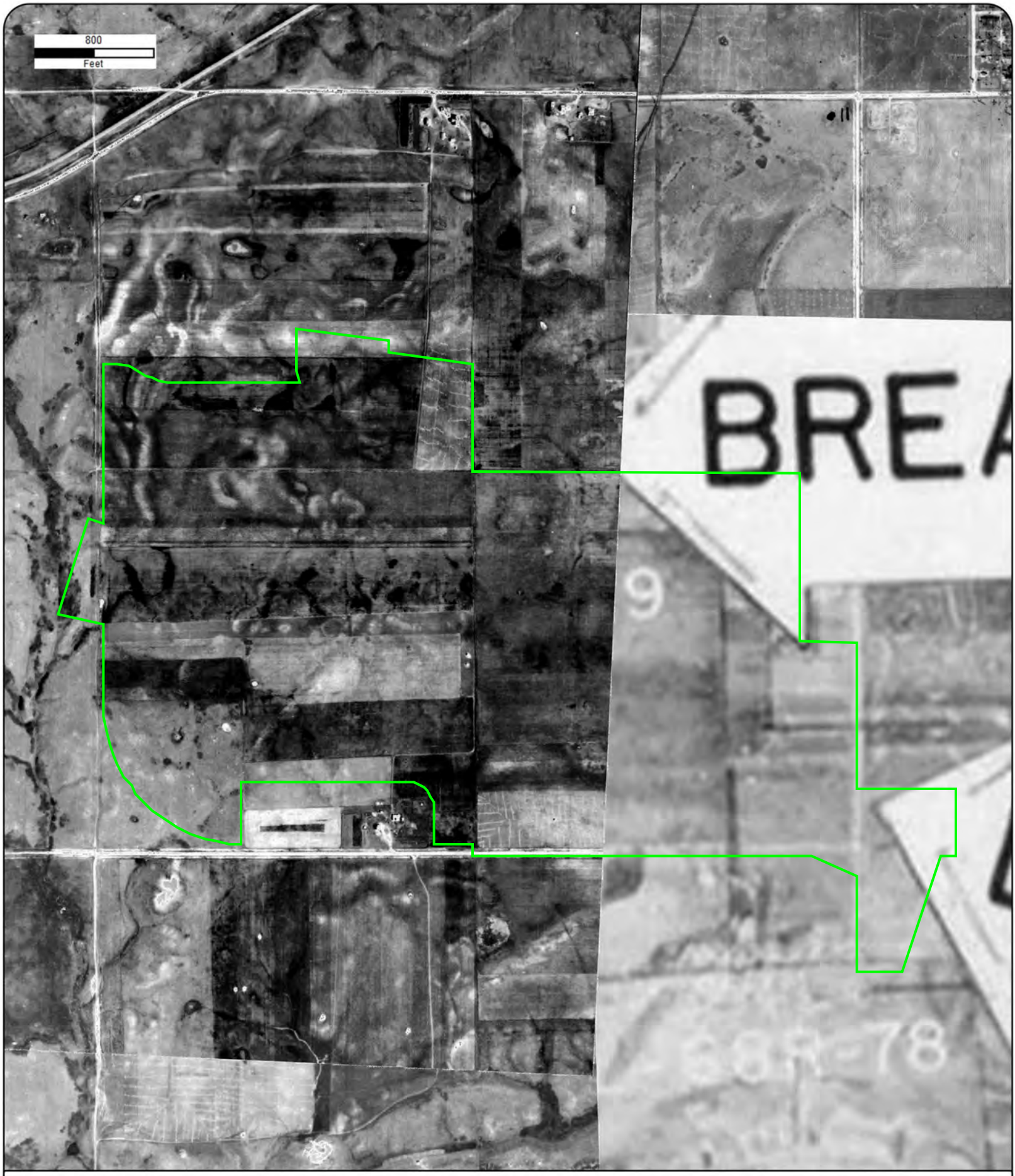
ERIS

Year: 1958
Source: ASCS
Scale: 1" = 800'
Comment:

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS



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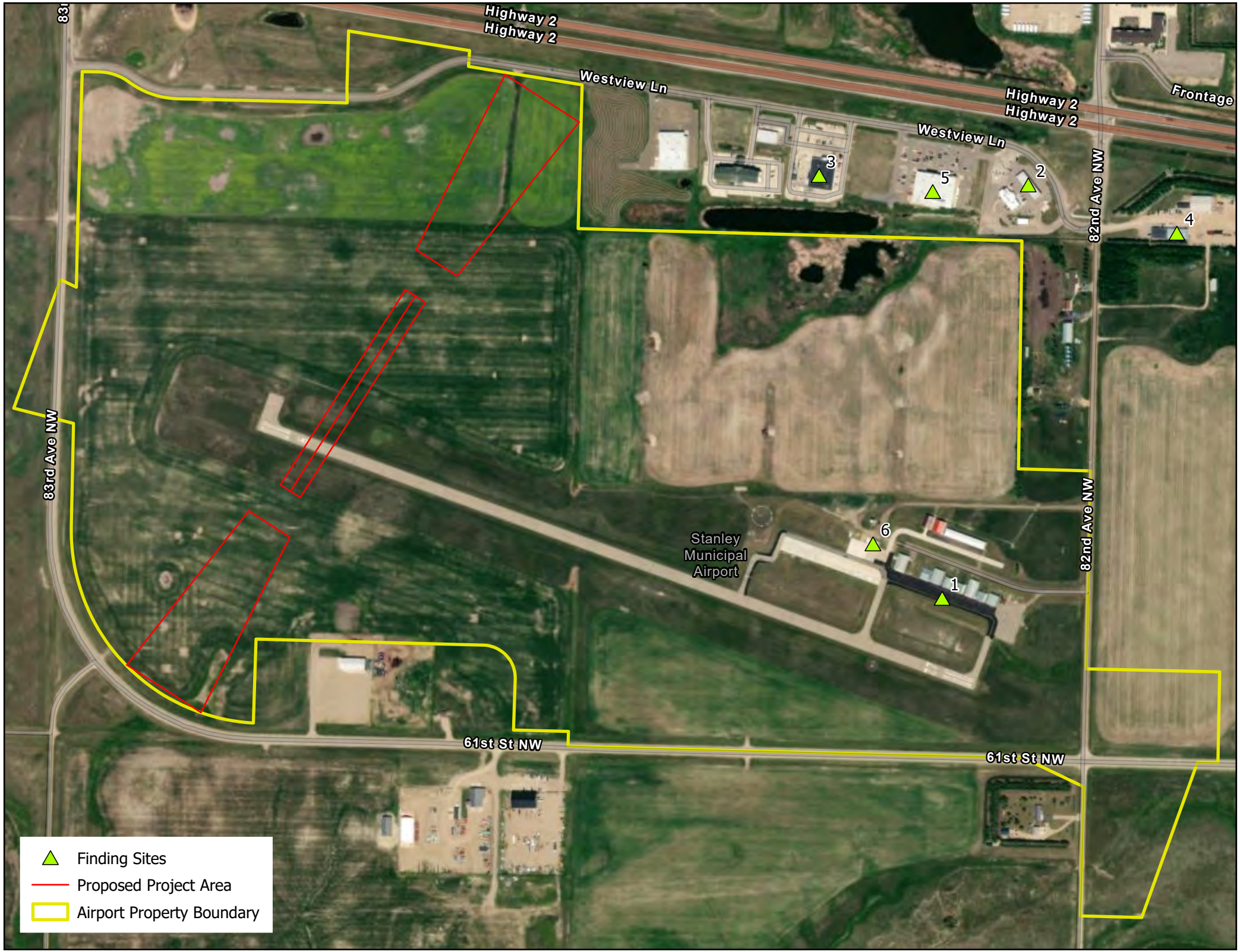
Scale: 1" = 800'
Comment: Photo Index-Best Available

Address: Stanley Municipal Airport, Stanley, ND
Approx Center: -102.40766666,48.3023571

Order No: 23101200256

ERIS

Appendix H. Potentially Hazardous Materials Map


Highway 2
Highway 2
Westview Ln
Highway 2
Highway 2
Westview Ln
Frontage
82nd Ave NW
82nd Ave NW
83rd Ave NW
Stanley
Municipal
Airport
61st St NW
61st St NW
1
2
3
4
5
6
Finding Sites
Proposed Project Area
Airport Property Boundary

Appendix I. Database Search Results

North Dakota Department of Environmental Quality - Leaking Underground Storage Tank Registry

Facility ID	Owner Name	Owner Address	Owner City State Zip	Facility Name	Facility Address	Facility Address 2	Facility City State Zip	Facility County	Alternate ID	Lust Status	Lust Status Date
381	United Quality Cooperative	po box 340	New Town ND 58763-	United Prairie Cooperative C Store	712 N 1st St	Box 340	New Town ND 58763-	Mountrail	381	Site Cleanup Completed	5/8/1996
5384	Stanley Airport Authority	PO Box 328	Stanley ND 58784	Stanley Airport	PO Box 489		Stanley ND 58784	Mountrail	5384	Site Cleanup Completed	10/22/1991
5259	Stanley Airport Authority	Box 328	Stanley ND 58784	Stanley Airport Authority	PO Box 328		Stanley ND 58784	Mountrail	5259	Site Cleanup Completed	10/22/1991
6309	John J Boyd Jr	PO Box 627	Stanley ND 58784	Judds Standard	4th Str and 6th Ave SE	PO Box 627	Stanley ND 58784	Mountrail	6309	Site Cleanup Completed	5/13/1997
1821	Charles Foote	16 East Central Avenue	Parshall ND 58770	Chucks Conoco	16 East Central Avenue	PO Box 535	Parshall ND 58770	Mountrail	1821	Site Cleanup Completed	7/21/2007
2835	Kum and Go LLC	1459 Grand Avenue	Des Moines IA 50309-	Kum and Go Store 810	242 Main Street		New Town ND 58763	Mountrail	2835	Site Cleanup Completed	2/28/2003
1307	Gordon S Patten	Box 775	Stanley ND 58784	Grandma Ruby's	Hwy 2		Stanley ND 58784	Mountrail	1307-1	Site Cleanup Completed	6/24/1999
2912	Fort Berhold Development Corp	PO Box 867	New Town ND 58763	West Dakota Service	211 W Main St	PO Box 867	New Town ND 58763	Mountrail	2912f-1	Site Cleanup Completed	5/21/2012
3621	Farmers Union Oil Company	PO Box 158	Plaza ND 58771-	Farmers Union Oil Company	102 Main Street	Box 158	Plaza ND 58771	Mountrail	3621-1	Site Cleanup Completed	8/1/2014
1250	Colorodo Tubulars - Aztec Pipe (CTAP)	Box 145	Ross ND 58776-	CTAP	300 E Central Ave	PO Box 145	Ross ND 58776-	Mountrail	1250	Site Cleanup Completed	2/5/1999
486	United Quality Cooperative	po box 340	New Town ND 58763-	United Prairie Cooperative	241 W Main St	Box 340	New Town ND 58763-	Mountrail	486	CleanUp Continuing	11/13/2017
14	Mountrail Electric Coop Inc	242 S Main Street	Stanley ND 58784	Mountrail Electric Coop Inc	242 South Main Street		Stanley ND 58784	Mountrail	14-1	Site Investigation Completed	2/10/2022

Combined Environmental Reporting Information System (CERIS-ND)

SiteID	SITE_NUM	SITE_NAME
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-1.27093E+18	CCWS-7ZTH-0K6	NDPC, LLC - Stanley Terminal
-2.55553E+18	3HFF-VXRB-6V3	HESS BAKKEN INVESTMENTS II, LLC - RS-NELSON FARMS 1-24H
-3.27705E+18	9N4X-5YR6-8NJ	Plains Pipeline, L.P. - Stanley Station
-3.27705E+18	9N4X-5YR6-8NJ	Plains Pipeline, L.P. - Stanley Station
-3.27705E+18	9N4X-5YR6-8NJ	Plains Pipeline, L.P. - Stanley Station
-3.66489E+17	3DF8-M3RY-8CS	Plains Marketing, L.P. - Stanley Metering Station
-3.66489E+17	3DF8-M3RY-8CS	Plains Marketing, L.P. - Stanley Metering Station
-3.66489E+17	3DF8-M3RY-8CS	Plains Marketing, L.P. - Stanley Metering Station
-3.69472E+18	TGZ8-FNET-S8K	HESS BAKKEN INVESTMENTS II, LLC - RS-Bean PAD
-5.31235E+18	Z21V-FB75-B2F	HESS BAKKEN INVESTMENTS II, LLC - RS-THOMPSON-155-92-0112H-1
-5.87162E+18	2RQ9-TDZR-6MP	HESS BAKKEN INVESTMENTS II, LLC - RS-ENANDER A-155-91-0607H-1
-6.05082E+18	N2ME-0NTG-V0X	HESS BAKKEN INVESTMENTS II, LLC - STANLEY 28-21-145-91H
-7.41343E+18	VJNK-GMVZ-HGV	HESS BAKKEN INVESTMENTS II, LLC - RS-NELSON FARMS 11-19H
-8.86531E+18	3PGQ-GHD3-KZJ	HESS BAKKEN INVESTMENTS II, LLC - RS-AGRIBANK-156-91-3427H-1
3.18692E+17	TAGY-RP5F-YBR	Targa Badlands LLC - Stanley Crude Oil Terminal
3.18692E+17	TAGY-RP5F-YBR	Targa Badlands LLC - Stanley Crude Oil Terminal
3.99943E+18	EEFR-6FX7-QVT	HESS BAKKEN INVESTMENTS II, LLC - RS-BECKER-156-92-3526H-1
4.67734E+18	XFT7-F8JE-2M3	CONTINENTAL RESOURCES, INC. - JEAN NELSON 1-35H
5.01608E+17	37BN-3WB4-9S6	Dakota Access, LLC - Stanley Station
5.01608E+17	37BN-3WB4-9S6	Dakota Access, LLC - Stanley Station
6.47821E+18	Y12M-V452-AZT	HESS BAKKEN INVESTMENTS II, LLC - RS-STATE-156-92-3625H-1
6.8785E+18	B3NY-Y6J6-0TZ	Plains Pipeline, L.P. - Nelson Junction
6.93012E+18	KM9T-YFQP-NJ5	Bechtold Paving, Inc. - Portable Plant P-2
7.45198E+18	9JG6-RB6W-TZT	Bridger Pipeline LLC - Stanley Station
7.45198E+18	9JG6-RB6W-TZT	Bridger Pipeline LLC - Stanley Station
7.45198E+18	9JG6-RB6W-TZT	Bridger Pipeline LLC - Stanley Station
7.74765E+18	XVAE-RQDD-E7B	INACTIVE -- Dakota Quality Grain Cooperative - Dakota Quality Grain Cooperative - Stanley
7.96892E+18	AV31-94XT-ZV0	HESS BAKKEN INVESTMENTS II, LLC - RS-LOIS ENANDER-156-91-3130H-1

ADDRESS_1	CITY	ZIP	PROGRAM_ID	START_DATE_DESC	START_DATE
6150 Highway 8	Stanley	58784	ACP-17261	Effective	5/5/2010 0:00
6150 Highway 8	Stanley	58784	ACP-17336	Effective	4/26/2011 0:00
6150 Highway 8	Stanley	58784	ACP-17603	Effective	2/25/2014 0:00
6150 Highway 8	Stanley	58784	ACP-17941	Effective	11/15/2019 0:00
6150 Highway 8	Stanley	58784	AOP-28127	Effective	1/17/2023 0:00
6150 Highway 8	Stanley	58784	HPB-K33T-920BH	Received	9/8/2021 15:42
6150 Highway 8	Stanley	58784	HPQ-V237-HMR0G	Received	1/20/2023 12:05
			OGR-12072	Effective	11/30/2020 0:00
NW1/4 NW1/4 T156N R91W Sec 27	Stanley	58784	ACP-17239	Effective	
NW1/4 NW1/4 T156N R91W Sec 27	Stanley	58784	ACP-17353	Effective	6/14/2011 0:00
NW1/4 NW1/4 T156N R91W Sec 27	Stanley	58784	AOP-28212	Effective	7/9/2020 0:00
6132 Highway 8	Stanley	58784	ACP-17218	Effective	6/25/2009 0:00
6132 Highway 8	Stanley	58784	ACP-17264	Effective	5/27/2010 0:00
6132 Highway 8	Stanley	58784	ACP-17314	Effective	2/9/2011 0:00
			OGR-13472	Effective	11/30/2020 0:00
			OGR-13166	Effective	11/30/2020 0:00
			OGR-13564	Effective	11/30/2020 0:00
			OGR-15954	Effective	11/30/2020 0:00
			OGR-12340	Effective	11/30/2020 0:00
			OGR-12878	Effective	11/30/2020 0:00
NE 1/4, SW 1/4, Sec. 27, T156N, R91W	Stanley	0	ACP-17567	Effective	9/25/2013 0:00
NE 1/4, SW 1/4, Sec. 27, T156N, R91W	Stanley	0	AOP-27978	Effective	11/12/2019 0:00
			OGR-12895	Effective	11/30/2020 0:00
			OGR-12514	Effective	11/30/2020 0:00
6140 85th Avenue NW	Stanley	58784	ACP-17740	Effective	8/12/2015 0:00
6140 85th Avenue NW	Stanley	58784	AOP-28023	Effective	9/1/2022 0:00
			OGR-12607	Effective	11/30/2020 0:00
	Stanley	58784	ACP-17792	Effective	6/14/2016 0:00
		0	AOP-27099	Effective	1/26/2022 0:00
SW Â¼, NW Â¼, Sec. 27, T156N, R91W	Stanley	58784	ACP-17141	Effective	9/28/2007 0:00
SW Â¼, NW Â¼, Sec. 27, T156N, R91W	Stanley	58784	ACP-17269	Effective	6/17/2010 0:00
SW Â¼, NW Â¼, Sec. 27, T156N, R91W	Stanley	58784	AOP-27882	Effective	6/20/2023 0:00
PO Box 339	Stanley	58784	AOP-27423	Effective	1/17/2008 0:00
			OGR-13410	Effective	11/30/2020 0:00

END_DATE_DESC	SiteID	END_DATE	TYPE_CODE	ENV_INT_NUM
Expiration / Termination	-1.27093E+18		AIRPTC	ACP-17261
Expiration / Termination	-1.27093E+18		AIRPTC	ACP-17336
Expiration / Termination	-1.27093E+18		AIRPTC	ACP-17603
Expiration / Termination	-1.27093E+18		AIRPTC	ACP-17941
Expiration / Termination	-1.27093E+18	7/10/2024 0:00	AIRPTOMIN	AOP-28127
	-1.27093E+18		REQST	HPB-K33T-920BH
	-1.27093E+18		REQST	HPQ-V237-HMR0G
Expiration / Termination	-2.55553E+18		AIROG	OGR-12072
Expiration / Termination	-3.27705E+18		AIRPTC	ACP-17239
Expiration / Termination	-3.27705E+18		AIRPTC	ACP-17353
Expiration / Termination	-3.27705E+18	7/9/2025 0:00	AIRPTOMIN	AOP-28212
Expiration / Termination	-3.66489E+17		AIRPTC	ACP-17218
Expiration / Termination	-3.66489E+17		AIRPTC	ACP-17264
Expiration / Termination	-3.66489E+17		AIRPTC	ACP-17314
Expiration / Termination	-3.69472E+18		AIROG	OGR-13472
Expiration / Termination	-5.31235E+18		AIROG	OGR-13166
Expiration / Termination	-5.87162E+18		AIROG	OGR-13564
Expiration / Termination	-6.05082E+18		AIROG	OGR-15954
Expiration / Termination	-7.41343E+18		AIROG	OGR-12340
Expiration / Termination	-8.86531E+18		AIROG	OGR-12878
Expiration / Termination	3.18692E+17		AIRPTC	ACP-17567
Expiration / Termination	3.18692E+17	11/24/2024 0:00	AIRPTOMIN	AOP-27978
Expiration / Termination	3.99943E+18		AIROG	OGR-12895
Expiration / Termination	4.67734E+18		AIROG	OGR-12514
Expiration / Termination	5.01608E+17		AIRPTC	ACP-17740
Expiration / Termination	5.01608E+17	9/1/2027 0:00	AIRPTOMIN	AOP-28023
Expiration / Termination	6.47821E+18		AIROG	OGR-12607
Expiration / Termination	6.8785E+18		AIRPTC	ACP-17792
Expiration / Termination	6.93012E+18	1/15/2027 0:00	AIRPTOMIN	AOP-27099
Expiration / Termination	7.45198E+18		AIRPTC	ACP-17141
Expiration / Termination	7.45198E+18		AIRPTC	ACP-17269
Expiration / Termination	7.45198E+18	7/31/2028 0:00	AIRPTOMIN	AOP-27882
Expiration / Termination	7.74765E+18	1/17/2013 0:00	AIRPTOGEN	AOP-27423
Expiration / Termination	7.96892E+18		AIROG	OGR-13410

TYPE_DESC_LONG
Permit Number: ACP-17261 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: ACP-17336 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: ACP-17603 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: Terminated
Permit Number: ACP-17941 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: AOP-28127 v4. 1. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Air General Notification (for Non-Permitted/Non-Registered OG Sites); Status: Completed
AQ Permit [w/o app] (Internal); Status: Completed
Permit Number: OGR-12072 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: ACP-17239 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: ACP-17353 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: AOP-28212 v3. 0. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Permit Number: ACP-17218 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: Terminated
Permit Number: ACP-17264 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: Terminated
Permit Number: ACP-17314 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: Terminated
Permit Number: OGR-13472 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-13166 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-13564 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-15954 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-12340 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-12878 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: ACP-17567 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: AOP-27978 v2. 0. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Permit Number: OGR-12895 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: OGR-12514 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: ACP-17740 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: AOP-28023 v2. 0. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Permit Number: OGR-12607 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect
Permit Number: ACP-17792 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: Terminated
Permit Number: AOP-27099 v5. 0. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Permit Number: ACP-17141 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: ACP-17269 v1. 0. Category: Air Permit to Construct. Type: Construction Permit - Minor. Status: In Effect
Permit Number: AOP-27882 v4. 0. Category: Air Permit to Operate - Minor. Type: Operating Permit - Minor. Status: In Effect
Permit Number: AOP-27423 v2. 0. Category: Air Permit to Operate - General. Type: Operating Permit - General. Status: Terminated
Permit Number: OGR-13410 v1. 0. Category: Air Oil and Gas Facility Registration. Type: Oil and Gas Production Facility (Minor). Status: In Effect

Envirofacts, U.S. Environmental Protection Agency

FACILITY INFORMATION	ADDRESS
ANDEAVOR FIELD SERVICES LLC - STANLEY COMPRESSOR STATION	NENE SEC 14, T155N, R91W, STANLEY, ND 58784
ARSENAL ANTHONY ROBERT & WADE MORRIS	48.25571,-102.35941, STANLEY, ND 58784
ATHENA 1-36H	48.19740, -102.45554, STANLEY, ND 58784
ATHENA 2-36H & 5-36TFH	48.19751, -102.44316, STANLEY, ND 58784
ATHENA 3-36H & 6-36TFH	48.19822, -102.44823, STANLEY, ND 58784
ATHENA 4-36TFH	48.19763, -102.45853, STANLEY, ND 58784
BISON MIDSTREAM, LLC-MIRAGE COMPRESSOR STATION	8591 COUNTY RD 11, STANLEY, ND 58784
BISON MIDSTREAM, LLC-WEST COMPRESSOR STATION	SW ¼, SE ¼, SEC. 6, T157N, R90W, STANLEY, ND 58784
BRIDGER PIPELINE LLC-EHLERT STATION	NW ¼, NW ¼, SEC. 35, T153N, R90W, STANLEY, ND 58784
BRIDGER PIPELINE LLC-STANLEY STATION	T156N, R91W, SEC 27, STANLEY, ND 58784
CASH WISE FOODS - STANLEY 3047	406 WESTVIEW LN, STANLEY, ND 58784
COTTONWOOD 2-35H	48.37340, -102.51830, STANLEY, ND 58784
DAKOTA ACCESS, LLC-STANLEY STATION	SEC. 25, T156N, R92W, STANLEY, ND 58784
ENBRIDGE OPERATING SERVICES, L.L.C. (ENBRIDGE)-STANLEY STATION	T156 R91 SCT27, STANLEY, ND 58784
EOG RESOURCES - HAWKEYE 100-2501H AND 2-2501H	6201 81ST AVE, STANLEY, ND 58784
EOG RESOURCES RAILYARD	STANLEY, STANLEY, ND 58784
EOG RESOURCES RAIL YARD	7988 63RD AVENUE NW, STANLEY, ND 58784
EQUINOR PIPELINES LLC-ROSS OIL FACILITY	SEC. 31, T156N, R92W, STANLEY, ND 58784
FORMER STANLEY PIPELINE STATION	S OF STANLEY ON HWY 8, STANLEY, ND 58784
HILAND CRUDE, LLC-WHITE EARTH STATION	NE ¼, NE ¼, SEC. 32, T156N, R93W, STANLEY, ND 58784
HILAND PARTNERS HOLDINGS LLC-NORTH ANTELOPE COMPRESSOR STATION	NE ¼, NE ¼, SEC. 1, T154N, R94W, STANLEY, ND 58784
J & J OILFIELD SERVICES INC	120 MAIN, STE 203, STANLEY, ND 58784
JON R, SHIRLEY ANN, CORPRON	48.25368, -102.38158, STANLEY, ND 58784
MARATHON PETROLEUM - STANLEY TRANSPORTATION TRUCK TERMINAL	8116 61ST ST, STANLEY, ND 58784
M-I SWACO	7903 OLD HIGHWAY 2, STANLEY, ND 58784
MOUNTRAIL COUNTY WEED BOARD	8103 61ST ST. NW, STANLEY, ND 58784
MULTI-CHEM GROUP LLC - STANLEY FACILITY	701 4TH STREET SW, STANLEY, ND 58784
NALCO COMPANY-STANLEY	6305 HIGHWAY 8, STANLEY, ND 58784
NALCO COMPANY - STANLEY FACILITY	6305 HIGHWAY 8, STANLEY, ND 58784
NORTH AMERICAN TRAILER SALES, LTD	8116 NW 61ST ST, STANLEY, ND 58784
NORTHERN TIER OIL TRANSPORT	8116 SOUTH 61ST STREET, STANLEY, ND 58784
PAT'S OFFROAD DBA OIL WORX	8116 61ST ST NW, STANLEY, ND 58784
PECAN PIPELINE (NORTH DAKOTA) INC.-AUSTIN COMPRESSOR STATION	SEC. 3, T154N, R90W, STANLEY, ND 58784
PECAN PIPELINE (NORTH DAKOTA) INC.-BOTTLESON COMPRESSOR STATION	T154 R90 SCT22, STANLEY, ND 58784
PECAN PIPELINE (NORTH DAKOTA) INC.-CORMYLO COMPRESSOR STATION	SEC. 34, T154N, R90W, STANLEY, ND 58784
PECAN PIPELINE (NORTH DAKOTA) INC.-GEVING COMPRESSOR STATION	T152 R90 SCT9, STANLEY, ND 58784
PLAINS PIPELINE - STANLEY STATION	6124 HWY 8, STANLEY, ND 58784
PROJECT SAFE SEND	8250 62ND ST NW, STANLEY, ND 58784
ROSS 03-04H	48.37176, -102.52025, STANLEY, ND 58784
ROSS 13-15H	48.32784, -102.48380, STANLEY, ND 58784
ROSS 18-10H	48.34294, -102.48358, STANLEY, ND 58784
ROSS 2-03H	48.35705, -102.48395, STANLEY, ND 58784
ROSS 21-04H	48.37209, -102.50888, STANLEY, ND 58784
ROSS 35-0331H	48.35828, -102.48436, STANLEY, ND 58784
STANLEY BOOSTER STATION	7997 58TH STREET NW, STANLEY, ND 58784
STANLEY CITY HALL	221 S MAIN ST, STANLEY, ND 58784
STANLEY CITY OF	221 S MAIN, STANLEY, ND 58784
STANLEY LACT STATION	6150 HWY 8, STANLEY, ND 58784
STANLEY MUD PLANT - INNOVATIVE SOLUTIONS LTD	7903 OLD HWY. 2, STANLEY, ND 58784
STANLEY MUNICIPAL AIRPORT	6107 82ND AVENUE NORTHWEST, STANLEY, ND 58784
STATOIL OIL & GAS LP-ARVID ANDERSON COMPRESSOR STATION	T155 R92 SCT14, STANLEY, ND 58784
STATOIL OIL & GAS LP-FOUR WAY COMPRESSOR STATION	T156 R92 SCT31, STANLEY, ND 58784
STRATA CORPORATION-STANLEY	8116 61ST ST, NW #4, STANLEY, ND 58784
THERMO FLUIDS INC	7737 HIGHWAY 2, BUILDING 2, STANLEY, ND 58784

SUMMARY REPORT	FACILITY REPORT
https://enviro.epa.gov/envirofacts/envirofacts/multisystem/summary-report?registryId=110056188058	https://frs-public.epa.gov/ords/frs_public2/fii_query_dtl.disp_program_facility?p_registry_id=110056188058
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COMPLIANCE REPORT

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ICIS-Air

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Appendix J. ERIS Database Reports

DATABASE REPORT

Project Property:	*Stanley Municipal Airport* *Stanley Municipal Airport* *Stanley ND*
Project No:	*4545300-230576.01*
Report Type:	*Database Report*
Order No:	*23101200256*
Requested by:	*Mead & Hunt, Inc.*
Date Completed:	*October 13, 2023*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*Stanley Municipal Airport* *Stanley Municipal Airport Stanley ND*
Project No:		*4545300-230576.01*
Coordinates:		
	Latitude:	*48.3023571*
	Longitude:	*-102.40766666*
	UTM Northing:	*5,353,155.03*
	UTM Easting:	*692,236.29*
	UTM Zone:	*UTM Zone 13U*
Elevation:		*2,239 FT*

Order Information:

Order No:	*23101200256*
Date Requested:	*October 12, 2023*
Requested by:	*Mead & Hunt, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	**2**	0	-	-	**2**
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
DOE FUSRAP	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	**2**	0	0	0	-	**2**
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	**2**	**1**	0	-	-	**3**
AST	Y	0.25	**1**	**1**	0	-	-	**2**
DTNK	Y	0.25	0	0	0	-	-	0
INST	Y	0.5	0	0	0	0	-	0
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County	***No County standard environmental record sources available for this State.***							
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	**6**	**2**	-	-	-	**8**
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
PFAS IND	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
PFAS	Y	0.5	0	0	0	0	-	0
SPILLS	Y	0.125	0	0	-	-	-	0
HIST SPILLS	Y	0.125	**1**	0	-	-	-	**1**

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HIST OGW SPILLS	Y	0.125	0	0	-	-	-	0
CDL	Y	0.25	0	0	0	-	-	0
UIC	Y	PO	0	-	-	-	-	0
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
AIR PERMITS	Y	0.25	0	0	0	-	-	0
FEEDLOTS	Y	0.5	0	0	0	0	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental record sources available for this State.***

Total:	***12***	***6***	*0*	*0*	*0*	***18***

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	FINDS/FRS	STANLEY / STANLEY AIRPORT / U	PO BOX 328 STANLEY ND 58784 ***Registry ID:*** *110056229656*	SE	0.00 / 0.00	-2	18
1	FINDS/FRS	STANLEY AIRPORT	PO BOX 489 STANLEY ND 58784 ***Registry ID:*** *110056229647*	SE	0.00 / 0.00	-2	18
1	FINDS/FRS	STANLEY MUNI	UNK STANLEY ND 58784 ***Registry ID:*** *110038074776*	SE	0.00 / 0.00	-2	19
1	FINDS/FRS	STANLEY MUNICIPAL AIRPORT	6107 82ND AVENUE NORTHWEST STANLEY ND 58784 ***Registry ID:*** *110056174606*	SE	0.00 / 0.00	-2	20
1	LUST	Stanley Airport Authority	PO Box 328 Stanley ND 58784 ND ***Facility ID:*** *5259* ***LUST Status | LUST Status Date:*** *Site Cleanup Completed | 10/22/1991*	SE	0.00 / 0.00	-2	20
1	LUST	Stanley Airport	PO Box 489 Stanley ND 58784 ND ***Facility ID:*** *5384* ***LUST Status | LUST Status Date:*** *Site Cleanup Completed | 10/22/1991*	SE	0.00 / 0.00	-2	20
1	HIST SPILLS	Stanley / Airport / UST	Stanley ND	SE	0.00 / 0.00	-2	21
1	UST	Stanley Airport Authority	PO Box 328 Stanley ND 58784 ND ***Facility ID | Facility Status:*** *5259 | Inactive*	SE	0.00 / 0.00	-2	21
1	UST	Stanley Airport	PO Box 489 Stanley ND 58784 ND ***Facility ID | Facility Status:*** *5384 | Inactive*	SE	0.00 / 0.00	-2	23
1	AST	Stanley Municipal Airport	6135 82 Ave NW Stanley ND 58784 ***Registration No | Facility Status:*** *1203 | Active*	SE	0.00 / 0.00	-2	26
1	FINDS/FRS	STANLEY AIRPORT AUTHORITY	PO BOX 328 STANLEY ND 58784 ***Registry ID:*** *110063061715*	SE	0.00 / 0.00	-2	27
1	FINDS/FRS	STANLEY MUNICIPAL AIRPORT AUTHORITY	6107 82ND AVENUE NORTHWEST UNKNOWN ND 58000 ***Registry ID:*** *110070617400*	SE	0.00 / 0.00	-2	28

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
2	UST	Holiday Stationstore #432	402 Westview Ln Stanley ND 58784- ND ***Facility ID*	*Facility Status:*** 10878 | Active	ENE	0.02 / 91.18	-3	28
2	FINDS/FRS	HOLIDAY STATIONSTORE #432	402 WESTVIEW LN STANLEY ND 58784 ***Registry ID:*** 110058241898	ENE	0.02 / 91.18	-3	31
2	RCRA VSQG	CASH WISE FOODS - STANLEY 3047	406 WESTVIEW LN STANLEY ND 58784 ***EPA Handler ID:*** NDR000014696	ENE	0.02 / 91.18	-3	32
2	FINDS/FRS	CASH WISE FOODS - STANLEY 3047	406 WESTVIEW LN STANLEY ND 58784 ***Registry ID:*** 110070664995	ENE	0.02 / 91.18	-3	33
3	RCRA VSQG	TRACTOR SUPPLY #1813	506 WESTVIEW LANE STANLEY ND 58784 ***EPA Handler ID:*** NDR000011460	NE	0.11 / 601.85	-5	34
4	AST	Mountrail Williams Electric Cooperative	6150 82nd Ave NW Stanley ND 58784 ***Registration No*	*Facility Status:*** 4708 | Active	ENE	0.12 / 627.27	3	36

Executive Summary: Summary by Data Source

Standard

Federal

RCRA VSQG - RCRA Very Small Quantity Generators List

A search of the RCRA VSQG database, dated Jul 10, 2023 has found that there are 2 RCRA VSQG site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
CASH WISE FOODS - STANLEY 3047	406 WESTVIEW LN STANLEY ND 58784	ENE	0.02 / 91.18	2
	***EPA Handler ID**: NDR000014696*			
TRACTOR SUPPLY #1813	506 WESTVIEW LANE STANLEY ND 58784	NE	0.11 / 601.85	3
	***EPA Handler ID**: NDR000011460*			

State

LUST - Leaking Underground Storage Tank List

A search of the LUST database, dated Aug 25, 2023 has found that there are 2 LUST site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Stanley Airport	PO Box 489 Stanley ND 58784 ND	SE	0.00 / 0.00	1
	***Facility ID**: 5384* ***LUST Status** | **LUST Status Date**: Site Cleanup Completed | 10/22/1991*			
Stanley Airport Authority	PO Box 328 Stanley ND 58784 ND	SE	0.00 / 0.00	1
	***Facility ID**: 5259* ***LUST Status** | **LUST Status Date**: Site Cleanup Completed | 10/22/1991*			

UST - Underground Storage Tank List

A search of the UST database, dated Aug 25, 2023 has found that there are 3 UST site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Stanley Airport	PO Box 489 Stanley ND 58784 ND	SE	0.00 / 0.00	1
	***Facility ID** | **Facility Status**: 5384 | Inactive*			
Stanley Airport Authority	PO Box 328 Stanley ND 58784 ND	SE	0.00 / 0.00	1
	***Facility ID** | **Facility Status**: 5259 | Inactive*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Holiday Stationstore #432	402 Westview Ln Stanley ND 58784- ND	ENE	0.02 / 91.18	2
	Facility ID* | *Facility Status: *10878* | *Active*			

AST - Registered Aboveground Storage Tanks

A search of the AST database, dated Aug 15, 2023 has found that there are 2 AST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Mountrail Williams Electric Cooperative	6150 82nd Ave NW Stanley ND 58784	ENE	0.12 / 627.27	4
	Registration No* | *Facility Status: *4708* | *Active*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Stanley Municipal Airport	6135 82 Ave NW Stanley ND 58784	SE	0.00 / 0.00	1
	Registration No* | *Facility Status: *1203* | *Active*			

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Mar 2, 2023 has found that there are 8 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
STANLEY MUNI	UNK STANLEY ND 58784	SE	0.00 / 0.00	1
	Registry ID: *110038074776*			
STANLEY AIRPORT	PO BOX 489 STANLEY ND 58784	SE	0.00 / 0.00	1
	Registry ID: *110056229647*			
STANLEY AIRPORT AUTHORITY	PO BOX 328 STANLEY ND 58784	SE	0.00 / 0.00	1
	Registry ID: *110063061715*			
STANLEY MUNICIPAL AIRPORT	6107 82ND AVENUE NORTHWEST STANLEY ND 58784	SE	0.00 / 0.00	1
	Registry ID: *110056174606*			
STANLEY / STANLEY AIRPORT / U	PO BOX 328 STANLEY ND 58784	SE	0.00 / 0.00	1
	Registry ID: *110056229656*			

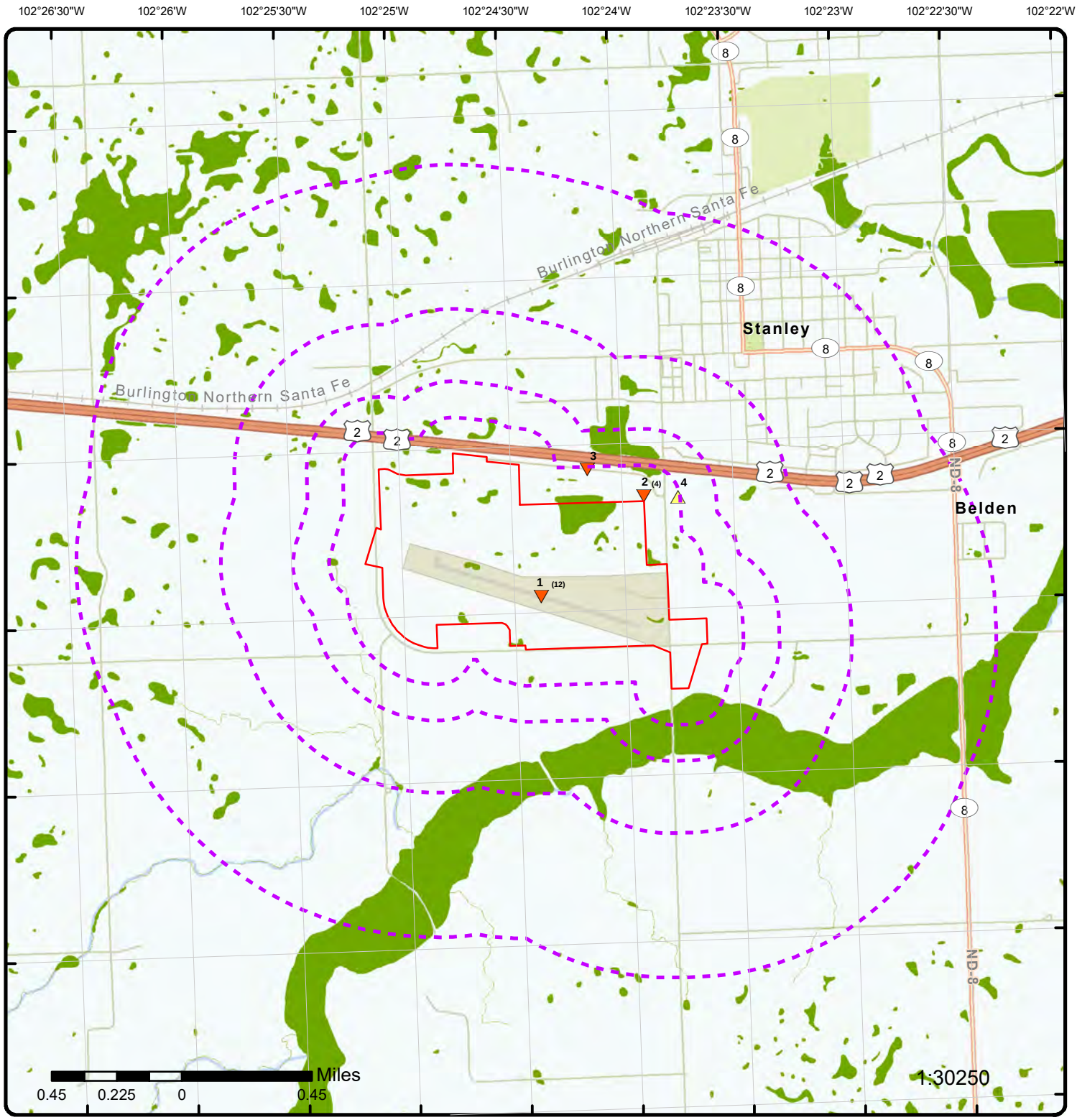
Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
STANLEY MUNICIPAL AIRPORT AUTHORITY	6107 82ND AVENUE NORTHWEST UNKNOWN ND 58000 ***Registry ID**: 110070617400*	SE	0.00 / 0.00	1
CASH WISE FOODS - STANLEY 3047	406 WESTVIEW LN STANLEY ND 58784 ***Registry ID**: 110070664995*	ENE	0.02 / 91.18	2
HOLIDAY STATIONSTORE #432	402 WESTVIEW LN STANLEY ND 58784 ***Registry ID**: 110058241898*	ENE	0.02 / 91.18	2

State

HIST SPILLS - Historical Spills Databse

A search of the HIST SPILLS database, dated Jul 1, 2014 has found that there are 1 HIST SPILLS site(s) within approximately 0.12 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Stanley / Airport / UST	Stanley ND	SE	0.00 / 0.00	1



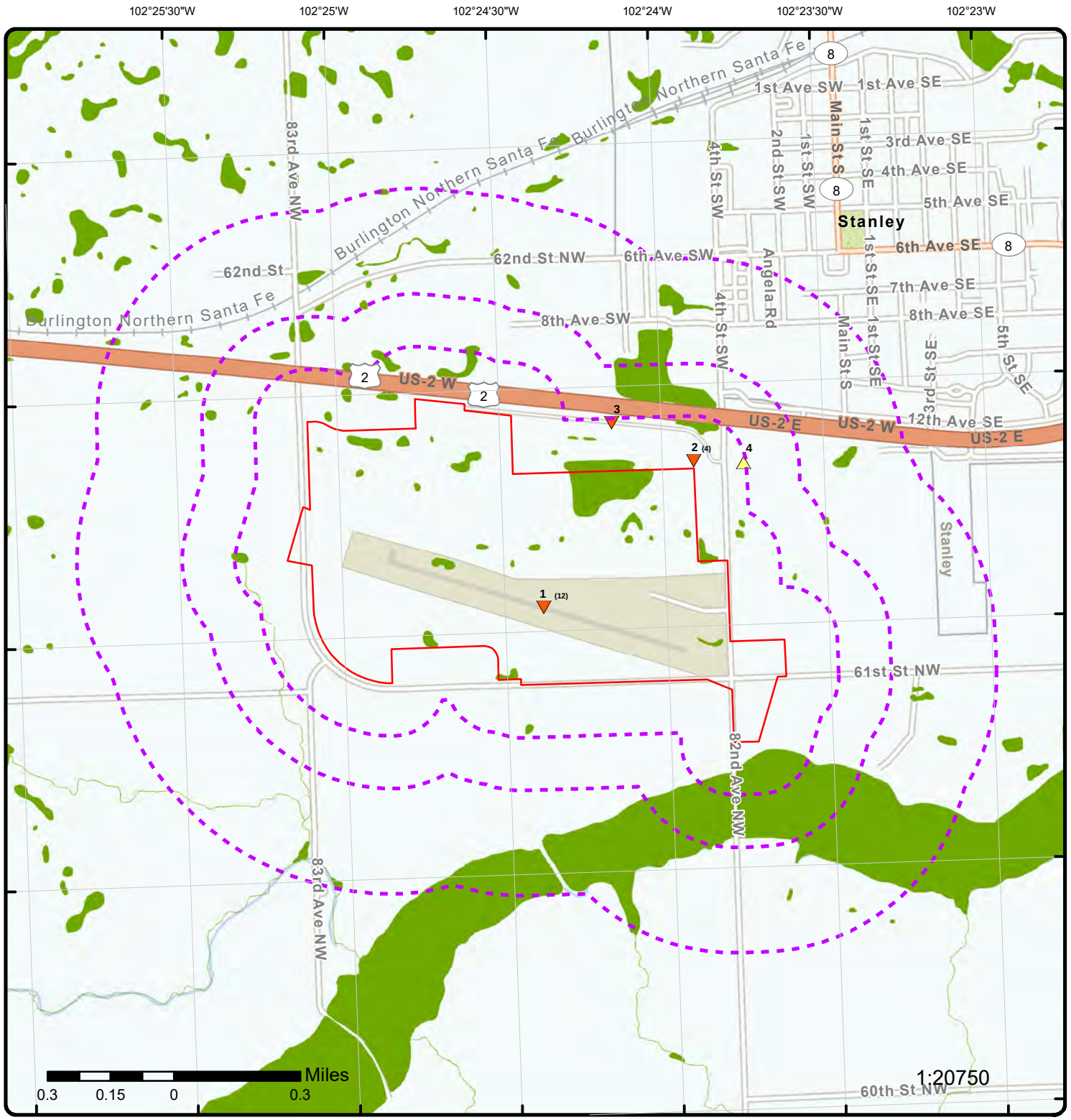
Map: 1.0 Mile Radius

Order Number: 23101200256

Address: Stanley Municipal Airport, Stanley, ND

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

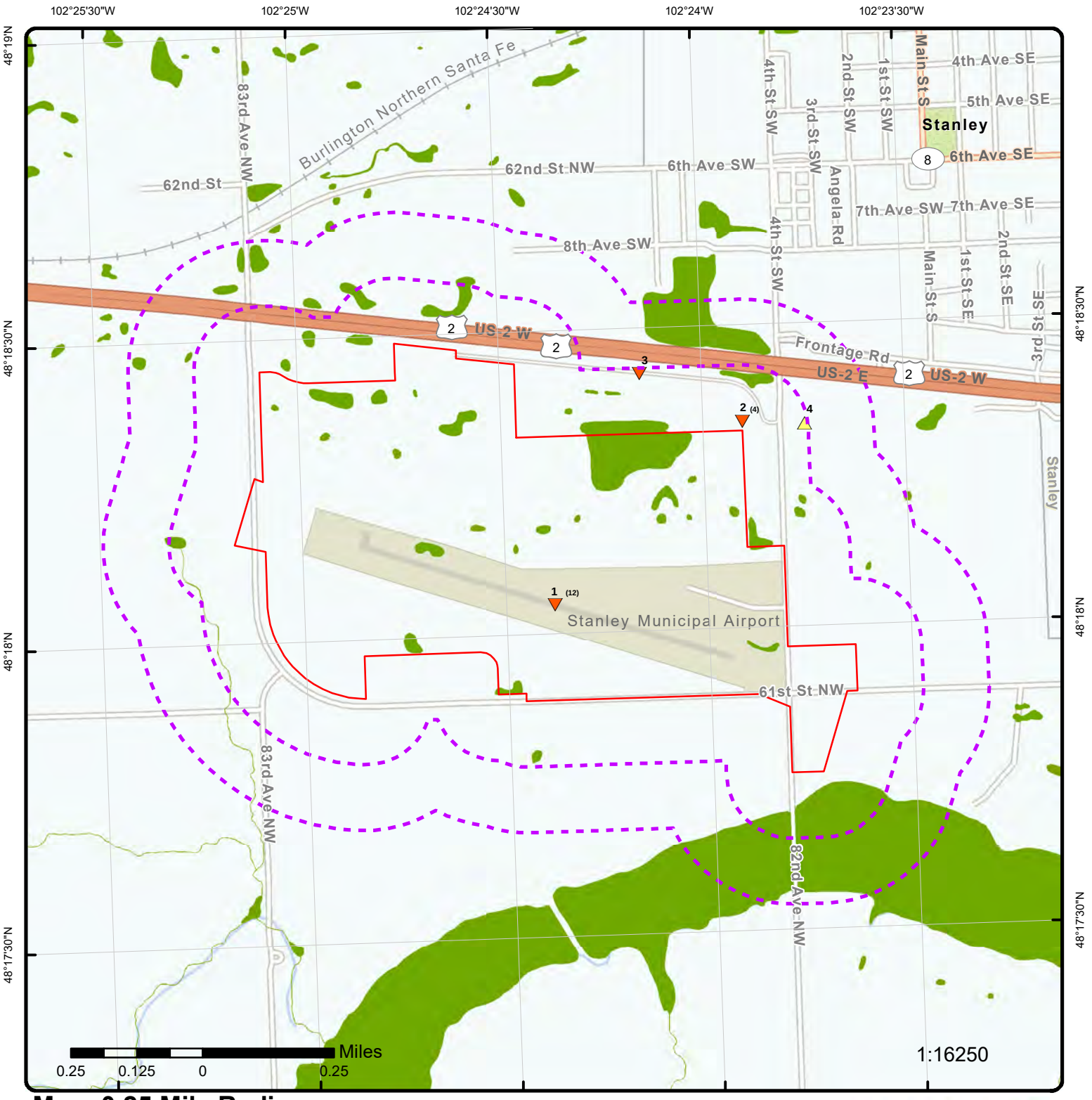


Map: 0.5 Mile Radius

Order Number: 23101200256

Address: Stanley Municipal Airport, Stanley, ND

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)



Map: 0.25 Mile Radius

Order Number: 23101200256

Address: Stanley Municipal Airport, Stanley, ND

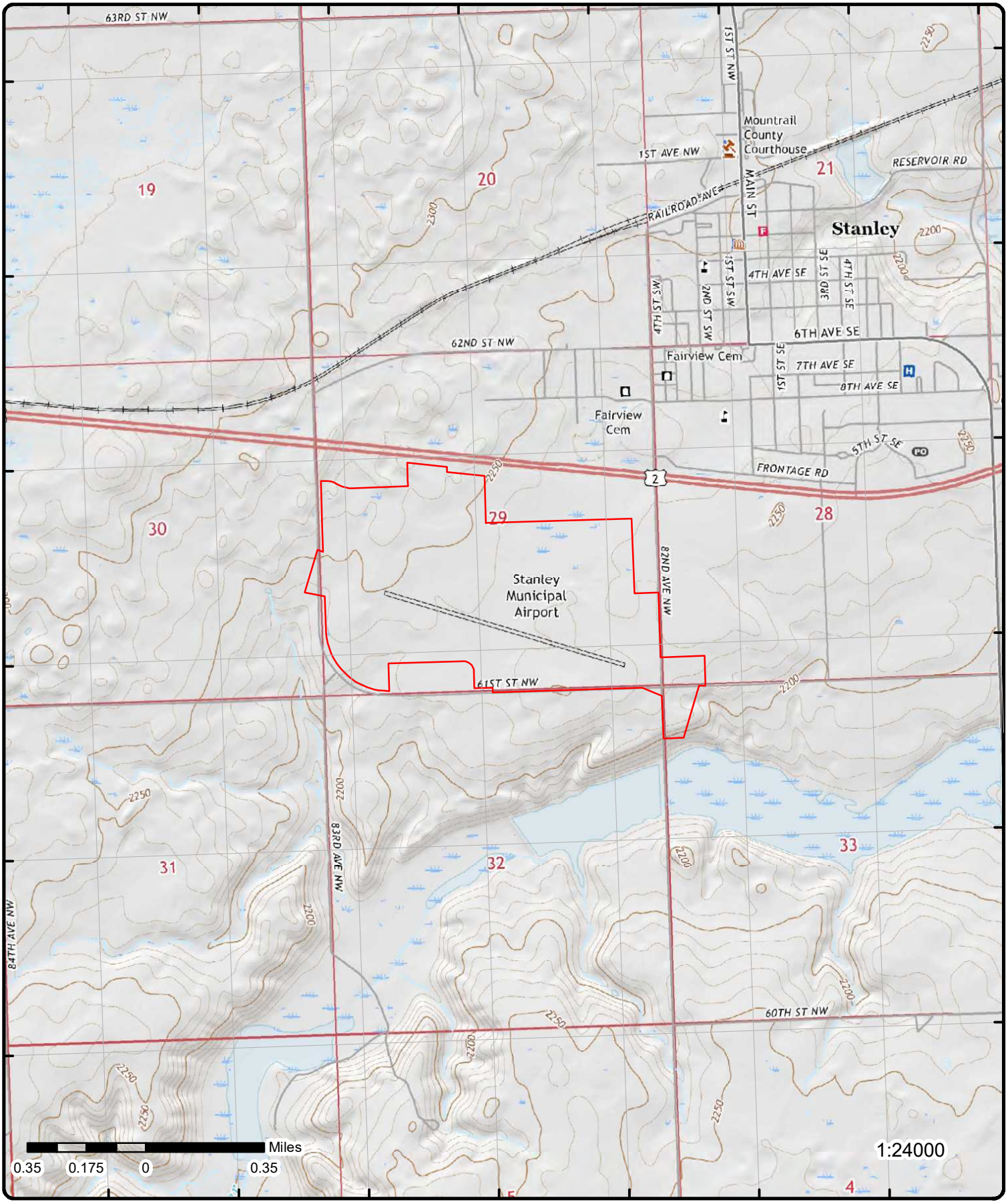
- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Aerial **Year: 2021**

Address: Stanley Municipal Airport, Stanley, ND

Source: ESRI World Imagery

Order Number: 23101200256



Topographic Map

Year: 2020

Order Number: 23101200256

Address: Stanley Municipal Airport, ND

Quadrangle(s): Stanley ND, Stanley SE ND

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 12	SE	0.00 / 0.00	2,236.96 / -2	STANLEY / STANLEY AIRPORT / U PO BOX 328 STANLEY ND 58784	FINDS/FRS

Registry ID: 110056229656
FIPS Code:
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 04-NOV-13
Update Date:
Interest Types: STATE MASTER
SIC Codes: 4512
SIC Code Descriptions: AIR TRANSPORTATION, SCHEDULED
NAICS Codes:
NAICS Code Descriptions:
Conveyor: ND-FP
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.30537
Longitude: -102.40754
Reference Point: OTHER
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110056229656
Data Source: Facility Registry Service - Single File
Program Acronyms:

ND-FP:4753

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 12	SE	0.00 / 0.00	2,236.96 / -2	STANLEY AIRPORT PO BOX 489 STANLEY ND 58784	FINDS/FRS

Registry ID: 110056229647
FIPS Code:
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 04-NOV-13
Update Date:
Interest Types: STATE MASTER
SIC Codes:
SIC Code Descriptions:
NAICS Codes:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

NAICS Code Descriptions:
Conveyor: ND-FP
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.300216
Longitude: -102.398565
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110056229647
Data Source: Facility Registry Service - Single File
Program Acronyms:

ND-FP:4752

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 12	SE	0.00 / 0.00	2,236.96 / -2	STANLEY MUNI UNK STANLEY ND 58784	FINDS/FRS

Registry ID: 110038074776
FIPS Code: 38061
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 18-FEB-09
Update Date: 01-JUN-17
Interest Types: AIR EMISSIONS CLASSIFICATION UNKNOWN
SIC Codes:
SIC Code Descriptions:
NAICS Codes:
NAICS Code Descriptions:
Conveyor: EIS
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.3008
Longitude: -102.40635
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110038074776
Data Source: Facility Registry Service - Single File
Program Acronyms:

EIS:9264411

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	4 of 12	SE	0.00 / 0.00	2,236.96 / -2	STANLEY MUNICIPAL AIRPORT 6107 82ND AVENUE NORTHWEST STANLEY ND 58784	FINDS/FRS

Registry ID: 110056174606
FIPS Code: 38061
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 04-NOV-13
Update Date: 30-SEP-16
Interest Types: ICIS-NPDES NON-MAJOR, STATE MASTER
SIC Codes: 4581
SIC Code Descriptions: AIRPORTS, FLYING FIELDS, AND AIRPORT TERMINAL SERVICES
NAICS Codes:
NAICS Code Descriptions:
Conveyor: ICIS
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.298339
Longitude: -102.397144
Reference Point:
Coord Collection Method: INTERPOLATION-PHOTO
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110056174606
Data Source: Facility Registry Service - Single File
Program Acronyms:

ND-FP:12701, ND-FP:140632, NPDES:NDR050171

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	5 of 12	SE	0.00 / 0.00	2,236.96 / -2	Stanley Airport Authority PO Box 328 Stanley ND 58784 ND	LUST

Facility ID: 5259
Facility County: Mountrail
Latitude: 48.300508
Longitude: -102.398194

Owner Name: Stanley Airport Authority
Owner Address: Box 328
Owner City: Stanley ND 58784

Detail(s)

Alternate ID: 5259
LUST Status: Site Cleanup Completed
LUST Status Date: 10/22/1991

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	6 of 12	SE	0.00 / 0.00	2,236.96 / -2	Stanley Airport PO Box 489 Stanley ND 58784 ND	LUST

Facility ID: 5384
Facility County: Mountrail
Latitude: 48.300216
Longitude: -102.398565

Owner Name: Stanley Airport Authority
Owner Address: PO Box 328
Owner City: Stanley ND 58784

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Detail(s)

Alternate ID: 5384
LUST Status: Site Cleanup Completed
LUST Status Date: 10/22/1991

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	7 of 12	SE	0.00 / 0.00	2,236.96 / -2	Stanley / Airport / UST Stanley ND	HIST SPILLS

Spill ID: SPL404
Latitude: 48.300508
Longitude: -102.39819
County: Mountrail
Range: 091
Township: 156
Section: 29
Quarter:

--Details--
Date Reported: 10/21/1991
Contaminant: Gasoline
Spill Size: Unknown
Spill Units:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	8 of 12	SE	0.00 / 0.00	2,236.96 / -2	Stanley Airport Authority PO Box 328 Stanley ND 58784 ND	UST

Facility ID: 5259
Facility Status: Inactive
Facility County: Mountrail
Latitude: 48.300508
Longitude: -102.398194
Owner Name: Stanley Airport Authority
Owner Address: Box 328
Owner City: Stanley ND 58784
Facility Phone:

Tank Details

Tank No: 2",="R-2
Tank Alternate ID: Permanently Out of Use
Tank Status: True
Tank Fed Regulated: False
Tank AST: False
Tank Stand By: 1000
Tank Total Capacity: 1/1/1900
Tank Date Installed: 10/21/1991
Tank Date Closed: Tank removed from ground
Tank Closure Status: Unknown
Tank Material: None
Tank Secondary Mat: False
Tank Vapor Monitor: False
Tank GW Monitor: False
Tank Int Dbl Walled: False
Tank Int Sec Cont: False
Tank Pipe Vap Mntr: False
Tank Pipe GW Mntr: 1000
TCO Capacity: Gasoline
TCO Substance: Unknown
TCO Pipe Material: None
TCO Pipe Sec Mat: Safe Suction
TCO Pipe Type: False
TCO Overfill Protect: False
TCO Spill Protect: False
TCO ATG: False
TCO MTG: False
Pipe Int Dbl Walled: False
Tcopipeinterstitialsec False
TCO Tightness Test: False
TCO Pipe Tight Test: False
TCO Pipe LD Mech: False
TCO Pipe LD Elec: 1/1/1900
TCO Pipe Install Dt: False
TCO LD Other: False
TCO LD Deferred: False
TCO LD Not Listed: False
TCO Pipe LD Other: False
TCO Pipe LD Defer: True
Pipe LD Not Listed:
TCO Overfill Type: False
Pipe Visual Mntr: False
Pipe Sump Alarm: 0
TCO Spill Capacity:
TCO Spill Install Dt:
TCO Spill Material:
TCO Spill Sec Mat:
TCO Spill Comment: False
Tcospillinterstitialdbl walled: False
TCO Spill Tight Test: False
TCO Spill LD Other: False
Spill LD Not Listed: 1/1/1900
Sump Install Dt:
Sump Bucket Mat:
Tcosumpbucketsecondarymaterial:
TCO Sump Comment: False
Sump Int Dbl Walled: False
Sump Tight Test: False

contain:			
TCO SIR:	False	***TCO Sump LD Other:***	False
TCO Pipe SIR:	True	***Sump LD Not Listed:***	False
TCO Inventory Ctrl:	True	***TCO Contained:***	

Tank Details

Tank No:	1",="R-1	***TCO Tightness Test:***	False
Tank Alternate ID:	Permanently Out of Use	***TCO Pipe Tight Test:***	False
Tank Status:	True	***TCO Pipe LD Mech:***	False
Tank Fed Regulated:	False	***TCO Pipe LD Elec:***	1/1/1900
Tank AST:	False	***TCO Pipe Install Dt:***	False
Tank Stand By:	1000	***TCO LD Other:***	False
Tank Total Capacity:	1/1/1900	***TCO LD Deferred:***	False
Tank Date Installed:	10/21/1991	***TCO LD Not Listed:***	False
Tank Date Closed:	Tank removed from ground	***TCO Pipe LD Other:***	False
Tank Closure Status:	Unknown	***TCO Pipe LD Defer:***	True
Tank Material:	None	***Pipe LD Not Listed:***	
Tank Secondary Mat:	False	***TCO Overfill Type:***	False
Tank Vapor Monitor:	False	***Pipe Visual Mntr:***	False
Tank GW Monitor:	False	***Pipe Sump Alarm:***	0
Tank Int Dbl Walled:	False	***TCO Spill Capacity:***	
Tank Int Sec Cont:	False	***TCO Spill Install Dt:***	
Tank Pipe Vap Mntr:	False	***TCO Spill Material:***	
Tank Pipe GW Mntr:	1000	***TCO Spill Sec Mat:***	
TCO Capacity:	Gasoline	***TCO Spill Comment:***	False
TCO Substance:	Unknown	***Tcospillinterstitialdbl walled:***	False
TCO Pipe Material:	None	***TCO Spill Tight Test:***	False
TCO Pipe Sec Mat:	Safe Suction	***TCO Spill LD Other:***	False
TCO Pipe Type:	False	***Spill LD Not Listed:***	1/1/1900
TCO Overfill Protect:	False	***Sump Install Dt:***	
TCO Spill Protect:	False	***Sump Bucket Mat:***	
TCO ATG:	False	***Tcosumpbucketsecondarymaterial:***	
TCO MTG:	False	***TCO Sump Comment:***	False
Pipe Int Dbl Walled:	False	***Sump Int Dbl Walled:***	False
Tcopipeinterstitialsec contain:	False	***Sump Tight Test:***	False
TCO SIR:	False	***TCO Sump LD Other:***	False
TCO Pipe SIR:	True	***Sump LD Not Listed:***	False
TCO Inventory Ctrl:	True	***TCO Contained:***	

Tank Details

Tank No:	3",="R-3	***TCO Tightness Test:***	False
Tank Alternate ID:	Permanently Out of Use	***TCO Pipe Tight Test:***	False
Tank Status:	True	***TCO Pipe LD Mech:***	False
Tank Fed Regulated:	False	***TCO Pipe LD Elec:***	1/1/1900
Tank AST:	False	***TCO Pipe Install Dt:***	False
Tank Stand By:	1000	***TCO LD Other:***	False
Tank Total Capacity:	1/1/1900	***TCO LD Deferred:***	False
Tank Date Installed:	10/21/1991	***TCO LD Not Listed:***	False
Tank Date Closed:	Tank removed from ground	***TCO Pipe LD Other:***	False
Tank Closure Status:	Unknown	***TCO Pipe LD Defer:***	True
Tank Material:	None	***Pipe LD Not Listed:***	
Tank Secondary Mat:	False	***TCO Overfill Type:***	False
Tank Vapor Monitor:	False	***Pipe Visual Mntr:***	False
Tank GW Monitor:	False	***Pipe Sump Alarm:***	0
Tank Int Dbl Walled:	False	***TCO Spill Capacity:***	
Tank Int Sec Cont:	False	***TCO Spill Install Dt:***	
Tank Pipe Vap Mntr:	False	***TCO Spill Material:***	
Tank Pipe GW Mntr:	1000	***TCO Spill Sec Mat:***	
TCO Capacity:	Gasoline	***TCO Spill Comment:***	False
TCO Substance:	Unknown	***Tcospillinterstitialdbl walled:***	False
TCO Pipe Material:	None	***TCO Spill Tight Test:***	False

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

TCO Pipe Sec Mat:	Safe Suction	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	True	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	True	**TCO Contained:**	

Tank Details

Tank No:	4",="A-4	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False
Tank Status:	False	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	True	**TCO Pipe LD Elec:**	4/1/1990
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	4/1/1990	**TCO LD Deferred:**	True
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Not Listed	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Not Listed	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Not Listed	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

1	***9 of 12***	***SE***	***0.00 / 0.00***	***2,236.96 / -2***	***Stanley Airport PO Box 489 Stanley ND 58784 ND***	***UST***

Facility ID:	5384	**Owner Name:**	Stanley Airport Authority
Facility Status:	Inactive	**Owner Address:**	PO Box 328
Facility County:	Mountrail	**Owner City:**	Stanley ND 58784
Latitude:	48.300216	**Facility Phone:**	
Longitude:	-102.398565		

Tank Details

Tank No:	5",="A-5	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False

Tank Status:	False	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	True	**TCO Pipe LD Elec:**	4/1/1990
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	4/1/1990	**TCO LD Deferred:**	True
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Not Listed	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Not Listed	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Not Listed	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	3",="R-3	**TCO Tightness Test:**	False
Tank Alternate ID:	Permanently Out of Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	1/1/1900
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	1/1/1900	**TCO LD Deferred:**	True
Tank Date Installed:	10/21/1991	**TCO LD Not Listed:**	False
Tank Date Closed:	Tank removed from ground	**TCO Pipe LD Other:**	False
Tank Closure Status:	Asphalt Coated or Bare Steel	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Bare Steel	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Safe Suction	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False

TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	2",="R-2	**TCO Tightness Test:**	False
Tank Alternate ID:	Permanently Out of Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	1/1/1900
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	1/1/1900	**TCO LD Deferred:**	True
Tank Date Installed:	10/21/1991	**TCO LD Not Listed:**	False
Tank Date Closed:	Tank removed from ground	**TCO Pipe LD Other:**	False
Tank Closure Status:	Asphalt Coated or Bare Steel	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Bare Steel	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Safe Suction	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialseccontain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	4",="A-4	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False
Tank Status:	False	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	True	**TCO Pipe LD Elec:**	4/1/1990
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	4/1/1990	**TCO LD Deferred:**	True
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Not Listed	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Not Listed	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Not Listed	**TCO Spill LD Other:**	False

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	1",="R-1	**TCO Tightness Test:**	False
Tank Alternate ID:	Permanently Out of Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	False
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	1/1/1900
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	1000	**TCO LD Other:**	False
Tank Total Capacity:	1/1/1900	**TCO LD Deferred:**	True
Tank Date Installed:	10/21/1991	**TCO LD Not Listed:**	False
Tank Date Closed:	Tank removed from ground	**TCO Pipe LD Other:**	False
Tank Closure Status:	Asphalt Coated or Bare Steel	**TCO Pipe LD Defer:**	True
Tank Material:	None	**Pipe LD Not Listed:**	
Tank Secondary Mat:	False	**TCO Overfill Type:**	False
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	False	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	
Tank Pipe GW Mntr:	1000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline	**TCO Spill Comment:**	False
TCO Substance:	Bare Steel	**Tcospillinterstitialdbl walled:**	False
TCO Pipe Material:	None	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Safe Suction	**TCO Spill LD Other:**	False
TCO Pipe Type:	False	**Spill LD Not Listed:**	1/1/1900
TCO Overfill Protect:	False	**Sump Install Dt:**	
TCO Spill Protect:	False	**Sump Bucket Mat:**	
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	False	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	False
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	False
TCO Inventory Ctrl:	False	**TCO Contained:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	10 of 12	SE	0.00 / 0.00	2,236.96 / -2	Stanley Municipal Airport 6135 82 Ave NW Stanley ND 58784	AST

Registration No:	1203
Facility Status:	Active
Zip4:	

Tank Details

Tank Type:	AST	**Tank Product:**	Other
Tank Status:	Active	**Tank Size:**	12000
Tank Install Date:	7/1/2021	**Tank Notes:**	New Tank and retail sales and dispensing equipment for Jet A fuel
Tank Inactive Date:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Tank Sequence No: 4
Tank Compartmentalized: FALSE

Tank Details

Tank Type: AST
Tank Status: Active
Tank Install Date: 1/1/2008
Tank Inactive Date:
Tank Sequence No: 1
Tank Compartmentalized: FALSE
Tank Product: Gasoline
Tank Size: 6000
Tank Notes: 100 LL Avgas

Tank Details

Tank Type: AST
Tank Status: Active
Tank Install Date: 5/20/2019
Tank Inactive Date:
Tank Sequence No: 3
Tank Compartmentalized: FALSE
Tank Product: Other
Tank Size: 500
Tank Notes: Empty tank noted 4-19-2023

Tank Details

Tank Type: AST
Tank Status: Active
Tank Install Date: 5/20/2019
Tank Inactive Date:
Tank Sequence No: 2
Tank Compartmentalized: FALSE
Tank Product: Gasoline
Tank Size: 10000
Tank Notes:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	11 of 12	SE	0.00 / 0.00	2,236.96 / -2	STANLEY AIRPORT AUTHORITY PO BOX 328 STANLEY ND 58784	FINDS/FRS

Registry ID: 110063061715
FIPS Code:
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 16-DEC-14
Update Date:
Interest Types: STATE MASTER
SIC Codes: 4512
SIC Code Descriptions: AIR TRANSPORTATION, SCHEDULED
NAICS Codes: 481000
NAICS Code Descriptions:
Conveyor: ND-FP
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.300508
Longitude: -102.398194
Reference Point:
Coord Collection Method:
Accuracy Value: 7
Datum: NAD83
Source:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110063061715
Data Source: Facility Registry Service - Single File
Program Acronyms:

ND-FP:135012

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1 | ***12 of 12*** | ***SE*** | ***0.00 / 0.00*** | ***2,236.96 / -2*** | ***STANLEY MUNICIPAL AIRPORT AUTHORITY***
6107 82ND AVENUE NORTHWEST
UNKNOWN ND 58000 | ***FINDS/FRS***

Registry ID: 110070617400
FIPS Code:
HUC Code:
Site Type Name: STATIONARY
Location Description: VARIOUS
Supplemental Location:
Create Date: 06-OCT-19
Update Date:
Interest Types: ICIS-NPDES NON-MAJOR, STORM WATER CONSTRUCTION
SIC Codes:
SIC Code Descriptions:
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No:
Census Block Code:
EPA Region Code: 08
County Name:
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110070617400
Data Source: Facility Registry Service - Single File
Program Acronyms:

NPDES:NDR108720

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2 | ***1 of 4*** | ***ENE*** | ***0.02 / 91.18*** | ***2,236.22 / -3*** | ***Holiday Stationstore #432***
402 Westview Ln
Stanley ND 58784- ND | ***UST***

Facility ID: 10878
Facility Status: Active
Facility County: Mountrail
Latitude: 48.306317
Longitude: -102.402689

Owner Name: Cass Oil, LLC
Owner Address: 1130 W Warner Rd
Owner City: TEMPE AZ 85284-
Facility Phone: 7016284330

Tank Details

Tank No: 4",="5
Tank Alternate ID: Currently In Use
Tank Status: True
Tank Fed Regulated: False

TCO Tightness Test: False
TCO Pipe Tight Test: False
TCO Pipe LD Mech: True
TCO Pipe LD Elec: 10/15/2013

Tank AST:	False	***TCO Pipe Install Dt:***	False
Tank Stand By:	20000	***TCO LD Other:***	False
Tank Total Capacity:	10/15/2013	***TCO LD Deferred:***	False
Tank Date Installed:		***TCO LD Not Listed:***	False
Tank Date Closed:		***TCO Pipe LD Other:***	False
Tank Closure Status:	Fiberglass Reinforced Plastic	***TCO Pipe LD Defer:***	False
Tank Material:	Double-Walled	***Pipe LD Not Listed:***	Automatic shutoff (flapper)
Tank Secondary Mat:	False	***TCO Overfill Type:***	True
Tank Vapor Monitor:	False	***Pipe Visual Mntr:***	False
Tank GW Monitor:	True	***Pipe Sump Alarm:***	0
Tank Int Dbl Walled:	False	***TCO Spill Capacity:***	10/15/2013
Tank Int Sec Cont:	False	***TCO Spill Install Dt:***	Plastic
Tank Pipe Vap Mntr:	False	***TCO Spill Material:***	None
Tank Pipe GW Mntr:	20000	***TCO Spill Sec Mat:***	
TCO Capacity:	Diesel or B20	***TCO Spill Comment:***	False
TCO Substance:	Flexible Plastic	***Tcospillinterstitialdbl walled:***	True
TCO Pipe Material:	Double-Walled	***TCO Spill Tight Test:***	False
TCO Pipe Sec Mat:	Pressurized	***TCO Spill LD Other:***	False
TCO Pipe Type:	True	***Spill LD Not Listed:***	10/15/2013
TCO Overfill Protect:	True	***Sump Install Dt:***	Fiberglass
TCO Spill Protect:	True	***Sump Bucket Mat:***	None
TCO ATG:	False	***Tcosumpbucketsecondarymaterial:***	
TCO MTG:	True	***TCO Sump Comment:***	False
Pipe Int Dbl Walled:	False	***Sump Int Dbl Walled:***	True
Tcopipeinterstitialsec contain:	False	***Sump Tight Test:***	False
TCO SIR:	False	***TCO Sump LD Other:***	False
TCO Pipe SIR:	False	***Sump LD Not Listed:***	True
TCO Inventory Ctrl:	False	***TCO Contained:***	

Tank Details

Tank No:	1",="1	***TCO Tightness Test:***	False
Tank Alternate ID:	Currently In Use	***TCO Pipe Tight Test:***	False
Tank Status:	True	***TCO Pipe LD Mech:***	True
Tank Fed Regulated:	False	***TCO Pipe LD Elec:***	9/11/2013
Tank AST:	False	***TCO Pipe Install Dt:***	False
Tank Stand By:	20000	***TCO LD Other:***	False
Tank Total Capacity:	9/11/2013	***TCO LD Deferred:***	False
Tank Date Installed:		***TCO LD Not Listed:***	False
Tank Date Closed:		***TCO Pipe LD Other:***	False
Tank Closure Status:	Fiberglass Reinforced Plastic	***TCO Pipe LD Defer:***	False
Tank Material:	Double-Walled	***Pipe LD Not Listed:***	Automatic shutoff (flapper)
Tank Secondary Mat:	False	***TCO Overfill Type:***	True
Tank Vapor Monitor:	False	***Pipe Visual Mntr:***	False
Tank GW Monitor:	True	***Pipe Sump Alarm:***	0
Tank Int Dbl Walled:	False	***TCO Spill Capacity:***	9/11/2013
Tank Int Sec Cont:	False	***TCO Spill Install Dt:***	Plastic
Tank Pipe Vap Mntr:	False	***TCO Spill Material:***	None
Tank Pipe GW Mntr:	20000	***TCO Spill Sec Mat:***	
TCO Capacity:	Gasoline or E10	***TCO Spill Comment:***	False
TCO Substance:	Flexible Plastic	***Tcospillinterstitialdbl walled:***	True
TCO Pipe Material:	Double-Walled	***TCO Spill Tight Test:***	False
TCO Pipe Sec Mat:	Pressurized	***TCO Spill LD Other:***	False
TCO Pipe Type:	True	***Spill LD Not Listed:***	9/11/2013
TCO Overfill Protect:	True	***Sump Install Dt:***	Fiberglass
TCO Spill Protect:	True	***Sump Bucket Mat:***	None
TCO ATG:	False	***Tcosumpbucketsecondarymaterial:***	
TCO MTG:	True	***TCO Sump Comment:***	False
Pipe Int Dbl Walled:	False	***Sump Int Dbl Walled:***	True
Tcopipeinterstitialsec contain:	False	***Sump Tight Test:***	False
TCO SIR:	False	***TCO Sump LD Other:***	False
TCO Pipe SIR:	False	***Sump LD Not Listed:***	True

TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	2",="2 A/B	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	True
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	9/11/2013
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	20000	**TCO LD Other:**	False
Tank Total Capacity:	9/11/2013	**TCO LD Deferred:**	False
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Fiberglass Reinforced Plastic	**TCO Pipe LD Defer:**	False
Tank Material:	Double-Walled	**Pipe LD Not Listed:**	Automatic shutoff (flapper)
Tank Secondary Mat:	False	**TCO Overfill Type:**	True
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	True	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	9/11/2013
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	Plastic
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	None
Tank Pipe GW Mntr:	12000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline or E10	**TCO Spill Comment:**	False
TCO Substance:	Flexible Plastic	**Tcospillinterstitialdbl walled:**	True
TCO Pipe Material:	Double-Walled	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Pressurized	**TCO Spill LD Other:**	False
TCO Pipe Type:	True	**Spill LD Not Listed:**	9/11/2013
TCO Overfill Protect:	True	**Sump Install Dt:**	Fiberglass
TCO Spill Protect:	True	**Sump Bucket Mat:**	None
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	True	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	True
Tcopipeinterstitialsec contain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	True
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	3",="4	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	True
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	9/11/2013
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	20000	**TCO LD Other:**	False
Tank Total Capacity:	9/11/2013	**TCO LD Deferred:**	False
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Fiberglass Reinforced Plastic	**TCO Pipe LD Defer:**	False
Tank Material:	Double-Walled	**Pipe LD Not Listed:**	Automatic shutoff (flapper)
Tank Secondary Mat:	False	**TCO Overfill Type:**	True
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	True	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	9/11/2013
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	Plastic
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	None
Tank Pipe GW Mntr:	20000	**TCO Spill Sec Mat:**	
TCO Capacity:	Diesel or B20	**TCO Spill Comment:**	False
TCO Substance:	Flexible Plastic	**Tcospillinterstitialdbl walled:**	True
TCO Pipe Material:	Double-Walled	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Pressurized	**TCO Spill LD Other:**	False
TCO Pipe Type:	True	**Spill LD Not Listed:**	9/11/2013
TCO Overfill Protect:	True	**Sump Install Dt:**	Fiberglass

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

TCO Spill Protect:	True	**Sump Bucket Mat:**	None
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	True	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	True
Tcopipeinterstitialseccontain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	True
TCO Inventory Ctrl:	False	**TCO Contained:**	

Tank Details

Tank No:	2",="2 A/B	**TCO Tightness Test:**	False
Tank Alternate ID:	Currently In Use	**TCO Pipe Tight Test:**	False
Tank Status:	True	**TCO Pipe LD Mech:**	True
Tank Fed Regulated:	False	**TCO Pipe LD Elec:**	9/11/2013
Tank AST:	False	**TCO Pipe Install Dt:**	False
Tank Stand By:	20000	**TCO LD Other:**	False
Tank Total Capacity:	9/11/2013	**TCO LD Deferred:**	False
Tank Date Installed:		**TCO LD Not Listed:**	False
Tank Date Closed:		**TCO Pipe LD Other:**	False
Tank Closure Status:	Fiberglass Reinforced Plastic	**TCO Pipe LD Defer:**	False
Tank Material:	Double-Walled	**Pipe LD Not Listed:**	Automatic shutoff (flapper)
Tank Secondary Mat:	False	**TCO Overfill Type:**	True
Tank Vapor Monitor:	False	**Pipe Visual Mntr:**	False
Tank GW Monitor:	True	**Pipe Sump Alarm:**	0
Tank Int Dbl Walled:	False	**TCO Spill Capacity:**	9/11/2013
Tank Int Sec Cont:	False	**TCO Spill Install Dt:**	Plastic
Tank Pipe Vap Mntr:	False	**TCO Spill Material:**	None
Tank Pipe GW Mntr:	8000	**TCO Spill Sec Mat:**	
TCO Capacity:	Gasoline or E10	**TCO Spill Comment:**	False
TCO Substance:	Fiberglass Reinforced Plastic	**Tcospillinterstitialdblwalled:**	True
TCO Pipe Material:	Double-Walled	**TCO Spill Tight Test:**	False
TCO Pipe Sec Mat:	Pressurized	**TCO Spill LD Other:**	False
TCO Pipe Type:	True	**Spill LD Not Listed:**	9/11/2013
TCO Overfill Protect:	True	**Sump Install Dt:**	Fiberglass
TCO Spill Protect:	True	**Sump Bucket Mat:**	None
TCO ATG:	False	**Tcosumpbucketsecondarymaterial:**	
TCO MTG:	True	**TCO Sump Comment:**	False
Pipe Int Dbl Walled:	False	**Sump Int Dbl Walled:**	True
Tcopipeinterstitialseccontain:	False	**Sump Tight Test:**	False
TCO SIR:	False	**TCO Sump LD Other:**	False
TCO Pipe SIR:	False	**Sump LD Not Listed:**	True
TCO Inventory Ctrl:	False	**TCO Contained:**	

2	2 of 4	ENE	0.02 / 91.18	2,236.22 / -3	**HOLIDAY STATIONSTORE #432** **402 WESTVIEW LN** **STANLEY ND 58784**	FINDS/FRS

Registry ID:	110058241898
FIPS Code:	38061
HUC Code:	10110101
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	25-MAR-14
Update Date:	13-JAN-15
Interest Types:	STATE MASTER
SIC Codes:	5541
SIC Code Descriptions:	GASOLINE SERVICE STATIONS
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	ND-FP

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL
US/Mexico Border Ind:
Latitude: 48.306317
Longitude: -102.402689
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110058241898
Data Source: Facility Registry Service - Single File
Program Acronyms:

ND-FP:13151

2	3 of 4	ENE	0.02 / 91.18	2,236.22 / -3	**CASH WISE FOODS - STANLEY 3047** **406 WESTVIEW LN** **STANLEY ND 58784**	RCRA VSQG

EPA Handler ID: NDR000014696
Gen Status Universe: VSG
Contact Name: RUSSELL THYEN
Contact Address: 406 , WESTVIEW LN , , STANLEY , ND, 58784 , US
Contact Phone No and Ext: 320-203-6313
Contact Email: RUSSELL.THYEN@COBORNSINC.COM
Contact Country: US
County Name: MOUNTRAIL
EPA Region: 08
Land Type: Private
Receive Date: 20190911
Location Latitude: 48.307143
Location Longitude: -102.40298

Violation/Evaluation Summary

Note: NO RECORDS: As of Jul 2023, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20190911
Handler Name: CASH WISE FOODS - STANLEY 3047
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D003
Waste Code Description: REACTIVE WASTE

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: COBORN'S INC.
Date Became Current: 20190911
Date Ended Current:
Phone:
Source Type: Notification
Street No: 1921
Street 1: COBORN BLVD
Street 2:
City: SAINT CLOUD
State: MN
Country: US
Zip Code: 56302

Owner/Operator Ind: Current Operator
Type: Private
Name: COBORN'S INC.
Date Became Current: 20190911
Date Ended Current:
Phone:
Source Type: Notification
Street No: 1921
Street 1: COBORN BLVD
Street 2:
City: SAINT CLOUD
State: MN
Country: US
Zip Code: 56302

2	*4 of 4*	*ENE*	*0.02 / 91.18*	*2,236.22 / -3*	***CASH WISE FOODS - STANLEY 3047*** ***406 WESTVIEW LN*** ***STANLEY ND 58784***	***FINDS/FRS***

Registry ID: 110070664995
FIPS Code: 38061
HUC Code: 10110101
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 26-NOV-19
Update Date:
Interest Types: VSQG
SIC Codes:
SIC Code Descriptions:
NAICS Codes:
NAICS Code Descriptions:
Conveyor: RCRAINFO
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 00
Census Block Code: 380619552001172
EPA Region Code: 08
County Name: MOUNTRAIL

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

US/Mexico Border Ind:
Latitude: 48.307143
Longitude: -102.40298
Reference Point: ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method: GDT-ADDRESS MATCHING (GEOCODING)
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110070664995
Data Source: Facility Registry Service - Single File
Program Acronyms:

RCRAINFO:NDR000014696

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 1	NE	0.11 / 601.85	2,234.32 / -5	TRACTOR SUPPLY #1813 506 WESTVIEW LANE STANLEY ND 58784	RCRA VSQG

EPA Handler ID: NDR000011460
Gen Status Universe: VSG
Contact Name: PAT PERRY WERNEIWSKI
Contact Address: 5401 , VIRGINIA WAY , , BRENTWOOD , TN, 37027 , US
Contact Phone No and Ext: 612-210-7176
Contact Email: HAZMAT@TRACTORSUPPLY.COM
Contact Country: US
County Name: MOUNTRAIL
EPA Region: 08
Land Type: Private
Receive Date: 20220429
Location Latitude: 48.30654
Location Longitude: -102.40259

Violation/Evaluation Summary

Note: NO RECORDS: As of Jul 2023, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140519
Handler Name: TRACTOR SUPPLY #1813
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: F005
Waste Code Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20220429
Handler Name: TRACTOR SUPPLY #1813
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D004
Waste Code Description: ARSENIC

Hazardous Waste Code: D005
Waste Code Description: BARIUM

Hazardous Waste Code: D006
Waste Code Description: CADMIUM

Hazardous Waste Code: D007
Waste Code Description: CHROMIUM

Hazardous Waste Code: D008
Waste Code Description: LEAD

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: D010
Waste Code Description: SELENIUM

Hazardous Waste Code: D011
Waste Code Description: SILVER

Hazardous Waste Code: D014
Waste Code Description: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

Hazardous Waste Code: D016
Waste Code Description: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Code: D026
Waste Code Description: CRESOL

Hazardous Waste Code: D035
Waste Code Description: METHYL ETHYL KETONE

Hazardous Waste Code: U002
Waste Code Description: 2-PROPANONE (I) (OR) ACETONE (I)

Hazardous Waste Code: U240
Waste Code Description: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

Hazardous Waste Code: U249
Waste Code Description: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

Hazardous Waste Code: U279
Waste Code Description: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	49
Type:	Private	**Street 1:**	CLANCY LANE
Name:	THE RICHARD LEE SIMON TRUST	**Street 2:**	
Date Became Current:	20140422	**City:**	RANCHO MIRAGE
Date Ended Current:		**State:**	CA
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	92270-4524

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	
Name:	TRACTOR SUPPLY COMPANY	**Street 2:**	
Date Became Current:	20140315	**City:**	
Date Ended Current:		**State:**	
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	

Owner/Operator Ind:	Current Owner	**Street No:**	70
Type:	Private	**Street 1:**	E. LONG LAKE ROAD
Name:	AGREE CENTRAL, LLC	**Street 2:**	
Date Became Current:	20140422	**City:**	BLOOMFIELD HILLS
Date Ended Current:		**State:**	MI
Phone:	248-480-0257	**Country:**	US
Source Type:	Notification	**Zip Code:**	48304

Owner/Operator Ind:	Current Operator	**Street No:**	5401
Type:	Private	**Street 1:**	VIRGINIA WAY
Name:	TRACTOR SUPPLY COMPANY	**Street 2:**	
Date Became Current:	20140315	**City:**	BRENTWOOD
Date Ended Current:		**State:**	TN
Phone:	612-210-7176	**Country:**	US
Source Type:	Notification	**Zip Code:**	37027

Historical Handler Details

Receive Dt: 20140519
Generator Code Description: Very Small Quantity Generator
Handler Name: TRACTOR SUPPLY #1813

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 1	ENE	0.12 / 627.27	2,242.16 / 3	Mountrail Williams Electric Cooperative 6150 82nd Ave NW Stanley ND 58784	AST

Registration No: 4708

Facility Status: Active
Zip4:

Tank Details

Tank Type: AST
Tank Status: Active
Tank Install Date: 7/25/2017
Tank Inactive Date:
Tank Sequence No: 1
Tank Compartmentalized: FALSE

Tank Product: Diesel
Tank Size: 2000
Tank Notes: 2-8-2023 Tank self-classification AST 1

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2023

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the United States Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2023

Deleted NPL: DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2023

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the SEMS GIS/REST file layer obtained from EPA's Facility Registry Service.

Government Publication Date: Jul 26, 2023

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file.

Government Publication Date: Jul 26, 2023

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jul 10, 2023

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by RCRA.

Government Publication Date: Jul 10, 2023

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jul 10, 2023

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jul 10, 2023

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jul 10, 2023

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jul 10, 2023

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Jul 10, 2023

Federal Engineering Controls-ECs: FED ENG

This list of Engineering controls (ECs) is provided by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2021 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Aug 23, 2023

Federal Institutional Controls- ICs: FED INST

This list of Institutional controls (ICs) is provided by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2021 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Aug 23, 2023

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: May 25, 2023

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Apr 3, 2023

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Sep 13, 2022

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

This listing contains facilities that have submitted Facility Response Plans (FRPs) to the U.S. Environmental Protection Agency (EPA). Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit FRPs. Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments. This listing includes FRP facilities from an applicable EPA FOIA file and Homeland Infrastructure Foundation-Level Data (HIFLD) data file.

Government Publication Date: May 2, 2023

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: May 2, 2023

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Sep 20, 2023

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jun 29, 2022

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Jul 26, 2023

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: May 25, 2023

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

State

State Hazardous Waste Sites: SHWS

The state of North Dakota does not maintain a State Hazardous Waste Sites (SHWS) list.

Government Publication Date:

Solid Waste Landfills/Special Use Landfills: SWF/LF

The North Dakota Department of Health's Division of Waste Management publishes lists of waste facilities, including: Transfer Stations, Industrial Waste Landfills, Inert Waste Landfills, Municipal Solid Waste Landfills, Special Waste Landfills, and Solid Waste Facilities for Treatment/Disposal of Refined Petroleum Contaminated Soils.

Government Publication Date: Jul 11, 2023

Leaking Underground Storage Tank List: LUST

Leaking Underground Storage Tank (LUST) Registry made available by the North Dakota Department of Health's Underground Storage Tank (UST) Program. The LUST registry includes any site which has had a reported release.

Government Publication Date: Aug 25, 2023

Delisted Leaking Storage Tanks: DELISTED LST

This database contains a list of leaking storage tank sites that were removed from the North Dakota Department of Health.

Government Publication Date: Aug 25, 2023

Underground Storage Tank List: UST

UST registry maintained by the North Dakota Department of Health's UST Program. Owners and/or operators of tanks regulated under the UST program are required to notify the Division and register their tanks. The UST list does not distinguish between Aboveground (AST) or Underground Storage Tank systems.

Government Publication Date: Aug 25, 2023

Registered Aboveground Storage Tanks: AST

List of Aboveground Storage Tank (AST) sites registered with the North Dakota Insurance Department. All owners or operators of aboveground or underground petroleum storage tanks in North Dakota are required to register their tanks with the Insurance Department's Petroleum Tank Release Compensation Fund.

Government Publication Date: Aug 15, 2023

Delisted Storage Tanks: DTNK

This database contains a list of storage tank sites that were removed from the North Dakota Department of Health's UST Program.

Government Publication Date: Aug 25, 2023

Institutional Controls: INST

List of sites with institutional controls made available by the State of North Dakota Department of Health's Environmental Health Section.

Government Publication Date: Jun 29, 2022

Brownfields Sites in North Dakota: BROWNFIELDS

List of Brownfield program sites made available by the North Dakota Department of Health's Division of Waste Management Brownfields Program. The concept of the Brownfields Program is to take contaminated or potentially contaminated, underdeveloped, unproductive property and convert it into productive real estate. Brownfield sites are defined as abandoned, idled or underused industrial or commercial properties whose redevelopment is complicated by real or perceived environmental contamination.

Government Publication Date: Oct 31, 2022

Tribal

Leaking Underground Storage Tanks on Tribal/Indian Lands: INDIAN LUST

This list of leaking underground storage tanks (LUSTs) on Tribal/Indian Lands in Region 8, which includes North Dakota, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 20, 2023

Underground Storage Tanks on Tribal/Indian Lands: INDIAN UST

This list of underground storage tanks (USTs) on Tribal/Indian Lands in Region 8, which includes North Dakota, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 20, 2023

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST

Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 26, 2023

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST

Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 26, 2023

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Mar 2, 2023

Toxics Release Inventory (TRI) Program: TRIS

The U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of toxic chemicals from U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. There are currently 770 individually listed chemicals and 33 chemical categories covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual reporting forms for each chemical. Note that the TRI chemical list does not include all toxic chemicals used in the U.S. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Oct 19, 2022

PFOA/PFOS Contaminated Sites: PFAS NPL

This list of Superfund Sites with Per- and Polyfluoroalkyl Substances (PFAS) detections is made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data, previously the list was obtained by EPA FOIA requests. EPA's Office of Land and Emergency Management and EPA Regional Offices maintain what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment. Limitations: Detections of PFAS at National Priorities List (NPL) sites do not mean that people are at risk from PFAS, are exposed to PFAS, or that the site is the source of the PFAS. The information in the Superfund NPL and Superfund Alternative Agreement (SAA) PFAS detection site list is years old and may not be accurate today. Site information such as site name, site ID, and location has been confirmed for accuracy; however, PFAS-related information such as media sampled, drinking water being above the health advisory, or mitigation efforts has not been verified. For Federal Facilities data, the other Federal agencies (OFA) are the lead agency for their data and provided them to EPA.

Government Publication Date: Sep 14, 2023

Federal Agency Locations with Known or Suspected PFAS Detections: PFAS FED SITES

List of Federal agency locations with known or suspected detections of Per- and Polyfluoroalkyl Substances (PFAS), made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data. EPA outlines that these data are gathered from several federal entities, such as the Federal Superfund program, Department of Defense (DOD), National Aeronautics and Space Administration, Department of Transportation, and Department of Energy. The dates this data was extracted for the PFAS Analytic Tools range from March 2022 to April 2023. Sites on this list do not necessarily reflect the source/s of PFAS contamination and detections do not indicate level of risk or human exposure at the site. Agricultural notifications in this data are limited to DOD sites only. At this time, the EPA is aware that this list is not comprehensive of all Federal agencies.

Government Publication Date: Apr 24, 2023

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Locations for the Known PFAS Contamination Sites are sourced from the PFAS Sites and Community Resources Map, credited to the Northeastern University's PFAS Project Lab, Silent Spring Institute, and the PFAS-REACH team. Disclaimer: The source conveys the data undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Access the following source link for the most current information: https://pfasproject.com/pfas-sites-and-community-resources/

Government Publication Date: Oct 9, 2022

National Response Center PFAS Spills: ERNS PFAS

This Per- and Poly-Fluoroalkyl Substances (PFAS) Spills dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The National Response Center (NRC), operated by the U.S. Coast Guard, is the designated federal point of contact for reporting all oil, chemical, and other discharges into the environment, for the United States and its territories. This dataset contains NRC spill information from 1990 to the present that is restricted to records associated with PFAS and PFAS-containing materials. Incidents are filtered to include only records with a "Material Involved" or "Incident Description" related to Aqueous Film Forming Foam (AFFF). The keywords used to filter the data included "AFFF," "Fire Fighting Foam," "Aqueous Film Forming Foam," "Fire Suppressant Foam, "PFAS," "PERFL," "PFOA," "PFOS," and "Genx." Limitations: The data from the NRC website contains initial incident data that has not been validated or investigated by a federal/state response agency. Keyword searches may misidentify some incident reports that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS spills/release incidents.

Government Publication Date: Jun 17, 2023

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: May 1, 2023

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a per- or polyfluoroalkyl (PFAS) substance included in the U.S. Environmental Protection Agency's (EPA) consolidated PFAS Master List of PFAS Substances. Encompasses Toxics Release Inventory records included in the EPA PFAS Analytic Tools. The EPA's TRI database currently tracks information on disposal or releases of 770 individually listed toxic chemicals and 33 chemical categories from thousands of U.S. facilities and details about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Oct 19, 2022

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The U.S. Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. This list is specific only to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl (PFAS) substances. Data file is sourced from EPA's PFAS Analytic Tools TSCA dataset which includes CDR/Inventory Update Reporting data from 1998 up to 2020. Disclaimer: This data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jan 5, 2023

PFAS Waste Transfers from RCRA e-Manifest : PFAS E-MANIFEST

This Per- and Poly-Fluoroalkyl Substances (PFAS) Waste Transfers dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. Every shipment of hazardous waste in the U.S. must be accompanied by a shipment manifest, which is a critical component of the cradle-to-grave tracking of wastes mandated by the Resource Conservation and Recovery Act (RCRA). According to the EPA, currently no Federal Waste Code exists for any PFAS compounds. To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: • PFAS • PFOA • PFOS • PERFL • AFFF • GENX • GEN-X (plus the Vermont state-specific waste codes). Limitations: Amount or concentration of PFAS being transferred cannot be determined from the manifest information. Keyword searches may misidentify some manifest records that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS waste transfers.

Government Publication Date: Apr 9, 2023

PFAS Industry Sectors: PFAS IND

This Per- and Poly-Fluoroalkyl Substances (PFAS) Industry Sectors dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The EPA developed the dataset from various sources that show which industries may be handling PFAS including: EPA's Enforcement and Compliance History Online (ECHO) records restricted to potential PFAS-handling industry sectors; ECHO records for Fire Training Sites identified where fire-fighting foam may have been used in training exercises; and 14 CFR Part 139 Airports compiled from historic and current records from the FAA Airport Data and Information Portal. Since July 2006, all certificated Part 139 Airports are required to have fire-fighting foam onsite that meet certain military specifications, which to date have been fluorinated (Aqueous Film Forming Foam). Limitations: Inclusion in this dataset does not indicate that PFAS are being manufactured, processed, used, or released by the facility. Listed facilities potentially handle PFAS based on their industrial profile, but are unconfirmed by the EPA. Keyword searches in ECHO for Fire Training sites may misidentify some facilities and should not be considered to be an exhaustive list of fire training facilities in the U.S.

Government Publication Date: Apr 16, 2023

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 26, 2023

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).

Government Publication Date: Aug 23, 2023

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) database contains integrated enforcement and compliance information across most of U.S. Environmental Protection Agency's (EPA) programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained by the EPA Headquarters and at the Regional offices. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.

Government Publication Date: Jan 21, 2023

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. The EPA tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Apr 15, 2023

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Apr 15, 2023

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset.

Government Publication Date: Jul 12, 2022

FUDS Munitions Response Sites: FUDS MRS

Boundaries of Munitions Response Sites (MRS), published with the Formerly Used Defense Sites (FUDS) Annual Report to Congress (ARC) by the U.S. Army Corps of Engineers (USACE). An MRS is a discrete location within a Munitions response area (MRA) that is known to require a munitions response. An MRA means any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This data is compiled from the USACE's Geospatial MRS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) MRS dataset.

Government Publication Date: Jul 12, 2022

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Dec 30, 2022

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United States Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: May 1, 2023

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). This inventory contains information on the type and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The data is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed. Disclaimer: Per the OSMRE, States and tribes who enter their data into eAMLIS (AML Inventory System) may truncate their latitude and longitude so the precise location of usually dangerous AMLs is not revealed in an effort to protect the public from searching for these AMLs, most of which are on private property. If more precise location information is needed, please contact the applicable state/tribe of interest.

Government Publication Date: Jun 13, 2023

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: May 25, 2023

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG), and Renewable Diesel (R20 and above) fuel type locations.

Government Publication Date: Aug 30, 2023

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS) since 2010. CMS may not reflect the latest developments in a case nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Apr 19, 2023

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

This national list of active EPA-registered foreign and domestic pesticide and/or device-producing establishments is based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that each producing establishment must place its EPA establishment number on the label or immediate container of each pesticide, active ingredient or device produced. An EPA establishment number on a pesticide product label identifies the EPA registered location where the product was produced. The list of establishments is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Mar 1, 2023

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2023

State

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of general environmental incidents reported to the North Dakota Department of Environmental Quality (NDEQ) where one or more of the materials involved in the incident are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jun 5, 2023

Spills Database: SPILLS

List of Environmental Incidents and Oil/Gas Spills from the North Dakota Unified Spill Reporting System.

Government Publication Date: Jun 5, 2023

Historical Spills Databse: HIST SPILLS

List of historical release/spill events made available by the North Dakota Department of Health's Environmental Health Section.

Government Publication Date: Jul 1, 2014

Oilfield Environmental Incidents - Historical: HIST OGW SPILLS

A list of oilfield environmental incidents reported to the North Dakota Department of Environmental Quality (DEQ) by the Department of Mineral Resources' Oil and Gas Division whenever an oilfield environmental incident report was filed from 1975 to 2020.

Government Publication Date: Dec 31, 2020

Listing of Meth Labs in North Dakota: CDL

Meth labs reported to the North Dakota State and Local Intelligence Center (NDSLIC) dating back to 2004.

Government Publication Date: Jan 12, 2022

Underground Injection Control Wells: UIC

The Underground Injection Control (UIC) Program of the North Dakota Department of Environmental Quality Groundwater Division defines an injection well as any bored, drilled or a driven shaft or a dug hole, where the depth is greater than the largest surface dimension that is used to discharge fluids underground. A drainfield is considered to be a horizontally placed injection system, and some drainfields are covered under the UIC Program.

Government Publication Date: Aug 25, 2023

Dry Cleaning Facilities: DRYCLEANERS

This list of dry cleaner facilities is maintained by the North Dakota Department of Environmental Quality's (ND DEQ) Division of Air Quality.

Government Publication Date: Jan 10, 2023

Delisted Drycleaners: DELISTED DRYCLEANERS

List of sites removed from the permitted drycleaner facilities made available by the North Dakota Department of Health.

Government Publication Date: Jan 10, 2023

Air Permits: AIR PERMITS

List of air permits from Combined Environmental Regulatory Information System - North Dakota (CERCIS-ND) made available by the North Dakota Environmental Quality Air Quality Program. Includes violation and enforcement actions.

Government Publication Date: Jun 20, 2023

Feedlots: FEEDLOTS

The North Dakota Department of Agriculture provides this listing of cattle feeders.

Government Publication Date: Apr 9, 2013

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

PSR
PHYSICAL SETTING REPORT

Property Information

Order Number:		23101200256p
Date Completed:		October 12, 2023
Project Number:		4545300-230576.01
Project Property:		Stanley Municipal Airport Stanley Municipal Airport Stanley ND
Coordinates:		
	Latitude:	48.3023571
	Longitude:	-102.40766666
	UTM Northing:	5353155.02805 Meters
	UTM Easting:	692236.285626 Meters
	UTM Zone:	UTM Zone 13U
	Elevation:	2,239.31 ft
	Slope Direction:	SE

Topographic Information....2
Hydrologic Information....12
Geologic Information....19
Soil Information....23
Wells and Additional Sources....52
Summary....57
Detail Report....60
Radon Information....92
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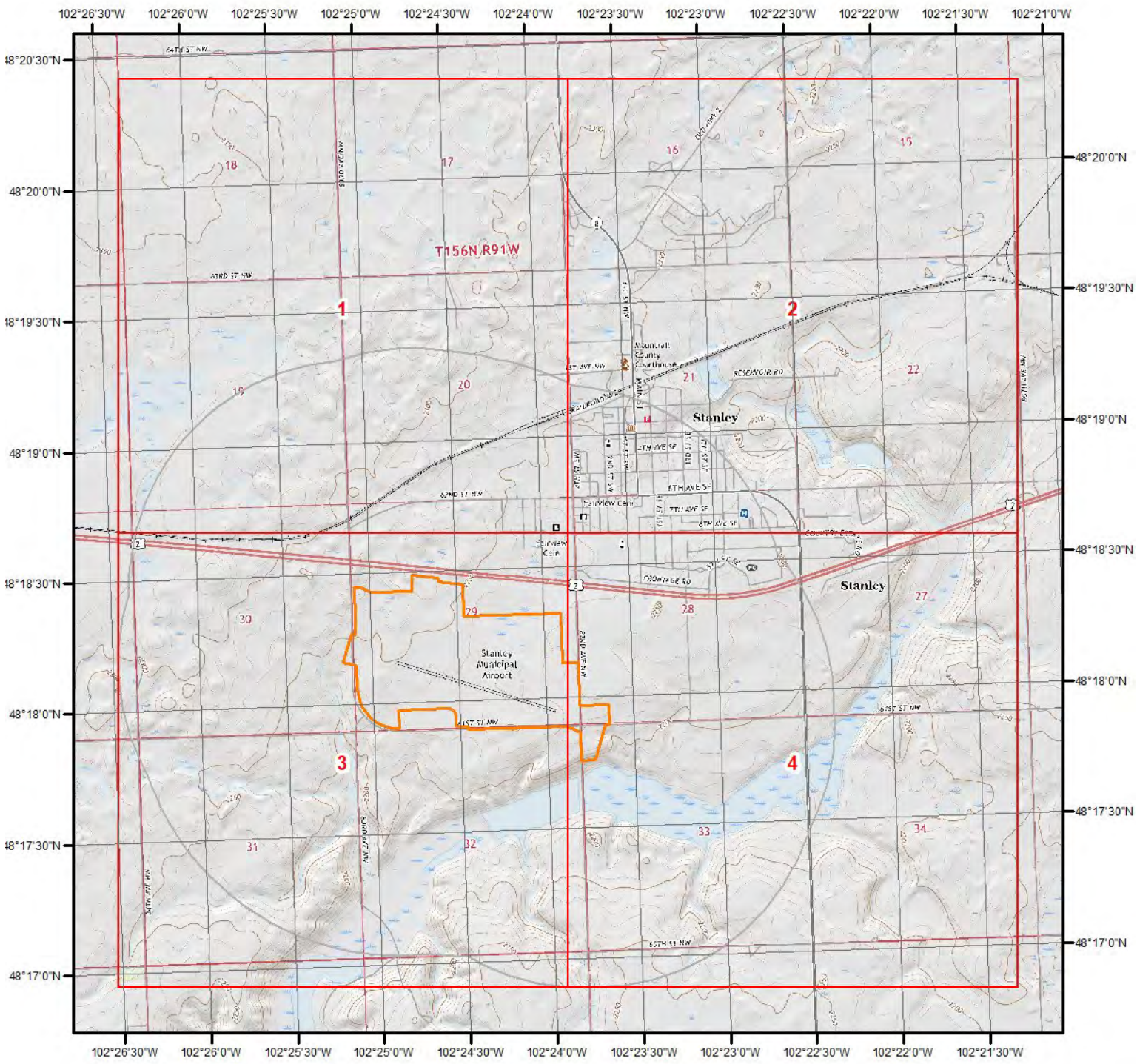
The ERIS ***Physical Setting Report - PSR*** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

Topographic Information



Current USGS Topo (2020)

0 0.2 0.4 0.8 1.2 1.6 Miles

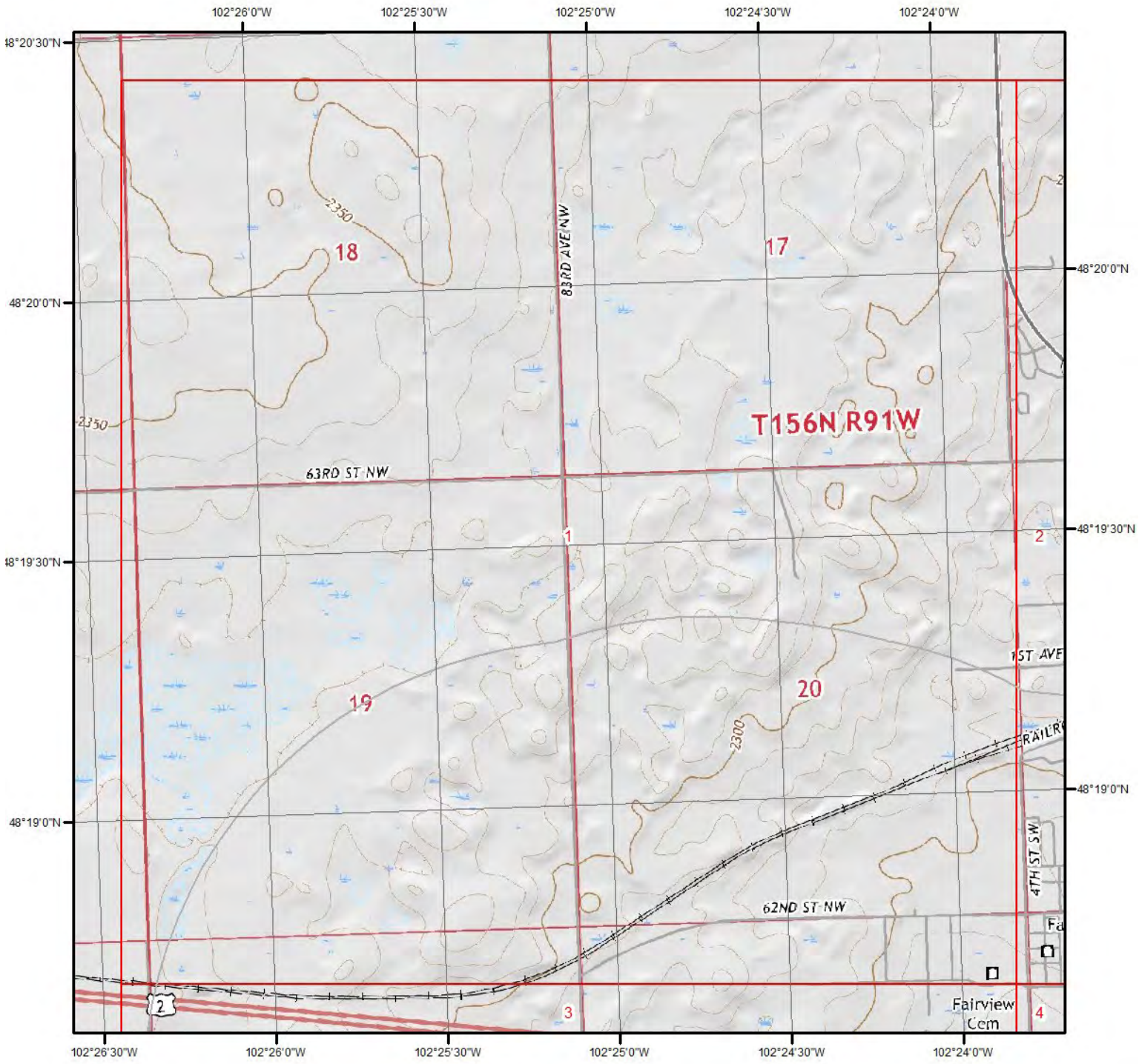
N

Quadrangle(s): Clearwater Lake,ND; Stanley,ND; Cottonwood Lake,ND; Stanley SE,ND; Belden,ND; Robinson Lake,ND; Ross,ND; Lostwood,

ERIS

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 1

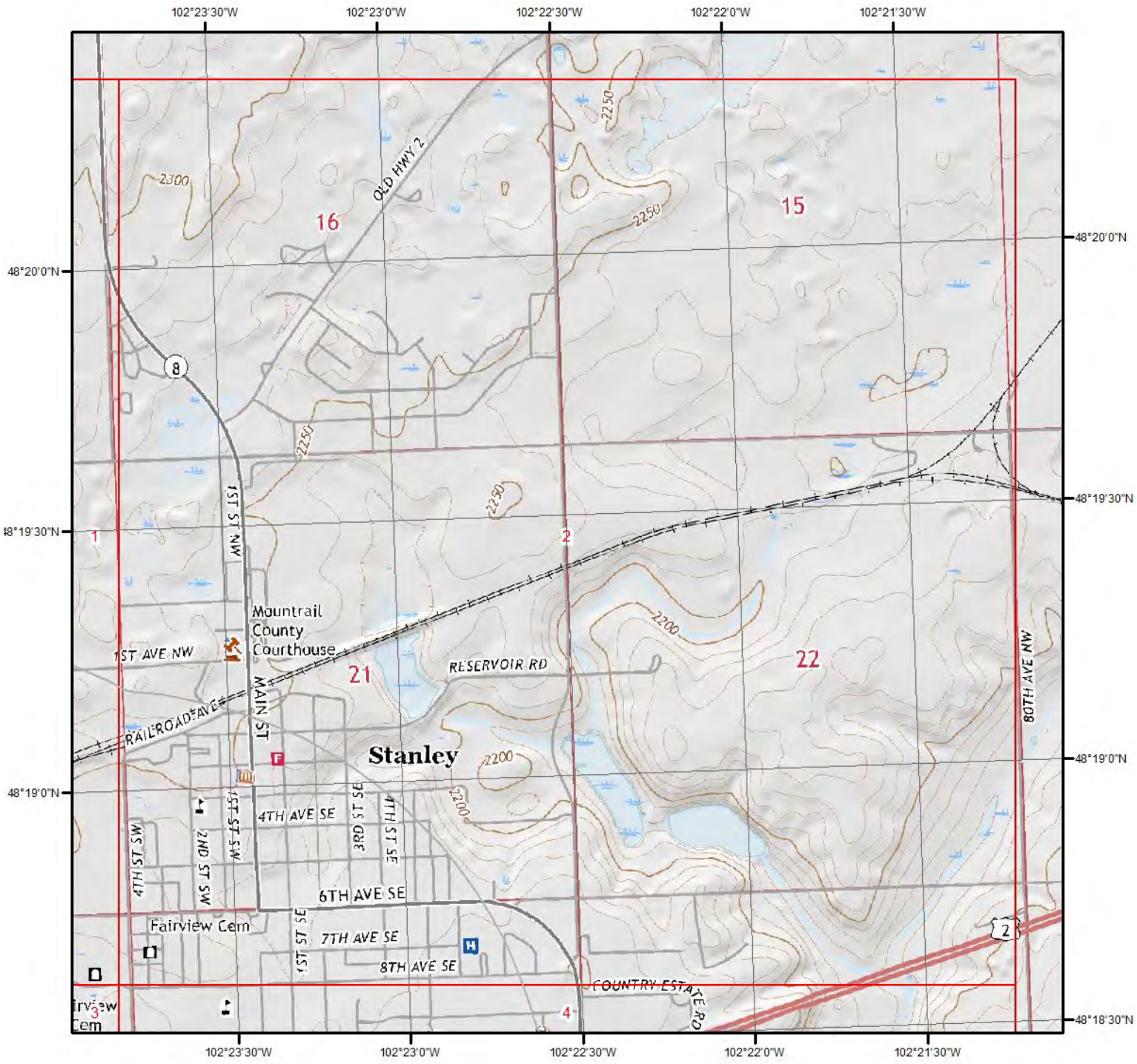
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 2

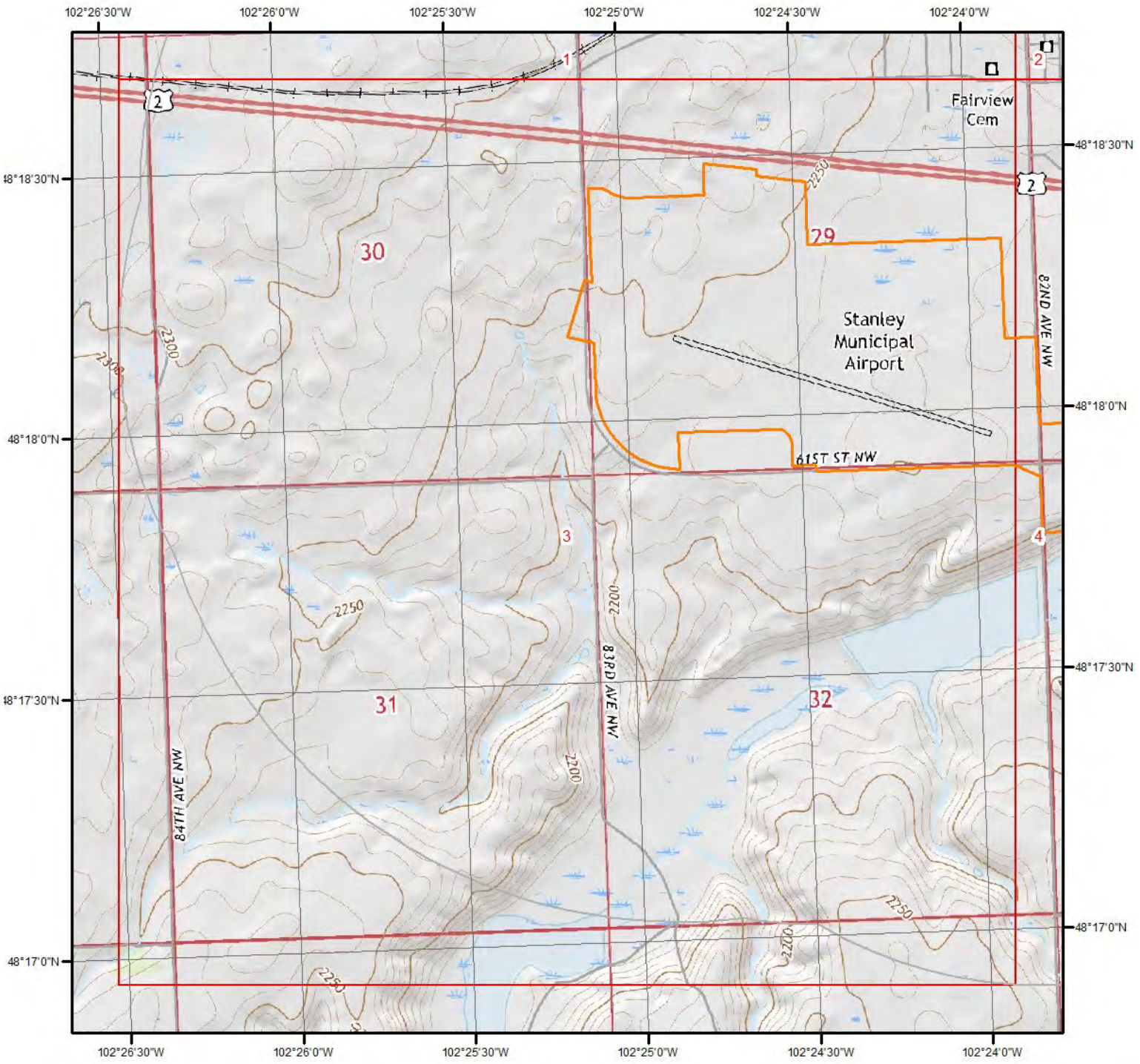
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND; Stanley SE,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 3

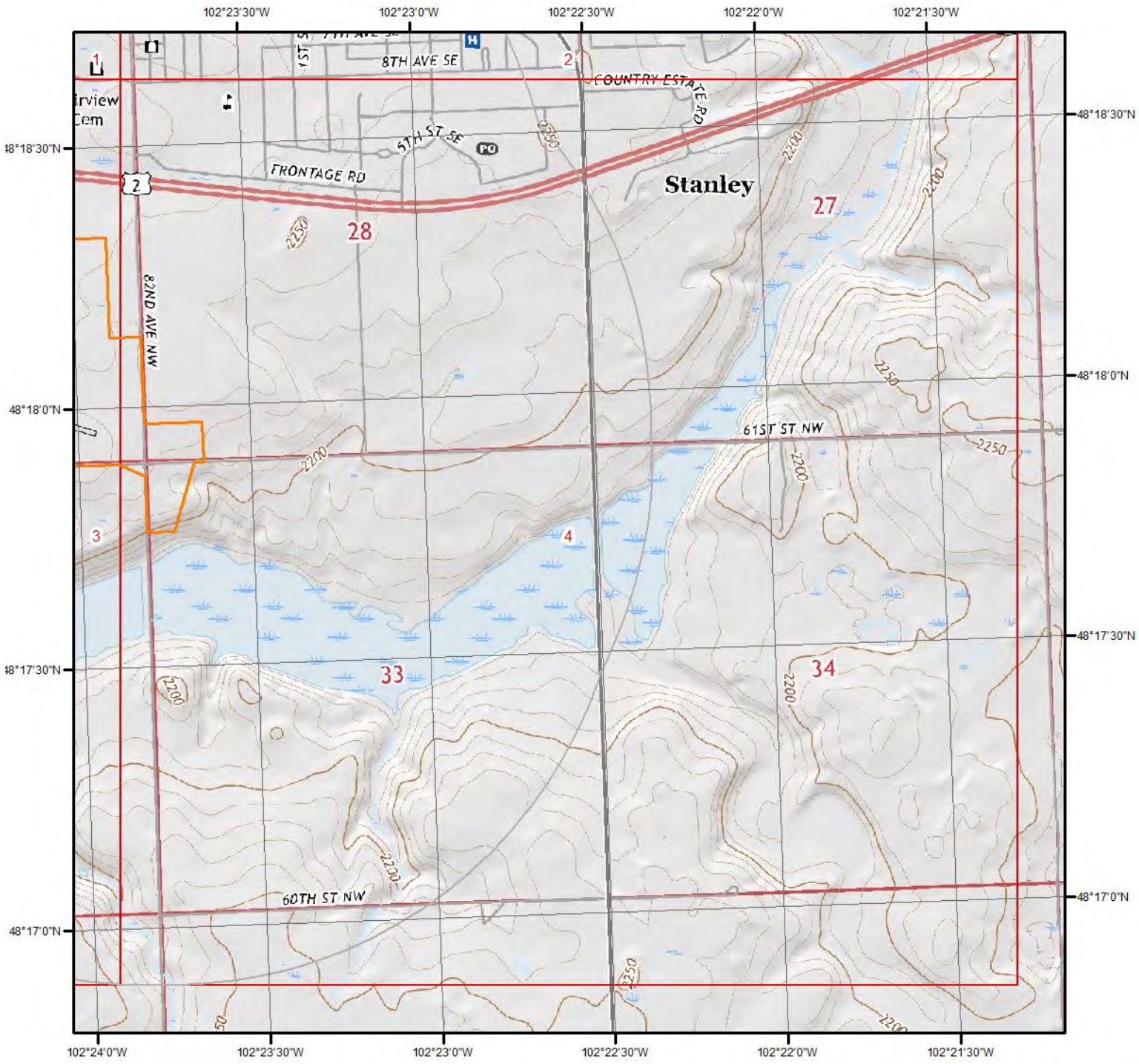
0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND

Source: USGS 7.5 Minute Topographic Map

Topographic Information



Current USGS Topo - Page 4

0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Stanley,ND; Stanley SE,ND

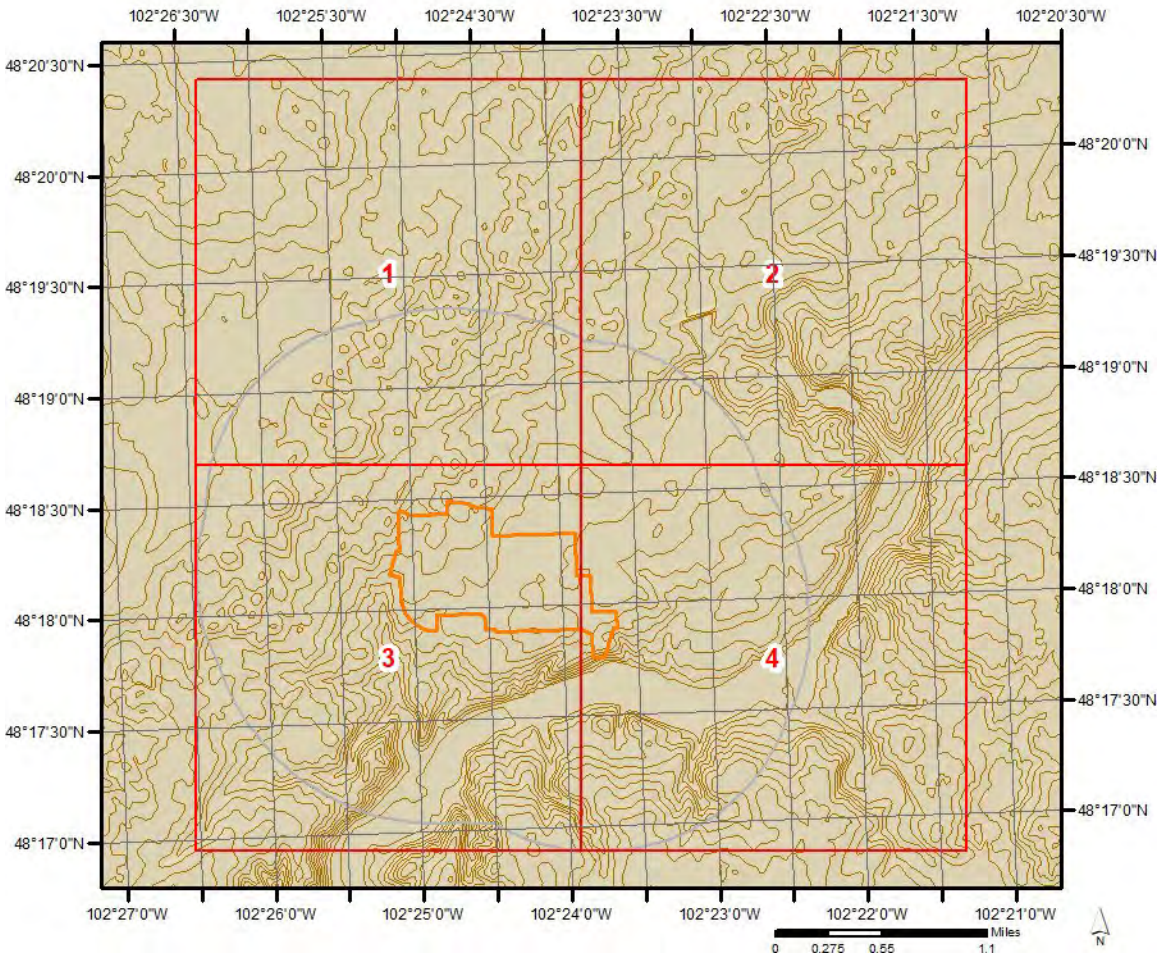
Source: USGS 7.5 Minute Topographic Map

Topographic Information

The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

Topographic information at project property:

Elevation:	2,239.31 ft
Slope Direction:	SE



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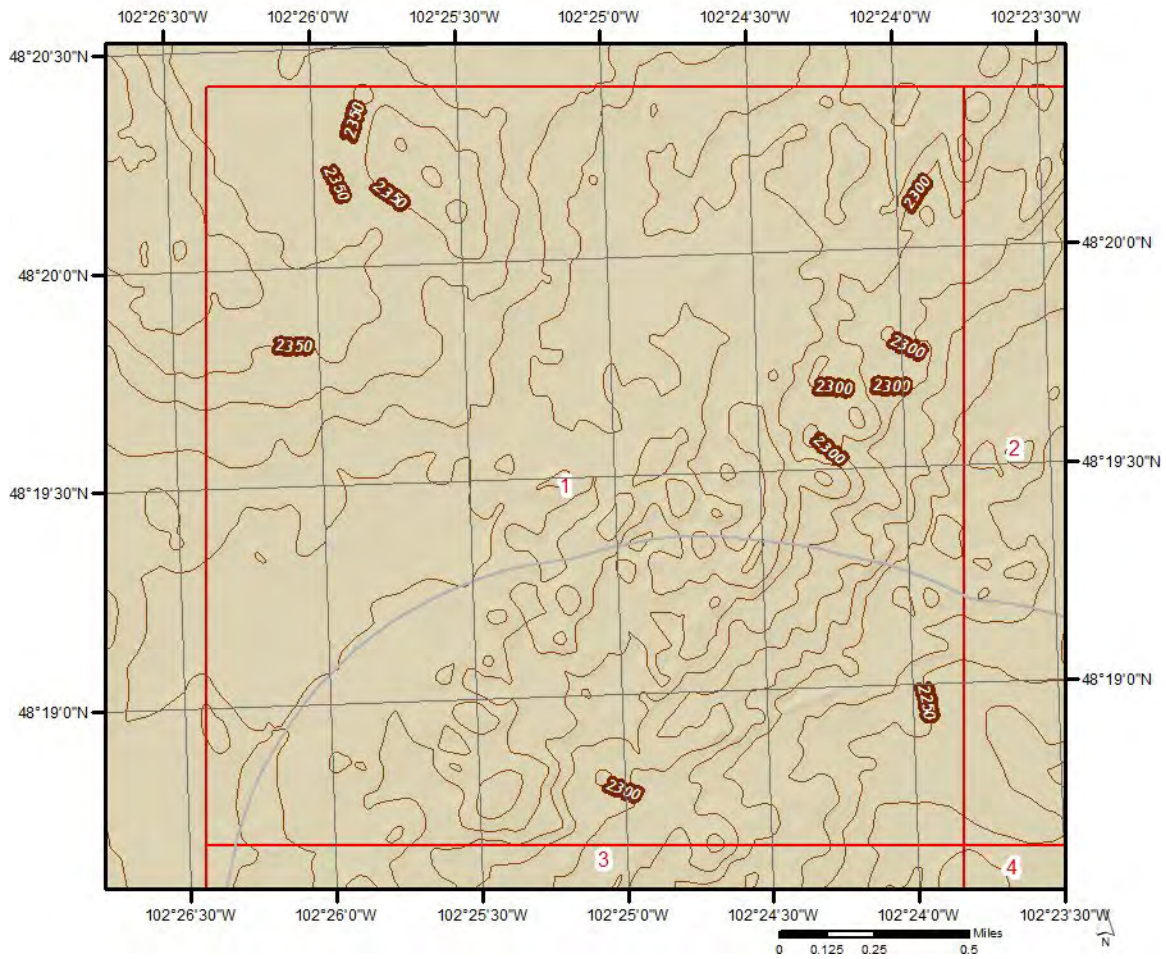

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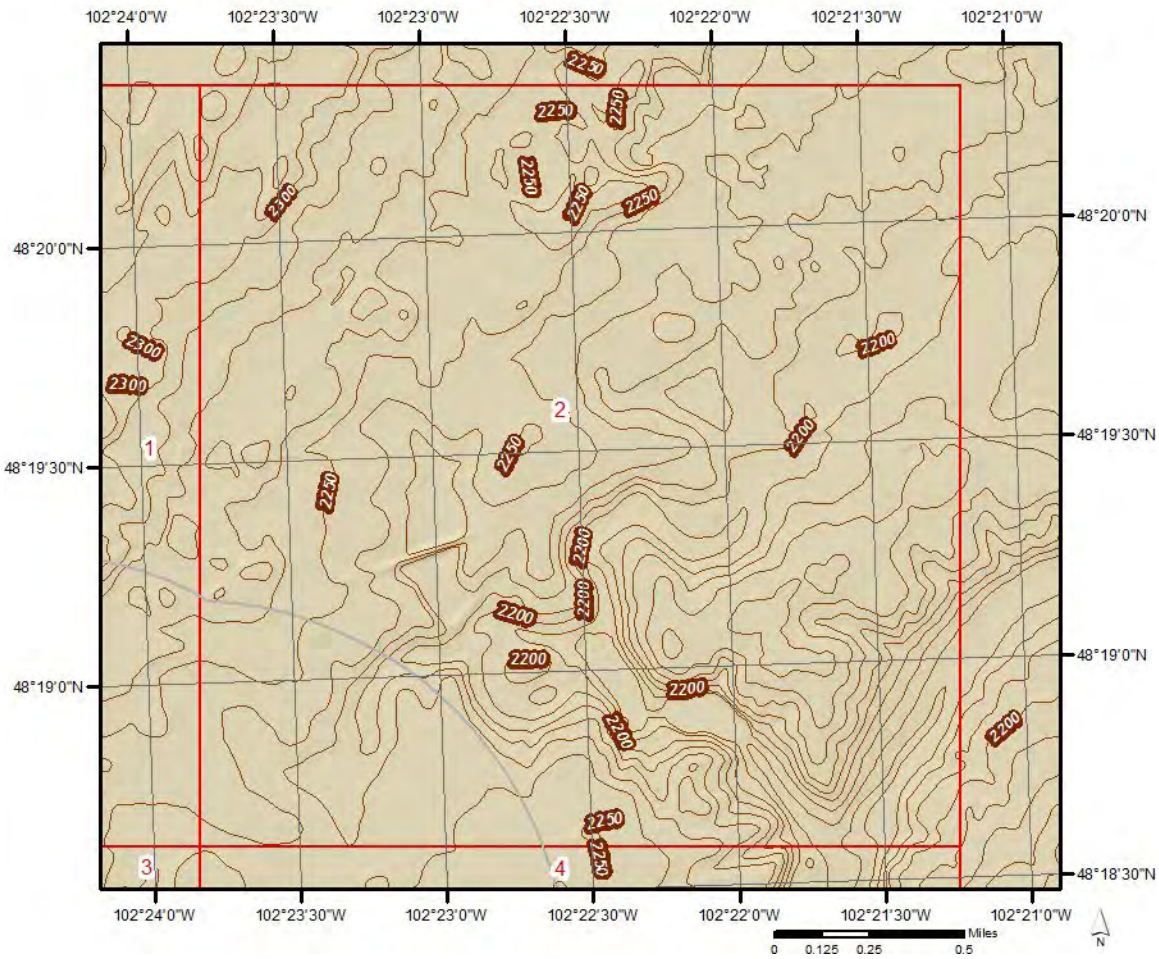

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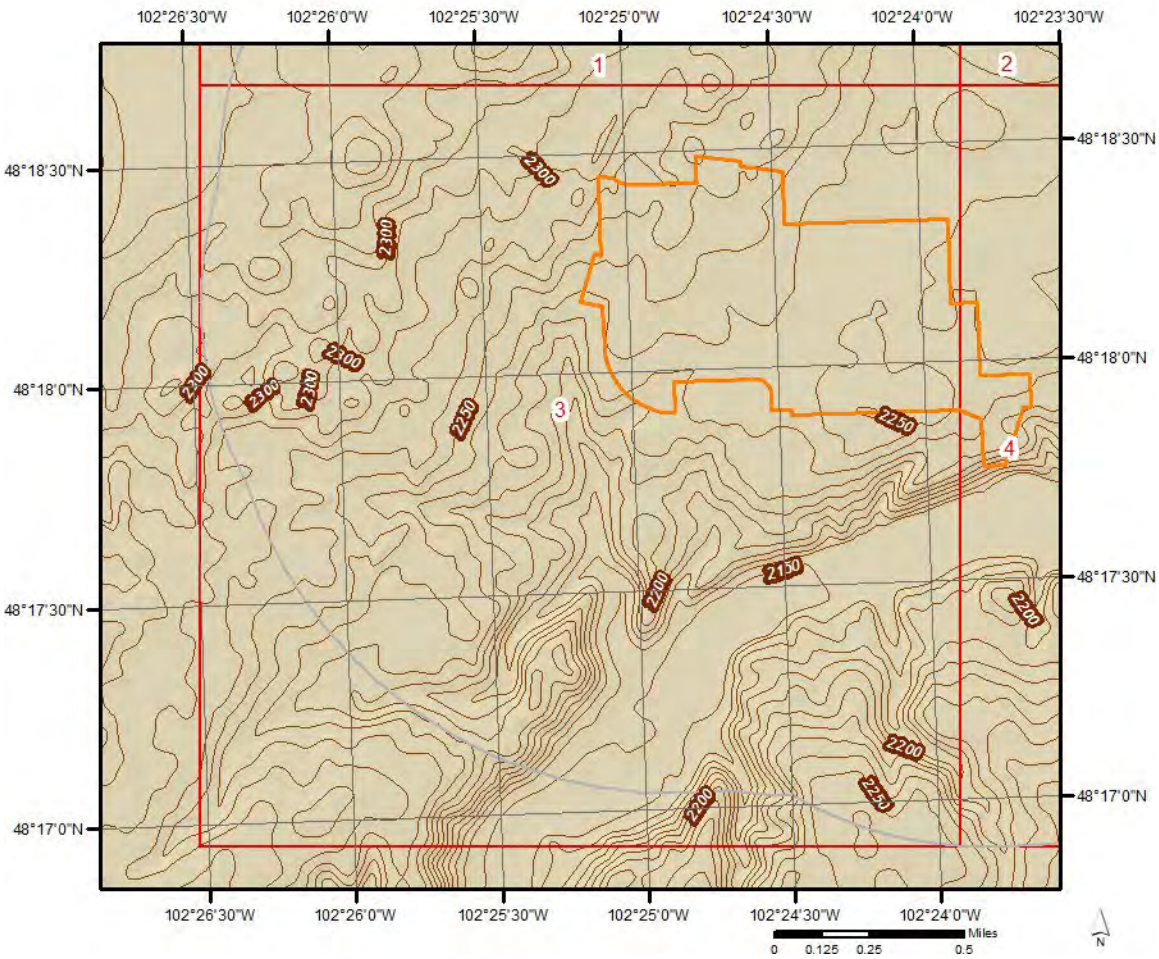

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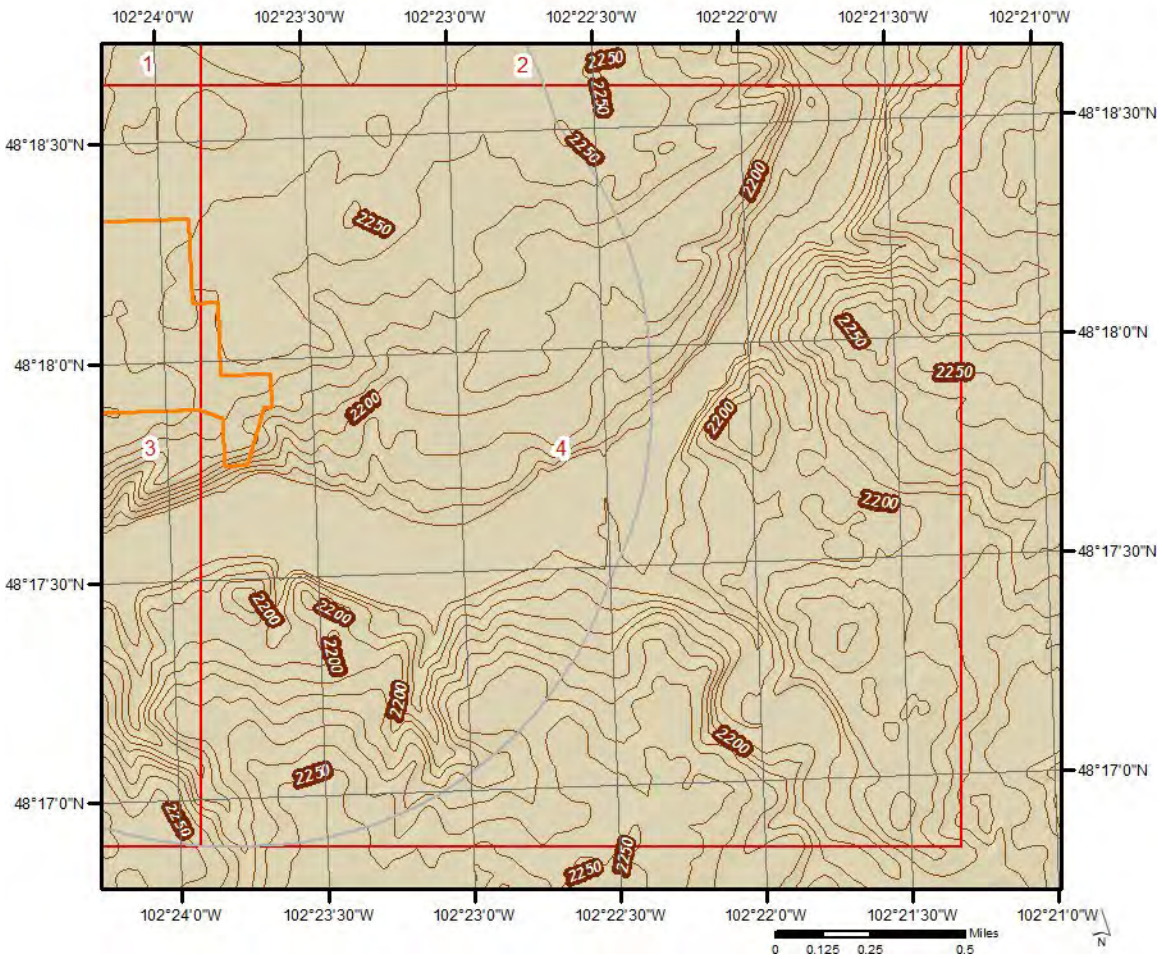
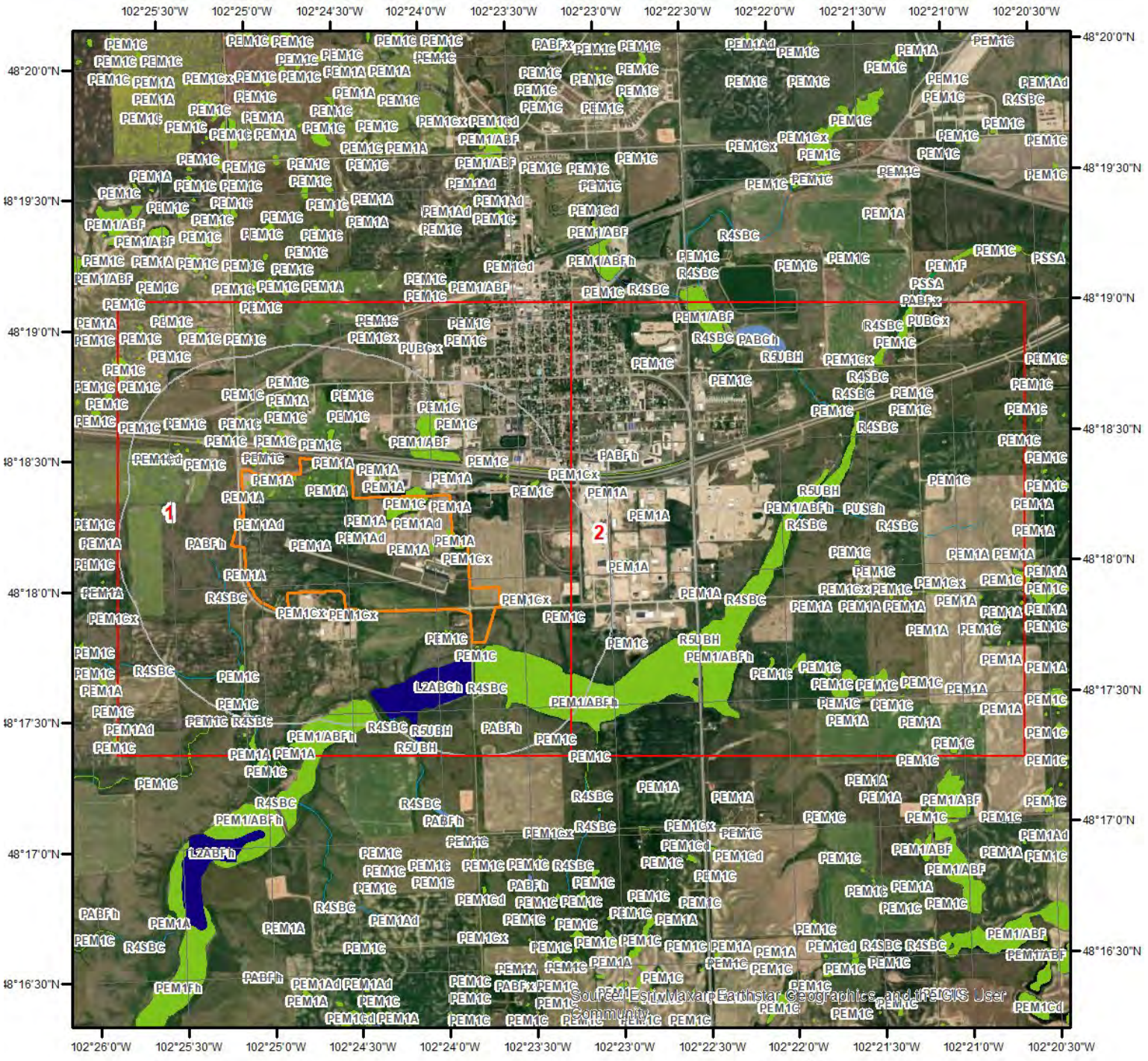
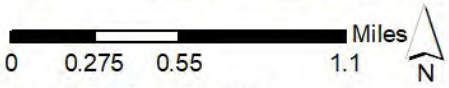


Hydrologic Information



Wetland

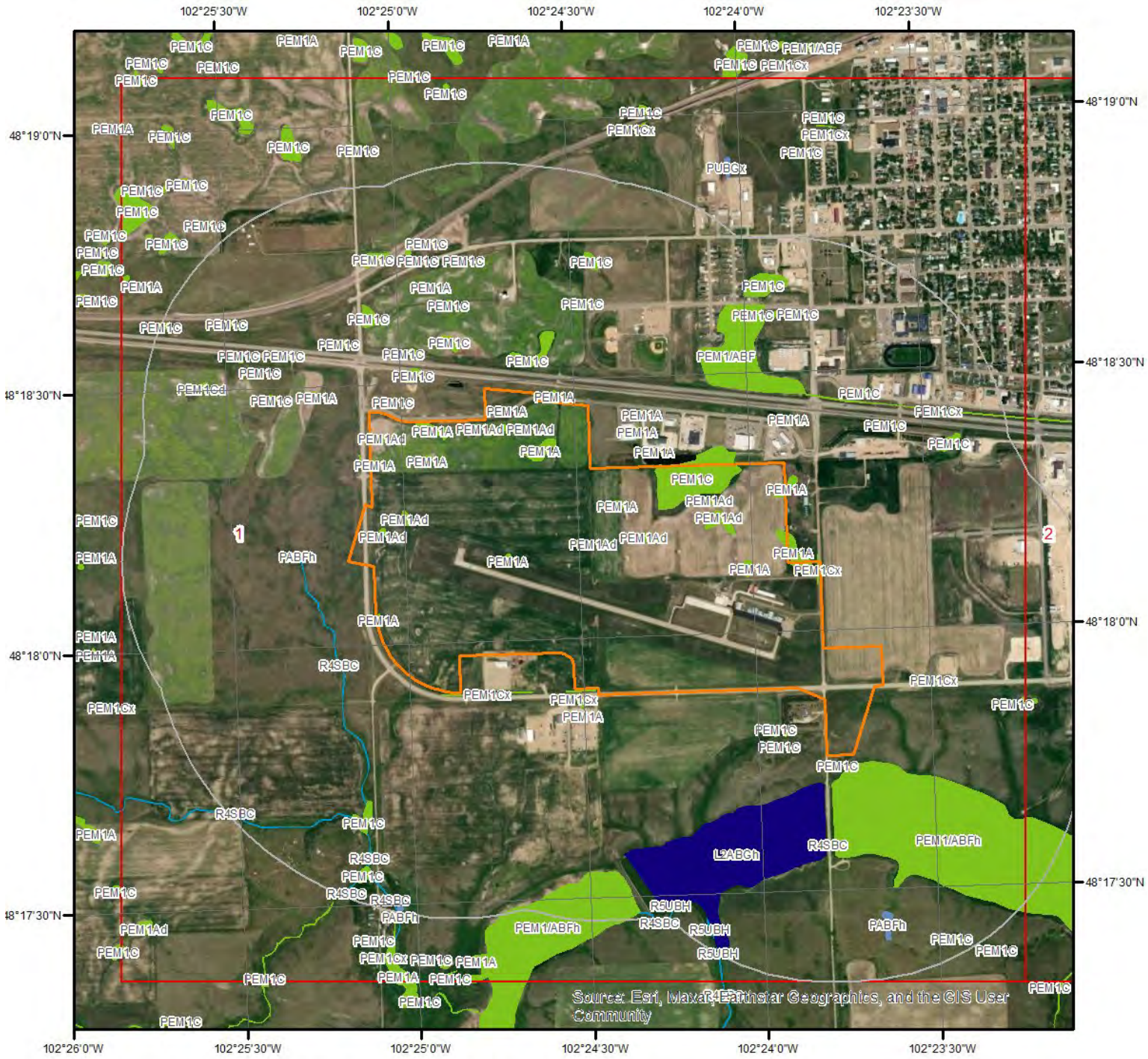


This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Wetland Type - Page 1

0 0.125 0.25 0.5 Miles

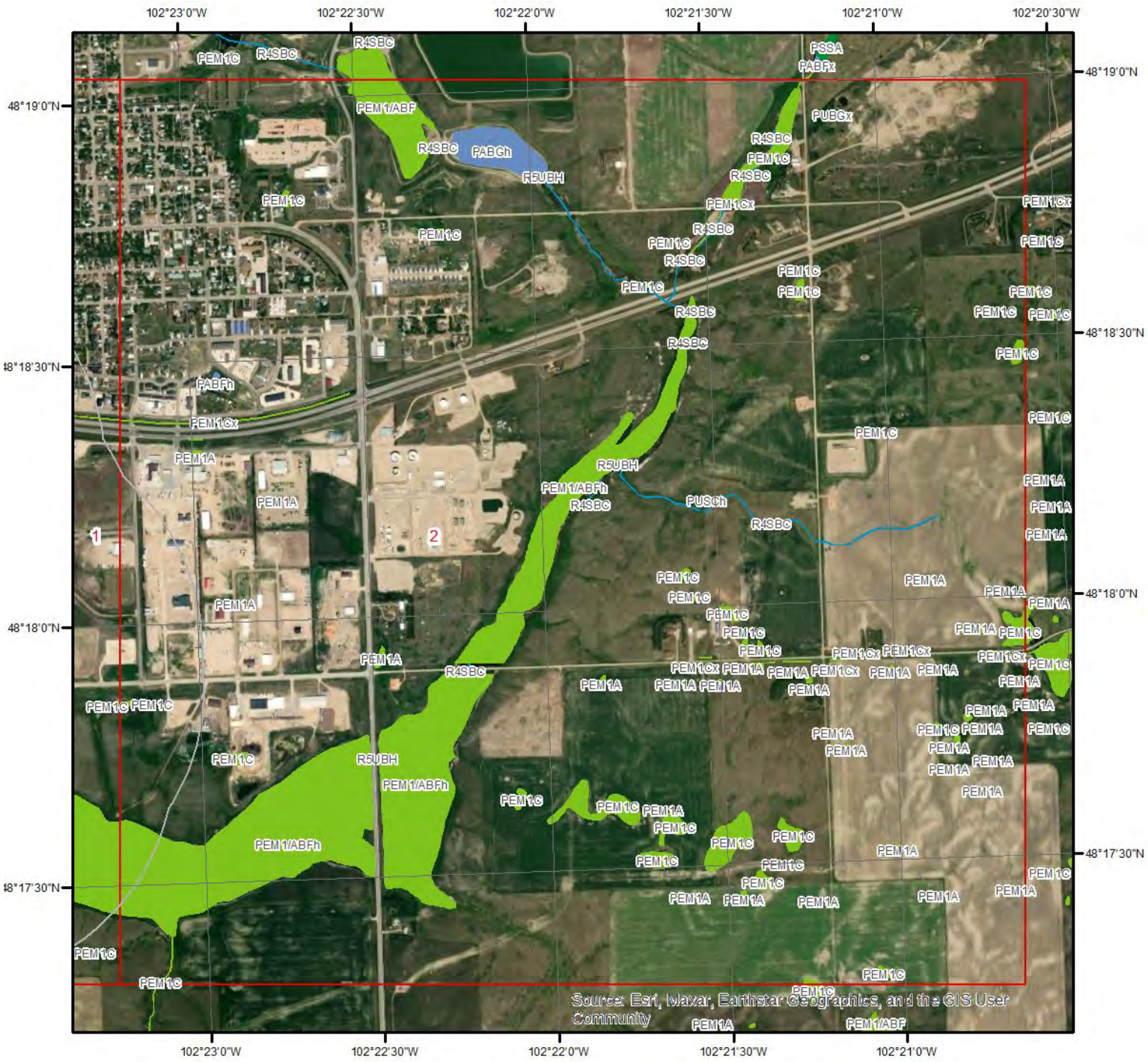
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Wetland Type - Page 2

0 0.125 0.25 0.5 Miles

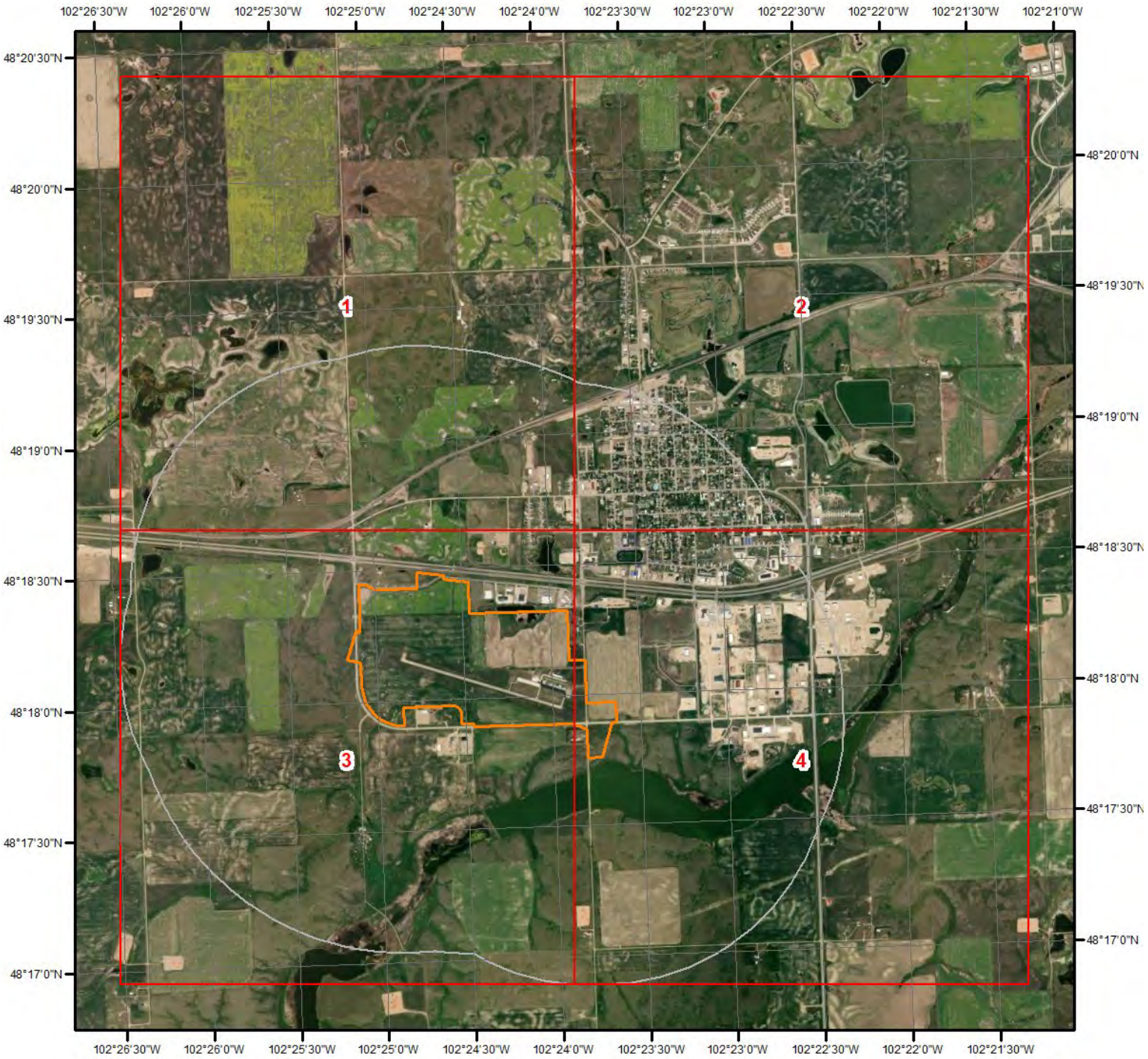
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information



Flood Hazard Zones

This map shows FEMA flood hazard zones based on FEMA's National Flood Hazard Layer. FIRM Panels are overlayed. An absent FIRM panel represents no data available.

Miles
0 0.2 0.4 0.8

N

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee
- Open Water

Quadrangle(s): Clearwater Lake,ND; Stanley,ND; Cottonwood Lake,ND; Stanley

ERIS

Hydrologic Information

The Wetland Type map shows wetland existence overlaid on an aerial imagery. The Flood Hazard Zones map shows FEMA flood hazard zones overlaid on an aerial imagery. Relevant FIRM panels and detailed zone information is provided below.
For detailed Zone descriptions please click the link: https://floodadvocate.com/fema-zone-definitions

No records found for the project property or surrounding properties.

Hydrologic Information

FEMA Flood Zone Definitions

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply in these zones.

ZONE	DESCRIPTION
A	Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.
AE, A1-A30	Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
AH	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1–3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1–3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.
AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may be used only when the flood protection system has reached specified statutory progress toward completion. No BFEs or flood depths are shown.

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas (CHHA) represent the area subject to inundation by 1-percent-annual chance flood, extending from offshore to the inland limit of a primary front al dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Structures located within the CHHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory purchase requirements apply in these zones.

ZONE	DESCRIPTION
V	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed coastal analyses have not been performed, no BFEs or flood depths are shown.
VE, V1-V30	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones. (Zone VE is used on new and revised maps in place of Zones V1–V30.)

Hydrologic Information

Moderate and Minimal Risk Areas

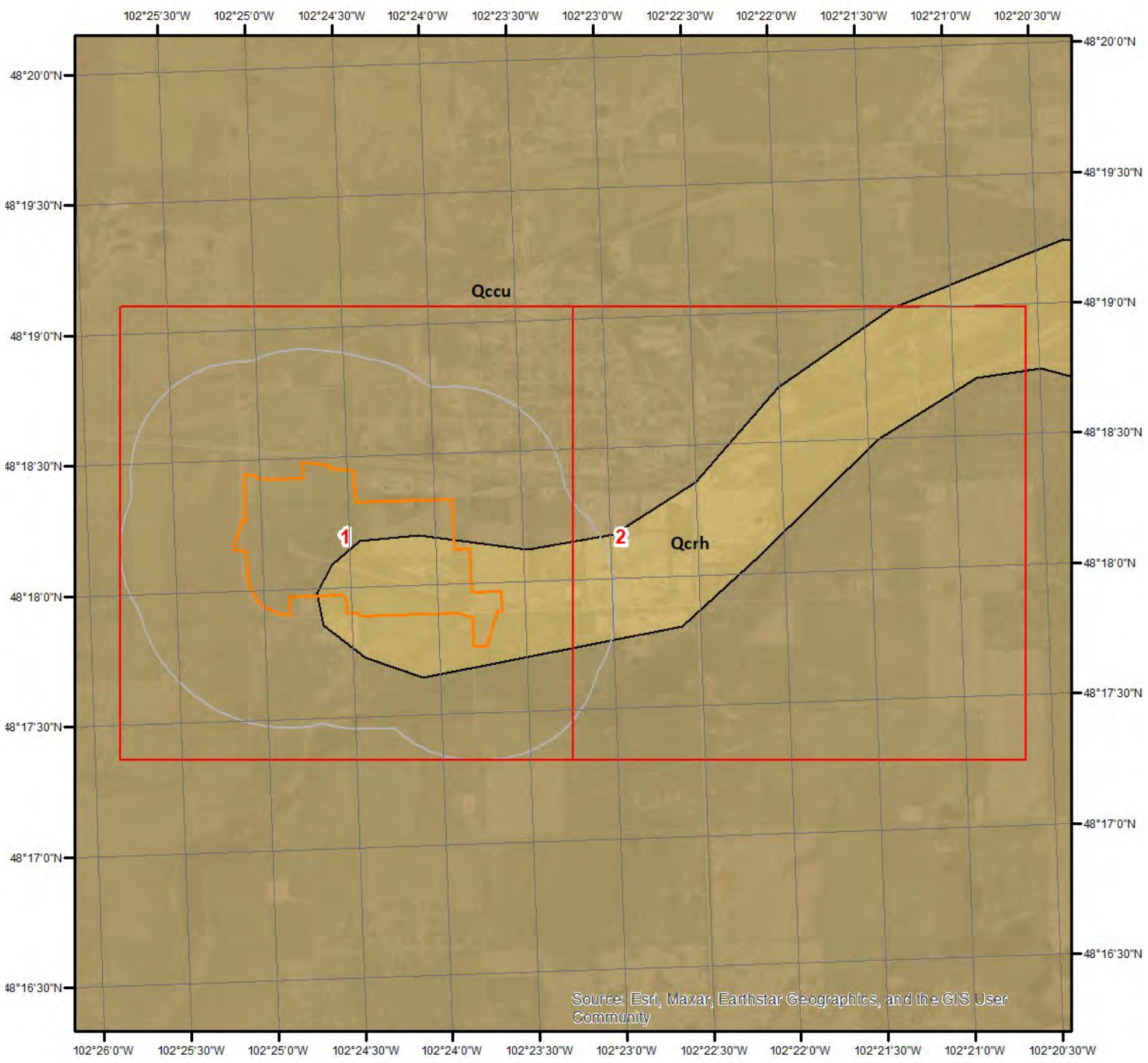
Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 25-percent of all flood claims filed are for structures located within these zones.

ZONE	DESCRIPTION
B, X (shaded)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
C, X (unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

Geologic Information



0 0.2 0.4 0.8 1.2 Miles

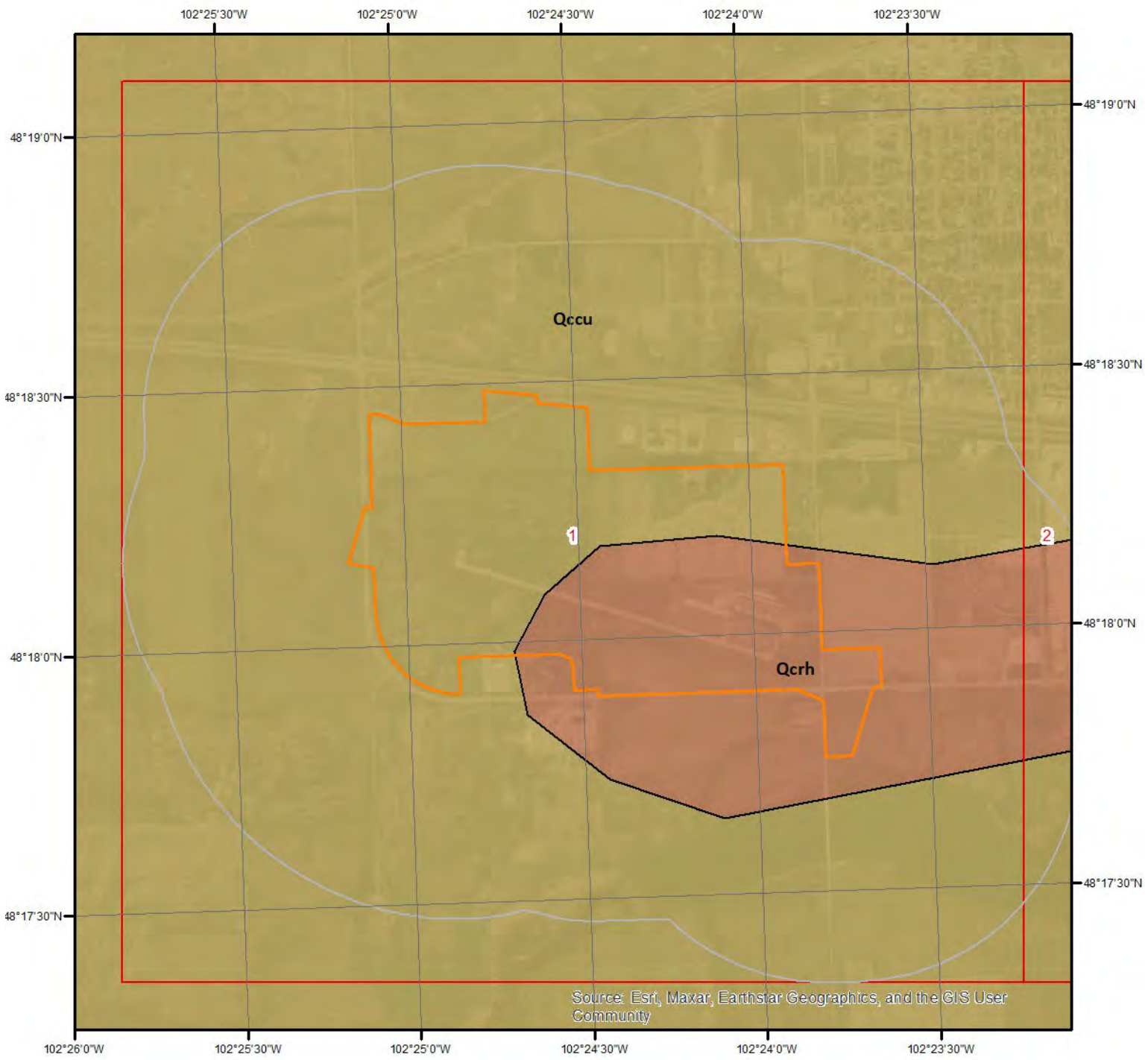
N

Geologic Units

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

ERIS

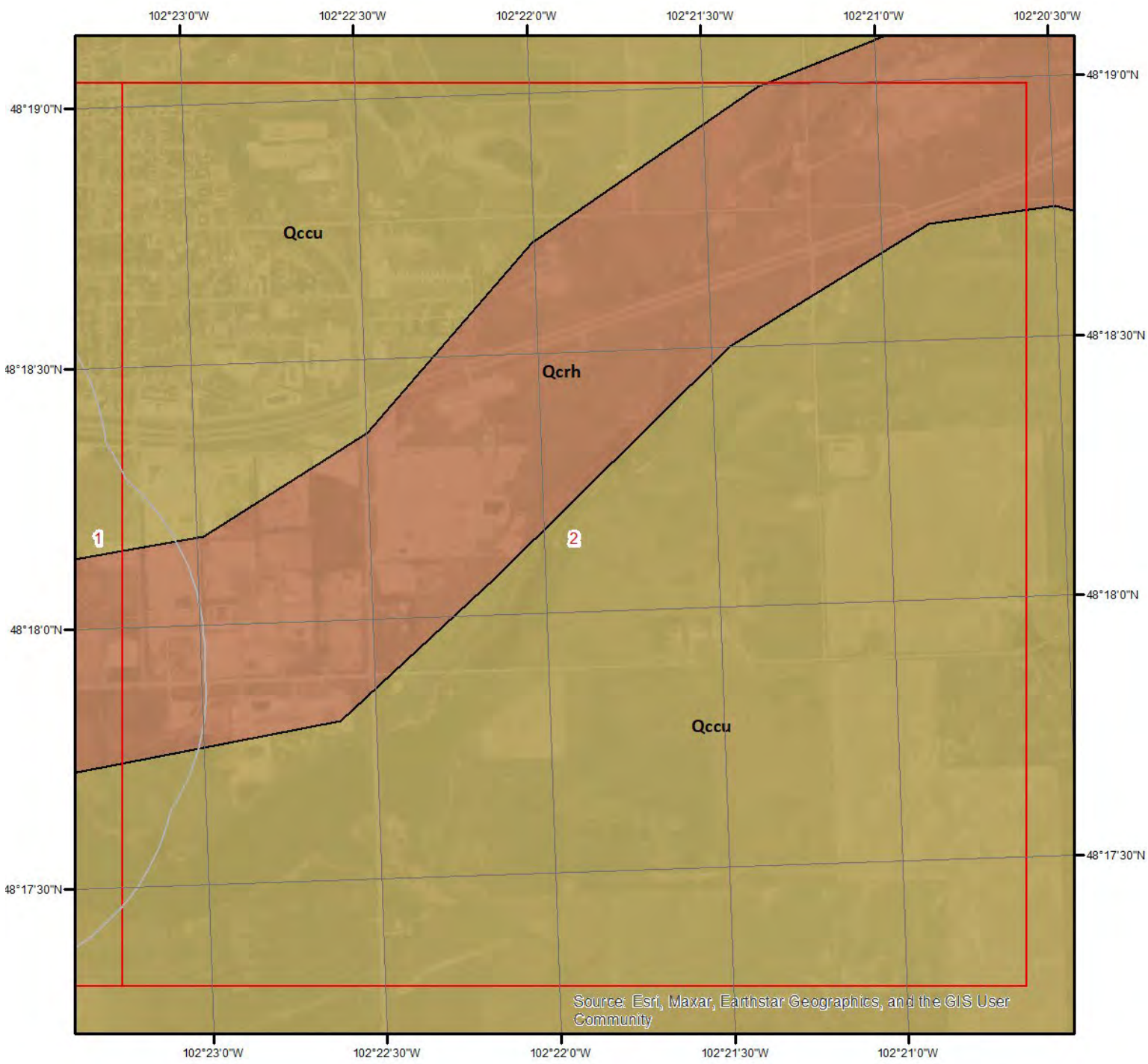
Geologic Information



Geologic Units - Page 1

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

Geologic Information



Miles
0 0.2 0.4

N

Geologic Units - Page 2

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

ERIS

Geologic Information

The previous page shows USGS geology information. Detailed information about each unit is provided below.

Geologic Unit Qccu

Unit Name:	Glacial Sediment- Collapsed Glacial Sediment
Unit Age:	Phanerozoic | Cenozoic | Quaternary | Pleistocene Holocene
Primary Rock Type:	clay or mud
Secondary Rock Type:	silt
Unit Description:	Unbedded, unsorted mixture of clay, silt, sand, and pebbles, and a few cobbles and boulders; as thick as 30 meters (100 feet)

Geologic Unit Qcrh

Unit Name:	Coleharbor Formation- River Sediment- Collapsed River Sediment
Unit Age:	Phanerozoic | Cenozoic | Quaternary | Pleistocene Holocene
Primary Rock Type:	sand
Secondary Rock Type:	gravel
Unit Description:	Moderately well sorted cross-bedded sand and plane-bedded gravel, including sediment of melt-water and other rivers; as thick as 30 meters (100 feet). Faulted and contorted supraglacial sediment with hummocky topography.

Soil Information

SSURGO Soils

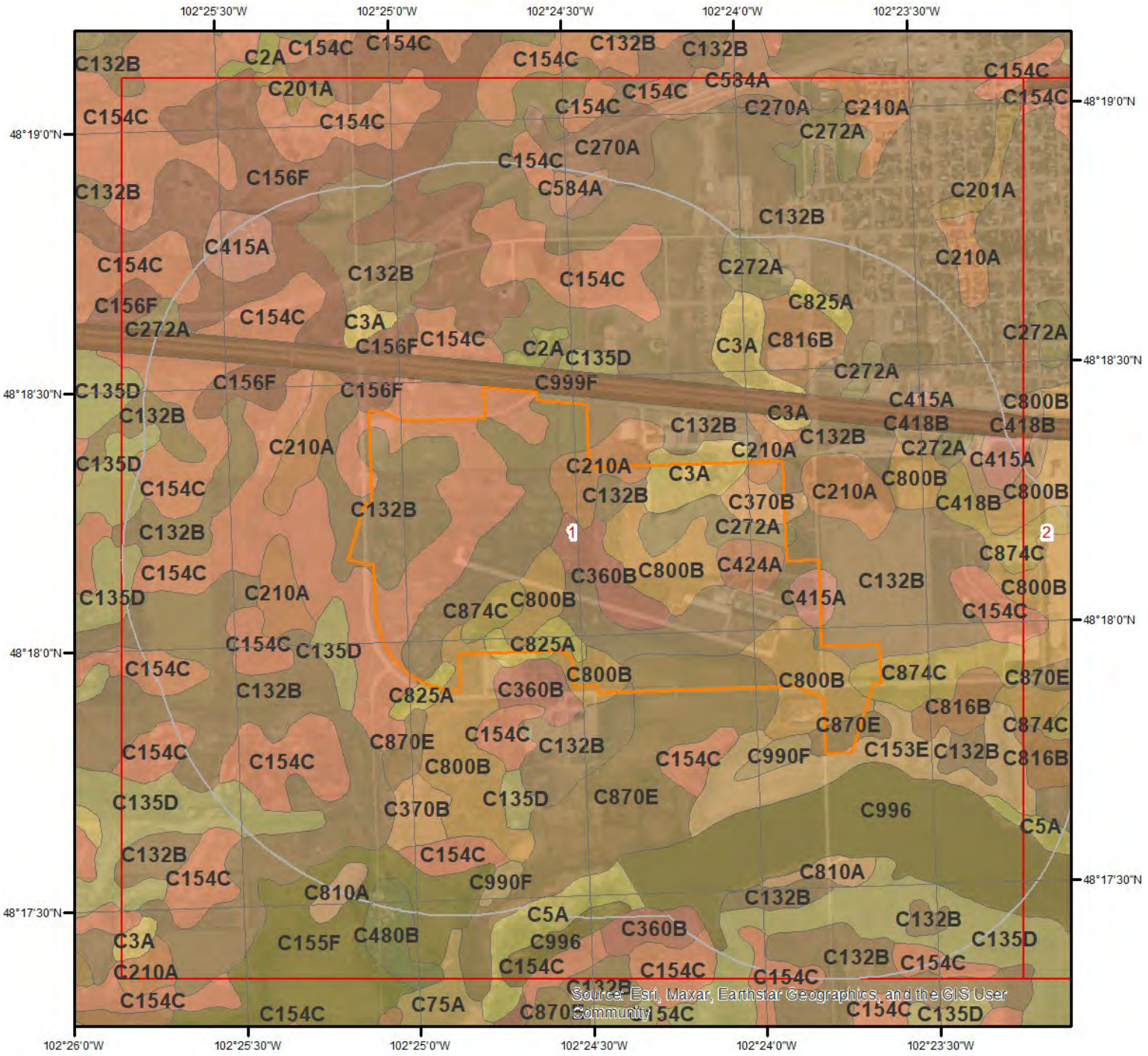
0 0.2 0.4 0.8 1.2 Miles

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

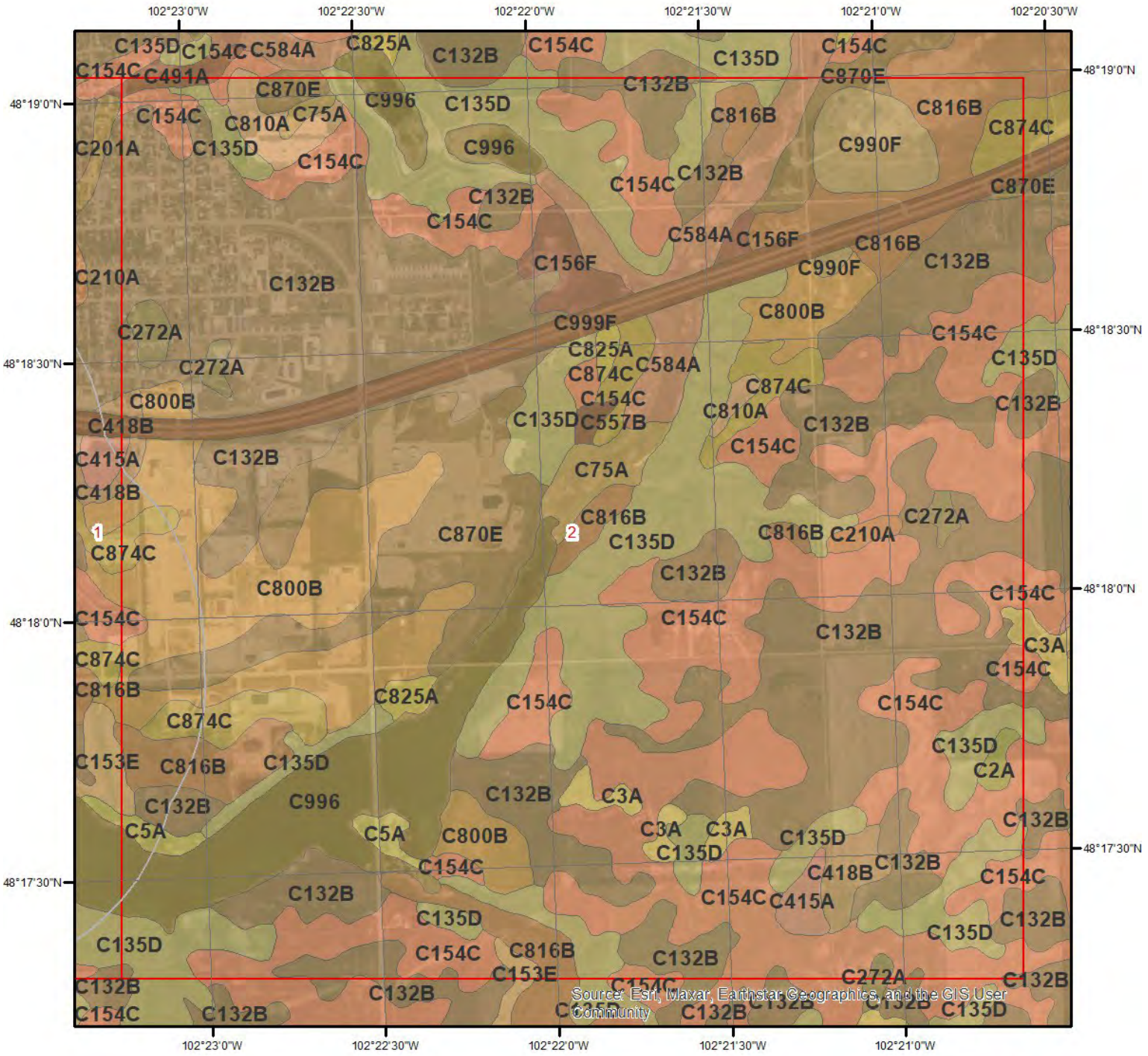
Soil Information



SSURGO Soils - Page 1

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

Soil Information



SSURGO Soils - Page 2

Miles
0 0.2 0.4

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

Map Unit C132B (48.49%)

Map Unit Name:	Williams-Zahl loams, 3 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Williams(54%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Zahl(20%)	
horizon Ap(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C132B - Williams-Zahl loams, 3 to 6 percent slopes

Component: Williams (54%)
The Williams component makes up 54 percent of the map unit. Slopes are 3 to 6 percent. This component is on ground moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahl (20%)
The Zahl component makes up 20 percent of the map unit. Slopes are 3 to 6 percent. This component is on ground moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Bowbells (11%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Zahill (8%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Hamerly (4%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Soil Information

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (1%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C135D (4.27%)

Map Unit Name:	Zahl-Williams loams, 9 to 15 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(41%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Williams(30%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C135D - Zahl-Williams loams, 9 to 15 percent slopes

Component: Zahl (41%)
The Zahl component makes up 41 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Williams (30%)
The Williams component makes up 30 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (9%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Zahill (9%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Niobell (3%)

Soil Information

Generated brief soil descriptions are created for major soil components. The Niobell soil is a minor component.

Component: Wabek (3%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Parnell (3%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Hamerly (2%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Map Unit C153E (0.64%)

Map Unit Name:	Zahl-Max loams, 15 to 25 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(50%)	
horizon A(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(34%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C153E - Zahl-Max loams, 15 to 25 percent slopes

Component: Zahl (50%)
The Zahl component makes up 50 percent of the map unit. Slopes are 15 to 25 percent. This component is on disintegration moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (34%)
The Max component makes up 34 percent of the map unit. Slopes are 15 to 25 percent. This component is on disintegration moraines on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Arnegard (6%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Parnell (5%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Soil Information

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Wabek (1%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Zahl (1%)
Generated brief soil descriptions are created for major soil components. The Zahl, very stony soil is a minor component.

Map Unit C154C (6.15%)

Map Unit Name:	Zahl-Williams-Bowbells loams, 3 to 9 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Zahl(40%)	
horizon Ap(0cm to 14cm)	Loam
horizon Bk(14cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Williams(24%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Bowbells(16%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C154C - Zahl-Williams-Bowbells loams, 3 to 9 percent slopes

Component: Zahl (40%)
The Zahl component makes up 40 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Williams (24%)
The Williams component makes up 24 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Soil Information

Component: Bowbells (16%)
The Bowbells component makes up 16 percent of the map unit. Slopes are 3 to 6 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahill (12%)
Generated brief soil descriptions are created for major soil components. The Zahill soil is a minor component.

Component: Hamerly (3%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Livona (2%)
Generated brief soil descriptions are created for major soil components. The Livona soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C155F (3.87%)

Map Unit Name:	Zahl-Max-Arnegard loams, 15 to 60 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Zahl(40%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(30%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam
Arnegard(19%)	
horizon A(0cm to 30cm)	Loam
horizon Bw(30cm to 57cm)	Loam
horizon Bk(57cm to 93cm)	Clay loam
horizon C(93cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C155F - Zahl-Max-Arnegard loams, 15 to 60 percent slopes

Component: Zahl (40%)
The Zahl component makes up 40 percent of the map unit. Slopes are 25 to 60 percent. This component is on ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a

depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (30%)
The Max component makes up 30 percent of the map unit. Slopes are 25 to 60 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Arnegard (19%)
The Arnegard component makes up 19 percent of the map unit. Slopes are 15 to 25 percent. This component is on swales on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (4%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Harriet (3%)
Generated brief soil descriptions are created for major soil components. The Harriet soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Hamerly (1%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Map Unit C156F (3.6%)

Map Unit Name:	Zahl-Max-Bowbells loams, 6 to 35 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Zahl(54%)	
horizon A(0cm to 12cm)	Loam
horizon Bk(12cm to 55cm)	Clay loam
horizon C(55cm to 200cm)	Clay loam
Max(22%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 31cm)	Loam
horizon Bk(31cm to 88cm)	Clay loam
horizon C(88cm to 200cm)	Clay loam
Bowbells(18%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Soil Information

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C156F - Zahl-Max-Bowbells loams, 6 to 35 percent slopes

Component: Zahl (54%)
The Zahl component makes up 54 percent of the map unit. Slopes are 15 to 35 percent. This component is on ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Max (22%)
The Max component makes up 22 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills on till plains, ridges on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (18%)
The Bowbells component makes up 18 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Parnell (2%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Tonka (1%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Wabek (1%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Hamerly (1%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Noonan (1%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C210A (0.88%)

Map Unit Name:	Williams-Bowbells loams, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	130cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Williams(60%)

horizon Ap(0cm to 15cm)	Loam
horizon Bt1(15cm to 25cm)	Clay loam
horizon Bt2(25cm to 38cm)	Clay loam
horizon Btk(38cm to 61cm)	Clay loam
horizon Bk(61cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam
Bowbells(21%)	
horizon Ap(0cm to 15cm)	Loam
horizon Bt(15cm to 58cm)	Clay loam
horizon Bk(58cm to 91cm)	Clay loam
horizon C(91cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C210A - Williams-Bowbells loams, 0 to 3 percent slopes

Component: Williams (60%)
The Williams component makes up 60 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowbells (21%)
The Bowbells component makes up 21 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY005ND Loamy Overflow ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Zahl (8%)
Generated brief soil descriptions are created for major soil components. The Zahl soil is a minor component.

Component: Hamerly (5%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (2%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Parnell (1%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Map Unit C270A (0.49%)

Map Unit Name:	Hamerly loam, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	76cm
Drainage Class - Dominant:	Somewhat poorly drained

Soil Information

Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Hamerly(70%)

horizon Ap(0cm to 19cm)	Loam
horizon Bk(19cm to 86cm)	Clay loam
horizon C(86cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C270A - Hamerly loam, 0 to 3 percent slopes

Component: Hamerly (70%)
The Hamerly component makes up 70 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Bowbells (8%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Hamerly (7%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Vallers (6%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Tonka (4%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Parnell (3%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Noonan (2%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C272A (0.45%)

Map Unit Name:	Hamerly-Tonka complex, 0 to 3 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Hamerly(45%)

horizon Ap(0cm to 19cm)	Loam
horizon Bk(19cm to 86cm)	Clay loam
horizon C(86cm to 200cm)	Clay loam

Tonka(30%)

horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 33cm)	Silt loam
horizon E(33cm to 48cm)	Loam
horizon Bt(48cm to 86cm)	Silty clay loam

horizon 2BC(86cm to 127cm)	Clay loam
horizon 2Cg(127cm to 200cm)	Loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C272A - Hamerly-Tonka complex, 0 to 3 percent slopes

Component: Hamerly (45%)
The Hamerly component makes up 45 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Tonka (30%)
The Tonka component makes up 30 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium over till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during March, April, May. Organic matter content in the surface horizon is about 7 percent. This component is in the R053BY019ND Wet Meadow ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Vallers (6%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Hamerly (6%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Parnell (5%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Wyard (5%)
Generated brief soil descriptions are created for major soil components. The Wyard soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Map Unit C2A (0.05%)

Map Unit Name:	Tonka silt loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Tonka(70%)

horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 33cm)	Silt loam
horizon E(33cm to 48cm)	Loam
horizon Bt(48cm to 86cm)	Silty clay loam
horizon 2BC(86cm to 127cm)	Clay loam
horizon 2Cg(127cm to 200cm)	Loam

Soil Information

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C2A - Tonka silt loam, 0 to 1 percent slopes

Component: Tonka (70%)
The Tonka component makes up 70 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium over till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during March, April, May. Organic matter content in the surface horizon is about 7 percent. This component is in the R053BY019ND Wet Meadow ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Rimlap (10%)
Generated brief soil descriptions are created for major soil components. The Rimlap soil is a minor component.

Component: Parnell (6%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Hamerly (5%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Bowbells (5%)
Generated brief soil descriptions are created for major soil components. The Bowbells soil is a minor component.

Component: Vallers (4%)
Generated brief soil descriptions are created for major soil components. The Vallers, moderately saline soil is a minor component.

Map Unit C360B (0.53%)

Map Unit Name:	Livona fine sandy loam, 0 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Livona(60%)	
horizon Ap(0cm to 22cm)	Fine sandy loam
horizon Bw(22cm to 49cm)	Fine sandy loam
horizon Bt1(49cm to 55cm)	Sandy clay loam
horizon 2Bt2(55cm to 69cm)	Clay loam
horizon 2Bk(69cm to 117cm)	Clay loam
horizon 2BC(117cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C360B - Livona fine sandy loam, 0 to 6 percent slopes

Component: Livona (60%)
The Livona component makes up 60 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of eolian deposits over fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The

calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Parshall (12%)
Generated brief soil descriptions are created for major soil components. The Parshall soil is a minor component.

Component: Flaxton (10%)
Generated brief soil descriptions are created for major soil components. The Flaxton soil is a minor component.

Component: Krem (5%)
Generated brief soil descriptions are created for major soil components. The Krem soil is a minor component.

Component: Williams (5%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Noonan (3%)
Generated brief soil descriptions are created for major soil components. The Noonan soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C370B (0.25%)

Map Unit Name:	Krem-Lihen loamy fine sands, 0 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Krem(70%)	
horizon Ap(0cm to 17cm)	Loamy fine sand
horizon A(17cm to 51cm)	Loamy fine sand
horizon Bw(51cm to 73cm)	Loamy fine sand
horizon 2Bt(73cm to 100cm)	Clay loam
horizon 2Bk(100cm to 135cm)	Clay loam
horizon 2C(135cm to 200cm)	Clay loam
Lihen(18%)	
horizon Ap(0cm to 17cm)	Loamy fine sand
horizon A(17cm to 42cm)	Loamy fine sand
horizon Bw(42cm to 75cm)	Loamy fine sand
horizon C(75cm to 200cm)	Loamy fine sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C370B - Krem-Lihen loamy fine sands, 0 to 6 percent slopes

Component: Krem (70%)
The Krem component makes up 70 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of eolian sands over fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY007ND Sands ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Lihen (18%)
The Lihen component makes up 18 percent of the map unit. Slopes are 0 to 6 percent. This component is on ground moraines on till plains. The parent material consists of sandy glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY007ND Sands ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Flaxton (4%)
Generated brief soil descriptions are created for major soil components. The Flaxton soil is a minor component.

Component: Parshall (3%)
Generated brief soil descriptions are created for major soil components. The Parshall soil is a minor component.

Component: Arveson (2%)
Generated brief soil descriptions are created for major soil components. The Arveson soil is a minor component.

Component: Williams (2%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Zahl (1%)
Generated brief soil descriptions are created for major soil components. The Zahl soil is a minor component.

Map Unit C3A (0.48%)

Map Unit Name:	Parnell silty clay loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Very poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Parnell(86%)

horizon A1(0cm to 38cm)	Silty clay loam
horizon A2(38cm to 56cm)	Silty clay loam
horizon Btg1(56cm to 81cm)	Silty clay loam
horizon Btg2(81cm to 140cm)	Silty clay
horizon BCg(140cm to 200cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C3A - Parnell silty clay loam, 0 to 1 percent slopes

Component: Parnell (86%)
The Parnell component makes up 86 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 8 percent. This component is in the R053BY025ND Shallow Marsh ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Vallers (4%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Tonka (3%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Component: Southam (3%)
Generated brief soil descriptions are created for major soil components. The Southam soil is a minor component.

Component: Heil (2%)
Generated brief soil descriptions are created for major soil components. The Heil soil is a minor component.

Component: Marysland (2%)
Generated brief soil descriptions are created for major soil components. The Marysland, frequently ponded soil is a minor component.

Map Unit C415A (0.36%)

Map Unit Name:	Tansem loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Tansem(75%)

horizon Ap(0cm to 19cm)	Loam
horizon Bw(19cm to 38cm)	Silt loam
horizon Bk(38cm to 75cm)	Silt loam
horizon C(75cm to 200cm)	Silt loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C415A - Tansem loam, 0 to 2 percent slopes

Component: Tansem (75%)
The Tansem component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on glacial lakes (relict) on till plains. The parent material consists of loamy glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Sakakawea (9%)
Generated brief soil descriptions are created for major soil components. The Sakakawea soil is a minor component.

Component: Roseglen (8%)
Generated brief soil descriptions are created for major soil components. The Roseglen soil is a minor component.

Component: Bearden (3%)
Generated brief soil descriptions are created for major soil components. The Bearden soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Nutley (2%)
Generated brief soil descriptions are created for major soil components. The Nutley soil is a minor component.

Component: Tonka (1%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Map Unit C418B (0.17%)

Soil Information

Map Unit Name:	Tansem-Sakakawea loams, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Tansem(70%)	
horizon Ap(0cm to 19cm)	Loam
horizon Bw(19cm to 38cm)	Silt loam
horizon Bk(38cm to 75cm)	Silt loam
horizon C(75cm to 200cm)	Silt loam
Sakakawea(15%)	
horizon Ap(0cm to 15cm)	Silty clay loam
horizon Bk(15cm to 67cm)	Silt loam
horizon C1(67cm to 74cm)	Silt loam
horizon C2(74cm to 104cm)	Loam
horizon C3(104cm to 200cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C418B - Tansem-Sakakawea loams, 2 to 6 percent slopes

Component: Tansem (70%)
The Tansem component makes up 70 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on glacial lakes (relict) on till plains. The parent material consists of loamy glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Sakakawea (15%)
The Sakakawea component makes up 15 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on glacial lakes (relict) on till plains. The parent material consists of calcareous coarse-silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY015ND Thin Loamy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Roseglen (8%)
Generated brief soil descriptions are created for major soil components. The Roseglen soil is a minor component.

Component: Nutley (3%)
Generated brief soil descriptions are created for major soil components. The Nutley soil is a minor component.

Component: Williams (2%)
Generated brief soil descriptions are created for major soil components. The Williams soil is a minor component.

Component: Alkabo (2%)
Generated brief soil descriptions are created for major soil components. The Alkabo soil is a minor component.

Map Unit C424A (0.12%)

Map Unit Name:	Minot silty clay, 0 to 2 percent slopes

Soil Information

Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Minot(65%)

horizon Ap(0cm to 22cm)	Silty clay
horizon Bss(22cm to 49cm)	Silty clay
horizon Bkss(49cm to 85cm)	Silty clay
horizon C(85cm to 200cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C424A - Minot silty clay, 0 to 2 percent slopes

Component: Minot (65%)
The Minot component makes up 65 percent of the map unit. Slopes are 0 to 2 percent. This component is on collapsed ice-walled lakebeds on till plains. The parent material consists of clayey glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. This component is in the R053BY001ND Clayey ecological site. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wildrose (13%)
Generated brief soil descriptions are created for major soil components. The Wildrose soil is a minor component.

Component: Tansem (11%)
Generated brief soil descriptions are created for major soil components. The Tansem soil is a minor component.

Component: Makoti (5%)
Generated brief soil descriptions are created for major soil components. The Makoti soil is a minor component.

Component: Sakakawea (4%)
Generated brief soil descriptions are created for major soil components. The Sakakawea soil is a minor component.

Component: Tonka (2%)
Generated brief soil descriptions are created for major soil components. The Tonka soil is a minor component.

Map Unit C480B (0.19%)

Map Unit Name:	Shambo loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Shambo(70%)

horizon Ap(0cm to 15cm)	Loam
horizon A(15cm to 20cm)	Loam
horizon Bw1(20cm to 33cm)	Loam
horizon Bw2(33cm to 72cm)	Loam
horizon Bk(72cm to 107cm)	Loam
horizon BCk(107cm to 122cm)	Loam

horizon C(122cm to 200cm)	Loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C480B - Shambo loam, 2 to 6 percent slopes

Component: Shambo (70%)
The Shambo component makes up 70 percent of the map unit. Slopes are 2 to 6 percent. This component is on terraces on uplands. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Arnegard (13%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Stady (8%)
Generated brief soil descriptions are created for major soil components. The Stady soil is a minor component.

Component: Tally (4%)
Generated brief soil descriptions are created for major soil components. The Tally soil is a minor component.

Component: Savage (3%)
Generated brief soil descriptions are created for major soil components. The Savage soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C584A (0.06%)

Map Unit Name:	Harriet loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	23cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Harriet(76%)

horizon E(0cm to 6cm)	Loam
horizon Btnz1(6cm to 48cm)	Clay loam
horizon Btnz2(48cm to 80cm)	Clay loam
horizon Bknzg(80cm to 97cm)	Clay loam
horizon Cg(97cm to 200cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C584A - Harriet loam, 0 to 2 percent slopes

Component: Harriet (76%)
The Harriet, occasionally flooded component makes up 76 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer, natric, is 1 to 5 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is occasionally flooded. It is rarely ponded. A seasonal zone of water saturation is at 9 inches during March, April, May, June. Organic matter content in the surface horizon is

about 2 percent. This component is in the R053BY006ND Saline Lowland ecological site. Nonirrigated land capability classification is 6s. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a moderately saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 19 within 30 inches of the soil surface.

Component: Ranslo (7%)
Generated brief soil descriptions are created for major soil components. The Ranslo soil is a minor component.

Component: Fluvaquents (5%)
Generated brief soil descriptions are created for major soil components. The Fluvaquents soil is a minor component.

Component: Lowe (5%)
Generated brief soil descriptions are created for major soil components. The Lowe soil is a minor component.

Component: Marysland (3%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Stirum (2%)
Generated brief soil descriptions are created for major soil components. The Stirum soil is a minor component.

Component: Straw (2%)
Generated brief soil descriptions are created for major soil components. The Straw soil is a minor component.

Map Unit C5A (0.38%)

Map Unit Name:	Southam silty clay loam, 0 to 1 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	0cm
Drainage Class - Dominant:	Very poorly drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Southam(78%)	
horizon A(0cm to 10cm)	Silty clay loam
horizon Ag1(10cm to 46cm)	Silty clay loam
horizon Ag2(46cm to 107cm)	Silty clay
horizon Cg(107cm to 200cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C5A - Southam silty clay loam, 0 to 1 percent slopes

Component: Southam (78%)
The Southam component makes up 78 percent of the map unit. Slopes are 0 to 1 percent. This component is on marshes on till plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 10 percent. This component is in the R053BY900ND Not Assigned ecological site. Nonirrigated land capability classification is 8w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. The soil has a slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Parnell (6%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Component: Water (5%)
Generated brief soil descriptions are created for major soil components. The Water soil is a minor component.

Component: Vallers (5%)
Generated brief soil descriptions are created for major soil components. The Vallers soil is a minor component.

Component: Marysland (3%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Minnewaukan (3%)
Generated brief soil descriptions are created for major soil components. The Minnewaukan soil is a minor component.

Map Unit C800B (3.73%)

Map Unit Name:	Appam sandy loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.

Major components are printed below

Appam(81%)

horizon Ap(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C800B - Appam sandy loam, 2 to 6 percent slopes

Component: Appam (81%)
The Appam component makes up 81 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (7%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Bowdle (4%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Lihen (4%)
Generated brief soil descriptions are created for major soil components. The Lihen soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Lehr (1%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Arveson (1%)
Generated brief soil descriptions are created for major soil components. The Arveson soil is a minor component.

Map Unit C810A (0.16%)

Soil Information

Map Unit Name:	Bowdle loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Bowdle(76%)

horizon Ap(0cm to 20cm)	Loam
horizon Bw(20cm to 56cm)	Loam
horizon Bk(56cm to 64cm)	Gravelly loam
horizon 2C1(64cm to 76cm)	Very gravelly loamy coarse sand
horizon 2C2(76cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C810A - Bowdle loam, 0 to 2 percent slopes

Component: Bowdle (76%)
The Bowdle component makes up 76 percent of the map unit. Slopes are 0 to 2 percent. This component is on swales on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the R053BY011ND Loamy ecological site. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (10%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Wabek (5%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Arnegard (3%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Appam (2%)
Generated brief soil descriptions are created for major soil components. The Appam soil is a minor component.

Component: Ruso (2%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Map Unit C816B (0.74%)

Map Unit Name:	Lehr loam, 2 to 6 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Lehr(69%)

horizon Ap(0cm to 15cm)	Loam

horizon Bw(15cm to 28cm)	Loam
horizon Bk1(28cm to 38cm)	Loam
horizon 2Bk2(38cm to 56cm)	Gravelly loamy coarse sand
horizon 2C(56cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C816B - Lehr loam, 2 to 6 percent slopes

Component: Lehr (69%)
The Lehr component makes up 69 percent of the map unit. Slopes are 2 to 6 percent. This component is on rises on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY010ND Shallow Gravel ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Wabek (13%)
Generated brief soil descriptions are created for major soil components. The Wabek soil is a minor component.

Component: Bowdle (9%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Arnegard (4%)
Generated brief soil descriptions are created for major soil components. The Arnegard soil is a minor component.

Component: Ruso (3%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Map Unit C825A (0.22%)

Map Unit Name:	Divide loam, 0 to 2 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	76cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Divide(65%)

horizon Ap(0cm to 20cm)	Loam
horizon Ak(20cm to 30cm)	Loam
horizon Bk(30cm to 64cm)	Loam
horizon 2C1(64cm to 76cm)	Gravelly loamy coarse sand
horizon 2C2(76cm to 200cm)	Gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C825A - Divide loam, 0 to 2 percent slopes

Component: Divide (65%)
The Divide component makes up 65 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on outwash plains. The parent material consists of local alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is

somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY004ND Limy Subirrigated ecological site. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Wyrene (12%)
Generated brief soil descriptions are created for major soil components. The Wyrene soil is a minor component.

Component: Hamerly (6%)
Generated brief soil descriptions are created for major soil components. The Hamerly soil is a minor component.

Component: Marysland (6%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Component: Bowdle (5%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Lowe (4%)
Generated brief soil descriptions are created for major soil components. The Lowe soil is a minor component.

Component: Lehr (2%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Map Unit C870E (3.2%)

Map Unit Name:	Wabek-Lehr-Appam complex, 9 to 25 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Wabek(50%)	
horizon A(0cm to 15cm)	Loam
horizon Bk(15cm to 26cm)	Gravelly coarse sandy loam
horizon C(26cm to 200cm)	Very gravelly coarse sand
Lehr(19%)	
horizon A(0cm to 15cm)	Loam
horizon Bw(15cm to 28cm)	Loam
horizon Bk1(28cm to 38cm)	Loam
horizon 2Bk2(38cm to 56cm)	Gravelly loamy coarse sand
horizon 2C(56cm to 200cm)	Very gravelly coarse sand
Appam(17%)	
horizon A(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C870E - Wabek-Lehr-Appam complex, 9 to 25 percent slopes

Component: Wabek (50%)
The Wabek component makes up 50 percent of the map unit. Slopes are 9 to 25 percent. This component is on ridges on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available

water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY017ND Very Shallow ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (19%)
The Lehr component makes up 19 percent of the map unit. Slopes are 9 to 25 percent. This component is on ridges on outwash plains. The parent material consists of loamy alluvium over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY010ND Shallow Gravel ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Appam (17%)
The Appam component makes up 17 percent of the map unit. Slopes are 9 to 15 percent. This component is on hills on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bowdle (8%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Divide (4%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Parnell (2%)
Generated brief soil descriptions are created for major soil components. The Parnell soil is a minor component.

Map Unit C874C (0.86%)

Map Unit Name:	Wabek-Appam complex, 6 to 9 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.
Major components are printed below	
Wabek(59%)	
horizon A(0cm to 13cm)	Gravelly sandy loam
horizon Bk(13cm to 26cm)	Gravelly coarse sandy loam
horizon C(26cm to 200cm)	Very gravelly coarse sand
Appam(25%)	
horizon Ap(0cm to 15cm)	Sandy loam
horizon Bw(15cm to 38cm)	Sandy loam
horizon Bk(38cm to 48cm)	Sandy loam
horizon 2C(48cm to 200cm)	Very gravelly coarse sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C874C - Wabek-Appam complex, 6 to 9 percent slopes

Component: Wabek (59%)

Soil Information

The Wabek component makes up 59 percent of the map unit. Slopes are 6 to 9 percent. This component is on rises on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R053BY017ND Very Shallow ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Appam (25%)
The Appam component makes up 25 percent of the map unit. Slopes are 6 to 9 percent. This component is on knolls on outwash plains. The parent material consists of sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R053BY008ND Sandy ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Lehr (6%)
Generated brief soil descriptions are created for major soil components. The Lehr soil is a minor component.

Component: Bowdle (5%)
Generated brief soil descriptions are created for major soil components. The Bowdle soil is a minor component.

Component: Ruso (2%)
Generated brief soil descriptions are created for major soil components. The Ruso soil is a minor component.

Component: Divide (2%)
Generated brief soil descriptions are created for major soil components. The Divide soil is a minor component.

Component: Marysland (1%)
Generated brief soil descriptions are created for major soil components. The Marysland soil is a minor component.

Map Unit C990F (0.11%)

Map Unit Name:	Pits, gravel and sand, 0 to 60 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	null
Drainage Class - Dominant:	Excessively drained
Hydrologic Group - Dominant:	null
Major components are printed below	
Pits(70%)	
horizon H1(0cm to 15cm)	Extremely gravelly sand
horizon H2(15cm to 152cm)	Extremely gravelly sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C990F - Pits, gravel and sand, 0 to 60 percent slopes

Component: Pits (70%)
Generated brief soil descriptions are created for major soil components. The Pits, gravel and sand is a miscellaneous area.

Component: Wabek (10%)
Generated brief soil descriptions are created for major components. The Wabek soil is a minor component.

Component: Water (5%)
Generated brief soil descriptions are created for major components. The Water soil is a minor component.

Soil Information

Component: Bowdle (5%)
Generated brief soil descriptions are created for major components. The Bowdle soil is a minor component.

Component: Lehr (5%)
Generated brief soil descriptions are created for major components. The Lehr soil is a minor component.

Component: Appam (5%)
Generated brief soil descriptions are created for major components. The Appam soil is a minor component.

Map Unit C996 (3.11%)

Map Unit Name:	Water

No more attributes available for this map unit

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C996 - Water

Component: Water (100%)
Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map Unit C999F (16.43%)

Map Unit Name:	Orthents-Aquents-Urban land, highway complex, 0 to 35 percent slopes
Bedrock Depth - Min:	null
Watertable Depth - Annual Min:	30cm
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Orthents(39%)	
horizon A(0cm to 10cm)	Loam
horizon C(10cm to 152cm)	Clay loam
Aquents(18%)	
horizon H1(0cm to 5cm)	Loam
horizon H2(5cm to 152cm)	Loam
Orthents(17%)	
horizon A(0cm to 10cm)	Loam
horizon C(10cm to 152cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: C999F - Orthents-Aquents-Urban land, highway complex, 0 to 35 percent slopes

Component: Orthents (39%)
The Orthents component makes up 39 percent of the map unit. Slopes are 6 to 35 percent. This component is on scalped areas on till plains, cuts (road, railroad, etc.) on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer, densic material, is 4 to 16 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Aquents (18%)

Soil Information

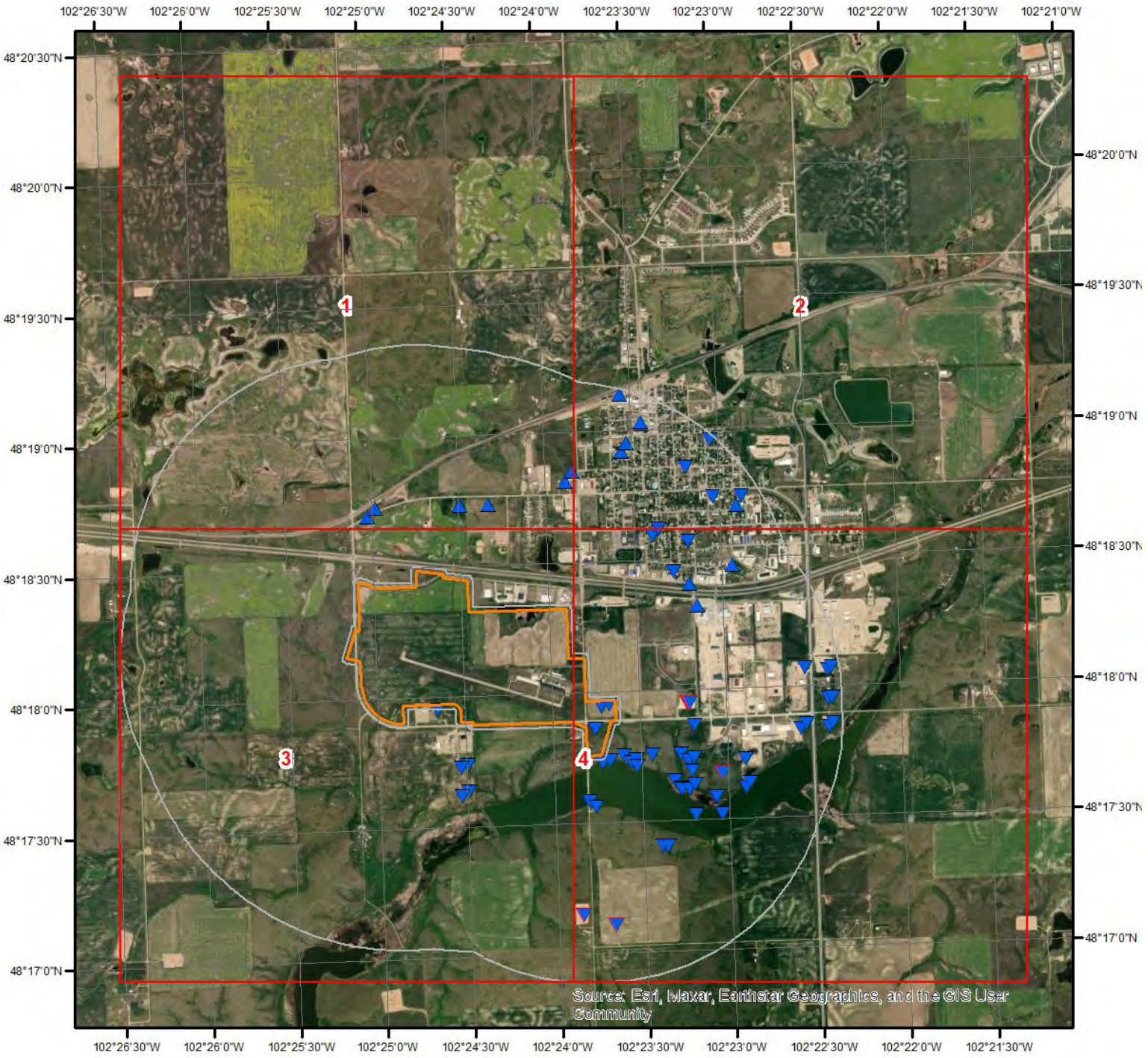
The Aquents component makes up 18 percent of the map unit. Slopes are 0 to 3 percent. This component is on swales on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during March, April, May. Organic matter content in the surface horizon is about 6 percent. This component is in the R053BY999ND Non-site ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component: Orthents (17%)
The Orthents component makes up 17 percent of the map unit. Slopes are 0 to 6 percent. This component is on scalped areas on till plains, cuts (road, railroad, etc.) on till plains. The parent material consists of fine-loamy till. Depth to a root restrictive layer, densic material, is 4 to 16 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Urban land (17%)
Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Haplustolls (9%)
Generated brief soil descriptions are created for major components. The Haplustolls soil is a minor component.

Wells and Additional Sources



Wells & Additional Sources

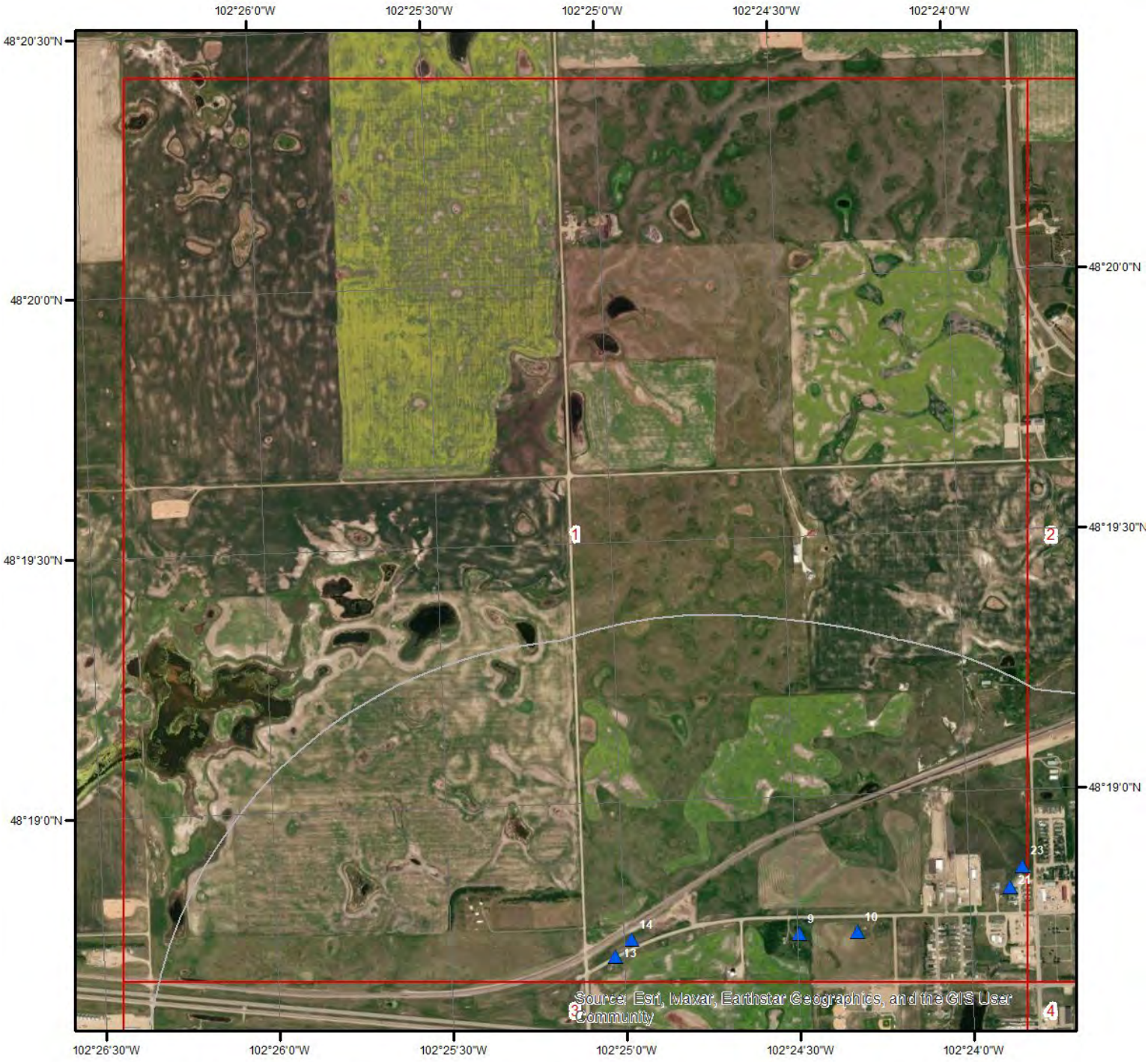
N

0 0.3 0.6 1.2 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 1

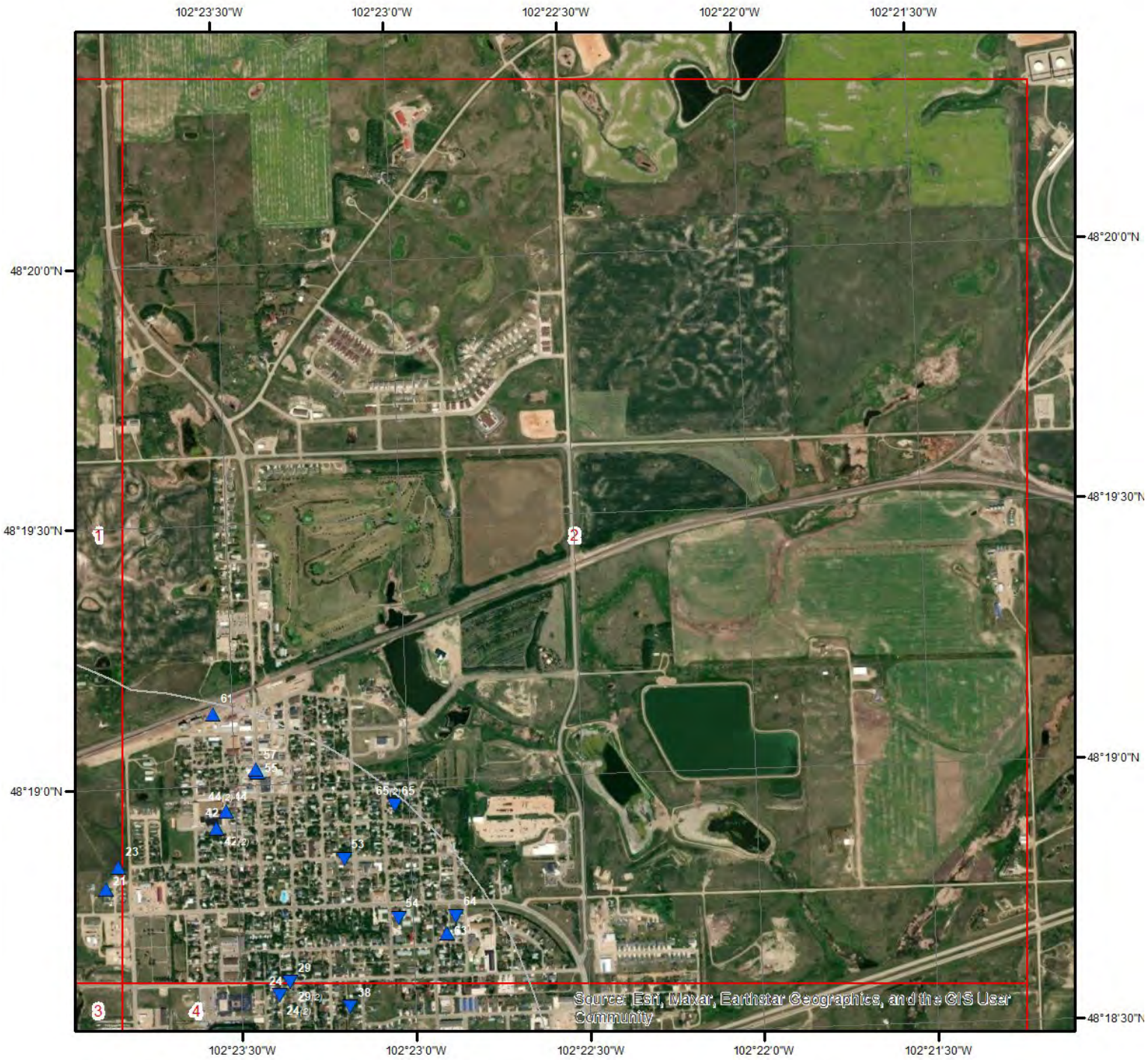
N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 2

N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources

Wells & Additional Sources - Page 3

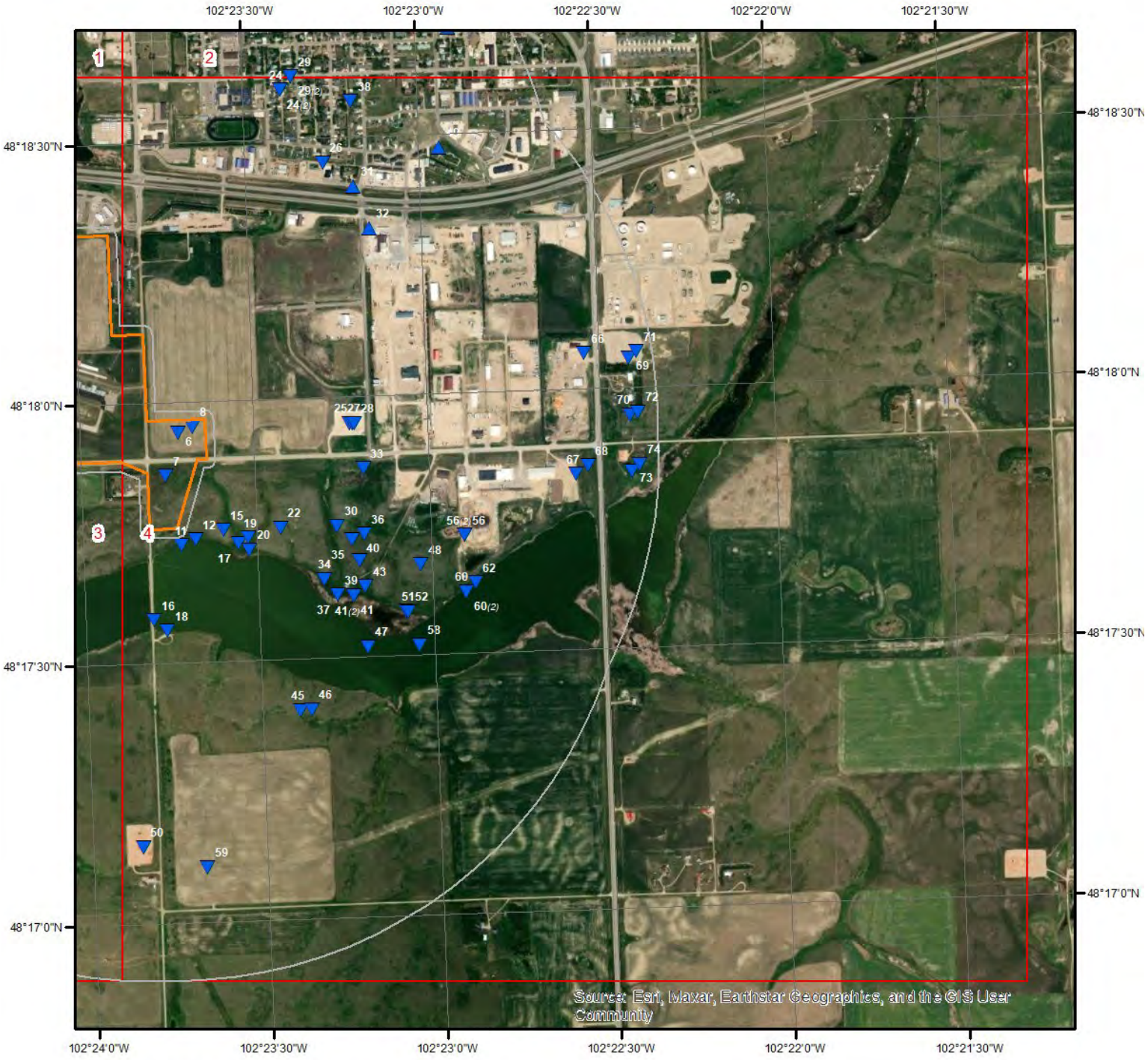
N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources



Wells & Additional Sources - Page 4

Miles
0 0.15 0.3 0.6

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources Summary

Federal Sources

Public Water Systems Violations and Enforcement Data

Map Key	PWS ID	Distance (ft)	Direction
55	ND3100898	4659.69	NE

Safe Drinking Water Information System (SDWIS)

Map Key	PWS ID	Distance (ft)	Direction
57	ND3100898	4684.64	NE

USGS National Water Information System

Map Key	Site No	Distance (ft)	Direction
1	USGS-481757102243801	137.51	SSW
2	USGS-481744102242801	958.17	S
4	USGS-481738102242801	1562.46	S
4	USGS-481738102242802	1562.46	S
8	USGS-481757102233901	0.00	-
9	USGS-481844102242801	1651.45	N
10	USGS-481844102241801	1833.03	N
12	USGS-481744102233901	265.14	SE
14	USGS-481844102245701	1742.88	NNW
19	USGS-481744102233001	834.43	ESE
23	USGS-481851102234901	3210.19	NNE
26	USGS-938061000000011	2656.35	ENE
29	USGS-481837102232002	2834.78	NE
29	USGS-481837102232001	2834.78	NE
36	USGS-481744102231001	2045.50	ESE
43	USGS-481738102231002	2309.72	ESE
43	USGS-481738102231001	2309.72	ESE
44	USGS-481857102233002	4104.21	NE
44	USGS-481857102233001	4104.21	NE
46	USGS-481724102232001	2643.12	SE
47	USGS-481731102231001	2627.82	SE
53	USGS-481851102231001	4306.24	NE
54	USGS-481844102230101	4287.38	NE
58	USGS-481731102230101	3151.89	ESE
62	USGS-481738102225101	3466.44	ESE
64	USGS-481844102225101	4853.53	ENE
65	USGS-481857102230102	5165.43	NE
65	USGS-481857102230101	5165.43	NE
66	USGS-481804102223101	4495.98	E
68	USGS-481751102223101	4457.20	E
71	USGS-481804102222201	5099.51	E
72	USGS-481757102222201	5061.59	E
74	USGS-481751102222201	5065.06	E

Wells from NWIS

Map Key	ID	Distance (ft)	Direction
	No records found		

Wells and Additional Sources Summary

State Sources

Gas Plant Facilities

Map Key	ID	Distance (ft)	Direction
	No records found		

Oil and Gas Wells

Map Key	API No.	Distance (ft)	Direction
25	33-061-02430-00-00	1691.17	E
27	33-061-02429-00-00	1716.19	E
28	33-061-01838-00-00	1741.21	E
48	33-061-00317-00-00	2799.86	ESE
50	33-061-01011-00-00	3722.56	SSE
59	33-061-00329-00-00	3980.10	SSE

Underground Injection Control Wells

Map Key	ID	Distance (ft)	Direction
	No records found		

Water Wells Database

Map Key	SWC Well No	Distance (ft)	Direction
3		1052.17	S
5	597	1696.16	S
5	596	1696.16	S
6	604	0.00	-
7	12443	0.00	-
11	566	212.31	SE
13		1561.40	NW
15	12442	536.05	ESE
16		1072.09	SE
17	565	744.78	ESE
18		1200.72	SE
20	12452	889.15	ESE
21		2955.40	NNE
22	12444	1162.42	ESE
24	598	2638.72	NE
24		2638.72	NE
30	12441	1720.74	ESE
31		2935.57	ENE
32		2917.99	ENE
33	12445	1840.43	ESE
34	12451	1830.20	ESE
35	563	1946.09	ESE
37	12440	2028.95	ESE
38		3247.31	ENE
39	12439	2040.69	ESE
40	12450	2151.17	ESE
41		2211.30	ESE
41	562	2211.30	ESE
42		3886.66	NE
42		3886.66	NE
45	567	2575.84	SE
49	12644	4015.13	ENE

Wells and Additional Sources Summary

51	12449	2853.05	ESE
52	12448	2870.95	ESE
56	12438	3149.95	ESE
56	12437	3149.95	ESE
60	564	3416.57	ESE
60	12447	3416.57	ESE
61		5150.50	NNE
63		4658.32	ENE
67	12446	4320.67	ESE
69	557	4997.65	E
70	558	4967.86	E
73		4977.20	E

Public Water Systems Violations and Enforcement Data

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
55	NE	0.88	4,659.69	2,245.57	PWSV

Address Line 2:	PO BOX 249
State Code:	ND
Zip Code:	58784
City Name:	STANLEY
Address Line 1:	221 SOUTH MAIN
PWS ID:	ND3100898
PWS Type Code:	CWS
PWS Type Description:	Community Water System
Primary Source Code:	SWP
Primary Source Desc:	Purchased Surface Water
PWS Activity Code:	A
PWS Activity Description:	Active
PWS Deactivation Date:	
Phone Number:	701-628-2225

--Details--

Population Served Count:	1458
City Served:	STANLEY
County Served:	Mountrail
State Served:	ND
Zip Code Served:	

Safe Drinking Water Information System (SDWIS)

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.89	4,684.64	2,246.39	SDWIS

PWS ID:	ND3100898
PWS Type:	Community water system
No of Facilities:	7
No of Violations:	9
No of Site Visits:	14
Cities Served:	STANLEY
Counties Served:	Mountrail
Population Served Count:	2,686
Primacy Agency:	North Dakota
EPA Region:	Region 8

USGS National Water Information System

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	SSW	0.03	137.51	2,232.91	FED USGS

Site No: USGS-481757102243801
Site Type: Well
Formation Type:
Date Drilled:
Well Depth: 70
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-29CDC
Latitude: 48.29918517000000
Longitude: -102.4110080000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
2	S	0.18	958.17	2,225.35	FED USGS

Site No: USGS-481744102242801
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 80
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-32BAD
Latitude: 48.2955739
Longitude: -102.4082302

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	S	0.30	1,562.46	2,203.17	FED USGS

Site No: USGS-481738102242801
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 70
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-32BDA1
Latitude: 48.2939072
Longitude: -102.4082302

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	S	0.30	1,562.46	2,203.17	FED USGS

Site No:	USGS-481738102242802
Site Type:	Well
Formation Type:	
Date Drilled:	19520101
Well Depth:	
Well Depth Unit:	
Well Hole Depth:	20
Well Hole Depth Unit:	ft
Reporting Agency:	USGS North Dakota Water Science Center
Station Name:	156-091-32BDA2
Latitude:	48.2939072
Longitude:	-102.4082302

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
8	-	0.00	0.00	2,235.17	FED USGS

Site No:	USGS-481757102233901
Site Type:	Well
Formation Type:	
Date Drilled:	19520101
Well Depth:	
Well Depth Unit:	
Well Hole Depth:	350
Well Hole Depth Unit:	ft
Reporting Agency:	USGS North Dakota Water Science Center
Station Name:	156-091-28CCC
Latitude:	48.2991851
Longitude:	-102.3946185

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
9	N	0.31	1,651.45	2,267.42	FED USGS

Site No:	USGS-481844102242801
Site Type:	Well
Formation Type:	Buried Glaciofluvial Deposits
Date Drilled:	19020101
Well Depth:	52
Well Depth Unit:	ft
Well Hole Depth:	
Well Hole Depth Unit:	
Reporting Agency:	USGS North Dakota Water Science Center

Wells and Additional Sources Detail Report

Station Name: 156-091-29BAA
Latitude: 48.31224118000000
Longitude: -102.4082301000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
10	N	0.35	1,833.03	2,266.40	FED USGS

Site No: USGS-481844102241801
Site Type: Well
Formation Type:
Date Drilled: 19020101
Well Depth: 100
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-29ABB
Latitude: 48.31224117000000
Longitude: -102.4054522000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	SE	0.05	265.14	2,160.08	FED USGS

Site No: USGS-481744102233901
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 30
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33BBC
Latitude: 48.2955739
Longitude: -102.3946185

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	NNW	0.33	1,742.88	2,289.75	FED USGS

Site No: USGS-481844102245701
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:

Well Hole Depth: 350
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-29BBB
Latitude: 48.3122412
Longitude: -102.416286

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	ESE	0.16	834.43	2,173.95	FED USGS

Site No: USGS-481744102233001
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 20
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33BBD
Latitude: 48.2955739
Longitude: -102.3921184

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	NNE	0.61	3,210.19	2,243.90	FED USGS

Site No: USGS-481851102234901
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 70
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-20DDD
Latitude: 48.3141857
Longitude: -102.3973963

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	ENE	0.50	2,656.35	2,238.15	FED USGS

Site No: USGS-938061000000011
Site Type: Facility: Water-distribution system
Formation Type:

Date Drilled:
Well Depth:
Well Depth Unit:
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: STANLEY WATERWORKS
Latitude: 48.3075187
Longitude: -102.3879515

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	NE	0.54	2,834.78	2,230.28	FED USGS

Site No: USGS-481837102232002
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 350
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-28BAC2
Latitude: 48.3102966
Longitude: -102.3893404

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	NE	0.54	2,834.78	2,230.28	FED USGS

Site No: USGS-481837102232001
Site Type: Well
Formation Type:
Date Drilled: 19530101
Well Depth: 185
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-28BAC1
Latitude: 48.31029660000000
Longitude: -102.3893404000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
36	ESE	0.39	2,045.50	2,184.43	FED USGS

Site No: USGS-481744102231001
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 60
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33BAD
Latitude: 48.2955739
Longitude: -102.3865626

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	ESE	0.44	2,309.72	2,165.67	FED USGS

Site No: USGS-481738102231002
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 50
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33BDA2
Latitude: 48.2939071
Longitude: -102.3865626

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	ESE	0.44	2,309.72	2,165.67	FED USGS

Site No: USGS-481738102231001
Site Type: Well
Formation Type: Outwash
Date Drilled:
Well Depth: 11
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33BDA1
Latitude: 48.29390710000000
Longitude: -102.3865626000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

44	NE	0.78	4,104.21	2,246.44	FED USGS

Site No: USGS-481857102233002
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 60
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-21CCA2
Latitude: 48.3158524
Longitude: -102.3921183

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
44	NE	0.78	4,104.21	2,246.44	FED USGS

Site No: USGS-481857102233001
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 70
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-21CCA1
Latitude: 48.3158524
Longitude: -102.3921183

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
46	SE	0.50	2,643.12	2,186.57	FED USGS

Site No: USGS-481724102232001
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 80
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33CAB
Latitude: 48.2900181

Longitude: -102.3893405

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SE	0.50	2,627.82	2,156.53	FED USGS

Site No: USGS-481731102231001
Site Type: Lake, Reservoir, Impoundment
Formation Type:
Date Drilled:
Well Depth:
Well Depth Unit:
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: STANLEY RESERVIOR AT STANLEY, ND
Latitude: 48.29196260000000
Longitude: -102.3865626000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NE	0.82	4,306.24	2,223.49	FED USGS

Site No: USGS-481851102231001
Site Type: Well
Formation Type:
Date Drilled: 19240101
Well Depth: 48
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-21CDD
Latitude: 48.31418560000000
Longitude: -102.3865625000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
54	NE	0.81	4,287.38	2,236.50	FED USGS

Site No: USGS-481844102230101
Site Type: Well
Formation Type:
Date Drilled: 19280101
Well Depth: 26
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:

Wells and Additional Sources Detail Report

Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-28ABB
Latitude: 48.31224110000000
Longitude: -102.3840624000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
58	ESE	0.60	3,151.89	2,156.53	FED USGS

Site No: USGS-481731102230101
Site Type: Well
Formation Type:
Date Drilled: 19640101
Well Depth: 25
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33ACC
Latitude: 48.29196260000000
Longitude: -102.3840625000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
62	ESE	0.66	3,466.44	2,160.40	FED USGS

Site No: USGS-481738102225101
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 20
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33ACA
Latitude: 48.2939071
Longitude: -102.3812846

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
64	ENE	0.92	4,853.53	2,239.10	FED USGS

Site No: USGS-481844102225101
Site Type: Well
Formation Type:
Date Drilled: 19490101
Well Depth: 190

Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-28ABA
Latitude: 48.31224109000000
Longitude: -102.3812845000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
65	NE	0.98	5,165.43	2,227.17	FED USGS

Site No: USGS-481857102230102
Site Type: Well
Formation Type:
Date Drilled: 19490101
Well Depth: 20
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-21DCB2
Latitude: 48.31585230000000
Longitude: -102.3840624000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
65	NE	0.98	5,165.43	2,227.17	FED USGS

Site No: USGS-481857102230101
Site Type: Well
Formation Type: Buried Glaciofluvial Deposits
Date Drilled: 19220101
Well Depth: 50
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-21DCB1
Latitude: 48.31585230000000
Longitude: -102.3840624000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
66	E	0.85	4,495.98	2,203.57	FED USGS

Site No: USGS-481804102223101
Site Type: Well

Formation Type:
Date Drilled: 19250101
Well Depth: 26
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-28DDA
Latitude: 48.30112957000000
Longitude: -102.3757287000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	E	0.84	4,457.20	2,189.38	FED USGS

Site No: USGS-481751102223101
Site Type: Well
Formation Type:
Date Drilled:
Well Depth: 68
Well Depth Unit: ft
Well Hole Depth:
Well Hole Depth Unit:
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-33AAA
Latitude: 48.29751830000000
Longitude: -102.3757288000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	E	0.97	5,099.51	2,211.74	FED USGS

Site No: USGS-481804102222201
Site Type: Well
Formation Type:
Date Drilled: 19520101
Well Depth:
Well Depth Unit:
Well Hole Depth: 60
Well Hole Depth Unit: ft
Reporting Agency: USGS North Dakota Water Science Center
Station Name: 156-091-27CCB
Latitude: 48.3011296
Longitude: -102.3732286

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
72	E	0.96	5,061.59	2,193.81	FED USGS

Site No:	USGS-481757102222201
Site Type:	Well
Formation Type:	
Date Drilled:	19520101
Well Depth:	
Well Depth Unit:	
Well Hole Depth:	40
Well Hole Depth Unit:	ft
Reporting Agency:	USGS North Dakota Water Science Center
Station Name:	156-091-27CCC
Latitude:	48.299185
Longitude:	-102.3732286

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
74	E	0.96	5,065.06	2,172.51	FED USGS

Site No:	USGS-481751102222201
Site Type:	Well
Formation Type:	
Date Drilled:	19520101
Well Depth:	
Well Depth Unit:	
Well Hole Depth:	20
Well Hole Depth Unit:	ft
Reporting Agency:	USGS North Dakota Water Science Center
Station Name:	156-091-34BBB
Latitude:	48.2975183
Longitude:	-102.3732287

Oil and Gas Wells

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	E	0.32	1,691.17	2,204.12	OGW

API No.:	33-061-02430-00-00	Feet NS:	360
API:	33061024300000	FNSL:	S
Fileno:	25022	FNSL Desc:	From South Line
Status:	PNC	Feet EW:	2340
Status Desc:	Permit Now Cancelled	FEWL:	W
Operator:	HESS BAKKEN INVESTMENTS II, LLC	FEWL Desc:	From West Line
Well Name:	STANLEY 2821-3H	Latitude:	48.29914057
TD:	0	Longitude:	-102.38707399
SPUD Date:		Well Type:	OG
Field Name:	ROSS	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SESW	Symbol:	PNC-OG

Section:	28	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	E	0.33	1,716.19	2,203.12	OGW

API No.:	33-061-02429-00-00	Feet NS:	360
API:	33061024290000	FNSL:	S
Fileno:	25020	FNSL Desc:	From South Line
Status:	PNC	Feet EW:	2365
Status Desc:	Permit Now Cancelled	FEWL:	W
Operator:	HESS BAKKEN INVESTMENTS II, LLC	FEWL Desc:	From West Line
Well Name:	STANLEY 2821-5H	Latitude:	48.29914093
TD:	0	Longitude:	-102.38697119
SPUD Date:		Well Type:	OG
Field Name:	ROSS	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SESW	Symbol:	PNC-OG
Section:	28	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	E	0.33	1,741.21	2,202.15	OGW

API No.:	33-061-01838-00-00	Feet NS:	360
API:	33061018380000	FNSL:	S
Fileno:	21304	FNSL Desc:	From South Line
Status:	A	Feet EW:	2390
Status Desc:	Active	FEWL:	W
Operator:	HESS BAKKEN INVESTMENTS II, LLC	FEWL Desc:	From West Line
Well Name:	STANLEY 28-21-156-91H	Latitude:	48.29914129
TD:	19065	Longitude:	-102.3868684
SPUD Date:	27-Nov-2011	Well Type:	OG
Field Name:	ROSS	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SESW	Symbol:	A-OG
Section:	28	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
48	ESE	0.53	2,799.86	2,176.59	OGW

API No.:	33-061-00317-00-00	Feet NS:	1325
API:	33061003170000	FNSL:	N
Fileno:	10684	FNSL Desc:	From North Line
Status:	DRY	Feet EW:	2126
Status Desc:		FEWL:	E
Operator:	MILESTONE PETROLEUM, INC.	FEWL Desc:	From East Line
Well Name:	BN 32-33	Latitude:	48.29453303
TD:	8260	Longitude:	-102.38388242
SPUD Date:	04-Mar-1984	Well Type:	OG
Field Name:	STANLEY	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SWNE	Symbol:	DRY-OG
Section:	33	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
50	SSE	0.71	3,722.56	2,228.29	OGW

API No.:	33-061-01011-00-00	Feet NS:	770
API:	33061010110000	FNSL:	S
Fileno:	18059	FNSL Desc:	From South Line
Status:	A	Feet EW:	230
Status Desc:	Active	FEWL:	E
Operator:	HESS BAKKEN INVESTMENTS II, LLC	FEWL Desc:	From East Line
Well Name:	RS-BEAN-156-91- 3229H-1	Latitude:	48.28578077
TD:	19365	Longitude:	-102.39764152
SPUD Date:	06-May-2009	Well Type:	OG
Field Name:	ROSS	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SESE	Symbol:	A-OG
Section:	32	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
59	SSE	0.75	3,980.10	2,232.04	OGW

API No.:	33-061-00329-00-00	Feet NS:	510
API:	33061003290000	FNSL:	S
Fileno:	11505	FNSL Desc:	From South Line
Status:	DRY	Feet EW:	510
Status Desc:		FEWL:	W
Operator:	BROOKS EXPLORATION, INC.	FEWL Desc:	From West Line

Wells and Additional Sources Detail Report

Well Name:	MCNALLEY 1-33	Latitude:	48.28507726
TD:	8390	Longitude:	-102.39459952
SPUD Date:	16-May-1985	Well Type:	OG
Field Name:	STANLEY	Well Type Desc:	Oil or Gas Well
Quarter Quarter:	SWSW	Symbol:	DRY-OG
Section:	33	Symbol Desc:	
Township:	156	Date Created:	
Range:	91	Date Modified:	
County:	MOUNTRAIL	Scribe:	

Water Wells Database

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
3	S	0.20	1,052.17	2,223.32	WATER WELLS

Site Index:	12798	Land Surface Elev:	2225
SWC Well No:		Elev Type:	Topographic Map
Location:	15609132BAD	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	80
Basin:	Little Knife River	Bedrock Depth:	53
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.408881
Measuring Pt Elev:	0	Latitude:	48.295405
Land Surface Elev Navd88:	2225		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	S	0.32	1,696.16	2,201.64	WATER WELLS

Site Index:	12800	Land Surface Elev:	2160
SWC Well No:	597	Elev Type:	Topographic Map
Location:	15609132BDA2	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	9
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.40888
Measuring Pt Elev:	0	Latitude:	48.293595
Land Surface Elev Navd88:	2160		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	S	0.32	1,696.16	2,201.64	WATER WELLS

Site Index:	12799	Land Surface Elev:	2200
SWC Well No:	596	Elev Type:	Topographic Map
Location:	15609132BDA1	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	70
Basin:	Little Knife River	Bedrock Depth:	56
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.40888
Measuring Pt Elev:	0	Latitude:	48.293595
Land Surface Elev Navd88:	2200		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
6	-	0.00	0.00	2,234.34	WATER WELLS

Site Index:	12491	Land Surface Elev:	0
SWC Well No:	604	Elev Type:	
Location:	15609128CCC	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	350
Basin:	Little Knife River	Bedrock Depth:	45
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.395315
Measuring Pt Elev:	0	Latitude:	48.299011
Land Surface Elev Navd88:	0		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	-	0.00	0.00	2,223.14	WATER WELLS

Site Index:	12120	Land Surface Elev:	2223.94
SWC Well No:	12443	Elev Type:	Survey 0.01 ft
Location:	15609133BBBB	Date Drilled:	1989-10-24
County:	Mountrail	Total Depth:	50
Basin:	Little Knife River	Bedrock Depth:	22
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.395985

Measuring Pt Elev:	0	Latitude:	48.297649
Land Surface Elev Navd88:	2223.94		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	SE	0.04	212.31	2,158.31	WATER WELLS

Site Index:	12492	Land Surface Elev:	2160
SWC Well No:	566	Elev Type:	Topographic Map
Location:	15609133BBC	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	30
Basin:	Little Knife River	Bedrock Depth:	22
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.395305
Measuring Pt Elev:	0	Latitude:	48.295407
Land Surface Elev Navd88:	2160		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
13	NW	0.30	1,561.40	2,286.49	WATER WELLS

Site Index:	12797	Land Surface Elev:	2282
SWC Well No:		Elev Type:	Topographic Map
Location:	15609129BBB	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	350
Basin:	Little Knife River	Bedrock Depth:	80
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.417093
Measuring Pt Elev:	0	Latitude:	48.311716
Land Surface Elev Navd88:	2282		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	ESE	0.10	536.05	2,183.89	WATER WELLS

Site Index:	12122	Land Surface Elev:	2175.55
SWC Well No:	12442	Elev Type:	Survey 0.01 ft
Location:	15609133BBDB	Date Drilled:	1989-10-24

County:	Mountrail	Total Depth:	80
Basin:	Little Knife River	Bedrock Depth:	22
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.393269
Measuring Pt Elev:	0	Latitude:	48.295857
Land Surface Elev Navd88:	2175.55		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	SE	0.20	1,072.09	2,157.23	WATER WELLS

Site Index:	12156	Land Surface Elev:	-1.52
SWC Well No:		Elev Type:	Global Position Survey
Location:	15609133L	Date Drilled:	
County:	Mountrail	Total Depth:	0
Basin:	Little Knife River	Bedrock Depth:	0
Aquifer:	Surface Water	Top Screen:	0
Purpose:	Surface Water Monitoring Site	Bottom Screen:	0
Casing:		Coord Type:	GPS - Surveyed
Diameter:	0	Longitude:	-102.396748
Measuring Pt Elev:	2156.33	Latitude:	48.293031
Land Surface Elev Navd88:	0		
Measuring Point Elev Navd88:	2157.85		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
17	ESE	0.14	744.78	2,161.06	WATER WELLS

Site Index:	12493	Land Surface Elev:	2160
SWC Well No:	565	Elev Type:	Topographic Map
Location:	15609133BBD	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	18
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.392589
Measuring Pt Elev:	0	Latitude:	48.295407
Land Surface Elev Navd88:	2160		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	SE	0.23	1,200.72	2,157.44	WATER WELLS

Site Index:	130907	Land Surface Elev:	-1.52
SWC Well No:		Elev Type:	Global Position Survey
Location:	15609133B	Date Drilled:	2019-09-04
County:	Mountrail	Total Depth:	0
Basin:	Lake Sakakawea	Bedrock Depth:	0
Aquifer:	Surface Water	Top Screen:	0
Purpose:	Surface Water Site - PRESENS	Bottom Screen:	0
Casing:		Coord Type:	Digitized - Heads Up
Diameter:	0	Longitude:	-102.39613
Measuring Pt Elev:	2155.66	Latitude:	48.292678
Land Surface Elev Navd88:	0		
Measuring Point Elev Navd88:	2157.18		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	ESE	0.17	889.15	2,161.71	WATER WELLS

Site Index:	12121	Land Surface Elev:	2156.25
SWC Well No:	12452	Elev Type:	Global Position Survey
Location:	15609133BBD2	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	17
Aquifer:	Little Knife River Valley	Top Screen:	12
Purpose:	Observation Well	Bottom Screen:	17
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.39207
Measuring Pt Elev:	2161.34	Latitude:	48.295194
Land Surface Elev Navd88:	2157.77		
Measuring Point Elev Navd88:	2162.86		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
21	NNE	0.56	2,955.40	2,244.99	WATER WELLS

Site Index:	12474	Land Surface Elev:	2248
SWC Well No:		Elev Type:	Topographic Map
Location:	15609120DDD	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	70
Basin:	Little Knife River	Bedrock Depth:	66
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.398028
Measuring Pt Elev:	0	Latitude:	48.313509

Land Surface Elev Navd88:	2248
Measuring Point Elev Navd88:	0

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	ESE	0.22	1,162.42	2,186.10	WATER WELLS

Site Index:	12118	Land Surface Elev:	2193.02
SWC Well No:	12444	Elev Type:	Survey 0.01 ft
Location:	15609133BACB	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	5
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.390555
Measuring Pt Elev:	0	Latitude:	48.295865
Land Surface Elev Navd88:	2193.02		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
24	NE	0.50	2,638.72	2,231.04	WATER WELLS

Site Index:	9243	Land Surface Elev:	2229
SWC Well No:	598	Elev Type:	Topographic Map
Location:	15609128BAC2	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	350
Basin:	Little Knife River	Bedrock Depth:	72
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	14	Longitude:	-102.389887
Measuring Pt Elev:	0	Latitude:	48.309892
Land Surface Elev Navd88:	2229		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
24	NE	0.50	2,638.72	2,231.04	WATER WELLS

Site Index:	12796	Land Surface Elev:	2229
SWC Well No:		Elev Type:	Topographic Map
Location:	15609128BAC1	Date Drilled:	1953-01-01
County:	Mountrail	Total Depth:	239

Wells and Additional Sources Detail Report

Basin:	Little Knife River	Bedrock Depth:	76
Aquifer:	Fort Union	Top Screen:	121
Purpose:	Production Well	Bottom Screen:	185
Casing:	Steel	Coord Type:	Calculated
Diameter:	8	Longitude:	-102.389887
Measuring Pt Elev:	2229	Latitude:	48.309892
Land Surface Elev Navd88:	2230.52		
Measuring Point Elev Navd88:	2230.52		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	ESE	0.33	1,720.74	2,181.97	WATER WELLS

Site Index:	12119	Land Surface Elev:	2177.02
SWC Well No:	12441	Elev Type:	Survey 0.01 ft
Location:	15609133BADB	Date Drilled:	1989-10-24
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	11
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.387843
Measuring Pt Elev:	0	Latitude:	48.295865
Land Surface Elev Navd88:	2177.02		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	ENE	0.56	2,935.57	2,240.75	WATER WELLS

Site Index:	126621	Land Surface Elev:	2240.4
SWC Well No:		Elev Type:	DEM - 30 meter
Location:	15609128BDDA	Date Drilled:	1990-09-28
County:	Mountrail	Total Depth:	260
Basin:	Little Knife River	Bedrock Depth:	0
Aquifer:	Fort Union	Top Screen:	190
Purpose:	Municipal Well	Bottom Screen:	250
Casing:	Plastic	Coord Type:	Calculated
Diameter:	6	Longitude:	-102.3865
Measuring Pt Elev:	0	Latitude:	48.306728
Land Surface Elev Navd88:	2240.4		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	ENE	0.55	2,917.99	2,241.67	WATER WELLS

Site Index:	32039	Land Surface Elev:	0
SWC Well No:		Elev Type:	
Location:	15609128	Date Drilled:	
County:	Mountrail	Total Depth:	0
Basin:	Little Knife River	Bedrock Depth:	0
Aquifer:	Undefined	Top Screen:	0
Purpose:	Surface Water Monitoring Site	Bottom Screen:	0
Casing:		Coord Type:	Calculated
Diameter:	0	Longitude:	-102.385825
Measuring Pt Elev:	0	Latitude:	48.305373
Land Surface Elev Navd88:	0		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	ESE	0.35	1,840.43	2,193.76	WATER WELLS

Site Index:	12117	Land Surface Elev:	2194.24
SWC Well No:	12445	Elev Type:	Survey 0.01 ft
Location:	15609133BAAA	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	18
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.386488
Measuring Pt Elev:	0	Latitude:	48.297677
Land Surface Elev Navd88:	2194.24		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	ESE	0.35	1,830.20	2,160.89	WATER WELLS

Site Index:	12126	Land Surface Elev:	2155.7
SWC Well No:	12451	Elev Type:	Global Position Survey
Location:	15609133BDAB	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	21
Aquifer:	Little Knife River Valley	Top Screen:	15
Purpose:	Observation Well	Bottom Screen:	20
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.388515
Measuring Pt Elev:	2158.7	Latitude:	48.29417

Land Surface Elev Navd88:	2157.22
Measuring Point Elev Navd88:	2160.22

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
35	ESE	0.37	1,946.09	2,183.47	WATER WELLS

Site Index:	12802	Land Surface Elev:	2180
SWC Well No:	563	Elev Type:	Topographic Map
Location:	15609133BAD	Date Drilled:	
County:	Mountrail	Total Depth:	60
Basin:	Little Knife River	Bedrock Depth:	56
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.387167
Measuring Pt Elev:	0	Latitude:	48.295412
Land Surface Elev Navd88:	2180		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	ESE	0.38	2,028.95	2,158.40	WATER WELLS

Site Index:	12124	Land Surface Elev:	2155.5
SWC Well No:	12440	Elev Type:	Global Position Survey
Location:	15609133BDA5	Date Drilled:	1989-10-24
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	22
Aquifer:	Little Knife River Valley	Top Screen:	12
Purpose:	Observation Well	Bottom Screen:	17
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.387942
Measuring Pt Elev:	2158.9	Latitude:	48.293673
Land Surface Elev Navd88:	2157.02		
Measuring Point Elev Navd88:	2160.42		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	ENE	0.62	3,247.31	2,238.20	WATER WELLS

Site Index:	126620	Land Surface Elev:	2235.4
SWC Well No:		Elev Type:	DEM - 30 meter
Location:	15609128BADD	Date Drilled:	1990-09-24
County:	Mountrail	Total Depth:	240

Basin:	Little Knife River	Bedrock Depth:	0
Aquifer:	Fort Union	Top Screen:	168
Purpose:	Municipal Well	Bottom Screen:	228
Casing:	Plastic	Coord Type:	Calculated
Diameter:	6	Longitude:	-102.3865
Measuring Pt Elev:	0	Latitude:	48.309439
Land Surface Elev Navd88:	2235.4		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
39	ESE	0.39	2,040.69	2,158.40	WATER WELLS

Site Index:	12123	Land Surface Elev:	2155.44
SWC Well No:	12439	Elev Type:	Global Position Survey
Location:	15609133BDA4	Date Drilled:	1989-10-24
County:	Mountrail	Total Depth:	133
Basin:	Little Knife River	Bedrock Depth:	22
Aquifer:	Fort Union	Top Screen:	122
Purpose:	Observation Well	Bottom Screen:	127
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.387904
Measuring Pt Elev:	2158.19	Latitude:	48.293651
Land Surface Elev Navd88:	2156.96		
Measuring Point Elev Navd88:	2159.71		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	ESE	0.41	2,151.17	2,176.67	WATER WELLS

Site Index:	12125	Land Surface Elev:	2160.42
SWC Well No:	12450	Elev Type:	Survey 0.01 ft
Location:	15609133BADDC	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	4
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.386827
Measuring Pt Elev:	0	Latitude:	48.294735
Land Surface Elev Navd88:	2160.42		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	ESE	0.42	2,211.30	2,158.55	WATER WELLS

Site Index:	9245	Land Surface Elev:	2161.42
SWC Well No:		Elev Type:	
Location:	15609133BDA3	Date Drilled:	1964-01-01
County:	Mountrail	Total Depth:	26
Basin:	Little Knife River	Bedrock Depth:	0
Aquifer:	Little Knife River Valley	Top Screen:	0
Purpose:	Municipal Well	Bottom Screen:	26
Casing:	Cement	Coord Type:	Calculated
Diameter:	86	Longitude:	-102.387167
Measuring Pt Elev:	0	Latitude:	48.293608
Land Surface Elev Navd88:	2161.42		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	ESE	0.42	2,211.30	2,158.55	WATER WELLS

Site Index:	12803	Land Surface Elev:	2160
SWC Well No:	562	Elev Type:	Topographic Map
Location:	15609133BDA2	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	50
Basin:	Little Knife River	Bedrock Depth:	21
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.387167
Measuring Pt Elev:	0	Latitude:	48.293608
Land Surface Elev Navd88:	2160		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	NE	0.74	3,886.66	2,243.82	WATER WELLS

Site Index:	12478	Land Surface Elev:	2220
SWC Well No:		Elev Type:	Topographic Map
Location:	15609121CCA2	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	60
Basin:	Little Knife River	Bedrock Depth:	49
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.392599
Measuring Pt Elev:	0	Latitude:	48.315338

Land Surface Elev Navd88:	2220
Measuring Point Elev Navd88:	0

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	NE	0.74	3,886.66	2,243.82	WATER WELLS

Site Index:	12477	Land Surface Elev:	2220
SWC Well No:		Elev Type:	Topographic Map
Location:	15609121CCA1	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	70
Basin:	Little Knife River	Bedrock Depth:	47
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.392599
Measuring Pt Elev:	0	Latitude:	48.315338
Land Surface Elev Navd88:	2220		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	SE	0.49	2,575.84	2,189.83	WATER WELLS

Site Index:	12804	Land Surface Elev:	2170
SWC Well No:	567	Elev Type:	Topographic Map
Location:	15609133CAB	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	80
Basin:	Little Knife River	Bedrock Depth:	60
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.389884
Measuring Pt Elev:	0	Latitude:	48.289999
Land Surface Elev Navd88:	2170		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	ENE	0.76	4,015.13	2,241.57	WATER WELLS

Site Index:	12275	Land Surface Elev:	2238.87
SWC Well No:	12644	Elev Type:	Global Position Survey
Location:	15609128ACA	Date Drilled:	1990-10-02
County:	Mountrail	Total Depth:	240

Basin:	Little Knife River	Bedrock Depth:	50
Aquifer:	Fort Union	Top Screen:	216
Purpose:	Observation Well	Bottom Screen:	236
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.382327
Measuring Pt Elev:	2242.89	Latitude:	48.307894
Land Surface Elev Navd88:	2240.39		
Measuring Point Elev Navd88:	2244.41		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
51	ESE	0.54	2,853.05	2,159.48	WATER WELLS

Site Index:	12116	Land Surface Elev:	2155.89
SWC Well No:	12449	Elev Type:	Global Position Survey
Location:	15609133ACB2	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	8
Aquifer:	Little Knife River Valley	Top Screen:	4
Purpose:	Observation Well - PRESENS	Bottom Screen:	9
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.384651
Measuring Pt Elev:	2158.83	Latitude:	48.293066
Land Surface Elev Navd88:	2157.41		
Measuring Point Elev Navd88:	2160.35		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
52	ESE	0.54	2,870.95	2,158.65	WATER WELLS

Site Index:	12115	Land Surface Elev:	2155.71
SWC Well No:	12448	Elev Type:	Global Position Survey
Location:	15609133ACB1	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	7
Aquifer:	Fort Union	Top Screen:	25
Purpose:	Observation Well	Bottom Screen:	30
Casing:	PVC	Coord Type:	GPS - Surveyed
Diameter:	2	Longitude:	-102.384582
Measuring Pt Elev:	2158.62	Latitude:	48.293049
Land Surface Elev Navd88:	2157.23		
Measuring Point Elev Navd88:	2160.14		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
56	ESE	0.60	3,149.95	2,181.39	WATER WELLS

Site Index:	12113	Land Surface Elev:	2175.52
SWC Well No:	12438	Elev Type:	Survey 0.01 ft
Location:	15609133ABD2	Date Drilled:	1989-10-23
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	14
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.381739
Measuring Pt Elev:	0	Latitude:	48.295433
Land Surface Elev Navd88:	2175.52		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
56	ESE	0.60	3,149.95	2,181.39	WATER WELLS

Site Index:	12112	Land Surface Elev:	2176.19
SWC Well No:	12437	Elev Type:	Survey 0.01 ft
Location:	15609133ABD1	Date Drilled:	1989-10-23
County:	Mountrail	Total Depth:	60
Basin:	Little Knife River	Bedrock Depth:	3
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.381739
Measuring Pt Elev:	0	Latitude:	48.295433
Land Surface Elev Navd88:	2176.19		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
60	ESE	0.65	3,416.57	2,158.23	WATER WELLS

Site Index:	12801	Land Surface Elev:	2158
SWC Well No:	564	Elev Type:	Topographic Map
Location:	15609133ACA	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	9
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.381741
Measuring Pt Elev:	0	Latitude:	48.293623

Land Surface Elev Navd88:	2158
Measuring Point Elev Navd88:	0

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
60	ESE	0.65	3,416.57	2,158.23	WATER WELLS

Site Index:	12114	Land Surface Elev:	2156.52
SWC Well No:	12447	Elev Type:	Survey 0.01 ft
Location:	15609133ACA2	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	4
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.381741
Measuring Pt Elev:	0	Latitude:	48.293623
Land Surface Elev Navd88:	2156.52		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
61	NNE	0.98	5,150.50	2,257.24	WATER WELLS

Site Index:	12476	Land Surface Elev:	2255
SWC Well No:		Elev Type:	Topographic Map
Location:	15609121CBA2	Date Drilled:	1947-01-01
County:	Mountrail	Total Depth:	200
Basin:	Little Knife River	Bedrock Depth:	65
Aquifer:	Undefined	Top Screen:	0
Purpose:	Production Well	Bottom Screen:	0
Casing:	Unknown	Coord Type:	Calculated
Diameter:	8	Longitude:	-102.392599
Measuring Pt Elev:	2255	Latitude:	48.318989
Land Surface Elev Navd88:	2256.51		
Measuring Point Elev Navd88:	2256.51		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
63	ENE	0.88	4,658.32	2,239.61	WATER WELLS

Site Index:	12490	Land Surface Elev:	2235
SWC Well No:		Elev Type:	Topographic Map
Location:	15609128ABA	Date Drilled:	1949-01-01
County:	Mountrail	Total Depth:	200

Basin:	Little Knife River	Bedrock Depth:	60
Aquifer:	Unknown	Top Screen:	0
Purpose:	Municipal Well	Bottom Screen:	0
Casing:	Unknown	Coord Type:	Calculated
Diameter:	14	Longitude:	-102.381749
Measuring Pt Elev:	2235	Latitude:	48.31171
Land Surface Elev Navd88:	2236.52		
Measuring Point Elev Navd88:	2236.52		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	ESE	0.82	4,320.67	2,192.69	WATER WELLS

Site Index:	12111	Land Surface Elev:	2173.98
SWC Well No:	12446	Elev Type:	Survey 0.01 ft
Location:	15609133AAA2	Date Drilled:	1989-10-25
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	5
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.376316
Measuring Pt Elev:	0	Latitude:	48.29726
Land Surface Elev Navd88:	2173.98		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
69	E	0.95	4,997.65	2,201.57	WATER WELLS

Site Index:	12488	Land Surface Elev:	2210
SWC Well No:	557	Elev Type:	Topographic Map
Location:	15609127CCB	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	60
Basin:	Little Knife River	Bedrock Depth:	49
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.373613
Measuring Pt Elev:	0	Latitude:	48.300916
Land Surface Elev Navd88:	2210		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
70	E	0.94	4,967.86	2,194.12	WATER WELLS

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Site Index:	12489	Land Surface Elev:	2190
SWC Well No:	558	Elev Type:	Topographic Map
Location:	15609127CCC	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	40
Basin:	Little Knife River	Bedrock Depth:	29
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.373613
Measuring Pt Elev:	0	Latitude:	48.299109
Land Surface Elev Navd88:	2190		
Measuring Point Elev Navd88:	0		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
73	E	0.94	4,977.20	2,170.15	WATER WELLS

Site Index:	12495	Land Surface Elev:	2160
SWC Well No:		Elev Type:	Topographic Map
Location:	15609134BBB	Date Drilled:	1952-01-01
County:	Mountrail	Total Depth:	20
Basin:	Little Knife River	Bedrock Depth:	8
Aquifer:	No Obs Well Installed	Top Screen:	0
Purpose:	Test Hole	Bottom Screen:	0
Casing:	None	Coord Type:	Calculated
Diameter:	0	Longitude:	-102.373608
Measuring Pt Elev:	0	Latitude:	48.297303
Land Surface Elev Navd88:	2160		
Measuring Point Elev Navd88:	0		

Radon Information

This section lists any relevant radon information found for the target property.

Federal EPA Radon Zone for *MOUNTRAIL* County: **1**

Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L
Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L
Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L

Federal Area Radon Information for *MOUNTRAIL* County

No Measures/Homes:	20
Geometric Mean:	5.1
Arithmetic Mean:	7.5
Median:	5.3
Standard Deviation:	8.5
Maximum:	38.1
% >4 pCi/L:	60
% >20 pCi/L:	10
Notes on Data Table:	TABLE 1. Screening indoor radon data from the EPA/State Residential Radon Survey of North Dakota conducted during 1987-88. Data represent 2-7 day charcoal canister measurements from the lowest level of each home tested.

Appendix

Federal Sources

Indoor Radon Data — **INDOOR RADON**

Indoor radon measurements tracked by the Environmental Protection Agency(EPA) and the State Residential Radon Survey.

Public Water Systems Violations and Enforcement Data — **PWSV**

List of drinking water violations and enforcement actions from the Safe Drinking Water Information System (SDWIS) made available by the Drinking Water Protection Division of the US EPA's Office of Groundwater and Drinking Water. Enforcement sensitive actions are not included in the data released by the EPA. Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

Radon Zone Level — **RADON ZONE**

Areas showing the level of Radon Zones (level 1, 2 or 3) by county. This data is maintained by the Environmental Protection Agency (EPA).

Safe Drinking Water Information System (SDWIS) — **SDWIS**

The Safe Drinking Water Information System (SDWIS) contains information about public water systems as reported to US Environmental Protection Agency (EPA) by the states. Addresses may correspond with the location of the water system, or with a contact address.

Soil Survey Geographic database — **SSURGO**

The Soil Survey Geographic database (SSURGO) contains information about soil as collected by the National Cooperative Soil Survey at the Natural Resources Conservation Service (NRCS). Soil maps outline areas called map units. The map units are linked to soil properties in a database. Each map unit may contain one to three major components and some minor components.

USGS Current Topo — **US TOPO**

US Topo topographic maps are produced by the National Geospatial Program of the U.S. Geological Survey (USGS). The project was launched in late 2009, and the term "US Topo" refers specifically to quadrangle topographic maps published in 2009 and later.

USGS Geology — **US GEOLOGY**

Seamless maps depicting geological information provided by the United States Geological Survey (USGS).

USGS National Water Information System — **FED USGS**

The U.S. Geological Survey's (USGS) National Water Information System (NWIS) is the nation's principal repository of water resources data. The data includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data. This NWIS database information is obtained through the Water Quality Data Portal (WQP). The WQP is a cooperative service sponsored by the USGS, the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC).

Wells from NWIS — **FED USGS**

The U.S. Geological Survey's (USGS) National Water Information System (NWIS) is the nation's principal repository of water resources data. The NWIS includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data. This select NWIS Wells dataset contains specific Site Types from the overall NWIS Sites data, limited to the following Group Site Types only: Groundwater Group Site Types: Well, Collector or Ranney type well, Hyporheic-zone well, Interconnected Wells, Multiple wells; Spring Group Site Type: Spring; and Other Group Site Types: Aggregate groundwater use, Cistern. Applicable NWIS database information is obtained through the Water Quality Data Portal (WQP). The WQP is a cooperative service sponsored by the USGS, the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC).

State Sources

Gas Plant Facilities — **GAS PLANTS**

List of Gas Plant facilities made available by North Dakota Industrial Commission (NDIC) Oil & Gas

Division. A disclaimer by NDIC indicates that although they try to keep this information up to date and accurate, they cannot warrant the accuracy, reliability, or timeliness of the data; portions of the information may be incorrect or out of date; NDIC shall not be held responsible for any losses caused by reliance on the accuracy, reliability, or timeliness of the information.

Oil and Gas Wells **OGW**

Oil and Gas Wells Data collected by North Dakota Department of Mineral Resources.

Underground Injection Control Wells **UIC**

The Underground Injection Control (UIC) Program of the North Dakota Department of Environmental Quality Groundwater Division defines an injection well as any bored, drilled or a driven shaft or a dug hole, where the depth is greater than the largest surface dimension that is used to discharge fluids underground. A drainfield is considered to be a horizontally placed injection system, and some drainfields are covered under the UIC Program.

Water Wells Database **WATER WELLS**

This Ground-Surface Water data is provided by the North Dakota Department of Water Resources (DWR). According to the DWR, the description used to denote a location is based upon the federal system of rectangular surveys of public land. Some of the locations, such as test holes, were generated based on the legal location and have been placed near the center of the smallest quarter of the section.

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