



## ENVIRONMENTAL ASSESSMENT WORKSHEET

# **SHORES OF LAKE JOHN RESIDENTIAL DEVELOPMENT ANNANDALE, WRIGHT COUNTY, MINNESOTA**

April 1, 2024

**PREPARED FOR:**

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# EAW - SHORES OF LAKE JOHN

## ANNANDALE, WRIGHT COUNTY, MINNESOTA

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December 2022 version

# Environmental Assessment Worksheet

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board's website at: <https://www.eqb.state.mn.us/> The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

**Cumulative potential effects** can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

**Note to reviewers:** Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

**1. Project title:** Shores of Lake John

**2. Proposer:** Ryan Excelsior Properties, LLC

**3. RGU:** City of Annandale

Contact person: Perry Ryan  
Title: General Manager  
Address: 19655 Waterford Pl  
City, State, ZIP: Excelsior, MN 55331  
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Contact person: Jacob Thunander  
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Phone: 320.274.3055 Ext. 2  
Fax:  
Email: JThunander@annandale.mn.us

**4. Reason for EAW Preparation:** (check one)

Required:

Discretionary:

- |   |   |
|---|---|
| <input type="checkbox"/> EIS Scoping              | <input type="checkbox"/> Citizen petition   |
| <input checked="" type="checkbox"/> Mandatory EAW | <input type="checkbox"/> RGU discretion     |
|   | <input type="checkbox"/> Proposer initiated |

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

4410.4300, Subpart 19a. Residential development in shoreland outside of the seven-county Twin Cities metropolitan area. Paragraph B. A development containing 15 or more unattached or attached units for a sensitive shoreland area or 25 or more unattached or attached units for a nonsensitive shoreland area, if any of the following conditions is present:

- (1) less than 50 percent of the area in shoreland is common space;

**5. Project Location:**

- County: Wright County
- City/Township: Annandale
- PLS Location (¼, ¼, Section, Township, Range): NW ¼, NW1/4, Section 25, Township 121, Range 28
- Watershed (81 major watershed scale): Clearwater River Watershed District

- GPS Coordinates: 45.265600, -94.153980
- Tax Parcel Number: 217000252200

**At a minimum attach each of the following to the EAW:**

- County map showing the general location of the project; **See Exhibit 1**
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopyacceptable); and **See Exhibit 2**
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. (**See Exhibit 3**)
- List of data sources, models, and other resources (from the Item-by-Item Guidance: *Climate Adaptation and Resilience* or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in item 7. Climate Adaptation and Resilience).

**6. Project Description:**

- a. *Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).*

The Shores of Lake John is a proposed 38 lot single family residential development approximately 1 mile west of downtown Annandale. There are 5 riparian lots and 33 non-riparian lots proposed on approximately 30 acres of agricultural and wooded land. The proposal includes wetlands, buffers, and trails.

- b. *Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.*

Ryan Excelsior Properties is proposing construction of a residential development which will include 5 riparian lots and 33 non-riparian lots on approximately 30 acres of land. There is an adjacent development by others that was generally completed in the Fall of 2023 that constructed City water and sanitary sewer to the southern boundary of this project. This project will move Nevens Avenue NW from the west side of the property to the middle of the property, similar to the project to the south. The newly constructed Nevens Avenue NW along with the extension of the water and sanitary sewer will be constructed to City standards and continue to the northwesterly corner of the project. See proposed plans (**Exhibit 3**).

Construction will be typical single family residential construction that will include clearing and grubbing, tree removal, grading, utility construction, street construction and turf restoration. The existing 4 wetlands on site which total 1.30 acres are proposed to be preserved in their entirety and will be protected along with a protected setback. There is one single family structure and detached garage that will be demolished and removed as part of the project construction as well.

It is anticipated that the project will start construction in the spring of 2024 with significant completion by the fall of 2024 and likely the final lift of asphalt on the public street in the summer of 2025.

c. *Project magnitude:*

Description	Number
Total Project Acreage	29.94 +/-
Linear project length	N/A
Number and type of residential units	38 Unattached
Residential building area (in square feet)	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	25' per City Ord.

d. *Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.*

The purpose for the Shores of Lake John project is to meet the demands for single family residential housing in the City of Annandale and the general area.

e. *Are future stages of this development including development on any other property planned or likely to happen?  Yes  No*

*If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.*

There are currently no plans for future phases of the Shores of Lake John residential development.

f. *Is this project a subsequent stage of an earlier project?  Yes  No*

*If yes, briefly describe the past development, timeline and any past environmental review.*

The Shores of Lake John is not a subsequent stage of an earlier project.

**7. Climate Adaptation and Resilience:**

a. *Describe the climate trends in the general location of the project (see guidance: Climate Adaptation and Resilience) and how climate change is anticipated to affect that location during the life of the project.*

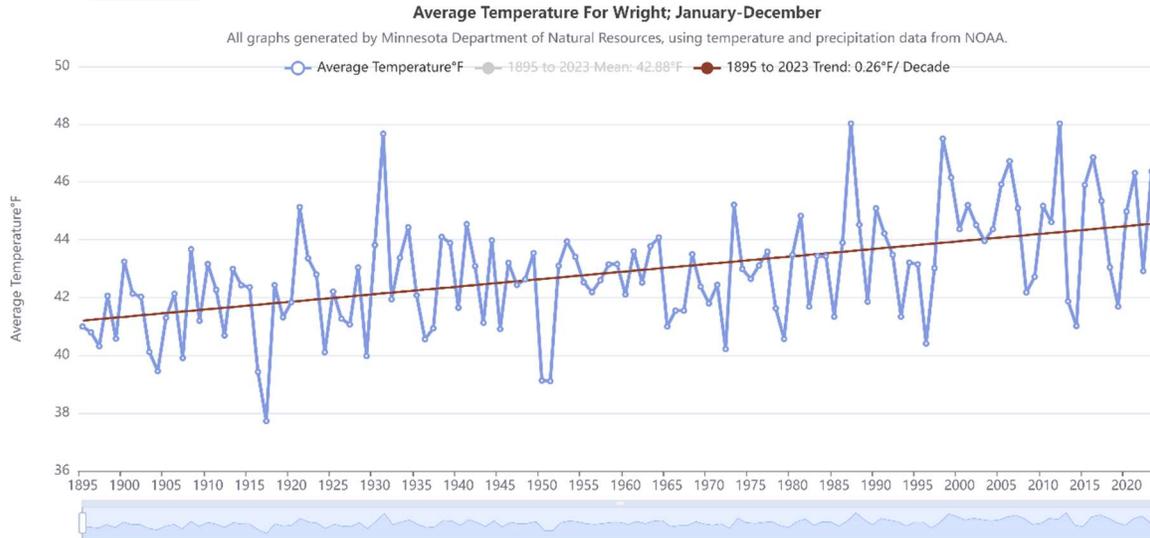
According to MN DNR website on Climate Change Information and Climate Trends ([https://www.dnr.state.mn.us/climate/climate\\_change\\_info/climate-trends.html](https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html)), the following excerpt is on the Climate Trends in Minnesota:

“Minnesota's climate already is changing rapidly and will continue to do so for the foreseeable future. Temperatures are increasing -- especially in winter -- and larger, more frequent extreme precipitation events are occurring.”

“Substantial warming during winter and at night, increased precipitation, and heavier downpours already have affected our natural resources, and how we interact with and use them. The decades ahead will bring even warmer winters and nights, and even larger rainfalls, along with the likelihood of increased summer heat and the potential for longer dry spells.”

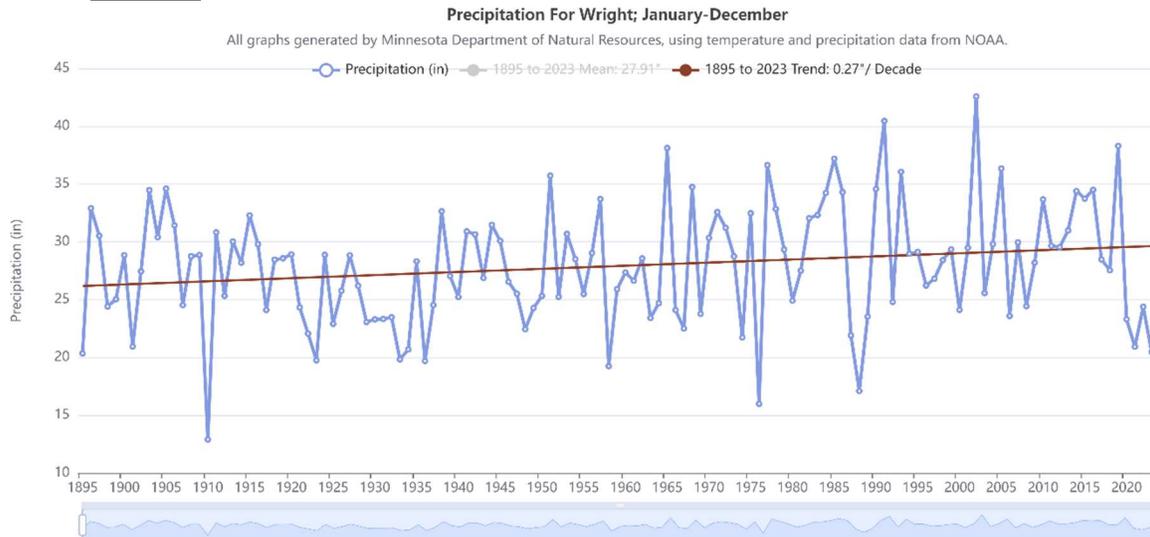
Climate trends in Wright County seem to parallel the climate trends in Minnesota as suggested in the above excerpt. Exhibits 1 and 2 below illustrate historical average annual temperature and precipitation for Wright County from 1895 to 2024. During this period, Wright County experienced an average temperature increase of 0.26 degrees Fahrenheit per decade and an average precipitation increase of 0.27” per decade.

**Exhibit 1:**



Source: MN DNR – <https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical>

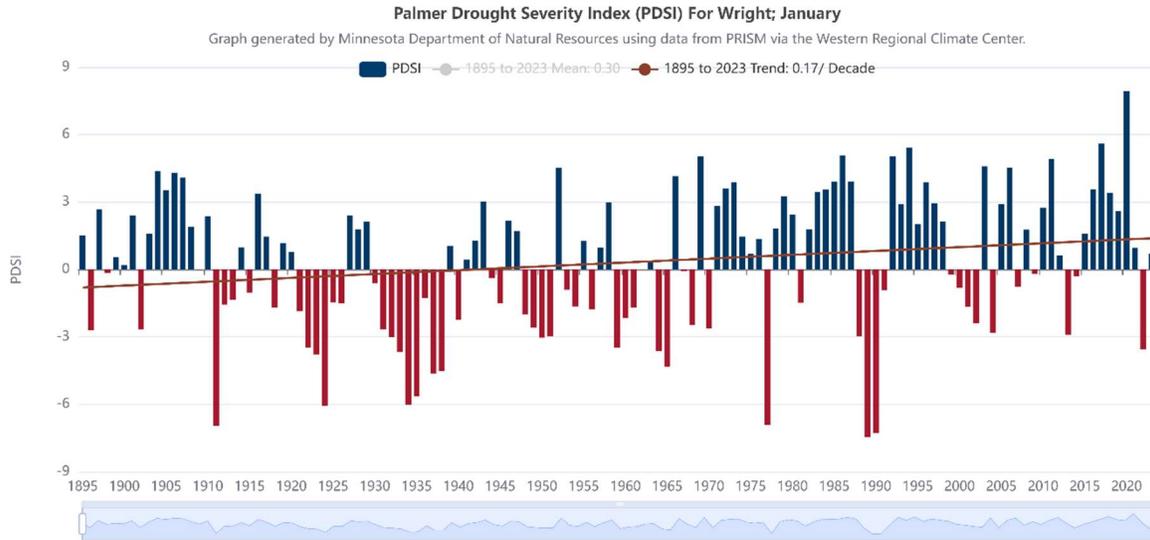
**Exhibit 2:**



Source: MN DNR – <https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical>

An additional resource found on the MN DNR website is the Palmer Drought Severity Index (PDSI) which uses the historical temperature and precipitation data and estimates soil moisture conditions and indicates potential long-term drought conditions. The following Exhibit 3 shows PDSI values from 1895 to 2024 for Wright County. The trend line shows an increase of 0.17 per decade which is trending to a wetter climate.

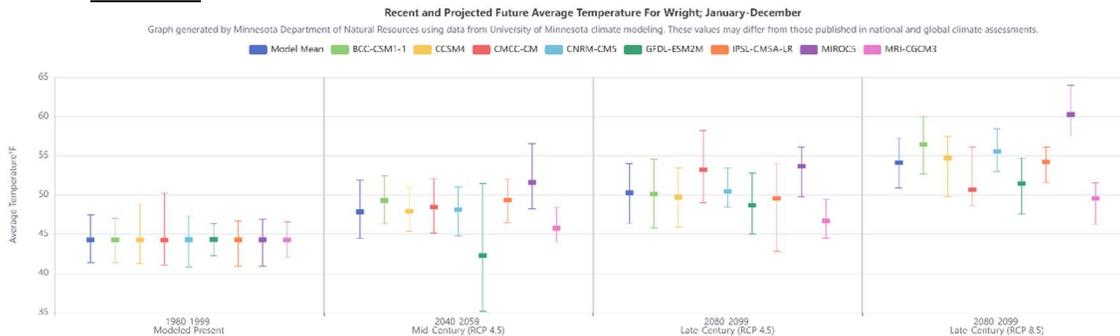
**Exhibit 3:**



Source: MN DNR – <https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical>

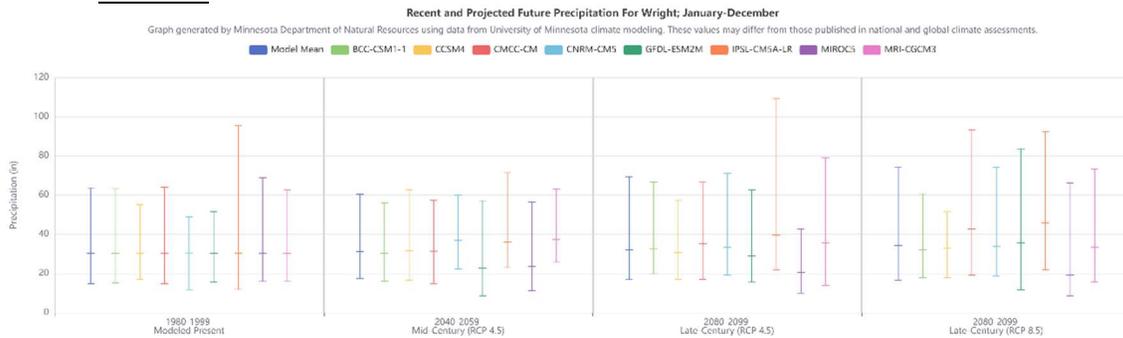
Anticipated future climate trends for both temperature and precipitation also show continued increases according to the same source. Exhibit 4 shown below shows projected temperatures for Wright County projecting time periods up through 2099. There are several climate models shown but some find it most interesting to look at the model mean shown in blue and on the left of each of the time periods. The Modeled Present (1980-1999) shows a modeled mean present temperature of approximately 44 °F, the Mid-Century (2040-2059) shows a modeled mean temperature of approximately 48 °F, the Late-Century (2080-99) shows a modeled mean temperature of approximately 50 °F.

**Exhibit 4:**



Anticipated future annual precipitation for Wright County is shown in the below Exhibit 5. The projections shown for precipitation show a more moderate increase in the modeled projections. Although hard to see at this scale, the Modeled Present (1980-1999) shows a modeled mean present precipitation of approximately 30 inches, the Mid-Century (2040-2059) shows a modeled mean precipitation of approximately 30.5 F, the Late-Century (2080-99) shows a modeled mean precipitation of approximately 31 inches.

**Exhibit 5:**



All of the historical trends and modeled future data above are for Wright County. It would be logical to believe this data to be very similar to this site for the life of the project as the future models shown go through the end of the century (2080-2099).

The summary of the anticipated impact for the project location based on the above climate data is as follows: There is a trend of average temperature increases of 0.26 degrees Fahrenheit per decade and an average participation increase of 0.27” per decade. Additionally, the Palmer Drought Severity Index (PDSI) shows a trend of an increase of 0.17 per decade which suggests wetter trends. The modeled future trends also show projected increases in mean present temperatures as well as increases in modeled mean precipitation.

- b. *For each Resource Category in the table below: Describe how the project’s proposed activities and how the project’s design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.*

The table below summarizes considerations for the project and suggestions for adaptations. See Item 18 for Greenhouse Gas (GHG) Emissions and Carbon Footprint information.

<b>Resource Category</b>	<b>Climate Considerations</b>	<b>Project Information</b>	<b>Adaptations</b>
Project Design	Increase in heat island affect from increased asphalt for public roadway, driveways, and rooftops.	The Project will result in increased asphalt for public roads and trails as well as driveways and asphalt shingle roofs.	Builders will be encouraged to use lighter colored asphalt shingles. Although roads and trails and driveways will be asphalt, sidewalks will be concrete. To offset increased heat island temperature affects, trees will be planted according to City’s requirements as well as larger lot design will incorporate grasses which will replace agricultural fields which are often black during the year.
Land Use	Temperature increases or even minor increased rainfall effects on wetlands and habitat.	The site includes four wetlands which total 1.3 Acres.	The project will follow NPDES stormwater management requirements as well as Wetland Protection Act to insure wetland protection and buffers are part of the project. This will include permanent monuments to protect wetlands and habitat into the future

Water Resources	Address in item 12	Address in item 12	Address in item 12
Contamination/ Hazardous Materials/Wastes	Protection of water resources from soil and water contamination.	The project design will follow best practices to protect both wetland and lake water bodies.	Best Management Practices for protection of wetlands and water bodies and NDPEs requirements will be designed and followed to protect vulnerable resources.
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Address in item 14.	Address in item 14.	Address in item 14.

**8. Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

Cover Types	Before (acres)	After (acres)
Wetlands and shallow lakes (<2 meters deep)	1.30	1.30
Deep lakes (>2 meters deep)	N/A	
Wooded/forest	6.88	2.60
Rivers and streams		
Brush/Grassland	2.85	1.5
Cropland	17.46	0.0
Livestock rangeland/pastureland		
Lawn/landscaping	0.36	18.99
Green infrastructure TOTAL (from table below*)		
Impervious surface	1.09	5.20
Stormwater Pond (wet sedimentation basin)		0.35
Other (describe)		
<b>TOTAL</b>	29.94	29.94

Green Infrastructure*	Before (acreage)	After (acreage)
Constructed infiltration systems (infiltration basins/infiltration trenches/ rainwater gardens/bioretenion areas without underdrains/swales with impermeable check dams)	N/A	N/A
Constructed tree trenches and tree boxes	N/A	
Constructed wetlands	N/A	
Constructed green roofs	N/A	
Constructed permeable pavements	N/A	
Other (describe)	N/A	
<b>TOTAL*</b>	0.0	0.00

**9. Permits and approvals required:** *List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Unit of Government	Type of Application	Status
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit for grading and stormwater management	To be applied for
	Sanitary Sewer Extension Permit	To be applied for
City of Annandale	Environmental Assessment Worksheet, Preliminary & Final Plat, Demolition permit, Grading permit, Building permits	In progress / To be applied for
Watershed District – Clearwater River Watershed District	Stormwater Management Review	To be applied for
MN Department of Health	Watermain Extension Approval	To be applied for
U.S. Army Corps of Engineers	Section 404 Clean Water Act Permit	To be applied for
MNDNR	Water use permit for possible dewatering	To be applied for

*Note: The project proposer will apply for and receive applicable permits prior to project construction.*

*Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 10-20, or the RGU can address all cumulative potential effects in response to EAW Item No. 22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.*

**10. Land use:**

- a. *Describe:*
  - i. *Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.*

The existing land use of the site is mainly agriculture land and one single family home. The adjacent uses include residential, rural residential, agricultural, wetlands and other as shown on **Exhibit 4**.

The closest park to the project is approximately 1 mile away called Southbrook Park which is a 3.4 acre park located within the Southbrook residential area. The City does have future plans for a park somewhere in the vicinity east of the project which is proposed to be within 0.5 miles of the project.

The closest trail to the site is proposed to be constructed within the development to the south likely in the Spring of 2024. This project will extend that 10' bituminous trail along the eastern side of Nevens Ave NW to the northwest corner of the project. Ultimately, this trail is planned to be extended by the City along the east side of Nevens Ave NW northerly

to 90<sup>th</sup> Street NW, then turn east along the south side of 90<sup>th</sup> Street NW, and connect to the existing trail on the east side of Montgomery Ave NW. This trail connects to the north side of Pleasant Lake.

- ii. *Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.*

The planned land use for the property is residential per the City of Annandale Comprehensive Plan – Land Use dated December 5, 2005. As of March 6, 2024, the property was officially approved at the State and the property is officially annexed into the City of Annandale. With the official annexation, the site is automatically zoned as Agricultural. The project will seek to be rezoned as R-1 Single Family Residential as part of the project approvals.

- iii. *Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.*

The zoning for the property is single family residential. The majority of the project is within the Shoreland Overlay District which is defined as within 1,000 feet of the Ordinary High-Water line of Lake John. This district requires larger than normal lot sizes for both riparian and non-riparian lots. The proposed development meets and/or exceeds these requirements for all proposed lots.

- iv. *If any critical facilities (i.e. facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.*

Not applicable to the project.

- b. *Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 10a above, concentrating on implications for environmental effects.*

The project follows the use as planned by the City of Annandale and is the same compatible use as the development to the south which is single family residential. The project is compatible with the City of Annandale Comprehensive Plan – Land Use dated December 5, 2005.

- c. *Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.*

Incompatibility of land uses is not anticipated as discussed in 10b above.

#### **11. Geology, soils and topography/land forms:**

- a. *Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.*

No anticipated sinkholes, shallow limestone formations or karst conditions were found in any publicly available data on the site.

Based on Minnesota Geological Survey’s (MGS) County Well Index (CWI) identified 5 wells on properties adjacent to the site. These wells identified static water levels between 20 to 24 feet below grade (**Appendix A**). Grading design for proposed house pads in the development will ensure at least three feet of separation between seasonal high groundwater levels and planned lowest floor elevations.

The development will be a typical single family residential use and there are no anticipated unusual wastes or chemicals to be spread or spilled that would cause negative groundwater contamination. The project will contain a combination of stormwater treatment ponding, vegetated infiltration areas, and wetland buffers to help capture runoff and filter pollutants.

- b. *Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.*

The USDA Natural Resources Conservation Service (NRCS) Soil Survey (**Exhibit 5**), indicates soils within the project area as summarized in the below Table.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
375	Forada sandy loam, 0 to 2 percent slopes	1.9	6.8%
406	Dorset sandy loam, 0 to 2 percent slopes	1.4	5.0%
1030	Pits, gravel-Udipsamments complex	3.5	12.7%
1368	Southhaven loam, 0 to 2 percent slopes	2.0	7.1%
1377B	Dorset-Two Inlets complex, 2 to 6 percent slopes	13.9	50.0%
1377C	Dorset-Two Inlets complex, 6 to 12 percent slopes	1.9	6.8%
1942	Forada and Leafriver soils, frequently ponded, 0 to 1 percent slopes	0.5	1.7%
1975	Oylen sandy loam, 0 to 2 percent slopes	2.8	10.0%
<b>Totals for Area of Interest</b>		<b>27.7</b>	<b>100.0%</b>

The topography of the site is gently rolling agricultural land as well as wooded and pasture with areas shown in Section 8. The grading design and grading operations will attempt to maintain sub drainage areas as close as possible to existing conditions. It is anticipated that grading construction activities will include moving approximately 60,000 cubic yards of soil over approximately 19 acres of grading for public streets, house pads, yards and stormwater facilities. As the project will disturb more than 1.0 acres of land, application for coverage under the National Pollutant Discharge Elimination System (NPDES) General

Permit will be submitted to the MPCA prior to any earth moving activities on the site. Best Management Practices (BMP's) will be designed and implemented in the project specifications and construction details.

A Stormwater Pollution Prevention Plan (SWPPP) will be provided and adhered to and will describe strategies and construction steps to be taken to prevent nonpoint source pollution discharging from the construction site. Further erosion and sedimentation control facilities will be addressed in Item 12.b.ii below.

- NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 12 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 11.

**12. Water resources:**

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

- i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

A Wetland Delineation Report was prepared by Midwest Natural Resources, Inc. (MNR) was completed on September 20, 2023. On August 2, 2023, MNR conducted routine wetland delineation within the property to determine any wetland boundaries. The result of the field delineation is shown in **Exhibit 6** and includes four wetlands. The boundaries were reviewed and confirmed by the Wetland Conservation Act Technical Evaluation Panel (TEP). See **Appendix B** for Wetland Delineation Report and TEP confirmation.

The Table below summarizes the wetlands found and included in the above-mentioned report and confirmed by the TEP. Note that Wetland 1 is not in this project. The project is adjacent to Lake John at the southwest corner of the projects and includes approximately 510 linear feet of lakeshore.

**Table 1. Delineated Wetland Features<sup>1</sup>**

Wetland ID	Feature ID	Cowardin Classification	Circ. 39 Type/s	Eggers & Reed Plant Community Type	Acres
Wetland 1	23-235-w1	PEMB/C	Type 2/3	Fresh Wet Meadow/Shallow Marsh	1.14
Wetland 2	23-235-w2	PEMB/C	Type 2/3	Fresh Wet Meadow/Shallow Marsh	0.57
Wetland 3	23-235-w3	PEMB/C	Type 2/3	Fresh Wet Meadow/Shallow Marsh	0.53
Wetland 4	23-235-w4	PEMAf	Type 1	Seasonally Flooded Basin	0.13
Wetland 5	23-235-w5	PEMAf	Type 1	Seasonally Flooded Basin	0.07

<sup>1</sup>The Feature ID corresponds to the sampling point name on the Wetland Determination Forms and in the spatial data

Source: Wetland Delineation Report, Seanor Property, Annandale, MN – September 20, 2023 by Midwest Natural Resources, Inc.

The property lies within the Clearwater River Watershed District (CRWD). Permits will be submitted to the appropriate watershed district having jurisdiction for adherence to floodplains, wetlands and required buffers.

Review of Minnesota's impaired water list found at <https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list> in Excel spreadsheet "wq-iw1-81" listed as Minnesota's 2024 Impaired Waters List did not show any impaired waters within 1 mile of the project.

- ii. *Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.*

See Section 11 above for static groundwater levels in the project area.

Utilizing the MN Source Water Protection Web Map Viewer, the project does not lie within a wellhead protection area. The project is proposed to connect to the City of Annandale City water supply public utility lines and no new water wells are planned for the project.

One well was found on site as part of the certified Boundary and Topographic Survey prepared by James R. Hill, Inc. This well serves the single home on the property and is a 4" casing diameter well and 50 feet deep. The well is proposed to be removed as part of the project development and will be completed in accordance with the MN Department of Health by a licensed well contractor.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

- i. *Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.*
  - 1) *If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.*

Any wastewater discharged will be normal domestic wastewater from households (see estimated flows below). There is no on-site industrial wastewater treatment planned for the project. No pre-treatment measures are planned because wastewater is from domestic homes.

This area of the City was contemplated and designed to connect to both the City domestic water system and the City sanitary sewer system. This report is titled "Lake John Development – Feasibility Report" dated June 2022 and prepared by Bolton & Menk. The Shores of Lake John parcel was included as an area to be served by sanitary sewer and water as part of this report.

The following ultimate capacities and waste loadings are anticipated:

Number of Dwelling Units (D.U.) = 38

Flow Increase - Ultimate (Based on 274 Gal./day/D.U) = 0.0104 MGD

Estimated BOD5 Increase – Ultimate (Based on 0.17 lbs BOD / 100 Gal.) = 17.7 #/day

- 2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.*

Wastewater will not be discharged to a subsurface sewage treatment system (SSTS).

- 3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.*

Wastewater will not be discharged to surface water. No effects are anticipated to surface or groundwater as the wastewater will be directed to the City of Annandale sanitary sewer system.

- ii. *Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.*

The project will comply with all wetland conservation, shoreland protection, site runoff and stormwater management as required by and administered by the City of Annandale, and Clearwater River Watershed District, the Department of Natural Resources (DNR) and the MPCA through the NPDES General Construction Permit. All appropriate permitting to those agencies as well as a Stormwater Pollution Prevention Plan (SWPPP) will be designed and implemented for the project.

Pre-Construction Site Runoff: As shown in Section 8, there are approximately 17.5 Acres of agricultural cropland which included soybean and other row crops that have been historically farmed on the project site. Existing runoff from these areas would likely include fertilizers, herbicides and pesticides typically used in farming operations. Runoff from these agricultural areas primarily drains towards the wetlands on the site and ultimately to Lake John.

Post-Construction Site Runoff: The change in land use from agricultural and wooded areas will provide a significant decrease in agricultural chemicals and direct soil runoff (suspended solids). With the increase in impervious surfaces mainly from the public roadway, driveways, and homes, it is expected that the volume of runoff will increase during larger storm events. The project will be designed with infiltration basins and retention ponds to attenuate this increased flow as well as filter the stormwater on the site prior to discharge. Wetlands will be protected with appropriate buffers as well to help mitigate any negative effects of the increase in impervious surface. As is typical in single family residential, sediments and nutrients will be filtered through upland vegetation which is generally in the form of residential lawns.

Volume Control: The stormwater management plan, which will require approval from many of the above referenced agencies, will provide detail and show that the post-construction runoff from the site will be no greater than the pre-construction runoff calculations. Careful consideration will be given to ensure sufficient water recharge to the existing wetlands on the site to insure their future viability and habitat.

Rate Control: Rate control parameters will also be part of the stormwater management plan to control the required peak flow rates. Per the City of Annandale requirements, Section 43.04, 4.1 states "Release rates for storm water treatment basins shall not increase over the pre-development twenty-four (24) hour 2, 10, and 100 year peak storm discharge rates, based on the last ten (10) years of how that land was used".

Buffer Requirements: Wetland protection will be ensured by having proper wetland buffers around the protected wetlands in accordance with the Watershed District and MN DNR. The buffer standard is either 15' or 25' depending on the wetland type. Required protection in the form of silt fence will be installed to protect wetlands prior to any grading on site and will be monitored through construction. Permanent markers will be installed prior to project completion to ensure protection.

Receiving Waters: As mentioned above, the goal of the grading design is to maintain the existing drainage patterns as closely as possible in the proposed design. This will ensure proper recharge of wetlands as well as maintain watershed district boundaries as close as possible. The primary receiving water is Lake John as well as wetlands to the east of the site for the Clearwater River Watershed District.

Erosion & Sediment Control BMPs: BMPs will be installed to protect receiving waters prior to grading on the site and will be maintained throughout the site, following the guidelines and inspection requirements in the SWPPP. Plans will be reviewed and accepted by the City of Annandale, and Clearwater River Watershed District prior to any grading on the project. These detailed designs, inspections and safeguards will minimize

potential adverse affections from any sediment and erosion control related to construction.

Climate Change Impacts: As discussed in Section 7, Climate Adaptation & Resilience, the projected models predict both increases in average temperatures and precipitation. Typical single family residential developments see an increase in density of general ground cover as well as significant growth in both existing and new trees planted in the development. This increased growth will typically help to compensate for potential increases in both temperatures and precipitation.

- iii. *Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.*

Based on the groundwater elevations, we do not anticipate any dewatering required for the project and therefore do not propose groundwater appropriation. If groundwater is encountered during construction activities, de-watering will occur at that time. Regarding surface water appropriation, as discussed above, the project design will review existing surface water directed to the existing wetlands and ensure that the final designs maintain this water recharge to the wetlands and the habitat. Further, the proposed design will follow the drainage patterns as close to the existing as possible to insure surface water travels to the ultimate receiving water as existing.

The project will connect to the existing municipal water supply, and this has already been anticipated and designed for within the above mentioned feasibility report discussed in Item 12 which would have reviewed the city's infrastructure for the overall municipal water supply.

iv. *Surface Waters*

- a) *Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.*

The project does not anticipate any modifications or alterations to the four wetlands as delineated. Water courses are not expected to be modified to insure recharge of wetlands in the proposed design. Any climate change effects are discussed in Section 12 b.ii above. See also wetland delineation report in Appendix B.

- b) *Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicialditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.*

Based upon the stormwater management plan and the BMPs discussed above, we do not anticipate any adverse effects on any surface waters.

### **13. Contamination/Hazardous Materials/Wastes:**

- a. *Pre-project site conditions - Describe existing contamination or potential environmental hazardson or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.*

Research of the Minnesota Pollution Control Agency's (MPCA) What's In My Neighborhood and the U.S. Environmental Protection Agency's (EPA) MyEnvironment were conducted. The MPCA What's In My Neighborhood online database indicated that no current or past environmental hazards were recorded in the project area. However, within one half mile of the project area, one site was identified. The site identified was the residential development adjacent and to the south of this project which was for the construction stormwater permit with the following details:

Site ID 254435, The Preserve at Lake John, Construction Stormwater Permit, Start 2/21/2023, End 03/27/2024.

- b. *Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solidwaste including source reduction and recycling.*

Any minor solid waste generated would be that typical of a small residential development. There will be no solid or hazardous waste produced during construction or operation. The site contractor will dispose of all site generated waste as approved by local jurisdiction and will usually incorporate a site commercial dumpster for construction wastes and will be dumped in accordance with MPCA regulations.

After site construction has been completed, any solid waste generated by the residential occupied homes would be typical organics, paper, and yard wastes. The City of Annandale is proactive in helping the community and has a list of Refuse and Recycling programs on their website for new residents. The city also has a compost facility open to its residents.

- c. *Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.*

It is not anticipated that the project will generate or require storage of hazardous wastes other than those typical of household use. Wright County does have a public drop-off facility for household hazardous waste open to County residents.

- d. *Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling*

It is not anticipated that the project will generate or require storing or handling of hazardous waste during construction.

#### **14. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):**

- a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

Fish and wildlife resources and species that may be found within or near the site are generally influenced by the size and quality of habitats including agricultural land, woodlands, wetlands and brush areas. As shown in Section 8, land cover types in the Project area include approximately 17.5 acres of cropland, 6.9 acres of woodland, 2.9 acres of brush, 1.3 acres of wetland, 1.1 acres of impervious surface and 0.4 acres of lawn. The site is located within the Big Woods ecoregion in Minnesota and would likely include wildlife species found within that region.

According to the MN DNR Lake Finder online data for Lake John identified more than 12 different species of fish. The Walleye catch was within the expected range for similar lakes ranging in length from 9.8 to 25.9 inches with the average length of 18.7 inches. The Northern Pike was similar to other lakes as well with a range of 10.7 to 29.9 inches with an average length of 20.1 inches. Other fish identified included Largemouth Bass, Bluegill, Black Crappie, Sunfish and

others.

Wildlife in the vicinity include deer, fox, ducks, geese, turkey, and small mammals such as mice.

- b. *Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-\_\_\_\_) and/or correspondence number (MCE#: 2024-00229) from which the data were obtained and attach the Natural Heritage Review letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

A request was submitted to the Minnesota DNR Natural Heritage Program for Formal Natural Heritage Review. The DNR responded with a formal review dated February 29, 2024. See complete Report in **Appendix C** of this document.

The report stated there are two mapped native plant communities in the area which have a state conservation rank of S2/S3. The recommendation is to minimize impacts in these areas to the extent feasible. Actions recommended included using effective erosion prevention and sediment control.

State-listed Species documented in the area include Blanding's turtles and bat roosts. Avoidance measures for Blanding's turtles include avoiding wetland impacts if the area is suitable for hibernation and other methods including distribution of the Blanding's turtle flyer given to contractors on site.

- c. *Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project including how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.*

The project will convert approximately 17.5 acres of agricultural cropland as well as 5.0 acres of woods and brush to single-family homes. This could displace some migratory bird population as well as small-game and deer. However, the project will be preserving approximately 35% of the wooded areas which will provide habitat area for small-game and deer population. Typical single family residential developments see an increase in density of general ground cover as well as significant growth in both existing and new trees planted in the development. This increased growth will typically help to mitigate any negative effects of the tree and brush removal for climate change considerations.

The wetlands are planned to be 100% protected so any wetland habitat should be maintained without disruption.

To reduce the possibility of introduction of invasive species from project construction, the project developer will coordinate with contractors to visually inspect equipment before working on the site for any invasive species.

- d. *Identify measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources.*

Proposed measures taken to avoid, minimize, or mitigate any adverse effects may include those recommended in the DNR's Natural Heritage letter. They include: avoiding areas where turtle habitat is suitable for habitat and hibernation, using effective erosion prevention and sediment control, and distributing flyers to contractors on the Blanding's turtle, following DNR requirements.

Also mentioned in the DNR's Natural heritage letter was the potential for bat roosts within the trees on the property. Since the project does not contain potential suitable summer roosting habitat (contiguous forest), nor does it contain suitable overwintering habitat (caves or abandoned mines), it is highly unlikely that bats are located on the property. Additionally, the Northern Long Eared Bat (NLEB) is the only bat listed on the federally listed species list. Upon reviewing the April 1, 2018 Minnesota NLEB Township List and Map which reflects a survey of both bat roosting and bat hibernaculum, there are no locations within Wright County that are listed. The NHIS response recommends avoiding tree removals between Jun 1 through August 15. We will try to avoid this as much as practical. See **Exhibit 8** for referenced document.

#### **15. Historic properties:**

*Describe any historic structures, archeological sites, and/or traditional cultural properties on or inclose proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.*

The database for Minnesota State Historic Preservation Office (SHPO) is now available online and this review was conducted at [mnship.gisdata.mn.gov/public-map](http://mnship.gisdata.mn.gov/public-map). See **Exhibit 7** for document and specific findings. There we no historic inventory items found within the project site. The two items found in the vicinity included the following.

Historic Inventory Number WR-SOS-00005 which is Bridge L8103 located in Southside Township and is used for the Soo Line railroad over Nevens Avenue NW and constructed in 1935. This bridge is not on the National Register List. The second item was Historic Inventory Number XX-ROD-00043 which is Trunk Highway 55 for transportation and constructed in 1921 and 1970 and is not on the National Register List.

The existing home on the property was built in approximately 1960. We have reviewed the criteria for evaluation for eligibility for the National Register of Historic Places found on the MN SHOPO website and do not believe it meets any of the criteria listed.

#### **16. Visual:**

*Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.*

There are no appreciable scenic views from the property. The proposed use as residential land is consistent with the established use of the development to the south.

## 17. Air:

- a. *Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.*

Typical air emissions for residential developments could include: natural gas fired equipment, construction equipment and electric powered equipment which are generally considered Conditionally Insignificant Activities and/or Conditionally Exempt Stationary Sources according to MN regulations and statutes.

- b. *Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.*

Additional traffic which is generated by this project is not anticipated to result in air quality impacts. See Item 20 below for anticipated increase in vehicle trips. As most trips to the development would lead to parked vehicles, idling concerns would not be expected.

- c. *Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.*

During project construction, temporary dust and odors would be anticipated. We are not aware of sensitive receptors in the surrounding areas. Temporary odors expected would be exhaust from construction equipment diesel engines. Dust generated during construction will be minimized by standard dust control procedures such as applying water. Post-construction, dust would not be expected as all disturbed earth moving would be stabilized with grass.

## 18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

- a. *GHG Quantification: For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.*

The following GHG emissions estimated for the project were calculated using the Simplified Greenhouse Gas Emissions Calculator (SGEC) tool. This tool is based on methodologies described in Minnesota Environmental Board's (EQB's) revised EAW guidance dated January

2022.

The following tables are examples; other layouts are acceptable for providing GHG quantification results. Table 3 below is from EAW Guidance dated January 2022:

**Table 3. Emission categories for project carbon footprint**

Category	Scope	Project phase	Type of emission	Emissions Sub-type	Chemical Emitted
Direct emissions	Scope 1-emissions	Operations	combustion	stationary; area; mobile	CO <sub>2</sub> , <sup>4</sup> N <sub>2</sub> O, CH <sub>4</sub>
	Scope 1-emissions	Operations	non-combustion process <sup>5</sup>	stationary <sup>6</sup>	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, other fully fluorinated GHGs
	Scope 1-emissions	Construction	combustion	mobile	CO <sub>2</sub> , N <sub>2</sub> O, CH <sub>4</sub>
	Scope 1-emissions	Construction	land-use	area	CO <sub>2</sub> , N <sub>2</sub> O, CH <sub>4</sub>
Indirect Emissions	Scope 2-emissions	Operations	off-site electricity/steam production	grid-based	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O
	Scope 3-emissions	Operations	off-site waste management	stationary; area	CO <sub>2</sub> , CH <sub>4</sub>
Atmospheric Removals of GHGs	Scope 1-sinks	Construction/operations	land-use	area	CO <sub>2</sub> removals to terrestrial storage

**Construction Emissions:** GHG emissions during construction are generally due to fuel combustion in construction equipment and vehicles. The construction schedule for this project is assumed to be 6 months. For road vehicles, the emissions are calculated by estimating the quantity of vehicles, miles traveled and gallons of gas consumed, then using emission factors from the US EPA’s Emission Factors Hub found at [www.epa.gov/climateleadership/ghg-emission-factors-hub](http://www.epa.gov/climateleadership/ghg-emission-factors-hub). For the off-road construction equipment, the horsepower rating of the equipment is used with a fuel consumption rate of 0.05 gallons per horsepower per hour. Emission factors are then used from the US EPA’s site for off-road equipment as well. Total construction emissions for the project are then divided by the lifetime of the project which is estimated at 50 years per EQB guidelines.

**Operational Emissions (Mobile Sources):** These would be considered post-construction emissions. For traffic, it is assumed 2 vehicles per household traveling 12,000 miles per year. For deliveries, it is assumed 2 delivery trucks per day. Gas mileage uses US Department of Transportation’s Bureau of Transportation Average Fuel Efficiency for Light Duty vehicles. For delivery trucks, they are assumed heavy duty diesel trucks.

**Operational Emissions (Stationary Combustion):** Since public natural gas will be available for the development, the estimate is based off natural gas usage. Per the US Energy Information Administration’s Residential Energy Consumption Survey (RECS) was used for natural gas usage.

**Operational Emissions (Offsite Electricity Production):** Electricity needs for the proposed

residential homes are estimated using RECS as well which showed 9,331 kWh per household for Minnesota.

Operational Emissions (Waste Management): Waste management GHG emissions would include those associated with waste generation, transportation to landfill and equipment used at landfill as well as landfill methane emissions. Per US EPA’s Fact Sheet, 2018 – Municipal Solid Waste Generation, an estimated waste generation rate of 4.9 pounds per person per day was used. For single family residential, we used 2.5 residents per unit and 38 units at full buildout. The below table is the summary of emissions stated in tons per year of carbon dioxide equivalent. See supporting calculations in **Appendix D**.

Scope	Source	GHG Emissions (tons/yr of CO2e)
<b>Direct Emissions</b>		
Scope 1	Operations - Stationary Combustion (Natural Gas)	160
Scope 1	Operations – Mobile Sources	627
<b>Indirect Emissions</b>		
Scope 2	Operations – Purchased Electricity	161
<b>Total Scope 1 &amp; Location – Based Scope 2</b>		<b>948</b>
Scope 3	Waste Generation -	44

b. *GHG Assessment*

i. *Describe any mitigation considered to reduce the project’s GHG emissions.*

- Encourage future builders to use efficient heating, ventilation, and air conditioning systems
- Encourage future builders to use high efficiency natural gas water heaters
- Encourage contractor laborers to carpool
- Encourage contractor to minimize unnecessary equipment idling

ii. *Describe and quantify reductions from selected mitigation, if proposed to reduce the project’s GHG emissions. Explain why the selected mitigation was preferred.*

The mitigation measures shown above will help to minimize GHG emissions but were not quantified. Most mitigation measures would be for future builders.

iii. *Quantify the proposed projects predicted net lifetime GHG emissions (total tons/#of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.*

The projected lifetime of the project is estimated at 50 years which would equate to a lifetime emissions of the project to be 47,400 tons of CO2e for Scope 1 & 2 for the project. Overall, this project’s CHG emissions will have a very minimal effect on the State of Minnesota’s overall GHG reduction goals.

## 19. Noise

*Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.*

Existing noise levels/sources in the area: Existing noise sources include vehicle traffic along Highway 55 north of the project area as well as the Soo Line railroad just north of the project area. Highway noises are louder and more consistent during heavy traffic times which would coincide with rush hour traffic. The Soo Line railroad noise levels are sporadic throughout the day as well as the evening hours.

Nearby sensitive receptors: There are no nearby sensitive receptors.

Conformance to State noise standards: The project will be constructed and adhere to the state's noise ordinance as outlined in Minn. Stat 116.07 and Minnesota Rules, Chapter 7030.

Quality of Life: Site construction noise will be temporary and will follow any state or local ordinance requirements including hours of operation. No construction hours will be allowed during nighttime hours. The project is not anticipated to affect the quality of life of surrounding residential properties.

## 20. Transportation

- a. *Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternativetransportation modes.*

Existing and proposed additional parking spaces: Other than the one single family home which has off-street parking within the driveway and a double car garage, there is no other existing parking available. The project will adhere to the City of Annandale parking requirements for single family detached homes which would typically call for off-street parking in the driveway as well as attached garage. No other additional parking spaces are proposed for the project.

Estimated total average daily traffic generated: The average daily (weekday) trips for single family residential homes per the reference below is 414 daily trips with 38 single family homes. We do believe this is a very conservative number and on the high side as it is likely that the riparian homes will be seasonal and likely not primary residences.

Estimated maximum peak hour traffic generated and time of occurrence: The peak number of trips generated is calculated at 42 total trips generated (27 entering and 15 exiting) during the 3:45-4:45 pm hour. A traffic impact study is not required for this EAW because the anticipated peak hour generated and total daily trips generated are below the thresholds (250 and 2,500 respectively).

Source of trip generation rates: ITE Trip Generation Manual, 11th Edition using Single-

Family detached housing.

Availability of transit and/or other alternative transportation modes: The City or County does not provide public transportation services. The project will include a proposed trail which ties into the trail to the development to the south. The future plans are to connect to the City trail and sidewalk system.

- b. *Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,*

It is not anticipated that the project will have an adverse effect on traffic congestion on the adjoining roads or regional transportation system as the existing volumes on adjacent and nearby regional roadways are low and the peak hour traffic added is minimal.

- c. *Identify measures that will be taken to minimize or mitigate project related transportation effects.*

It is not anticipated that the project will have an adverse effect on traffic congestion on the adjoining roads or regional transportation system therefore there are no proposed mitigating measures.

**21. Cumulative potential effects:** (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

- a. *Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.*

Since the project is small in nature with only 38 single family lots, it is anticipated that the construction timeframe will be approximately 6 months. Given this short timeframe, we do not anticipate cumulative potential effects due to the project.

- b. *Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.*

We do not anticipate foreseeable future projects. As discussed above in Item 12, the city performed a feasibility for sewer services in this area and it is proposed that it does not extend beyond the northern border of this project.

- c. *Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.*

We do not anticipate any additional effects beyond those discussed in the other sections.

**22. Other potential environmental effects:** *If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.*

We do not believe there are cumulative environmental effects viewed in conjunction with the development to the south mainly since it is also a very low-density single-family development.

We do not anticipate any additional environmental effects as a result of this project. All potential environmental effects have been addressed in the above Items 1-21.

**RGU CERTIFICATION.** *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

**I hereby certify that:**

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature \_\_\_\_\_

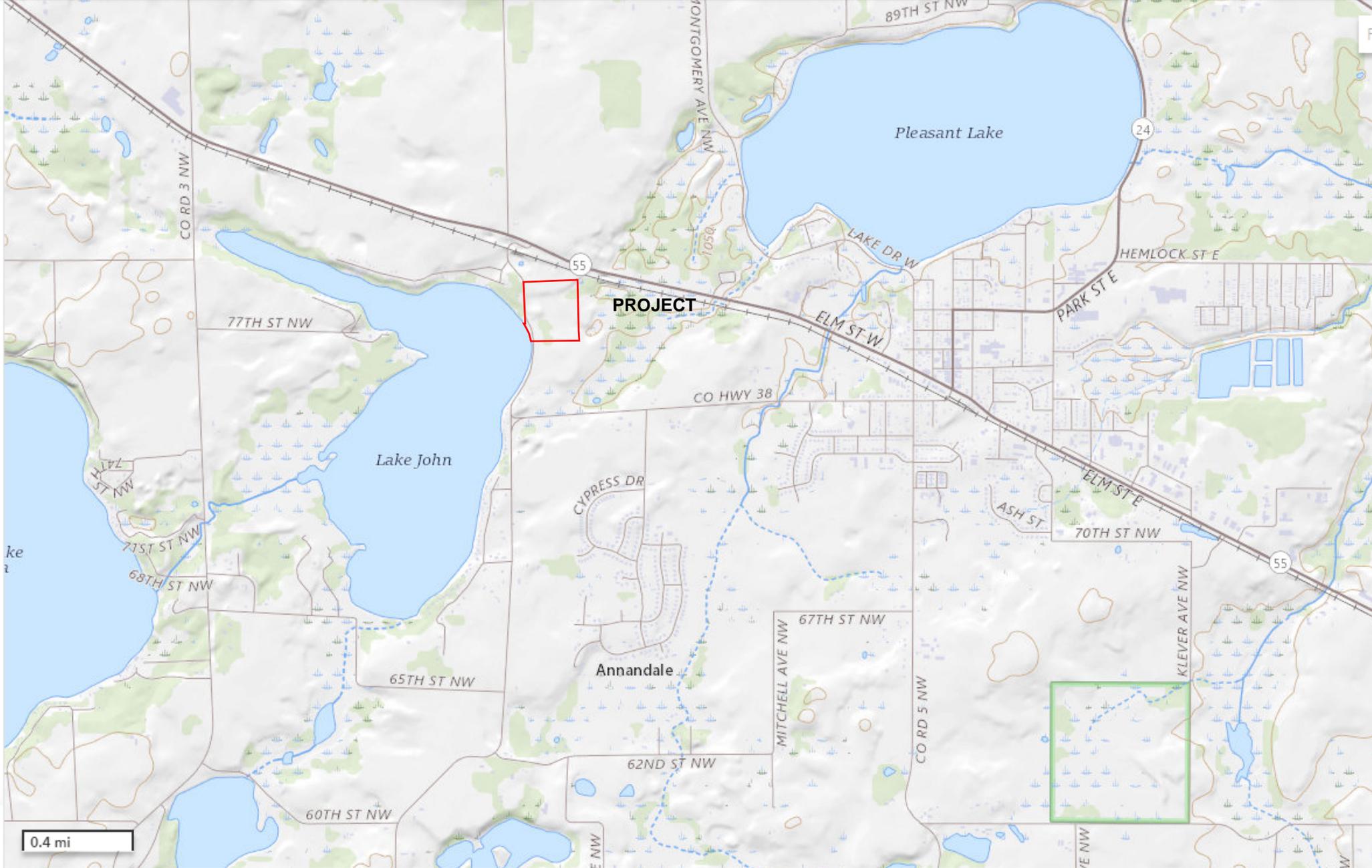
Date \_\_\_\_\_

Title \_\_\_\_\_

# **EXHIBITS**



EXHIBIT 1  
 COUNTY MAP -  
 GENERAL LOCTION



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Wetlands Inventory

**EXHIBIT 2**  
**USGS MAP -**  
**GENERAL LOCATION**

MINNEAPOLIS, ST. PAUL & SAULT ST. MARIE RAILWAY  
 HIGHWAY 55  
 ST HWY 55 NW

OUTLOT A

LAKE JOHN  
 OHW = 1053.5 FEET  
 HIGHEST RECORDED = 1054.38 FEET  
 WATER ELEVATION ON 8/2/23 = 1054.3

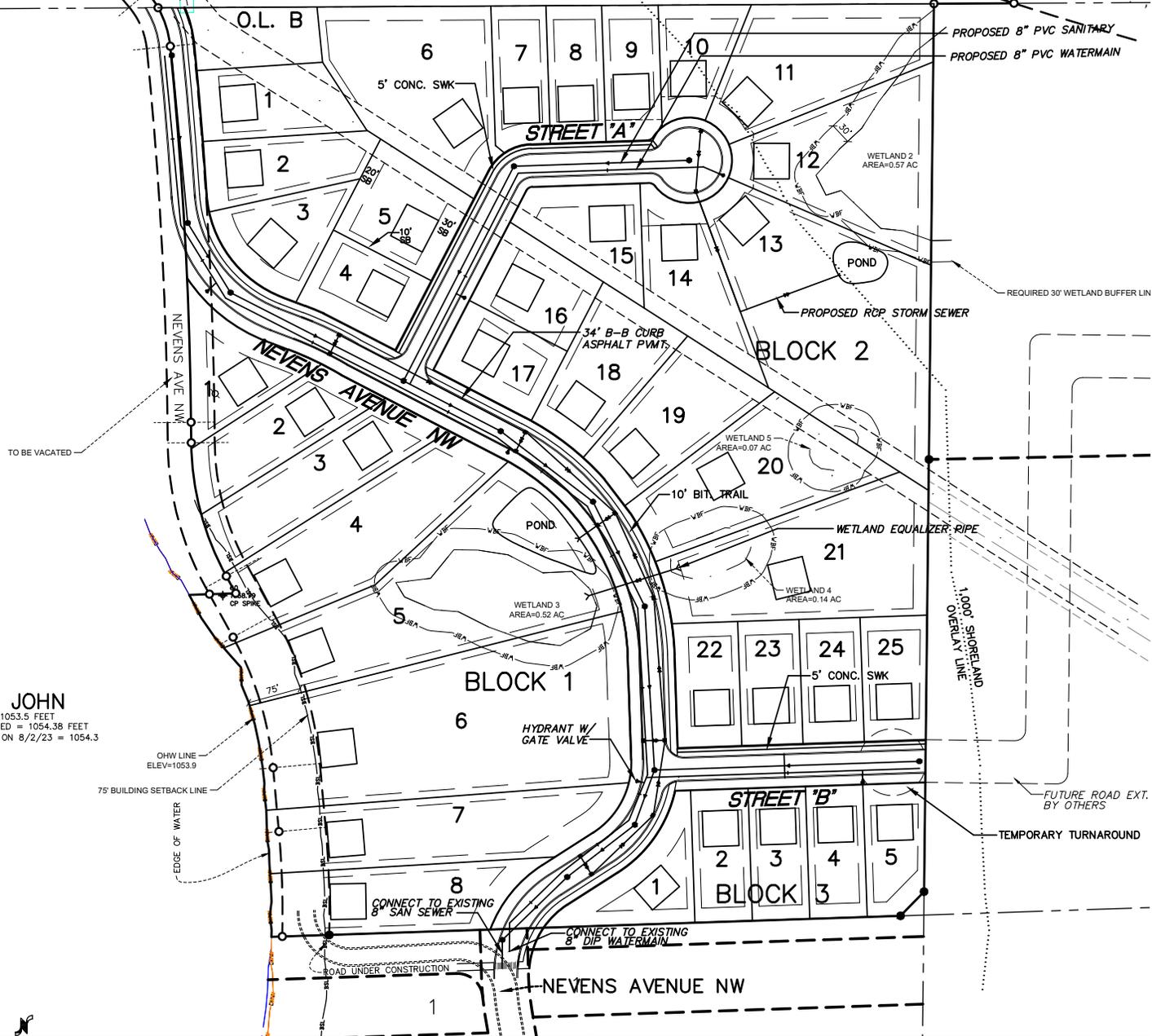


EXHIBIT 3  
 PRE / POST  
 CONSTRUCTION PLAN

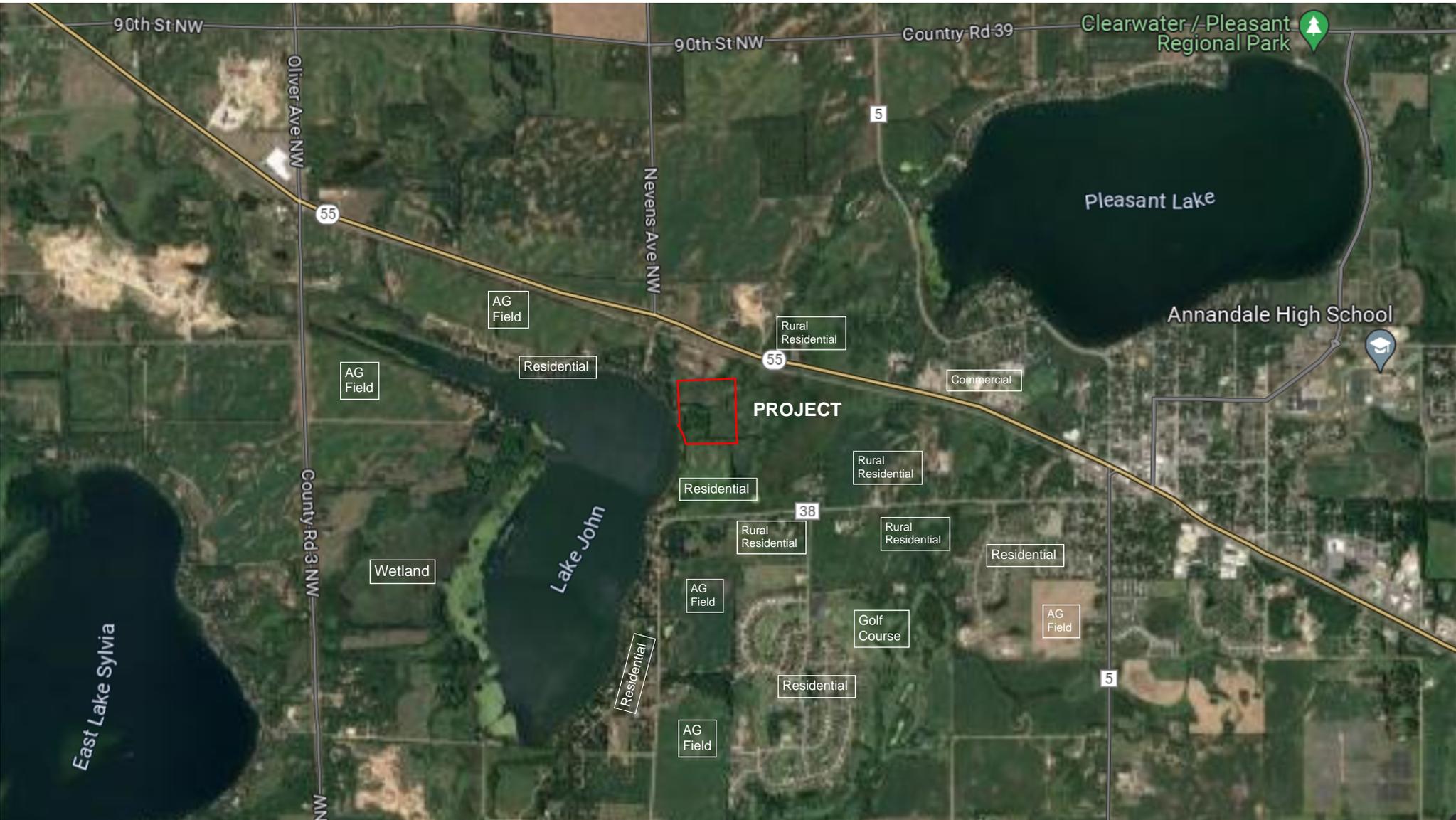


EXHIBIT 4  
ADJACENT  
LAND USES

# Custom Soil Resource Report for Wright County, Minnesota

## EXHIBIT 5 EXISTING SOILS SURVEY



# Soil Map

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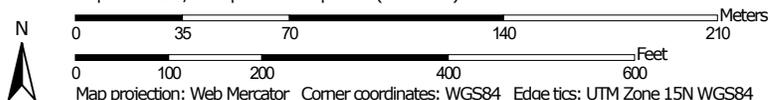
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:2,460 if printed on A portrait (8.5" x 11") sheet.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
375	Forada sandy loam, 0 to 2 percent slopes	1.9	6.8%
406	Dorset sandy loam, 0 to 2 percent slopes	1.4	5.0%
1030	Pits, gravel-Udipsamments complex	3.5	12.7%
1368	Southaven loam, 0 to 2 percent slopes	2.0	7.1%
1377B	Dorset-Two Inlets complex, 2 to 6 percent slopes	13.9	50.0%
1377C	Dorset-Two Inlets complex, 6 to 12 percent slopes	1.9	6.8%
1942	Forada and Leafriver soils, frequently ponded, 0 to 1 percent slopes	0.5	1.7%
1975	Oylen sandy loam, 0 to 2 percent slopes	2.8	10.0%
<b>Totals for Area of Interest</b>		<b>27.7</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

## Custom Soil Resource Report

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Wright County, Minnesota

### 375—Forada sandy loam, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2w0mf  
*Elevation:* 660 to 1,710 feet  
*Mean annual precipitation:* 25 to 33 inches  
*Mean annual air temperature:* 37 to 48 degrees F  
*Frost-free period:* 120 to 170 days  
*Farmland classification:* Prime farmland if drained

#### Map Unit Composition

*Forada and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Forada

##### Setting

*Landform:* Stream terraces, flats  
*Landform position (three-dimensional):* Tread, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly outwash

##### Typical profile

*Ap - 0 to 9 inches:* sandy loam  
*A - 9 to 16 inches:* sandy loam  
*Bg - 16 to 28 inches:* sandy loam  
*2Cg - 28 to 79 inches:* coarse sand

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 6.00 in/hr)  
*Depth to water table:* About 0 to 8 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 5.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2w  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* B/D  
*Ecological site:* R057XY014MN - Linear Meadow  
*Forage suitability group:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Other vegetative classification:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Hydric soil rating:* Yes

## Minor Components

### Oylen

*Percent of map unit:* 10 percent  
*Landform:* Stream terraces, flats  
*Landform position (three-dimensional):* Tread, rise  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Other vegetative classification:* Sloping Upland, Neutral (G091AN002MN)  
*Hydric soil rating:* No

### Leafriver, frequently ponded

*Percent of map unit:* 7 percent  
*Landform:* Stream terraces, depressions  
*Landform position (three-dimensional):* Tread, dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Other vegetative classification:* Not Suited (G091AN024MN)  
*Hydric soil rating:* Yes

### Arvilla

*Percent of map unit:* 5 percent  
*Landform:* Flats, stream terraces  
*Landform position (three-dimensional):* Tread, rise  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear  
*Other vegetative classification:* Sandy (G091AN022MN)  
*Hydric soil rating:* No

### Marysland

*Percent of map unit:* 3 percent  
*Landform:* Stream terraces, flats  
*Landform position (three-dimensional):* Tread, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Other vegetative classification:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Hydric soil rating:* Yes

## 406—Dorset sandy loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 2w0m2  
*Elevation:* 660 to 1,710 feet  
*Mean annual precipitation:* 25 to 33 inches  
*Mean annual air temperature:* 37 to 48 degrees F  
*Frost-free period:* 120 to 170 days  
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Dorset and similar soils:* 80 percent

## Custom Soil Resource Report

*Minor components: 20 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Dorset

#### Setting

*Landform: Flats*  
*Landform position (three-dimensional): Talf*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Loamy glaciofluvial deposits over sandy and gravelly outwash*

#### Typical profile

*Ap - 0 to 11 inches: sandy loam*  
*Bt - 11 to 20 inches: sandy loam*  
*2Bk - 20 to 38 inches: gravelly coarse sand*  
*2C - 38 to 79 inches: gravelly coarse sand*

#### Properties and qualities

*Slope: 0 to 2 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Somewhat excessively drained*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high*  
*(0.60 to 2.00 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 15 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Available water supply, 0 to 60 inches: Low (about 5.0 inches)*

#### Interpretive groups

*Land capability classification (irrigated): 3s*  
*Land capability classification (nonirrigated): 3s*  
*Hydrologic Soil Group: B*  
*Ecological site: R057XY012MN - Sandy Prairie*  
*Forage suitability group: Sloping Upland, Neutral (G091AN002MN)*  
*Other vegetative classification: Sloping Upland, Neutral (G091AN002MN)*  
*Hydric soil rating: No*

### Minor Components

#### Corliss

*Percent of map unit: 10 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Other vegetative classification: Sandy (G091AN022MN)*  
*Hydric soil rating: No*

#### Oylen

*Percent of map unit: 5 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Talf*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*

## Custom Soil Resource Report

*Other vegetative classification:* Sloping Upland, Neutral (G091AN002MN)  
*Hydric soil rating:* No

### **Forada**

*Percent of map unit:* 3 percent  
*Landform:* Swales  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Other vegetative classification:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Hydric soil rating:* Yes

### **Forada, occasionally ponded**

*Percent of map unit:* 2 percent  
*Landform:* Depressions  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Other vegetative classification:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Hydric soil rating:* Yes

## **1030—Pits, gravel-Udipsamments complex**

### **Map Unit Setting**

*National map unit symbol:* gln9  
*Elevation:* 850 to 1,160 feet  
*Mean annual precipitation:* 23 to 35 inches  
*Mean annual air temperature:* 43 to 50 degrees F  
*Frost-free period:* 155 to 200 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Pits, gravel:* 80 percent  
*Udipsamments and similar soils:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Pits, Gravel**

#### **Setting**

*Landform:* Stream terraces, outwash plains, moraines  
*Parent material:* Sandy and gravelly outwash

### **Description of Udipsamments**

#### **Setting**

*Landform:* Stream terraces, outwash plains, moraines  
*Parent material:* Outwash

#### **Properties and qualities**

*Slope:* 0 to 25 percent  
*Depth to restrictive feature:* More than 80 inches  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None

*Frequency of ponding: None*

## **1368—Southhaven loam, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol: glqw*  
*Elevation: 870 to 1,120 feet*  
*Mean annual precipitation: 23 to 35 inches*  
*Mean annual air temperature: 43 to 50 degrees F*  
*Frost-free period: 155 to 200 days*  
*Farmland classification: All areas are prime farmland*

### **Map Unit Composition**

*Southhaven and similar soils: 90 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Southhaven**

#### **Setting**

*Landform: Outwash plains*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Parent material: Colluvium over outwash*

#### **Typical profile**

*Ap,A3 - 0 to 48 inches: loam*  
*Bw - 48 to 62 inches: loam*  
*2Bw - 62 to 66 inches: loamy sand*  
*2C - 66 to 80 inches: gravelly sand*

#### **Properties and qualities**

*Slope: 0 to 2 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Well drained*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high*  
*(0.60 to 2.00 in/hr)*  
*Depth to water table: About 42 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 10 percent*  
*Available water supply, 0 to 60 inches: High (about 11.0 inches)*

#### **Interpretive groups**

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 1*  
*Hydrologic Soil Group: B*  
*Ecological site: F091XY012WI - Loamy Upland*  
*Forage suitability group: Sloping Upland, Acid (G091XN006MN)*  
*Other vegetative classification: Sloping Upland, Acid (G091XN006MN)*  
*Hydric soil rating: No*

**Minor Components**

**Mosford**

*Percent of map unit: 7 percent*  
*Hydric soil rating: No*

**Dorset**

*Percent of map unit: 3 percent*  
*Hydric soil rating: No*

**1377B—Dorset-Two Inlets complex, 2 to 6 percent slopes**

**Map Unit Setting**

*National map unit symbol: glqv*  
*Elevation: 850 to 1,150 feet*  
*Mean annual precipitation: 23 to 35 inches*  
*Mean annual air temperature: 43 to 50 degrees F*  
*Frost-free period: 155 to 200 days*  
*Farmland classification: Farmland of statewide importance*

**Map Unit Composition**

*Dorset and similar soils: 70 percent*  
*Two inlets and similar soils: 20 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Dorset**

**Setting**

*Landform: Hills on outwash plains, hills on stream terraces*  
*Landform position (two-dimensional): Backslope*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Parent material: Outwash*

**Typical profile**

*Ap,A - 0 to 11 inches: sandy loam*  
*Bt - 11 to 19 inches: sandy loam*  
*2BC - 19 to 32 inches: gravelly loamy sand*  
*2C - 32 to 80 inches: gravelly coarse sand*

**Properties and qualities**

*Slope: 2 to 6 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Well drained*  
*Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*

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*Calcium carbonate, maximum content:* 30 percent  
*Available water supply, 0 to 60 inches:* Low (about 4.7 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* A  
*Ecological site:* R057XY012MN - Sandy Prairie  
*Forage suitability group:* Sandy (G091XN022MN)  
*Other vegetative classification:* Sandy (G091XN022MN)  
*Hydric soil rating:* No

### Description of Two Inlets

#### Setting

*Landform:* Hills on outwash plains, hills on stream terraces  
*Landform position (two-dimensional):* Shoulder  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Outwash

#### Typical profile

*Ap - 0 to 9 inches:* loamy sand  
*Bt - 9 to 19 inches:* gravelly loamy sand  
*C - 19 to 80 inches:* gravelly sand

#### Properties and qualities

*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (6.00 to 20.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 30 percent  
*Available water supply, 0 to 60 inches:* Low (about 3.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* A  
*Ecological site:* F057XY018MN - Steep Sandy Upland Forest  
*Forage suitability group:* Sandy (G091XN022MN)  
*Other vegetative classification:* Sandy (G091XN022MN)  
*Hydric soil rating:* No

### Minor Components

#### Verndale, acid substratum

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Southaven

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## 1377C—Dorset-Two Inlets complex, 6 to 12 percent slopes

### Map Unit Setting

*National map unit symbol:* glqt  
*Elevation:* 850 to 1,180 feet  
*Mean annual precipitation:* 23 to 35 inches  
*Mean annual air temperature:* 43 to 50 degrees F  
*Frost-free period:* 155 to 200 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Dorset and similar soils:* 50 percent  
*Two inlets and similar soils:* 35 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Dorset

#### Setting

*Landform:* Hills on outwash plains, hills on stream terraces  
*Landform position (two-dimensional):* Backslope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Outwash

#### Typical profile

*Ap,A - 0 to 11 inches:* sandy loam  
*Bt - 11 to 19 inches:* sandy loam  
*2BC - 19 to 32 inches:* gravelly loamy sand  
*2C - 32 to 80 inches:* gravelly coarse sand

#### Properties and qualities

*Slope:* 6 to 12 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 30 percent  
*Available water supply, 0 to 60 inches:* Low (about 4.7 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* A  
*Ecological site:* R057XY012MN - Sandy Prairie  
*Forage suitability group:* Sandy (G091XN022MN)

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*Other vegetative classification:* Sandy (G091XN022MN)  
*Hydric soil rating:* No

### Description of Two Inlets

#### Setting

*Landform:* Hills on outwash plains, hills on stream terraces  
*Landform position (two-dimensional):* Shoulder  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Outwash

#### Typical profile

*Ap - 0 to 9 inches:* loamy sand  
*Bt - 9 to 19 inches:* gravelly loamy sand  
*C - 19 to 80 inches:* gravelly sand

#### Properties and qualities

*Slope:* 6 to 12 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (6.00 to 20.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 30 percent  
*Available water supply, 0 to 60 inches:* Low (about 3.2 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* A  
*Ecological site:* F057XY018MN - Steep Sandy Upland Forest  
*Forage suitability group:* Sandy (G091XN022MN)  
*Other vegetative classification:* Sandy (G091XN022MN)  
*Hydric soil rating:* No

### Minor Components

#### Southhaven

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

#### Verndale, acid substratum

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## **1942—Forada and Leafriver soils, frequently ponded, 0 to 1 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2w0mh  
*Elevation:* 660 to 1,710 feet  
*Mean annual precipitation:* 25 to 33 inches  
*Mean annual air temperature:* 37 to 48 degrees F  
*Frost-free period:* 120 to 170 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Forada, frequently ponded, and similar soils:* 50 percent  
*Leafriver, frequently ponded, and similar soils:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Forada, Frequently Ponded**

#### **Setting**

*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly outwash

#### **Typical profile**

*A - 0 to 10 inches:* mucky loam  
*Bg - 10 to 21 inches:* coarse sandy loam  
*2Cg - 21 to 79 inches:* gravelly coarse sand

#### **Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 6.00 in/hr)  
*Depth to water table:* About 0 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Frequent  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Moderate (about 6.1 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 6w  
*Land capability classification (nonirrigated):* 6w  
*Hydrologic Soil Group:* B/D

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*Ecological site:* F057XY002MN - Wet Depressional Forest  
*Forage suitability group:* Not Suited (G091AN024MN)  
*Other vegetative classification:* Not Suited (G091AN024MN)  
*Hydric soil rating:* Yes

### Description of Leafriver, Frequently Pondered

#### Setting

*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Herbaceous organic material over outwash

#### Typical profile

*Oa - 0 to 9 inches:* muck  
*A - 9 to 14 inches:* sandy loam  
*Cg - 14 to 79 inches:* loamy sand

#### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Very poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.20 to 6.00 in/hr)  
*Depth to water table:* About 0 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Frequent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Moderate (about 8.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 6w  
*Land capability classification (nonirrigated):* 6w  
*Hydrologic Soil Group:* A/D  
*Ecological site:* F057XY003MN - Peatland  
*Forage suitability group:* Not Suited (G091AN024MN)  
*Other vegetative classification:* Not Suited (G091AN024MN)  
*Hydric soil rating:* Yes

### Minor Components

#### Nidaros, frequently ponded

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Other vegetative classification:* Not Suited (G091AN024MN)  
*Hydric soil rating:* Yes

#### Forada

*Percent of map unit:* 5 percent  
*Landform:* Swales  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear

## Custom Soil Resource Report

*Other vegetative classification:* Level Swale, Low AWC, Neutral (G091AN003MN)  
*Hydric soil rating:* Yes

### 1975—Oylen sandy loam, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* glr4  
*Elevation:* 870 to 1,100 feet  
*Mean annual precipitation:* 23 to 35 inches  
*Mean annual air temperature:* 43 to 50 degrees F  
*Frost-free period:* 155 to 200 days  
*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Oylen and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Oylen

##### Setting

*Landform:* Outwash plains, stream terraces  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Outwash

##### Typical profile

*Ap - 0 to 10 inches:* sandy loam  
*Bt - 10 to 18 inches:* sandy loam  
*2Bw - 18 to 38 inches:* sand  
*2C - 38 to 80 inches:* gravelly coarse sand

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* About 30 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Available water supply, 0 to 60 inches:* Low (about 4.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* C  
*Ecological site:* R057XY013MN - Loamy Overflow  
*Forage suitability group:* Sloping Upland, Low AWC, Acid (G091XN008MN)

## Custom Soil Resource Report

*Other vegetative classification:* Sloping Upland, Low AWC, Acid (G091XN008MN)  
*Hydric soil rating:* No

### **Minor Components**

#### **Forada**

*Percent of map unit:* 10 percent

*Landform:* Swales

*Hydric soil rating:* Yes

# References

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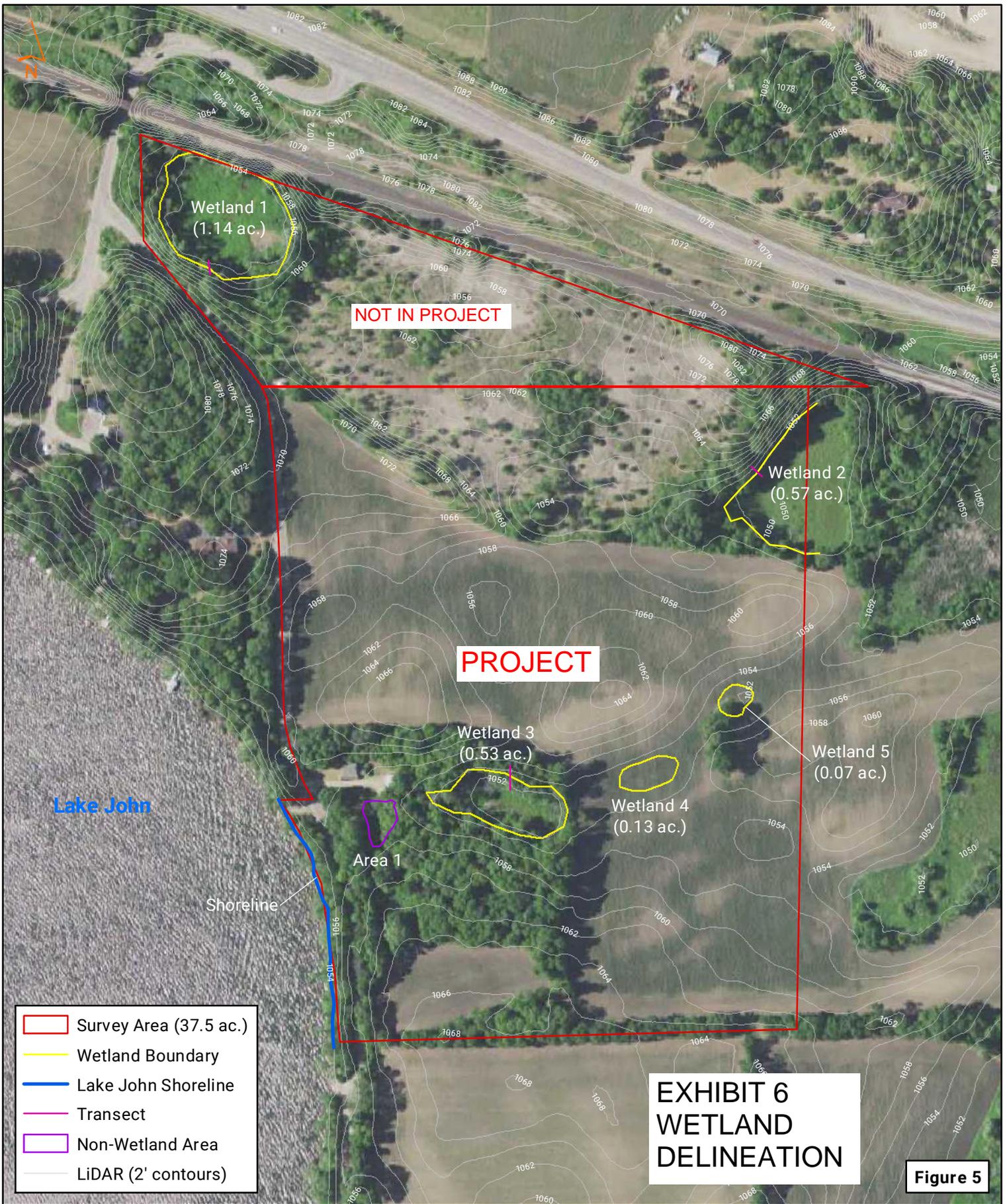
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## Custom Soil Resource Report

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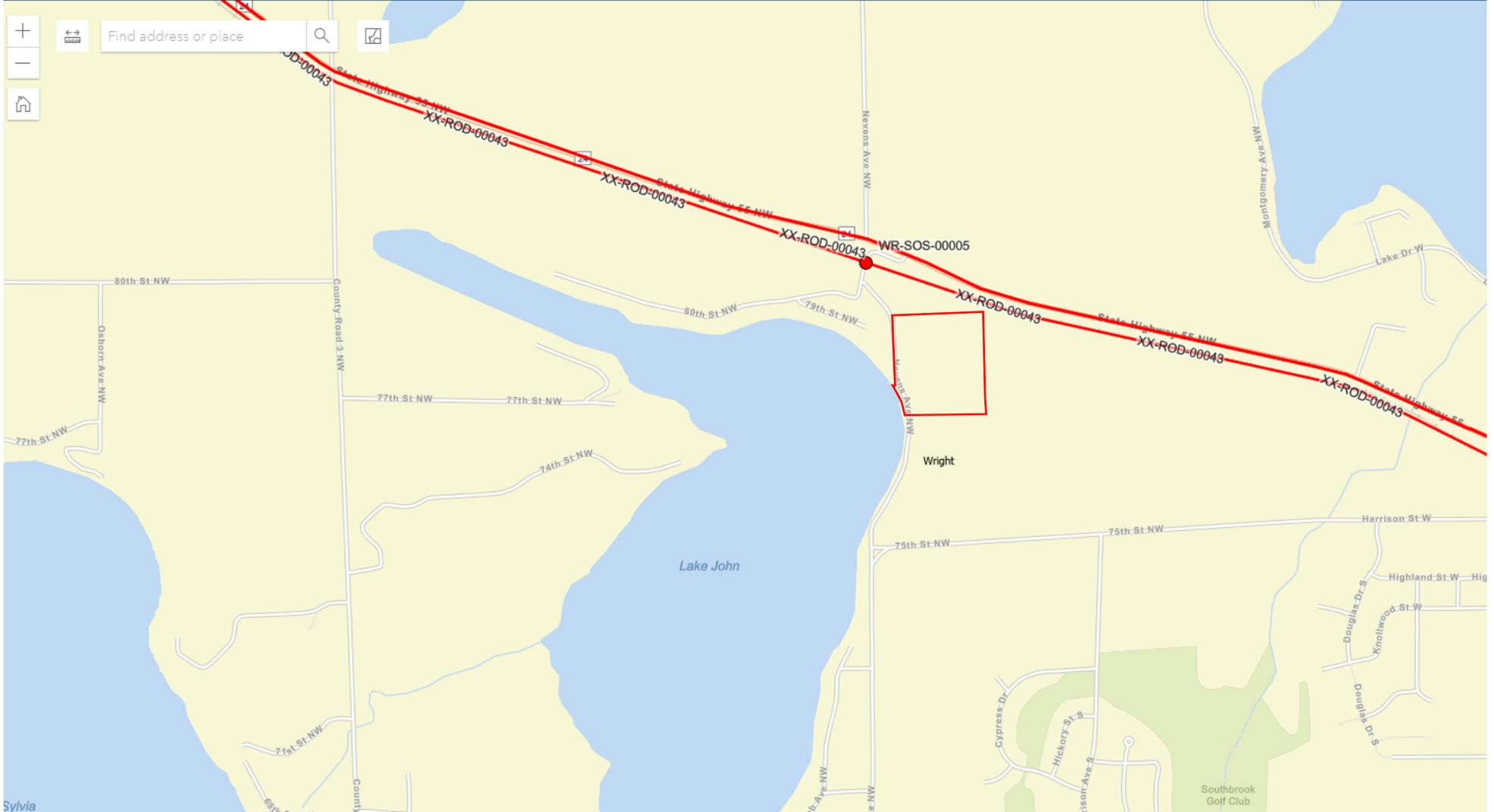
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Sources: USDA Farm Service Agency NAIP Imagery, 2021,  
MnGeo, MN Department of Natural Resources,  
US Census Bureau, Date: 9/20/2023

**Delineated Aquatic Resources  
Seanor Property  
7832 Nevens Ave. NW  
Annandale, MN**

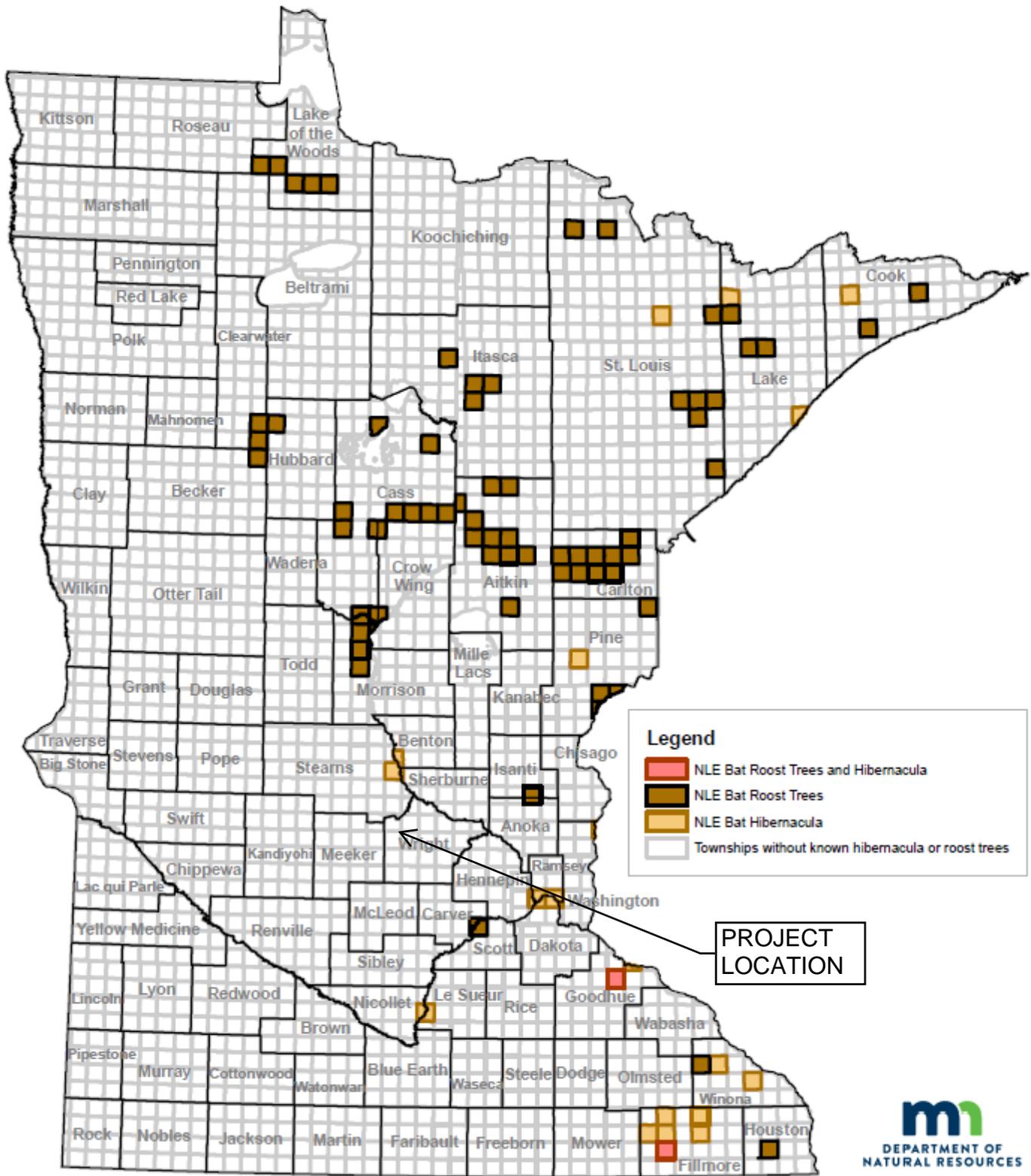




Historic Inventory Number	Historic Name	Counties	Municipalities	Street Address	PIN	Historic - Function	Current - Arch Function	Style	Primary Exterior Material	Design Professional	Date(s) Constructed	Nat'l Reg List Eligible	Nat'l Reg of Hist (NRHP) Listed
WR-SOS-00005	Bridge L8103	Wright	Southside Township	Soo Line over Nevens Avenue NW in Annadale		Transportation , Rail-Related					Construction, 1935, 1935, false	No	No
XX-ROD-00043	Trunk Highway 55	Wright		TH 55		Transportation , Road-Related (Vehicular)					Construction, 1970, 1970, false; Construction, 1921, 1921, true	No	No

**EXHIBIT 7  
SHPO  
INFORMATION**

# TOWNSHIPS CONTAINING DOCUMENTED NORTHERN LONG-EARED BAT MATERNITY ROOST TREES AND/OR HIBERNACULA ENTRANCES



## EXHIBIT 8 MN NORTHERN LONG EARED BAT (NLEB) TOWNSHIP LIST MAP

County	Township	Contains Hibernaculum	Contains Roost Tree
Aitkin	T45N R24W		X
Aitkin	T48N R23W		X
Aitkin	T48N R24W		X
Aitkin	T48N R25W		X
Aitkin	T49N R24W		X
Aitkin	T49N R25W		X
Aitkin	T49N R26W		X
Aitkin	T50N R26W		X
Aitkin	T51N R27W		X
Aitkin	T52N R24W		X
Aitkin	T52N R25W		X
Anoka	T34N R23W		X
Becker	T142N R36W		X
Benton	T36N R31W	X	
Carlton	T47N R18W		X
Carlton	T47N R19W		X
Carlton	T47N R20W		X
Carlton	T47N R21W		X
Carlton	T48N R17W		X
Carlton	T48N R18W		X
Carlton	T48N R19W		X
Carlton	T48N R20W		X
Carlton	T48N R21W		X
Carlton	T49N R17W		X
Carver	T115N R23W		X
Cass	T132N R29W		X
Cass	T133N R29W		X
Cass	T133N R30W		X
Cass	T138N R29W		X
Cass	T138N R31W		X
Cass	T139N R25W		X
Cass	T139N R26W		X
Cass	T139N R27W		X
Cass	T139N R28W		X
Cass	T139N R31W		X
Cass	T143N R26W		X
Cass	T144N R29W		X
Clearwater	T143N R36W		X
Clearwater	T144N R36W		X
Cook	T61N R3W		X
Cook	T63N R1E		X
Cook	T63N R4W	X	
Crow Wing	T133N R29W		X
Crow Wing	T138N R29W		X
Dakota	T28N R22W	X	
Dakota	T28N R23W	X	
Fillmore	T102N R12W	X	X
Fillmore	T103N R10W	X	
Fillmore	T103N R12W	X	
Fillmore	T103N R13W	X	
Fillmore	T104N R10W	X	
Fillmore	T104N R12W	X	

County	Township	Contains Hibernaculum	Contains Roost Tree
Goodhue	T112N R15W	X	X
Goodhue	T113N R14W	X	
Hennepin	T28N R23W	X	
Houston	T102N R6W		X
Hubbard	T144N R35W		X
Isanti	T34N R23W		X
Itasca	T148N R25W		X
Itasca	T57N R26W		X
Itasca	T58N R25W		X
Itasca	T58N R26W		X
Lake	T56N R7W	X	
Lake	T60N R10W		X
Lake	T60N R9W		X
Lake	T62N R11W		X
Lake	T63N R11W	X	
Lake of the Woods	T158N R32W		X
Lake of the Woods	T158N R33W		X
Lake of the Woods	T158N R34W		X
Lake of the Woods	T159N R35W		X
Lake of the Woods	T159N R36W		X
Le Sueur	T110N R26W	X	
Morrison	T130N R30W		X
Morrison	T131N R30W		X
Morrison	T132N R29W		X
Morrison	T132N R30W		X
Morrison	T133N R29W		X
Morrison	T133N R30W		X
Nicollet	T110N R26W	X	
Pine	T39N R19W		X
Pine	T40N R18W		X
Pine	T40N R19W		X
Pine	T42N R20W	X	
Pine	T45N R16W		X
Ramsey	T28N R22W	X	
Ramsey	T28N R23W	X	
Scott	T115N R23W		X
Sherburne	T35N R31W	X	
Stearns	T124N R28W	X	
St. Louis	T53N R12W		X
St. Louis	T56N R13W		X
St. Louis	T57N R12W		X
St. Louis	T57N R13W		X
St. Louis	T57N R14W		X
St. Louis	T62N R12W		X
St. Louis	T62N R15W	X	
St. Louis	T67N R18W		X
St. Louis	T67N R20W		X
Washington	T28N R22W	X	
Washington	T32N R19W	X	
Winona	T106N R7W	X	
Winona	T107N R10W		X
Winona	T107N R9W	X	

**APPENDIX A**  
**WELL INFORMATON**



**141334**County Wright  
Quad South  
Quad ID 139CMINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
Minnesota Statutes Chapter 1031Entry Date 08/12/1994  
Update Date 03/10/2014  
Received Date

<b>Well Name</b> ANDERSON,	<b>Township</b> 121	<b>Range</b> 28	<b>Dir Section</b> W 25	<b>Subsection</b> BCCCCAC	<b>Well Depth</b> 54 ft.	<b>Depth Completed</b> 54 ft.	<b>Date Well Completed</b> 01/03/1978
<b>Elevation</b> 1072	<b>Elev. Method</b>	CALC FROM 2-FOOT COUNTY DEM			<b>Drill Method</b>	Non-specified Rotary	<b>Drill Fluid</b>
<b>Address</b> C/W 7592 NEVENS AV NW ANNANDALE MN 55302					<b>Use</b>	domestic	<b>Status</b> Active
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>From</b> <b>To</b>
Geological Material From To (ft.) Color Hardness					<b>Casing Type</b>	Single casing	<b>Joint</b> Threaded
CLAY 0 12 YELLOW					<b>Drive Shoe?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Above/Below</b>
SAND 12 54					<b>Casing Diameter</b>	<b>Weight</b>	<b>Hole Diameter</b>
					4 in. To 50 ft. 11 lbs./ft.		6.2 in. To 54 ft.
					<b>Open Hole</b>	From ft. To ft.	
					<b>Screen?</b> <input checked="" type="checkbox"/>	<b>Type</b> stainless	<b>Make</b> JOHNSON
					Diameter Slot/Gauze Length Set		
					4 in. 8 4 ft. 50 ft. 54 ft.		
					<b>Static Water Level</b>		
					20 ft. land surface	Measure	01/03/1978
					<b>Pumping Level (below land surface)</b>		
					25 ft. 1 hrs. Pumping at	60 g.p.m.	
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer		Model
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					Material Amount From To		
					cuttings 0.12 Cubic yards 0 ft. 12 ft.		
					<b>Nearest Known Source of Contamination</b>		
					<u>70</u> feet <u>East</u> Direction		<u>Septic tank/drain field</u> Type
					Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed	Date Installed	<u>02/22/1977</u>
					Manufacturer's name	AERMOTOR	
					Model Number	<u>SD-12-50</u> HP <u>0.5</u> Volt <u>230</u>	
					Length of drop pipe	<u>36</u> ft Capacity g.p. Typ <u>Submersible</u>	
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<b>Variance</b>		
					Was a variance granted from the MDH for this well?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<b>Miscellaneous</b>		
					First Bedrock	Aquifer	Quat. buried
					Last Strat sand	Depth to Bedrock	ft
					Located by	Minnesota Geological Survey	
					Locate Method	GPS SA Off (averaged) (15 meters)	
					System	UTM - NAD83, Zone 15, Meters X 409306 Y 5012578	
					Unique Number Verification	Tax Records	Input Date 01/27/2010
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					Mattson Well Co.	86108	OESTREICH, D.
					Licensee Business	Lic. or Reg. No.	Name of Driller
<b>Remarks</b>					<b>Minnesota Well Index Report</b>		<b>141334</b>
							Printed on 02/28/2024 HE-01205-15

**MINNESOTA DEPARTMENT OF HEALTH**  
**WELL AND BORING REPORT**  
*Minnesota Statutes Chapter 1031*

Entry Date 02/08/1995

Update Date 02/14/2014

Received Date

County Wright  
 Quad South  
 Quad ID 139C

**555412**

<b>Well Name</b> WARM-121	<b>Township</b> 28	<b>Range</b> W 26	<b>Dir Section</b> AAADAD	<b>Subsection</b>	<b>Well Depth</b> 89 ft.	<b>Depth Completed</b> 89 ft.	<b>Date Well Completed</b> 10/27/1994
<b>Elevation</b> 1058	<b>Elev. Method</b>	CALC FROM 2-FOOT COUNTY DEM			<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b> Bentonite	
<b>Address</b>				<b>Use</b> domestic <span style="float:right"><b>Status</b> Active</span>			
Well 13003 79TH AV NW ANNANDALE MN 55302				<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>From</b> <b>To</b>			
<b>Stratigraphy Information</b>				<b>Casing Type</b> Single casing <span style="float:right"><b>Joint</b> Glued</span>			
Geological Material From To (ft.) Color Hardness				<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>Above/Below</b>			
TOP SOIL 0 2 BLACK				<b>Casing Diameter</b> <b>Weight</b> <b>Hole Diameter</b>			
SAND & GRAVEL 2 45 VARIED				4 in. To 84 ft. lbs./ft. 8.2 in. To 89 ft.			
SAND & GRAVEL 45 89 GRAY				<b>Open Hole</b> From ft. To ft.			
				<b>Screen?</b> <input checked="" type="checkbox"/> <b>Type</b> plastic <b>Make</b> JAYCO			
				Diameter Slot/Gauze Length Set			
				3 in. 15 5 ft. 84 ft. 89 ft.			
				<b>Static Water Level</b>			
				20 ft. land surface Measure 10/27/1994			
				<b>Pumping Level (below land surface)</b>			
				ft. hrs. Pumping at 50 g.p.m.			
				<b>Wellhead Completion</b>			
				Pitless adapter manufacturer <span style="float:right"><b>Model</b></span>			
				<input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade			
				<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)			
				<b>Grouting Information</b> Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Specified			
				<b>Nearest Known Source of Contamination</b>			
				feet Direction Type			
				Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No			
				<b>Pump</b> <input type="checkbox"/> Not Installed <b>Date Installed</b> 11/01/1994			
				Manufacturer's name RUSTLER			
				<b>Model Number</b> HP 0.5 <b>Volt</b>			
				Length of drop pipe 40 ft <b>Capacity</b> g.p. <b>Typ</b> Submersible			
				<b>Abandoned</b>			
				Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
				<b>Variance</b>			
				Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No			
				<b>Miscellaneous</b>			
				<b>First Bedrock</b> <b>Aquifer</b> <b>Quat. Water</b>			
				Last Strat sand +larger-gray <b>Depth to Bedrock</b> ft			
				Located by Minnesota Geological Survey			
				<b>Locate Method</b> GPS SA Off (averaged) (15 meters)			
				<b>System</b> UTM - NAD83, Zone 15, Meters X 409215 Y 5013193			
				<b>Unique Number Verification</b> <b>Tax Records</b> <b>Input Date</b> 01/27/2010			
				<b>Angled Drill Hole</b>			
				<b>Well Contractor</b>			
				Stevens Well Drilling Co. Inc. 86654 SWERINGEN, P.			
				Licensee Business Lic. or Reg. No. Name of Driller			

**Remarks**

**610269**County Wright  
Quad South  
Quad ID 139CMINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
Minnesota Statutes Chapter 1031Entry Date 05/19/2000  
Update Date 03/25/2010  
Received Date

<b>Well Name</b> VINKEMIEN,	<b>Township</b> 121	<b>Range</b> 28	<b>Dir Section</b> W 26	<b>Subsection</b> AAADAB	<b>Well Depth</b> 59 ft.	<b>Depth Completed</b> 59 ft.	<b>Date Well Completed</b> 06/24/1998
<b>Elevation</b> 1064	<b>Elev. Method</b> CALC FROM 2-FOOT COUNTY DEM				<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b>	
<b>Address</b> C/W 13011 79TH ST NW ANNANDALE MN 55302					<b>Use</b> domestic	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>From</b> <b>To</b>	
Geological Material From To (ft.) Color Hardness					<b>Casing Type</b> Single casing <input type="checkbox"/> Joint <input type="checkbox"/>		
SAND 0 22 BROWN SOFT					<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Above/Below</b>	
SAND/CLAY 22 49 BROWN MEDIUM					<b>Casing Diameter</b> <b>Weight</b>		
FINE SAND 49 59 BROWN MEDIUM					4 in. To 55 ft. lbs./ft.		
					<b>Open Hole</b> From ft. To ft.		
					<b>Screen?</b> <input checked="" type="checkbox"/>	<b>Type</b> stainless	<b>Make</b> JOHNSON
					Diameter 2.5 in.	Slot/Gauze 10	Length 4 ft. Set 55 ft. 59 ft.
					<b>Static Water Level</b>		
					20 ft. land surface	Measure	06/24/1998
					<b>Pumping Level (below land surface)</b>		
					57 ft. 1.2 hrs. Pumping at	10	g.p.m.
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer MERRILL	Model SPP	
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Material other	Amount 2 Sacks	From 0 ft. To 30 ft.
					<b>Nearest Known Source of Contamination</b>		
					50 feet Northwes Direction	Septic tank/drain field Type	
					Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed	Date Installed 06/24/1998	
					Manufacturer's name RED JACKET		
					Model Number HP 0.5	Volt 115	
					Length of drop pipe 44 ft	Capacity 15 g.p.	Typ Submersible
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					<b>Variance</b>		
					Was a variance granted from the MDH for this well?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					<b>Miscellaneous</b>		
					First Bedrock	Aquifer	Quat. buried
					Last Strat sand-brown	Depth to Bedrock	ft
					Located by Minnesota Geological Survey		
					Locate Method GPS SA Off (averaged) (15 meters)		
					System UTM - NAD83, Zone 15, Meters	X 409205	Y 5013221
					Unique Number Verification Tax Records	Input Date 01/27/2010	
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					Fobbe's Well Co.	86445	FOBBE, R.
					Licensee Business	Lic. or Reg. No.	Name of Driller
<b>Remarks</b>							
<b>Minnesota Well Index Report</b>					<b>610269</b>		
					Printed on 03/03/2024 HE-01205-15		

**610270**County Wright  
Quad South  
Quad ID 139CMINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
Minnesota Statutes Chapter 1031Entry Date 05/19/2000  
Update Date 03/25/2010  
Received Date

<b>Well Name</b> WINKEMIER,	<b>Township</b> 121	<b>Range</b> 28	<b>Dir Section</b> W 26	<b>Subsection</b> AAAAAD	<b>Well Depth</b> 60 ft.	<b>Depth Completed</b> 60 ft.	<b>Date Well Completed</b> 06/24/1998
<b>Elevation</b> 1076	<b>Elev. Method</b> CALC FROM 2-FOOT COUNTY DEM				<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b>	
<b>Address</b> C/W 13010 79TH ST NW ANNANDALE MN 55302					<b>Use</b> domestic	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>From</b> <b>To</b>		
Geological Material From To (ft.) Color Hardness					<b>Casing Type</b> Single casing <b>Joint</b>		
SAND/GRAVEL 0 27 YELLOW MEDIUM					<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>Above/Below</b>		
SAND/SEAMS OF CLAY 27 52 BROWN MEDIUM					<b>Casing Diameter</b> <b>Weight</b>		
SAND 52 60 BROWN MEDIUM					4 in. To 56 ft. lbs./ft.		
					<b>Open Hole</b> From ft. To ft.		
					<b>Screen?</b> <input checked="" type="checkbox"/> <b>Type</b> stainless <b>Make</b> JOHNSON		
					Diameter Slot/Gauze Length Set		
					2 in. 10 4 ft. 56 ft. 60 ft.		
					<b>Static Water Level</b>		
					24 ft. land surface Measure 06/24/1998		
					<b>Pumping Level (below land surface)</b>		
					58 ft. 1.2 hrs. Pumping at 25 g.p.m.		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer MERRILL Model SPP		
					<input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade		
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Material Amount From To		
					other 3 Sacks 0 ft. 30 ft.		
					<b>Nearest Known Source of Contamination</b>		
					50 feet Northwes Direction Septic tank/drain field Type		
					Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed Date Installed 06/24/1998		
					Manufacturer's name RED JACKET		
					Model Number HP 0.5 Volt 115		
					Length of drop pipe 42 ft Capacity 15 g.p. Typ Submersible		
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b>		
					First Bedrock Aquifer Quat. Water		
					Last Strat sand-brown Depth to Bedrock ft		
					Located by Minnesota Geological Survey		
					Locate Method GPS SA Off (averaged) (15 meters)		
					System UTM - NAD83, Zone 15, Meters X 409215 Y 5013280		
					Unique Number Verification Tax Records Input Date 01/27/2010		
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					Fobbe's Well Co. 86445 FOBBE, R.		
					Licensee Business Lic. or Reg. No. Name of Driller		
<b>Remarks</b>							
<b>Minnesota Well Index Report</b>					<b>610270</b>		
					Printed on 03/03/2024 HE-01205-15		

**835257**County Wright  
Quad South  
Quad ID 139CMINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
Minnesota Statutes Chapter 1031Entry Date 11/30/2018  
Update Date 05/06/2020  
Received Date 09/21/2018

<b>Well Name</b> VINKEMEIER,	<b>Township</b> 121	<b>Range</b> 28	<b>Dir Section</b> W 25	<b>Subsection</b> BBBCBD	<b>Well Depth</b> 39 ft.	<b>Depth Completed</b> 39 ft.	<b>Date Well Completed</b>
<b>Elevation</b> 1070	<b>Elev. Method</b> LiDAR 1m DEM (MNDNR)				<b>Drill Method</b> Non-specified Rotary	<b>Drill Fluid</b> Qwik gel	
<b>Address</b> C/W 7939 NEVENS AV NW ANNANDALE MN 55302					<b>Use</b> domestic	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>From</b>	<b>To</b>
<b>Geological Material</b>	<b>From</b>	<b>To (ft.)</b>	<b>Color</b>	<b>Hardness</b>	<b>Casing Type</b> Single casing	<b>Joint</b>	
SAND	0	17	BROWN	MEDIUM	<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Above/Below</b>	
CLAY	17	31	GRAY	MEDIUM	<b>Casing Diameter</b>	<b>Weight</b>	
SAND	31	39	BROWN	MEDIUM	4 in. To 34 ft.	lbs./ft.	
					<b>Open Hole</b>	<b>From</b>	<b>To</b>
					<b>Screen?</b> <input checked="" type="checkbox"/>	<b>Type</b> stainless	<b>Make</b> JOHNSON
					<b>Diameter</b> 2 in.	<b>Slot/Gauze</b> 12	<b>Length</b> 5 ft.
						<b>Set</b> 34 ft.	<b>ft.</b> 39 ft.
					<b>Static Water Level</b>		
					22 ft.	land surface	Measure 08/24/2018
					<b>Pumping Level (below land surface)</b>		
					37 ft.	1 hrs. Pumping at	30 g.p.m.
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer	MONITOR	Model SNAPPY
					<input type="checkbox"/> Casing Protection	<input checked="" type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	<b>Well Grouted?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					<b>Material</b>	<b>Amount</b>	<b>From</b> <b>To</b>
					high solids bentonite	4 Sacks	ft. 34 ft.
					<b>Nearest Known Source of Contamination</b>		
					75 feet	Northeas Direction	Septic tank/drain field Type
					Well disinfected upon completion?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<b>Pump</b> <input type="checkbox"/> Not Installed	<b>Date Installed</b>	08/31/2018
					<b>Manufacturer's name</b>	FLOWISE	
					<b>Model Number</b>	HP 0.5	Volt 120
					<b>Length of drop pipe</b>	25 ft	Capacity 15 g.p. Typ Submersible
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					<b>Variance</b>		
					Was a variance granted from the MDH for this well?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					<b>Miscellaneous</b>		
					<b>First Bedrock</b>	<b>Aquifer</b>	
					<b>Last Strat</b>	<b>Depth to Bedrock</b>	ft
					<b>Located by</b>	Minnesota Department of Health	
					<b>Locate Method</b>	GPS SA Off (averaged) (15 meters)	
					<b>System</b>	UTM - NAD83, Zone 15, Meters	X 409275 Y 5013180
					<b>Unique Number Verification</b>	Info/GPS from data	Input Date 11/19/2018
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					Fobbe Well, LLP	1919	FOBBE, R
					Licensee Business	Lic. or Reg. No.	Name of Driller
<b>Remarks</b>							
<b>Minnesota Well Index Report</b>					<b>835257</b>		Printed on 03/03/2024 HE-01205-15

**APPENDIX B**  
**WETLAND REPORT /**  
**TEP CONFIRMATION**



**Appeals of LGU Decisions**

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator  
Minnesota Board of Water & Soils Resources  
520 Lafayette Road North  
St. Paul, MN 55155  
[travis.germundson@state.mn.us](mailto:travis.germundson@state.mn.us)

Does the LGU have a local appeal process applicable to this decision?

- Yes<sup>1</sup>       No

<sup>1</sup>If yes, all appeals must first be considered via the local appeals process.

**Local Appeals Submittal Requirements** (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

**Notice Distribution (include name)**

*Required on all notices:*

<input checked="" type="checkbox"/> SWCD TEP Member: <b>Andrew Grean</b>	<input checked="" type="checkbox"/> BWSR TEP Member: <b>Cade Steffenson</b>
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: <b>James Bedell</b>	
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:	
<input checked="" type="checkbox"/> Applicant: <b>Perry Ryan</b>	<input checked="" type="checkbox"/> Agent/Consultant: <b>Ken Arndt</b>

*Optional or As Applicable:*

<input type="checkbox"/> Corps of Engineers:	
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input checked="" type="checkbox"/> Other: <b>Jared Voge, Jacob Thunander</b>

<b>Signature:</b> 	<b>Date:</b> 11/16/2023
---	----------------------------

**This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.**

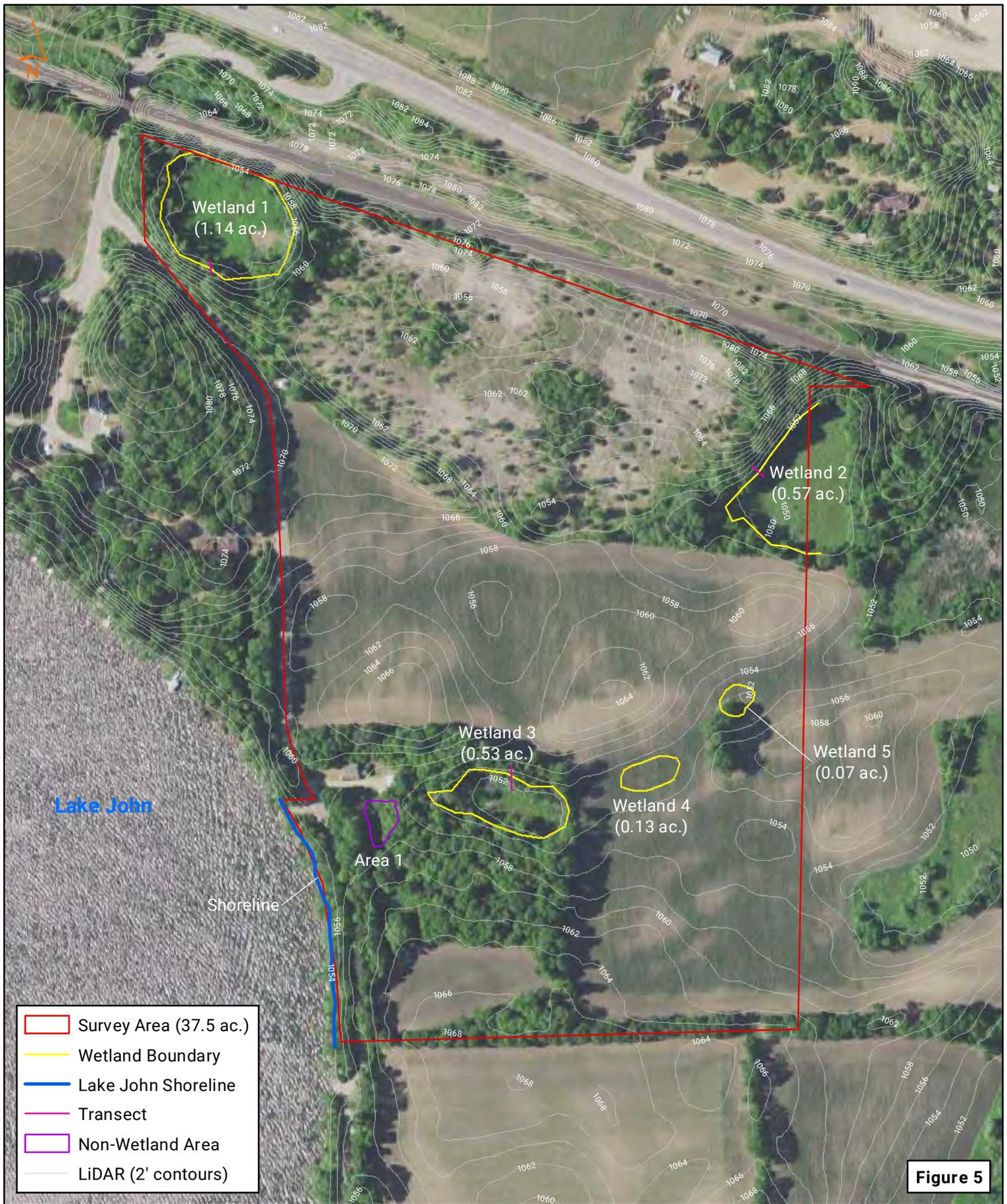


Sources: OpenStreetMap,  
US Census Bureau, Date: 8/15/2023

**Survey Site Location**  
Seanor Property  
7832 Nevens Ave. NW  
Annandale, MN

0 0.25 0.5  
Miles

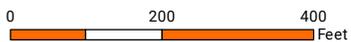




**Figure 5**

Sources: USDA Farm Service Agency NAIP Imagery, 2021,  
MnGeo, MN Department of Natural Resources,  
US Census Bureau, Date: 9/20/2023

**Delineated Aquatic Resources**  
**Seanor Property**  
**7832 Nevens Ave. NW**  
**Annandale, MN**



**APPENDIX C**  
**DNR NATURAL HERITAGE**  
**RESPONSE**



Minnesota Department of Natural Resources  
Division of Ecological & Water Resources  
500 Lafayette Road, Box 25  
St. Paul, MN 55155-4025

February 29, 2024

Correspondence # MCE 2024-00229

Perry Ryan  
Ryan Excelsior Properties, LLC.

RE: Natural Heritage Review of the proposed Shores of Lake John,  
T121N R28W Section 25; Wright County

Dear Perry Ryan,

As requested, the [Minnesota Natural Heritage Information System](#) has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

#### *Ecologically Significant Areas*

- The Minnesota Biological Survey (MBS) considered an area east of the proposed project for a Site of Biodiversity Significance, South Side 25. It was determined to be *Below* the minimum biodiversity threshold for statewide significance. This area, however, may have conservation value at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat. There are two mapped native plant communities in this area, Meadow – Marsh – Fen – Swamp Complex (MMS\_CX) and Tamarack Swamp (Southern) (FPs63a), which has a state conservation rank of S2/S3 (Imperiled/Vulnerable to Extirpation). We recommend you minimize impacts to these areas to the extent feasible. Actions to minimize disturbance may include, but are not limited to, the following recommendations.
  - Use effective erosion prevention and sediment control measures.
  - Inspect and clean all equipment prior to bringing it to the Site to prevent the introduction and spread of invasive species.
  - Revegetate disturbed soil with [native species suitable to the local habitat](#) as soon after construction as possible.

- Use only weed-free mulches, topsoils, and seed mixes. Of particular concern are birdsfoot trefoil (*Lotus corniculatus*) and crown vetch (*Coronilla varia*), two invasive species that are sold commercially and are problematic in prairies and disturbed open areas.

MBS Sites of Biodiversity Significance and DNR Native Plant Communities can be viewed using the Explore page in [Minnesota Conservation Explorer](#) or their GIS shapefiles can be downloaded from the [MN Geospatial Commons](#). Please contact the [NH Review Team](#) if you need assistance accessing the data. Reference the [MBS Site Biodiversity Significance](#) and [Native Plant Community](#) websites for information on interpreting the data. To receive a list of MBS Sites of Biodiversity Significance and DNR Native Plant Communities in the vicinity of your project, create a [Conservation Planning Report](#) using the Explore Tab in [Minnesota Conservation Explorer](#).

### *State-listed Species*

- [Blanding's turtles](#) (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required:**

- Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
- Erosion and sediment control should be limited to [wildlife friendly erosion control](#) to avoid the inadvertent take of Blanding's turtles.
- Hydro-mulch products should not contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
- Construction areas should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance.
- The [Blanding's turtle flyer](#) must be given to all contractors working in the area.

- If turtles are in imminent danger, they must be moved by hand out of harm's way, otherwise they are to be left undisturbed. Directions on how to move turtles safely can be found here: [Helping Turtles Across the Road](#).

If the above avoidance measures are not feasible, please contact [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us) with subject line MCE-2024-00229 as further action may be needed.

For additional information, see the [Blanding's turtle fact sheet](#), which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to both lists of recommendations and apply those that are relevant to your project.**

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all seven of Minnesota's bats, including the federally endangered northern long-eared bat ([Myotis septentrionalis](#)), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**
- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

#### *Federally Protected Species*

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).

#### *Environmental Review and Permitting*

- The Environmental Assessment Worksheet should address whether the proposed project has the potential to adversely affect the above rare features and, if so, it should identify specific measures that will be taken to avoid or minimize disturbance. Sufficient information should be provided so the DNR can determine whether a takings permit will be needed for any of the above protected species.
- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the [Natural Heritage Review website](#) for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, you may contact your [DNR Regional Environmental Assessment Ecologist](#).

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

A handwritten signature in cursive script that reads "James Drake".

James Drake  
Natural Heritage Review Specialist  
[James.F.Drake@state.mn.us](mailto:James.F.Drake@state.mn.us)

Cc: Melissa Collins

**APPENDIX D**  
**GHG SUPPORTING**  
**INFORMATION**

## Emissions Summary

### Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* (.xls) as this calculator only quantifies one year of emissions at a time.

<https://www.epa.gov/climateleadership/target-setting>

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form*, you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form*.

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in its inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

### Organizational Information:

Organization Name:	Ryan Excelsior Properties, LLC	
Organization Address:	19655 Waterford Place Excelsior, MN 55331	
Inventory Reporting Period:	e.g., Calendar Year 2022, Fiscal Year 2022	
	Start: MM/DD/YY	End: MM/DD/YY
Name of Preparer:	Perry Ryan	
Phone Number of Preparer:	952-221-3700	
Date Prepared:		

### Summary of Organization's Emissions:

#### Scope 1 Emissions

Go To Sheet	Stationary Combustion	160	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Mobile Sources	627	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Fire Suppression	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Purchased Gases	0	CO <sub>2</sub> -e (metric tons)

#### Location-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	161	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO <sub>2</sub> -e (metric tons)

#### Market-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	161	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO <sub>2</sub> -e (metric tons)

#### Total organization Emissions

Total Scope 1 & Location-Based Scope 2	948	CO <sub>2</sub> -e (metric tons)
Total Scope 1 & Market-Based Scope 2	948	CO <sub>2</sub> -e (metric tons)

#### Reductions

Go To Sheet	Offsets	0	CO <sub>2</sub> -e (metric tons)
	Net Scope 1 and 2 Location-Based Emissions	948	CO <sub>2</sub> -e (metric tons)
	Net Scope 1 and 2 Market-Based Emissions	948	CO <sub>2</sub> -e (metric tons)

#### Scope 3 Emissions

Go To Sheet	Employee Business Travel	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Employee Commuting	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Upstream Transportation and Distribution	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Waste	44	CO <sub>2</sub> -e (metric tons)

#### Required Supplemental Information

Go To Sheet	Biomass CO <sub>2</sub> Emissions from Stationary Sources	0	CO <sub>2</sub> -e (metric tons)
Go To Sheet	Biomass CO <sub>2</sub> Emissions from Mobile Sources	0	CO <sub>2</sub> -e (metric tons)



Mixed (Electric Power Sector)	0	short ton
Mixed (Industrial Coking)	0	short ton
Mixed (Industrial Sector)	0	short ton
Coal Coke	0	short ton
<b>Other Fuels - Solid</b>		
Municipal Solid Waste	0	short ton
Petroleum Coke (Solid)	0	short ton
Plastics	0	short ton
Tires	0	short ton
<b>Biomass Fuels - Solid</b>		
Agricultural Byproducts	0	short ton
Peat	0	short ton
Solid Byproducts	0	short ton
Wood and Wood Residuals	0	short ton
<b>Gaseous Fuels</b>		
Natural Gas	2,941,200	scf
Propane Gas	0	scf
Landfill Gas	0	scf
<b>Petroleum Products</b>		
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
<b>Biomass Fuels - Liquid</b>		
Biodiesel (100%)	0	gallons
Ethanol (100%)	0	gallons
Rendered Animal Fat	0	gallons
Vegetable Oil	0	gallons

RECS says 774 ccf per house  
scf = standard cubic foot  
ccf = 100 cubic foot

**Total Organization-Wide CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O Emissions from Stationary Source Fuel Combustion**

Fuel Type	CO <sub>2</sub> (kg)	CH <sub>4</sub> (g)	N <sub>2</sub> O (g)
<b>Coal and Coke - Solid</b>			
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Mixed (Commercial Sector)	0.0	0.0	0.0
Mixed (Electric Power Sector)	0.0	0.0	0.0
Mixed (Industrial Coking)	0.0	0.0	0.0
Mixed (Industrial Sector)	0.0	0.0	0.0
Coal Coke	0.0	0.0	0.0
<b>Other Fuels - Solid</b>			
Municipal Solid Waste	0.0	0.0	0.0
Petroleum Coke (Solid)	0.0	0.0	0.0
Plastics	0.0	0.0	0.0
Tires	0.0	0.0	0.0
<b>Gaseous Fuels</b>			
Natural Gas	160,118.9	3,029.4	294.1
Propane Gas	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
<b>Petroleum Products</b>			
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
<b>Total Fossil Fuel Emissions</b>	<b>160,118.9</b>	<b>3,029.4</b>	<b>294.1</b>
<b>Biomass Fuels - Solid</b>			
Agricultural Byproducts	0.0	0.0	0.0
Peat	0.0	0.0	0.0
Solid Byproducts	0.0	0.0	0.0
Wood and Wood Residuals	0.0	0.0	0.0
<b>Biomass Fuels - Liquid</b>			
Biodiesel (100%)	0.0	0.0	0.0
Ethanol (100%)	0.0	0.0	0.0
Rendered Animal Fat	0.0	0.0	0.0
Vegetable Oil	0.0	0.0	0.0
<b>Total Non-Fossil Fuel Emissions</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total Emissions for all Fuels</b>	<b>160,118.9</b>	<b>3,029.4</b>	<b>294.1</b>

**Total CO<sub>2</sub> Equivalent Emissions (metric tons) - Stationary Combustion 160.3**

**Total Biomass CO<sub>2</sub> Equivalent Emissions (metric tons) - Stationary Combustion 0.0**

Scope 1 Emissions from Mobile Sources

Guidance

(A) Enter annual data for each vehicle or group of vehicles (grouped by vehicle type, vehicle year, and fuel type) in ORANGE cells in Table 1. Example entry is shown in first row (GREEN Italics). Only enter vehicles owned or leased by your organization on this sheet. All other vehicle use such as employee commuting or business travel is considered a scope 3 emissions source and should be reported in the corresponding scope 3 sheets.

- Note: As of the v9 Simplified GHG Calculation tool update, the latest mobile combustion factors reflect year 2020 data. Therefore, for all vehicle model years 2021 onward, the 2020 year factor is used.

- Select "On-Road" or "Non-Road" from drop down box to determine the Vehicle Types available. Must make this selection before picking vehicle type.
- Select "Vehicle Type" from drop down box (closest type available).
- Enter "Fuel Usage" in appropriate units (units appear when vehicle type is selected).
- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see Reference Table below).
- Vehicle year and Miles traveled are not necessary for non-road equipment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent: 20%
Ethanol Percent: 80%

(C) Biomass CO2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Table with 8 columns: Source ID, Source Description, On-Road or Non-Road?, Vehicle Type, Vehicle Year, Fuel Usage, Units, Miles Traveled. Includes example rows for Road Vehicles, Construction Equipment, and Operational Vehicles.

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	25.3
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	18.0
Single unit 2-Axle 6-Tire or More Trucks	7.6
Combination Trucks	6.2

Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2020 (November 2022), Table VM-1.

**GHG Emissions**

**Total Organization-Wide Mobile Source Fuel Usage and CO<sub>2</sub> Emissions (On-Road and Off-Road Vehicles)**

Fuel Type	Fuel Usage	Units	CO <sub>2</sub> (kg)
Motor Gasoline	45,064	gallons	395,661.9
Diesel Fuel	22,119	gallons	225,835.0
Residual Fuel Oil	0	gallons	0.0
Aviation Gasoline	0	gallons	0.0
Kerosene-Type Jet Fuel	0	gallons	0.0
Liquefied Petroleum Gas (LPG)	0	gallons	0.0
Ethanol	0	gallons	0.0
Biodiesel	0	gallons	0.0
Liquefied Natural Gas (LNG)	0	gallons	0.0
Compressed Natural Gas (CNG)	0	scf	0.0

Note: emissions here are only for the ga  
Note: emissions here are only for the di

**Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH<sub>4</sub>/N<sub>2</sub>O Emissions**

Vehicle Type	Vehicle Year	Mileage (miles)	CH <sub>4</sub> (g)	N <sub>2</sub> O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
2017	0	0.0	0.0	
2018	0	0.0	0.0	
2019	0	0.0	0.0	
2020	0	0.0	0.0	
2021	0	0.0	0.0	
2022	0	0.0	0.0	
2023	0	0.0	0.0	
Light-Duty Trucks - Gasoline (Vans, Pickup Trucks, SUVs)	1987-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
2017	0	0.0	0.0	
2018	0	0.0	0.0	
2019	0	0.0	0.0	
2020	0	0.0	0.0	
2021	0	0.0	0.0	
2022	0	0.0	0.0	
2023	0	0.0	0.0	
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
2007	0	0.0	0.0	
2008	0	0.0	0.0	
2009	0	0.0	0.0	
2010	0	0.0	0.0	
2011	0	0.0	0.0	
2012	0	0.0	0.0	

	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
	2019	0	0.0	0.0
	2020	0	0.0	0.0
	2021	0	0.0	0.0
	2022	0	0.0	0.0
	2023	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-2005	0	0.0	0.0
	2006-2023	0	0.0	0.0

**Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH<sub>4</sub>/N<sub>2</sub>O Emissions**

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH <sub>4</sub> (g)	N <sub>2</sub> O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0	0
		1983-2006	0	0	0
		2007-2023	0	0	0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0	0
		1983-2006	0	0	0
		2007-2023	0	0	0
Medium- and Heavy-Duty Vehicles	Diesel	1960-2006	0	0	0
		2007-2023	0	0	0
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
Buses	Biodiesel		0	0.0	0.0
	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

**Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH<sub>4</sub>/N<sub>2</sub>O Emissions**

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH <sub>4</sub> (g)	N <sub>2</sub> O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Gasoline Off-Road Trucks	-	-	-
	Diesel Equipment	-	-	-
	Diesel Off-Road Trucks	-	-	-
Construction/Mining Equipment	LPG	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Gasoline Off-Road Trucks	-	-	-
	Diesel Equipment	17,550	17,726	16,497
Lawn and Garden Equipment	Diesel Off-Road Trucks	-	-	-
	LPG	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
Airport Equipment	Diesel	-	-	-
	LPG	-	-	-
	Gasoline	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
Railroad Equipment	Diesel	-	-	-
	LPG	-	-	-
	Gasoline	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-

<b>Total CO<sub>2</sub> Equivalent Emissions (metric tons) - Mobile Sources</b>	<b>626.9</b>
<b>Total Biomass CO<sub>2</sub> Equivalent Emissions (metric tons) - Mobile Sources</b>	<b>0.0</b>



Scope 3 Emissions from Waste

Guidance

- (A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (GREEN Italics).
(B) First, choose the appropriate material then the disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.
(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO2, CH4, and N2O)

Table with 7 columns: Source ID, Source Description, Waste Material, Disposal Method, Weight, Unit, CO2e Emissions (kg). Includes example data for Bldg-012, East Power Plant Finished Goods, Copper Wire, Landfilled, 1,000 metric ton, 22,040 kg.

GHG Emissions

Total Emissions by Disposal Method

Summary table with 2 columns: Waste Material, CO2e (kg). Rows include Recycled, Landfilled (44,124), Combusted, Composted, Anaerobically Digested (Dry/Wet Digestate with Curing).

EPA Climate Leaders Simplified GHG Emissions Calculator (Optional 3.0)