ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
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:** Edgewater Bay Campground Expansion

2. **Proposer:** Edgewater Bay LLC
   Contact person: Jeff Barstad
   Title: Owner
   Address: 1716 US Highway 59
   City, State, ZIP: Slayton, MN 56172
   Phone: 507-227-5948
   Email: barstadjeff@hotmail.com

3. **RGU:** Murray County
   Contact person: Jean Christoffels
   Title: Zoning/Environmental Admin.
   Address: 2500 28th Street, PO Box 57
   City, State, ZIP: Slayton, MN 56172
   Phone: 507-836-1166
   Email: jchristoffels@co.murray.mn.us

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

Required:	Discretionary:
☐ EIS Scoping	☐ Citizen petition
☒ Mandatory EAW	☐ RGU discretion
	☐ Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
   Minn. R. 4410.4300, Subp. 20 Campgrounds and RV Parks

5. **Project Location:**
   County: Murray
   City/Township:- Mason Township
   PLS Location (¼, ¼, Section, Township, Range): NE1/4, Sec. 2, Twp. 107, Range 41
   Watershed (81 major watershed scale): Des Moines River - Headwaters
   GPS Coordinates: 44°06'20"N 95°43'50"W
   Tax Parcel Number: 15-002-0010; 15-220-0010; 15-105-0290; 15-105-0020

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

- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

Attachments:

Attachment 1 -	U.S. Geological Survey Map
Attachment 2 -	Aerial Map
Attachment 3 -	Site Plan
Attachment 4-1 - 4-5	Soils Maps
Attachment 5-1 - 5-16	Well Logs
Attachment 6 -	MnDNR Conservation Planning Report
Attachment 7 -	MnDNR Formal Natural Heritage Review

Tables:

Table 1 -	Project Magnitude
Table 2 -	Land Cover before and after development
Table 3 -	Required Permits and Approvals
Table 4 -	Soils within Edgewater Bay Campground
Table 5 -	MPCA 2022 Impaired Waters List
Table 6 -	Wells within one-half mile of the site
Table 7 -	Hazardous properties within one-half mile of the site

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

      Edgewater Bay proposes to expand an existing campground to add 110 new sites and activate all 28 inactive sites to bring the total number of campsites to 310.

   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.**

      Edgewater Bay currently operates a campground with 172 campsites. Edgewater Bay proposes to add an additional 110 new campsites to the existing campground, an activate all 28 inactive sites to bring the total number of campsites to 310. The project would involve installing electrical, water, and sewer lines and hookups for each new site and installing driveways of crushed rock to allow access to each new site. On request of a new renter, Edgewater Bay would install a pad made of crushed rock on which the renter would park his or her camper. Edgewater Bay also anticipates that renters may install small sheds on their sites for storage (consistent with sheds on existing sites).

   c. **Project magnitude:**

Table 1: Project Magnitude

Total Project Acreage	55.99 acres
Linear project length	N/A
Number and type of residential units	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)	N/A

   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 of this project is to expand an existing campground to add an additional 110 new sites and activate all 28 inactive campsites in order to meet market demand and provide recreational opportunities for additional families to relax and enjoy our natural resources.

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.

Aside from the proposed project described herein, Edgewater Bay LLC does not have any plans for additional expansion of the campground at this time. To the extent that Edgewater Bay LLC decides in the future to pursue any further expansion, it will conduct environmental review as required under the laws, regulations, and ordinances governing environmental review in effect at that time.

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 proposed project is a new project that would expand an existing campground. The original campground was developed in 1991 and has expanded on several occasions since that time. The original development and each expansion were separate projects. On September 9, 1997, the Murray County Board of Commissioners passed a motion to not require an Environmental Impact Statement (EIS) for the Edgewater Bay Environmental Assessment Worksheet (EAW) for the original 65 campsites.

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

Table 2: Land Cover Before and After Development.

	Before	**After**		**Before**	**After**
Wetlands	0	0	Lawn/lands caping	0	0
Deep water/streams	0	0	Impervious surface	4.11 ac	7.25 ac
Wooded/forest	0	0	Stormwater Pond	0	0
Brush/Grassland	51.88 ac	48.74 ac	Other (describe)	0	0
Cropland	0	0			
			TOTAL	**55.99**	**55.99**

8. **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.***

Table 3: Required Permits and Approvals.

Unit of government	Type of application	Status
Murray County	Conditional Use Permit	Not Yet Filed
MPCA	Construction Stormwater General Permit	Not Yet Filed
MN MDH	Plan Review	Not Yet Filed
MN DLI	Plumbing Plan Review & Inspection	Not Yet Filed

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

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

      The northern portion of this parcel (as well as all or portions of two adjacent parcels) are currently used as a campground. Other adjacent properties are used for residences and agriculture. The property is located near Lake Shetek.

      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 2016 Comprehensive Plan for Murray County identifies private campgrounds (such as Edgewater Bay) as one of the strengths of the county's Conservation, Parks, and Open Spaces. Allowing expansion of the existing campground would allow Murray County to further strengthen this asset and provide additional recreational and economic opportunities in an area that is already extensively used and has the infrastructure to support these uses.

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

The parcels on which this project, and the existing campground, are located are zoned as a Commercial District in the Shoreland Overlay District, according to the Murray County Zoning Ordinance. The majority of this campground expansion will be located within the Commercial District, with only a small portion of the project located within the Shoreland Overlay District.

b. **Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.**

Because a portion of the parcel, as well as other adjacent parcels, is already used as a campground, the proposed expansion of Edgewater Bay Campground is compatible with other nearby land uses and zoning, and therefore do not appear to have environmental effects that would occur from the expansion of the existing campground on the same site.

c. **Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.**

There are no incompatibilities with the above-described plans.

10. **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.**

According to the Minnesota Geological Survey, the Edgewater Bay project area is within the Minnesota River Valley subprovince, and part of the Altamont Moraine. The Altamont Moraine is drained by small streams that empty into Lake Shetek. There are no known karst features within the project area. The Minnesota Geologial Survey data indicate that depth to bedrock is between 250 to 300 feet below ground surface. The U.S. Geological Survey Groundwater Atlas indicates that the project area is underlain by the Cretaceous aquifer, which extends from northwestern Iowa into southwestern Minnesota. The Cretaceous aquifer consists of discontinuous beds of Dakota formation sandstone and ranges from 90 to 170 feet in thickness in tis principal use area (USGS 1992).

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 11.b.ii.

Soils within Edgewater Bay Campground are primarily glacial till soils formed on moraines, till plains, and drainageways. Using NRCS Web Soil Survey, Table 4 below contains a list of the soils within the campground, including the percentage of each soil type and their respective Crop Productivity Index (CPI). Soils maps are included as Attachments 4-1 to 4-5.

Table 4: Soils within Edgewater Bay Campground

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	CPI Score
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	29.3	52.4%	88
J107A	Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes	17.9	32.0%	93
J57A	Balaton loam, 1 to 3 persent slopes	5.4	9.7%	96
J101B	Hokans-Svea complex, 1 to 4 percent slopes	1.6	2.9%	98
J26B	Darnen loam, 2 to 6 percent slopes	0.8	1.4%	99
J11A	Vallers clay loam, 0 to 2 percent slopes	0.5	0.9%	90
J96C2	Barnes-Buse complex, 6 to 12 percent slopes, moderately eroded	0.4	0.7%	80
		55.9	100.0%	

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 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. **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, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include 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.**

Edgewater Bay Campground only has 100 feet of riparian shoreline of Lake Shetek, which is a DNR Public Water Basin (DNR ID 51-004600). The proposed expansion project is located approximately 600 feet from Lake Shetek and approximately 1,400 feet from Lower Lake Sarah Outlet (which connects to Lake Shetek).

Lake Shetek is in the headwaters of the Des Moines River watershed and the West Fork of the Des Moines River starts at the north end of the Lake. There are several unnamed tributaries connected to Lake Shetek along the southwestern shore, within two miles of the proposed project site. According to MN DNR Lake Finder, Lake Shetek is 3,462 acres in size with a maximum depth of 10 feet and an ordinary high water elevation of 1482.6 feet (NGVD 29).

According to the Minnesota Pollution Control Agency (MPCA) 2022 Impaired Waters List, Table 5 below lists the multiple impairments that are within one mile of Edgewater Bay Campground.

Table 5: MPCA 2022 Impaired Water

Water Body Name	AUID	Affected designated use	Pollutant or stressor
Lower Lake Sarah Outlet	07100001-508	Aquatic Life	Benthic macroinvertebrates bioassessments
Lower Lake Sarah Outlet	07100001-508	Aquatic Life	Fish bioassessments
Lower Lake Sarah Outlet	07100001-508	Aquatic Recreation	Fecal coliform
Shetek	51-0046-00	Aquatic Life	Fish bioassessments
Shetek	51-0046-00	Aquatic Recreation	Nutrients
Unnamed creek	07100001-517	Aquatic Recreation	Fecal coliform

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.**

There is an onsite or nearby well that provides water for the property. This well is identified as No 844560. The static water level for this well, as measured on July 14, 2020 (the date it was drilled), was 100 feet.

Edgewater Bay Campground is not located within a Minnesota Department of Health wellhead protection area (WPA) or a drinking water supply management area (DWSMA). The nearest WPA and DWSMA is the Red Rock Rural Water System located approximately 7.3 miles southeast. A query of the Minnesota Well Index geospatial data determined that there are 16 wells within a half-mile radius of the site, including the well servicing this property. Table 6 below shows the unique well IDs that were identified, along with the well's elevation and depth. Well logs from the index are included as Attachments 5-1 to 5-16.

Table 6: Wells within one-half mile of the site.

Unique No.	Well Name	Township	Range	Section	Elevation (ft)	Well Depth (ft)
121151	Masuen, A.J.	108	41	36	1495	30
199476	Bloemendahl	107	41	1	1493	30
199737	Fischer	107	41	1	1499	140
427770	Valhalla	107	41	1	1495	44
464484	Colman	107	41	1	1501	93
491770	Edgewater	107	41	2	**	210
605218	Bosacker	108	41	36	1488	230
605236	Reisdorfer	108	41	35	1529	540
680909	Onken, Dolly	107	41	2	1497	410
680912	Meyers, Joan	108	41	35	1572	193
680934	Hovdet, Brad	107	41	2	1492	400
680942	Kuehl	107	41	2	1521	450
744741	Bay Port Cove	108	41	35	1511	610
769712	Kooiman	108	41	36	1494	440
805511	Edgewater	107	41	2	1488	395
844560	Edgewater Bay Campgroun	107	41	2	**	523
**	Missing Information on Well Log					

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.**

Wastewater would be discharged to and treated by the Shetek Area Wastewater Collection and Treatment System without any pretreatment measures (which is consistent with the wastewater handling for the existing camp sites). Edgewater Bay understands that the existing system has sufficient capacity for this project. The type of wastewater generated by the project will include those typical of domestic use.

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.**

Wastewater will not be discharged to an 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.**

Wastewater will not be discharged to a surface water.

ii. **Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.**

Edgewater Bay does not anticipate significant changes to the quantity or quality of stormwater runoff as a result of this project or any environmental effects from stormwater discharges. Due to the amount of land to be disturbed and the one acre net increase in impervious surface coverage from this expansion project, an NPDES Construction Stormwater Permit will be obtained for construction stormwater management. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared as part of the NPDES permit and onsite management practices will include erosion and sediment control BMPs such as silt fencing.

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. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.**

The project would utilize an existing well that provides water to the existing camp sites and that currently utilizes a 50 gallon per minute pump. Edgewater Bay does not anticipate any changes to the existing well or water usage and does not anticipate any environmental effects from water appropriation.

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. 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.**

Edgewater Bay does not anticipate any physical effects or alterations to wetlands as a result of this project. There are no wetlands present on the project site.

b) **Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) 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. 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.**

Edgewater Bay does not anticipate any physical effects or alterations to surface water features as a result of this project. There may be an increase in the number of and type of watercraft present on Lake Shetek and will vary by Camper. Watercraft numbers may increase by 75-85 total vessels, and will vary in kind but will likely include small boats such as fishing and pontoon style, as well as personal watercraft (e.g. jet skis). Lake Shetek is popular for recreation and home to over 600 lots and six state boat landings. The increase in new watercraft on Lake Shetek from the proposed campground expansion is relatively small and can be supported by the lake.

12. **Contamination/Hazardous Materials/Wastes:**
    a. **Pre-project site conditions - Describe existing contamination or potential environmental hazards on 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.**

The project area consists of existing campground and grassland. There are no known abandoned dumps, closed landfills, abandoned storage tanks, hazardous liquid or gas pipelines within the project area. The MPCA What's in My Neighborhood (WINM) dataset identified three properties with aboveground or underground tanks, and one petroleum leak site. Table 7 below shows that there are only two sites that are currently identified as being active: Carlson Corner and Shetek Marine, both of which have storage tanks, and their properties are within one half-mile of the project site.

Table 7: Hazardous properties within one-half mile of the site

ID Number	Owner Name	Location	Type	Status
TS0018532	Lakes Marine	2 Lake Shetek Dr	Aboveground Tanks	Inactive
LS0008984	Former Selman Mobil Gateway	County Road 48 & Highway 59	Petroleum Remediation - Leak Site	Inactive
TS0019972	Carlson Corner	11 Valhalla Rd	Undergrount Tanks	Active
TS0125958	Shetek Marine	33 Valhalla Dr	Aboveground Tanks	Active

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 solid waste including source reduction and recycling.

Renters who utilize new campsites will generate normal residential solid waste while they are staying at and using the campground. Consistent with its current practices for the existing campsites, Edgewater Bay will provide dumpsters to store such residential solid waste until it is picked up, removed, and processed by a commercial waste hauler. Edgewater Bay does not anticipate any environmental effects from solid waste handling, storage, or disposal as a result of this project.

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 above or below ground tanks to store petroleum or other materials. 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.

Edgewater Bay currently has a 500 gallon fuel storage tank located at the campground, which will not be altered, modified, or expanded as a result of this project.

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.

Edgewater Bay does not anticipate that hazardous wastes will be generated or stored as part of this project.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

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

The property is located near lake Shetek, which is a widely used recreational general development lake. Edgewater Bay has very little shoreline, with the majority of the campground located over 200 feet from the lake. The majority of this project will occur outside the Shoreland Overlay District of Lake Shetek. While Edgewater Bay only has 100 feet of shoreline, the lake is shallow and stocked by the Minnesota DNR with walleye, northern pike, and yellow perch. The lake is known to contain bullhead, crappie, bluegill, channel catfish, shiners, sunfish, and several other species (Lake Finder 2022). Shallow lakes provide desirable habitat for amphibians, invertebrates, and waterfowl (MN DNR 2022).

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County 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 (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

Edgewater Bay is not aware of any rare features within close proximity to the site, and this project will occur well over 200 feet from the shoreline of Lake Shetek.

Using the Minnesota DNR Conservation Explorer Tool (https://mce.dnr.state.mn.us/), Attachments 6 and 7: Conservation Planning Report and Natural Heritage Review for the Edgewater Bay Campground EAW, were requested and No features were found within the project area for the following: Minnesota Biological Survey (MBS) Sites of Biodiversity Significance; DNR Native Plant Communities; DNR Old Growth Stands; MN Prairie Conservation Plan; Important Bird Areas; Lakes of Biological Significance; or U.S. Fish and Wildlife Services Regulatory Layers. The report did, however, note that there is a calcareous fen in the Sarah Mason WMA in Section 33 of Mason Township, which is within five miles of the project site. There are no calcareous features on or adjacent to the project site and no impacts to groundwater are anticipated from the proposed project.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. 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.

In the Fall of 2022, Lake Shetek was listed as infested with Zebra Mussels. Nonetheless, Edgewater Bay does not anticipate that Lake Shetek will be materially affected by this project. While the project will increase the number of campers, many of whom may use Lake Shetek for boating, the project may also reduce the number of people who move boats from lake to lake and increase the risk that Zebra Mussels may be spread to new lakes. Edgewater Bay also understands that boaters who may use Lake Shetek will be notified of the infestation and advised of the necessary measures to prevent further spread of this invasive species.

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

Edgewater Bay does not anticipate any adverse effects to fish, wildlife, plant communities, or sensitive ecological resources from this project, since the expansion of campsites will occur over 600 feet from Lake Shetek.

14. **Historic properties:**
Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close 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.

Edgewater Bay is not aware of any historic structures, archeological sites, or traditional cultural properties located on, or in close proximity to, the project area. A request was submitted to the Minnesota State Historic Preservation Office (SHPO) in February 2023. Based on the results of the SHPO query, Edgewater Bay will have an evaluation of the project site conducted if required.

15. **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.

Edgewater Bay is not aware of any scenic views or vistas located on, or in close proximity to, the project area and does not anticipate that the project will result in any visual effects. The project area is just west and south of existing residential developments, and north and east of farm ground.

16. **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, and any greenhouse gases. 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.**

No potential stationary source emissions have been identified.

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.**

This proposed project will add 110 new campsites to Edgewater Bay's existing campground and activate all 28 inactive sites to bring the total number of campsites on the property to 310. Edgewater Bay anticipates that the new sites, once completed, will result in approximately 130 new vehicles entering the facility at the start of each weekend, and 130 new vehicles leaving the facility at the end of each weekend, during the normal 15-week camping season (approximately Memorial Day to Labor Day.) Outside of the normal 15-week camping season, some additional new traffic may occur, but the total amount will be significantly lower than traffic during the normal camping season. Edgewater Bay does not anticipate that the additional traffic will have a material impact on vehicle-related emissions or air quality.

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 16a). 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.**

Dust may be generated from traffic on roadways and driveways. Edgewater Bay regularly treats these surfaces as appropriate to reduce dust.

17. **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.

The proposed project will produce some additional noise, during a limited time period, but Edgewater Bay does not anticipate that this noise will be significant. The normal camping season is approximately 15 weeks and generally runs from Memorial Day to Labor Day, and the campground maintains quiet hours from 10:00 p.m. to 7:00 a.m. each day.

18. **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 alternative transportation modes.**

This proposed project will add 110 new sites and activate all 28 inactive campsites to Edgewater Bay's existing campground. Edgewater Bay anticipates that the new sites, once completed, will result in approximately 130 new vehicles entering the facility at the start of each weekend, and 130 new vehicles leaving the facility at the end of each weekend, during the normal 15-week camping season (approximately Memorial Day to Labor Day). Outside of the normal 15-week camping season, some additional new vehicle traffic may occur, but the total amount will be significantly lower than traffic during the normal camping season. Edgewater Bay does not anticipate that the additional traffic will have a material impact on traffic.

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,**

Edgewater Bay does not anticipate that the proposed project will have any material effect on traffic congestion. There are multiple entrances into the campground to reduce congestion in one location. There are four entrances on Lake Shetek Drive; one on County Road 13 – Valhalla Road; and one existing on 165th Avenue, a township gravel road. With this proposed project, one additional entrance will need to be added on 165th Avenue for the new campsites.

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

No transportation effects are anticipated from this project.

19. **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.**

The proposed project will be limited to a small site that is adjacent to an existing campground. Edgewater Bay does not anticipate any material project-related environmental effects.

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.

No future projects are known or reasonably anticipated at this time that may interact with environmental effects of the proposed 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.

No cumulative potential effects are anticipated from this project.

20. 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.

No other potential environmental effects have been identified.

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

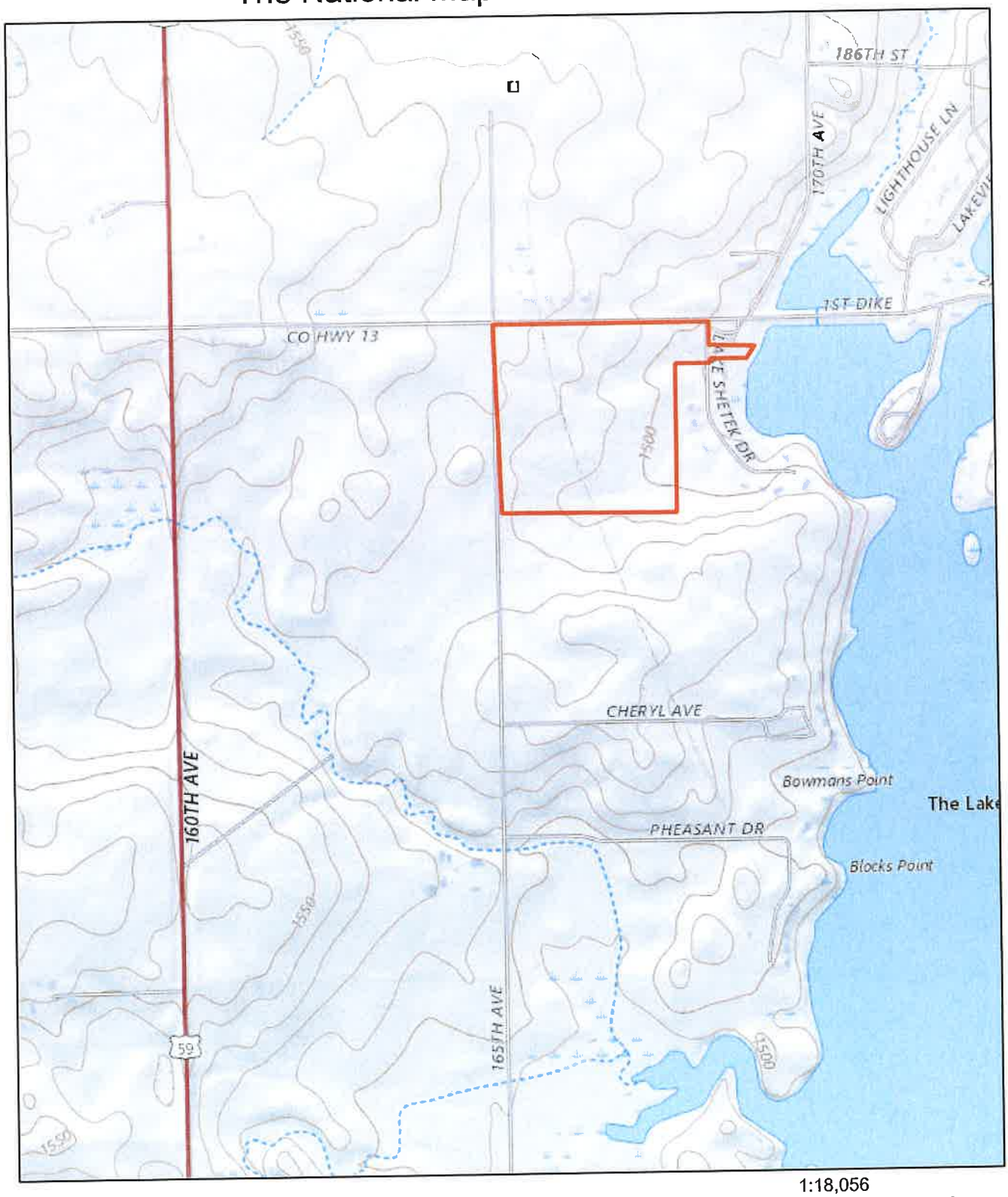
I hereby certify that:

- **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 Jean M. Christoffels **Date** March 14, 2023

Title Murray County Zoning/Environmental Administrator

The National Map Advanced Viewer



3/9/2023, 11:51:08 AM

1:18,056

0 500 1,000 2,000 ft

0 180 360 720 m

Override 1 Campground Boundary

Project Location
Edgewater Bay Campground - Murray County

Attachment 1

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 Transportation Dataset; USGS Global Ecosystems; U.S. Census

USGS
2021 USGS

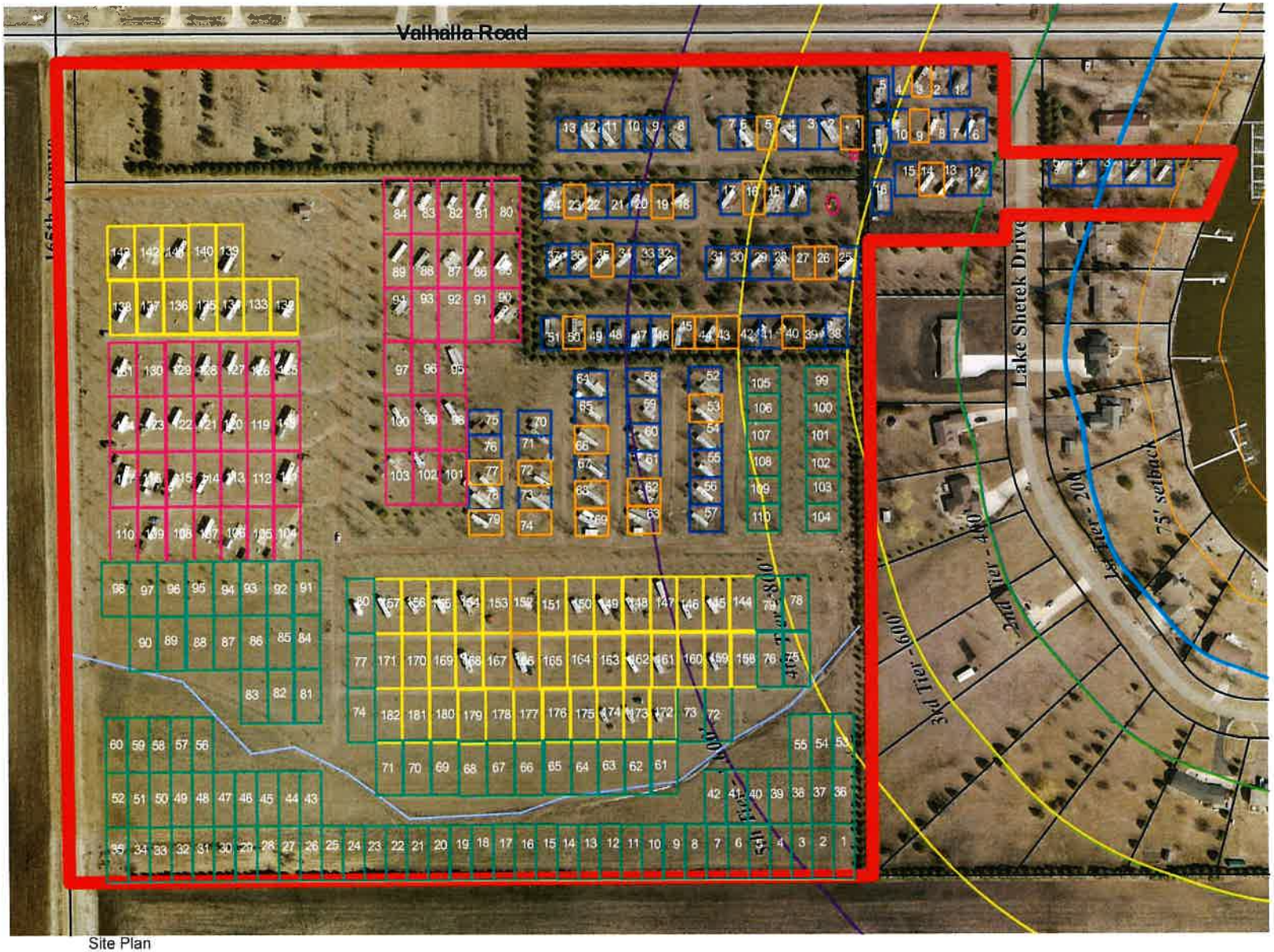
Edgewater Bay Campground EAW
Section 2, Mason Township - Murray County
Aerial Map of Site
March 2023

Acres Of Opportunity
MURRAY COUNTY
EST. 1857
MINNESOTA

Source: Murray Co. GIS Data
Prepared By: Murray Co. Environmental Office
Displayed Using: Murray Co. Coordinate System

N
W E
S

Aerial Map of Site
Edgewater Bay Campground - Murray County
Attachment 2



Site Plan
Edgewater Bay Campground - Murray County
Attachment 3

Edgewater Bay
Campground EAW
Section 2, Mason Township
March 14, 2023

From 2017 Expansion
In-active Sites
Active Sites
2017 Expansion
2020 Expansion
2023 Proposed Expansion

Campground
Property Boundary

μ

Acres Of Opportunity
MURRAY COUNTY
MINNESOTA

Source: Murray Co. GIS Data
Prepared By: Murray Co. Environmental Office
Displayed Using: Murray Co. Coordinate System

Soils Map
Edgewater Bay Campground – Murray County
Attachment 4-1

Soil Map—Murray County, Minnesota
(Edgewater Bay Campground)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Murray County, Minnesota
Survey Area Data: Version 22, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 9, 2021—Sep 15, 2021

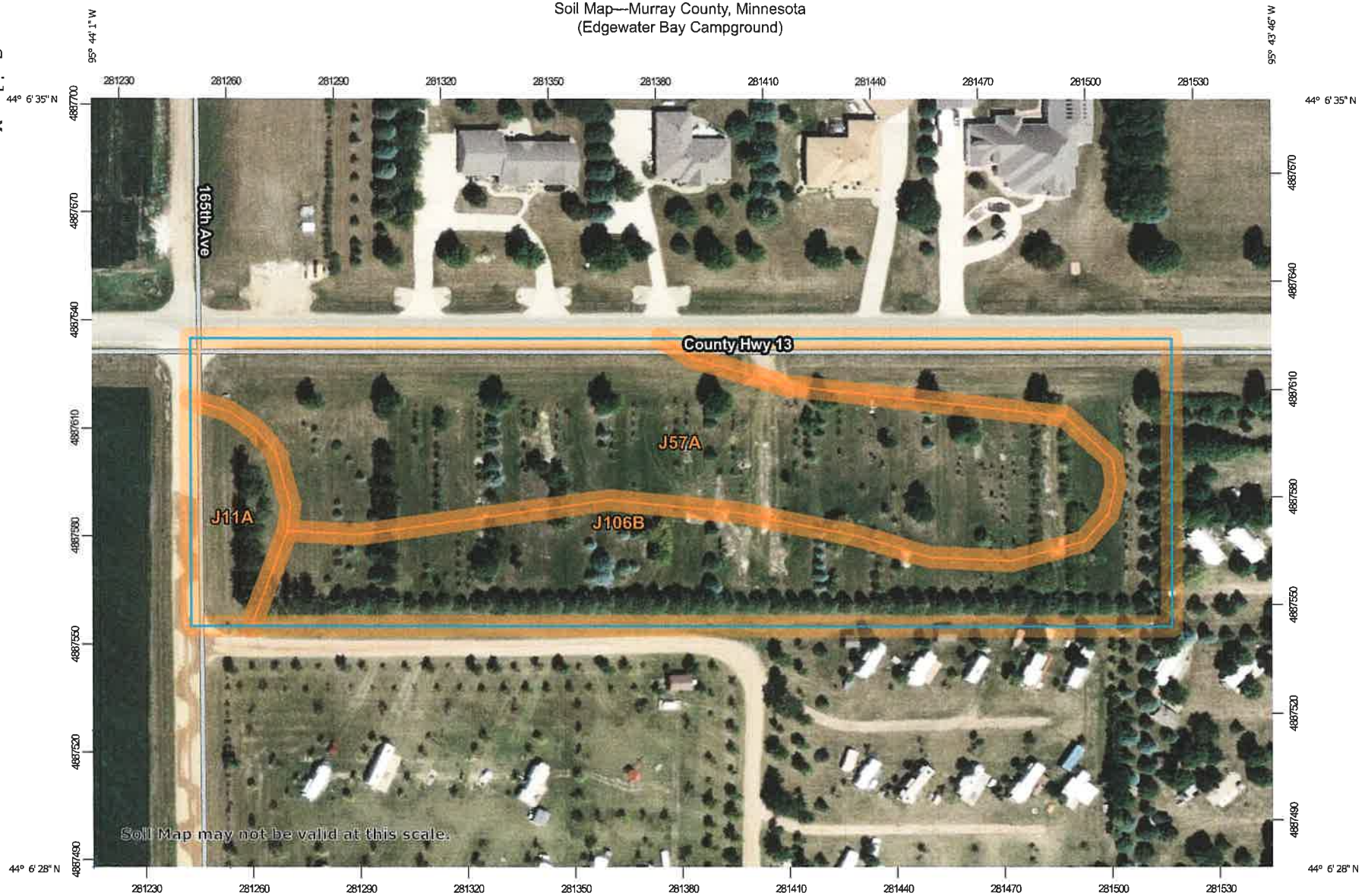
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	7.6	65.8%
J107A	Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes	3.9	34.2%
Totals for Area of Interest		**11.5**	**100.0%**

Soils Map
Edgewater Bay Campground - Murray County
Attachment 4-2

Soil Map---Murray County, Minnesota
(Edgewater Bay Campground)



Map Scale: 1:1,510 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 22, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 9, 2021—Sep 15, 2021

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
J11A	Vallers clay loam, 0 to 2 percent slopes	0.3	6.3%
J57A	Balaton loam, 1 to 3 percent slopes	2.7	49.4%
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	2.4	44.3%
Totals for Area of Interest		**5.4**	**100.0%**

Soils Map
Edgewater Bay Campground
Attachment 4-3

Soil Map—Murray County, Minnesota
(Edgewater Bay Campground)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Murray County, Minnesota
Survey Area Data: Version 22, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

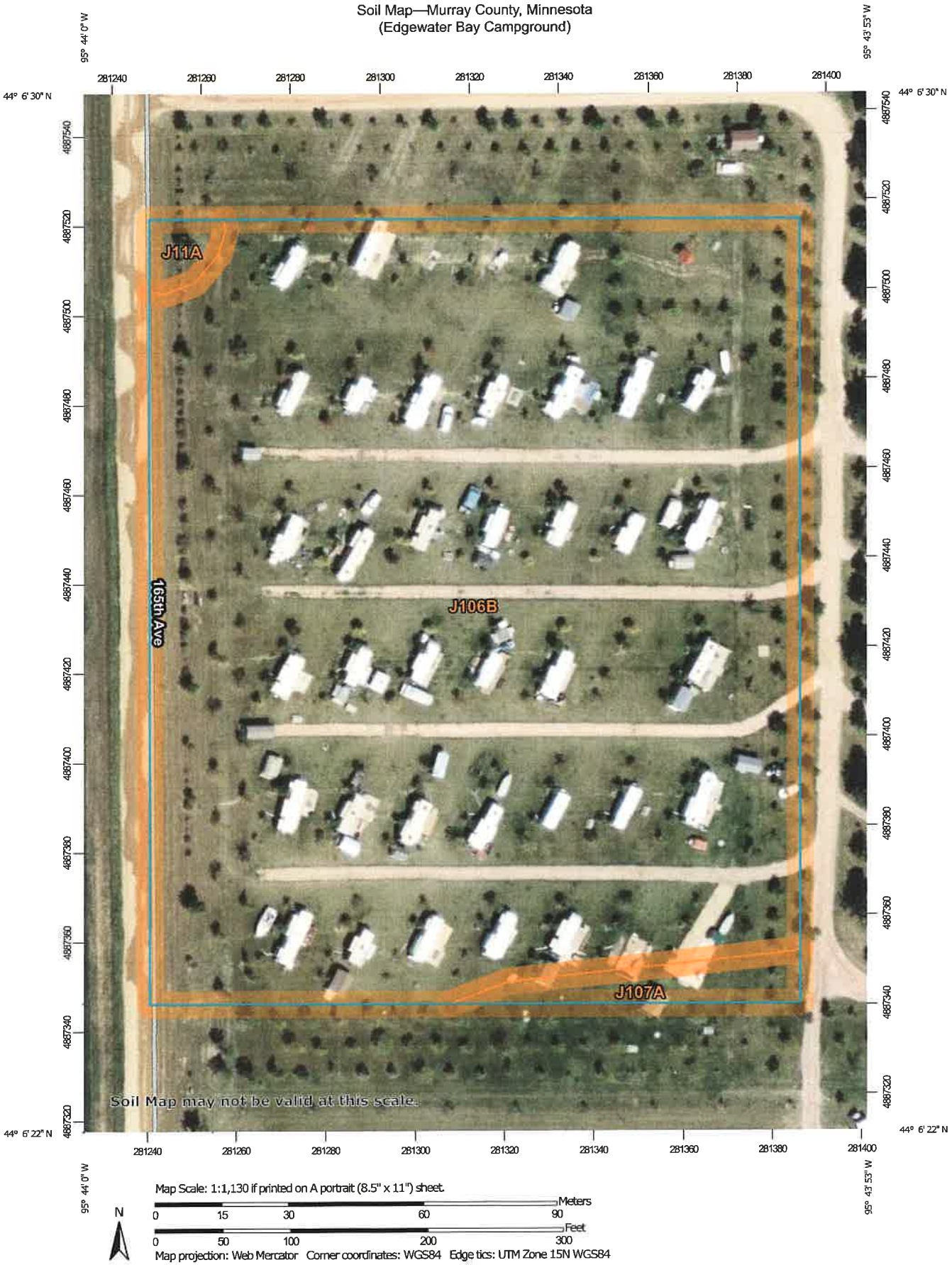
Date(s) aerial images were photographed: Aug 9, 2021—Sep 15, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	7.8	77.6%
J107A	Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes	2.3	22.4%
Totals for Area of Interest		**10.1**	**100.0%**

Soil Map—Murray County, Minnesota
(Edgewater Bay Campground)



Map Scale: 1:1,130 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

Soils Map
Edgewater Bay Campground - Murray County
Attachment 4-4

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Murray County, Minnesota
Survey Area Data: Version 22, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 9, 2021—Sep 15, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
J11A	Vallers clay loam, 0 to 2 percent slopes	0.1	0.9%
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	6.1	96.8%
J107A	Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes	0.1	2.3%
Totals for Area of Interest		**6.3**	**100.0%**

Soils Map
Edgewater Bay Campground - Murray County
Attachment 4-5

Soil Map—Murray County, Minnesota
(Edgewater Bay Campground)

Map Scale: 1:2,490 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
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Water Features
- Streams and Canals

Transportation
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- Interstate Highways
- US Routes
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- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Murray County, Minnesota
Survey Area Data: Version 22, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 9, 2021—Sep 15, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
J26B	Darnen loam, 2 to 6 percent slopes	0.6	2.9%
J57A	Balaton loam, 1 to 3 percent slopes	2.7	12.5%
J96C2	Barnes-Buse complex, 6 to 12 percent slopes, moderately eroded	0.2	0.8%
J101B	Hokans-Svea complex, 1 to 4 percent slopes	1.5	6.8%
J106B	Barnes-Buse-Svea complex, 1 to 6 percent slopes	5.2	23.9%
J107A	Lakepark-Roliss-Parnell, depressional, complex, 0 to 3 percent slopes	11.5	53.1%
Totals for Area of Interest		**21.6**	**100.0%**

Minnesota Unique Well Number

121151

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 04/13/1988
Update Date 04/12/2022
Received Date 08/13/1979

Well Name	Township	Range	Dir	Section	Subsection
MASUEN, A.J.	108	41	W	36	CCADAB

Elevation 1495 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 10TH CENTRAL AV LEMARS IA

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	2	BLACK	HARD
GRAVEL-SAND	2	10	YELLOW	SOFT
SAND	10	15	YELLOW	SOFT
GRAVEL	15	30	YELLOW	SOFT

Remarks

LAKE VIEW DEVELOPMENT.

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-1

Well Depth 30 ft. **Depth Completed** 25 ft. **Date Well Completed** 06/20/1979

Drill Method Power Auger **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☐ **Above/Below** 0 ft.

Casing Diameter	Weight
36 in. To 25 ft.	lbs./ft.

Open Hole From 25 ft. To 25 ft.

Screen? ☐ **Type** **Make**

Static Water Level

12 ft. land surface Measure 06/20/1979

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
neat cement	3	Cubic yards	0 ft.	10 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name

Model Number HP 0 Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat gravel (+larger)-yellow Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 282395 Y 4887881

Unique Number Verification Information from Input Date 01/01/1994

Angled Drill Hole

Well Contractor

Spartz & Sons Well	51066	SPARTZ, D
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

199476

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 06/18/1992
Update Date 04/22/2022
Received Date 12/17/1991

Well Name	Township	Range	Dir	Section	Subsection
BLOEMENDAHL,	107	41	W	1	BDABAD

Elevation 1493 **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

C/W RR 2 BOX 52 SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	3	BLACK	MEDIUM
CLAY	3	20	YELLOW	MEDIUM

Remarks

Well Log
Edgewater Bay Campground
Attachment 5-2

Well Depth 30 ft. **Depth Completed** 30 ft. **Date Well Completed** 11/25/1991

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below** 2 ft.

Casing Diameter	Weight	Hole Diameter
5 in. To 20 ft.	lbs./ft.	9 in. To 30 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** CRESLINE

Diameter	Slot/Gauze	Length	Set
5 in.	35	10 ft.	20 ft. 30 ft.

Static Water Level
11 ft. land surface Measure 11/25/1991

Pumping Level (below land surface)
16 ft. 4 hrs. Pumping at 15 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		0 ft.	18 ft.

Nearest Known Source of Contamination
80 feet East Direction Sewer Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 11/25/1991
Manufacturer's name GOULDS
Model Number 10EJ05 HP 0.5 Volt 230
Length of drop pipe ft Capacity 15 g.p. Typ Piston

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-yellow Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 282742 Y 4887129
Unique Number Verification Information from Input Date 01/11/2022

Angled Drill Hole

Well Contractor
Clauson Well Co. 51196 CLAUSON, A.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

199737

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 01/01/1980
Update Date 05/25/2022
Received Date 12/00/1987

Well Name	Township	Range	Dir Section	Subsection
FISCHER,	107	41	W 1	BADCDD

Elevation 1499 **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

C/W RR 2 SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	4	BLACK	MEDIUM
SAND	4	23	BROWN	MEDIUM
CLAY	23	121	BLUE	MEDIUM
SANDY CLAY	121	137	BLUE	MEDIUM
SAND	137	140	GRAY	MEDIUM

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-3

Well Depth 140 ft. **Depth Completed** 140 ft. **Date Well Completed** 04/24/1981

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter 6 in. To 137 ft. **Weight** 19.4 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
6 in.	40	3 ft.	137 ft.	140 ft.

Static Water Level
31 ft. land surface Measure 04/24/1981

Pumping Level (below land surface)
39 ft. 3 hrs. Pumping at 10 g.p.m.

Wellhead Completion
Pitless adapter manufacturer BAKER Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination
90 feet North Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 04/27/1981
Manufacturer's name GOULDS
Model Number 10EJ HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 15 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 282727 Y 4887186
Unique Number Verification Information from Input Date 05/11/2022

Angled Drill Hole

Well Contractor
Clauson Well Co. 51196 CLAUSON, R.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

427770

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 11/13/1990
Update Date 05/25/2022
Received Date 01/03/1988

Well Name	Township	Range	Dir	Section	Subsection
VAHALLA	107	41	W	1	ABBCDA

Elevation 1495 Elev. Method LiDAR 1m DEM (MNDNR)

Address

C/W PIPESTONE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	1	BLACK	HARD
ROCK CLAY	1	10	YELLOW	HARD
CLAY	10	16	YELLOW	HARD
GRAVEL	16	18	YELLOW	SOFT
CLAY	18	22	YELLOW	HARD
CLAY	22	44	GRAY	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-4

Well Depth 44 ft. **Depth Completed** 40 ft. **Date Well Completed** 11/15/1987

Drill Method Power Auger **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below** 2 ft.

Casing Diameter	Weight
36 in. To 19 ft.	lbs./ft.
30 in. To 40 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☐ **Type** **Make**

Static Water Level
16 ft. land surface Measure 11/15/1987

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
neat cement	2	Cubic yards	0 ft.	10 ft.

Nearest Known Source of Contamination
100 feet East Direction Other Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name RED JACKET
Model Number 50 CN9BC HP 0.5 Volt 230
Length of drop pipe 35 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat clay-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 282951 Y 4887412
Unique Number Verification Information from Input Date 05/11/2022

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Spartz & Sons Well	51066	SPARTZ, D

Minnesota Unique Well Number

464484

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 06/24/1991
Update Date 11/01/2022
Received Date 10/15/1990

Well Name	Township	Range	Dir	Section	Subsection
COLMAN	107	41	W	1	BACADC

Elevation 1501 **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact COLMAN SD

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	3	BLACK	HARD
GRAVEL, ROCKS, &	3	10	YELLOW	HARD
CLAY	10	18	YELLOW	HARD
CLAY	18	75	GRAY	HARD
SANDY CLAY	75	78	GRAY	SOFT
CLAY	78	87	GRAY	HARD
GRAVEL	87	93	GRAY	SOFT

Remarks

THOMPSON ADDN LOTS 4&5

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-5

Well Depth 93 ft. **Depth Completed** 93 ft. **Date Well Completed** 07/06/1990

Drill Method Power Auger **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter			Weight
30	in. To	93 ft.	lbs./ft.
36	in. To	78 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☐ **Type** **Make**

Static Water Level

45 ft. land surface Measure 07/06/1990

Pumping Level (below land surface)

60 ft. 1 hrs. Pumping at 100 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
neat cement	4	Cubic yards	0 ft.	30 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer

Last Strat Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 282619 Y 4887300

Unique Number Verification Info/GPS from data Input Date 05/11/2022

Angled Drill Hole

Well Contractor

Spartz & Sons Well 51066 SPARTZ, D.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

491770

County Murray
Quad
Quad ID

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

Entry Date 07/28/1993
Update Date 11/01/2022
Received Date 03/31/1993

Well Name	Township	Range	Dir	Section	Subsection
EDGEWATER	107	41	W	2	AAD

Elevation: Elev. Method:

Address
C/W SLAYTON MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	3	BLACK	SOFT
CLAY	3	20	YELLOW	SOFT
CLAY	20	80	GRAY	HARD
SAND	80	84	GRAY	SOFT
CLAY	84	170	GRAY	HARD
SANDY CLAY	170	180	GRAY	SOFT
CLAY	180	200	GRAY	HARD
SANDY CLAY	200	210	GRAY	SOFT

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-6

Well Depth	Depth Completed	Date Well Completed
210 ft.	200 ft.	04/02/1992

Drill Method: Power Auger
Drill Fluid:

Use: domestic
Status: Active

Well Hydrofractured? Yes ☐ No ☐ From To

Casing Type: Joint
Drive Shoe? Yes ☐ No ☒ Above/Below: 2 ft.

Casing Diameter		Weight	
36	in. To 140 ft.	250	lbs./ft.
24	in. To 200 ft.	180	lbs./ft.
30	in. To 170 ft.	200	lbs./ft.

Open Hole From ft. To ft.
Screen? ☐ Type Make

Static Water Level
10 ft. land surface Measure 04/02/1992

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
neat cement	4	Cubic yards	0 ft.	15 ft.

Nearest Known Source of Contamination
150 feet East Direction Other Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by
Locate Method
System UTM - NAD83, Zone 15, Meters X Y
Unique Number Verification Input Date

Angled Drill Hole

Well Contractor
Spartz & Sons Well 51066 SPRATZ, D.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

605218

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 08/14/2001
Update Date 11/01/2022
Received Date 01/19/1999

Well Name	Township	Range	Dir	Section	Subsection
BOSACKER,	108	41	W	36	CCDABD

Elevation 1488 Elev. Method LiDAR 1m DEM (MNDNR)

Address

C/W 124 VAHALLA RD SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	2	BLACK	HARD
CLAY	2	16	YELLOW	HARD
CLAY	16	218	GRAY	HARD
GRAVEL	218	230	GRAY	

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-7

Well Depth 230 ft. **Depth Completed** 230 ft. **Date Well Completed** 09/02/1998

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Unknown
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter 5 in. To 220 ft. **Weight** lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
5 in.	20	10 ft.	220 ft.	230 ft.

Static Water Level
0 ft. land surface Measure 09/02/1998

Pumping Level (below land surface)
10 ft. 10 hrs. Pumping at 15 g.p.m.

Wellhead Completion
Pitless adapter manufacturer YES Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		0 ft.	210 ft.

Nearest Known Source of Contamination
150 feet East Direction Body of water Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/25/1998
Manufacturer's name RED JACKET
Model Number CN9BC HP 0.5 Volt 230
Length of drop pipe 100 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 282402 Y 4887763
Unique Number Verification Info/GPS from data Input Date 05/11/2022

Angled Drill Hole

Well Contractor
Spartz & Sons Well 51066 SPARTZ, D.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

605236

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 03/13/2000
Update Date 04/25/2022
Received Date 11/29/1999

Well Name	Township	Range	Dir	Section	Subsection
REISDORFER,	108	41	W	35	DCDCBC

Elevation 1529 **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 36 PLEASANT VIEW RD SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	3	BLACK	HARD
CLAY	3	24	YELLOW	HARD
CLAY	24	190	GRAY	HARD
SAND	190	210	YELLOW	SOFT
CLAY	210	229	GRAY	HARD
CLAY	229	240	YELLOW	HARD
CLAY	240	511	GRAY	HARD
SAND	511	540	GRAY	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-8

Well Depth 540 ft. **Depth Completed** 540 ft. **Date Well Completed** 09/15/1999

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Step down **Joint** Unknown
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
5	in. To 330 ft.	lbs./ft.
5	in. To 190 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	8 ft.	530 ft.	538 ft.

Static Water Level
97 ft. land surface Measure 09/15/1999

Pumping Level (below land surface)
99 ft. 4 hrs. Pumping at 10 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		6 ft.	230 ft.

Nearest Known Source of Contamination
75 feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/15/1999
Manufacturer's name RED JACKET
Model Number 75CN12BC HP 0.75 Volt 230
Length of drop pipe 200 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer
Last Strat Depth to Bedrock 240 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 281455 Y 4887694
Unique Number Verification Information from Input Date 01/11/2022

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Spartz & Sons Well	51066	SPARTZ, D.

Minnesota Unique Well Number

680909

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 03/11/2003
Update Date 02/04/2022
Received Date 01/26/2003

Well Name	Township	Range	Dir	Section	Subsection
ONKEN, DOLLY	107	41	W	2	AADDDA

Elevation 1497 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 33 LAKE SHETEK DR SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	19	YELLOW	HARD
CLAY	19	160	GRAY	HARD
CLAY	160	185	YELLOW	HARD
CLAY	185	200	GRAY	HARD
SANDY CLAY	200	240	GRAY	SOFT
CLAY	240	365	GRAY	HARD
SAND	365	410	GRAY	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-9

Well Depth 410 ft. **Depth Completed** 407 ft. **Date Well Completed** 12/24/2002

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Step down **Joint** Unknown

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
5	in. To 397 ft.	lbs./ft.
5	in. To 200 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3 in.	20	10 ft.	397 ft.	407 ft.

Static Water Level

90 ft. land surface Measure 12/24/2002

Pumping Level (below land surface)

90 ft. 1 hrs. Pumping at 20 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MONITOR Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	200 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/24/2002

Manufacturer's name RED JACKET

Model Number CN12BC HP 0.75 Volt 230

Length of drop pipe 200 ft Capacity 15 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Cretaceous undiff. Aquifer Cretaceous,

Last Strat Cretaceous undiff. Depth to Bedrock 240 ft

Located by Minnesota Department of Health

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 282031 Y 4887234

Unique Number Verification Other, note in Input Date 12/03/2002

Angled Drill Hole

Well Contractor

Spartz & Sons Well 51066 SPARTZ, D

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

680912

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 03/11/2003
Update Date 04/12/2022
Received Date 01/27/2003

Well Name	Township	Range	Dir	Section	Subsection
MEYERS, JOAN	108	41	W	35	CCBCDA

Elevation 1572 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 1812 59 UH SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	2	BLACK	HARD
CLAY	2	16	YELLOW	HARD
CLAY	16	30	GRAY	HARD
GRAVEL	30	45	GRAY	SOFT
CLAY	45	150	GRAY	HARD
SAND DIRTY	150	155	GRAY	SOFT
CLAY	155	170	GRAY	HARD
GRAVEL	170	193	GRAY	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-10

Well Depth 193 ft. **Depth Completed** 189 ft. **Date Well Completed** 09/26/2002

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Unknown
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter 5 in. To 184 ft. **Weight** lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	40	5 ft.	184 ft.	189 ft.

Static Water Level 80 ft. land surface Measure 09/19/2002

Pumping Level (below land surface) 80 ft. 2 hrs. Pumping at 10 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	160 ft.

Nearest Known Source of Contamination
125 feet Southwes Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name OLD PUMP RED JACKET
Model Number HP 0.5 Volt 230
Length of drop pipe 100 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat gravel (+larger)-gray Depth to Bedrock ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 280536 Y 4887904
Unique Number Verification Input Date 12/03/2002

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Spartz & Sons Well	51066	SPARTZ, D

Minnesota Unique Well Number

680934

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 11/06/2003
Update Date 01/23/2009
Received Date 01/28/2004

Well Name	Township	Range	Dir	Section	Subsection
HOVDET, BRAD	107	41	W	2	AADCCB

Elevation 1492 Elev. Method 7.5 minute topographic map (+/- 5 feet)

Address

C/W 16 LAKE SHETEK DR SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	1	BLACK	HARD
CLAY	1	12	YELLOW	HARD
CLAY	12	240	GRAY	HARD
CLAY	240	357	GRAY	HARD
GRAVEL	357	400		HARD
CLAY	400	400		

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-11

Well Depth 400 ft. **Depth Completed** 400 ft. **Date Well Completed** 10/10/2003

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ From To

Casing Type Step down **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
5 in. To 390 ft.		lbs./ft.
5 in. To 230 ft.		lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	10 ft.	390 ft.	400 ft.

Static Water Level
55 ft. land surface Measure 10/10/2003

Pumping Level (below land surface)
60 ft. 1 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	200 ft.

Nearest Known Source of Contamination
0 feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/10/2003
Manufacturer's name RED JACKET
Model Number CN12BC HP 0.75 Volt 230
Length of drop pipe 100 ft Capacity 15 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Cretaceous undiff. Aquifer Cretaceous,
Last Strat Cretaceous undiff. Depth to Bedrock 240 ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 281857 Y 4887244
Unique Number Verification Input Date 10/02/2003

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Spartz & Sons Well	51066	SPARTZ, D.

Minnesota Unique Well Number

680942

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 05/20/2004
Update Date 01/28/2009
Received Date 11/24/2004

Well Name	Township	Range	Dir	Section	Subsection
KUEHL,	107	41	W	2	DAACAA

Elevation 1521 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 1738 165TH AV SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	3	BLACK	HARD
CLAY	3	19	YELLOW	HARD
CLAY	19	135	GRAY	HARD
CLAY	135	145	YELLOW	HARD
CLAY	145	210	GRAY	HARD
CLAY	210	240	YELLOW	HARD
CLAY	240	395	GRAY	HARD
SAND	395	450	GRAY	HARD
CLAY	450	450		

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-12

Well Depth 450 ft. **Depth Completed** 450 ft. **Date Well Completed** 05/10/2004

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**
6 in. To 430 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	25	20 ft.	430 ft.	450 ft.

Static Water Level
160 ft. land surface Measure 05/10/2004

Pumping Level (below land surface)
160 ft. 2 hrs. Pumping at 40 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	200 ft.

Nearest Known Source of Contamination
250 feet East Direction Body of water Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/15/2004
Manufacturer's name RED JACKET
Model Number CN11CC HP 1.5 Volt 230
Length of drop pipe 200 ft Capacity 20 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Cretaceous undiff. Aquifer Cretaceous,
Last Strat Cretaceous undiff. Depth to Bedrock 240 ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 281920 Y 4886680
Unique Number Verification Input Date 05/17/2004

Angled Drill Hole

Well Contractor
Spartz & Sons Well 51066 SPARTZ, D
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

744741

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 07/06/2007
Update Date 03/13/2015
Received Date 10/18/2007

Well Name	Township	Range	Dir	Section	Subsection
BAY PORT COVE 108		41	W	35	DDDBCB

Elevation 1511 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 17 BAY PORT COVE SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	2	BLACK	HARD
CLAY	2	12	YELLOW	HARD
CLAY	12	95	GRAY	HARD
SANDY CLAY	95	100	GRAY	SOFT
CLAY	100	460	GRAY	HARD
CLAY SANDY	460	480	GRAY	SOFT
CLAY	480	555	GRAY	HARD
CLAY SANDY	555	596	GRAY	SOFT
SAND-STONE	596	610	PINK	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-13

Well Depth 610 ft. **Depth Completed** 610 ft. **Date Well Completed** 06/14/2007

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Step down **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter			Weight
5	in. To	240 ft.	lbs./ft.
5	in. To	600 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3 in.	12	10 ft.	600 ft.	610 ft.

Static Water Level
60 ft. land surface Measure 06/14/2007

Pumping Level (below land surface)
60 ft. 12 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	500 ft.

Nearest Known Source of Contamination
125 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 06/10/2007
Manufacturer's name GOULDS
Model Number 25GL20 HP 2 Volt 230
Length of drop pipe 120 ft Capacity 25 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Sioux Quartzite Aquifer Sioux Quartzite
Last Strat Sioux Quartzite Depth to Bedrock 596 ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 281864 Y 4887753
Unique Number Verification Input Date 06/01/2007

Angled Drill Hole

Well Contractor
Spartz and Sons Well Co. 1413 SPARTZ, D.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

769712

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 10/28/2009
Update Date 05/20/2022
Received Date 01/13/2010

Well Name	Township	Range	Dir Section	Subsection
KOOIMAN,	108	41	W 36	CCABBB

Elevation 1494 **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 4500 TECHNOLOGY DR S SIOUX FALLS SD 57106

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL SANDY-CLAY	0	20	YELLOW	SOFT
CLAY	20	320	GRAY	HARD
SANDY-CLAY	320	340	GRAY	SOFT
CLAY	340	400	GRAY	SOFT
SHALE	400	415	GRAY	HARD
GRAVEL	415	440		HARD
CLAY	440	440		

Remarks

SHOWN IN DIAGRAM TO BE LOCATED OFF OF LIGHT HOUSE LANE
TOM STEFFLE MDH APPROVED SITE BEFORE WELL DRILLED

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-14

Well Depth	Depth Completed	Date Well Completed
440 ft.	440 ft.	10/30/2009

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**
5 in. To 220 ft. lbs./ft.
5 in. To 420 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3 in.	20	20 ft.	420 ft.	440 ft.

Static Water Level
70 ft. land surface Measure 10/30/2009

Pumping Level (below land surface)
70 ft. 2 hrs. Pumping at 50 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft. 400	ft.

Nearest Known Source of Contamination
50 feet West Direction Body of water Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/20/2009
Manufacturer's name GOULDS
Model Number 33GS50 HP 5 Volt 230
Length of drop pipe 300 ft Capacity 40 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat clay Depth to Bedrock ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 282290 Y 4887980
Unique Number Verification Info/GPS from data Input Date 08/26/2009

Angled Drill Hole

Well Contractor
Spartz and Sons Well Co. 1413 SPARTZ, D.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

805511

County Murray
Quad Currie
Quad ID 62C

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

Entry Date 02/07/2017
Update Date 05/19/2022
Received Date 12/14/2016

Well Name	Township	Range	Dir	Section	Subsection
EDGEWATER	107	41	W	2	AACADB

Elevation 1488 **Elev. Method** LiDAR 3m DEM (MNDNR)

Address

Contact 12 LAKE SHETEK DR SLAYTON MN 56172
Well 14 LAKE SHETEK DR SLAYTON MN 56172

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	3	BLACK	HARD
CLAY	3	22	YELLOW	HARD
CLAY	22	162	GRAY	HARD
SAND	162	165	GRAY	SOFT
CLAY	165	179	GRAY	HARD
GRAVEL	179	185	GRAY	HARD
LENSE SAND	185	200	GRAY	HARD
SEA MUD	200	216	GRAY	SOFT
CLAY	216	345	GRAY	HARD
SANDY CLAY	345	370	GRAY	HARD
SAND	370	395	GRAY	HARD
CLAY	395	395	GRAY	HARD

Remarks

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-15

Well Depth 395 ft. **Depth Completed** 389 ft. **Date Well Completed** 11/23/2016

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
5	in. To 374 ft.	lbs./ft.
5	in. To 194 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
3 in.	20	15 ft.	374 ft.	389 ft.

Static Water Level
50 ft. land surface Measure null

Pumping Level (below land surface)
100 ft. 72 hrs. Pumping at 40 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft. 370	ft.

Nearest Known Source of Contamination
125 feet North Direction Sewer Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☐ Not Installed Date Installed 11/23/2016
Manufacturer's name GOULDS
Model Number 18GS30 HP 3 Volt 230
Length of drop pipe 180 ft Capacity 40 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat clay-gray Depth to Bedrock ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 281817 Y 4887357
Unique Number Verification Info/GPS from data Input Date 10/07/2016

Angled Drill Hole

Well Contractor
Spartz and Sons Well Co. 1413 SPARTZ, T
Licensee Business Lic. or Reg. No. Name of Driller

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING CONSTRUCTION RECORD

Minnesota Statutes, chapter 103I

MINNESOTA UNIQUE WELL AND BORING NO. 844560

WELL OR BORING LOCATION

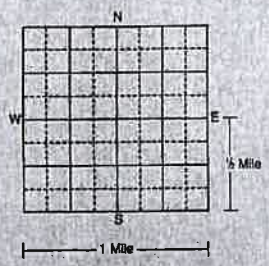
County Name: Murray

Township Name	Township No.	Range No.	Section No.	Fraction (sm. → lg.)
Mason	107	41	02	NWNWNW ¼

GPS LOCATION — decimal degrees (to four decimal places). Latitude _____ Longitude _____

House Number, Street Name, City, and ZIP Code of Well Location: 75 165th Av Slayton Mn 56172

Show exact location of well/boring in section grid with "X." Sketch map of well/boring location. Showing property lines, roads, buildings, and direction.



PROPERTY OWNER'S NAME/COMPANY NAME: Jeff Barstad

Property owner's mailing address if different than well location address indicated above.

6 Pheasant Drive

Slayton Mn 56172

WELL OWNER'S NAME/COMPANY NAME

Well/boring owner's mailing address if different than property owner's address indicated above.

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Top Soil	Black	hard	0	1
clayellow sandy	yellow	soft	1	28
Clay	gray	hard	28	167
sand	gray	soft	167	169
Clay	yellow	hard	169	210
clay	gray	hard	210	217
sand	yellow	soft	217	220
clay	gray	hard	220	276
sand	gray	hard	276	277
clay	gray	hard	277	381
sand course	gray	hard	381	385
clay	gray	hard	385	495
dand	gray	hard	495	525
clay	gray	hard	525	526

Use a second sheet, if needed.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

Well Log
Edgewater Bay Campground - Murray County
Attachment 5-16

LOCAL COPY 844560

WELL/BORING DEPTH (completed): 523 ft. DATE WORK COMPLETED: 7-14-20

DRILLING METHOD: ☐ Cable Tool ☐ Auger ☐ Other ☐ Driven ☒ Rotary ☐ Dual Rotary ☐ Rotasonic

DRILLING FLUID

WELL HYDROFRACTURED? ☐ Yes ☐ No From _____ ft. To _____ ft.

USE: ☐ Domestic ☒ Noncommunity PWS ☐ Community PWS ☐ Elevator ☐ Monitoring ☐ Irrigation ☐ Dewatering ☐ Heating/Cooling ☐ Industry/Commercial ☐ Remedial ☐ _____

CASING MATERIAL: ☐ Steel ☒ Plastic Drive Shoe? ☐ Yes ☐ No ☐ Threaded ☐ Welded ☐ _____

HOLE DIAM.

CASING Diameter		Weight	Specifications	HOLE DIAM.
5 in. To 208 ft.		SDR21 lbs./ft.		in. To ft.
5 in. To 508 ft.		SDR17 lbs./ft.		in. To ft.
in. To ft.		lbs./ft.		in. To ft.

SCREEN Make Johnson Type SS Slot/Gauze 15 Set between 508 ft. and 523 ft.

OPEN HOLE From ft. To ft.

Diam. 3 Length 15 FITTINGS tele

STATIC WATER LEVEL 100 ft. ☒ Below ☐ Above land surface Date measured ~~100~~ 7-14-20 Dry hole ☐ Yes ☐ No

PUMPING LEVEL (below land surface) 160 ft. after 5 hrs. pumping 50+ g.p.m.

WELLHEAD COMPLETION: ☒ Pitless/adapter manufacturer Monitor Model _____ ☐ Casing protection ☐ 12 in. above grade ☐ At-grade ☐ Well House ☐ Hand Pump

GROUT INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other)

Material benotite From 0 To 505 ft. _____ ☐ Yds. ☐ Bags

Material _____ From _____ To _____ ft. _____ ☐ Yds. ☐ Bags

Material _____ From _____ To _____ ft. _____ ☐ Yds. ☐ Bags

Driven casing seal From _____ To _____ Bags

One bag = 94 lbs. cement or 50 lbs. bentonite

NEAREST KNOWN SOURCE OF CONTAMINATION: Well is 100 feet S direction from Sewer Line type

Well disinfected upon completion? ☒ Yes ☐ No

PUMP: ☐ Not Installed Date installed 7-01-20

Manufacturer's name Goulds

Model Number 65GS50 HP 5 Volts 230 3# Length of drop pipe 200 ft. Capacity 50 g.p.m.

Type: ☒ Submersible ☐ L.S. Turbine ☐ Reciprocating ☐ Jet ☐ _____

ABANDONED WELLS: Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

VARIANCE: Was a variance granted from the MDH for this well? ☐ Yes ☒ No TN# _____

WELL CONTRACTOR CERTIFICATION

This well was drilled under my supervision and in accordance with Minnesota Rules, chapter 4725. The information contained in this report is true to the best of my knowledge.

Spartz Well Co — Licensee Business Name — 1413 — Lic. or Reg. No.

Certified Representative Signature — 541 — Certified Rep. No. — 8-28-20 — Date

Tom Spartz — Name of Driller

HE-01205-18 (Rev. 4/18)

ID #52003

DEPARTMENT OF NATURAL RESOURCES

Conservation Planning Report: Edgewater Bay Campground EAW

This document is intended for planning purposes only for the area of interest defined by the user. The report identifies ecologically significant areas documented within the defined area of interest plus any additional search distance indicated below. These ecologically significant areas can be viewed in the Explore Tab of the Minnesota Conservation Explorer. Please visit MN Geospatial Commons for downloadable GIS data.

This document does not meet the criteria for a Natural Heritage Review. If a Natural Heritage Review is needed, please define an Area of Interest in the Explore Tab and click on the Natural Heritage Review option.

This document does not include known occurrences of state-listed or federally listed species.

MBS Sites of Biodiversity Significance

Search distance = 330 feet

Minnesota Biological Survey (MBS) Sites of Biodiversity Significance are areas with varying levels of native biodiversity that may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations. A Biodiversity Significance Rank is assigned on the basis of the number of rare species, the quality of the native plant communities, size of the site, and context within the landscape. MBS Sites are ranked Outstanding, High, or Moderate. Areas ranked as Below were found to be disturbed and are retained in the layer as negative data. These areas do not meet the minimum biodiversity threshold for statewide significance but 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. The DNR recommends avoidance of MBS Sites of Biodiversity Significance ranked High or Outstanding.

Wetlands within MBS Sites of Outstanding or High Biodiversity Significance may be considered Rare Natural Communities under the Wetland Conservation Act. For technical guidance on Rare Natural Communities, please visit WCA Program Guidance and Information.

For more information please visit MBS Sites of Biodiversity Significance.

SEARCH RESULTS: No features were found within the search area.

DNR Native Plant Communities

Search distance = 330 feet

A native plant community is a group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. These groups of native plant species form recognizable units, such as oak savannas, pine forests, or marshes, that tend to repeat over space and time. Native plant communities are classified and described by considering vegetation, hydrology, landforms, soils, and natural disturbance regimes.

DNR Native Plant Community types and subtypes are given a Conservation Status Rank that reflects the relative rarity and endangerment of the community type in Minnesota. Conservation Status Ranks range from S1 (critically imperiled) to S5 (secure, common, widespread, and abundant). Native plant communities with a Conservation Status Rank of S1 through S3 are considered rare in the state. The DNR recommends avoidance of rare native plant communities.

Wetland native plant communities with a conservation status rank of S1 through S3 may also be considered Rare Natural Communities under the Wetland Conservation Act. For technical guidance on Rare Natural Communities, please visit WCA Program Guidance and Information.

DNR Native Plant Communities may be given a Condition Rank that reflects the degree of ecological integrity of a specific occurrence of a native plant community. The Condition Rank is based on species composition, vegetation structure, ecological processes and functions, level of human disturbance, presence of exotic species, and other factors. Condition Ranks range from A-rank (excellent ecological integrity) to D-rank (poor ecological integrity. A Condition Rank of NR means Not Ranked and a Condition Rank of MULTI mean multiple ranks are present because the record is a native plant community complex.

For more information please visit Minnesota's Native Plant Communities.

SEARCH RESULTS: No features were found within the search area.

Calcareous Fens

Search distance = 5 miles

A calcareous fen is a rare and distinctive peat-accumulating wetland that is legally protected in Minnesota under the Wetland Conservation Act. Many of the unique characteristics of calcareous fens result from the upwelling of groundwater through calcareous substrates. Because of this dependence on groundwater hydrology, calcareous fens can be affected by nearby activities or even those several miles away. For more information regarding calcareous fens, please see the Calcareous Fen Fact Sheet or review the List of Known Calcareous Fens.

The following Calcareous Fens are within the search area:

Fen Site Name	Fen ID	TRS
Sarah Mason WMA	46599	108N041W - 33

DNR Old Growth Stands

Search distance = 330 feet

Old-growth forests are natural forests that have developed over a long period of time, generally at least 120 years, without experiencing severe, stand-replacing disturbances such as fires, windstorms, or logging. Old-growth forests are a unique, nearly vanished piece of Minnesota's history and ecology; less than 4% of Minnesota's old-growth forests remain. The DNR recommends avoidance of all DNR Old Growth Stands. The following DNR Old Growth Stands have been documented within the search area.

SEARCH RESULTS: No features were found within the search area.

MN Prairie Conservation Plan

Search distance = 330 feet

The Minnesota Prairie Conservation Plan, a twenty-five year strategy for accelerating prairie conservation in the state, identifies Core Areas, Corridors, and Corridor Complexes as areas to focus conservation efforts. The Plan's strategies include protection, enhancement, and restoration of grassland and wetland habitat. To meet the Plan's goals, approaches within Core Areas will need to include restoration and approaches within Corridors will need to include conservation of grassland habitat which can provide stepping stones between larger Core Areas.

SEARCH RESULTS: No features were found within the search area.

Important Bird Areas

Search distance = 1 mile

Important Bird Areas, identified by Audubon Minnesota in partnership with the DNR, are part of an international conservation effort aimed at conserving globally important bird habitats. They are voluntary and non-regulatory, but the designation demonstrates the significant ecological value of the area.

SEARCH RESULTS: No features were found within the search area.

Lakes of Biological Significance

Search distance = 330 feet

Lakes of Biological Significance are high quality lakes as determined by the aquatic plant, fish, bird, or amphibian communities present within the lake. To be included in this layer, a lake only needs to meet the criteria for one of these four community types. The lake is assigned a biological significance of Outstanding, High, or Moderate based on the community with the highest quality.

SEARCH RESULTS: No features were found within the search area.

USFWS Regulatory Layers

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. This report is not a substitution for a Section 7 review.

For informational purposes only, this tool currently checks the following USFWS Regulatory Layers:

Rusty Patched Bumblebee High Potential Zones: (*search distance = 0; within area of interest only*) The rusty patched bumble bee (*Bombus affinis*), federally listed as endangered, is likely to be present in suitable habitat within the high potential zones. From April through October this species uses underground nests in upland grasslands, shrublands, and forest edges, and forages where nectar and pollen are available. From October through April the species overwinters under tree litter in upland forests and woodlands. The rusty patched bumble bee may be impacted by a variety of land management activities including, but not limited to, prescribed fire, tree-removal, haying, grazing, herbicide use, pesticide use, land-clearing, soil disturbance or compaction, or use of non-native bees. The USFWS RPBB guidance provides guidance on avoiding impacts to rusty patched bumble bee and a key for determining if actions are likely to affect the species; the determination key can be found in the appendix. Please visit the USFWS Rusty Patched Bumble Bee Map for the most current locations of High Potential Zones.

SEARCH RESULTS: No features were found within the search area.

Edgewater Bay Campground EAW

Conservation Planning Map

N
W E
S

0 0.25 0.5 1 1.5 2 Miles

Area of Interest

Size (acres): 55.97

County(s): Murray

Esri, NASA, NGA, USGS, FEMA
Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

DEPARTMENT OF NATURAL RESOURCES

Formal Natural Heritage Review - Cover Page

See next page for results of review. A draft watermark means the project details have not been finalized and the results are not official.

Project Name: Edgewater Bay Campground EAW

Project Proposer: Edgewater Bay LLC

Project Type: Development, Recreational/Entertainment

Project Type Activities: Other

TRS: T107 R41 S2, T108 R41 S35

County(s): Murray

DNR Admin Region(s): South

Reason Requested: State EAW

Project Description: Expansion of existing campground that will include the construction of access roads and gravel camping pads.

Existing Land Uses: grassland and existing campground

Landcover / Habitat Impacted: grassland

Waterbodies Affected: Lake Shetek - increased watercraft traffic

Groundwater Resources Affected: none

Previous Natural Heritage Review: No

Previous Habitat Assessments / Surveys: No

SUMMARY OF AUTOMATED RESULTS

Category	Results	Response By Category
Project Details	No Comments	No Further Review Required
Ecologically Significant Area	Comments	Protected Wetlands: Calcareous Fens
State-Listed Endangered or Threatened Species	No Comments	No Further Review Required
State-Listed Species of Special Concern	No Comments	No Further Review Required
Federally Listed Species	No Records	Visit IPaC For Federal Review

DEPARTMENT OF NATURAL RESOURCES

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

March 12, 2023

Project ID: MCE #2023-00198

Jean Christoffels
Murray County Environmental Services
2500 28th Street
Slayton, MN 56172

RE: Automated Natural Heritage Review of the proposed Edgewater Bay Campground EAW
See Cover Page for location and project details.

Dear Jean Christoffels,

As requested, the above project has been reviewed for potential effects to rare features. Based on this review, the following rare features may be adversely affected by the proposed project:

Ecologically Significant Area

- One or more calcareous fens have been documented in the vicinity of the proposed project. A calcareous fen is a rare and distinctive peat-accumulating wetland that is legally protected in Minnesota. Many of the unique characteristics of calcareous fens result from the upwelling of groundwater through calcareous substrates. Because of this dependence on groundwater hydrology, calcareous fens can be affected by nearby activities or even those several miles away. Calcareous fens are fragile and may be impacted by stormwater runoff, any activity within the fen, or any activity that affects groundwater hydrology including groundwater pumping, contamination, or discharge). For more information regarding calcareous fens, please see the Calcareous Fen Fact Sheet. To minimize stormwater impacts, please refer to the Minnesota Pollution Control Agency's General Principles for Erosion Prevention and Sediment Control in the Minnesota Stormwater Manual. Please note that calcareous fens are "Special Waters" and a buffer zone may be required.

  Depending on the distance to the calcareous fen(s), additional guidance may be provided below if you indicated that potential project activities include wetland impacts or groundwater impacts. If you did not correctly identify wetland or groundwater impacts as part of your project, this impact analysis may be incorrect.

State-Listed Endangered or Threatened Species

No state-listed endangered or threatened species have been documented in the vicinity of the project.

State-Listed Species of Special Concern

No state-listed species of special concern have been documented in the vicinity of the project.

Federally Listed Species

The Natural Heritage Information System does not contain any records for federally listed species within one mile of the proposed project. However, to ensure compliance with federal law, please conduct a federal regulatory review using the U.S. Fish and Wildlife Service's online Information for Planning and Consultation (IPaC) tool.

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 the project description provided on the cover page. If project details change or construction has not occurred within one year, please resubmit the project for review.

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 effects to these rare features. 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,

Jim Drake Jim Drake
Natural Heritage Review Specialist
James.F.Drake@state.mn.us

Links: USFWS Information for Planning and Consultation (IPaC) tool
Information for Planning and Consultation (IPaC) tool
DNR Regional Environmental Assessment Ecologist Contact Info
https://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html

Edgewater Bay Campground EAW

Aerial Imagery With Locator Map

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0 0.130.25 0.5 0.75 1 Miles

Project Boundary

Project Type: Development, Recreational/Entertainment

Project Size (acres): 55.61

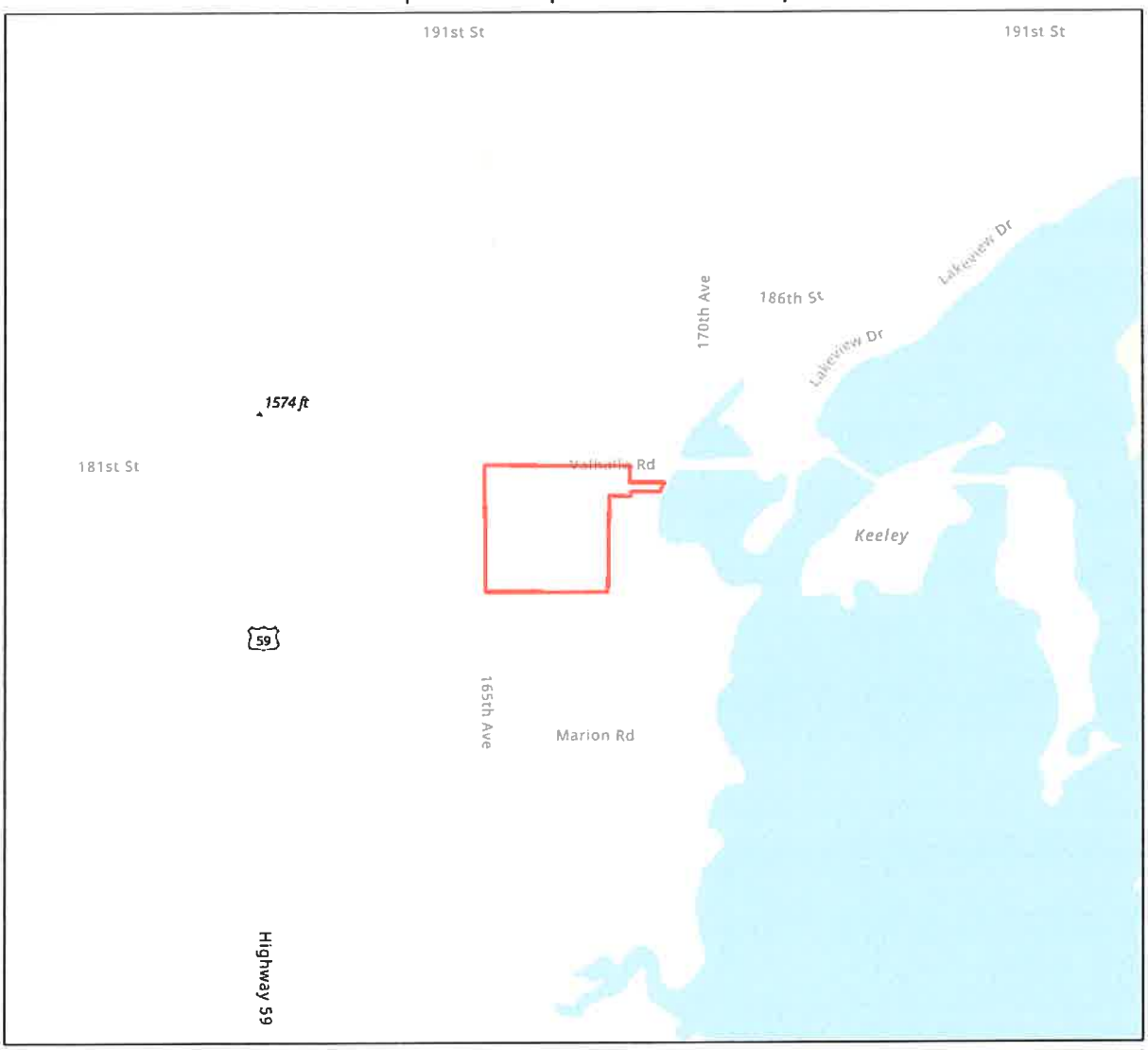
County(s): Murray

TRS: T107 R41 S2, T108 R41 S35

Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

Edgewater Bay Campground EAW

USA Topo Basemap With Locator Map



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